Overpass Road PD&E Study

From Old Pasco Road to US 301

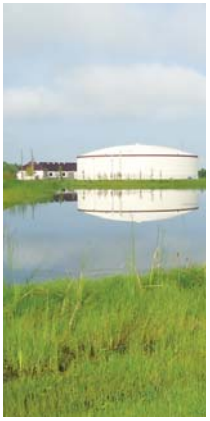
FPID No: 432734-1

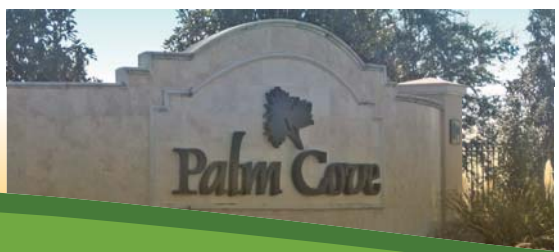
PASCO COUNTY FLORIDA
OPEN SPACES. VIBRANT PLACES.

FDOT

Pond Siting Report

September 2016





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ACRONYMS AND ABBREVIATIONS

ac	Acre
ac-ft.	Acre-Feet
BLS	Below Land Surface
BCC	Board of County Commissioners
CBC	Concrete Box Culvert
CFR	Code of Federal Regulations
CIP	Capital Improvement Plan
CN	Curve Number
CRAS	Cultural Resource Assessment Survey
CSER	Contamination Screening Evaluation Report
CWA	Clean Water Act
DCIA	Directly Connected Impervious Area
DOQQ	Digital Orthophotography Quarter Quads
EA	Environmental Assessment
ERP	Environmental Resource Permit
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FPC	Floodplain Compensation
FY	Fiscal Year
GIS	Geographic Information System
LHR	Location Hydraulic Report
LRTP	Long Range Transportation Plan
mph	Miles Per Hour
MPO	Metropolitan Planning Organization
MPUD	Master Planned Unit Development
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
PD&E	Project Development and Environment
PIJR	Preliminary Interchange Justification Report
RCP	Reinforced Concrete Pipe
Route Study	Final Overpass Road Route Study
ROW	Right-of-Way
SCS	Soil Conservation Service
SHWT	Seasonal High Water Table
SIS	Strategic Intermodal System
SR	State Road
STIP	State Transportation Improvement Program
SWFWMD	Southwest Florida Water Management District
TIP	Transportation Improvement Program
TMDL	Total Maximum Daily Load
TR	Technical Report
US 301	United States Highway 301
USACE	U.S. Army Corps of Engineers

USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geologic Survey
vpd	Vehicles Per Day
WBID	Watershed Basin Identification
WEBAR	Wetland Evaluation and Biological Assessment Report

Section 1.0
DESCRIPTION OF PROPOSED ACTION

1.1 PROJECT DESCRIPTION

This proposed roadway improvement project in Pasco County involves the widening of existing segments of Overpass Road (Old Pasco Road to 0.86 miles east of Boyette Road, 0.49 miles west of Curley Road to 1.45 miles east of Curley Road) and Kossik Road (Coolwood Drive/Ghost Train Lane to United States Highway 301 [US 301]); the addition of an interchange at Overpass Road and Interstate 75 (I-75); and the connection of existing segments of Overpass Road and Kossik Road on new alignment (0.86 miles east of Boyette Road to 0.49 miles west of Curley Road and 1.45 miles east of Curley Road to Coolwood Drive/Ghost Train Lane). The proposed improvements for Overpass Road include the following:

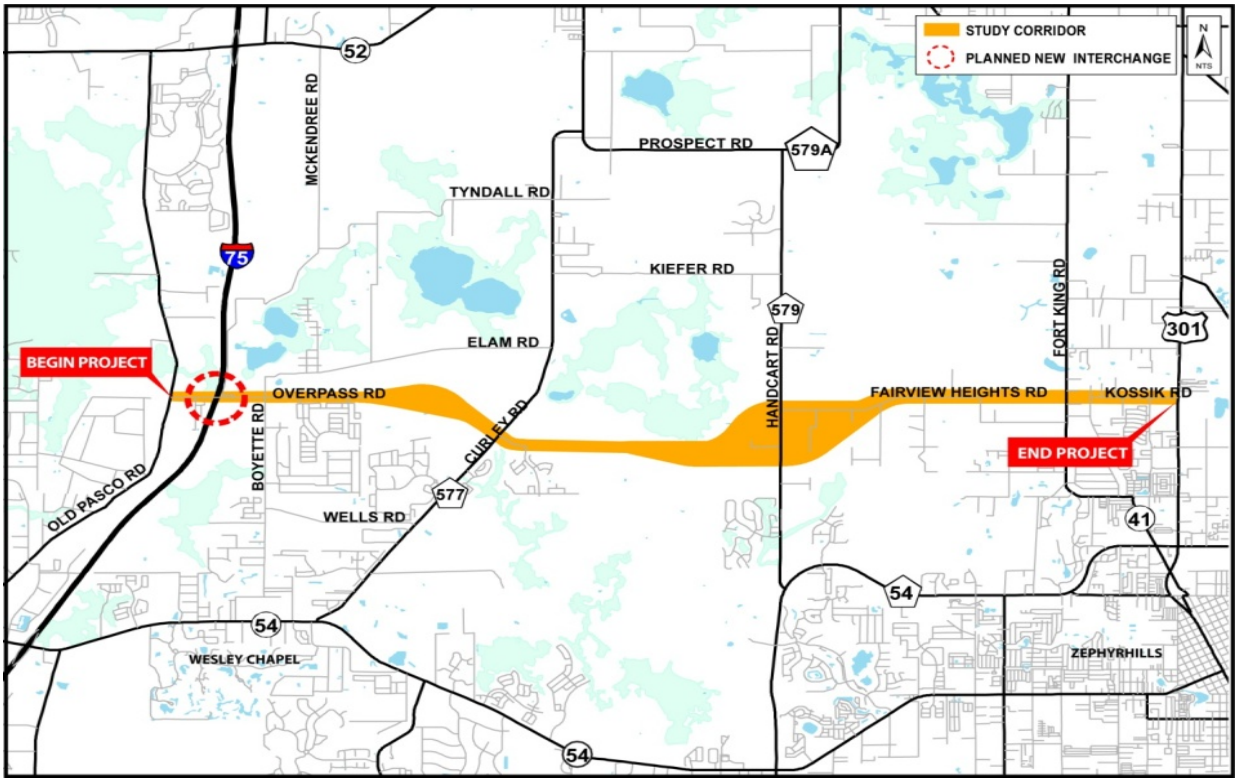
- Four lanes from Old Pasco Road to I-75
- A new interchange at I-75 and Overpass Road
- Six lanes plus two auxiliary lanes from I-75 to Boyette Road
- Six lanes from Boyette Road to US 301

In addition to these improvements, several access modifications will be required. The existing Blair Drive access to Overpass Road will be closed and a new two-lane paved roadway will be constructed with a connection to Old Pasco Road. The existing McKendree Road access at Overpass Road will also be relocated to an alternate location on Boyette Road (north of Overpass Road). At the Wesley Chapel District Park, vehicular access will be eliminated at the existing secondary entrance located on Overpass Road (approximately 1,000 feet east of I-75). The park entrance will be reconfigured to enhance access for alternative modes of transportation, including pedestrians and bicyclists, during the design phase of the project.

While the Project Development & Environment (PD&E) Study including the Environmental Assessment (EA) and supporting technical documents required under the National Environmental Policy Act (NEPA) project development process will further evaluate and seek Location Design Concept Acceptance (LDCA) for the ultimate interchange concept (Flyover Ramp Alternative), actual construction of the interchange may occur in two phases. The first phase would construct a diamond interchange with dual westbound-to-southbound left-turn lanes in the Opening Year (2022); the second phase would construct the westbound-to-southbound Flyover Ramp when warranted by future traffic conditions. Note that the footprint of the diamond interchange falls within the proposed right-of-way (ROW) of the ultimate improvements. Therefore, any impacts associated with the diamond interchange would be less than ultimately approved through the NEPA process.

The project limits extend from Old Pasco Road on the west to US 301 on the east, for a total length of approximately 9.0 miles. The study corridor is shown on **Figure 1-1**.

FIGURE 1-1
PROJECT LOCATION MAP



Overpass Road is currently an east-west County roadway that is comprised of two unconnected segments. The first segment exists from Old Pasco Road to approximately 0.86 miles east of Boyette Road, while the second segment exists from 0.49 miles west of Curley Road to 1.45 miles east of Curley Road. It is located south of State Road (SR) 52 and north of County Road (CR) 54/SR 54 and traverses over I-75 without ramp connections to the interstate. The existing segments of Overpass Road serve mostly local trips and are classified as collector roadways. The existing number of lanes for each segment is as follows:

- Old Pasco Road to Boyette Road (two-lanes undivided)
- Boyette Road to 0.86 miles east of Boyette Road (four-lanes divided)
- 0.49 miles west of Curley Road to Curley Road (two- and four-lanes divided)
- Curley Road to Angelstem Boulevard (four-lanes divided)
- Angelstem Boulevard to 1.45 miles east of Curley Road (two-lanes divided)

The posted speed limit is 30 miles per hour (mph) between Old Pasco Road and Boyette Road and 45 mph east of Boyette Road.

Kossik Road currently exists as a two-lane undivided roadway from the intersection of Coolwood Drive/Ghost Train Lane east to the intersection with Green Slope Drive, where it transitions to a four-lane divided paved section and terminates at the intersection of US 301. Throughout a major portion of the two-lane segment, the roadway is unpaved. The posted speed limit ranges from 25 mph to 35 mph from Coolwood Drive to US 301.

Blair Drive is currently a two-lane north-south roadway that intersects Overpass Road just west of I-75. As a privately-maintained facility, it provides residents of the Williams Acres subdivision with direct access to Overpass Road. While there is no posted speed limit along Blair Drive, Florida law states that any residential roadway speed limit is 30 mph unless otherwise posted.

1.2 PURPOSE

Pasco County, in coordination with the Florida Department of Transportation (FDOT) and the Federal Highway Administration (FHWA), is conducting a PD&E Study for evaluating capacity improvements to the existing Overpass Road and Kossik Road segments, the connection of these segments on new alignment, and the addition of an interchange at Overpass Road with I-75 in Pasco County, Florida. The purpose of the study is to identify and evaluate potential locations, develop conceptual alignments, and identify impacts and mitigation measures for the proposed improvements.

Due to the concurrent request for new access at Overpass Road with I-75 (the federal action), and the fact that the majority of the project occurs on new alignment, the study is being developed as an EA in accordance with the FHWA NEPA project development process. A *Preliminary Interchange Justification Report* (PIJR) for the proposed interchange at I-75 and Overpass Road has been prepared concurrently with the Overpass Road PD&E Study and is available under separate cover; the PIJR received a *Determination of Engineering and Operational Acceptability* by the FHWA on May 27, 2014.

Pasco County is the applicant/project sponsor and is not seeking federal funds for the project improvements. Due to the federal action for the new interchange with I-75, FDOT serves as the liaison between Pasco County and FHWA. In future phases of project development, developers with vested rights along the project corridor will be donating land and/or constructing portions of the roadway through their property, consistent with the approved PD&E Study, their legally-binding Master Planned Unit Development (MPUD) Conditions of Approval, Development Agreements, the Pasco County Land Development Code, or other documents specifying improvements to Overpass Road. An Interlocal Agreement which clearly defines the responsibilities of Pasco County and FDOT will be developed at the appropriate stage in the project's implementation process.

The Overpass Road widening/extension and proposed interstate access are anticipated to play a significant role in the regional network in terms of enhancing connectivity, safety, and traffic circulation as the I-75 corridor serves as part of Florida's designated Strategic Intermodal System

(SIS) network. The proposed interchange is projected to divert traffic demand from future over-capacity conditions at the two adjacent interchanges at I-75/SR 52 and I-75/CR 54, which are currently experiencing congestion from the northbound off-ramps queuing onto the I-75 mainline. In addition, the proposed project will enhance incident management capabilities by providing additional detour route options; enhance emergency management capabilities by providing additional access to I-75; and aid emergency evacuation within the County, as Overpass Road runs parallel or connects to four primary state evacuation routes (SR 52, CR/SR 54, I-75, and US 301). Figure 1-1 provides the general vicinity of the proposed corridor; **Figure 1-2** provides the proposed interchange location and spacing between the existing adjacent interchanges.

Overall, the construction of a new interchange at I-75, as well as the extension and widening of Overpass Road to US 301, will be critical in accommodating anticipated travel demands and enhancing safety. These improvements will work to ensure that mobility is maintained on Florida's SIS and enhanced between existing/proposed developments along the roadway network in eastern Pasco County.

During the project's planning phase, the County previously developed and evaluated three Build Alternatives (O-1, O-2, and O-3) and a No-Build Alternative. The results of this effort are documented in the *Final Overpass Road Route Study* (Route Study) dated March 2005. Based upon engineering and environmental analyses, as well as comments received at the Public Workshop held on March 3, 2005, Alternative O-3 was established to be the Preferred Alternative during the planning phase. The Overpass Road PD&E Study has further refined and evaluated all proposed build alternatives from the Route Study and identified future improvements needed to alleviate existing transportation deficiencies and accommodate future population and employment growth. The proposed Build Alternatives have been developed to avoid or minimize impacts to sensitive features such as wetlands, existing structures, wildlife and habitat, contamination sites, and cultural resources.

Based upon the engineering and environmental analyses results, an alternatives comparison matrix has been developed and is provided in the *Preliminary Engineering Report* and *EA*. The matrix identifies the effects of each alternative on the social, economic, cultural, natural, and physical environment.

FIGURE 1-2
PROPOSED INTERCHANGE SPACING

1.3 TRANSPORTATION PLAN CONSISTENCY

The Overpass Road project is consistent with locally adopted plans. The *Pasco County Fiscal Year (FY) 2016-2020 Capital Improvement Plan* (CIP) identifies full funding through construction (FY 2020/2021) for the first phase of the new interchange proposed at I-75 and Overpass Road and the widening of Overpass Road from Old Pasco Road to I-75 (two to four lanes) and I-75 to Boyette Road (two to six lanes plus two auxiliary lanes) [CIP 5020] and the PD&E Study for Overpass Road from I-75 to US 301 [CIP 5025]. The Design phase for the proposed interchange is fully funded in FY 2016/2017. Construction of a new interchange at I-75 and Overpass Road and the widening of the roadway from Curley Road to east of River Glen Drive to a four-lane divided facility is identified in the Pasco County Metropolitan Planning Organization (MPO) *2040 Cost Affordable Long Range Transportation Plan* (LRTP) with construction funded during the 2020 to 2025 time frame. The four-lane widening of the existing segment of Overpass Road from Old Pasco Road to Boyette Road and the extension of the roadway as a four-lane divided facility from the future McKendree Road realignment to Curley Road and from east of River Glen Drive to Green Slope Drive is funded for construction in the 2026 to 2030 time frame. The '*Needs Plan*' of the LRTP shows that the Overpass Road corridor is anticipated to warrant six lanes by the year 2040.

Overpass Road from Old Pasco Road to US 301 is shown as a four-lane facility on Map 7-22, '*Future Number of Lanes (2035)'* of the Transportation Element of the adopted Pasco County Comprehensive Plan. Note, however, that a Comprehensive Plan Amendment was approved on August 10, 2010 for the Pasadena Hills Area Plan (Ordinance 10-21), which shows Overpass Road from Old Pasco Road to US 301 on Figure PH-4, '*2050 Future Transportation Map'* as a six-lane facility. While the Transportation Element of the Comprehensive Plan does not specifically identify the interchange improvements as cost-affordable, I-75 at Overpass Road is listed on Table 7-2B, '*Major Intersections with Entering Traffic Volumes Exceeding 75,000'* as an intersection with entering traffic volumes greater than 100,000 vehicles per day (vpd).

The Pasco County MPO FY 15/16-19/20 *Transportation Improvement Program* (TIP) was amended on June 9, 2016, to include the interchange at I-75 and Overpass Road. The interchange project also includes the widening of Overpass Road from Old Pasco Road to Boyette Road. Per CFR Title 23, Part 450.216(b), phases of the project identified using Local Funds (LF) are included in the *State Transportation Improvement Program* (STIP) by reference. In addition, the widening of I-75 from south of SR 56 to the Pasco/Hernando County line is currently included in the Pasco County MPO FY 15/16-19/20 TIP, as well as the STIP. Portions of the I-75 widening project are complete or construction is currently underway.

Section 2.0
RECOMMENDED ALTERNATIVE

2.1 RECOMMENDED ALTERNATIVE

Based on previous planning efforts; engineering and environmental analyses; public comments submitted via the project website at www.overpassroad.com and received at the Alternatives Public Workshop held at the Victorious Life Church on November 29, 2012; the *Determination of Engineering and Operational Acceptability* of the PIJR received by the FHWA on May 27, 2014; and approval by the Pasco County BCC at a Board meeting held on April 23, 2013, the ***Flyover Ramp Alternative*** (Interchange) and ***Alternative O-3*** (Roadway) are being proposed as the Recommended Build Alternative. While it is recognized that the Diamond Interchange Alternative is the least costly option and was preferred by the public, this alternative alone will not be able to satisfactorily handle the traffic volumes projected for the Design Year (2040). Therefore, while the PD&E Study including the EA and supporting technical documents required under the NEPA project development process will further evaluate and seek Location Design Concept Acceptance (LDCA) for the ultimate Flyover Ramp Alternative, actual construction of the interchange may occur in two phases. The first phase would construct a diamond interchange with dual westbound-to-southbound left-turn lanes in the Opening Year (2022); the second phase would construct the westbound-to-southbound Flyover Ramp when warranted by future traffic conditions. Note that the footprint of the diamond interchange falls within the proposed ROW of the ultimate improvements. Therefore, any impacts associated with the diamond interchange would be less than ultimately approved through the NEPA process. An additional advantage of the Flyover Ramp Alternative is that the ROW can be purchased for the ultimate construction footprint at current prices, making it a more economical option.

While Alternative O-3 is comparable in cost with the other two build roadway options, this alternative does not require any residential or business relocation and has the fewest number of potential noise-sensitive sites. In addition, Alternative O-3 is consistent with existing and planned development along the corridor and is supported by the majority of the public and stakeholders, including the Pasco County School Board.

2.1.1 REFINEMENTS TO THE RECOMMENDED ALTERNATIVE

Subsequent to the Alternatives Public Workshop, draft versions of the supporting engineering and environmental technical documents prepared for the Recommended Build Alternatives were submitted to FDOT District Seven for review. Based on this review, FDOT District Seven commented that ponds are not to be located within the existing FDOT/I-75 right-of-way. As such, the four ponds initially proposed within the interchange infield areas for the Flyover Ramp Alternative were consolidated into two ponds and relocated to new locations.

Based on comments received during and following the Alternatives Public Workshop, the Victorious Life Church requested that a new access road for Blair Drive proposed through church-owned land be moved to the southern end of the property. After meeting with church representatives, the plans were changed to relocate the access road. **Figure 2-1** graphically depicts the revised Recommended Build Interchange Alternative and southern location of the Blair Drive access.

A portion of Alternative O-3 through the Epperson Ranch property has been realigned and the typical section width has been reduced to be consistent with the approved Epperson Ranch South MPUD Master Plan (Rezoning and Conditions of Approval) approved by the BCC on November 5, 2014. On September 1, 2015, the developer of the Epperson Ranch property received authorization to commence the eastern portion of the alignment from approximately 0.49 miles west of Curley Road to Curley Road through approval of the developer's Final Mitigation Plan and a Nationwide Permit issued by the USACE [Permit No. SAJ-2014-01744 (NW-TEH)]. The developer constructed this segment in order to access an approved single-family residential subdivision known as "Park Place", which received a Department of the Army permit from the USACE on September 10, 2015 [Permit No. SAJ-2006-07911 (SP-TEH)].

Additionally, a small segment of the Recommended Build Alternative just west of Fort King Road has been realigned, where Alternative O-3 originally curved to the south to avoid impacts to an existing structure. As this structure has recently been demolished, the property owner has requested that the roadway be straightened out to align with Fairview Heights Road. **Figure 2-2** graphically depicts the revised Recommended Build Roadway Alternative, while **Figures 2-3 through 2-11** reflect the adjusted typical sections along the corridor.

The combined Recommended Build Alternative (Interchange and Roadway segments) for the PD&E Study, hereafter referred to as the O-3 Flyover Alternative, has been further evaluated in subsequent sections of this *Pond Siting Report* (PSR); the project plan sheets are provided in **Appendix A**. In addition to the Recommended Build Alternative, the No-Build Alternative will also continue to remain a viable option throughout the PD&E Study process.

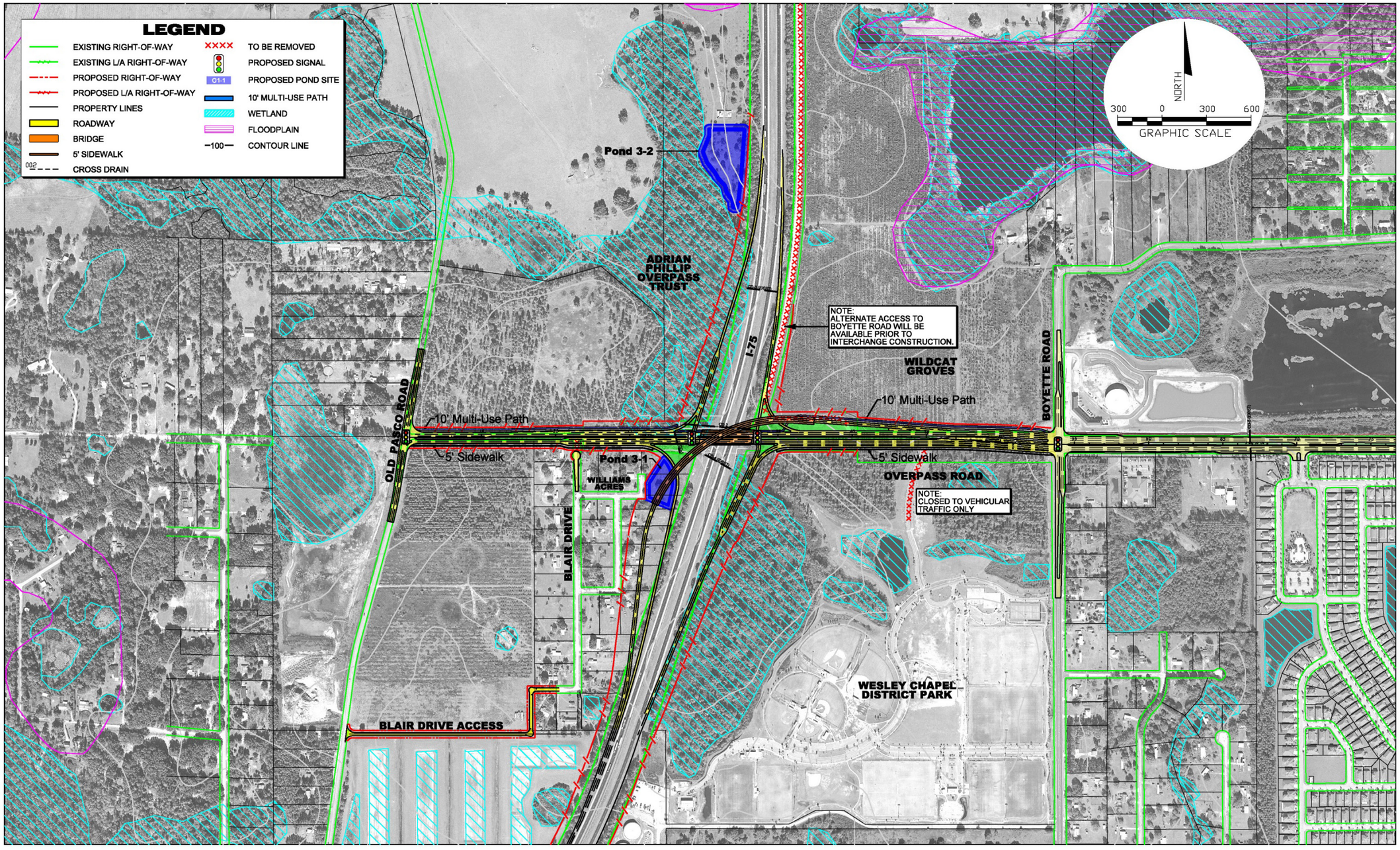


FIGURE 2-1
RECOMMENDED BUILD INTERCHANGE ALTERNATIVE

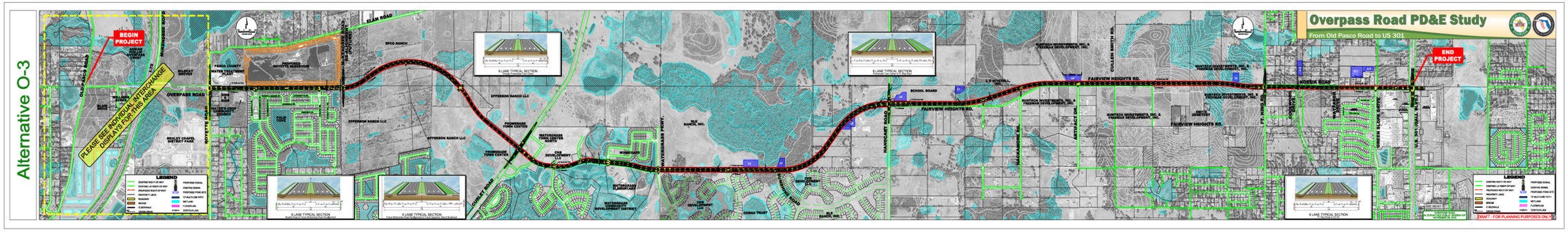


FIGURE 2-2
RECOMMENDED BUILD ROADWAY ALTERNATIVE

FIGURE 2-3
FOUR-LANE DIVIDED URBAN TYPICAL SECTION
OLD PASCO ROAD TO I-75

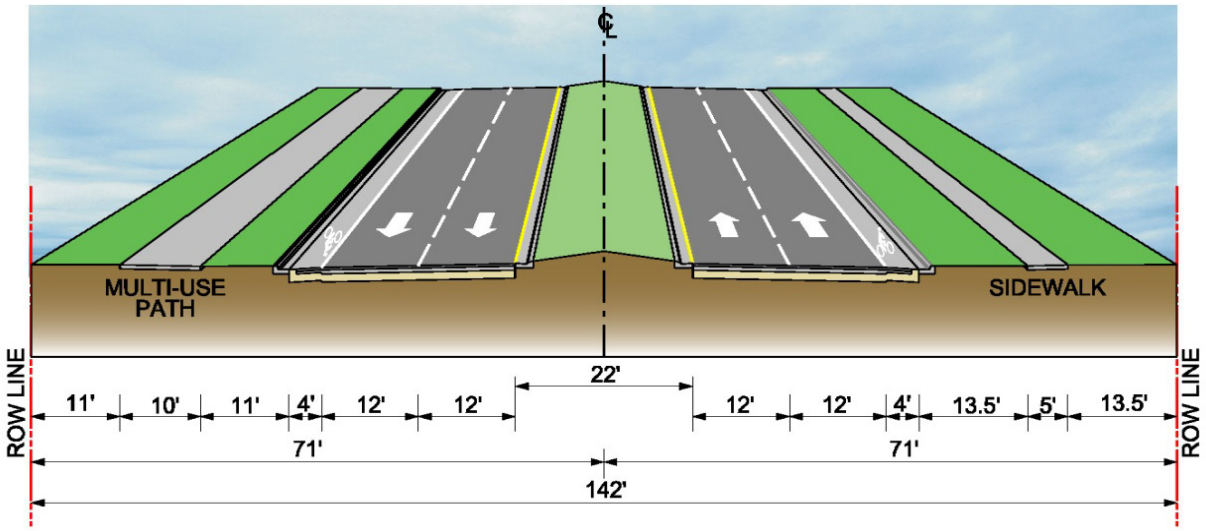


FIGURE 2-4
SIX-LANE DIVIDED PLUS TWO AUXILIARY LANES URBAN TYPICAL SECTION
I-75 TO BOYETTE ROAD

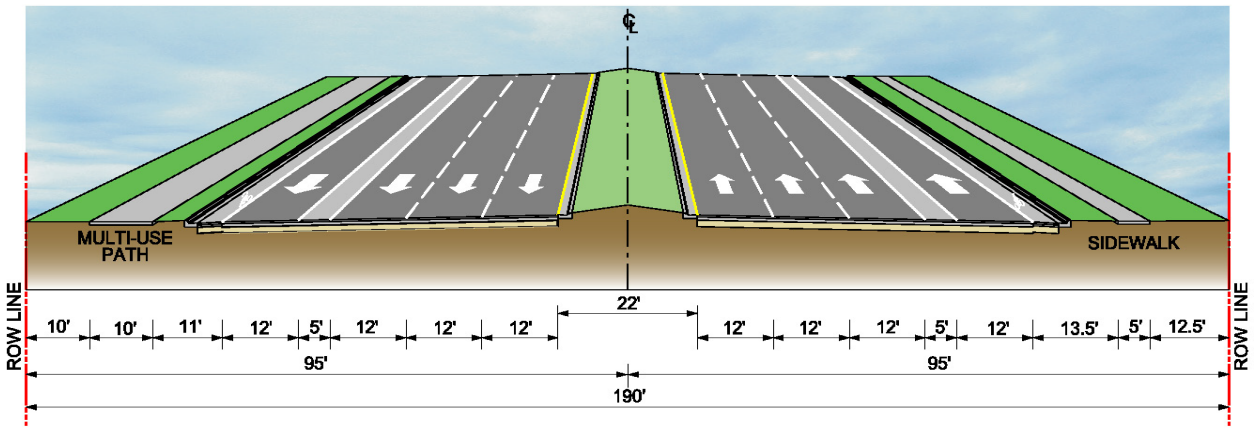


FIGURE 2-5
SIX-LANE DIVIDED URBAN TYPICAL SECTION
BOYETTE ROAD TO FUTURE MCKENDREE ROAD REALIGNMENT

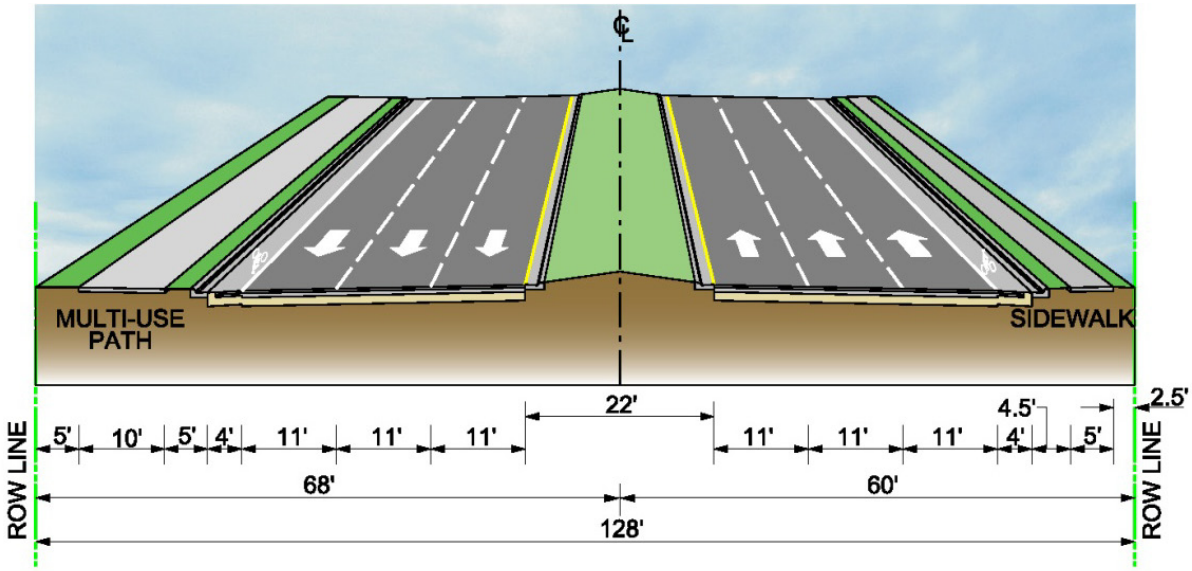


FIGURE 2-6
SIX-LANE DIVIDED URBAN TYPICAL SECTION
FUTURE MCKENDREE ROAD REALIGNMENT TO FUTURE EPPERSON RANCH BOULEVARD

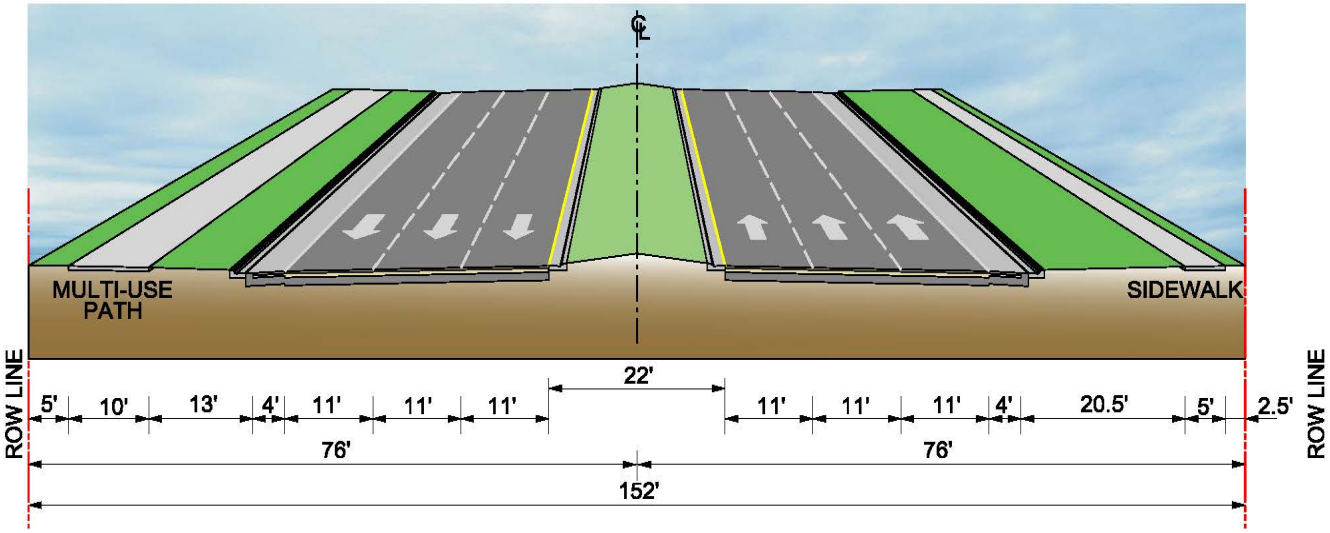


FIGURE 2-7
SIX-LANE DIVIDED URBAN TYPICAL SECTION
FUTURE EPPERSON RANCH BOULEVARD TO PROMENADE TOWN CENTER

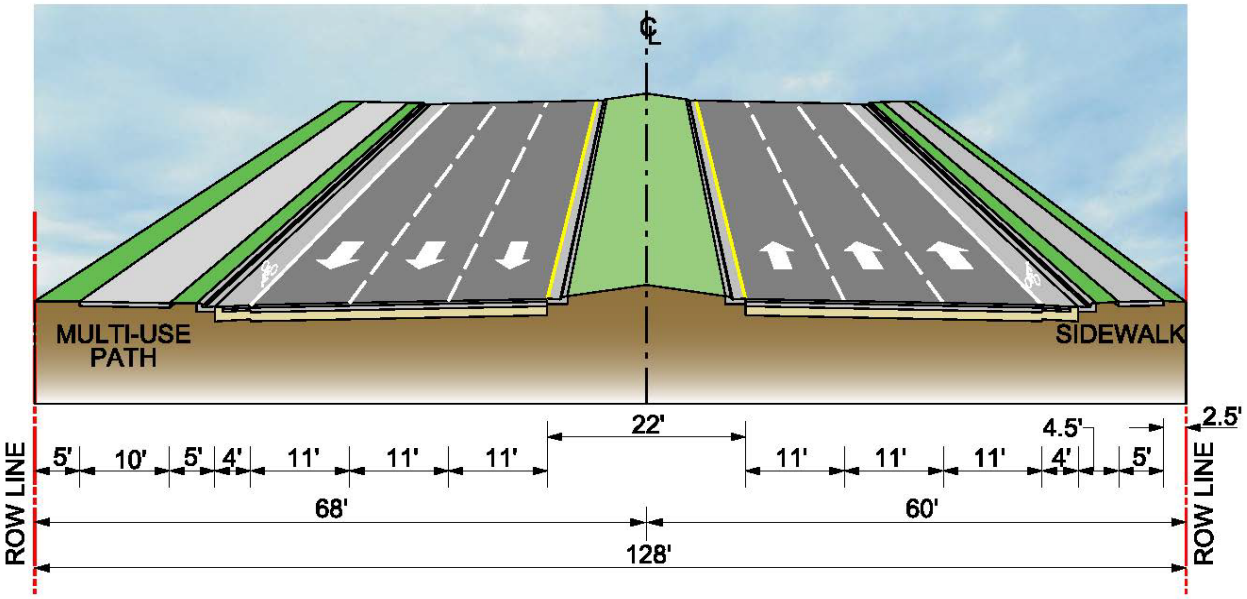


FIGURE 2-8
SIX-LANE DIVIDED URBAN TYPICAL SECTION
THROUGH PROMENADE TOWN CENTER

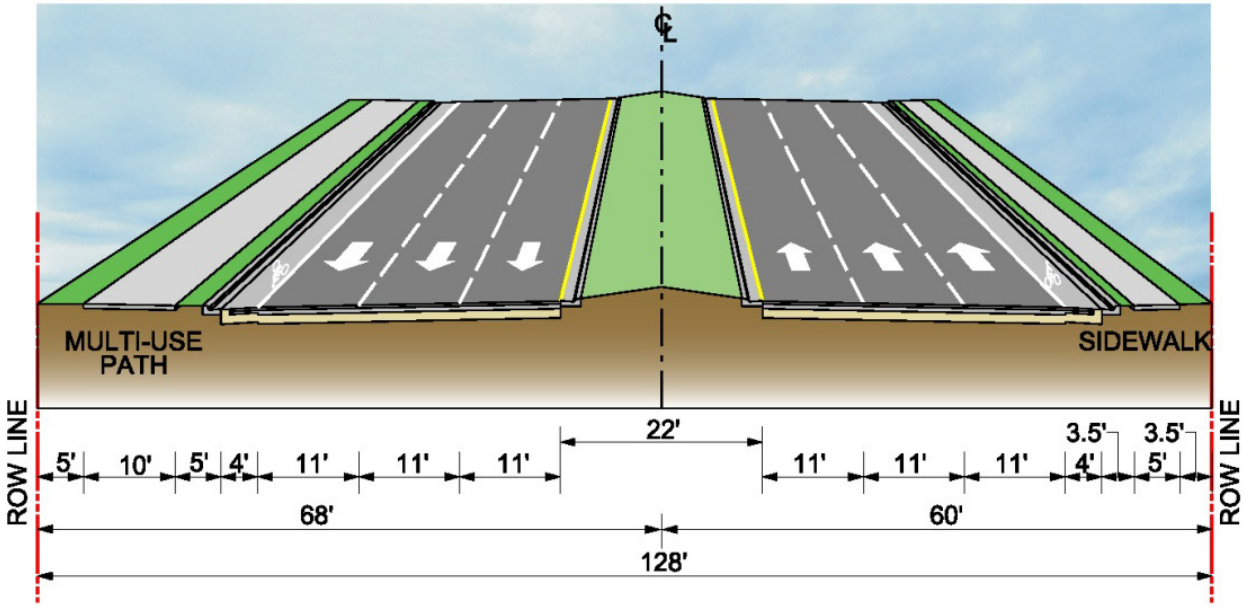


FIGURE 2-9
SIX-LANE DIVIDED URBAN TYPICAL SECTION
PROMENADE TOWN CENTER TO FORT KING ROAD

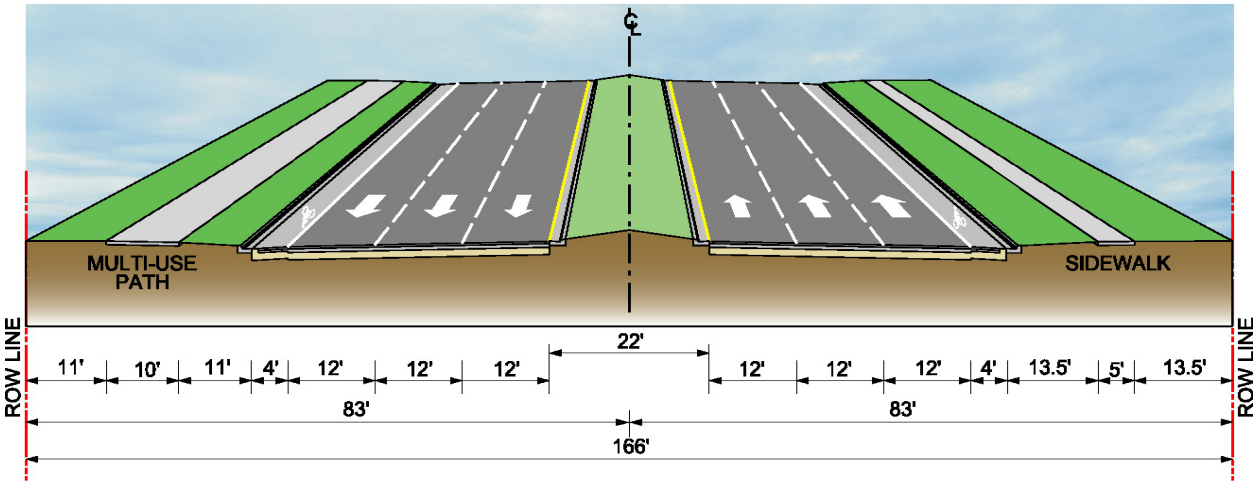


FIGURE 2-10
SIX-LANE DIVIDED URBAN TYPICAL SECTION
FORT KING ROAD TO US 301

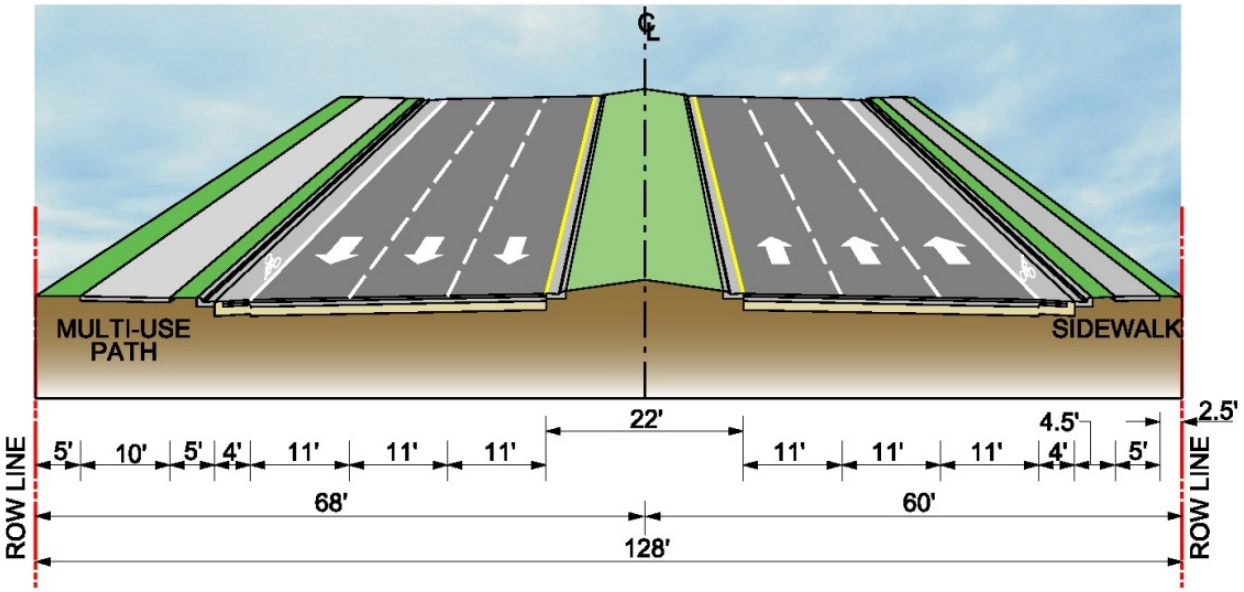
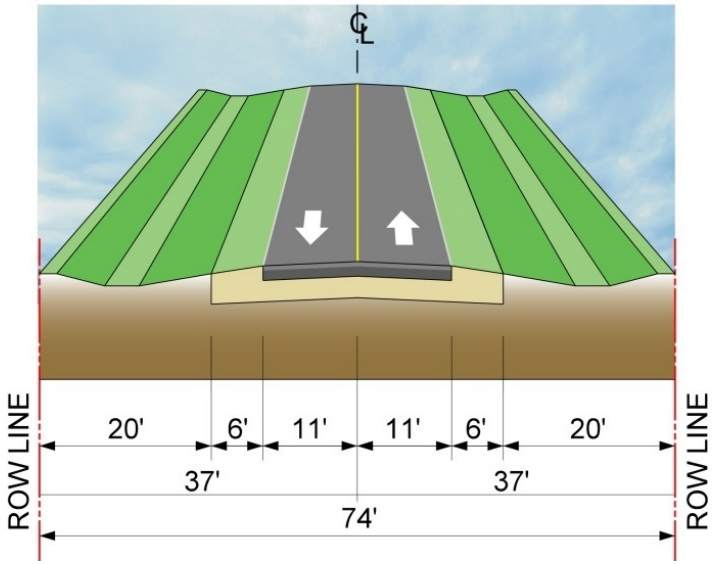


FIGURE 2-11
TWO-LANE UNDIVIDED RURAL TYPICAL SECTION
BLAIR DRIVE ACCESS



Section 3.0
DATA COLLECTION

For the review of the existing hydraulics within the project corridor, data from many diverse sources was obtained. Data included geographic information system (GIS) coverages for roadways, Federal Emergency Management Agency (FEMA) flood studies, Southwest Florida Water Management District (SWFWMD) Environmental Resource Permits (ERPs) and coverages for wetlands, surface water bodies and land use, and County-generated coverages for topography. A list of data collected and source(s) are presented in **Table 3-1**.

TABLE 3-1
LIST OF DATA COLLECTED

DATA	SOURCE	AGENCY
GIS Base Layers, such as county boundaries, highways, roadways, etc.	Florida Geographic Data Library	FDOT
FEMA Floodplain Maps (effective September 26, 2014)	Florida Geographic Data Library	FEMA
Hydrology GIS layers, such as surface water, wetlands	Florida Geographic Data Library	SWFWMD
Land Use Maps (effective 2014)	Florida Geographic Data Library	SWFWMD
Topographic information (5-ft. contours)	Pasco County	Pasco County
Soil Survey maps (effective 2015)	Florida Geographic Data Library	Natural Resources Conservation Service (NRCS)
Surface Drainage Basins	Florida Geographic Data Library	SWFWMD
Digital Orthophotography Quarter Quads (DOQQ)	United States Geologic Survey (USGS)	USGS
Aerial Photographs (effective 2012)	Pasco County	Pasco County
Parcels	Pasco County	Pasco County Property Appraiser
Environmental Resource Permits	SWFWMD	SWFWMD
I-75 D/B Plans and Calculations (FPID 258736-2-52-01)	ATKINS, INC.	ATKINS, INC./FDOT

Section 4.0
EXISTING CONDITIONS

4.1 PROJECT CORRIDOR

The Overpass Road project corridor extends through east central Pasco County from Old Pasco Road to US 301, a distance of approximately 9.0 miles. For the purposes of this PSR, the Recommended Build Alternative has been evaluated and presented based on the following segmented approach:

- Segment 1 - Flyover Ramp Build Interchange Alternative consists of the roadway component from Old Pasco Road to Boyette Road, including the proposed interchange at I-75

- Segment 2 – Build Roadway Alternative O-3 consists of the roadway component from Boyette Road to US 301

Within Segment 1, from Old Pasco Road to Boyette Road, Overpass Road currently exists as a two-lane non-divided roadway, with surface drainage conveyed by sheet flow to roadside drainage ditches. The existing roadway proceeds via an overpass over I-75; drainage from the bridge deck is conveyed to roadside ditches via scuppers in the bridge deck. The existing drainage also contributes flow to wetlands and low-lying areas along I-75. Currently, there are no stormwater management facilities (ponds) within this segment of the project. A 4-foot x 4-foot concrete box culvert (CBC) cross drain passes beneath I-75 immediately south of the existing Overpass Road and several other smaller cross drains that convey flow generally from east to west exist within the I-75 ROW, including a cross drain located approximately 900 feet north of the current roadway.

Within Segment 2, from Boyette Road to US 301, there are three portions of existing roadway along the Recommended Build Alternative. Existing Roadway 1 extends from Boyette Road eastward (Sta. 54+32.81) to Sta. 100+02.50, through the Palm Cove subdivision, a distance of approximately 4,570 feet. Surface drainage from this portion of roadway is managed within stormwater ponds constructed for the Palm Cove subdivision. Existing Roadway 2 extends from Sta. 172+76 (the centerline of Curley Road) to Sta. 224+23.16 (the centerline of Watergrass Parkway), a distance of approximately 5,147 feet. Surface drainage from this portion of roadway, through the western portion of the Watergrass development, is managed within stormwater ponds constructed adjacent to the roadway. East of Handcart Road, the Recommended Build Alternative roughly follows the current Fairview Heights Avenue from Sta. 313+59.79 (centerline of Handcart Road) to Sta. 395+00, a distance of 8,140 feet. Existing Roadway 3 (Kossik Road) extends eastward approximately from Sta. 485+00 to the eastern end of the project (1,430 feet), and comprises a multi-lane divided urban roadway, with curb and

gutter stormwater collection systems and a large existing stormwater management pond located at the southwest corner of the intersection of Kossik Road and US 301.

A portion of the alignment is located east of the Palm Cove subdivision and west of Curley Road, through an area of vacant land that is earmarked for development. This parcel, known as Epperson Ranch, is currently in the permitting process for construction of Overpass Road through their property. Once permitted, the development will include residential and commercial areas as well as open space parks. The design and construction of Overpass Road through Epperson Ranch will be the responsibility of the developer and is included in the development Conditions of Approval and permit applications. As such, the PSR excludes a drainage evaluation for this portion of the Recommended Build Alternative and begins at Curley Road.

The stormwater ponds along the existing roadways discharge into the natural drainage system located south of the roadway alignment. The natural drainage system is a portion of the Pasco Drain, a large wetland area/drainage basin located adjacent to I-75 that ultimately discharges to the Anclote River basin, or to drainage basins for the following water bodies: New River, Bayou Branch, Bayou Lake, Southside Branch and the Hillsborough River. None of the drainage basins along the roadway alignment are closed basins.

The existing drainage systems along the existing roadways and the proposed portion through the Epperson Ranch MPUD are urban roadway sections. Runoff from the existing four-lane divided roadways with paved mixed-use trails and sidewalks flows off the roadway and into roadside curb and gutter drainage structures, with curb inlets that convey flow to existing detention ponds within the Palm Cove and Watergrass developments, the proposed ponds within the planned Epperson Ranch development, or the FDOT-owned pond at US 301. All cross drains associated with the roadway and any floodplain impact compensation were included in the permitting and construction of these developments. The existing stormwater management ponds within the two existing developments, the third planned development and the FDOT pond have sufficient capacity to accommodate runoff from the small increased impervious area that will result from the recommended typical sections through these areas. Project Plan Sheets for the project corridor are included as Appendix A.

4.2 SOILS

Pasco County is characterized by discontinuous highlands in the form of ridges separated by broad valleys. The ridges are above the static level of the water in the aquifer, but the valleys are below it. Broad shallow lakes are common in the valley floors, and smaller, deep lakes are on the ridges.

Based on physiography, the Recommended Build Alternative is located in the Brooksville Ridge, which extends from Hernando County to approximately the area of Zephyrhills between SR 581 (Bruce B. Downs Boulevard) on the west and US 301 on the east. The elevations in this area

range from 70 to 300 feet above sea level. Most of the surface is covered by a few feet of sand with the thickest deposits located near the western side of the ridge.

The soils within the Overpass Road study area were reviewed in the U.S. Department of Agriculture (USDA) NRCS Soil Survey of Pasco County, Florida. The various soil types encountered across the project area are predominantly fine sands, with variations in permeability and water table depth due to topography and proximity to surface water bodies or wetlands. Generally, soils in the project area are gently sloping and poorly drained, with relatively shallow water tables regardless of topography. The soil types encountered within a 300-foot buffer surrounding the Recommended Build Alternative are summarized in **Table 4-1**. Figures depicting the distribution of soil types along the Recommended Build Alternative are included in **Appendix B**.

TABLE 4-1
SOILS DATA

SOIL TYPE	MAP SYMBOL	HYDROLOGIC GROUP	PERMEABILITY	WATER TABLE DEPTH (ft.)
Adamsville fine sand	11	A	Somewhat poorly drained	1.5 – 3.5
Arrendondo fine sand, 0-5% slopes	43	A	Well drained	3.5 - 6.0
Basinger fine sand	22	A/D	Poorly drained	1.5 – 3.5
Basinger fine sand, depressional	23	A/D	Very poorly drained	1.5 – 3.5
Blitchton fine sand, 0-2% slopes	49	C/D	Poorly drained	1.5 – 3.5
Cassia fine sand	46	B	Somewhat poorly drained	1.5 – 3.5
Chobee, frequently flooded	39	C/D	Very poorly drained	1.5 – 3.5
Electra variant fine sand, 0-5% slopes	18	A	Somewhat poorly drained	1.5 – 3.5
Felda fine sand	4	A/D	Poorly drained	1.5 – 3.5
Kendrick fine sand, 0-5% slopes	45	B	Well drained	3.5 - 6.0
Lake fine sand, 0-5% slopes	32	A	Excessively drained	3.5 - 6.0
Lochlossa fine sand, 0-5% slopes	48	A	Somewhat poorly drained	1.5 – 3.5
Millhopper fine sand, 0-5% slopes	69	A	Moderately well drained	3.5 – 6.0
Myakka fine sand	5	A/D	Poorly drained	1.5 – 3.5
Narcoossee fine sand	26	B	Somewhat poorly drained	1.5 – 3.5
Newman fine sand, 0-5% slopes	59	A	Somewhat poorly drained	1.5 – 3.5
Okeelanta-Terra Ceia assoc.	30	A/D	Very poorly drained	1.5 – 3.5
Palmetto-Zephyr-Sellers complex	60	A/D	Poorly drained	1.5 – 3.5
Placid fine sand	70	A/D	Very poorly drained	1.5 – 3.5
Pomona fine sand	2	B/D	Poorly drained	1.5 – 3.5
Sellers mucky loamy fine sand	8	A/D	Very poorly drained	1.5 – 3.5
Smyrna fine sand	21	A/D	Poorly drained	1.5 – 3.5
Sparr fine sand, 0-5% slopes	7	A	Somewhat poorly drained	1.5 – 3.5
Tavares sand, 0-5% slopes	6	A	Moderately well drained	3.5 - 6.0
Wauchula fine sand, 0-5% slopes	1	A/D	Poorly drained	1.5 – 3.5
Zephyr muck	16	C/D	Very poorly drained	1.5 – 3.5
Zolfo fine sand	73	A	Somewhat poorly drained	1.5 – 3.5

Source: Soil Survey of Pasco County

4.3 LAND USE

A combination of aerial photography, GIS-based FLUCCS data and field inspections were utilized to determine land use in the study area. A 300-foot wide buffer was established surrounding the ROW extent for the Recommended Build Alternative, and the GIS data was clipped to that buffer. Existing land use through the central portions of the Recommended Build Alternative are generally low-density residential and agricultural, while a large residential development exists at the intersection of Overpass Road and Boyette Road on the western end of the corridor. The eastern quarter of the Recommended Build Alternative passes through a large area of single-family residences, with commercial land use concentrated at the eastern end of the project corridor. The distribution of land use within the study area is presented on figures provided in **Appendix C**.

4.4 EXISTING SWFWMD DRAINAGE BASINS

The Recommended Build Alternative passes through seven major drainage basins as defined by the SWFWMD. The SWFWMD drainage basins, traveling from west to east across the alignment, are summarized in **Table 4-2** and are depicted on **Figure 4-1**.

TABLE 4-2
SWFWMD DRAINAGE BASINS WITHIN THE PROJECT CORRIDOR

SWFWMD BASIN NAME	BASIN AREA Acre (ac)
Slough	13,974.54
Drain	3,914.24
Bayou Branch	11,769.64
New River	13,359.73
Bayou Lake Outlet	2,439.14
Southside Branch	5,569.64
Non-Contributing Area	11,271.36

In general, surface drainage in the vicinity of the Recommended Build Alternative (Flyover Ramp) with Overpass Road and I-75 flows from east to west. Several cross drains exist along the I-75 mainline that convey flow from east to west beneath the roadway; one of these cross drains is a 4-foot by 4-foot CBC located parallel to and immediately south of Overpass Road. Across the remainder of the Recommended Build Alternative, surface drainage generally moves from north to south and is ultimately directed to the three main surface water bodies located in the region: the Anclote River, New River or Hillsborough River.

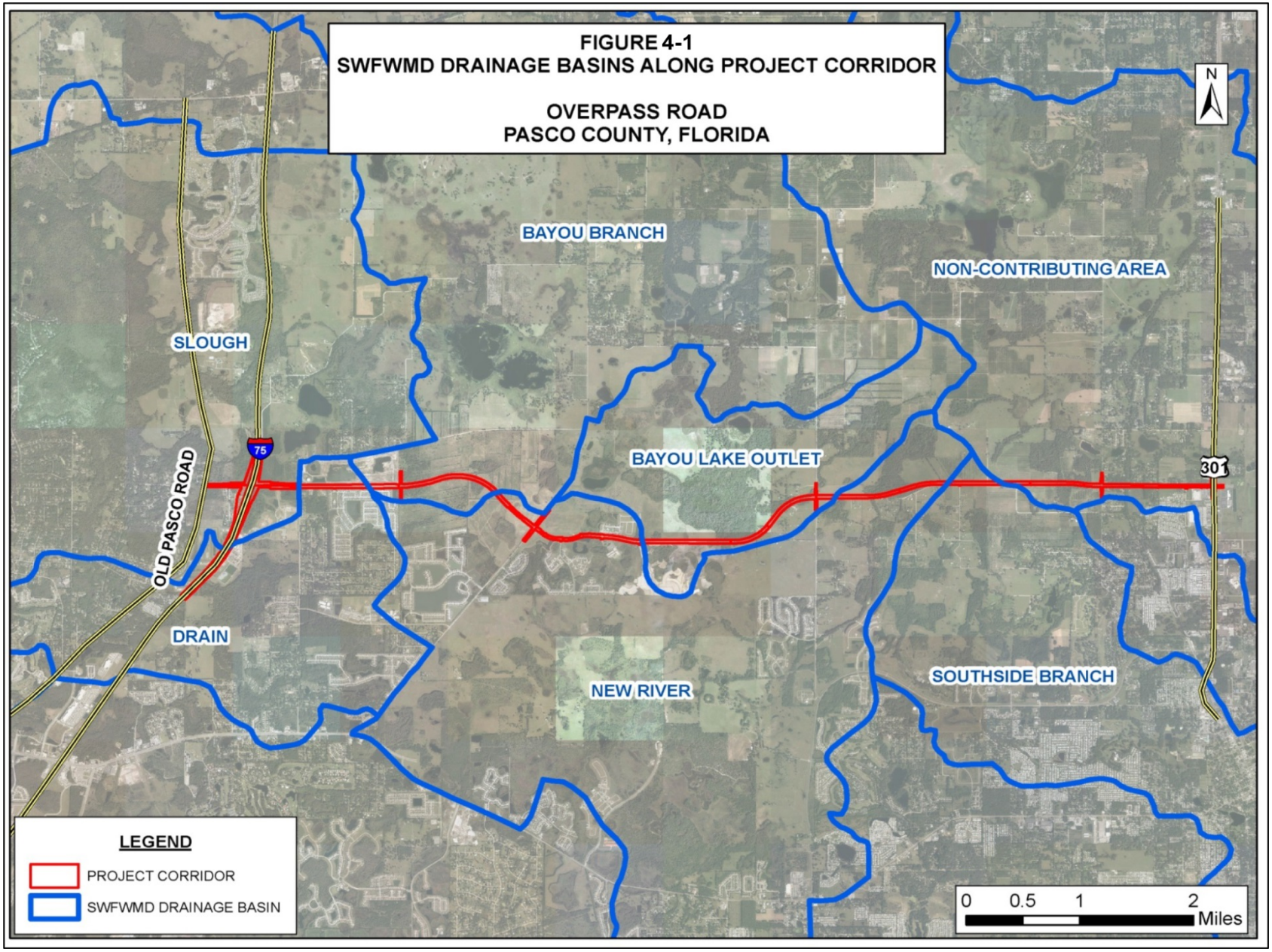


FIGURE 4-1
SWFWMD DRAINAGE BASINS ALONG PROJECT CORRIDOR
OVERPASS ROAD
PASCO COUNTY, FLORIDA
N
BAYOU BRANCH
NON-CONTRIBUTING AREA
SLOUGH
75
OLD PASCO ROAD
BAYOU LAKE OUTLET
301
DRAIN
NEW RIVER
SOUTHSIDE BRANCH
LEGEND
PROJECT CORRIDOR
SWFWMD DRAINAGE BASIN
0 0.5 1 2
Miles

4.5 FLOODPLAINS AND FLOODWAYS

The following FEMA Flood Insurance Rate Maps (FIRMs) were reviewed for the proposed project (all effective September 26, 2014):

- 12101C0264F
- 12101C0268F
- 12101C0269F
- 12101C0288F
- 12101C0289F

A review of the currently effective FIRMs, reveals several areas where the proposed project ROW contains portions of regulatory floodplains or floodways identified as Flood Zone A or Flood Zone AE. The flood zone impacts are summarized in **Table 4-3**.

TABLE 4-3
FEMA FLOOD ZONE IMPACTS WITHIN PROPOSED ROW

SUB-BASIN	APPROXIMATE IMPACT EXTENT		FLOOD ZONE A IMPACT (ac)	FLOOD ZONE AE IMPACT (ac)	BASE FLOOD ELEVATION (ft.-NAVD)
	FROM STATION	TO STATION			
B-1 NW	SB I-75 north of Overpass Rd	SB I-75 north of Overpass Rd	---	3.66	84.0
B-3 SW	250+23 SB I-75 south of Overpass Rd	300+12.18 SB I-75 south of Overpass Rd	0.04 ---	--- 0.52	--- 90.4
B-4 SE	NB I-75 south of Overpass Rd	NB I-75 south of Overpass Rd	---	3.57	90.8
3-1	238+49.49 243+50 251+20 255+40	240+00 245+80 252+20 265+40	0.24 --- 0.34 ---	--- 0.33 --- 2.65	--- 111.7 --- 111.6
3-3	297+50	315+20	---	5.68	Varies
3-4	338+00	352+20	2.16	---	---
3-9	486+45	487+40	0.10	---	---

Source: FEMA FIS, September 2014

For floodplain impacts within the four sub-basins located at the Recommended Build Alternative (Flyover Ramp) with Overpass Road and I-75, floodplain compensation (FPC) will be achieved utilizing the excess storage capacity in the two stormwater ponds proposed for construction along the I-75 mainline (Pond 3-1 and Pond 3-2). FPC sites are preliminarily planned for Sub-Basin 3-1 and Sub-Basin 3-4 adjacent to planned stormwater ponds, and compensation for the minor floodplain encroachment in Sub-Basin 3-9 will be achieved within stormwater Pond 3-11 and Pond 3-12.

FIRMETTE maps encompassing the entire project area are included in **Appendix D**, along with figures depicting the floodplain encroachments anticipated by the Recommended Build Alternative.

4.6 FLOODING PROBLEMS

Pasco County maintenance personnel were contacted to acquire information related to past problems due to flooding along the project corridor. According to the County Maintenance personnel, no reports of significant flooding within the Recommended Build Alternative have been reported.

4.7 CROSS DRAINS AND BRIDGES

There currently exists a total of 12 cross drains along the previously-developed portions of the Overpass Road alignment, which are located along I-75, through the Palm Cove and Watergrass developments, and along Kossik Road at the intersection with US 301. Along the currently undeveloped portions of the Recommended Build Alternative, there are many wetland areas that will be impacted by the road construction and, therefore, additional cross drains will be needed. As currently proposed, the project will have a total of 25 (12 existing and 13 new) cross drains along the Recommended Build Alternative. The new cross drains will likely vary in size from 24-inch diameter reinforced concrete pipes (RCPs) to 6-foot by 4-foot CBCs. Final sizing of the cross drains will be determined during the Design phase of the project. Additionally, the drainage ditch within a citrus grove that surrounds proposed stormwater Pond 3-8, located at approximately Sta. 380+00, will need to be relocated. Currently, the ditch makes a U-shape within the proposed ROW, with flow proceeding from east to west and connecting with a larger wetland area located north of the ROW along Handcart Road. It is proposed to reconstruct this ditch, with an approximate width of 10 feet and a depth of four feet, on the north side of proposed stormwater Pond 3-8, to maintain the current flow pattern.

A detailed discussion of the wetland impacts for the Recommended Build Alternative is included in the *Wetland Evaluation and Biological Assessment Report* (WEBAR), available under separate cover. The locations of the existing cross drains that may be modified during construction of the project and the proposed cross drains for the currently undeveloped portions of the Recommended Build Alternative are discussed in greater detail in the *Location Hydraulic Report* (LHR), available under separate cover. The 25 cross drain locations are summarized in **Table 4-4**. The location of each individual cross drain is presented graphically in **Appendix E**.

TABLE 4-4
SUMMARY OF CROSS DRAINS

STRUCTURE #	BASIN	APPROXIMATE STATION	DESCRIPTION	APPROX. SIZE
CD-1	B-3 SW	28+11	RCP	24”
CD-2	B-2 NE	I-75 north of Overpass	RCP	24”
CD-3 *	B-1 NE	I-75 north of Overpass	RCP	36”
CD-4 *	B-4 SE	I-75 south of Overpass	CBC	4’ X 4’
CD-5 *	PC	66+87	RCP	24”
CD-6 *	PC	95+28	RCP	24”
CD-7 *	PC	100+15	RCP	24”
CD-8	ER	171+97	RCP	24”
CD-9 *	ER	Curley Road south	RCP	24”
CD-10 *	ER	173+18	RCP	24”
CD-11 *	WG	184+60	RCP	30”
CD-12 *	WG	198+33	RCP	30”
CD-13 *	WG	203+11	RCP	24”
CD-14 *	WG	221+41	RCP	30”
CD-15	3-1	244+44	RCP	24”
CD-16	3-1	261+92	RCP	24”
CD-17	3-3	303+73	CBC	6’ x 4’
CD-18	3-3	309+54	CBC	6’ x 4’
CD-19	3-3	313+03	RCP	24”
CD-20	3-3	Handcart Road	CBC	6’ x 4’
CD-21	3-4	313+76	RCP	24”
CD-22	3-4	338+73	RCP	30”
CD-23	3-4	349+65	RCP	24”
CD-24	3-11	459+29	RCP	24”
CD-25 *	3-12	498+91	RCP	30”

* Denotes existing cross drains that must be lengthened or replaced during construction
Basin PC = Palm Cove development
Basin ER = Epperson Ranch MPUD
Basin WG = Watergrass development, Parcels B1-B4 and C1-C2

4.8 WATER QUALITY

The Recommended Build Alternative was examined to determine its proximity to areas with identified impaired water quality, as determined by the SWFWMD and the Florida Department of Environmental Protection (FDEP). No watershed basins (WBIDs) with specific water quality impairments or established total maximum daily loads (TMDLs) for any constituents were identified within the project corridor.

Section 5.0
PROPOSED CONDITIONS

5.1 CRITERIA AND METHODOLOGY

The drainage system for this project will be designed in accordance with Pasco County and FDOT drainage standards and procedures to carry stormwater runoff away from the roadway and paved mixed-use trail/sidewalk in the natural flow directions of that particular basin. For the portions of the project that are located in areas where an existing multi-lane divided roadway exists (through the Palm Cove and Watergrass developments, as well as near the intersection of Kossik Road and US 301) or where permit applications have been submitted for a proposed development (Epperson Ranch MPUD), the proposed improvements for the project will be completed within the existing ROW. Outside of these developed areas, a ROW width varying from 128 feet to 166 feet will be established, and all improvements will be completed within that ROW, with individual stormwater management pond sites located outside and adjacent to the ROW boundaries.

The newly-constructed portions of the Recommended Build Alternative will be graded such that runoff from the roadway, mixed-use trail and sidewalk will be managed within roadside curb and gutter drainage structures. The roadside gutters will convey collected runoff to a series of curb inlets and stormwater culverts, ultimately discharging into retention ponds. The locations of each individual pond and cross drain are presented on the project plan sheets included in Appendix E. An evaluation of the various interchange and roadway alternatives considered in the alternatives analysis phase of the project are provided in the PER and EA (available under separate cover). The pond sites presented in this section are based solely upon the preliminary concepts developed for the Recommended Build Alternative.

5.2 ENVIRONMENTAL RESOURCE PERMITS

Some portions of the Recommended Build Alternative are located within the limits of projects permitted by the SWFWMD. A total of 10 projects with approved ERPs include accommodations for roadway drainage from the Overpass Road ROW in project-related stormwater management ponds, as well as mitigation of roadway-impacted wetlands. The ERPs that include drainage for Overpass Road are summarized in **Table 5-1**.

TABLE 5-1
ENVIRONMENTAL RESOURCE PERMITS
THAT INCLUDE CONSTRUCTION OF OVERPASS ROAD

ERP NUMBER	PROJECT NAME	ROADWAY LIMITS	EXISTING CONSTRUCTION
43020542.004	Palm Cove – Phase 1A	Sta. 54+33 – Sta. 81+00	Yes
43020542.006	Palm Cove – Phase 2A	Sta. 81+00 – Sta. 100+03	Yes
43026736.004	Epperson Ranch – Phase 2	Sta. 100+03 – Curley Road	No
43026736.005	Epperson Ranch – Phase 3	Sta. 100+03 – Curley Road	No
43026736.009	Epperson Ranch – Phase 7	Sta. 100+03 – Curley Road	No
43006666.005	Watergrass – Parcels B1–B4	Curley Road – Sta. 186+50	Yes
43006666.006	Watergrass – Parcels C1-C2	Sta. 186+50 – Sta. 224+23	Yes
43006666.013	Watergrass – Parcels B5, B6, D, E, F, G, H	Sta. 224+23 – Sta. 268+11	No (underway)
43024706.000	Pasco Co – Otis Allen Road Phase 1	Fort King Road – US 301	Yes*
43024706.002	Pasco Co – Otis Allen Road Phase 2	Fort King Road – US 301	Yes*

* Permit included initial paving of Otis Allen Road/Kossik Road, which will be expanded for completion of Overpass Road

Two portions of Overpass Road that pass through existing development (Palm Cove and Watergrass, Parcels B1-B4 and C1-C2) have already been constructed. A third portion of Overpass Road will be constructed within the proposed Epperson Ranch development. Stormwater management for the roadway and mitigation of wetland impacts for these completed or planned development portions of Overpass Road have been accounted for in the applicable ERPs. Stormwater management and wetland impact mitigation for the portion of the Recommended Build Alternative that will pass through the future Epperson Ranch development has been included in the applicable ERPs for Epperson Ranch, which are currently in the agency review phase.

5.2.1 PALM COVE DEVELOPMENT

The Palm Cove ERPs have both been constructed and included stormwater management for runoff from Overpass Road, depicted in the as-built plans as a four-lane divided roadway with a 10-foot wide mixed-use trail and a five-foot wide sidewalk within 128 feet of ROW. The proposed construction will add two additional travel lanes from Boyette Road to the current end of pavement (approximately Sta. 100+03, through Palm Cove).

5.2.2 EPPERSON RANCH DEVELOPMENT

East of the Palm Cove development, from approximately Sta. 100+03 to Curley Road, there has been no development along the Recommended Build Alternative and no roadway currently exists in this area. The land that is traversed by this portion of the proposed alignment is part of the Epperson Ranch MPUD. The owners of Epperson Ranch have obtained seven separate ERPs to construct residential, commercial and town center uses, including the construction of Overpass Road. Three of the ERPs for the development specifically include stormwater runoff management from the Overpass Road ROW. Ponds, wetland mitigation areas and cross drains

have been designed within the Epperson Ranch development to accommodate runoff from the road. The original ERP permits for this development have expired; however, these projects have been re-submitted to the SWFWMD and other agencies and are currently under review. The conceptual plans submitted for review with the applications include stormwater management for the portion of Overpass Road that will pass through the development, as well as floodplain compensation and wetland mitigation.

5.2.3 WATERGRASS DEVELOPMENT

The portion of Overpass Road that is located within the limits of Watergrass ERPs 43006666.005 and 43006666.006 (Parcels B1-B4 and Parcels C1-C2), from Curley Road to the current end of pavement (Sta. 224+23, at the proposed Watergrass Parkway) has been constructed. Overpass Road through this area comprises a minimum four-lane divided roadway with a grass median, a 10-foot wide mixed-use trail and a five-foot wide sidewalk within 128 feet of ROW. Stormwater ponds have already been constructed within the Watergrass development to manage runoff from this portion of Overpass Road.

An ERP for Watergrass Parcels B5-B6, D, E, F, G and H (43006666.013) has recently been approved and construction of the development from Watergrass Parkway east to Handcart Road is currently underway. The permitted plans for the project indicate that runoff from Overpass Road through this portion of the development (to approximately Sta. 268+11) will be accommodated in stormwater ponds to be constructed within the project. Conceptual Pond 3-3 is located adjacent to a portion of the roadway that will ultimately be serviced by the new ponds within the Watergrass development, should the project be completed according to the permitted plans. Therefore, although Pond 3-3 is included among the Pond Sites for the project, it will be un-necessary if the Watergrass ponds are constructed according to plan. Conceptual Pond 3-4 will provide service to a portion of Overpass Road located outside of the Watergrass limits.

5.2.4 OTIS ALLEN ROAD/KOSSIK ROAD PROJECT

Pasco County has received ERPs for two roadway projects, Otis Allen Road Phases 1 and 2, located along the proposed Overpass Road alignment from Fort King Road eastward to US 301. (ERPs 43024706.000 and 43024706.002). The permitted plans for the project indicate a paved roadway with an ultimate section that includes a four-lane divided roadway with a grassed median, 10-foot wide mixed-use trail and a five-foot wide sidewalk. Currently, the paved roadway only extends approximately 250 feet west of Green Slope Drive but resembles the ultimate section at the intersection with US 301. Two stormwater ponds permitted for the project, Pond 4 and Pond 5 (designated Pond 3-11 and Pond 3-12 in this PSR) located north of the ROW and west of Green Slope Drive, have already been constructed. These two ponds will be utilized for management of runoff from Overpass Road for the drainage sub-basin extending from Sta. 466+25 to the eastern project limit (Sta. 499+30.15). An additional drainage sub-basin extends from Fort King Road (Sta. 447+54) to Sta. 466+25; runoff from this portion of the roadway will be accommodated in Pond 3-10, to be constructed in Pasco County-owned land east of Fort King Road.

Section 6.0
POND SITING ANALYSIS

An analysis of the Pre-Development and Post-Development drainage conditions for the Overpass Road alignment was conducted using the NRCS [formerly Soil Conservation Service (SCS)], method as outlined in the SCS *Technical Report No 55 (TR-55), Urban Hydrology for Small Watersheds*. Within the project limits, each of the drainage sub-basins has natural discharge pathways into other sub-basins or surface water bodies. Therefore, the ponds were designed using a 25-year, 24-hour storm event (SWFWMD criteria for open drainage basins). For the project area, this design storm would consist of 8.5 inches of rainfall in a 24-hour time frame.

For segment 1 of the project (Flyover Ramp Build Interchange Alternative), a total of two new stormwater ponds (Pond 3-1 and Pond 3-2) are proposed. Pond 3-1 will be located at the southwest corner of the interchange and will extend beneath the bridged portion of the flyover ramp to southbound I-75. Pond 3-2 will be constructed approximately 900 feet northwest of the interchange, adjacent to pond SMF 18-22 which is currently under construction for the FDOT as part of the I-75 Design-Build Project (FPID 258736-2-52-01) from north of CR 54 to north of SR 52. Runoff from four drainage sub-basins delineated along the alignment from Old Pasco Road to Boyette Road, including the impacted portions of the I-75 ROW but excluding the I-75 mainline, will be routed to the two ponds for water quantity attenuation and water quality treatment.

For Segment 2 of the project (Roadway Build Alternative O-3), a total of 10 new stormwater detention ponds are proposed to manage stormwater runoff generated from the Overpass Road construction and expansion from Boyette Road to US 301, excluding the roadway alignment through the two existing developments (Palm Cove and Watergrass) and the one proposed development (Epperson Ranch). The portions of the Recommended Build Alternative located outside of the existing developed portions were divided into nine drainage sub-basins based upon the existing topography.

Weighted curve numbers (CN) were calculated for the Pre-Development and Post-Development conditions within each of the 13 total sub-basins based upon the percentage of impervious (paved) and pervious (landscaped) surfaces within the proposed ROW. The calculated CNs were then used to calculate the quantity of stormwater runoff generated from the roadway typical section using the NRCS method.

6.1 WATER QUALITY AND WATER QUANTITY CRITERIA

In order to meet applicable state water quality standards, the design of the stormwater management system for the Recommended Build Alternative will comply with rules outlined in the SWFWMD *ERP Information Manual* (February 2004). The SWFWMD water quantity

criteria provides for limits of off-site discharges to no greater than the pre-development condition discharge. For the Recommended Build Alternative, the required detention volume was calculated as the difference between the NRCS method pre-development and post-development runoff volume. For water quality treatment, the first one inch of rainfall over the entire drainage sub-basin is required to be retained for wet retention ponds.

6.2 POND LOCATION CRITERIA

The selection of suitable sites for stormwater management ponds was based upon criteria such as economic feasibility, the presence of hazardous materials, archaeological resources, current and proposed land use, and hydrologic characteristics, among others. The following general criteria were initially considered as part of the pond site selection process for the Overpass Road project:

- The use of county- or state-owned lands is preferred
- Minimize the number of parcels (i.e., affected landowners) occupied by stormwater ponds
- Avoid splitting parcels and creating remnant pieces
- Avoid wetlands, archaeological sites, historic structures, and potentially contaminated sites

After assessing available locations based on these criteria, the preliminary ponds were located and sized based upon the following assumptions:

- Ponds were located in parcels owned by Pasco County (where feasible) or within parcels zoned for planned development
- Ponds were not specified for the portions of Overpass Road that pass through the existing Palm Cove and Watergrass developments or through the planned Epperson Ranch development, since roadway drainage was accounted for in existing ERPs
- The pond depth was based upon the estimated depth, in feet below land surface (BLS), to the seasonal high water table (SHWT)
- The SHWT values for the Recommended Build Alternative were estimated from soils data developed for the Palm Cove, Epperson Ranch and Watergrass ERPs, obtained from the SWFWMD
- The ponds were preliminarily sized to generally provide for approximately one foot of freeboard

- The pond geometry was based upon irregular-shaped ponds with, generally, 20-foot wide maintenance berms surrounding the top of the pond and side slopes within the pond of 4:1 (horizontal:vertical)

- While no set volume contingency was used for the preliminary pond sizing calculations, the available pond volumes generally include between five and 10 percent surplus volume

6.3 SUMMARY OF CHANGES FROM ALTERNATIVES ANALYSIS PHASE

An evaluation of the various interchange and roadway alternatives considered in the alternatives analysis phase of the project, including the preliminary typical sections are provided in the PER and EA (available under separate cover). As discussed in *Section 2.0*, the Flyover Ramp Alternative (Figure 2-1) and Alternative O-3 (as refined and provided in Figure 2-2) have been selected as the Recommended Build Alternative.

As refinements to the Recommended Build Alternative have occurred since the Alternatives Public Workshop, some of the pond sites have been modified. A summary of the changes between the pond sites depicted during the Alternatives Analysis phase and those provided in this PSR is provided in the following paragraphs.

Flyover Ramp Alternative

- The four ponds initially proposed within the interchange infield areas for the Flyover Ramp Alternative were consolidated into two ponds (Ponds 3-1 and 3-2) and relocated to new locations outside of the FDOT/I-75 ROW.

Alternative O-3

- Ponds 3-1 through 3-3 considered in the Alternatives Analysis phase have been omitted in the PSR because they are located within the Epperson Ranch development.

- Ponds 3-6 and 3-7 (Ponds 3-7 and 3-8 considered in the Alternatives Analysis phase) have been shifted in the PSR (Pond 3-6 shifted 100 feet east, Pond 3-7 shifted 150 feet north) to avoid wetland areas to the extent practicable, as well as avoidance of FEMA floodplains.

- Pond 3-8 has been shifted approximately 200 feet west and the footprint has been expanded. These changes were made to avoid wetlands and to meet SWFWMD criteria.

- Pond 3-9 has been shifted approximately 100 feet east in the PSR to avoid wetlands and FEMA floodplain impacts. The pond size has also been expanded to meet SWFWMD criteria.

- Pond 3-10 has been shifted in the PSR to a Pasco County-owned parcel located north of the roadway and east of Fort King Road. The pond footprint has also been expanded to meet SWFWMD criteria.

- Pond 3-12 was presented in the Alternative O-3 study as a single pond located on the south side of the roadway and west of Green Slope Drive. For the PSR, this pond site has been eliminated and is replaced by two existing dry detention ponds located north of the roadway. The existing ponds were named Pond 4 and Pond 5 in the Otis Allen Road Phase 1 and 2 project (ERP Nos. 24706.000 and 24706.002), and have been renamed Ponds 3-11 and 3-12 in the PSR.

The locations and relative sizes of the pond footprints and impacted wetlands for the entire project are depicted on the figures included in Appendix E.

6.4 NRCS METHODOLOGY

The NRCS method for calculation of stormwater runoff involves the development of a hydrologic and hydraulic conceptual model based upon measurable watershed characteristics, including sub-basin areas, soil type, antecedent moisture conditions, and land use. The methods and sources used to determine these characteristics are summarized in the following paragraphs.

6.4.1 DRAINAGE SUB-BASIN AREAS

The 13 drainage sub-basin areas were delineated based upon the existing topography along the roadway alignment, and each individual sub-basin comprises less than 100 acres. The stormwater ponds were then sized based upon the percentage of impervious and pervious land within the ROW width for each sub-basin, as determined from the GIS data.

6.4.2 CURVE NUMBERS

Pre-development and post-development runoff CN calculations for each sub-basin were based on a review of land use, land cover and hydrologic soil group, with an antecedent moisture condition of II. An area-weighted CN value was then computed for each sub-basin using the procedure outlined in TR-55. Impervious areas in the pre-development condition analysis for the existing paved roadway areas (Overpass Road west of Boyette Road, Overpass Road through the Palm Cove and Watergrass developments, and Kossik Road) included the present extent of the roadway and associated mixed-use trails and sidewalks. The areas outside of those with existing roadways contained no impervious surface within the ROW for the pre-development condition. The post-development analysis used the typical sections developed for the proposed roadway and the extent of impervious and pervious coverage from the GIS data to determine the acreage and

percentage of impervious and pervious area within each sub-basin. For the purposes of this preliminary analysis, the entire post-development impervious surface related to the roadway (travel lanes, mixed-use trails and sidewalks) was considered to be Directly Connected Impervious Area (DCIA), since the pipe network that will convey stormwater runoff from these paved surfaces will connect directly to the proposed stormwater ponds.

6.5 NRCS RUNOFF CALCULATIONS

Using the total pervious acreage and impervious acreage of each sub-basin; the 25-year, 24-hour design storm event rainfall amount for the region (8.5 inches); and the weighted CN for the sub-basin, the runoff volume (in acre-feet (ac-ft.)) for each sub-basin was calculated using the NRCS method for both the pre-development and the post-development condition. The runoff attenuation volume is equal to the net increase, in ac-ft., of runoff from the pre-development to the post-development condition. The water quality treatment volume for each sub-basin was calculated to be the first one inch of rainfall over the entire sub-basin area, for wet retention ponds. The total required storage volume for each sub-basin was calculated by adding together the runoff attenuation volume and the water quality treatment volume. The calculated required storage volume for each sub-basin was used as a guide in the preliminary sizing of the proposed stormwater ponds located adjacent to the roadway. The total pond footprint area includes maintenance berms and 4:1 side slopes for each pond, with the exception of Pond 3-11 and 3-12. These ponds have previously been constructed by Pasco County for stormwater management of a planned expansion of Kossik Road. This planned expansion has been incorporated into this PD&E study.

Wetland areas are located in the vicinity of the proposed interchange and also within the sub-basins for the majority of the Recommended Build Alternative. The presence of wetlands limits the size of pond that can be constructed in the affected areas. The project floodplain and wetland and protected species impacts are discussed in greater detail in the *LHR* and the *WEBAR*, both available under separate cover. An evaluation of the recommended pond sites with respect to the proximity of hazardous waste sites and cultural resources are discussed in the *Contamination Screening Evaluation Report (CSER)* and the *Cultural Resource Assessment Survey (CRAS)*, respectively, both available under separate cover.

A summary of the drainage sub-basins for the project area is presented as **Table 6-1**. The results of the drainage analyses and the preliminary pond sizes determined for the Recommended Build Alternative are summarized in **Table 6-2**. The preliminary locations and relative sizes of the pond footprints and impacted wetlands are depicted on the figures included in Appendix E. The drainage calculations used for preliminary pond siting are included in **Appendix F**.

TABLE 6-1
SUMMARY OF DRAINAGE SUB-BASINS

SUB-BASIN NAME	FROM	TO	FROM STATION	TO STATION	LENGTH (ft)	R.O.W. WIDTH (ft)
B-1 NW	Old Pasco Road (Sta. 10+00)	Centerline, I-75 (Sta. 21+44.28)	1000.00	2144.28	1144.28	142
B-2 NE	Centerline, I-75 (Sta. 21+44.28)	Boyette Road (Sta. 53+77.86)	2144.28	5377.86	3233.58	190
B-3 SW	Old Pasco Road (Sta. 10+00)	Centerline, I-75 (Sta. 21+44.28)	1000.00	2144.38	1144.38	142
B-4 SE	Centerline, I-75 (Sta. 21+44.28)	Boyette Road (Sta. 53+77.86)	2144.28	5377.86	3233.58	190
PC	Boyette Road (Sta. 53+77.86)	End of Palm Cove (Sta. 100+02.50)	5377.86	10002.50	4624.64	---
ER	End of Palm Cove (Sta. 9+09) *	Curley Road (Sta. 84+62) *	909.00	8462.00	7553.00	---
WG	Curley Road (Sta. 172+00)	Watergrass Blvd (Sta. 224+23.16)	17200.00	22423.16	5223.16	---
3-1	Watergrass Blvd (Sta. 224+23.16)	Sta. 266+00	22423.16	26600.00	4176.84	166
3-2	Sta. 266+00	Sta. 285+44	26600.00	28544.00	1944.00	166
3-3	Sta. 285+44	Sta. 313+44 (Handcart Rd)	28544.00	31344.00	2800.00	166
3-4	Sta. 313+44 (Handcart Rd)	Sta. 352+50 (Neukom Properties)	31344.00	35250.00	3906.00	128
3-5	Sta. 352+50 (Neukom Properties)	Sta. 376+67.26 (Neukom Properties)	35250.00	37667.26	2417.26	166
3-6	Sta. 376+67.26 (Neukom Properties)	Sta. 414+08.68 (Neukom Properties)	37667.26	41408.68	3741.42	166
3-7	Sta. 414+08.68 (Neukom Properties)	Sta. 439+12	41408.68	43912.00	2503.32	166
3-8	Sta. 439+12	Sta. 466+25	43912.00	46625.00	2713.00	166 #
3-9	Sta. 466+25	Sta 499+30.15; End Project @ U.S. 301	46625.00	49930.15	3305.15	128 #

NOTES: SUB-BASIN PC = Palm Cove
SUB-BASIN ER = Epperson Ranch
SUB-BASIN WG = Watergrass
* Denotes Stationing used for project corridor through proposed Epperson Ranch development corresponds to Epperson Ranch ERP plans (Stationing used for remainder of project corridor was developed for this PD&E study)
# Denotes that ROW width decreases from 166 ft. to 128 ft. at Ft King Highway (Sta. 447+54.22)

TABLE 6-2
STORMWATER DRAINAGE ANALYSES SUMMARY

SUB-BASIN NAME	BASIN AREA (ac)	PRE-DEVELOPMENT		POST-DEVELOPMENT		REQUIRED STORAGE VOLUMES		POND SURFACE AREA (ac)	POND FOOTPRINT AREA (ac)
		IMPERVIOUS (ac)	PERVIOUS (ac)	IMPERVIOUS (ac)	PERVIOUS (ac)	25-YR, 24-HR ATTENUATION (ac-ft.)	RUNOFF TREATMENT (ac-ft.)		
B-1 NW	9.98	1.05	8.93	3.01	6.97	0.86	0.83	2.50 (3-2)	3.20 (3-2)
B-2 NE	11.76	3.56	8.20	4.53	7.23	0.56	0.98	---	---
B-3 SW	15.14	0.90	14.24	4.13	11.01	0.44	1.26	---	---
B-4 SE	13.26	0.64	12.62	3.81	9.45	1.70	1.11	0.86 (3-1)	1.17 (3-1)
3-1	16.06	0.09	15.97	9.75	6.31	4.73	1.34	2.01 (3-3)	2.65 (3-3)
3-2	7.42	0.00	7.42	4.46	2.96	1.97	0.62	0.99 (3-4)	1.42 (3-4)
3-3	12.25	0.42	11.83	7.50	4.75	3.68	1.02	1.46 (3-5)	2.10 (3-5)
3-4	14.71	1.40	13.31	9.58	5.13	3.28	1.23	1.48 (3-6)	2.04 (3-6)
3-5	8.00	0.00	8.00	5.52	2.48	2.15	0.67	1.07 (3-7)	1.51 (3-7)
3-6	12.28	0.77	11.51	8.41	3.87	3.66	1.02	1.60 (3-8)	2.15 (3-8)
3-7	8.28	0.00	8.28	5.46	2.82	2.01	0.69	1.15 (3-9)	1.62 (3-9)
3-8	10.92	1.48	9.44	7.59	3.33	3.02	0.91	1.37 (3-10)	1.93 (3-10)
3-9	9.16	3.30	5.86	6.32	2.84	1.77	0.38	3.50 (3-11*)	3.50 (3-11*)
								0.79 (3-12*)	0.79 (3-12*)

NOTES: Ponds 3-7, 3-8, 3-10, 3-11 and 3-12 are located on Pasco Co. owned parcels
Pond 3-11 is existing Pasco County Pond 4, and Pond 3-12 is existing Pasco County Pond 5, from ERPs 43024706.000 and 43024706.002 (Pasco Co. – Otis Allen Road Phase 1 and 2).
* denotes existing ponds designed for dry detention; all other ponds are designed for wet retention
No ponds are proposed for the existing portions of Overpass Road through the Palm Cove and Watergrass developments or through the proposed Epperson Ranch development.

Section 7.0
REGULATORY AGENCY COORDINATION

7.1 PERMITS REQUIRED

It is anticipated that the following permits will be required for the proposed Overpass Road improvements:

- SWFWMD Environmental Resource Permit
- FDEP National Pollutant Discharge Elimination System (NPDES) Permit for Construction Activities
- Section 404 USACE Dredge and Fill Permit

7.2 LOCAL AGENCIES

Pasco County is the local agency with jurisdiction over the majority of the project corridor for the proposed improvements to Overpass Road. Coordination between Pasco County and FDOT will be required during final design.

7.3 STATE AGENCIES

The state agency involved in the permitting process for the Overpass Road drainage system would be the SWFWMD.

A portion of the stormwater permitting (and wetland permitting) for the proposed Overpass Road expansion has been provided in previously issued permits. A Pre-Application meeting will be held with SWFWMD to discuss the proposed projects improvements and how to submit permits during the construction phase of the project. The project may require a standard general construction permit with Pasco County as the applicant. The small quantities of additional pavement within the Palm Cove (1.05 ac) and Watergrass (1.77 ac) developments, to increase the roadway from four lanes to six lanes, was not included in the original ERPs for the developments. Additional stormwater ponds for treatment, peak attenuation or floodplain compensation beyond the existing ponds located within the developments should not be required.

7.4 FEDERAL AGENCIES

Federal agencies which may require permits for the proposed Overpass Road improvements are the USACE, USEPA, and FEMA. The USACE would be involved in permitting dredge and fill activities in Waters of the United States. The federal NPDES permit process is administered by the USEPA. However, in Florida, the USEPA has delegated the authority for administering the Federal program to FDEP for stormwater discharges into Waters of the United States.

Section 8.0
REFERENCES

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Florida Department of Transportation, *PD&E Manual*, Part 2, Chapter 24 – *Floodplains*. April 22, 1998.

Southwest Florida Water Management District, *Environmental Resource Permitting Information Manual.* 2004.

Southwest Florida Water Management District, *Aerials with contours*.

Pasco County, *Capital Improvement Plan*. FY 2015-2019.

Pasco County, MPO, *2040 Cost Affordable Long Range Transportation Plan*.

Pasco County, MPO, *Long Range Transportation Plan, 2040 Needs Plan*.

Pasco County, *Comprehensive Plan Transportation Element*. February 28, 2013.

Pasco County, *Transportation Improvement Program*. June 11, 2015.

APPENDIX A

Project Plan Sheets

FISCAL YEAR	SHEET NO.
	I

PASCO COUNTY

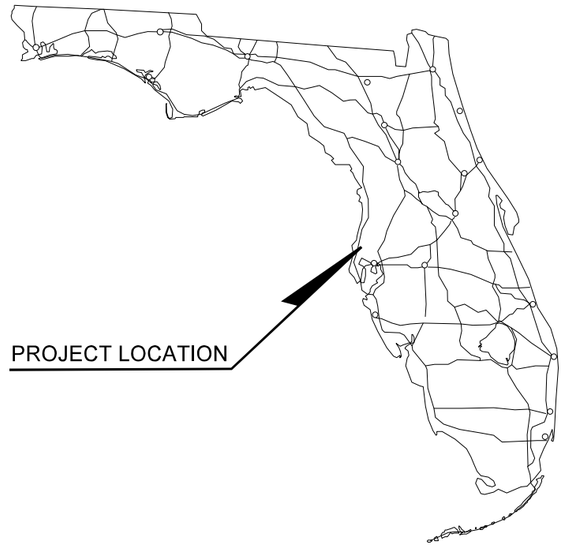
OVERPASS ROAD

FROM OLD PASCO ROAD TO US 301

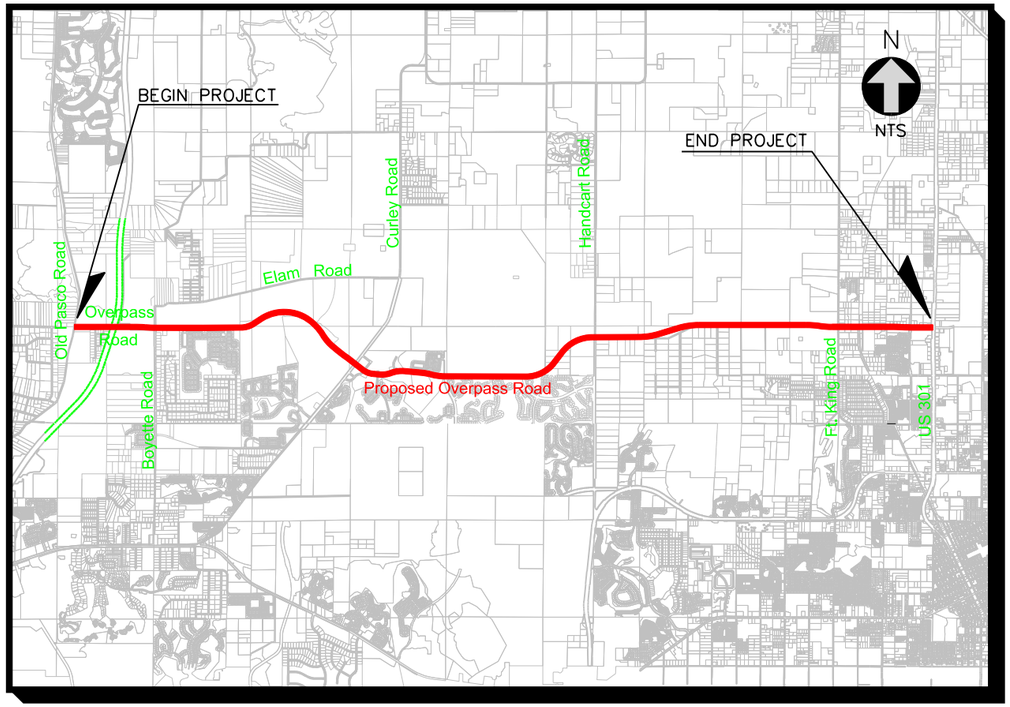
CIP NO: 5025 • FPID NO: 432734-1

PREPARED BY

URS CORPORATION SOUTHERN



ALTERNATIVE O3 ROADWAY



PROJECT LOCATION MAP

DRAFT - FOR PLANNING PURPOSES ONLY

PASCO COUNTY BOARD OF COUNTY COMMISSIONERS

CHAIRMAN OF THE BOARD : TED SCHRADER
DISTRICT 1 : TED SCHRADER
DISTRICT 2 : MIKE MOORE
DISTRICT 3 : KATHRYN STARKEY
DISTRICT 4 : MIKE WELLS
DISTRICT 5 : JACK MARINAO
COUNTY ADMINISTRATOR : MICHELE BAKER

INDEX OF PLANS

Aerial Photography Date: 2011

MAPS PREPARED BY:

URS CORPORATION SOUTHERN
LICENSED BUSINESS NO. 6839
7650 WEST COURTNEY CAMPBELL CAUSEWAY
TAMPA, FLORIDA 33607-1462

TELEPHONE (813) 286-1711

LEGEND

- EXISTING RIGHT-OF-WAY
- EXISTING L/A RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- PROPOSED L/A RIGHT-OF-WAY
- PROPERTY LINES
- ROADWAY
- BRIDGE
- 5' SIDEWALK
- CD-1 — CROSS DRAIN
- TO BE REMOVED
- PROPOSED SIGNAL
- EXISTING SIGNAL
- O1-1 — PROPOSED POND SITE
- 10' MULTI-USE PATH
- WETLAND
- FLOODPLAIN
- FPC 3-1 — FLOODPLAIN COMPENSATION AREA
- 100 — CONTOUR LINE

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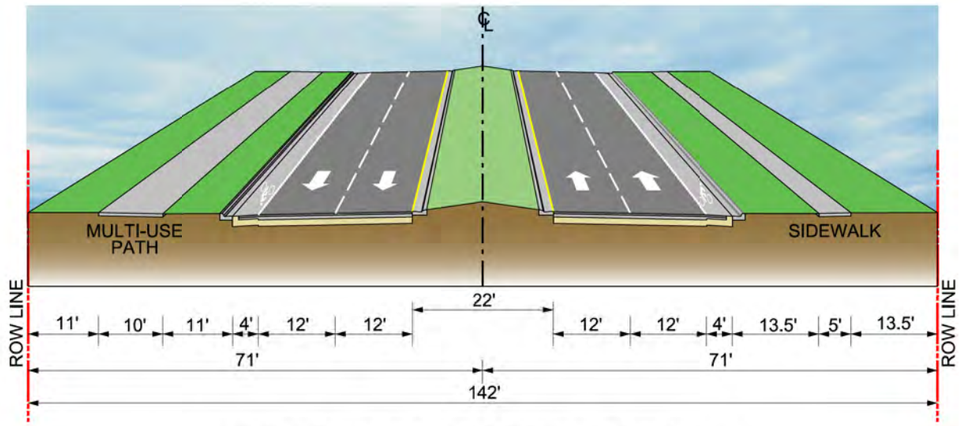
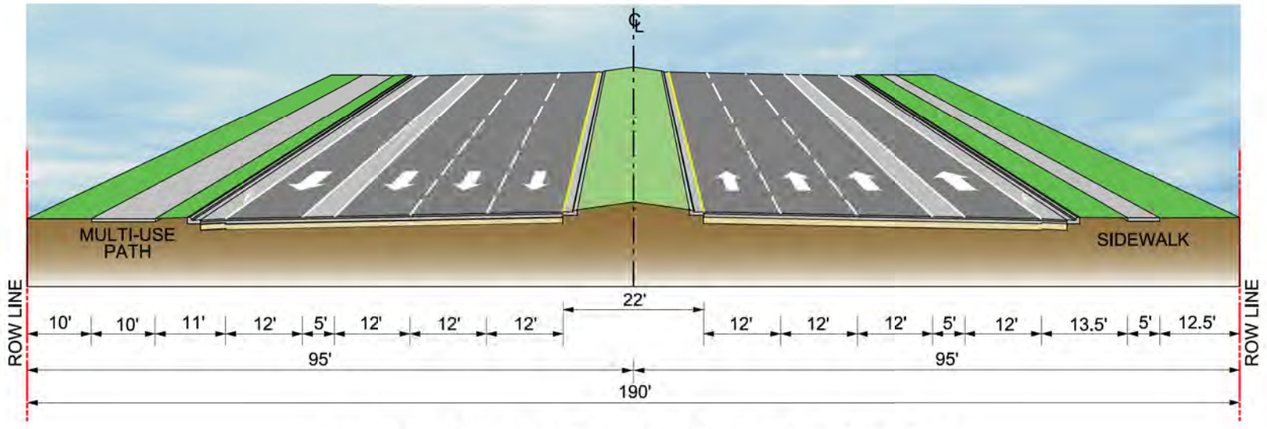
ENGINEERING SERVICES
CIP NO: 5025 • FPID NO: 432734-1

OVERPASS ROAD
Alternative O-3
From Old Pasco Road to US 301
Pasco County Florida

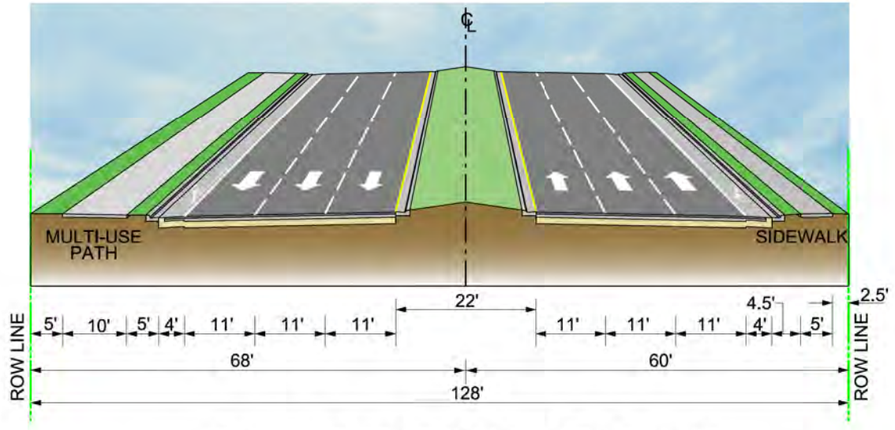
SHEET NO.
II



4 LANE TYPICAL SECTION
Old Pasco Road to I-75



6+2 AUX LANE TYPICAL SECTION
I-75 to Boyette Road



6 LANE TYPICAL SECTION
Boyette Road to Future McKendree Road Re-alignment

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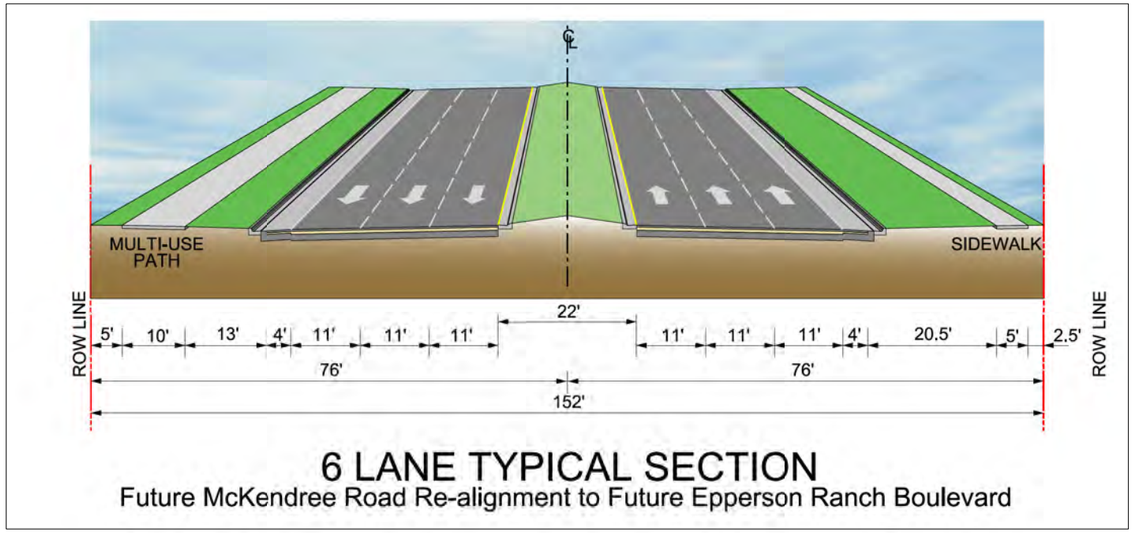
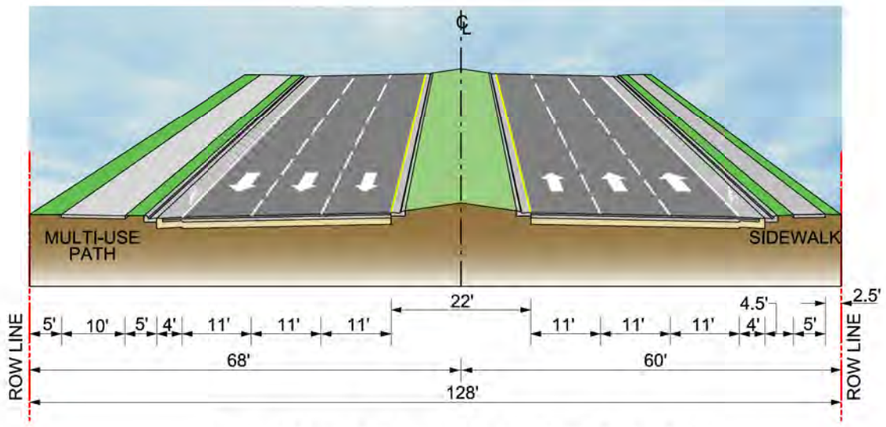
III



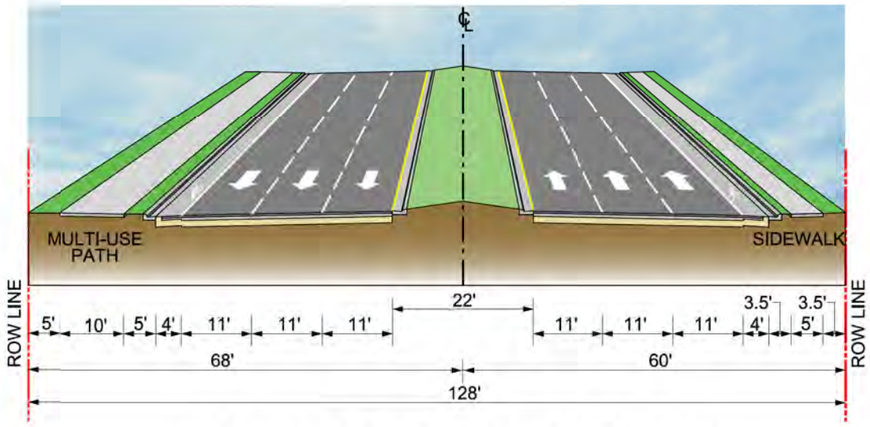
6 LANE TYPICAL SECTION

Future McKendree Road Re-alignment to Future Epperson Ranch Boulevard



6 LANE TYPICAL SECTION

Future Epperson Ranch Boulevard to Promenade Town Center



6 LANE TYPICAL SECTION

Through Promenade Town Center

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Pasco County Florida

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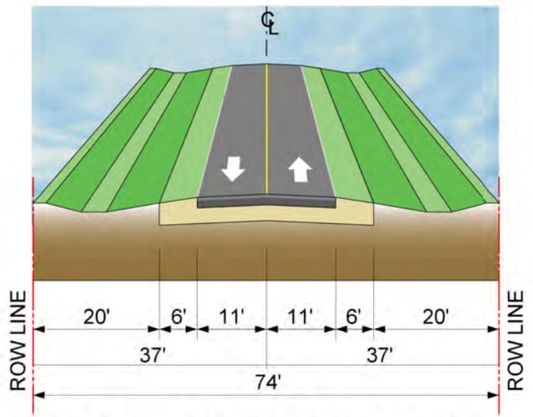
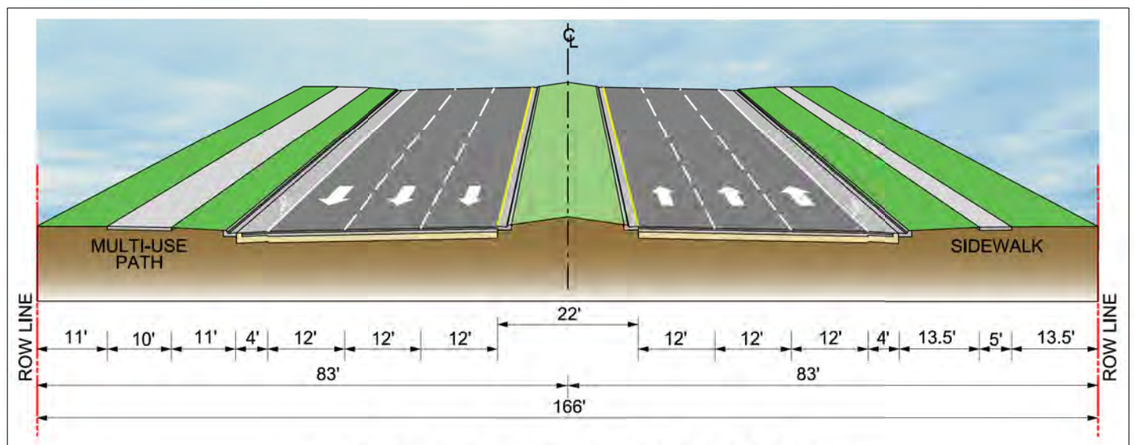
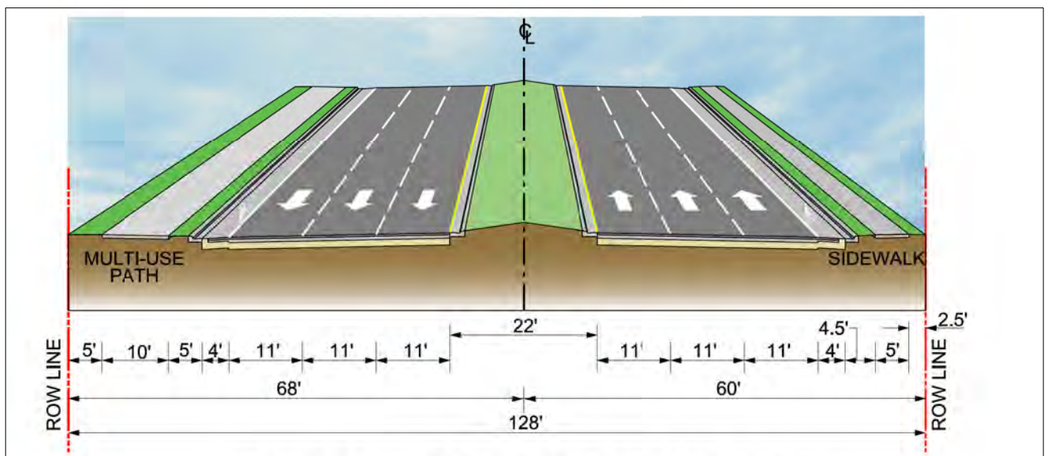
IV



2 LANE TYPICAL SECTION
Blair Drive Access



6 LANE TYPICAL SECTION
Promenade Town Center to Ft. King Road



6 LANE TYPICAL SECTION
Ft. King Road to US 301

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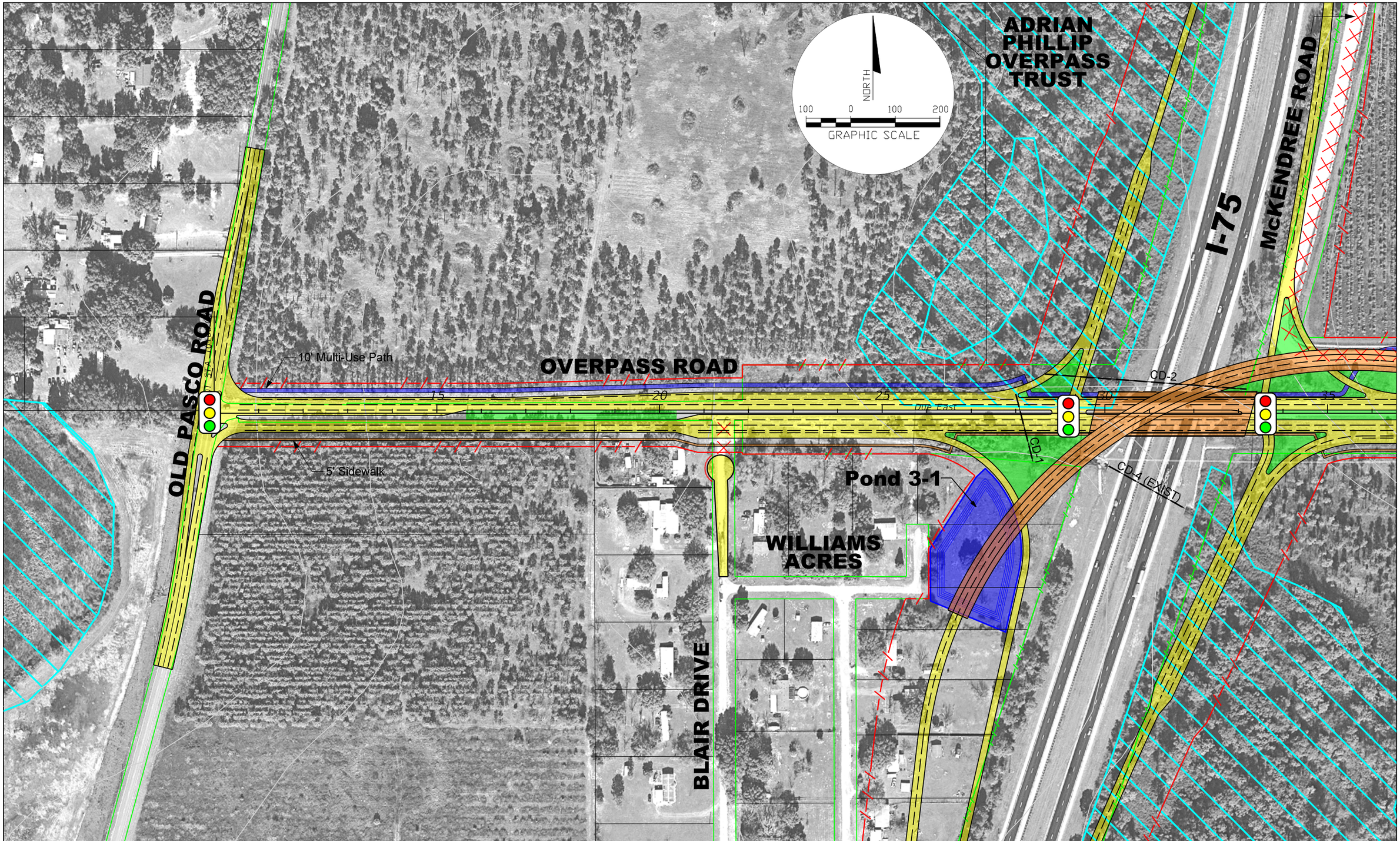

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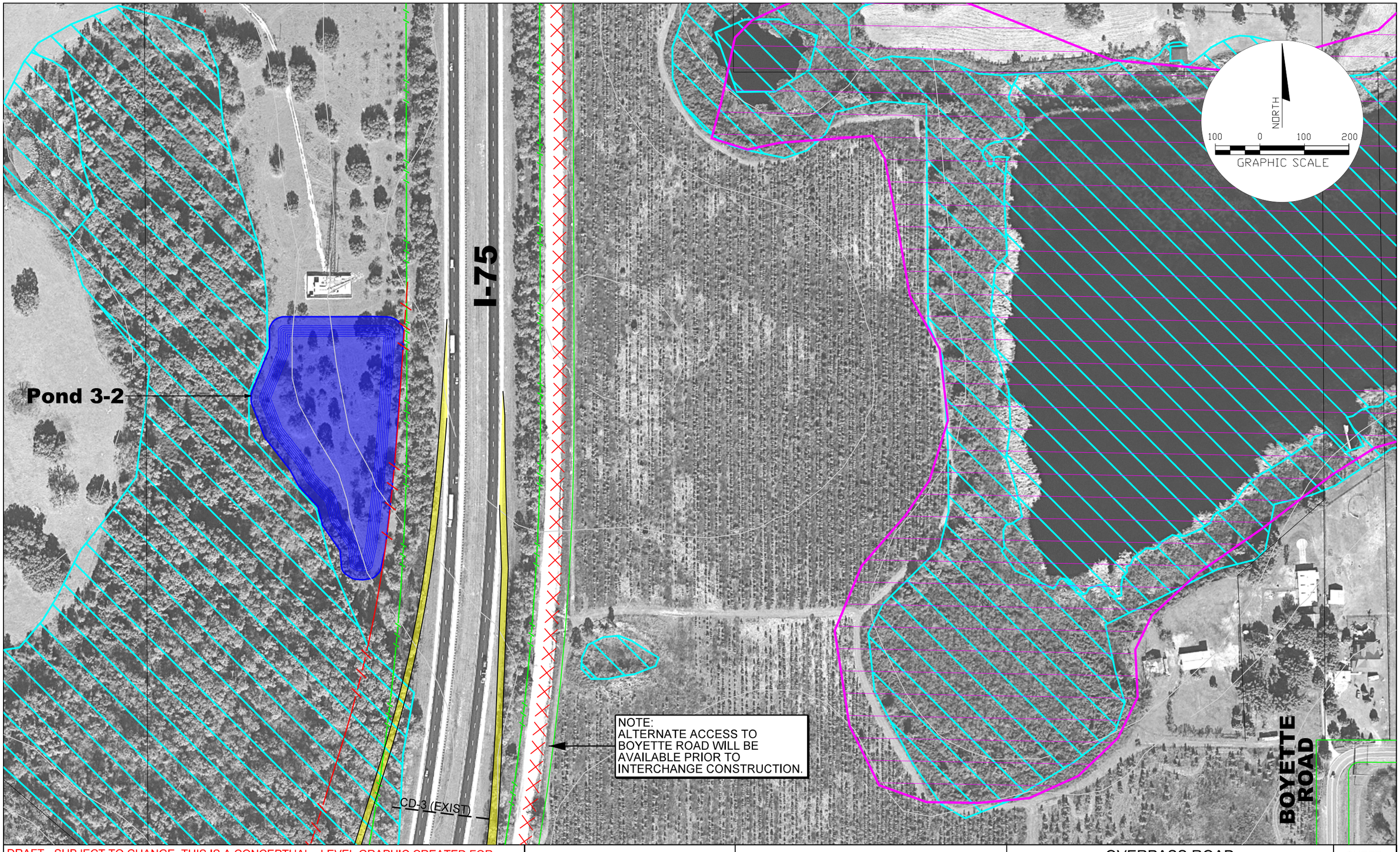
SHEET NO.
1



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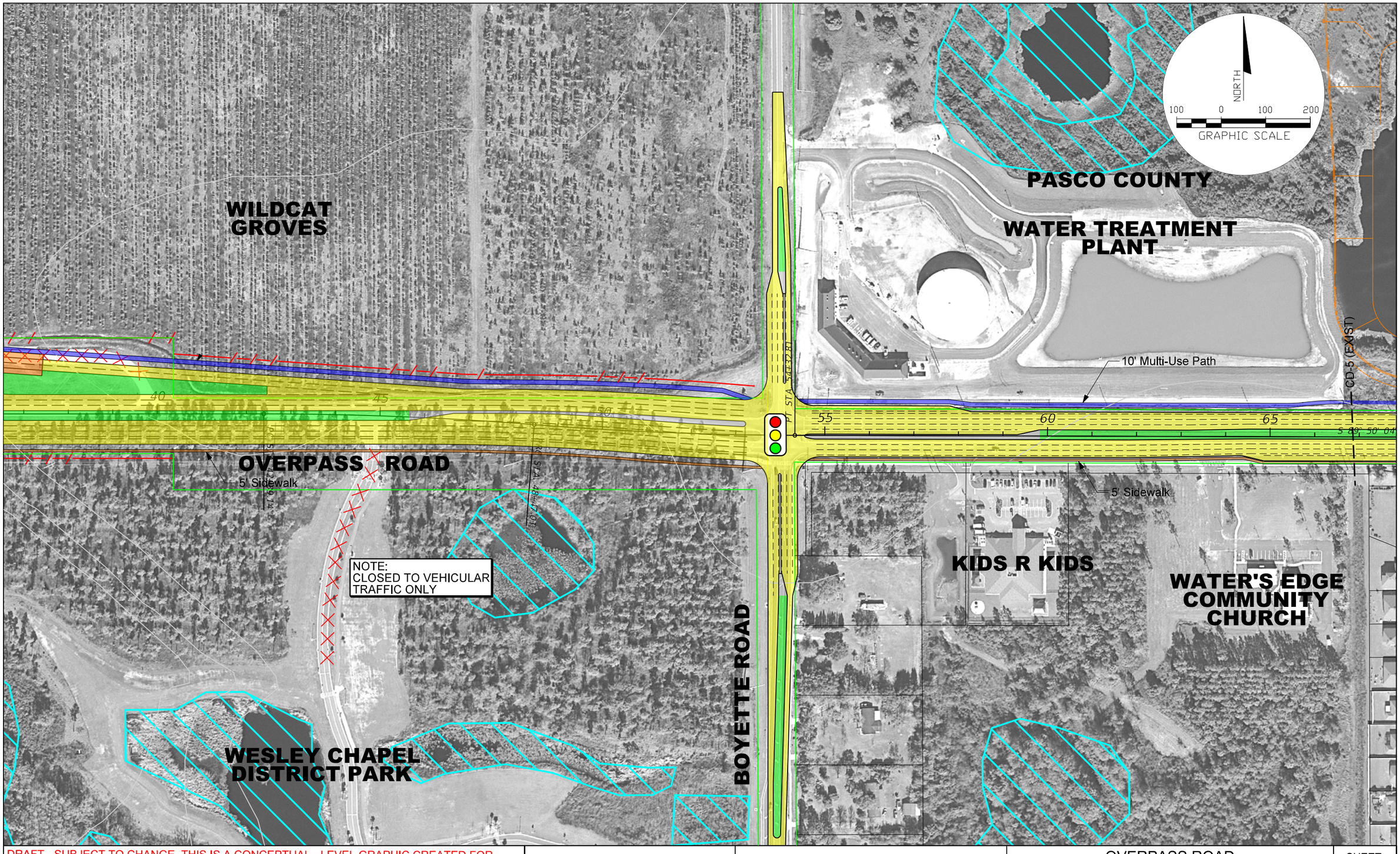

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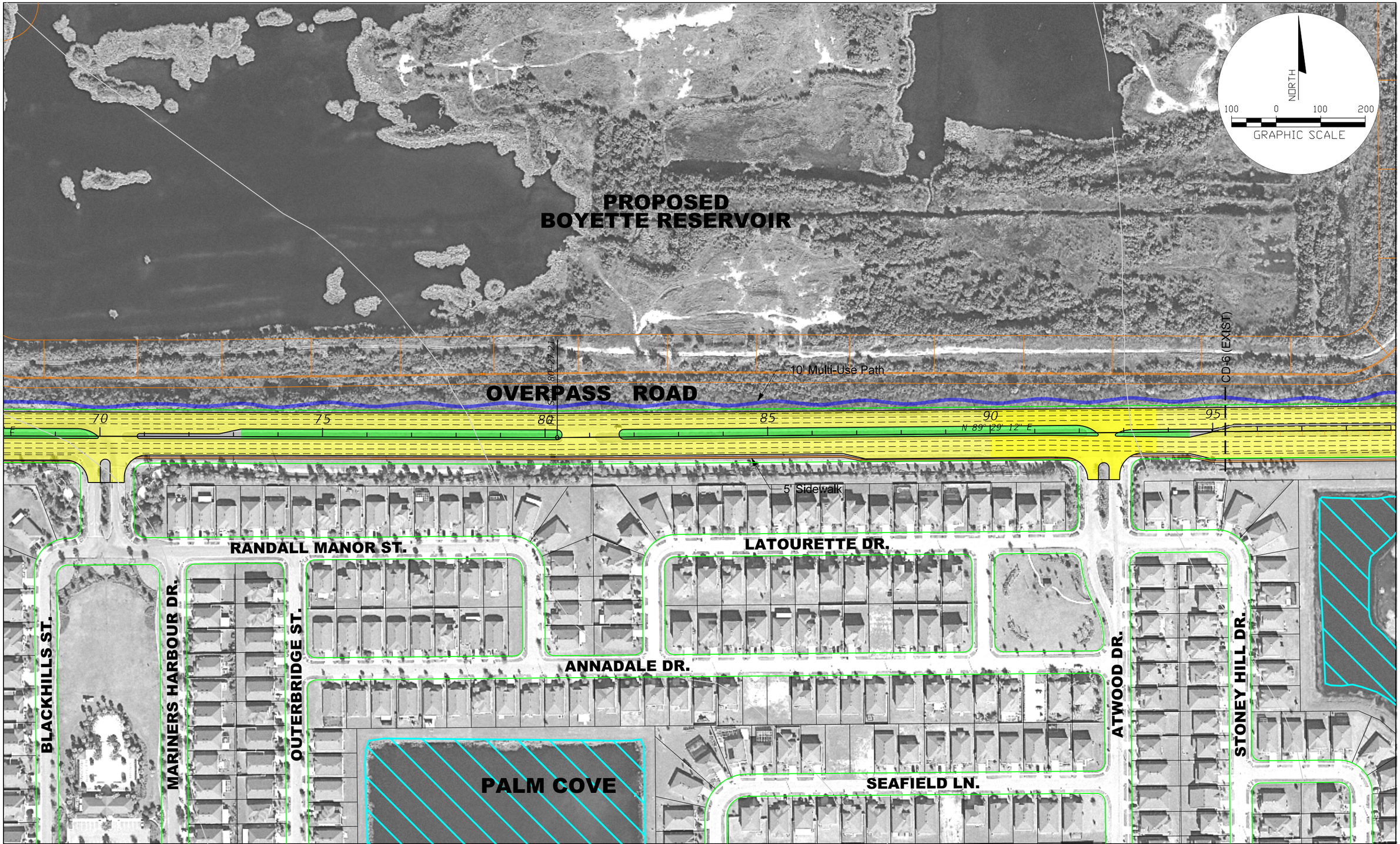

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Pasco County Florida

SHEET NO.
3

EPCO RANCH

OVERPASS ROAD

McKENDREE ROAD
RE-ALIGNMENT
(FUTURE)

(STATION EQUATION)
PC STA. 100+02.50
PC STA. 9+09

CD-7 (EXIST)

PC = 10+32

PC = 22+83

PT = 17+84

10' Multi-Use Path

5' Sidewalk

EPPERSON
RANCH LLC

NORTH

100 0 100 200

GRAPHIC SCALE

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SHEET NO.
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SHEET NO.
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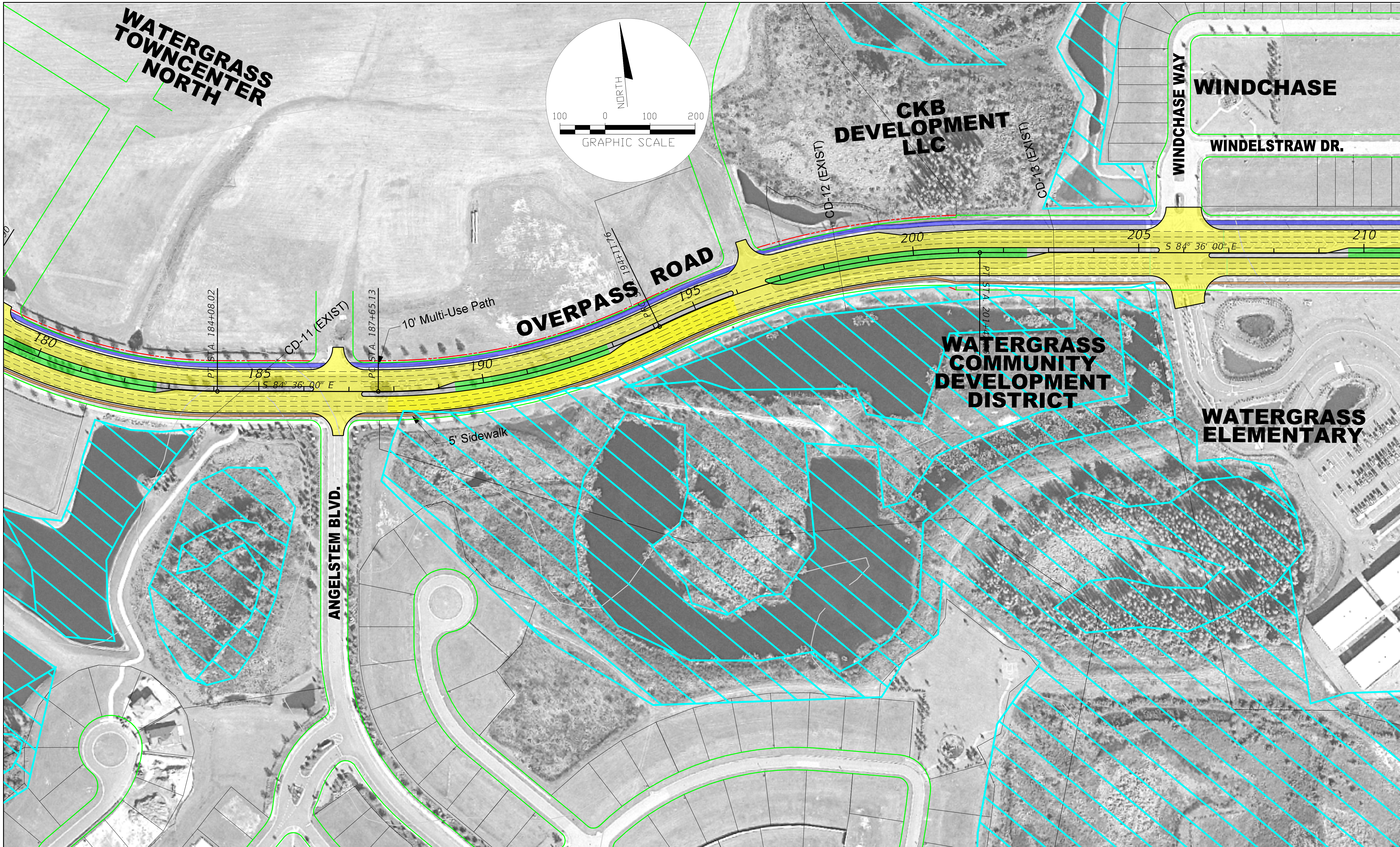
OVERPASS ROAD
Alternative O-3
From Old Pasco Road to US 301
Pasco County Florida

SHEET NO.
6



DRAFT - SUBJECT TO CHANGE. THIS IS A CONCEPTUAL - LEVEL GRAPHIC CREATED FOR PLANNING AND DISCUSSION PURPOSES ONLY. IT IS NOT INTENDED FOR USE IN DESIGN OR CONSTRUCTION. APRIL, 2015.

URS

URS Corporation Southern
7650 West Courtney
Campbell Causeway
Tampa, FL 33607-1462
No. 00000002

PASCO COUNTY
ENGINEERING SERVICES
CIP NO: 5025 • FPID NO: 432734-1

OVERPASS ROAD
Alternative O-3
From Old Pasco Road to US 301
Pasco County Florida

SHEET NO.
7

WINDCHASE

TIMBERVIEW LOOP

CD-14 (EXIST)

WATERGRASS PKWY.

RLE
RANCH, INC.

NORTH

100 0 100 200

GRAPHIC SCALE

10' Multi-Use Path

OVERPASS ROAD

210 215 220 225 230 235 240

PC STA. 211+28.82

PT STA. 215+42.55

STA. 224+23.16

5' Sidewalk

WATERGRASS
ELEMENTARY

WATERGRASS
COMMUNITY
DEVELOPMENT
DISTRICT

CKB
DEVELOPMENT
LLC

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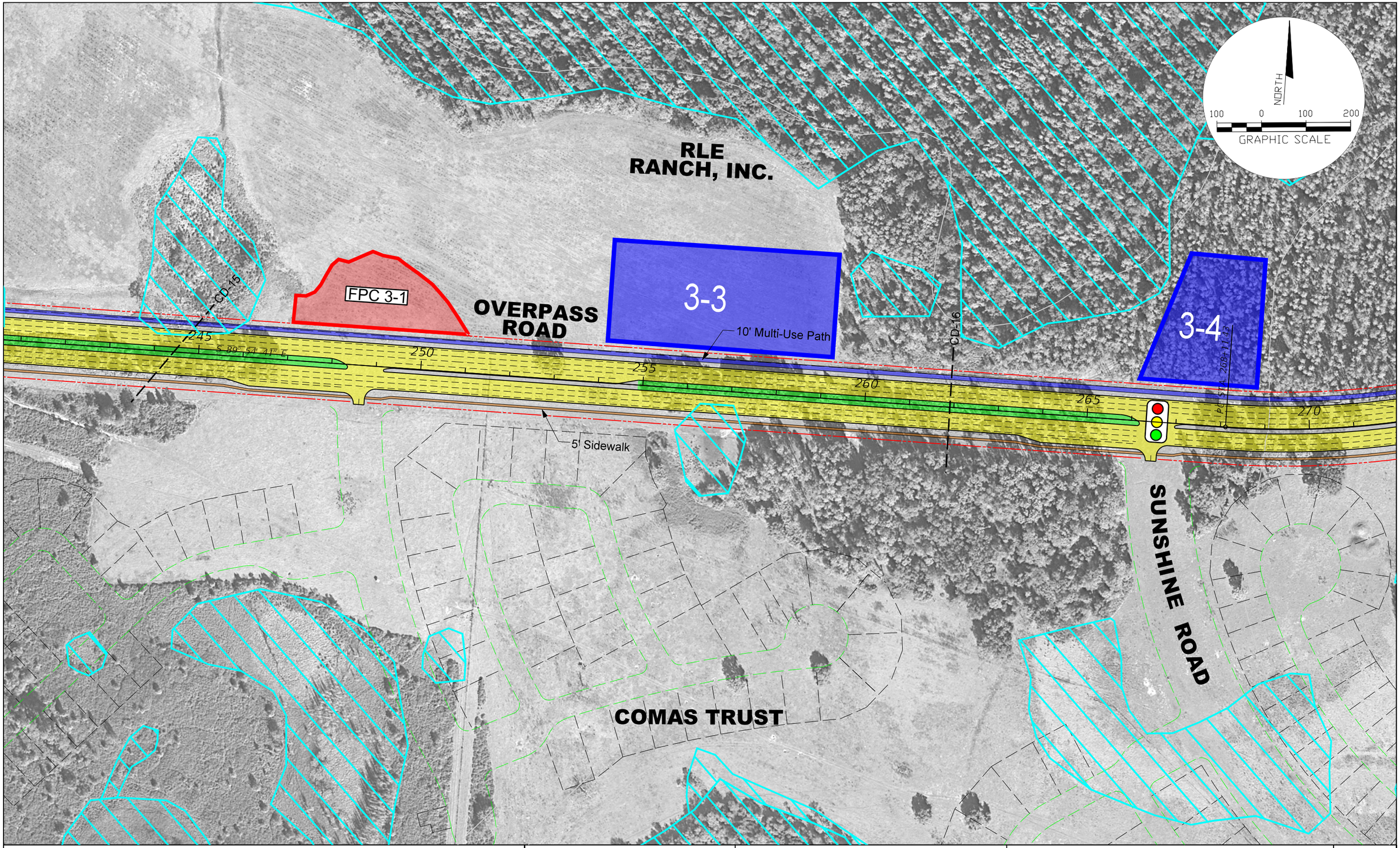
Alternative O-3
From Old Pasco Road to US 301
Pasco County Florida

SHEET NO.
8



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Pasco County Florida

SHEET NO.
9

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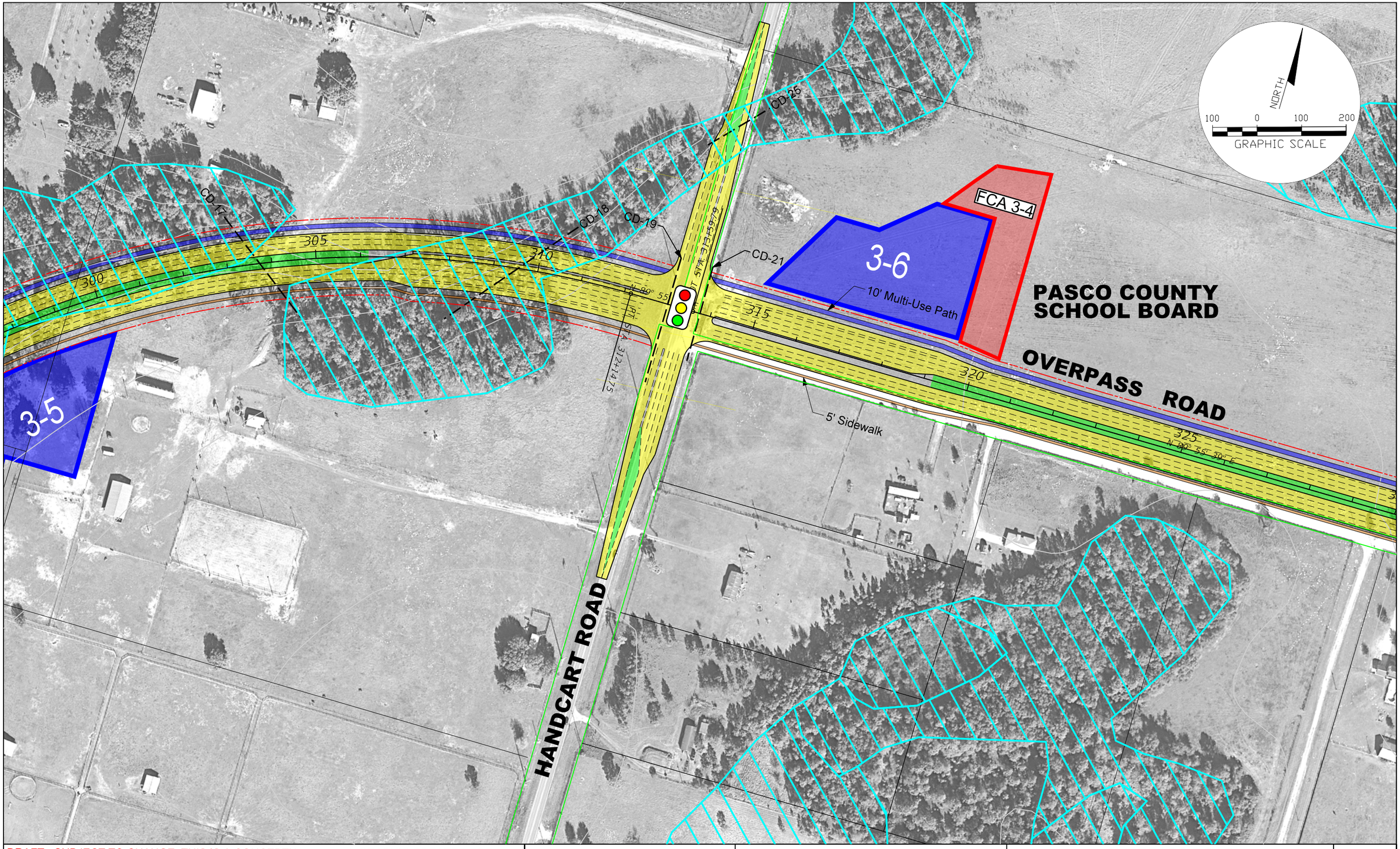
OVERPASS ROAD
Alternative O-3
From Old Pasco Road to US 301
Pasco County Florida

SHEET NO.
10



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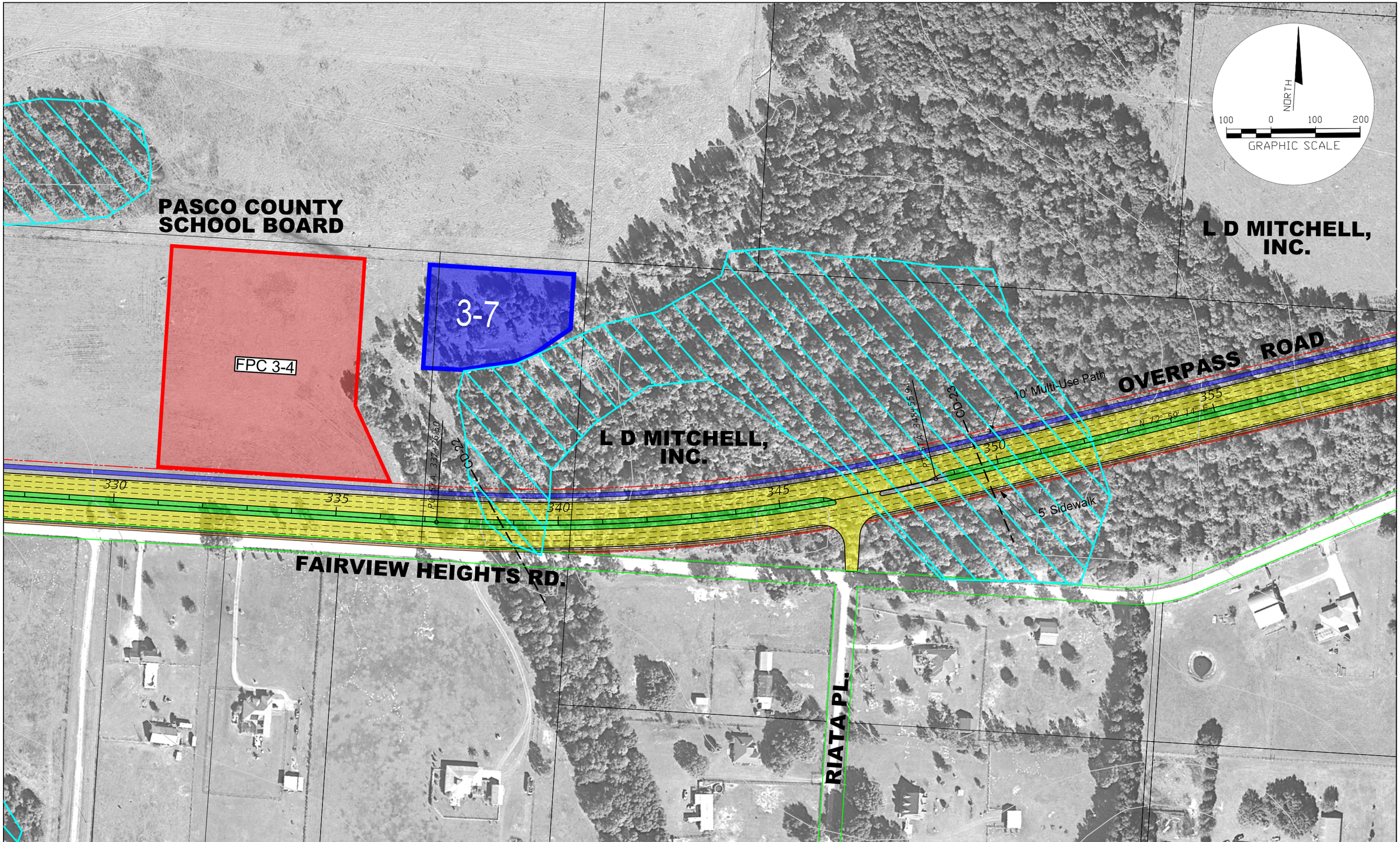
OVERPASS ROAD
Alternative O-3
From Old Pasco Road to US 301
Pasco County Florida

SHEET NO.
11



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PASCO COUNTY
ENGINEERING SERVICES
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OVERPASS ROAD
Alternative O-3
From Old Pasco Road to US 301
Pasco County Florida

SHEET NO.
12

SUNTECH INVESTMENTS, INC. &
FREEMAR DEVELOPMENT, INC.

NORTH

100 0 100 200

GRAPHIC SCALE

REPLACEMENT DITCH 3-9

3-8

10' Multi-Use Path

OVERPASS ROAD

365 370 375 380 385 390

360

PC STA 359+59.79

PT STA 370+90.61

5' Sidewalk

FAIRVIEW HEIGHTS RD.

HACKAMORE RD.

ARTIFACT DR.

SUNTECH INVESTMENTS, INC. &
FREEMAR DEVELOPMENT, INC.

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No. 00000002

PASCO COUNTY
ENGINEERING SERVICES
CIP NO: 5025 • FPID NO: 432734-1

OVERPASS ROAD
Alternative O-3
From Old Pasco Road to US 301
Pasco County Florida

SHEET NO.
13

SUNTECH INVESTMENTS, INC. &
FREEMAR DEVELOPMENT, INC.

OVERPASS ROAD

10' Multi-Use Path

5' Sidewalk

395 400 405 410 415 420

N 89°56' 54" E

NORTH

100 0 100 200

GRAPHIC SCALE

CULLEN SMITH RD.

SUNTECH INVESTMENTS, INC. &
FREEMAR DEVELOPMENT, INC.

FAIRVIEW HEIGHTS RD.

SUNTECH INVESTMENTS, INC. &
FREEMAR DEVELOPMENT, INC.

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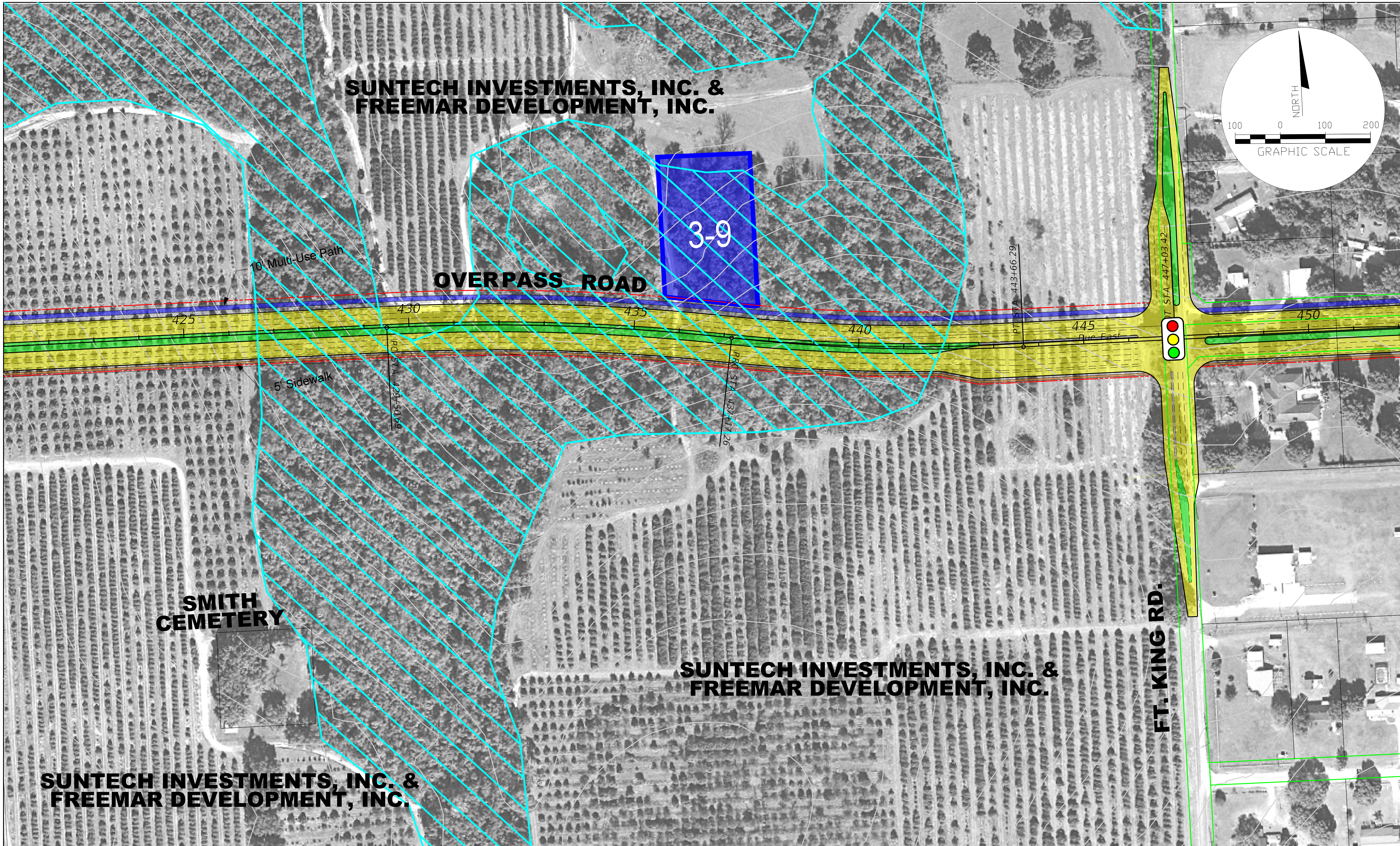
ENGINEERING SERVICES
CIP NO: 5025 • FPID NO: 432734-1

OVERPASS ROAD
Alternative O-3
From Old Pasco Road to US 301
Pasco County Florida

SHEET NO.
14



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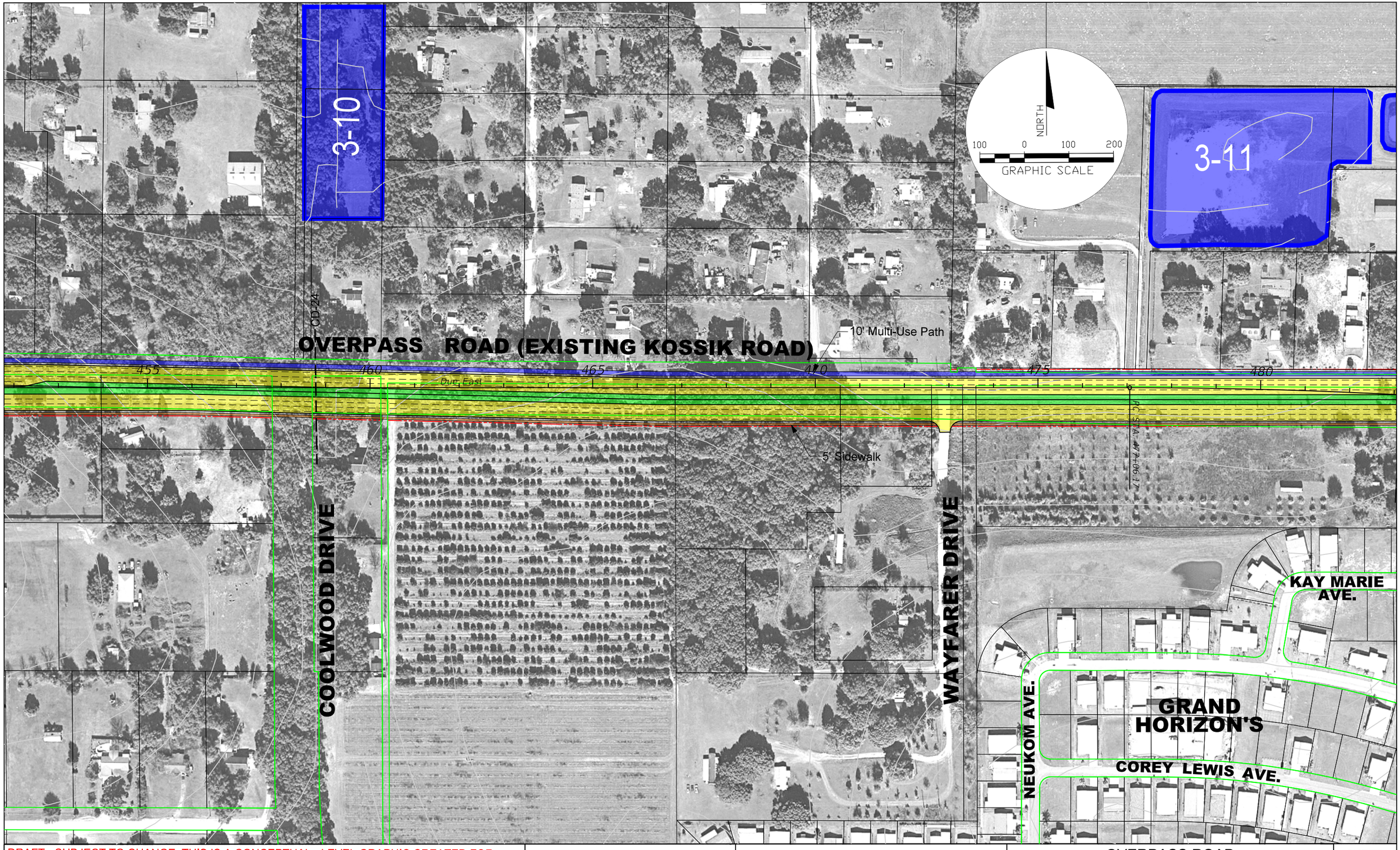
PASCO COUNTY
ENGINEERING SERVICES
CIP NO: 5025 • FPID NO: 432734-1

OVERPASS ROAD
Alternative O-3
From Old Pasco Road to US 301
Pasco County Florida

SHEET NO.
15



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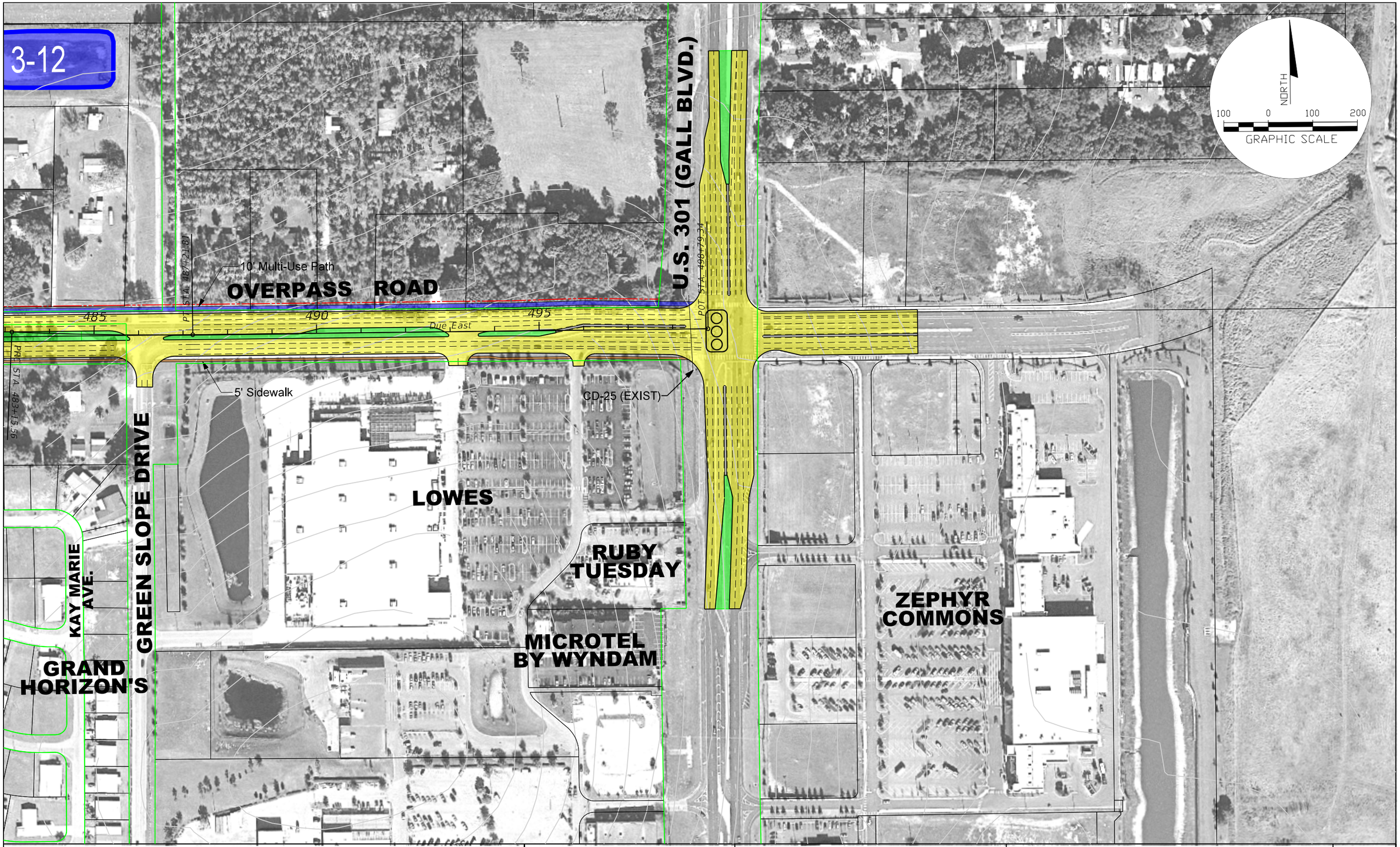
PASCO COUNTY
ENGINEERING SERVICES
CIP NO: 5025 • FPID NO: 432734-1

OVERPASS ROAD
Alternative O-3
From Old Pasco Road to US 301
Pasco County Florida

SHEET NO.
16



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PASCO COUNTY
ENGINEERING SERVICES
CIP NO: 5025 • FPID NO: 432734-1

OVERPASS ROAD
Alternative O-3
From Old Pasco Road to US 301
Pasco County Florida

SHEET NO.
17

APPENDIX B

Soils Maps

NRCS HYDROLOGIC SOIL GROUPS IN PROJECT CORRIDOR
OVERPASS ROAD
PASCO COUNTY, FLORIDA

SHEET 1

N

A

A/D

B-1 NW

B-2 NE

A

B-4 SE

FDOT I-75

A/D

B-3 SW

A

0 200 400 800 FEET

LEGEND

DRAINAGE SUB-BASINS

NRCS SOILS

HYDRGRP

A

A/D

B

B/D

C/D

OPEN WATER

NRCS HYDROLOGIC SOIL GROUPS IN PROJECT CORRIDOR
OVERPASS ROAD
PASCO COUNTY, FLORIDA

SHEET 2

N

B-2 NE

B-4 SE

PALM COVE

EPPERSON

A

A/D

B/D

0 200 400 800 FEET

LEGEND

- DRAINAGE SUB-BASINS

HYDRGRP

- A
- A/D
- B
- B/D
- C/D
- OPEN WATER

NRCS HYDROLOGIC SOIL GROUPS IN PROJECT CORRIDOR
OVERPASS ROAD
PASCO COUNTY, FLORIDA

SHEET 3

N

A/D
A
EPPERSON
A/D
A
A
A/D
B/D
A/D
B/D
A/D
B/D
A

0 200 400 800 FEET

LEGEND

DRAINAGE SUB-BASINS

HYDRGRP

- A
- A/D
- B
- B/D
- C/D
- OPEN WATER

NRCS HYDROLOGIC SOIL GROUPS IN PROJECT CORRIDOR
OVERPASS ROAD
PASCO COUNTY, FLORIDA

SHEET 4

N

B/D
A/D
B/D
EPPERSON
A
B/D
A
B/D
WATERGRASS
A/D
A/D
B/D
A
A/D
B/D

LEGEND

- DRAINAGE SUB-BASINS

HYDRGRP

- A
- A/D
- B
- B/D
- C/D
- OPEN WATER

0 200 400 800 FEET

NRCS HYDROLOGIC SOIL GROUPS IN PROJECT CORRIDOR
OVERPASS ROAD
PASCO COUNTY, FLORIDA

SHEET 5

N

A

B/D

WATERGRASS

BASIN 3-1

A/D

A

A/D

A

A

A

A

A

C/D

B/D

LEGEND

DRAINAGE SUB-BASINS

HYDRGRP

A

A/D

B

B/D

C/D

OPEN WATER

0 200 400 800

FEET

NRCS HYDROLOGIC SOIL GROUPS IN PROJECT CORRIDOR
OVERPASS ROAD
PASCO COUNTY, FLORIDA

SHEET 6

N

B/D

BASIN 3-4

BASIN 3-3

A/D

B/D

A

B/D

A

C/D

BASIN 3-2

BASIN 3-1

B/D

A

A/D

A/D

0 200 400 800
FEET

LEGEND

DRAINAGE SUB-BASINS

HYDRGRP

A

A/D

B

B/D

C/D

OPEN WATER

NRCS HYDROLOGIC SOIL GROUPS IN PROJECT CORRIDOR
OVERPASS ROAD
PASCO COUNTY, FLORIDA

SHEET 7

N

A/D

B/D

BASIN 3-3

BASIN 3-4

A/D

A/D

A/D

B

BASIN 3-5

A/D

0 200 400 800 FEET

LEGEND

DRAINAGE SUB-BASINS

HYDRGRP

A

A/D

B

B/D

C/D

OPEN WATER

NRCS HYDROLOGIC SOIL GROUPS IN PROJECT CORRIDOR
OVERPASS ROAD
PASCO COUNTY, FLORIDA

SHEET 8

N

A

B

A

B

A

B

BASIN 3-5

BASIN 3-6

BASIN 3-7

0 200 400 800 FEET

LEGEND

DRAINAGE SUB-BASINS

HYDRGRP

A

A/D

B

B/D

C/D

OPEN WATER

NRCS HYDROLOGIC SOIL GROUPS IN PROJECT CORRIDOR
OVERPASS ROAD
PASCO COUNTY, FLORIDA

SHEET 9

N

A

BASIN 3-6

BASIN 3-7

B

BASIN 3-8

A

A

0 200 400 800 FEET

LEGEND

- DRAINAGE SUB-BASINS

HYDRGRP

- A
- A/D
- B
- B/D
- C/D
- OPEN WATER

NRCS HYDROLOGIC SOIL GROUPS IN PROJECT CORRIDOR
OVERPASS ROAD
PASCO COUNTY, FLORIDA

SHEET 10

N

A

BASIN 3-8

BASIN 3-9

BASIN 3-10

A

B

0 200 400 800 FEET

LEGEND

DRAINAGE SUB-BASINS

HYDRGRP

A

A/D

B

B/D

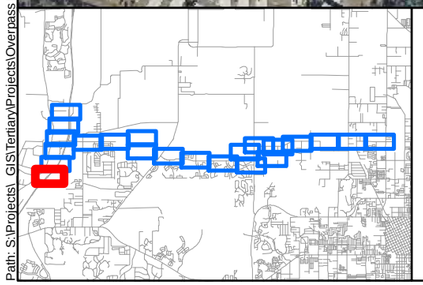
C/D

OPEN WATER

APPENDIX C

Land Use Maps

ID	DESCRIPTION	ID	DESCRIPTION
110	RESIDENTIAL, LOW DENSITY (LESS THAN TWO DWELLING UNITS PER ACRE)	441	CONIFEROUS PLANTATIONS
120	RESIDENTIAL, MEDIUM DENSITY (2-5 DWELLING UNITS PER ACRE)	510	STREAMS AND WATERWAYS
130	RESIDENTIAL, HIGH DENSITY	520	LAKES
140	COMMERCIAL AND SERVICES	534	RESERVOIRS (LESS THAN 10 ACRES)
148	CEMETERIES	611	BAY SWAMPS
171	EDUCATIONAL FACILITIES	615	STREAMS AND LAKE SWAMPS (BOTTOMLAND)
172	RELIGIOUS	617	MIXED WETLAND HARDWOODS
180	RECREATIONAL	621	CYPRESS
190	OPEN LAND	630	WETLAND FORESTED MIXED
211	IMPROVED PASTURES	631	WETLAND SCRUB
221	CITRUS GROVES	641	FRESHWATER MARSHES
224	ABANDONED GROVES	643	WET PRAIRIES
260	OTHER OPEN LANDS (RURAL)	644	EMERGENT AQUATIC VEGETATION
320	SHRUB AND BRUSHLAND	814	ROADS AND HIGHWAYS
411	PINE FLATWOODS	820	COMMUNICATIONS
414	PINE- MESIC OAK	830	UTILITIES
425	TEMPERATE HARDWOODS		
427	LIVE OAK		
434	HARDWOOD - CONIFEROUS MIXED		



Legend

- Project Study Area
- Land Use/ Vegetative Cover

Source:
Aerials- FDOT, 2011
Land Use- SWFWMD, 2009/ URS, 2011/ FDOT,1999

Overpass Road from Old Pasco Road to US 301 PD+E Study

Land Use/ Vegetative Cover Type

Pasco County, FL

Sheet 1 of 22

N
W E
S

0 150 300
Feet

Path: S:\Projects\ GIS\Tertiary\Projects\Overpass Road Pasco\AUGUST 2015\Overpass_Landuse.mxd

ID	DESCRIPTION	ID	DESCRIPTION
110	RESIDENTIAL, LOW DENSITY (LESS THAN TWO DWELLING UNITS PER ACRE)	441	CONIFEROUS PLANTATIONS
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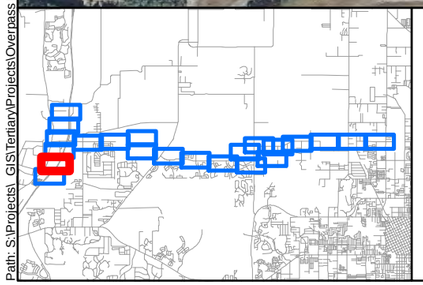

Legend

Project Study Area

Land Use/ Vegetative Cover

Source:
Aerials- FDOT, 2011
Land Use- SWFWMD, 2009/ URS, 2011/ FDOT,1999

Overpass Road from Old Pasco Road to US 301 PD+E Study

Land Use/ Vegetative Cover Type

Pasco County, FL

Sheet 2 of 22

N
W E
S

0 150 300
Feet

Path: S:\Projects_GIS\Tertiary\Projects\Overpass Road Pasco\AUGUST 2015\Overpass_Landuse.mxd

ID	DESCRIPTION	ID	DESCRIPTION
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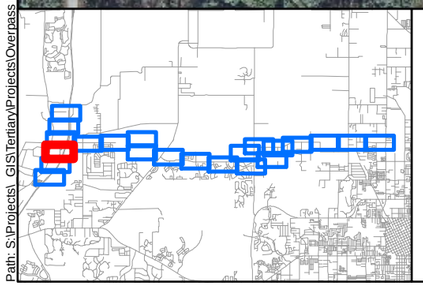

Legend

Project Study Area

Land Use/ Vegetative Cover

Source:
Aerials- FDOT, 2011
Land Use- SWFWMD, 2009/ URS, 2011/ FDOT,1999

Overpass Road from Old Pasco Road to US 301 PD+E Study

Land Use/ Vegetative Cover Type

Pasco County, FL

Sheet 3 of 22

N W E S

0 150 300 Feet

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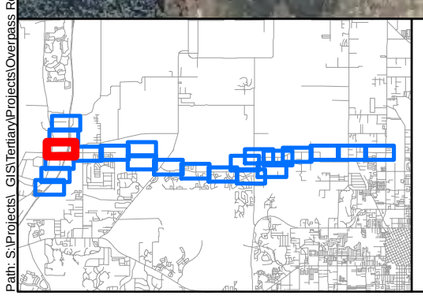
425	TEMPERATE HARDWOODS		
427	LIVE OAK		
434	HARDWOOD - CONIFEROUS MIXED		

OVERPASS ROAD
MC KENDREE ROAD
OLD PASCO ROAD
BLAIR DRIVE
KELLY DRIVE
DOWD DRIVE
I-75 SBND
I-75 NBND



Legend

Project Study Area

Land Use/ Vegetative Cover

Source:
Aerials- FDOT, 2011
Land Use- SWFWMD, 2009/ URS, 2011/ FDOT,1999

Overpass Road from Old Pasco Road to US 301 PD+E Study

Land Use/ Vegetative Cover Type

Pasco County, FL

Sheet 4 of 22

N
W E
S

0 150 300
Feet

Path: S:\Projects_GIS\Tertiary\Projects\Overpass Road Pasco\AUGUST 2015\Overpass_Landuse.mxd

ID	DESCRIPTION	ID	DESCRIPTION
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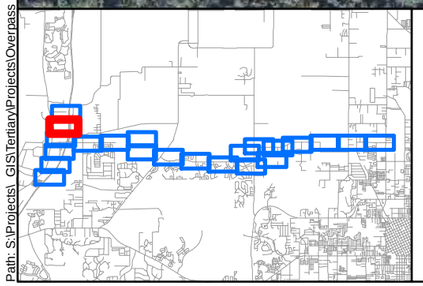

Legend

- Project Study Area
- Land Use/ Vegetative Cover

Source:
Aerials- FDOT, 2011
Land Use- SWFWMD, 2009/ URS, 2011/ FDOT,1999

Overpass Road from Old Pasco Road to US 301 PD+E Study

Land Use/ Vegetative Cover Type

Pasco County, FL

Sheet 5 of 22

N
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ID	DESCRIPTION	ID	DESCRIPTION
110	RESIDENTIAL, LOW DENSITY (LESS THAN TWO DWELLING UNITS PER ACRE)	441	CONIFEROUS PLANTATIONS
120	RESIDENTIAL, MEDIUM DENSITY (2-5 DWELLING UNITS PER ACRE)	510	STREAMS AND WATERWAYS
130	RESIDENTIAL, HIGH DENSITY	520	LAKES
140	COMMERCIAL AND SERVICES	534	RESERVOIRS (LESS THAN 10 ACRES)
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171	EDUCATIONAL FACILITIES	615	STREAMS AND LAKE SWAMPS (BOTTOMLAND)
172	RELIGIOUS	617	MIXED WETLAND HARDWOODS
180	RECREATIONAL	621	CYPRESS
190	OPEN LAND	630	WETLAND FORESTED MIXED
211	IMPROVED PASTURES	631	WETLAND SCRUB
221	CITRUS GROVES	641	FRESHWATER MARSHES
224	ABANDONED GROVES	643	WET PRAIRIES
260	OTHER OPEN LANDS (RURAL)	644	EMERGENT AQUATIC VEGETATION
320	SHRUB AND BRUSHLAND	814	ROADS AND HIGHWAYS
411	PINE FLATWOODS	820	COMMUNICATIONS
414	PINE- MESIC OAK	830	UTILITIES
425	TEMPERATE HARDWOODS		
427	LIVE OAK		
434	HARDWOOD - CONIFEROUS MIXED		

ELKMONT LANE
SANIBEL DRIVE
OLD PASCO ROAD
GILLETT ROAD
I-75 SBND
I-75 NBND
615
110
190
434
615
211
260
814
110
441
510
441
510
434
641

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Legend

- Project Study Area
- Land Use/ Vegetative Cover

Source:
Aerials- FDOT, 2011
Land Use- SWFWMD, 2009/ URS, 2011/ FDOT,1999

Overpass Road from Old Pasco Road to US 301 PD+E Study

Land Use/ Vegetative Cover Type

Pasco County, FL

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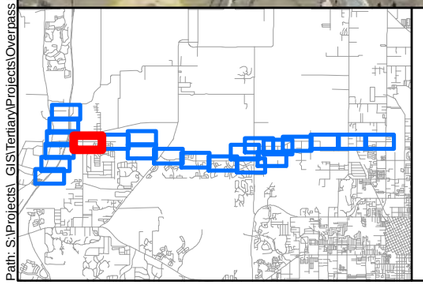

Legend

Project Study Area

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Overpass Road from Old Pasco Road to US 301 PD+E Study

Land Use/ Vegetative Cover Type

Pasco County, FL

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OVERPASS ROAD
RANDALL MANOR STREET
LATOURETTE DRIVE
DANCY LANE
ANNADALE DRIVE
OUTERBRIDGE STREET
PALMERSTON PLACE
CASEWELL PLACE
SEAFIELD LANE
RATHDOWN LANE
ATWOOD DRIVE
STONEY HILL DRIVE

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Overpass Road from Old Pasco Road to US 301 PD+E Study

Land Use/ Vegetative Cover Type

Pasco County, FL

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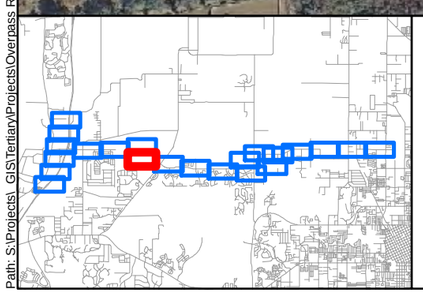
GLENDALOUGH WAY

TOWER BRIDGE DRIVE

CURLEY ROAD



Legend

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Overpass Road from Old Pasco Road to US 301 PD+E Study

Land Use/ Vegetative Cover Type

Pasco County, FL

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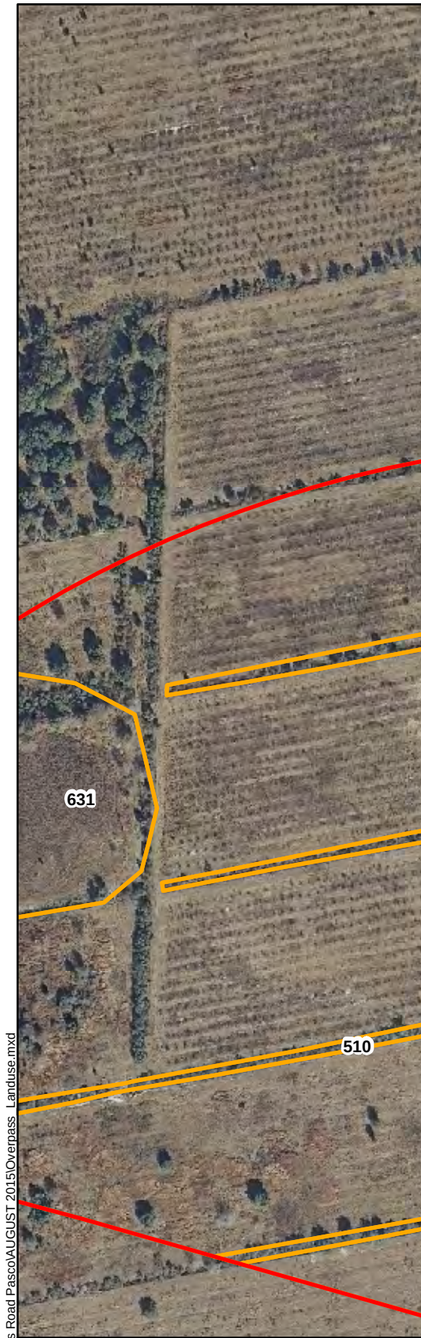

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Overpass Road from Old Pasco Road to US 301 PD+E Study

Land Use/ Vegetative Cover Type

Pasco County, FL

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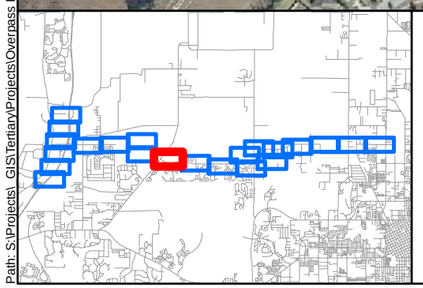

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Project Study Area

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Overpass Road from Old Pasco Road to US 301 PD+E Study

Land Use/ Vegetative Cover Type

Pasco County, FL

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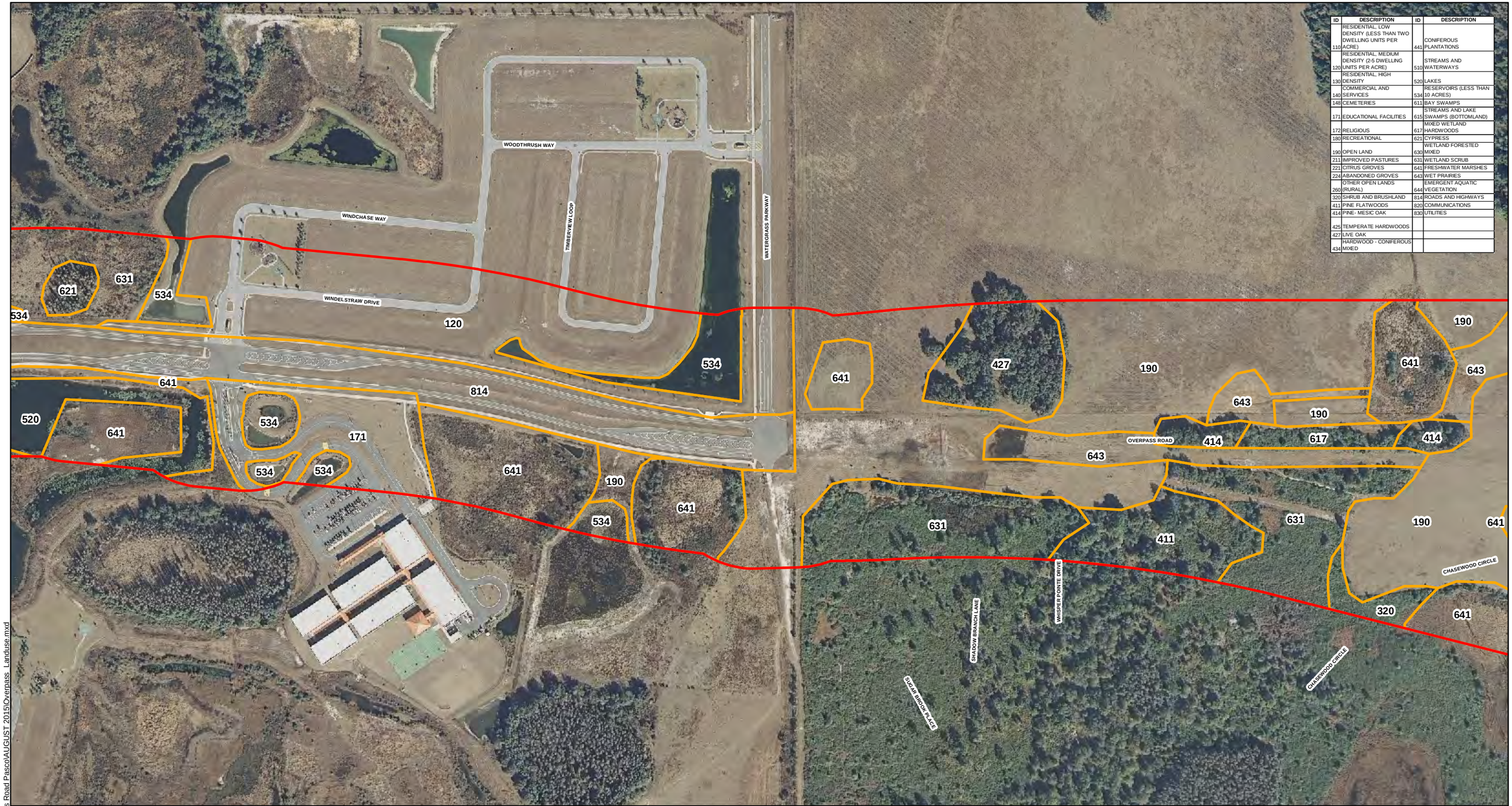

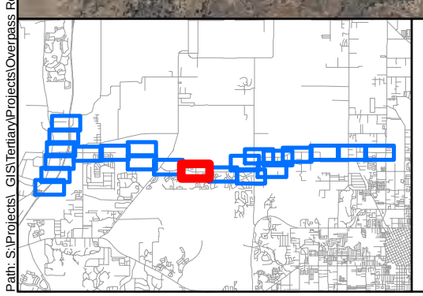

Legend

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Overpass Road from Old Pasco Road to US 301 PD+E Study

Land Use/ Vegetative Cover Type

Pasco County, FL

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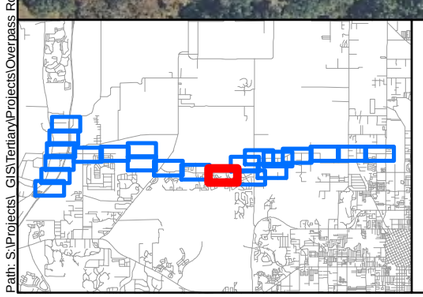
OVERPASS ROAD
LANCASTER LOOP
CHASEWOOD CIRCLE
WILLOW POINT COURT
GRAYBROOK DRIVE
BAY LAUREL COURT
KATELAND DRIVE



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Overpass Road from Old Pasco Road to US 301 PD+E Study

Land Use/ Vegetative Cover Type

Pasco County, FL

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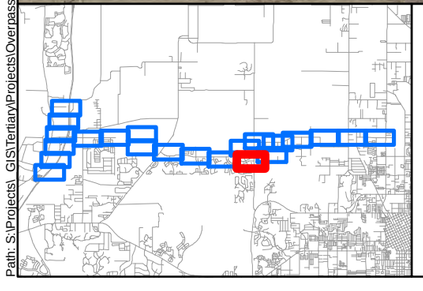

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Overpass Road from Old Pasco Road to US 301 PD+E Study

Land Use/ Vegetative Cover Type

Pasco County, FL

Sheet 14 of 22

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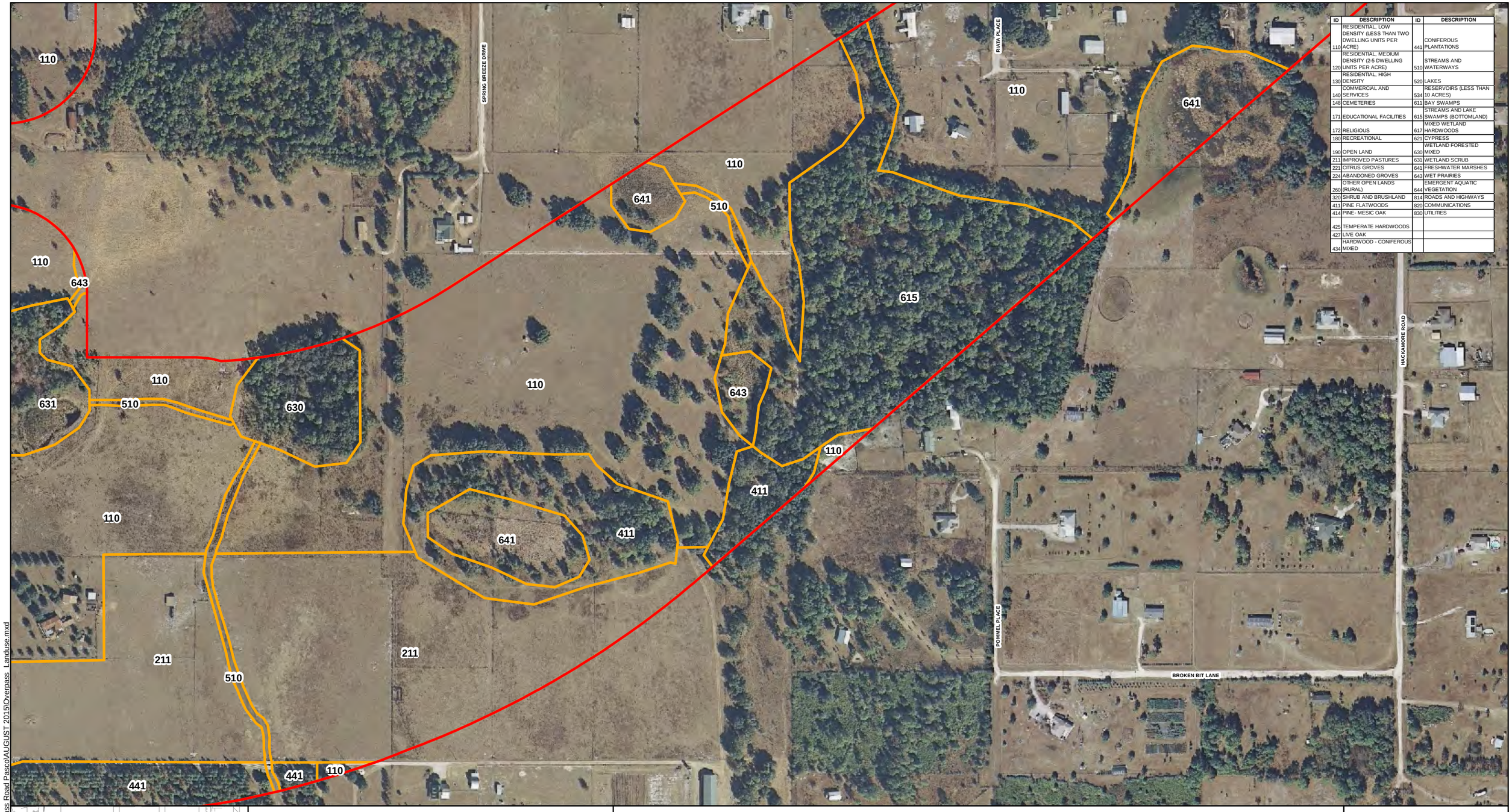

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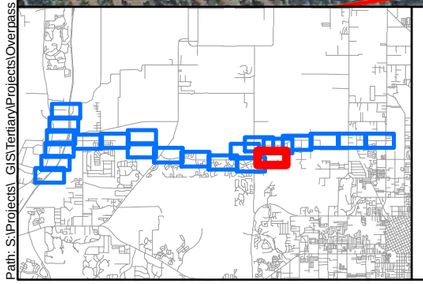

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Land Use/ Vegetative Cover Type

Pasco County, FL

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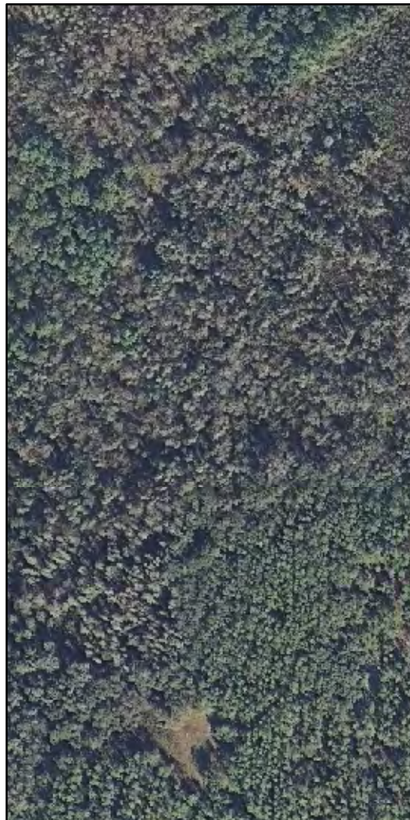

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Land Use/ Vegetative Cover Type

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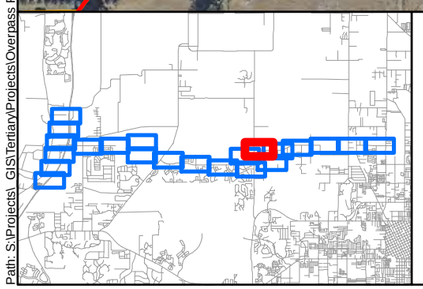
320	SHRUB AND BRUSHLAND	814	ROADS AND HIGHWAYS
411	PINE FLATWOODS	820	COMMUNICATIONS
414	PINE- MESIC OAK	830	UTILITIES
425	TEMPERATE HARDWOODS		
427	LIVE OAK		
434	HARDWOOD - CONIFEROUS MIXED		

HANDCART ROAD

FAIRVIEW HEIGHTS ROAD

SPRING BREEZE DRIVE



Legend

- Project Study Area
- Land Use/ Vegetative Cover

Source:
Aerials- FDOT, 2011
Land Use- SWFWMD, 2009/ URS, 2011/ FDOT,1999

Overpass Road from Old Pasco Road to US 301 PD+E Study

Land Use/ Vegetative Cover Type

Pasco County, FL

Sheet 17 of 22

N
W E
S

0 150 300
Feet

Path: S:\Projects\ GIS\Tertiary\Projects\Overpass Road Pasco\AUGUST 2015\Overpass_Landuse.mxd

ID	DESCRIPTION	ID	DESCRIPTION
110	RESIDENTIAL, LOW DENSITY (LESS THAN TWO DWELLING UNITS PER ACRE)	441	CONIFEROUS PLANTATIONS
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140	COMMERCIAL AND SERVICES	534	RESERVOIRS (LESS THAN 10 ACRES)
148	CEMETERIES	611	BAY SWAMPS
171	EDUCATIONAL FACILITIES	615	STREAMS AND LAKE SWAMPS (BOTTOMLAND)
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180	RECREATIONAL	621	CYPRESS
190	OPEN LAND	630	WETLAND FORESTED MIXED
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425	TEMPERATE HARDWOODS		
427	LIVE OAK		
434	HARDWOOD - CONIFEROUS MIXED		

FAIRVIEW HEIGHTS ROAD
SPRING BREEZE DRIVE
RIATA PLACE
HACKAMORE ROAD

Legend

- Project Study Area
- Land Use/ Vegetative Cover

Source:
Aerials- FDOT, 2011
Land Use- SWFWMD, 2009/ URS, 2011/ FDOT,1999

Overpass Road from Old Pasco Road to US 301 PD+E Study

Land Use/ Vegetative Cover Type

Pasco County, FL

Sheet 18 of 22

N W E S

0 150 300 Feet

Path: S:\Projects_GIS\Terlan\Projects\Overpass Road Pasco\AUGUST 2015\Overpass_Landuse.mxd

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434	HARDWOOD - CONIFEROUS MIXED		

211
510
260
260
221
510
814
411
FAIRVIEW HEIGHTS ROAD
211
221
211
221
615
110
260
534
110
641
HACKAMORE ROAD
ARTIFACT DRIVE
CULLEN SMITH ROAD
GRACEBROOK PATH
STONEPIPE PATH

Path: S:\Projects_GIS\Tertiary\Projects\Overpass Road Pasco\AUGUST 2015\Overpass_Landuse.mxd

Legend

- Project Study Area
- Land Use/ Vegetative Cover

Source:
Aerials- FDOT, 2011
Land Use- SWFWMD, 2009/ URS, 2011/ FDOT,1999

Overpass Road from Old Pasco Road to US 301 PD+E Study

Land Use/ Vegetative Cover Type

Pasco County, FL

Sheet 19 of 22

N
W E
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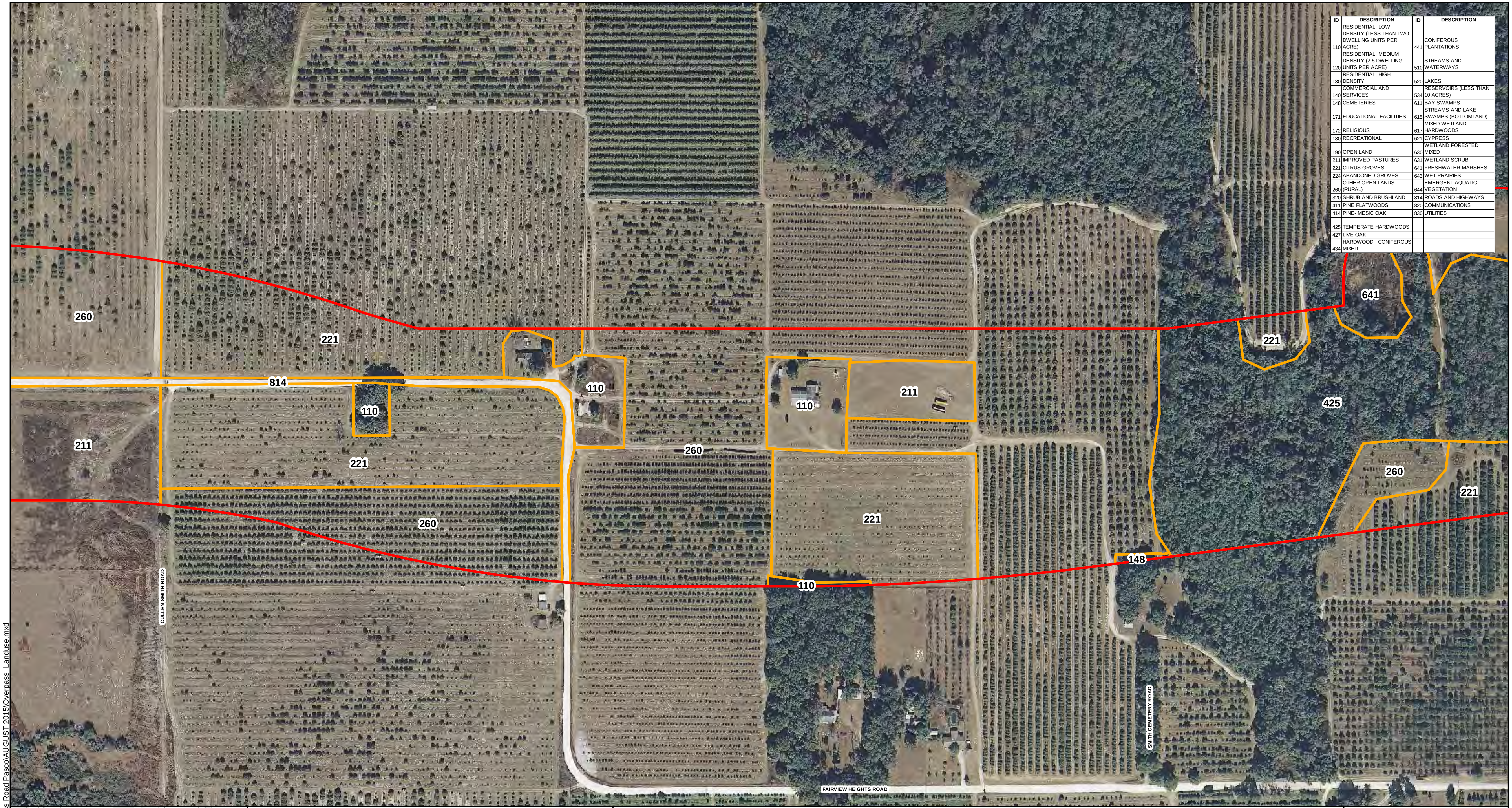
0 150 300
Feet



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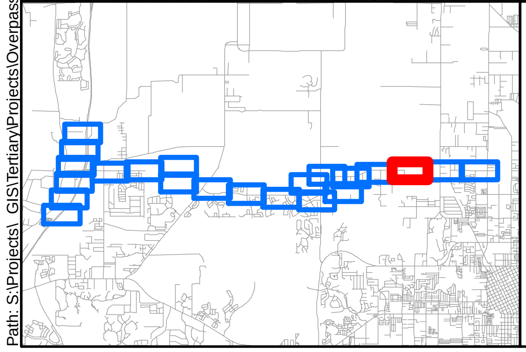

Legend

Project Study Area

Land Use/ Vegetative Cover

Source:
Aerials- FDOT, 2011
Land Use- SWFWMD, 2009/ URS, 2011/ FDOT,1999

Overpass Road from Old Pasco Road
to US 301 PD+E Study

Land Use/ Vegetative Cover Type

Pasco County, FL

Sheet 20 of 22

N W E S

0 150 300 Feet

ID	DESCRIPTION	ID	DESCRIPTION
110	RESIDENTIAL, LOW DENSITY (LESS THAN TWO DWELLING UNITS PER ACRE)	441	CONIFEROUS PLANTATIONS
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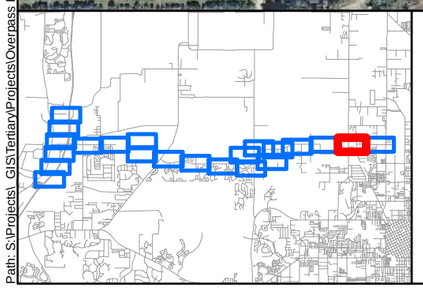


Legend

- Project Study Area
- Land Use/ Vegetative Cover

Source:
Aerials- FDOT, 2011
Land Use- SWFWMD, 2009/ URS, 2011/ FDOT,1999

Overpass Road from Old Pasco Road to US 301 PD+E Study

Land Use/ Vegetative Cover Type

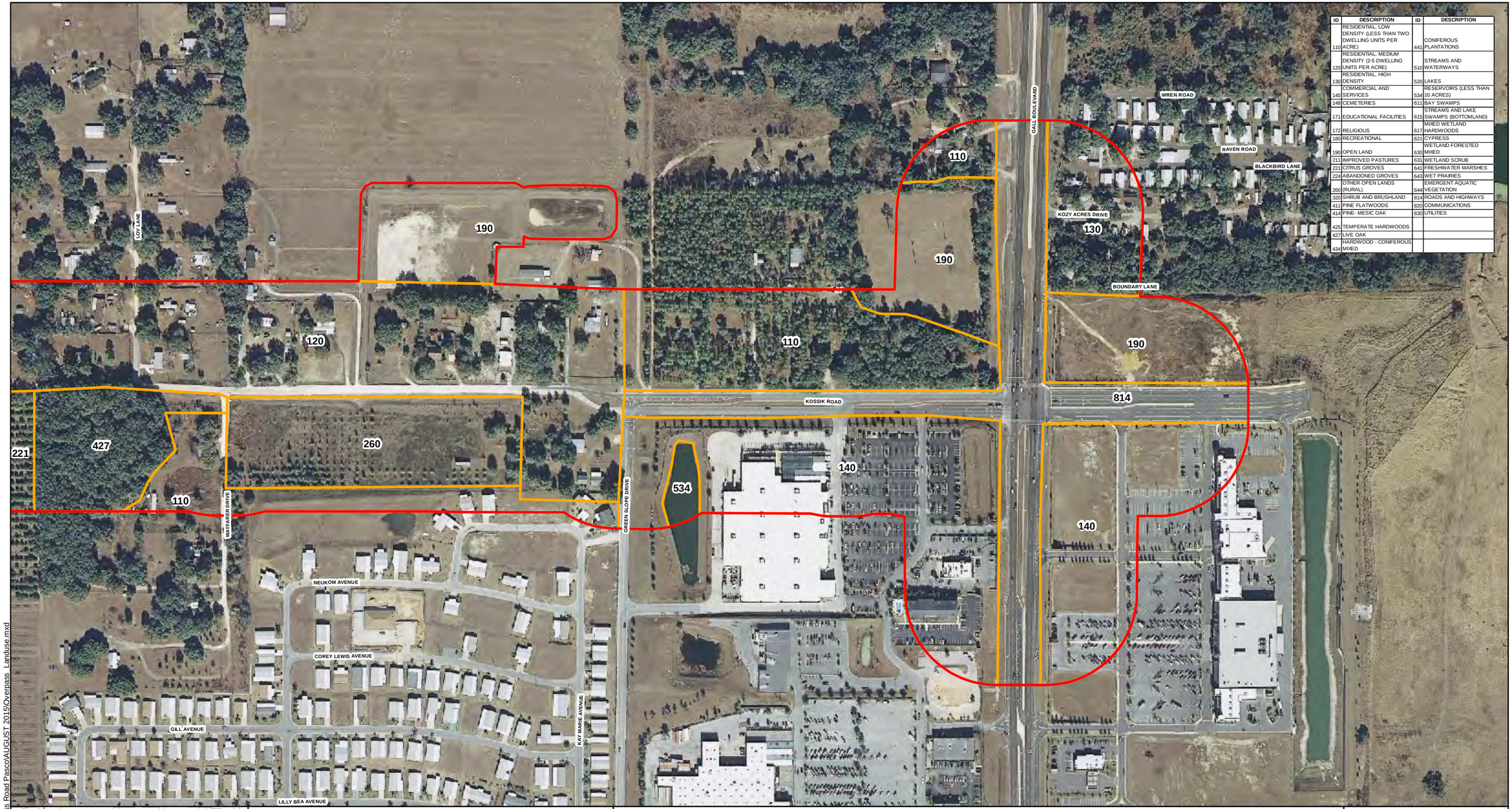
Pasco County, FL

Sheet 21 of 22

N W E S

0 150 300 Feet

Path: S:\Projects_GIS\TertiaryProjects\Overpass Road Pasco\AUGUST 2015\Overpass_Landuse.mxd



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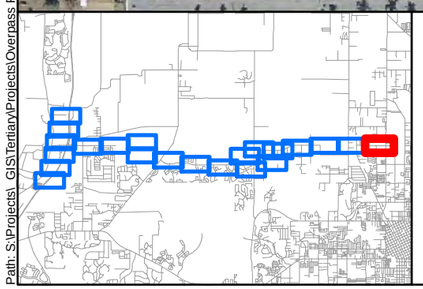

Legend

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Source:
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Overpass Road from Old Pasco Road to US 301 PD+E Study

Land Use/ Vegetative Cover Type

Pasco County, FL

Sheet 22 of 22

N
W E
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0 150 300
Feet

Path: S:\Projects_GIS\TertiaryProjects\Overpass Road Pasco\AUGUST 2015\Overpass_Landuse.mxd

b

APPENDIX D

FEMA Flood Zone Maps and Flood Zone Impacts

D1
Firm Maps

JOINS PANEL 0262

ance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

0 250 500 750 1,000 FEET

GILLETT RD

MC KENDREE RD

OVERPASS RD

BENNINGTON DR

WALKER DR

CREDENCE DR

BAY PINES DR

KELLY DR

BLAIR DR

DOWD DR

OLD PASCO RD

ZONE AE

ZONE A

ZONE AE (EL 84.0)

ZONE AE (EL 83.1)

ZONE AE (EL 92.2)

ZONE AE (EL 84.7)

ZONE AE (EL 74.7)

ZONE AE (EL 76.7)

ZONE AE (EL 90.4)

ZONE AE (EL 90.8)

ZONE AE (EL 110.3)

ZONE AE (EL 102.7)

72.0 73.0 74.0 75.0 76.0 77.0 78.0

3NF0200 3NF0220 3NF0240 3NF0180 3NF0020 3NF0230 3NF0160 3NF0140 3NF0120

AL6725 AL6721

302520 292520

75

BEGIN PROJECT
OLD PASCO ROAD

Cypress Cre

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0264F

FIRM

FLOOD INSURANCE RATE MAP

PASCO COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 264 OF 500

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PASCO COUNTY	120230	0264	F

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
12101C0264F

EFFECTIVE DATE
SEPTEMBER 26, 2014

Federal Emergency Management Agency

SHEET 1 OF 10

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

JOINS PANEL 0262

ance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

0 250 500 750 1,000 FEET

POND 3-2 LOCATION

POND 3-1 LOCATION

AL6725

AL6721

ZONE AE (EL 84.0)

ZONE A

ZONE AE (EL 92.2)

ZONE AE (EL 100.5)

ZONE AE (EL 123.4)

ZONE AE (EL 123.7)

ZONE AE (EL 90.4)

ZONE AE (EL 110.4)

ZONE AE (EL 111.1)

ZONE AE (EL 90.8)

ZONE AE (EL 110.3)

ZONE AE (EL 114.6)

ZONE AE (EL 102.7)

ZONE AE (EL 114.5)

ZONE AE (EL 116.4)

111.3

3NG0920

3NG0940

3NF0180

3NF0020

3ND0010

3ND0020

3NF0160

3NF0040

3NF0100

3NF0060

3NF0080

3NF0110

3NF0120

3NF0113

3NF0090

3ND0033

3ND0043

3ND0046

292520

282520

DESOTA LN

SUNSET LN

FUSSELL DR

SANDEN DR

ORANGE GROVE LN

ELAM RD

MC KENDREE RD

OVERPASS RD

KELLY DR

BLAIR DR

DOWD DR

PALM COVE DR

RANDALL MANOR ST

MARINERS HARBOUR DR

BLACKHILL ST

ANNADALE DR

OUTERBRIDGE ST

SHERON DR

GRANTLY DR

Cypress Creek Watershed

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0264F

FIRM

FLOOD INSURANCE RATE MAP

PASCO COUNTY, FLORIDA

AND INCORPORATED AREAS

PANEL 264 OF 500

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

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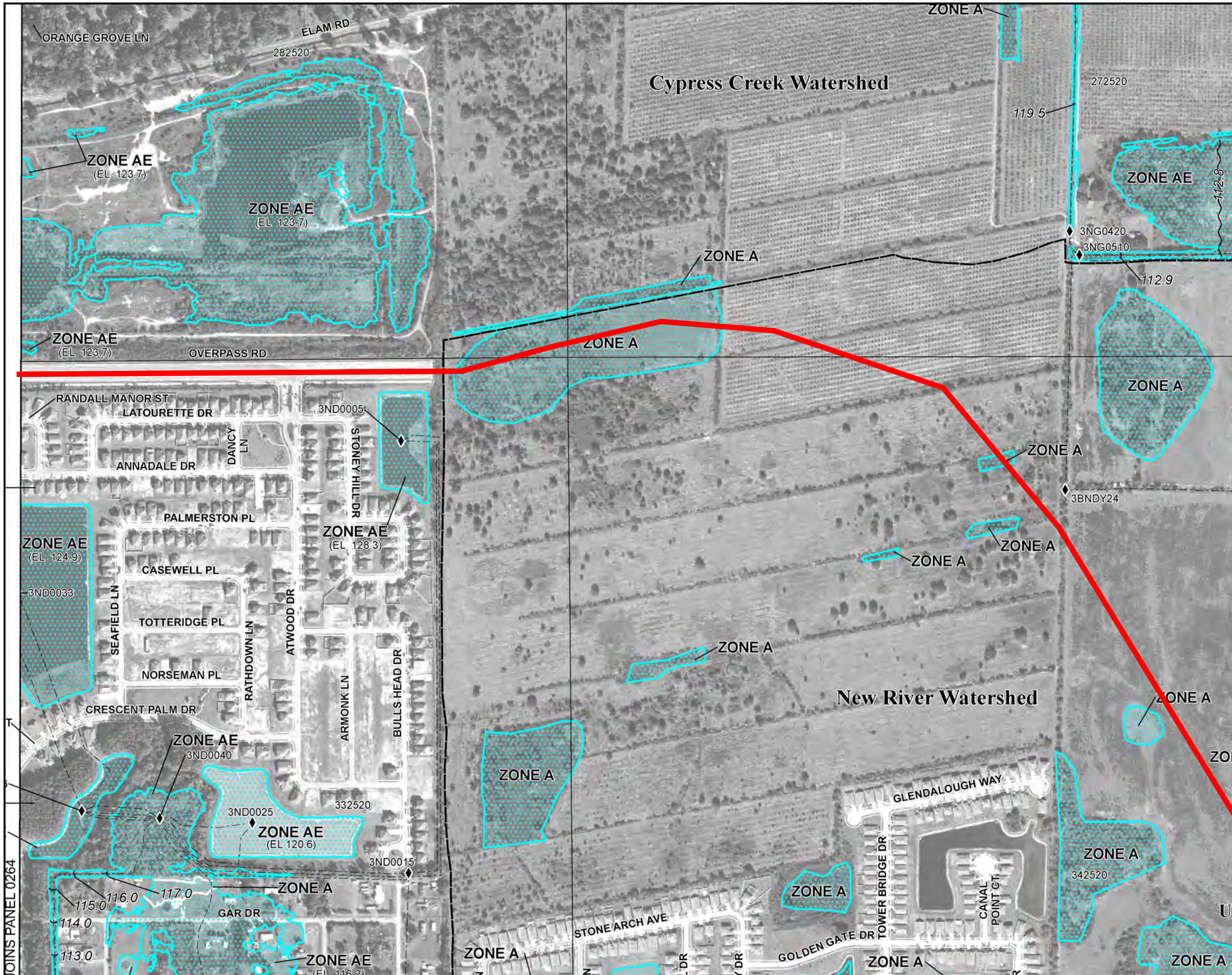
EFFECTIVE DATE SEPTEMBER 26, 2014

Federal Emergency Management Agency

SHEET 2 OF 10



e Program at 1-800-638-6620.

MAP SCALE 1" = 500'

0 250 500 750 1,000 FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0268F

FIRM
FLOOD INSURANCE RATE MAP
PASCO COUNTY, FLORIDA
AND INCORPORATED AREAS

PANEL 268 OF 500

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PASCO COUNTY	120230	0268	F

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
12101C0268F

EFFECTIVE DATE
SEPTEMBER 26, 2014

Federal Emergency Management Agency

SHEET 3 OF 10

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e Program at 1-800-638-6620.

MAP SCALE 1" = 500'

0 250 500 750 1,000 FEET

112.9

(EL 109.2)

3NG0320

3NG0300

3NG0280

3BNDY24

3BNDY23

ZONE A

ZONE AE

ZONE AE
(EL 109.2)

New River Watershed

Pasco County
Unincorporated Areas
120230

342520

352520

CURLEY RD

OVERPASS RD

GLENDALOUGH WAY

TOWER BRIDGE DR

CANAL POINT CT

GOLDEN GATE DR

MAKINAW LN

PARKERSBURG DR

BRIDGEVIEW DR

SEEDPOD LP

WILD TARO WAY

GARDEN ALCOVE LP

COTTAGE GLEN LN

ANGELSTEM BLVD

LEAF BLADE LN

JOINS PANEL 0269

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0268F

FIRM

FLOOD INSURANCE RATE MAP

PASCO COUNTY, FLORIDA

AND INCORPORATED AREAS

PANEL 268 OF 500

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PASCO COUNTY	120230	0268	F

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MAP NUMBER
12101C0268F

EFFECTIVE DATE
SEPTEMBER 26, 2014

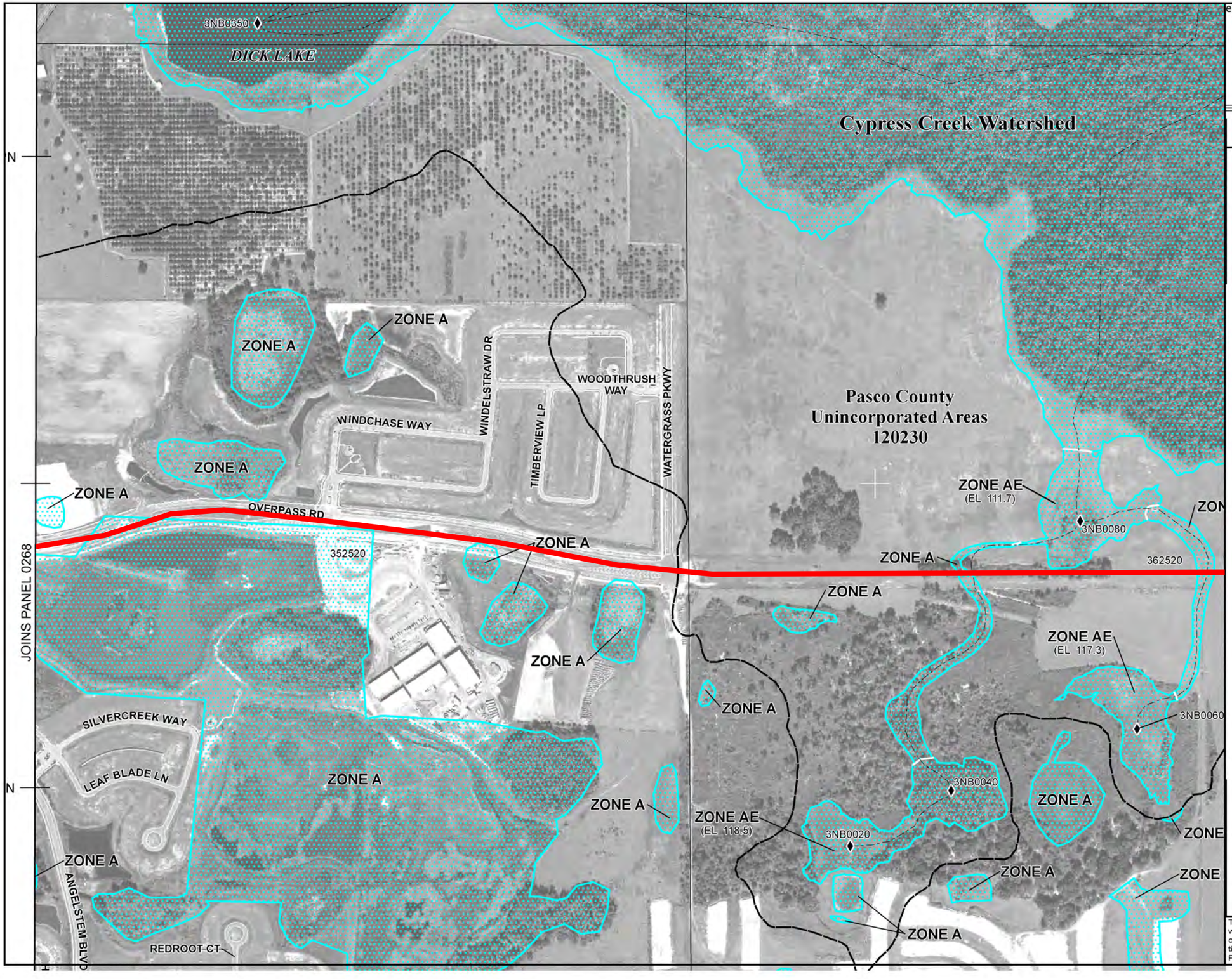
Federal Emergency Management Agency

SHEET 4 OF 10

e Program at 1-800-638-6620.

MAP SCALE 1" = 500'

0 250 500 750 1,000 FEET



NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0269F

FIRM

FLOOD INSURANCE RATE MAP

PASCO COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 269 OF 500

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PASCO COUNTY	120230	0269	F

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
12101C0269F

EFFECTIVE DATE
SEPTEMBER 26, 2014

Federal Emergency Management Agency

SHEET 5 OF 10

e Program at 1-800-638-6620.

MAP SCALE 1" = 500'

0 250 500 750 1,000 FEET

ZONE AE
(EL 111.6)

3NB0250

Cypress Creek Watershed

3NB0320

128.0

125.0

113.0

117.0

121.0

ZONE A

127.0

3NB0240

ZONE AE

116.0

122.0

129.0

149.0

ZONE AE
(EL 111.6)

ZONE A

Pasco County
Unincorporated Areas
120230

ZONE AE
(EL 111.7)

3NB0080

ZONE A

ZONE A

362520

312521

ZONE A

ZONE A

ZONE AE
(EL 117.3)

3NB0060

JOINS PANEL 0288

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0269F

FIRM

FLOOD INSURANCE RATE MAP

PASCO COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 269 OF 500

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PASCO COUNTY	120230	0269	F

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12101C0269F

EFFECTIVE DATE
SEPTEMBER 26, 2014

Federal Emergency Management Agency

SHEET 6 OF 10

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ance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

0 250 500 750 1,000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

NFIP

PANEL 0288F

FIRM

FLOOD INSURANCE RATE MAP

PASCO COUNTY, FLORIDA

AND INCORPORATED AREAS

PANEL 288 OF 500

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PASCO COUNTY	120230	0288	F
ZEPHYRHILLS, CITY OF	120235	0288	F

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
12101C0288F

EFFECTIVE DATE
SEPTEMBER 26, 2014

Federal Emergency Management Agency

SHEET 7 OF 10

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MAP SCALE 1" = 500'

0 250 500 750 1,000 FEET

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0288F

FIRM

FLOOD INSURANCE RATE MAP

PASCO COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 288 OF 500

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PASCO COUNTY	120230	0288	F
ZEPHYRHILLS, CITY OF	120235	0288	F

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 12101C0288F

EFFECTIVE DATE SEPTEMBER 26, 2014

Federal Emergency Management Agency

JOINS PANEL 0289

SHEET 8 OF 10

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New River Watershed

East Pasco Watershed

Pasco County Unincorporated Areas 120230

292521

282521

322521

332521

FAIRVIEW HEIGHTS RD

CULLEN SMITH RD

GRACEBROOK PATH

STONEPIPE PATH

MOCCASIN PATH

MIDDEN PATH

HACKAMORE RD

ARTIFACT DR

POMMEL PL

BROKEN BIT LN

RIATA PL

ZONE A

ZONE AE (EL 184.6)

ZONE AE (EL 178.4)

ZONE AE (EL 170.9)

ZONE AE (EL 145.6)

ZONE AE (EL 135.2)

6NC0077

6NC0078

6NC0075

6NC0076

6NC0085

6NC0095

6NE0005

6NE0015

6NE0010

174.0

184.0

182.0

180.0

178.0

176.0

174.0

143.0

141.0

138.0

135.0

132.0

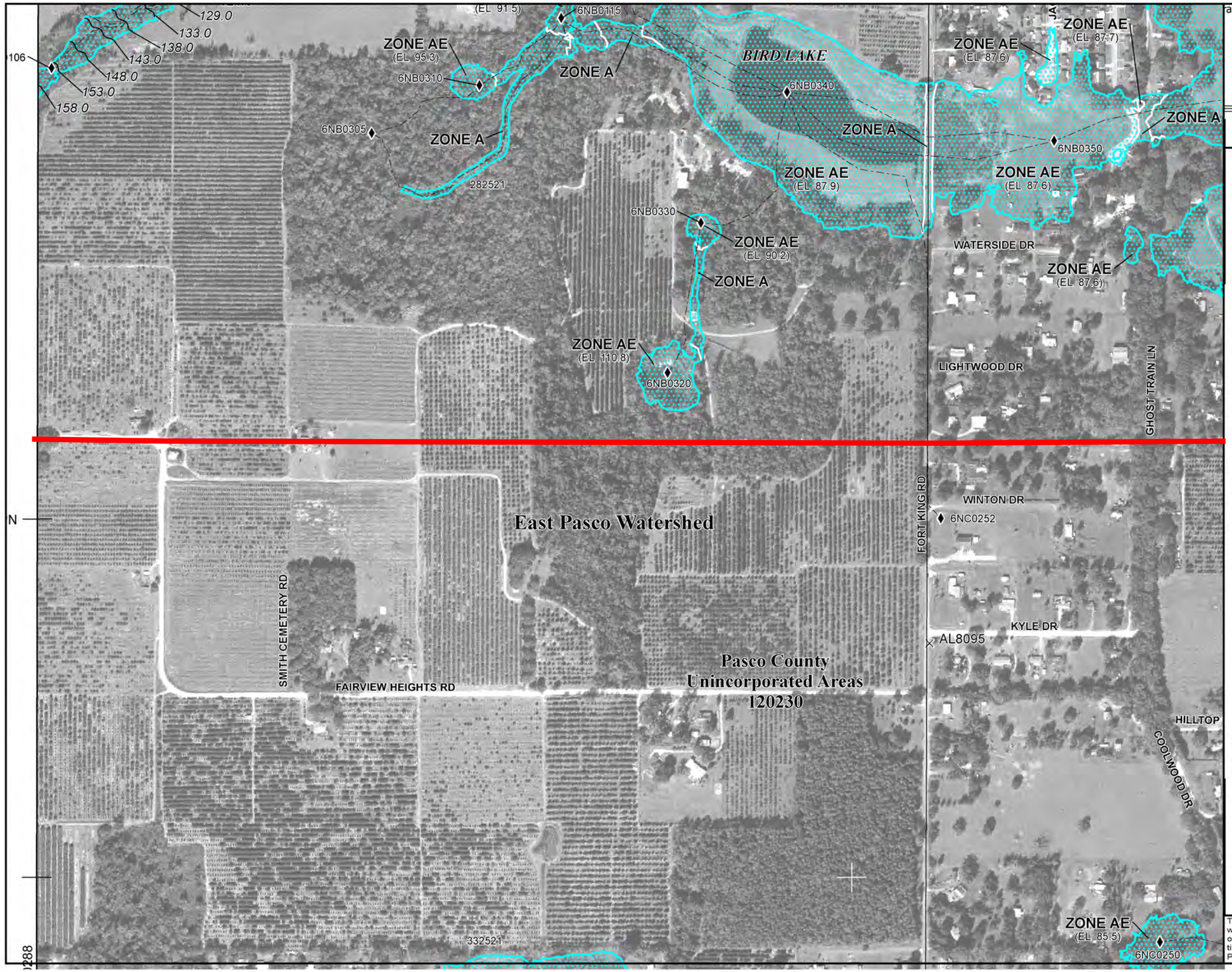
129.0

126.0

ance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

0 250 500 750 1,000 FEET



NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0289F

FIRM

FLOOD INSURANCE RATE MAP

PASCO COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 289 OF 500

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PASCO COUNTY	120230	0289	F
ZEPHYRHILLS, CITY OF	120235	0289	F

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
12101C0289F

EFFECTIVE DATE
SEPTEMBER 26, 2014

Federal Emergency Management Agency

SHEET 9 OF 10

ance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

0 250 500 750 1,000 FEET

END PROJECT
U.S. 301

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0289F

FIRM

FLOOD INSURANCE RATE MAP

PASCO COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 289 OF 500

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

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MAP NUMBER
12101C0289F

EFFECTIVE DATE
SEPTEMBER 26, 2014

Federal Emergency Management Agency

SHEET 10 OF 10

D2
Floodplain Figures

FEMA FLOOD ZONES AND FLOOD ZONE IMPACTS IN R/W
OVERPASS ROAD
PASCO COUNTY, FLORIDA

SHEET 1

N

X

AE

AE

AE

A

CD-3 (EXIST)

AE

AE
(84 ft)
(3.66 ac)

B-1 NW

CD-2

B-2 NE

20 25 30 35 40 45

Dug East

PC STA. 42+39.14

PRC STA. 48+47.01

CD-1

AE
(90.4 ft)
(0.52 ac)

B-4 SE

CD-4 (EXIST)

FDOT 75

X

AE

B-3 SW

AE

AE

AE
(90.8 ft)
(3.57 ac)

AE

AE

AE

AE

A

A

A
(0.04 ac)

X

AE

A

A

0 200 400 800
FEET

LEGEND

DRAINAGE SUB-BASINS

FEMA FLOOD ZONES (2014)

FLD_ZONE

A

AE

FLOOD ZONE IMPACTS IN R/W

FLD_ZONE

A

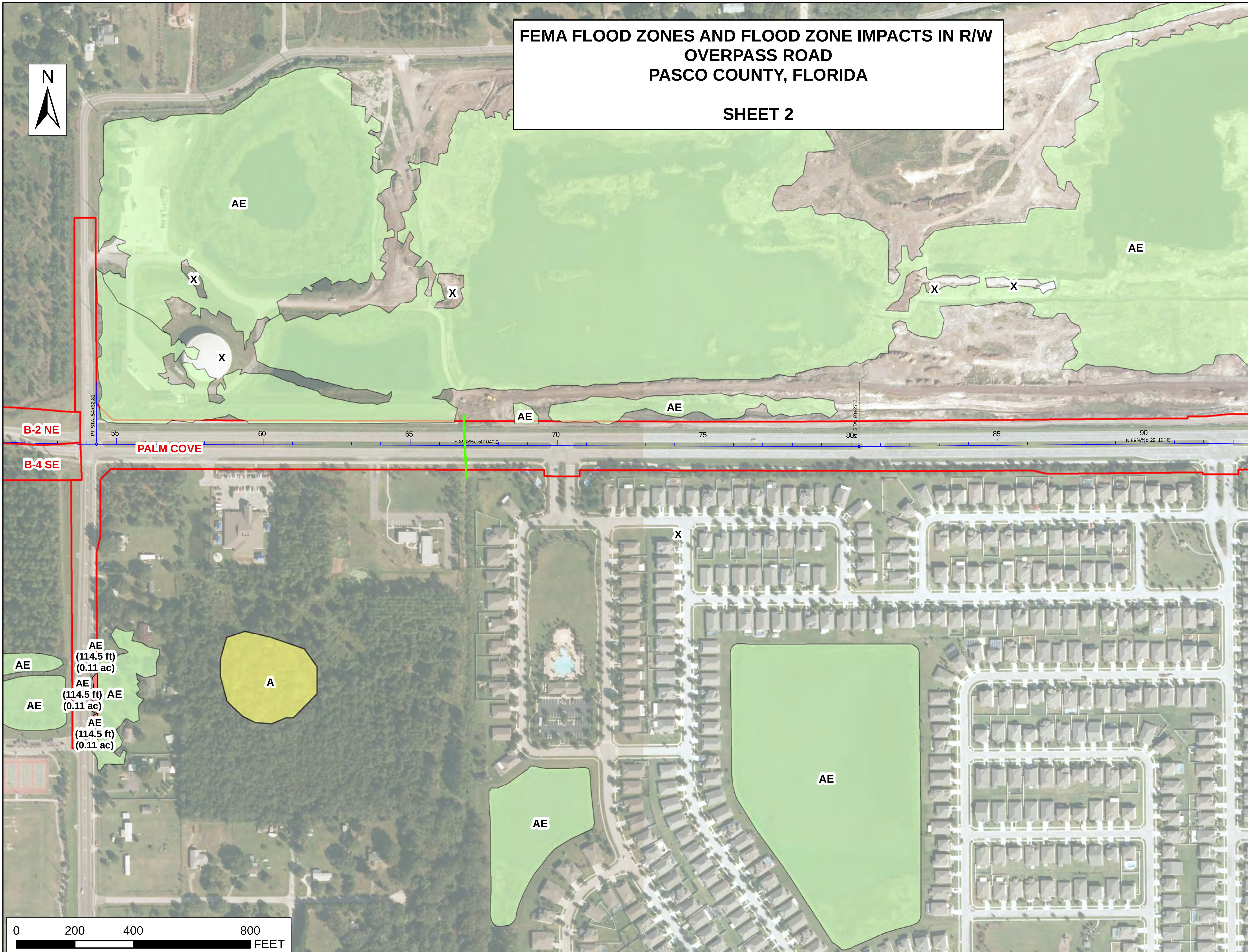
AE

CROSS DRAINS

FPC AREAS

FEMA FLOOD ZONES AND FLOOD ZONE IMPACTS IN R/W
OVERPASS ROAD
PASCO COUNTY, FLORIDA

SHEET 2



LEGEND

DRAINAGE SUB-BASINS

FEMA FLOOD ZONES (2014)

FLD_ZONE

A

AE

FLOOD ZONE IMPACTS IN R/W

FLD_ZONE

A

AE

CROSS DRAINS

FPC AREAS

FEMA FLOOD ZONES AND FLOOD ZONE IMPACTS IN R/W
OVERPASS ROAD
PASCO COUNTY, FLORIDA

SHEET 3

N

EPPERSON

A
(0.02 ac)

LEGEND

DRAINAGE SUB-BASINS

FEMA FLOOD ZONES (2014)

FLD_ZONE

A

AE

FLOOD ZONE IMPACTS IN R/W

FLD_ZONE

A

AE

CROSS DRAINS

FPC_AREAS

0 200 400 800
FEET

FEMA FLOOD ZONES AND FLOOD ZONE IMPACTS IN R/W
OVERPASS ROAD
PASCO COUNTY, FLORIDA

SHEET 4

N

EPPERSON

WATER GRASS

CD-8

CD-9 (EXIST)

CD-10 (EXIST)

CD-11 (EXIST)

CD-12 (EXIST)

CD-13 (EXIST)

A (0.49 ac)

A (2.71 ac)

A (2.71 ac)

A (0.02 ac)

A (0.02 ac)

0 200 400 800 FEET

LEGEND

DRAINAGE SUB-BASINS

FEMA FLOOD ZONES (2014)

FLD_ZONE

A

AE

FLOOD ZONE IMPACTS IN R/W

FLD_ZONE

A

AE

CROSS DRAINS

FPC_AREAS

FEMA FLOOD ZONES AND FLOOD ZONE IMPACTS IN R/W
OVERPASS ROAD
PASCO COUNTY, FLORIDA

SHEET 5

N

WATERGRASS

BASIN 3-1

CD-15

FPC 3-1
(1.03 ac)

A
(0.17 ac)

A
(0.05 ac)

A
(0.24 ac)

A
(0.34 ac)

AE
(111.7 ft)
(0.33 ac)

AE
(111.6 ft)
(2.65 ac)

PC STA 211+28.82

PRC STA 216+42.55

PT STA 224+23.16

S 89°%%d 54' 41" E

0 200 400 800 FEET

LEGEND

DRAINAGE SUB-BASINS

FEMA FLOOD ZONES (2014)

FLD_ZONE

A

AE

FLOOD ZONE IMPACTS IN R/W

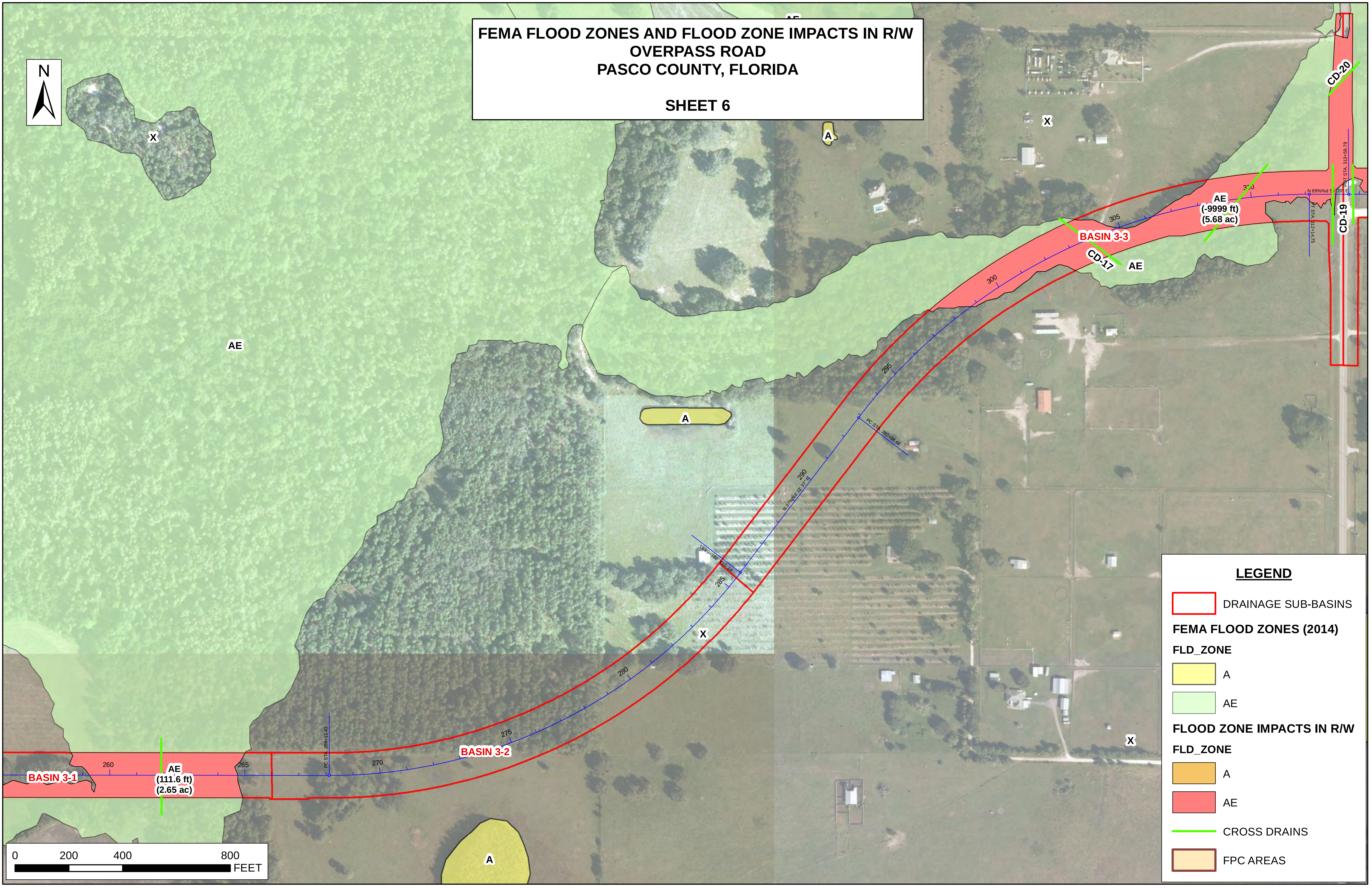
FLD_ZONE

A

AE

CROSS DRAINS

FPC AREAS


FEMA FLOOD ZONES AND FLOOD ZONE IMPACTS IN R/W
OVERPASS ROAD
PASCO COUNTY, FLORIDA
SHEET 6
N
X
AE
A
BASIN 3-1
BASIN 3-2
BASIN 3-3
AE
(111.6 ft)
(2.65 ac)
AE
(-9999 ft)
(5.68 ac)
CD-17
CD-19
CD-20
260
265
270
275
280
285
290
295
300
305
310
0
200
400
800
FEET
LEGEND
DRAINAGE SUB-BASINS
FEMA FLOOD ZONES (2014)
FLD_ZONE
A
AE
FLOOD ZONE IMPACTS IN R/W
FLD_ZONE
A
AE
CROSS DRAINS
FPC AREAS

FEMA FLOOD ZONES AND FLOOD ZONE IMPACTS IN R/W
OVERPASS ROAD
PASCO COUNTY, FLORIDA

SHEET 7

N

X

AE

X

X

X

AE

A

FPC 3-4
(1.11 ac)

X

X

FPC 3-4
(5.11 ac)

A

CD-20

CD-21

CD-19

BASIN 3-3

AE
(-9999 ft)
(5.68 ac)

CD-17

BASIN 3-4

A
(2.16 ac)

CD-22

BASIN 3-5

A
(2.16 ac)

X

A

A

A

305 310 315 320 325 330 335 340 345 350

N 89°%%d 55' 39"E

PT STA. 313+59.79

PT STA. 312+14.75

PC STA. 337+26.50

PT STA. 348+50.51

0 200 400 800 FEET

LEGEND

DRAINAGE SUB-BASINS

FEMA FLOOD ZONES (2014)

FLD_ZONE

A

AE

FLOOD ZONE IMPACTS IN R/W

FLD_ZONE

A

AE

CROSS DRAINS

FPC AREAS

FEMA FLOOD ZONES AND FLOOD ZONE IMPACTS IN R/W
OVERPASS ROAD
PASCO COUNTY, FLORIDA

SHEET 8

N

REPLACE DITCH 3-5

BASIN 3-4

BASIN 3-5

BASIN 3-6

PT STA 370+90.61

PC STA 359+59.79

N 72°00'59" E

N 89°56'54" E

370 375 380 385 390 395 400

355 360 365

A

X

AE

0 200 400 800 FEET

LEGEND

DRAINAGE SUB-BASINS

FEMA FLOOD ZONES (2014)

FLD_ZONE

A

AE

FLOOD ZONE IMPACTS IN R/W

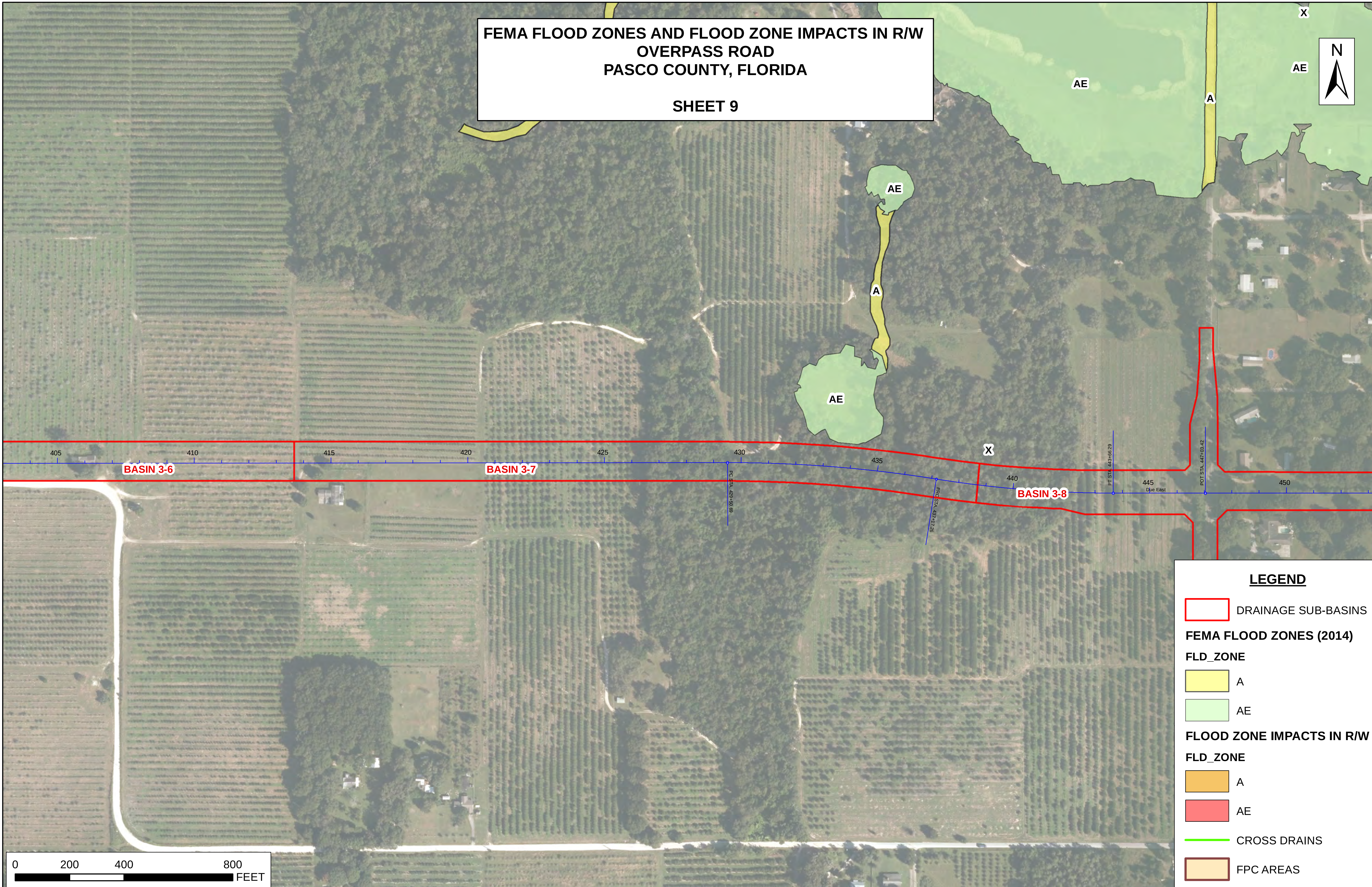
FLD_ZONE

A

AE

CROSS DRAINS

FPC AREAS


FEMA FLOOD ZONES AND FLOOD ZONE IMPACTS IN R/W
OVERPASS ROAD
PASCO COUNTY, FLORIDA
SHEET 9
N
AE
AE
A
X
AE
A
AE
X
405
410
415
420
425
430
435
440
445
450
BASIN 3-6
BASIN 3-7
BASIN 3-8
LEGEND
DRAINAGE SUB-BASINS
FEMA FLOOD ZONES (2014)
FLD_ZONE
A
AE
FLOOD ZONE IMPACTS IN R/W
FLD_ZONE
A
AE
CROSS DRAINS
FPC AREAS
0
200
400
800
FEET

FEMA FLOOD ZONES AND FLOOD ZONE IMPACTS IN R/W
OVERPASS ROAD
PASCO COUNTY, FLORIDA

SHEET 10

LEGEND

🟥 DRAINAGE SUB-BASINS

FEMA FLOOD ZONES (2014)

FLD_ZONE

🟨 A

🟩 AE

FLOOD ZONE IMPACTS IN R/W

FLD_ZONE

🟧 A

🟥 AE

— CROSS DRAINS

🟫 FPC AREAS

APPENDIX E

Cross Drain Figures

CROSS DRAINS, WETLANDS AND POND SITES
OVERPASS ROAD
PASCO COUNTY, FLORIDA

SHEET 1

N

POND 3-2

CD-3 (EXIST)

WL 2

FDOT I-75

DITCH 2

B-2 NE

B-1 NW

CD-2

DITCH 22

DITCH 2

20 25 30 35 40 45

Due East

PC STA. 42+39.14

CD-1

DITCH 1

B-4 SE

CD-4 (EXIST)

POND 3-1

B-3 SW

WL 3

LEGEND

- DRAINAGE SUB-BASINS
- CROSS DRAINS
- WETLANDS IN R/W
- WETLANDS IN PONDS
- STORMWATER PONDS
- FPC AREAS

0 200 400 800 FEET

CROSS DRAINS, WETLANDS AND POND SITES
OVERPASS ROAD
PASCO COUNTY, FLORIDA

SHEET 2

N

DITCH 2

DITCH 2

DITCH 2

B-2 NE

B-4 SE

DITCH 3

PALM COVE

PT STA. 54+30.81

55 60 65 70 75 80 85 90 95

N 89°%%d 50' 04" E

CD-5 (EXIST)

DITCH 4

PT STA. 80+27.21

WL 46

N 89°%%d 29' 12" E

CD-6 (EXIST)

DITCH 4

CD-7 (EXIST)

DITCH 4

WL 5

DITCH 5

EPPERSON

(STATION EQUATION)
PC STA. 100+00.50
PC STA. 9+09

PC = 10+32

0 200 400 800 FEET

LEGEND

- DRAINAGE SUB-BASINS
- CROSS DRAINS
- WETLANDS IN R/W
- WETLANDS IN PONDS
- STORMWATER PONDS
- FPC AREAS

CROSS DRAINS, WETLANDS AND POND SITES
OVERPASS ROAD
PASCO COUNTY, FLORIDA

SHEET 3

N

EPPERSON

DITCH 5

DITCH 5

DITCH 5

DITCH 5

DITCH 5

WL 5

WL 8

WL 8

WL 8

CD-7 (EXIST)

0 200 400 800 FEET

LEGEND

- DRAINAGE SUB-BASINS
- CROSS DRAINS
- WETLANDS IN R/W
- WETLANDS IN PONDS
- STORMWATER PONDS
- FPC AREAS

CROSS DRAINS, WETLANDS AND POND SITES
OVERPASS ROAD
PASCO COUNTY, FLORIDA

SHEET 4

N

WL 8
WL 8
WL 8
EPPERSON
WL 9
CD-8
CD-10 (EXIST)
DITCH 6
DITCH 6
CD-9 (EXIST)
DITCH 6
CD-11 (EXIST)
WL 11
WL 11
CD-12 (EXIST)
WL 12
CD-13 (EXIST)
WL 13
WATERGRASS

LEGEND

- DRAINAGE SUB-BASINS
- CROSS DRAINS
- WETLANDS IN R/W
- WETLANDS IN PONDS
- STORMWATER PONDS
- FPC AREAS

0 200 400 800 FEET

CROSS DRAINS, WETLANDS AND POND SITES
OVERPASS ROAD
PASCO COUNTY, FLORIDA

SHEET 5

N

WL 13

WATERGRASS

CD-14 (EXIST)

WL 15

BASIN 3-1

WL 17

WL 17

WL 17

WL 17

CD-15

FPC 3-1
(1.03 ac)

POND 3-3

WL 20

WL 20

215

220

225

230

235

240

245

250

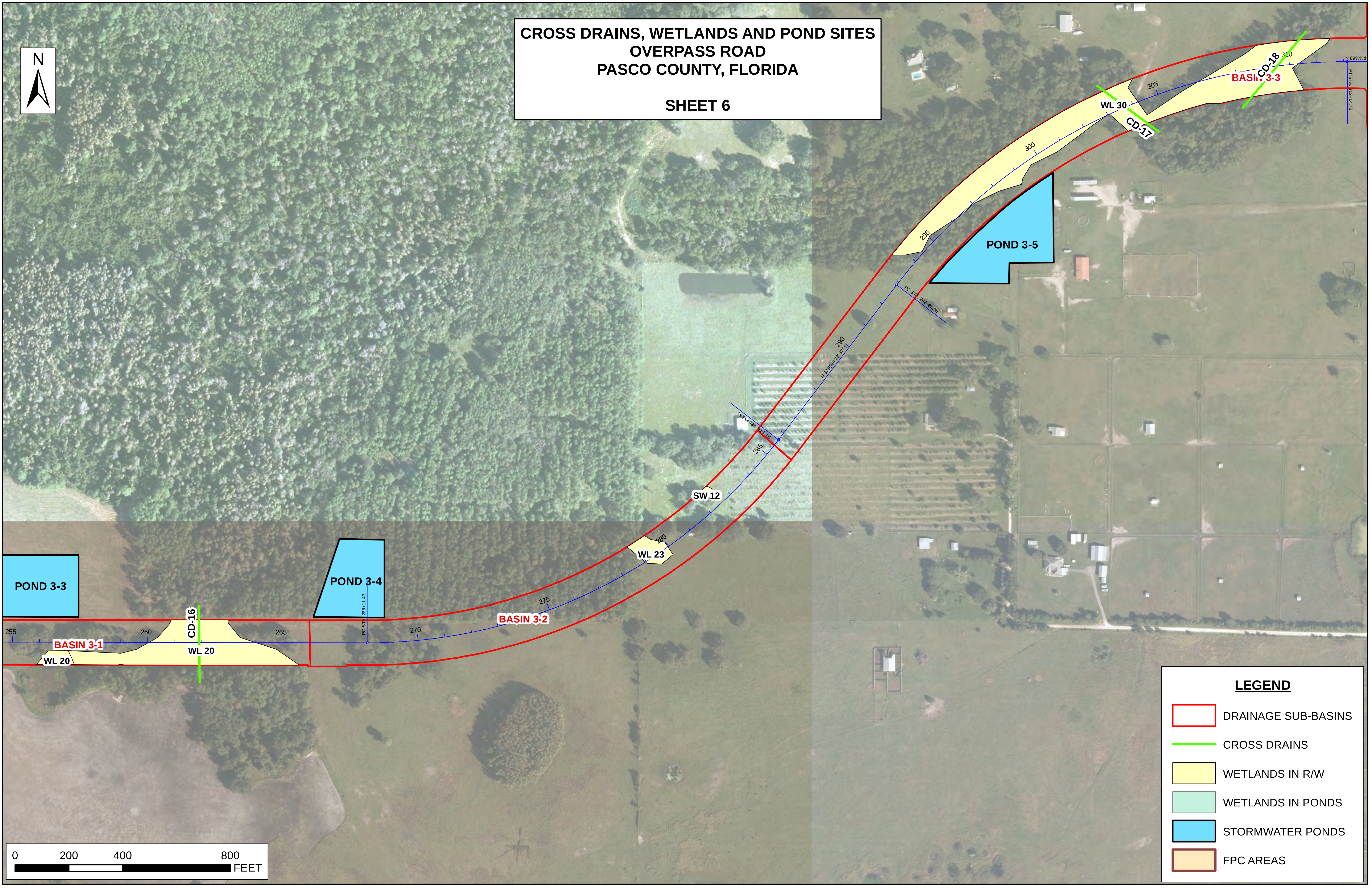
255

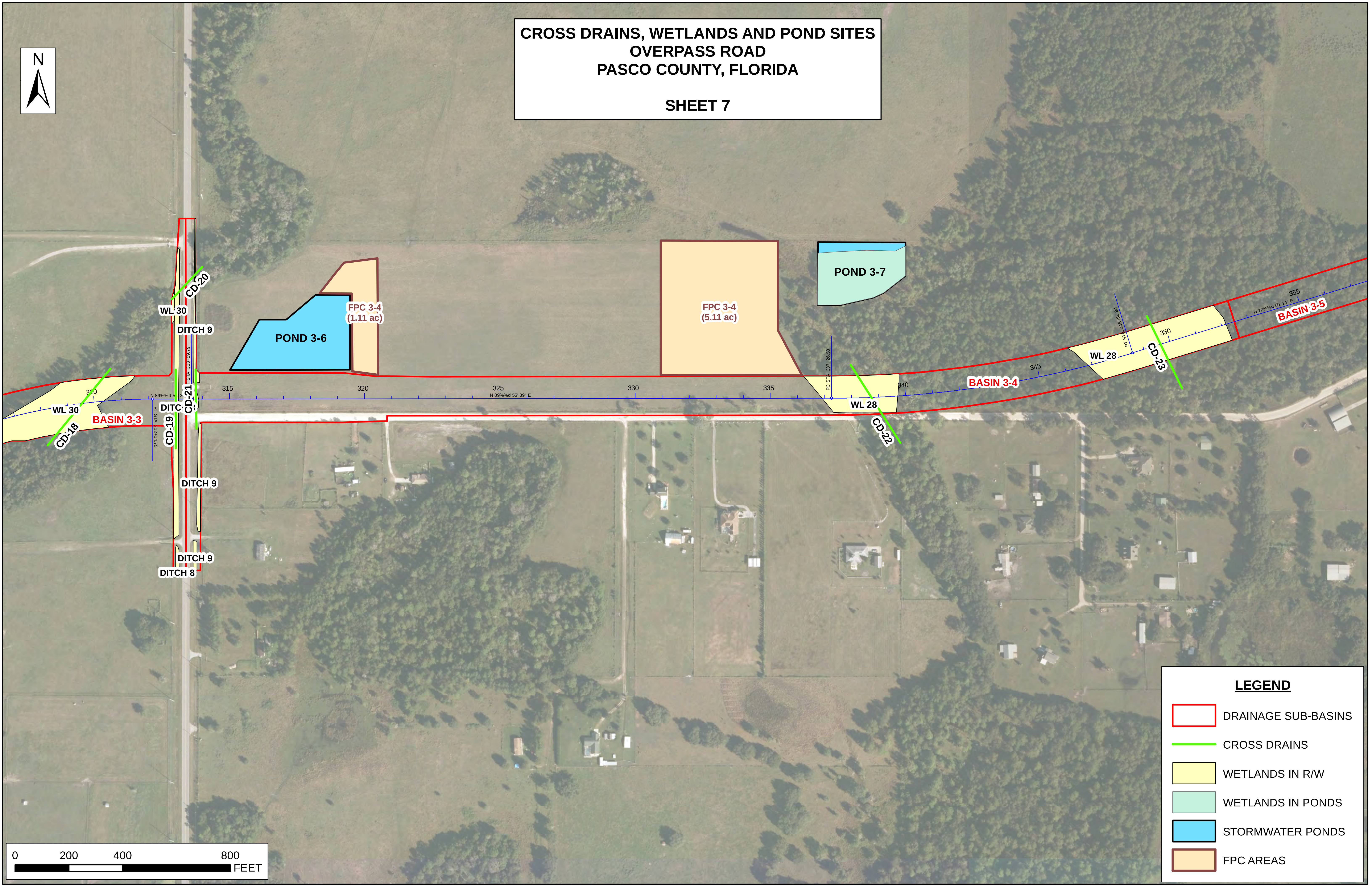
260

0 200 400 800 FEET

LEGEND

- DRAINAGE SUB-BASINS
- CROSS DRAINS
- WETLANDS IN R/W
- WETLANDS IN PONDS
- STORMWATER PONDS
- FPC AREAS


CROSS DRAINS, WETLANDS AND POND SITES
OVERPASS ROAD
PASCO COUNTY, FLORIDA
SHEET 6
N
POND 3-3
POND 3-4
POND 3-5
BASIN 3-1
BASIN 3-2
BASIN 3-3
CD-16
CD-17
CD-18
WL 20
WL 23
WL 30
SW 12
255
260
265
270
275
280
285
290
295
300
305
310
0
200
400
800
FEET
LEGEND
DRAINAGE SUB-BASINS
CROSS DRAINS
WETLANDS IN R/W
WETLANDS IN PONDS
STORMWATER PONDS
FPC AREAS



CROSS DRAINS, WETLANDS AND POND SITES
OVERPASS ROAD
PASCO COUNTY, FLORIDA
SHEET 7
N
POND 3-6
POND 3-7
FPC 3-4 (1.11 ac)
FPC 3-4 (5.11 ac)
WL 30
WL 28
DITCH 9
DITCH 8
CD-18
CD-19
CD-20
CD-21
CD-22
CD-23
BASIN 3-3
BASIN 3-4
BASIN 3-5
LEGEND
DRAINAGE SUB-BASINS
CROSS DRAINS
WETLANDS IN R/W
WETLANDS IN PONDS
STORMWATER PONDS
FPC AREAS
0 200 400 800 FEET


CROSS DRAINS, WETLANDS AND POND SITES
OVERPASS ROAD
PASCO COUNTY, FLORIDA
SHEET 8
N
REPLACE DITCH 3-5
POND 3-8
DITCH 15
BASIN 3-5
BASIN 3-6
DITCH 15
355
360
365
370
375
380
385
390
395
400
LEGEND
DRAINAGE SUB-BASINS
CROSS DRAINS
WETLANDS IN R/W
WETLANDS IN PONDS
STORMWATER PONDS
FPC AREAS
0
200
400
800
FEET

CROSS DRAINS, WETLANDS AND POND SITES
OVERPASS ROAD
PASCO COUNTY, FLORIDA

SHEET 9

N

POND 3-9

BASIN 3-6

BASIN 3-7

BASIN 3-8

405 410 415 420 425 430 435 440 445 450

PC STA. 429+50.69

PRC STA. 437+17.26

PT STA. 443+66.29

POT STA. 447+03.42

Due East

0 200 400 800 FEET

LEGEND

- DRAINAGE SUB-BASINS
- CROSS DRAINS
- WETLANDS IN R/W
- WETLANDS IN PONDS
- STORMWATER PONDS
- FPC AREAS

CROSS DRAINS, WETLANDS AND POND SITES
OVERPASS ROAD
PASCO COUNTY, FLORIDA

SHEET 10

N

POND-3-10

POND 3-11

POND 3-12

BASIN 3-8

DITCH 16

CD-24

BASIN 3-9

PC STA. 477+06.17

PRC STA. 483+15.56

PT STA. 487+21.81

CD-25 (EXIST)

POT STA. 488+79.34

BASIN 3-10

455 460 Due East 465 470 475 480 485 490 Due East 495

0 200 400 800 FEET

LEGEND

- DRAINAGE SUB-BASINS
- CROSS DRAINS
- WETLANDS IN R/W
- WETLANDS IN PONDS
- STORMWATER PONDS
- FPC AREAS

APPENDIX F

Drainage Calculations and NRCS Method CN Calculations

F1
Drainage Sub-Basin Details and NRCS Method CN Calculations

TABLE 1
SUMMARY OF DRAINAGE SUB-BASINS - RECOMMENDED BUILD ALTERNATIVE

OVERPASS ROAD PD&E STUDY
PASCO COUNTY, FLORIDA

SUB-BASIN	FROM	TO	FROM STATION	TO STATION	LENGTH (ft)	ROW (ft)
B-1 NW	Old Pasco Road (Sta. 10+00)	Centerline, I-75 (Sta. 21+44.28)	1000.00	2144.28	1144.28	142
B-2 NE	Centerline, I-75 (Sta. 21+44.28)	Boyette Road (Sta. 53+77.86)	2144.28	5377.86	3233.58	190
B-3 SW	Old Pasco Road (Sta. 10+00)	Centerline, I-75 (Sta. 21+44.28)	1000.00	2144.38	1144.38	142
B-4 SE	Centerline, I-75 (Sta. 21+44.28)	Boyette Road (Sta. 53+77.86)	2144.28	5377.86	3233.58	190
PC	Boyette Road (Sta. 53+77.86)	End of Palm Cove (Sta. 100+02.50)	5377.86	10002.50	4624.64	---
ER	End of Palm Cove (Sta. 9+09) *	Curley Road (Sta. 84+62) *	909.00	8462.00	7553.00	---
WG	Curley Road (Sta. 172+00)	Watergrass Blvd (Sta. 224+23.16)	17200.00	22423.16	5223.16	---
3-1	Watergrass Blvd (Sta. 224+23.16)	Sta. 266+00	22423.16	26600.00	4176.84	166
3-2	Sta. 266+00	Sta. 285+44	26600.00	28544.00	1944.00	166
3-3	Sta. 285+44	Sta. 313+44 (Handcart Rd)	28544.00	31344.00	2800.00	166
3-4	Sta. 313+44 (Handcart Rd)	Sta. 352+50 (Neukom Properties)	31344.00	35250.00	3906.00	128
3-5	Sta. 352+50 (Neukom Properties)	Sta. 376+67.26 (Neukom Properties)	35250.00	37667.26	2417.26	166
3-6	Sta. 376+67.26 (Neukom Properties)	Sta. 414+08.68 (Neukom Properties)	37667.26	41408.68	3741.42	166
3-7	Sta. 414+08.68 (Neukom Properties)	Sta. 439+12	41408.68	43912.00	2503.32	166
3-8	Sta. 439+12	Sta. 466+25	43912.00	46625.00	2713.00	166 #
3-9	Sta. 466+25	Sta 499+30.15; End Project @ U.S. 301	46625.00	49930.15	3305.15	128 #

NOTES SUB-BASIN PC = Palm Cove
SUB-BASIN ER = Epperson Ranch
SUB-BASIN WG = Watergrass
* Denotes Stationing used for project corridor through proposed Epperson Ranch development corresponds to Epperson Ranch ERP plans (Stationing used for remainder of project corridor was developed for this PD&E study)
# Denotes that ROW width decreases from 166 ft. to 128 ft. at Ft King Highway (Sta. 447+54.22)

TABLE 2
PRE-DEVELOPMENT CURVE NUMBER CALCULATIONS

OVERPASS ROAD
PASCO COUNTY, FLORIDA

Weighted Curve Number Calculations							
CN=((AC)i(CN)i+(AC)i+1(CN)i+1+(AC)i+2(CN)i+2 +(AC)n-1(CN)n-1+(AC)n(CN)n))/Total Area							
Sub-Basin Name	Total Area (AC)	Soil Hydrologic Group	Impervious Area Land Use Pavement/Buildings		Pervious Area Land Use Open Space/Grass		Composite CN
			(AC)	CN	(AC)	CN	
B-1 NW	9.98	A	0.82	98	3.86	39	66.13
		B/D	0.00	98	0.00	61	
		C	0.00	98	0.00	74	
		D	0.24	98	5.07	80	
B-2 NE	11.76	A	3.56	98	8.20	39	56.86
		B/D	0.00	98	0.00	61	
		C	0.00	98	0.00	74	
		D	0.00	98	0.00	80	
B-3 SW	15.14	A	0.72	98	10.62	39	52.31
		B/D	0.00	98	0.00	61	
		C	0.00	98	0.00	74	
		D	0.18	98	3.62	80	
B-4 SE	13.26	A	0.64	98	12.42	39	42.47
		B/D	0.00	98	0.00	61	
		C	0.00	98	0.00	74	
		D	0.00	98	0.20	80	
3-1	16.06	A	0.06	98	10.38	39	48.28
		B/D	0.02	98	3.99	61	
		C	0.01	98	1.60	74	
		D	0.00	98	0.00	80	
3-2	7.42	A	0.00	98	2.60	39	53.29
		B/D	0.00	98	4.82	61	
		C	0.00	98	0.00	74	
		D	0.00	98	0.00	80	
3-3	12.25	A	0.32	98	8.87	39	46.37
		B/D	0.11	98	2.95	61	
		C	0.00	98	0.00	74	
		D	0.00	98	0.00	80	

TABLE 2 (continued)
PRE-DEVELOPMENT CURVE NUMBER CALCULATIONS

OVERPASS ROAD
PASCO COUNTY, FLORIDA

Weighted Curve Number Calculations							
CN=((AC)i(CN)i+(AC)i+1(CN)i+1+(AC)i+2(CN)i+2 +(AC)n-1(CN)n-1+(AC)n(CN)n))/Total Area							
Sub-Basin Name	Total Area (AC)	Soil Hydrologic Group	Impervious Area Land Use Pavement/Buildings		Pervious Area Land Use Open Space/Grass		Composite CN
			(AC)	CN	(AC)	CN	
3-4	14.71	A	0.21	98	2.00	39	61.54
		B/D	1.19	98	11.31	61	
		C	0.00	98	0.00	74	
		D	0.00	98	0.00	80	
3-5	8.00	A	0.00	98	0.80	39	58.80
		B/D	0.00	98	7.20	61	
		C	0.00	98	0.00	74	
		D	0.00	98	0.00	80	
3-6	12.28	A	0.35	98	5.79	39	52.74
		B/D	0.35	98	5.79	61	
		C	0.00	98	0.00	74	
		D	0.00	98	0.00	80	
3-7	8.28	A	0.00	98	0.00	39	61.00
		B/D	0.00	98	8.28	61	
		C	0.00	98	0.00	74	
		D	0.00	98	0.00	80	
3-8	10.92	A	0.89	98	5.65	39	54.65
		B/D	0.59	98	3.80	61	
		C	0.00	98	0.00	74	
		D	0.00	98	0.00	80	
3-9	9.16	A	3.30	98	5.86	39	60.26
		B/D	0.00	98	0.00	61	
		C	0.00	98	0.00	74	
		D	0.00	98	0.00	80	

TABLE 3
POST-DEVELOPMENT CURVE NUMBER CALCULATIONS

OVERPASS ROAD
PASCO COUNTY, FLORIDA

Weighted Curve Number Calculations							
CN=((AC)i(CN)i+(AC)i+1(CN)i+1+(AC)i+2(CN)i+2 +(AC)n-1(CN)n-1+(AC)n(CN)n))/Total Area							
Sub-Basin Name	Total Area (AC)	Soil Hydrologic Group	Impervious Area Land Use Pavement/Buildings		Pervious Area Land Use Open Space/Grass		Composite CN
			(AC)	CN	(AC)	CN	
B-1 NW	9.98	A	1.87	98	2.59	39	74.79
		B/D	0.00	98	0.00	61	
		C	0.00	98	0.00	74	
		D	1.14	98	4.38	80	
B-2 NE	11.76	A	4.53	98	7.23	39	61.73
		B/D	0.00	98	0.00	61	
		C	0.00	98	0.00	74	
		D	0.00	98	0.00	80	
B-3 SW	15.14	A	3.84	98	10.91	39	55.37
		B/D	0.00	98	0.00	61	
		C	0.00	98	0.00	74	
		D	0.29	98	0.10	80	
B-4 SE	13.26	A	3.51	98	9.37	39	56.20
		B/D	0.00	98	0.00	61	
		C	0.00	98	0.00	74	
		D	0.30	98	0.08	80	
3-1	16.06	A	6.34	98	4.10	39	78.37
		B/D	2.44	98	1.58	61	
		C	0.98	98	0.62	74	
		D	0.00	98	0.00	80	
3-2	7.42	A	1.56	98	1.03	39	80.19
		B/D	2.90	98	1.93	61	
		C	0.00	98	0.00	74	
		D	0.00	98	0.00	80	
3-3	12.25	A	5.62	98	3.56	39	77.23
		B/D	1.87	98	1.20	61	
		C	0.00	98	0.00	74	
		D	0.00	98	0.00	80	

TABLE 3 (continued)
POST-DEVELOPMENT CURVE NUMBER CALCULATIONS

OVERPASS ROAD
PASCO COUNTY, FLORIDA

Weighted Curve Number Calculations							
CN=((AC)i(CN)i+(AC)i+1(CN)i+1+(AC)i+2(CN)i+2 +(AC)n-1(CN)n-1+(AC)n(CN)n))/Total Area							
Sub-Basin Name	Total Area (AC)	Soil Hydrologic Group	Impervious Area Land Use Pavement/Buildings		Pervious Area Land Use Open Space/Grass		Composite CN
			(AC)	CN	(AC)	CN	
3-4	14.71	A	1.44	98	0.77	39	83.94
		B/D	8.14	98	4.36	61	
		C	0.00	98	0.00	74	
		D	0.00	98	0.00	80	
3-5	8.00	A	0.55	98	0.25	39	85.85
		B/D	4.97	98	2.23	61	
		C	0.00	98	0.00	74	
		D	0.00	98	0.00	80	
3-6	12.28	A	4.20	98	1.93	39	82.90
		B/D	4.21	98	1.94	61	
		C	0.00	98	0.00	74	
		D	0.00	98	0.00	80	
3-7	8.28	A	0.00	98	0.00	39	85.40
		B/D	5.46	98	2.82	61	
		C	0.00	98	0.00	74	
		D	0.00	98	0.00	80	
3-8	10.92	A	4.55	98	2.03	39	82.64
		B/D	3.04	98	1.31	61	
		C	0.00	98	0.00	74	
		D	0.00	98	0.00	80	
3-9	9.16	A	6.32	98	2.84	39	79.71
		B/D	0.00	98	0.00	61	
		C	0.00	98	0.00	74	
		D	0.00	98	0.00	80	

F2
Flyover Interchange
Drainage Analysis

URS

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FLYOVER SUB-BASIN 1 (B-1 NW)

POST-DEVELOPMENT

Impervious Area = 3.01
Pervious Area = 6.97
Total Area = 9.98

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area = 9.98 ac
Weighted CN = 74.79

S = (1000/CN)-10
= 3.371 inches

25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$
= 5.470 inches

25-Year, 24-Hour Rainfall Volume for Project Area

V = A * Q
= 4.55 ac-ft
NRCS Runoff Attenuation Volume = 4.55 ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1 inch of rainfall (V_1) = 0.83 ac-ft

PRE-DEVELOPMENT

Impervious Area = 1.05
Pervious Area = 8.93
Total Area = 9.98

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area = 9.98 ac
Weighted CN = 66.13

S = (1000/CN)-10
= 5.122 inches

25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$
= 4.436 inches

25-Year, 24-Hour Rainfall Volume for Project Area

V = A * Q
= 3.69 ac-ft
NRCS Runoff Attenuation Volume = 3.69 ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1 inch of rainfall (V_1) = 0.83 ac-ft

---

POST Total Sub-Basin Runoff Attenuation Volume = 4.55 ac-ft
= 198158.59 ft^3
POST Total Sub-Basin Water Quality Treatment Storage Volume = 0.83 ac-ft
= 36227.40 ft^3

PRE Total Sub-Basin Runoff Attenuation Volume = 3.69 ac-ft
= 160714.55 ft^3
PRE Total Sub-Basin Water Quality Treatment Storage Volume = 0.83 ac-ft
= 36227.40 ft^3

WET RETENTION POND

NRCS Runoff Attenuation Volume =	**0.86 ac-ft**
Water Quality Treatment Volume =	**0.83 ac-ft**
TOTAL REQUIRED POND VOLUME =	**1.69 ac-ft**

URS

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FLYOVER SUB-BASIN 2 (B-2 NE)

POST-DEVELOPMENT

Impervious Area =	4.53	
Pervious Area =	7.23	
Total Area =	11.76	

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area =	11.76	ac
Weighted CN =	61.73	
S = (1000/CN)-10		
=	6.200	inches
25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$		
=	3.916	inches

25-Year, 24-Hour Rainfall Volume for Project Area

V = A * Q		
=	3.84	ac-ft
NRCS Runoff Attenuation Volume =	3.84	ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1 inch of rainfall (V_1) = 0.98 ac-ft

PRE-DEVELOPMENT

Impervious Area =	3.56	
Pervious Area =	8.20	
Total Area =	11.76	

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area =	11.76	ac
Weighted CN =	56.86	
S = (1000/CN)-10		
=	7.587	inches
25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$		
=	3.346	inches

25-Year, 24-Hour Rainfall Volume for Project Area

V = A * Q		
=	3.28	ac-ft
NRCS Runoff Attenuation Volume =	3.28	ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1 inch of rainfall (V_1) = 0.98 ac-ft

---

POST Total Sub-Basin Runoff Attenuation Volume = 3.84 ac-ft
= 167171.82 ft^3

POST Total Sub-Basin Water Quality Treatment Storage Volume = 0.98 ac-ft
= 42688.80 ft^3

PRE Total Sub-Basin Runoff Attenuation Volume = 3.28 ac-ft
= 142855.81 ft^3

PRE Total Sub-Basin Water Quality Treatment Storage Volume = 0.98 ac-ft
= 42688.80 ft^3

WET RETENTION POND

NRCS Runoff Attenuation Volume =	**0.56 ac-ft**
Water Quality Treatment Volume =	**0.98 ac-ft**
TOTAL REQUIRED POND VOLUME =	**1.54 ac-ft**

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FLYOVER SUB-BASIN 3 (B-3 SW)

POST-DEVELOPMENT

Impervious Area = 4.13
Pervious Area = 11.01
Total Area = 15.14

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area = 15.14 ac
Weighted CN = 55.37

S = (1000/CN)-10
= 8.060 inches

25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$
= 3.174 inches

25-Year, 24-Hour Rainfall Volume for Project Area

V = A * Q
= 4.00 ac-ft
NRCS Runoff Attenuation Volume = 4.00 ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1 inch of rainfall (V_1) = 1.26 ac-ft

PRE-DEVELOPMENT

Impervious Area = 0.90
Pervious Area = 14.24
Total Area = 15.14

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area = 15.14 ac
Weighted CN = 52.31

S = (1000/CN)-10
= 9.117 inches

25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$
= 2.823 inches

25-Year, 24-Hour Rainfall Volume for Project Area

V = A * Q
= 3.56 ac-ft
NRCS Runoff Attenuation Volume = 3.56 ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1 inch of rainfall (V_1) = 1.26 ac-ft

---

POST Total Sub-Basin Runoff Attenuation Volume = 4.00 ac-ft
= 174429.57 ft^3
POST Total Sub-Basin Water Quality Treatment Storage Volume = 1.26 ac-ft
= 54958.20 ft^3

PRE Total Sub-Basin Runoff Attenuation Volume = 3.56 ac-ft
= 155121.33 ft^3
PRE Total Sub-Basin Water Quality Treatment Storage Volume = 1.26 ac-ft
= 54958.20 ft^3

WET RETENTION POND

NRCS Runoff Attenuation Volume =	**0.44 ac-ft**
Water Quality Treatment Volume =	**1.26 ac-ft**
TOTAL REQUIRED POND VOLUME =	**1.70 ac-ft**

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FLYOVER SUB-BASIN 4 (B-4 SE)

POST-DEVELOPMENT

Impervious Area = 3.81
Pervious Area = 9.45
Total Area = 13.26

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area = 13.26 ac
Weighted CN = 56.20

S = (1000/CN)-10
= 7.794 inches

25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$
= 3.270 inches

25-Year, 24-Hour Rainfall Volume for Project Area

V = A * Q
= 3.61 ac-ft
NRCS Runoff Attenuation Volume = 3.61 ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1 inch of rainfall (V_1) = 1.11 ac-ft

PRE-DEVELOPMENT

Impervious Area = 0.64
Pervious Area = 12.62
Total Area = 13.26

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area = 13.26 ac
Weighted CN = 42.47

S = (1000/CN)-10
= 13.546 inches

25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$
= 1.734 inches

25-Year, 24-Hour Rainfall Volume for Project Area

V = A * Q
= 1.92 ac-ft
NRCS Runoff Attenuation Volume = 1.92 ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1 inch of rainfall (V_1) = 1.11 ac-ft

---

POST Total Sub-Basin Runoff Attenuation Volume = 3.61 ac-ft
= 157392.11 ft^3
POST Total Sub-Basin Water Quality Treatment Storage Volume = 1.11 ac-ft
= 48133.80 ft^3

PRE Total Sub-Basin Runoff Attenuation Volume = 1.92 ac-ft
= 83472.06 ft^3
PRE Total Sub-Basin Water Quality Treatment Storage Volume = 1.11 ac-ft
= 48133.80 ft^3

WET RETENTION POND

NRCS Runoff Attenuation Volume =	**1.70 ac-ft**
Water Quality Treatment Volume =	**1.11 ac-ft**
TOTAL REQUIRED POND VOLUME =	**2.80 ac-ft**

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SUMMARY OF PONDS FOR FLYOVER INTERCHANGE DESIGN

WET DETENTION PONDS

REQUIRED VOLUME FOR POND B-1 (CONTRIBUTING AREA = SUB-BASIN B-3 (SW) ONLY)

B-3 - NRCS Runoff Attenuation Volume =	**0.44 ac-ft**
B-3 - Water Quality Treatment Volume =	**1.26 ac-ft**
B-3 - TOTAL REQUIRED POND VOLUME =	**1.70 ac-ft**

POND B-1 (1.17 ac)

Stage	Area (ft2)	Area (ac)	Incremental Volume (ac-ft)	Cumulative Volume (ac-ft)
90.00	25742.85	0.59	0.00	0.00
91.00	28480.38	0.65	0.62	0.62
92.00	31344.68	0.72	0.69	1.31
93.00	34331.53	0.79	0.75	2.06
94.00	37438.26	0.86	0.82	2.89

Treatment stage = 92.13

Design High Water (DHW_{25}) = 92.88

(Note: 20-ft maintenance berm, 4:1 slopes)

Pond Footprint = 1.17 ac

Excess volume (for FPC) = 1.19 ac-ft

REQUIRED VOLUME FOR POND B-2 (CONTRIBUTING AREA = SUB-BASIN B-1 NW, B-2 NE and B-4 SE ONLY)

FLYOVER - NRCS Runoff Attenuation Volume =	**3.56 ac-ft**
FLYOVER - Water Quality Treatment Volume =	**4.18 ac-ft**
FLYOVER - TOTAL REQUIRED POND VOLUME =	**7.74 ac-ft**

POND B-2 (3.20 ac)

Stage	Area (ft2)	Area (ac)	Incremental Volume (ac-ft)	Cumulative Volume (ac-ft)
86.50	75734.45	1.74	0.00	0.00
87.50	80972.37	1.86	1.80	1.80
88.50	86327.75	1.98	1.92	3.72
89.50	91794.31	2.11	2.04	5.76
90.50	97365.71	2.24	2.17	7.93
91.50	103038.60	2.37	2.30	10.24
92.50	108818.00	2.50	2.43	12.67

Treatment stage = 88.75

Design High Water (DHW_{25}) = 90.66

(Note: 20-ft maintenance berm, 4:1 slopes, 25-ft Wetland setback)

Pond Footprint = 3.2 ac

Excess volume (for FPC) = 4.93 ac-ft

F3
Drainage Sub-Basins 3-1 through 3-9
Drainage Analysis

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SUB-BASIN 3-1

POST-DEVELOPMENT

Impervious Area = 9.75
Pervious Area = 6.31
Total Area = 16.06

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area = 16.06 ac
Weighted CN = 78.37

S = (1000/CN)-10
= 2.760 inches

25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$
= 5.899 inches

25-Year, 24-Hour Rainfall Volume for Project Area

V = A * Q
= 7.90 ac-ft
NRCS Runoff Attenuation Volume = 7.90 ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1 inch of rainfall (V_1) = 1.34 ac-ft

PRE-DEVELOPMENT

Impervious Area = 0.09
Pervious Area = 15.97
Total Area = 16.06

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area = 16.06 ac
Weighted CN = 48.28

S = (1000/CN)-10
= 10.712 inches

25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$
= 2.368 inches

25-Year, 24-Hour Rainfall Volume for Project Area

V = A * Q
= 3.17 ac-ft
NRCS Runoff Attenuation Volume = 3.17 ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1 inch of rainfall (V_1) = 1.34 ac-ft

---

POST Total Sub-Basin Runoff Attenuation Volume = 7.90 ac-ft
= 343924.82 ft^3
POST Total Sub-Basin Water Quality Treatment Storage Volume = 1.34 ac-ft
= 58297.80 ft^3

PRE Total Sub-Basin Runoff Attenuation Volume = 3.17 ac-ft
= 138036.83 ft^3
PRE Total Sub-Basin Water Quality Treatment Storage Volume = 1.34 ac-ft
= 58297.80 ft^3

NRCS Runoff Attenuation Volume =	**4.73 ac-ft**
Water Quality Treatment Volume =	**1.34 ac-ft**
TOTAL REQUIRED POND VOLUME =	**6.06 ac-ft**

WET RETENTION POND

POND 3-3

Stage	Area (ft2)	Area (ac)	Incremental Volume (ac-ft)	Cumulative Volume (ac-ft)
108.00	67785.82	1.56	0.00	0.00
109.00	72570.94	1.67	1.61	1.61
110.00	77484.07	1.78	1.72	3.33
111.00	82525.19	1.89	1.84	5.17
112.00	87694.32	2.01	1.95	7.12

Treatment stage = 111.17

(Note: 20-ft maintenance berm, 4:1 slopes)

Pond Footprint = 2.65 ac (506 FT X 230.14 FT)
Excess volume (for FPC) = 0.00 ac-ft (ALLOWS 10 IN. FREEBOARD)

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SUB-BASIN 3-2

POST-DEVELOPMENT

Impervious Area = 4.46
Pervious Area = 2.96
Total Area = 7.42

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area = 7.42 ac
Weighted CN = 80.19

S = (1000/CN)-10
= 2.471 inches

25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$
= 6.118 inches

25-Year, 24-Hour Rainfall Volume for Project Area

V = A * Q
= 3.78 ac-ft
NRCS Runoff Attenuation Volume = 3.78 ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1 inch of rainfall (V_1) = 0.62 ac-ft

PRE-DEVELOPMENT

Impervious Area = 0.00
Pervious Area = 7.42
Total Area = 7.42

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area = 7.42 ac
Weighted CN = 53.29

S = (1000/CN)-10
= 8.765 inches

25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$
= 2.935 inches

25-Year, 24-Hour Rainfall Volume for Project Area

V = A * Q
= 1.81 ac-ft
NRCS Runoff Attenuation Volume = 1.81 ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1 inch of rainfall (V_1) = 0.62 ac-ft

---

POST Total Sub-Basin Runoff Attenuation Volume = 3.78 ac-ft
= 164784.70 ft^3
POST Total Sub-Basin Water Quality Treatment Storage Volume = 0.62 ac-ft
= 26934.60 ft^3

PRE Total Sub-Basin Runoff Attenuation Volume = 1.81 ac-ft
= 79044.38 ft^3
PRE Total Sub-Basin Water Quality Treatment Storage Volume = 0.62 ac-ft
= 26934.60 ft^3

NRCS Runoff Attenuation Volume =	**1.97 ac-ft**
Water Quality Treatment Volume =	**0.62 ac-ft**
TOTAL REQUIRED POND VOLUME =	**2.59 ac-ft**

WET RETENTION POND

POND 3-4

Stage	Area (ft2)	Area (ac)	Incremental Volume (ac-ft)	Cumulative Volume (ac-ft)
115.00	30495.05	0.70	0.00	0.00
116.00	33462.00	0.77	0.73	0.73
117.00	36560.82	0.84	0.80	1.54
118.00	39790.60	0.91	0.88	2.41
119.00	43151.65	0.99	0.95	3.37

Treatment stage = 118.07

(Note: 20-ft maintenance berm, 4:1 slopes)

Pond Footprint = 1.42 ac
Excess volume (for FPC) = 0.00 ac-ft (ALLOWS 11 IN. FREEBOARD)

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SUB-BASIN 3-3

POST-DEVELOPMENT

Impervious Area =	7.50
Pervious Area =	4.75
Total Area =	12.25

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area = 12.25 ac
Weighted CN = 77.24

S = (1000/CN)-10
= 2.946 inches

25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$
= 5.764 inches

25-Year, 24-Hour Rainfall Volume for Project Area

V = A * Q
= 5.88 ac-ft
NRCS Runoff Attenuation Volume = 5.88 ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1 inch of rainfall (V_1) = 1.02 ac-ft

PRE-DEVELOPMENT

Impervious Area =	0.42
Pervious Area =	11.83
Total Area =	12.25

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area = 12.25 ac
Weighted CN = 46.37

S = (1000/CN)-10
= 11.566 inches

25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$
= 2.156 inches

25-Year, 24-Hour Rainfall Volume for Project Area

V = A * Q
= 2.20 ac-ft
NRCS Runoff Attenuation Volume = 2.20 ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1 inch of rainfall (V_1) = 1.02 ac-ft

---

POST Total Sub-Basin Runoff Attenuation Volume = 5.88 ac-ft
= 256321.01 ft^3
POST Total Sub-Basin Water Quality Treatment Storage Volume = 1.02 ac-ft
= 44467.50 ft^3

PRE Total Sub-Basin Runoff Attenuation Volume = 2.20 ac-ft
= 95879.08 ft^3
PRE Total Sub-Basin Water Quality Treatment Storage Volume = 1.02 ac-ft
= 44467.50 ft^3

NRCS Runoff Attenuation Volume =	**3.68 ac-ft**
Water Quality Treatment Volume =	**1.02 ac-ft**
TOTAL REQUIRED POND VOLUME =	**4.70 ac-ft**

WET RETENTION POND

POND 3-5

Stage	Area (ft2)	Area (ac)	Incremental Volume (ac-ft)	Cumulative Volume (ac-ft)
116.00	40302.24	0.93	0.00	0.00
117.00	44673.06	1.03	0.98	0.98
118.00	49210.12	1.13	1.08	2.05
119.00	53913.28	1.24	1.18	3.24
120.00	58781.31	1.35	1.29	4.53
121.00	63813.93	1.46	1.41	5.94

Treatment stage = 120.04

(Note: 20-ft maintenance berm, 4:1 slopes)

Pond Footprint = 2.10 ac
Excess volume (for FPC) = 0.00 ac-ft (ALLOWS 11.5 IN. FREEBOARD)

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SUB-BASIN 3-4

POST-DEVELOPMENT

Impervious Area =	9.58	
Pervious Area =	5.13	
Total Area =	14.71	

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area = 14.71 ac
Weighted CN = 83.94

$S = (1000/CN)-10$
$= 1.913$ inches

25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$
$= 6.569$ inches

25-Year, 24-Hour Rainfall Volume for Project Area

$V = A * Q$
$= 8.05$ ac-ft
NRCS Runoff Attenuation Volume = 8.05 ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1 inch of rainfall (V_1) = 1.23 ac-ft

PRE-DEVELOPMENT

Impervious Area =	1.40	
Pervious Area =	13.31	
Total Area =	14.71	

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area = 14.71 ac
Weighted CN = 61.54

$S = (1000/CN)-10$
$= 6.251$ inches

25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$
$= 3.893$ inches

25-Year, 24-Hour Rainfall Volume for Project Area

$V = A * Q$
$= 4.77$ ac-ft
NRCS Runoff Attenuation Volume = 4.77 ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1 inch of rainfall (V_1) = 1.23 ac-ft

---

POST Total Sub-Basin Runoff Attenuation Volume = 8.05 ac-ft
= 350770.70 ft^3
POST Total Sub-Basin Water Quality Treatment Storage Volume = 1.23 ac-ft
= 53397.30 ft^3

PRE Total Sub-Basin Runoff Attenuation Volume = 4.77 ac-ft
= 207884.68 ft^3
PRE Total Sub-Basin Water Quality Treatment Storage Volume = 1.23 ac-ft
= 53397.30 ft^3

NRCS Runoff Attenuation Volume =	**3.28 ac-ft**
Water Quality Treatment Volume =	**1.23 ac-ft**
TOTAL REQUIRED POND VOLUME =	**4.51 ac-ft**

WET RETENTION POND

POND 3-6

Stage	Area (ft2)	Area (ac)	Incremental Volume (ac-ft)	Cumulative Volume (ac-ft)
138.00	43476.17	1.00	0.00	0.00
139.00	47381.56	1.09	1.04	1.04
140.00	51425.17	1.18	1.13	2.18
141.00	55607.00	1.28	1.23	3.41
142.00	59927.06	1.38	1.33	4.73
143.00	64385.33	1.48	1.43	6.16

Treatment stage = 141.95

(Note: 20-ft maintenance berm, 4:1 slopes)

Pond Footprint = 2.04 ac
Excess volume (for FPC) = 0.23 ac-ft (ALLOWS 1 FT. FREEBOARD)

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SUB-BASIN 3-5

POST-DEVELOPMENT

Impervious Area = 5.52
Pervious Area = 2.48
Total Area = 8.00

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area = 8.00 ac
Weighted CN = 85.85

S = (1000/CN)-10
= 1.648 inches

25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$
= 6.799 inches

25-Year, 24-Hour Rainfall Volume for Project Area

V = A * Q
= 4.53 ac-ft
NRCS Runoff Attenuation Volume = 4.53 ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1 inch of rainfall (V_1) = 0.67 ac-ft

PRE-DEVELOPMENT

Impervious Area = 0.00
Pervious Area = 8.00
Total Area = 8.00

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area = 8.00 ac
Weighted CN = 58.80

S = (1000/CN)-10
= 7.007 inches

25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$
= 3.572 inches

25-Year, 24-Hour Rainfall Volume for Project Area

V = A * Q
= 2.38 ac-ft
NRCS Runoff Attenuation Volume = 2.38 ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1 inch of rainfall (V_1) = 0.67 ac-ft

---

POST Total Sub-Basin Runoff Attenuation Volume = 4.53 ac-ft
= 197441.94 ft^3
POST Total Sub-Basin Water Quality Treatment Storage Volume = 0.67 ac-ft
= 29040.00 ft^3

PRE Total Sub-Basin Runoff Attenuation Volume = 2.38 ac-ft
= 103743.32 ft^3
PRE Total Sub-Basin Water Quality Treatment Storage Volume = 0.67 ac-ft
= 29040.00 ft^3

NRCS Runoff Attenuation Volume =	**2.15 ac-ft**
Water Quality Treatment Volume =	**0.67 ac-ft**
TOTAL REQUIRED POND VOLUME =	**2.82 ac-ft**

WET RETENTION POND

POND 3-7

Stage	Area (ft2)	Area (ac)	Incremental Volume (ac-ft)	Cumulative Volume (ac-ft)
113.50	32195.00	0.74	0.00	0.00
114.00	33695.02	0.77	0.38	0.38
115.00	36786.90	0.84	0.81	1.19
116.00	40001.24	0.92	0.88	2.07
117.00	43338.03	0.99	0.96	3.03
118.00	46797.29	1.07	1.03	4.06

Treatment stage = 116.93

(Note: 20-ft maintenance berm, 4:1 slopes)

Pond Footprint = 1.51 ac
Excess volume (for FPC) = 0.21 ac-ft (ALLOWS 1 FT. FREEBOARD)

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SUB-BASIN 3-6

POST-DEVELOPMENT

Impervious Area =	8.41
Pervious Area =	3.87
Total Area =	12.28

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area = 12.28 ac
Weighted CN = 82.90

S = (1000/CN)-10
= 2.063 inches

25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$
= 6.444 inches

25-Year, 24-Hour Rainfall Volume for Project Area

V = A * Q
= 6.59 ac-ft
NRCS Runoff Attenuation Volume = 6.59 ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1 inch of rainfall (V_1) = 1.02 ac-ft

PRE-DEVELOPMENT

Impervious Area =	0.77
Pervious Area =	11.51
Total Area =	12.28

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area = 12.28 ac
Weighted CN = 52.74

S = (1000/CN)-10
= 8.961 inches

25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$
= 2.872 inches

25-Year, 24-Hour Rainfall Volume for Project Area

V = A * Q
= 2.94 ac-ft
NRCS Runoff Attenuation Volume = 2.94 ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1 inch of rainfall (V_1) = 1.02 ac-ft

---

POST Total Sub-Basin Runoff Attenuation Volume = 6.59 ac-ft
= 287246.63 ft^3

POST Total Sub-Basin Water Quality Treatment Storage Volume = 1.02 ac-ft
= 44576.40 ft^3

PRE Total Sub-Basin Runoff Attenuation Volume = 2.94 ac-ft
= 128006.59 ft^3

PRE Total Sub-Basin Water Quality Treatment Storage Volume = 1.02 ac-ft
= 44576.40 ft^3

NRCS Runoff Attenuation Volume =	**3.66 ac-ft**
Water Quality Treatment Volume =	**1.02 ac-ft**
TOTAL REQUIRED POND VOLUME =	**4.68 ac-ft**

WET RETENTION POND

POND 3-8

Stage	Area (ft2)	Area (ac)	Incremental Volume (ac-ft)	Cumulative Volume (ac-ft)
193.50	48144.74	1.11	0.00	0.00
194.00	50383.04	1.16	0.57	0.57
195.00	54962.53	1.26	1.21	1.77
196.00	59679.23	1.37	1.32	3.09
197.00	64533.15	1.48	1.43	4.52
198.00	69524.27	1.60	1.54	6.06

Treatment stage = 197.04

(Note: 18-ft maintenance berm, 4:1 slopes)

Pond Footprint = 2.15 ac
Excess volume (for FPC) = 0.41 ac-ft (ALLOWS 11 IN. FREEBOARD)

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SUB-BASIN 3-7

POST-DEVELOPMENT

Impervious Area = 5.46
Pervious Area = 2.82
Total Area = 8.28

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area = 8.28 ac
Weighted CN = 85.40

$S = (1000/CN)-10$
$= 1.710$ inches

25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$
$= 6.745$ inches

25-Year, 24-Hour Rainfall Volume for Project Area

$V = A * Q$
$= 4.65$ ac-ft
NRCS Runoff Attenuation Volume = 4.65 ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1 inch of rainfall (V_1) = 0.69 ac-ft

PRE-DEVELOPMENT

Impervious Area = 0.00
Pervious Area = 8.28
Total Area = 8.28

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area = 8.28 ac
Weighted CN = 61.00

$S = (1000/CN)-10$
$= 6.393$ inches

25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$
$= 3.830$ inches

25-Year, 24-Hour Rainfall Volume for Project Area

$V = A * Q$
$= 2.64$ ac-ft
NRCS Runoff Attenuation Volume = 2.64 ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1 inch of rainfall (V_1) = 0.69 ac-ft

---

POST Total Sub-Basin Runoff Attenuation Volume = 4.65 ac-ft
= 202720.52 ft^3
POST Total Sub-Basin Water Quality Treatment Storage Volume = 0.69 ac-ft
= 30056.40 ft^3

PRE Total Sub-Basin Runoff Attenuation Volume = 2.64 ac-ft
= 115122.26 ft^3
PRE Total Sub-Basin Water Quality Treatment Storage Volume = 0.69 ac-ft
= 30056.40 ft^3

NRCS Runoff Attenuation Volume =	**2.01 ac-ft**
Water Quality Treatment Volume =	**0.69 ac-ft**
TOTAL REQUIRED POND VOLUME =	**2.70 ac-ft**

WET RETENTION POND

POND 3-9

Stage	Area (ft2)	Area (ac)	Incremental Volume (ac-ft)	Cumulative Volume (ac-ft)
131.00	36212.89	0.83	0.00	0.00
132.00	39513.77	0.91	0.87	0.87
133.00	42942.64	0.99	0.95	1.82
134.00	46499.52	1.07	1.03	2.84
135.00	50184.40	1.15	1.11	3.95

Treatment stage = 133.95

(Note: 20-ft maintenance berm, 4:1 slopes)

Pond Footprint = 1.62 ac
Excess volume (for FPC) = 0.14 ac-ft (ALLOWS 1 FT. FREEBOARD)

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SUB-BASIN 3-8

POST-DEVELOPMENT

Impervious Area = 7.59
Pervious Area = 3.33
Total Area = 10.92

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area = 10.92 ac
Weighted CN = 82.64

$S = (1000/CN)-10$
$= 2.101$ inches

25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$
$= 6.413$ inches

25-Year, 24-Hour Rainfall Volume for Project Area

$V = A * Q$
$= 5.84$ ac-ft
NRCS Runoff Attenuation Volume = 5.84 ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1 inch of rainfall (V_1) = 0.91 ac-ft

PRE-DEVELOPMENT

Impervious Area = 1.48
Pervious Area = 9.44
Total Area = 10.92

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area = 10.92 ac
Weighted CN = 54.65

$S = (1000/CN)-10$
$= 8.298$ inches

25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$
$= 3.091$ inches

25-Year, 24-Hour Rainfall Volume for Project Area

$V = A * Q$
$= 2.81$ ac-ft
NRCS Runoff Attenuation Volume = 2.81 ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1 inch of rainfall (V_1) = 0.91 ac-ft

---

POST Total Sub-Basin Runoff Attenuation Volume = 5.84 ac-ft
= 254194.71 ft^3
POST Total Sub-Basin Water Quality Treatment Storage Volume = 0.91 ac-ft
= 39639.60 ft^3

PRE Total Sub-Basin Runoff Attenuation Volume = 2.81 ac-ft
= 122517.93 ft^3
PRE Total Sub-Basin Water Quality Treatment Storage Volume = 0.91 ac-ft
= 39639.60 ft^3

NRCS Runoff Attenuation Volume =	**3.02 ac-ft**
Water Quality Treatment Volume =	**0.91 ac-ft**
TOTAL REQUIRED POND VOLUME =	**3.93 ac-ft**

WET RETENTION POND

POND 3-10

Stage	Area (ft2)	Area (ac)	Incremental Volume (ac-ft)	Cumulative Volume (ac-ft)
107.00	38360.94	0.88	0.00	0.00
108.00	42367.80	0.97	0.93	0.93
109.00	46502.65	1.07	1.02	1.95
110.00	50765.51	1.17	1.12	3.06
111.00	55156.37	1.27	1.22	4.28
112.00	59675.23	1.37	1.32	5.60

Treatment stage = 110.92

(Note: 20-ft maintenance berm, 4:1 slopes)

Pond Footprint = 1.93 ac
Excess volume (for FPC) = 0.35 ac-ft (ALLOWS 1 FT. FREEBOARD)

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SUB-BASIN 3-9

POST-DEVELOPMENT

Impervious Area = 6.32
Pervious Area = 2.84
Total Area = 9.16

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area = 9.16 ac
Weighted CN = 79.71

S = (1000/CN)-10
= 2.545 inches

25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$
= 6.060 inches

25-Year, 24-Hour Rainfall Volume for Project Area

V = A * Q
= 4.63 ac-ft
NRCS Runoff Attenuation Volume = 4.63 ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1/2 inch of rainfall (V_1) = 0.38 ac-ft

PRE-DEVELOPMENT

Impervious Area = 3.30
Pervious Area = 5.86
Total Area = 9.16

Rainfall Event (from SWFWMD)

25-year, 24-hour rainfall depth (P) = 8.5 inches

NRCS Runoff Volume

Project Area = 9.16 ac
Weighted CN = 60.26

S = (1000/CN)-10
= 6.595 inches

25yr, 24 hr Runoff Depth (Q) = $(P-0.2S)^2 / (P+0.8S)$
= 3.743 inches

25-Year, 24-Hour Rainfall Volume for Project Area

V = A * Q
= 2.86 ac-ft
NRCS Runoff Attenuation Volume = 2.86 ac-ft

Water Quality Treatment Volume

Water Quality Volume, first 1/2 inch of rainfall (V_1) = 0.38 ac-ft

---

POST Total Sub-Basin Runoff Attenuation Volume = 4.63 ac-ft
= 201512.73 ft^3
POST Total Sub-Basin Water Quality Treatment Storage Volume = 0.38 ac-ft
= 16625.40 ft^3

PRE Total Sub-Basin Runoff Attenuation Volume = 2.86 ac-ft
= 124468.91 ft^3
PRE Total Sub-Basin Water Quality Treatment Storage Volume = 0.38 ac-ft
= 16625.40 ft^3

NRCS Runoff Attenuation Volume =	**1.77 ac-ft**
Water Quality Treatment Volume =	**0.38 ac-ft**
TOTAL REQUIRED POND VOLUME =	**2.15 ac-ft**

DRY DETENTION PONDS

POND 3-11 (PASCO POND 4)

Stage	Area (ft2)	Area (ac)	Incremental Volume (ac-ft)	Cumulative Volume (ac-ft)
87.00	115402.79	2.65	0.00	0.00
88.00	121267.40	2.78	2.72	2.72
89.00	127249.15	2.92	2.85	5.57
90.00	133344.90	3.06	2.99	8.56
91.00	139551.24	3.20	3.13	11.69
92.00	145868.03	3.35	3.28	14.97
93.00	152295.25	3.50	3.42	18.39

POND 3-12 (PASCO POND 5)

Stage	Area (ft2)	Area (ac)	Incremental Volume (ac-ft)	Cumulative Volume (ac-ft)	Combined Volume (ac-ft)
93.00	25628.74	0.59	0.00	0.00	18.39
94.00	28421.27	0.65	0.62	0.62	19.01
95.00	31316.99	0.72	0.69	1.31	20.32
96.00	34315.91	0.79	0.75	2.06	22.38

Treatment stage = 87.79 (POND 3-11)

(Note: 20-ft maintenance berm, 4:1 slopes - Pond constructed per ERP No 44024796.000)

Pond 3-11 Footprint = 3.50 ac
Pond 3-12 Footprint = 0.79 ac
Excess volume (for FPC) = 20.23 ac-ft (COMBINED)