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WETLANDS EVALUATION
AND
BIOLOGICAL ASSESSMENT
MEMORANDUM

SR 674
PROJECT DEVELOPMENT AND ENVIRONMENT STUDY
from US 301 (SR 43) to CR 579
Hillsborough County, Florida

Work Program Item Segment Number: 422762 1

Prepared for:
Florida Department of Transportation
District Seven
11201 North McKinley Drive
Tampa, Florida 33612-6456

October 2008

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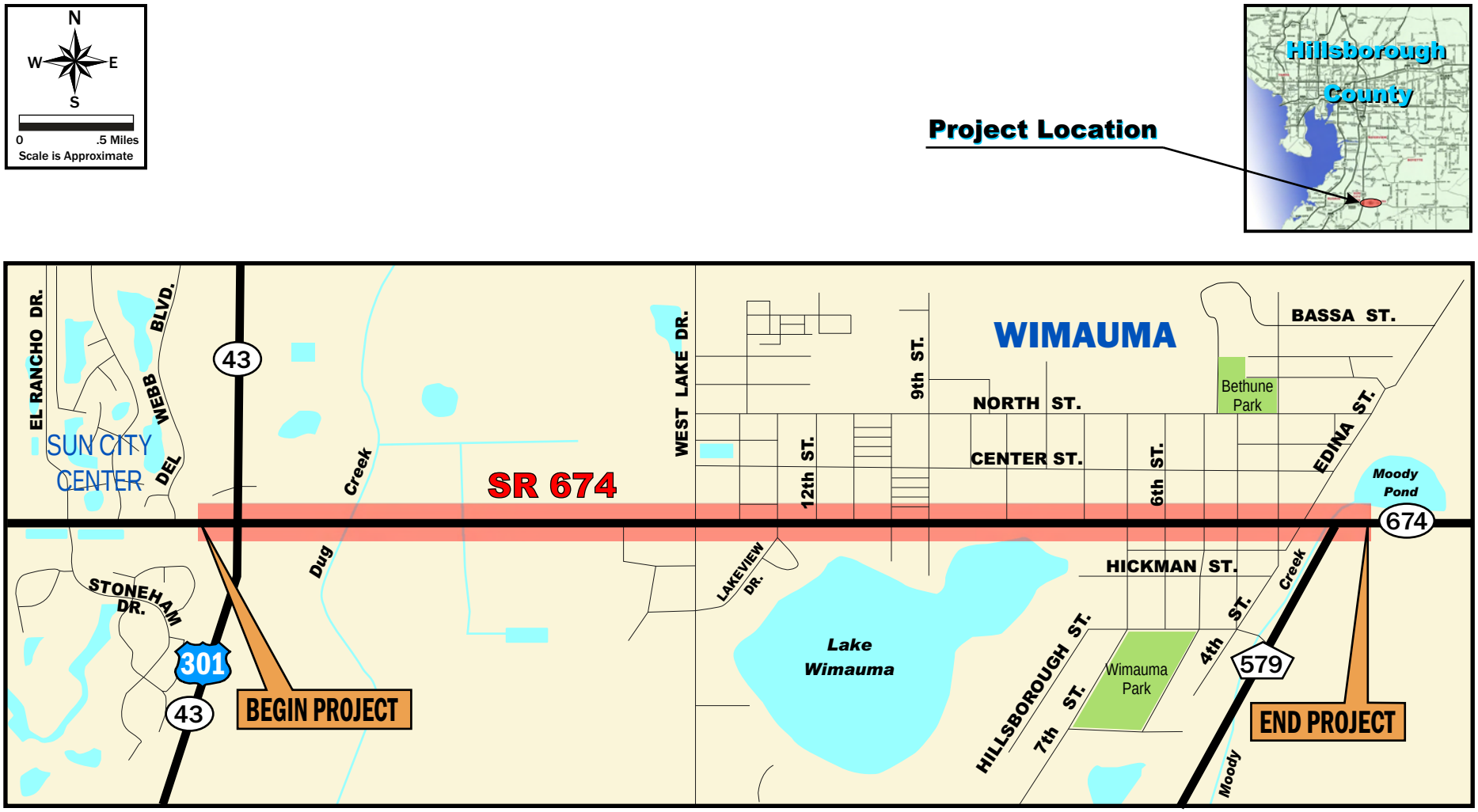
1.0 INTRODUCTION

The Florida Department of Transportation (Department) is conducting a Project Development and Environment (PD&E) study to evaluate improvements along the segment of State Road (SR) 674 that extends from US Highway (US) 301 (SR 43) to County Road (CR) 579, in Hillsborough County, Florida. The length of this segment is approximately 2.4 miles. The level of environmental documentation for this study is a State Environmental Impact Report (SEIR). The design year for the improvements is Year 2030. **Exhibit 1-1** illustrates the location and limits of this project.

1.1 PURPOSE

The objective of this PD&E Study is to document the engineering and environmental analyses that were performed for this project so that the Department can reach a decision on the type, location, and conceptual design of the necessary improvements of SR 674 to accommodate future traffic demand in a safe and efficient manner. This study documents the need for the improvements as well as the procedures utilized to develop and evaluate various improvement alternatives. Information related to the engineering and environmental characteristics, which are essential for the alternatives analysis, was collected. Design criteria were established and preliminary alternatives were developed. The comparison of alternatives was based on a variety of parameters utilizing a matrix format. This process identified the alternative that would have minimal impacts, while providing the necessary improvements.

This *Wetland Evaluation and Biological Assessment Memorandum* is one in a series of reports being prepared as part of this PD&E Study. The objectives of this document are to evaluate the potential effects of the project improvements on the existing wetlands and federal- and state-listed threatened and endangered species in the study area and to identify available avoidance, minimization, mitigation, and/or compensation measures to address these effects.



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From US 301 (SR 43) to CR 579

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Project Location Map

Exhibit 1-1

1.2 PROJECT DESCRIPTION

State Road (SR) 674 is an east-west route in southern Hillsborough County connecting the communities of Ruskin, Sun City Center, Wimauma, and Ft. Lonesome. Along its path, SR 674 intersects with four major north-south routes: US 41 (SR 45), I-75 (SR 93A), US 301 (SR 43), and CR 579.

The study area of this project falls within Sections 7, 8, 9, and 10 of Township 32 South, Range 20 East. It includes the community of Wimauma and is located east of the community of Sun City Center in Hillsborough County. Currently, within the project limits, SR 674 is predominantly a two-lane, undivided rural roadway and transitions to a four-lane divided rural roadway as it approaches US 301 (SR 43). The posted speed limit varies from 40 to 45 miles per hour (mph). Its right of way width varies from 80 to 100 feet, with the exception of the 2,600-foot-long segment immediately east of US 301 (SR 43) where the right of way is 180 feet wide. **Exhibit 1-2** depicts the existing typical section of SR 674.

Within the limits of the study area, SR 674 is functionally classified by the Department as an *urban minor arterial* and is also designated as a *hurricane evacuation route*. The acceptable level of service (LOS) for this facility is LOS D or better.

1.3 NEED FOR THE PROJECT

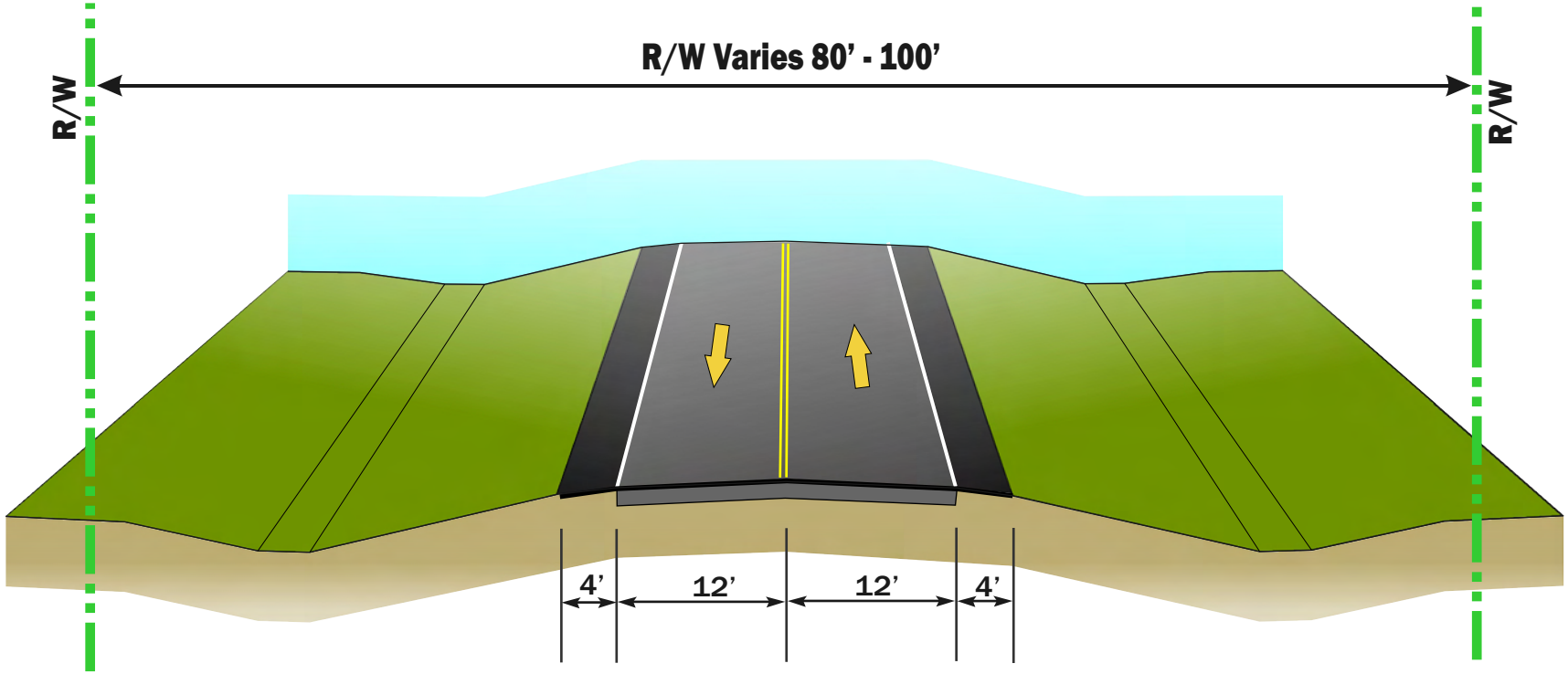
SR 674 provides access to the Sun City Center area which has been steadily growing over the past 15 years causing traffic demand on this corridor to continually grow as well. The current average annual daily traffic (AADT) volumes along SR 674 in the study area, ranging from 8,600 vehicles per day (vpd) in Wimauma (east of West Lake Drive) to 12,200 vpd east of US 301 (SR 43), exceed the capacity of the two-lane roadway resulting in peak hour levels of service E.

According to the *Final Corridor Management Report*, prepared by the Department on SR 674 in August 2006, traffic volumes along this corridor should be expected to drastically grow over the next 25 years. By the design year 2030, the AADT volumes in the study area should be expected to range from 17,800 vpd in Wimauma (106% growth) to 41,700

vpd just east of US 301 (SR 43) (241% growth). Without improvements, the peak hour levels of service should be expected to further deteriorate to LOS F along the segment of SR 674 that extends between US 301 (SR 43) and West Lake Drive.

To accommodate the projected transportation demand along the study segment of SR 674 at an acceptable LOS D or better, the *Final Corridor Management Report* recommended that SR 674 would need to be widened to a four-lane facility throughout the study area with the exception of the segment between US 301 (SR 43) and West Lake Drive that would need to be widened to six lanes.

Review of the Department's crash records also revealed a steady increase in the numbers of crashes and crash rates, annually from 2001 to 2005. In addition, the average crash rates along this segment of SR 674 significantly exceeded the statewide average rate for a similar facility, for all years studied. After further study, causes that could potentially contribute to the high crash rates – such as poor weather conditions, poor lighting or sight distance conditions, driving under the influence, and substandard geometry – were eliminated as being the major factors, pointing to the increasing congestion as the most probable cause.



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Existing Typical Section of SR 674

Exhibit 1-2

1.4 STUDY ALTERNATIVES

Three alternatives were considered for the design year 2030 conditions of SR 674: the No-Build alternative, the Transportation System Management alternative, and the Build alternatives. The alternative to develop another parallel corridor – either existing or new corridor – was eliminated as a viable alternative because there are not any existing parallel corridors in the vicinity of SR 674 and the development of a new corridor would involve significant environmental and socio-cultural effects and costs.

1.4.1 No-Build Alternative

The No-Build Alternative assumes that no action will be taken to widen SR 674 within the limits of this study. The advantages of the No-Build alternative include:

- No right of way acquisition,
- No relocations,
- No construction costs,
- No inconveniences to the motoring public due to construction,
- No inconveniences to the adjacent property owners due to construction, and
- No degradation or disruption of natural and other environmental resources.

The disadvantages of the No-Build alternative include the following:

- The LOS D standard for SR 674 will not be met.
- SR 674 will become increasingly congested resulting in increased delays and road user costs.
- Air quality will deteriorate due to the traffic congestion.
- The function of SR 674 as an evacuation route will be impaired.

1.4.2 Transportation System Management Alternative

Transportation System Management (TSM) measures – such as minor intersection improvements, increased turn lane storage, implementation of Intelligent Transportation Systems (ITS), and improvement of existing lane configuration marking and signalization sequencing – were also considered as a means for improving operations at the

intersections of SR 674 with US 301 (SR 43), West Lake Drive, and CR 579 and thus avoiding costly widenings and extensive effects. These types of improvements, even though they would help improve operations at these locations, would be inadequate to handle the expected traffic congestion along SR 674.

1.4.3 Build Alternatives

1.4.3.1 Project Segments and Alternative Typical Sections

Based on review of the design year 2030 traffic volumes, the recommendations of the *Final Corridor Management Report,*[1] the adjacent land uses, and the existing right of way widths along SR 674, typical sections were proposed for each project segment, as follows:

- Segment 1 - From US 301 (SR 43) to West Lake Drive: To meet the design year traffic demands, this segment would be widened to provide a six-lane urban typical section (three travel lanes in each direction). This typical section includes bicycle lanes and sidewalks on both sides and requires, at a minimum, 126 feet of right of way. **Exhibit 1-3** depicts the proposed typical section for this segment. To accommodate this typical section, an additional 26 feet of right of way would be needed along SR 674 from a point 2,600 feet east of US 301 (SR 43) – where the existing right of way narrows from 180 feet to 100 feet – to West Lake Drive.

  Segment 2 - From West Lake Drive to 7th Street: The right of way along this segment is limited to 80 feet. However, most buildings along this segment are set back allowing adequate space for widening with minimal potential relocations. This segment would be widened to provide a four-lane urban typical section (two travel lanes in each direction). This typical section includes bicycle lanes and sidewalks on both sides and requires, at a minimum, 102 feet of right of way. **Exhibit 1-4** depicts the proposed typical section for this segment. To accommodate this typical section, an additional 22 feet of right of way would be needed along SR 674.
- Segment 3 – from 7th Street to Edina Street: The right of way along this segment is limited to 80 feet and most buildings along this segment are close to the roadway, allowing minimal space for widening. For this reason, in addition to the

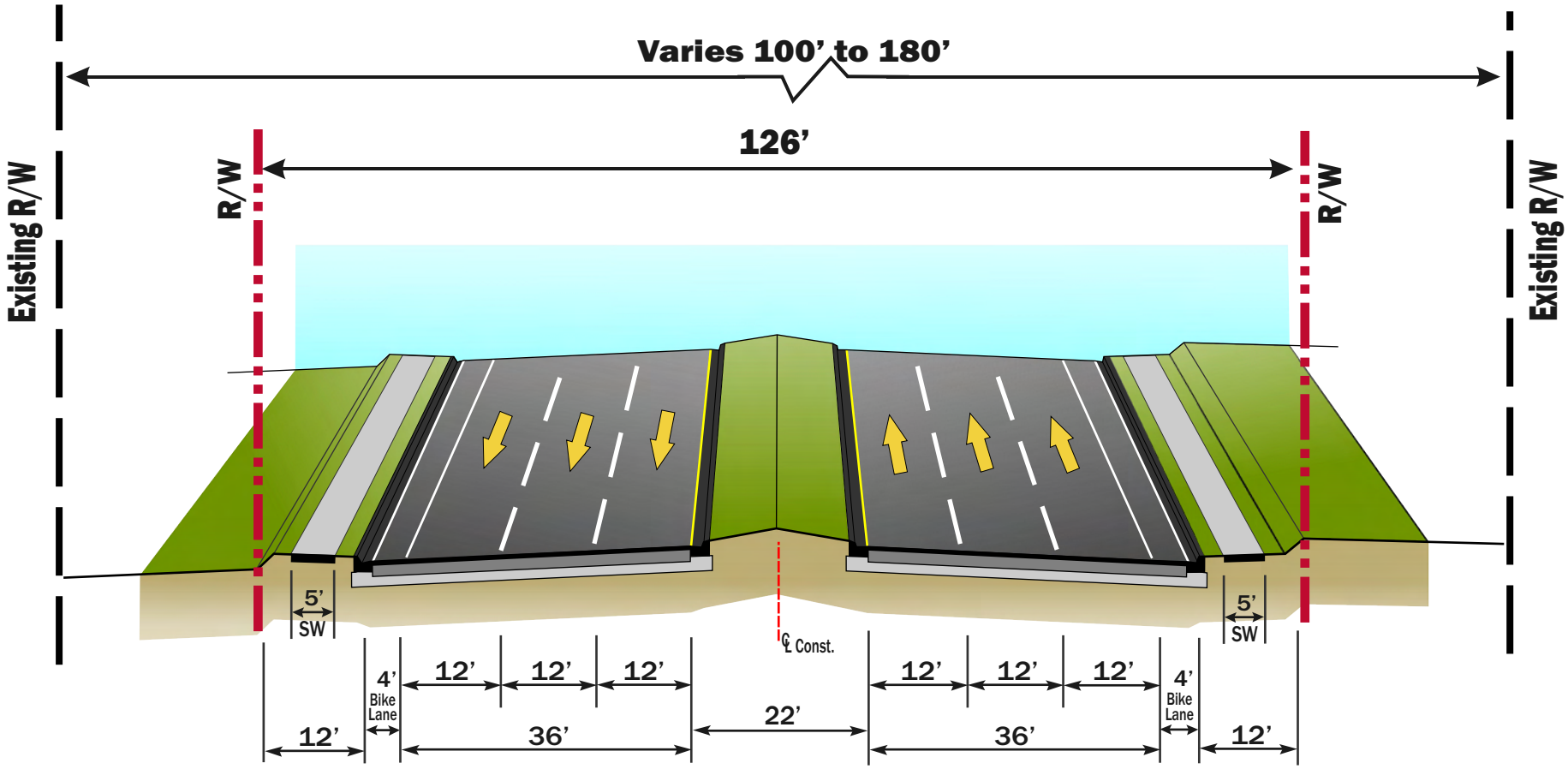
four-lane urban typical section depicted on **Exhibit 1-4**, a "constrained" four-lane urban typical section (two travel lanes in each direction) was also considered for this segment, requiring 92.5 feet of right of way (12.5 feet additional right of way). This typical section also includes bicycle lanes and sidewalks on both sides. **Exhibit 1-5** depicts the "constrained" typical section being considered for this segment.

- Segment 4 – from Edina Street to east of CR 579: The right of way along this segment is 100 feet. This segment would be widened to provide a four-lane urban typical section (two travel lanes in each direction). This typical section includes bicycle lanes and sidewalks on both sides and requires, at a minimum, 102 feet of right of way. **Exhibit 1-4,** previously presented, depicts the proposed typical section for this segment. To accommodate this typical section, an additional 2 feet of right of way would be needed along SR 674.

  To avoid the right of way acquisition of the additional 2 feet, in addition to the above described typical section, a four-lane urban typical section that utilizes the existing 100-foot wide right of way was also considered for this segment. **Exhibit 1-6** depicts this typical section.

Short-term improvements are planned for the segment of SR 674 between US 301 (SR 43) and West Lake Drive to accommodate the additional traffic demand that will be generated from the Valencia Homes, Sunshine Village, and Westlake Village developments. These interim improvements, referred to in this study as Phase I improvements, are expected to occur by 2010 and involve the widening of SR 674 to provide a four-lane urban typical section (two travel lanes in each direction) including bicycle lanes and sidewalks. The widening of SR 674 will take place within the existing right of way. **Exhibit 1-7** depicts the proposed typical section of SR 674 for these improvements.

Segment 1 - From US 301 to West Lake Drive



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Proposed Six-Lane
Urban Typical Section for SR 674

Exhibit 1-3

1.4.3.2 Project Alignments

For evaluation of effects and selection of the recommended improvement alternative, north, centered, and south improvement alignments were developed for each of the segments described above, as follows:

- The north alignment for a specific segment would consist of keeping the existing right of way line on the south side of SR 674 unchanged and shifting the northern right of way line further to the north by acquiring the additional right of way entirely along the north side.
- The centered alignment for a specific segment would consist of splitting the required additional right of way along both sides of SR 674.
- The south alignment for a specific segment would consist of keeping the existing right of way line on the north side of SR 674 unchanged and shifting the southern right of way line further to the south by acquiring the additional right of way entirely along the south side.

After the development of the three alignment alternatives for each segment, numerous alignment alternatives were generated for the entire project by combining the alignments of successive segments.

1.4.4 Recommended Alternative

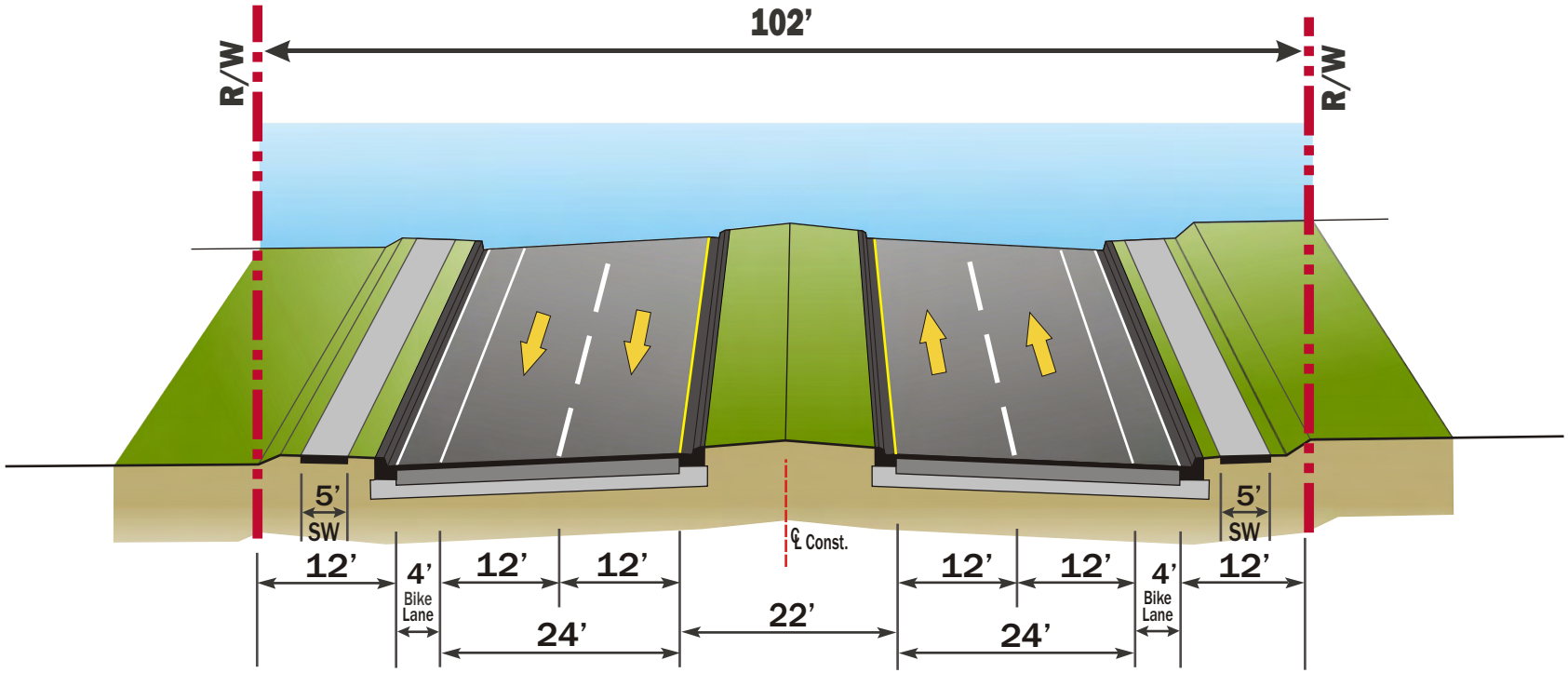
The "recommended" alternative selected for this project was based on an analysis of existing and projected future traffic volumes, the evaluation of alternatives discussed in **Section 1.4.2**, and input collected from the various project stakeholders through the Public Involvement Program efforts. A brief description of the improvements included in the "recommended" alternative follows below. Additional detailed information regarding the proposed improvements is provided in subsequent sections.

From US 301 (SR 43) to West Lake Drive, SR 674 will be widened to the north. From West Lake Drive to 7th Street, SR 674 will be widened to the south, and from 7th Street to the end of the project at CR 579, SR 674 will be widened to the north.

The six-lane urban typical section is proposed for the segment from US 301 (SR 43) to West Lake Drive (refer to **Exhibit 1-3**). It provides three 12-foot-wide travel lanes in each direction, a 22-foot-wide median and bicycle lanes and sidewalks on both sides, and would require 126 feet of right of way. The four-lane urban typical section is proposed for the remainder of the project from West Lake Drive to CR 579 (refer to **Exhibit 1-4**). It provides two 12-foot-wide travel lanes in each direction, a 22-foot-wide median and bicycle lanes and sidewalks on both sides and would require 102 feet of right of way.

Based on a review of the land uses in the study corridor as well as the length and the geographic features of the project, the project has been divided into two (2) construction segments: Segment 1 from west of US 301 (SR 43) to West Lake Drive; and Segment 2 from West Lake Drive to east of CR 579.

Segments 2, 3 & 4 - From West Lake Drive to CR 579



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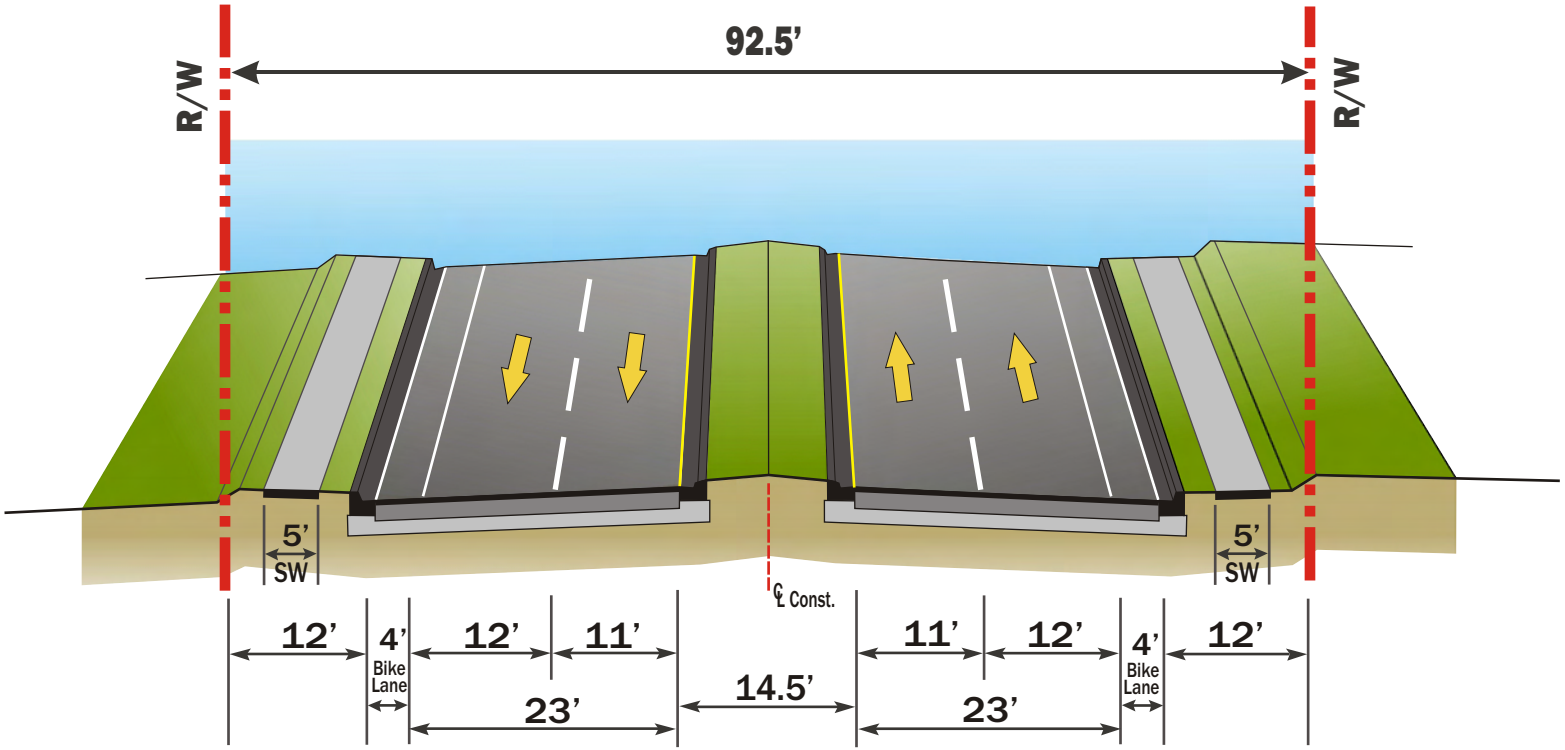
Proposed Four-Lane
Urban Typical Section for SR 674
102 Feet of Right-of-Way

Exhibit 1-4

Segment 3 - From 7th Street to Edina Street



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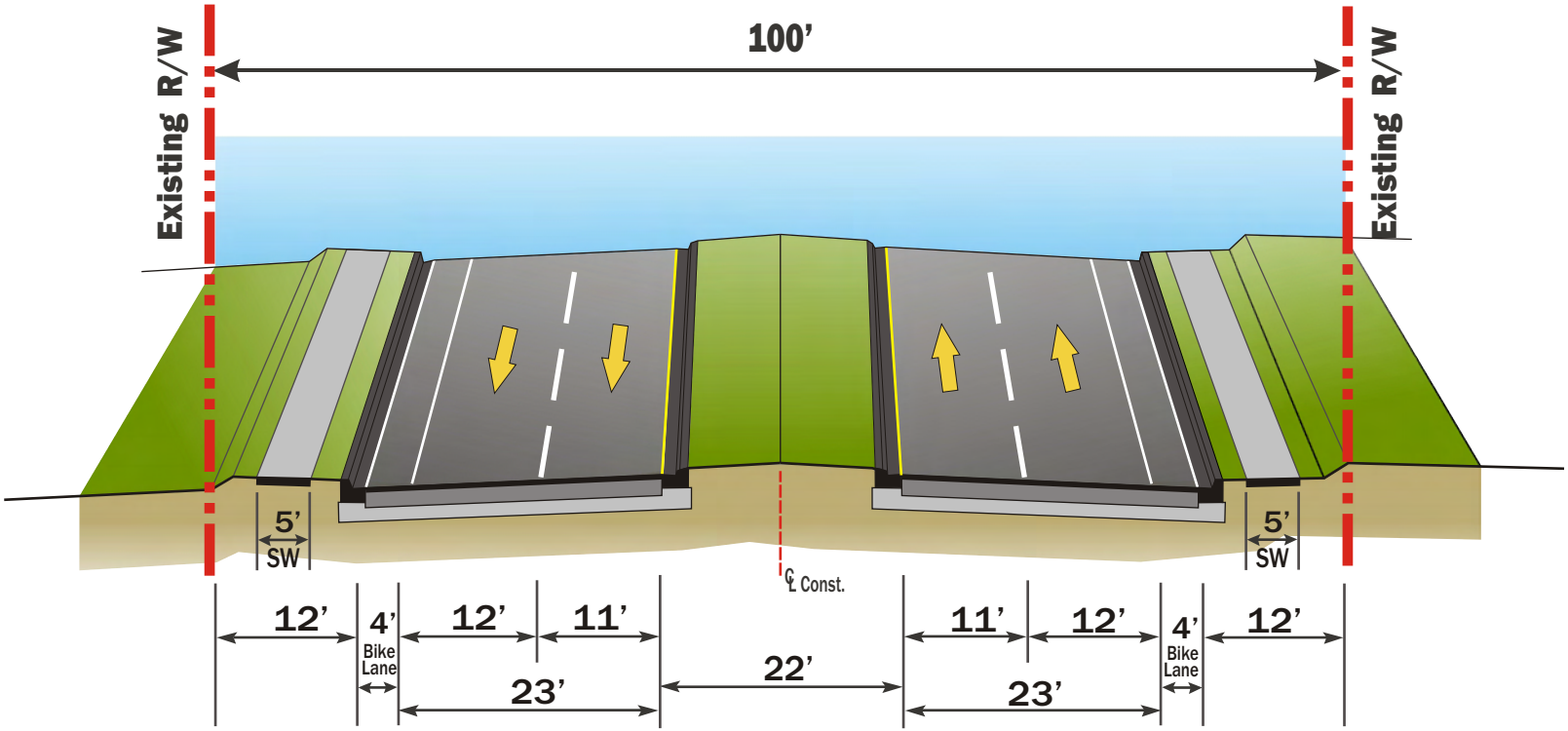
Proposed “Constrained” Four-Lane Urban Typical Section for SR 674 92.5 Feet of Right-of-Way

Exhibit 1-5

Segment 4 - From Edina Street to CR 579



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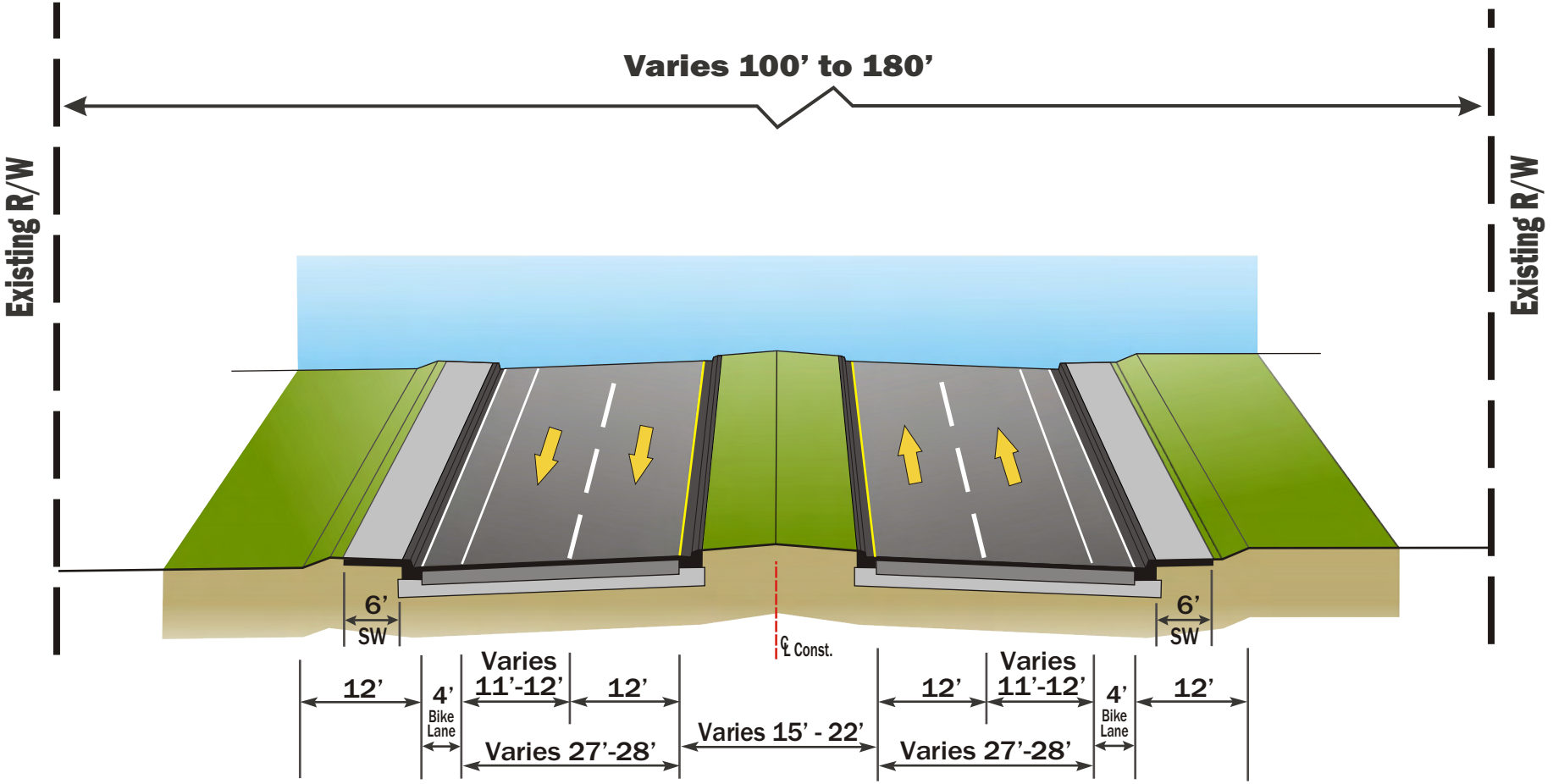
Proposed Four-Lane
Urban Typical Section for SR 674
100 Feet of Right-of-Way

Exhibit 1-6

Segment 1 - From US 301 to West Lake Drive



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From US 301 (SR 43) to CR 579

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Proposed Four-Lane Urban Typical Section for Phase 1 Improvements of SR 674 100 Feet of Right-of-Way

Exhibit 1-7

2.0 STORMWATER MANAGEMENT

The drainage system for the planned SR 674 improvements will be designed in accordance with standards contained in the Department's Drainage Manual, including Chapter 14-86, and SWFWMD criteria for open or closed basins, as applicable. Stormwater treatment and attenuation is anticipated to be accomplished through the use of detention/retention ponds and swales in accordance with SWFWMD/Florida Department of Environmental Protection (FDEP) Environmental Resource Permit (ERP) rules (Chapters 40D-1, 40D-4, 40D-40, 40D-41, and 40D-400, F.A.C.). The applicable type of stormwater management facility is generally dependent upon topographic constraints, seasonal high water table depth, and soil types and permeability encountered.

3.0 EXISTING ENVIRONMENTAL CONDITIONS

The project occurs in the Little Manatee River watershed and more locally in the Dug Creek basin which is located in the Gulf Coastal Lowlands physiographic province. The watershed lies within the southern groundwater basin, and contains three distinct aquifer systems: the surficial, intermediate, and Floridan. In the Little Manatee River watershed, the intermediate aquifer serves as a locally important potable water source for domestic wells. The Little Manatee River watershed extends over the southern part of Hillsborough County and the northern portion of Manatee County. The watershed incorporates the City of Palmetto and communities of Parrish, Ruskin, Sun City, Wimauma and Terra Ceia. Other features of interest include Lake Wimauma, Lake Parrish, the Little Manatee River State Recreation Area and the Cockroach Bay Aquatic Preserve.

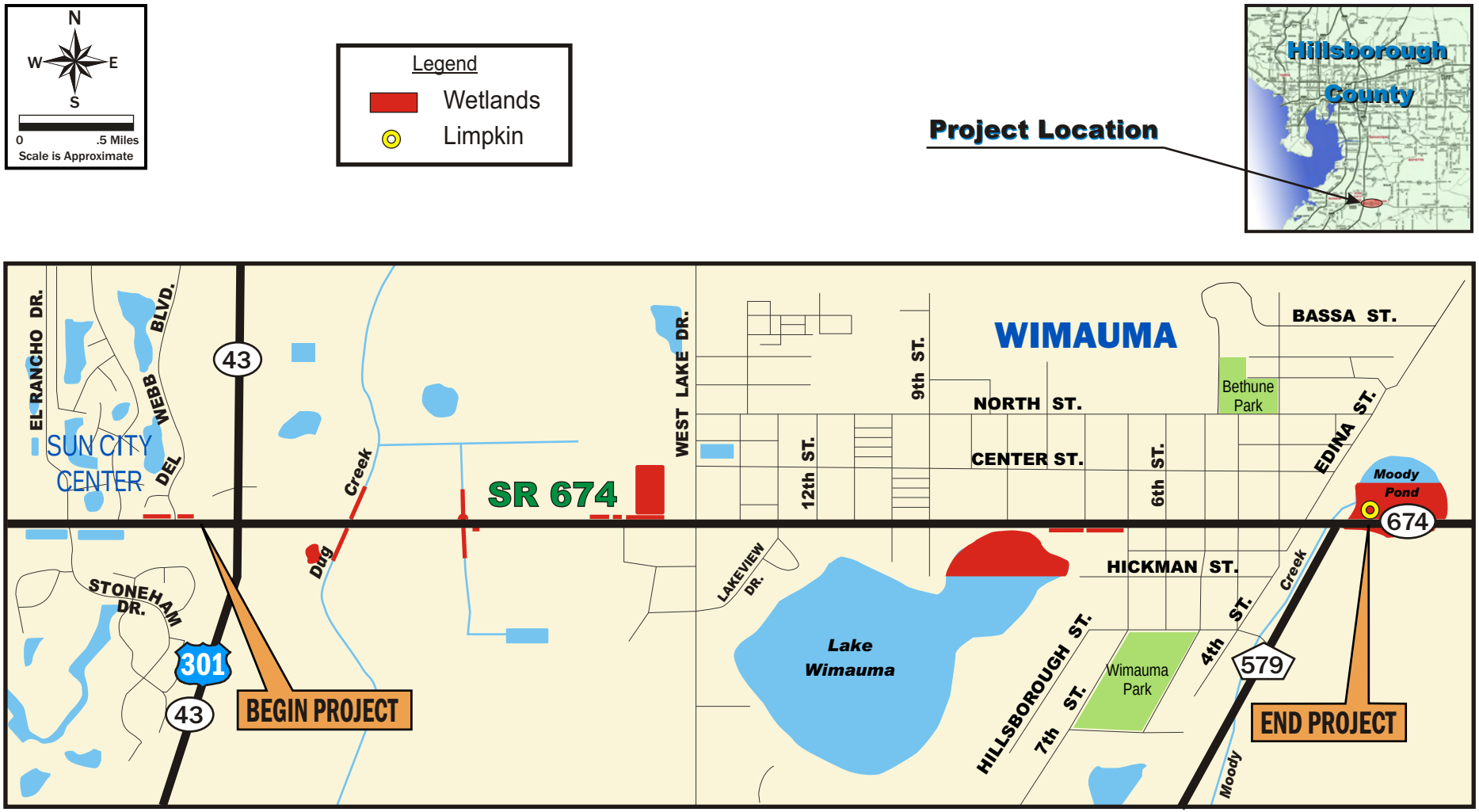
4.0 WETLANDS

In accordance with Part 2, Chapter 18, of the Department's *PD&E Manual*, a study was conducted to identify, delineate, analyze, and evaluate potential wetland impacts; to assess the function and value of the wetlands involved; and, to recommend mitigation measures associated with these impacts. All existing wetlands within 300 feet on either side of the right of way were inventoried using the USFWS National Wetland Inventory Maps; the United States Geological Survey (USGS) Quadrangle Maps; the National Resource Conservation Service Soil Surveys for Hillsborough County; the SWFWMD Land Use Maps; USFWS Classification of Wetlands and Deepwater Habitats of the United States; Geographic Information System (GIS) data bases; aerial photography; and ground-truthing. Wetland locations and boundaries were identified and delineated in the Fall of 2006. **Appendix A** provides aerial photos depicting the wetland areas. The locations of the existing wetlands in the study area are shown in **Exhibit 4-1**.

4.1 VEGETATIVE COMMUNITIES

The natural communities in the study area that have not been lost to commercial and residential development, are highly fragmented and disturbed, and are under threat of development. The plant communities are differentiated between upland and wetland communities. These include two upland categories and four wetland categories.

The upland and wetland communities were grouped and classified according to the Florida Land Use, Cover and Forms Classification System (FLUCFCS) and in accordance with U.S. Fish and Wildlife Service (USFWS) "Classification of Wetlands and Deepwater Habitats of the United States" (Cowardin, et al., 1979). Descriptions of these communities are provided in the next sections.



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Wetlands and Observed Listed Species

Exhibit 4-1

4.1.1 Upland Communities

4.1.1.1 Pine Flatwoods

The pine flatwoods in the study area are highly degraded due to harvesting of the mature pine trees and the lack of fire management which has allowed for the saw palmetto (*Serenoa repens*) to become the dominant plant species. Other species present include sand live oak (*Quercus virginiana* var. *geminata*), wiregrass (*Aristida stricta*), yellow eyed grass (*xyris* sp.), long leaf pine (*Pinus palustris*), and muscadine grape (*Vitis rotundifolia*). The FLUCFCS code is 411.

4.1.1.2 Improved Pasture

This category is composed of land that has been cleared, tilled, re-seeded with specific grass types such as bahia grass (*Paspalum notatum*) and periodically improved with brush control. Dog fennel (*Eupatorium capillifolium*) is also present in the improved pasture along this project corridor. The FLUCFCS Code is 211.

4.1.2 Wetland Communities

4.1.2.1 Freshwater Marsh

There is only one freshwater marsh along the project and it is across SR 674 from Moody Lake and was probably part of the lake at one time. The hydrology is controlled by seasonal rain events. The marsh is small and does not have a very diverse vegetative mix. Species include water primrose (*Ludwigia peruviana*) and panic grass (*Panicum* sp.). The FLUCFCS Code is 641. The National Wetlands Inventory Classification is Palustrine Emergent (PEM).

4.1.2.2 Forested Wetland

This community has a variety of hardwood species adapted to life in wet environments and has water regimes that are mostly controlled by seasonal rain events. One forested wetland can be found along this project. The species include laurel oak (*Quercus laurifolia*), sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), and cinnamon fern (*Osmunda cinnamomea*). The FLUCFCS Code is 610. The National Wetlands Inventory Classification is Palustrine Forested (PFO).

4.1.2.3 Riverine

There is one small stream along the project, Dug Creek, and it crosses SR 674 via a culvert. On the north side of the road, the vegetation is dominated by water primrose (*Ludwigia peruviana*). On the south side of the road, there is some Carolina willow (*Salix caroliniana*) and Brazilian pepper (*Schinus terebinthifolius*). The FLUCFCS Code is 510. The National Wetlands Inventory Classification is Palustrine Unconsolidated Bottom (PUB).

4.1.2.4 Lakes and Ponds

There are two lakes whose littoral zones are within the confines of this project, Moody Lake and Lake Wimauma. Vegetation that can be found here includes water primrose (*Ludwigia peruviana*), Carolina willow (*Salix caroliniana*), American lotus (*Nelumbo lutea*) and water lilly (*Nymphae* sp.). The FLUCFCS Code is 641. The National Wetlands Inventory Classification is Lacustrine Emergent (LEM).

4.1.2.5 Man Made (Swale)

This community is associated with stormwater management facilities currently in place to serve the roadway. It includes swales and ditches. The vegetation in these areas mostly resembles the emergent vegetation found in freshwater marshes such as water primrose (*Ludwigia peruviana*) and pennywort (*Hydrocotyl* sp.). The FLUCFCS Code is 641/510x. The National Wetlands Inventory Classifications are Palustrine Emergent excavated (PEMx) and Palustrine Unconsolidated Bottom (PUB).

4.2 WETLAND EFFECTS

A total of five (5) aquatic features (excluding swales and ditches) have been identified along the project corridor with the potential to be affected by the proposed improvements. All wetlands anticipated to be affected by the project have been grouped and classified according to the USFWS's Classification of Wetlands and Deepwater Habitats of the United States and the Florida Land Use/Cover and Forms Classification System.

4.3 PROPOSED CONDITIONS

Three alignments were proposed for this project. One alignment goes to the north, one alignment goes to the south, while the third alignment is centrally located. The recommended alternative is the combination of the north alignment in Segment 1, the south alignment in Segment 2, the north alignment in Segment 3, and the north alignment in Segment 4. Areas for stormwater management facilities (SMF's) will be determined during the design phase for this project. The potential for impacts to the natural environment in the SMF's will be assessed at that time. **Table 4-1** quantifies the anticipated wetland effects for each project segment and alignment. All effects will be mitigated.

Table 4-1 - Wetland Effects by Wetland Type

Segment Number	Wetland Type	NWI	FLUCFCS	Affected Wetland Area by Alignment (acres)			
				North	Center	South	Recommended
Segment 1	Freshwater Marsh	PEM	641	0.00	0.00	0.00	0.00
	Forested Wetland	PFO	610	0.20	0.09	0.01	0.01
	Stream	PUB	510	0.02	0.02	0.02	0.02
	Man-Made Swale & Ditch	PEMx/ PUB	641/510x	0.38	0.38	0.38	0.38
	Lakes & Ponds	LEM	641	0.00	0.00	0.00	0.00
	Total			**0.60**	**0.49**	**0.41**	**0.60**
Segment 2	Freshwater Marsh	PEM	641	0.00	0.00	0.00	0.00
	Forested Wetland	PFO	610	0.00	0.00	0.00	0.00
	Stream	PUB	510	0.00	0.00	0.00	0.00
	Man-Made Swale & Ditch	PEMx/ PUB	641/510x	0.22	0.22	0.22	0.22
	Lakes & Ponds	LEM	641	0.00	0.00	0.00	0.00
	Total			**0.22**	**0.22**	**0.22**	**0.22**
Segment 3	Freshwater Marsh	PEM	641	0.00	0.00	0.00	0.00
	Forested Wetland	PFO	610	0.00	0.00	0.00	0.00
	Stream	PUB	510	0.00	0.00	0.00	0.00
	Man-Made Swale & Ditch	PEMx/ PUB	641/510x	0.00	0.00	0.00	0.00
	Lakes & Ponds	LEM	641	0.00	0.00	0.00	0.00
	Total			**0.00**	**0.00**	**0.00**	**0.00**
Segment 4	Freshwater Marsh	PEM	641	0.12	0.35	0.54	0.12
	Forested Wetland	PFO	610	0.00	0.00	0.00	0.00
	Stream	PUB	510	0.00	0.00	0.00	0.00
	Man-Made Swale & Ditch	PEMx/ PUB	641/510x	0.00	0.00	0.00	0.00
	Lakes & Ponds	LEM	641	0.34	0.32	0.32	0.34
			Total	**0.46**	**0.67**	**0.86**	**0.46**
			Grand Total	**1.28**	**1.38**	**1.49**	**1.28**

4.4 FUNCTIONAL ANALYSIS

The Uniform Mitigation Assessment Method (UMAM) analyses were conducted to assess wetland functions and values for the representative wetlands within the study corridor. The final rating is expressed numerically with a number between 0 and 1, with 1 representing the highest quality wetland; 0 reflecting low quality.

Four UMAMs were performed on representative wetland types. Scores reflect current conditions only. The scores were 0.6 for the stream, 0.7 for the lake, 0.3 for the freshwater marsh, and 0.3 for the forested wetland. The UMAM data sheets are included in **Appendix B**.

4.5 COORDINATION WITH THE PERMITTING AGENCIES

Environmental permits will be required from the following agencies:

- U.S. Army Corps of Engineers (ACOE) – Dredge and Fill Permit
- Southwest Florida Water Management District (SWFWMD) – Environmental Resource Permit
- Florida Department of Environmental Protection (FDEP) – Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) Permit

4.6 WETLAND EFFECTS MITIGATION

There are no practical alternatives to this construction in the wetlands. All practicable measures will be used to reduce harm to wetlands. Short term construction related effects will be minimized by the adherence to the Department's "*Standard Specifications for Road and Bridge Construction*".

There are several options available for the Department to compensate for the anticipated wetland effects. The Department may participate in a public or private mitigation bank provided wetland credits are available for use on this project during the permitting and final design phase. Another option would be to create, restore, enhance, or preserve wetlands in the project's watershed. Depending on the type or combination of types employed, the offsetting ratios will vary considerably. Adhering to SWFWMD's

Environmental Resource Permitting Information Manual, mitigation ratio guidelines will be 2:1 to 5:1 (created/restored) for forested effects and 1.5:1 to 4:1 for non-forested effects. The estimated ratio for enhancement will range from 4:1 to 20:1 and the ratio for wetland preservation will be in the range of 10:1 to 60:1.

Another option available to the Department would be to utilize Chapter 373.4137 of the Florida Statutes. This legislation allows the Department to offset wetland effects with a monetary payment through the FDEP to the SWFWMD. The SWFWMD will then provide a regional wetland mitigation plan on an annual basis to be approved by the Florida State Legislature, which will include mitigation for specific Department project effects.

The above options will be explored and utilized during the permitting negotiations of the final design phase.

4.7 ESSENTIAL FISH HABITAT

There is no Essential Fish Habitat associated with this project.

4.8 OUTSTANDING FLORIDA WATERS

This project occurs in the watershed of the Little Manatee River which is classified as an *Outstanding Florida Water* (OFW) under Section 62-302.700(9), F.A.C. This designation indicates that a higher than usual emphasis will be placed on the treatment standards of stormwater runoff from the out-falling stormwater management facilities, in accordance with the requirements set forth by the FDEP and the SWFWMD. No direct stormwater discharge to the Little Manatee River should be expected from the stormwater management facilities.

5.0 WILDLIFE AND HABITAT

Suitable habitat for federally listed species was investigated for presence or absence by a qualified biologist. Surveys were conducted in each identified habitat type in the study area for species known to occur or utilize the classified habitats. These surveys were performed in the Fall of 2006. In addition, random surveys were performed along the corridor throughout the duration of the study to obtain data on resident and transient species.

This section of SR 674 traverses primarily through a suburban area with some agricultural land use towards the eastern end of the project. In general, suburban and agricultural areas greatly reduce food and cover opportunities for wildlife, especially upland dependent species. The two lakes (Lake Wimauma and Moody Lake) provide habitat for a variety of wading birds that are protected by the state and federal governments.

5.1 THREATENED AND ENDANGERED SPECIES

The degraded quality of the upland habitats along this project diminishes the probability of finding listed species; however, this does not preclude their existence. The species described in the following sections were either observed by project biologists, have historic occurrences in the area as gleaned from the State's listed species database, or possibly occur because their preferred habitat is present. **Table 5-1** presents the state and federally-listed species with the potential to occur in the study area. **Exhibit 4-1**, presented previously, shows the listed species observed in the study area.

5.1.1 Federally Listed Species

No federally threatened or endangered floral species were observed or are known to occur within the project corridor. The entire corridor was surveyed on numerous occasions. Faunal species federally classified as threatened or endangered that are present or have the potential to be present include the wood stork (*Mycteria Americana*) and eastern indigo snake (*Drymarchon corais couperi*). The American bald eagle (*Haliaeetus leucocephalus)* was recently delisted by the USFWS. It should be noted that

the federally listed species are also listed by the State.

Table 5-1 - Federal and State Listed Species Possibly Occurring in the Study Area

SCIENTIFIC NAME	COMMON NAME	USFWS	FWC	OBSERVED
AVIAN				
Aramus guarauna	Limpkin		SSC	X
Mycteria americana	Wood stork	E	E	
Egretta caerulea	Little blue heron		SSC	
Egretta rufescens	Reddish egret		SSC	
Egretta thula	Snowy egret		SSC	
Egretta tricolor	Tricolored heron		SSC	
Eudocimus albus	White ibis		SSC	
Grus canadensis	Florida sandhill crane		T	
Haliaeetus leucocephalus	Bald Eagle		T	
REPTILES & AMPHIBIANS				
Drymarchon corais couperi	Eastern indigo snake	T	T	
Gopherus polyphemus	Gopher tortoise		SSC	
Alligator mississippiensis	American alligator	T (SA)	SSC	

USFWS - United States Fish and Wildlife Service
FWC - Florida Fish and Wildlife Conservation Commission
E – Endangered
T – Threatened
SA- Similarity of Appearance
SSC - Species of Special Concern

A description of the federally listed species with the potential to occur in the study area follows below:

- **Wood Stork:** The wood stork (*Mycteria Americana)* is primarily associated with freshwater and estuarine habitats for nesting, roosting, and foraging. Wood storks typically construct their nests in medium to tall trees that occur in stands located either in swamps or on islands surrounded by relatively broad expanses of open water.

  According to the Nesting Colony Foraging Areas with Buffers exhibit on the website www.fws.gov/northflorida, there are nesting colonies for the wood stork within 15 miles of this project.

  Suitable foraging habitat (SFH) for this species is available depending on the

existing water levels in ditches, swales, and other wetlands. Loss of SFH within the Core Foraging Area may reduce foraging opportunities for the wood stork. Wetland mitigation will replace any lost wetlands and the creation of wet stormwater management facilities may increase the amount of foraging areas available to this species in the project area.

Conclusion: May affect, but is not likely to adversely affect.

- **Eastern Indigo Snake:** The eastern indigo snake (*Drymarchon corais couperi)* is a large, black, non-venomous snake found in the southeastern United States. It is widely distributed throughout central and South Florida, but primarily occurs in sandhill habitats in northern Florida and southern Georgia.

  Although eastern indigo snakes in the project area could be unintentionally killed during construction, their secretive habits confound capture, so no effort would be made to relocate eastern indigo snakes prior to construction.

  Conclusion: May affect, but is not likely to adversely affect.

Note to reviewer: The American alligator is not discussed as it is recovered.

5.1.2 State Listed Species

A description of the state listed species with the potential to occur in the study area follows below:

- **Gopher Tortoise**: The gopher tortoise (*Gopherus polyphemus)* is a medium sized tortoise with a broad muscular head, short tail, and flattened, clawed forelimbs used for digging. A tortoise's diet consists of large amounts of grasses and leaves, fruits, and insects. Gopher tortoises live on well-drained, sandy soils generally in the ecotones between broad-leafed woodland and grasslands where they construct burrows. The burrow is also used for protection from fire and predation and is important habitat to many other species of wildlife, some that are wholly dependent on the gopher tortoise's burrow.

  No gopher tortoises or their burrows were observed during field surveys.

Conclusion: No effect.

- **American Bald Eagle:** The bald eagle (*Haliaeetus leucocephalus*) is a threatened species with a preferred habitat that is primarily riparian, either associated with the coast or with lake and river shores, usually nesting along open bodies of water where they feed. There are no known American bald eagle nests within a mile of this project. There is an historic occurrence of one individual in the vicinity of the project. Lake Wimauma is likely an attractive feeding area to resident individuals in the area.

  Conclusion: No effect.

- **Sandhill Crane:** Sandhill cranes (*Grus canadensis)* are gray or brown in color and the adults have a red crown. Florida populations of this species are nonmigratory and are found in Florida year round. Migrant cranes come from the Midwest to winter in Florida. Nesting takes place from January through June. Large nests are constructed in patches of marsh vegetation, such as pickerelweed and maidencane. Nests contain two large brown-spotted buff eggs. Sandhill cranes feed on a variety of plants and invertebrates. The Florida sandhill crane prefers wet prairies, marshy lake margins, sparsely vegetated marshes and shallow flooded open areas. It avoids forests and deep marshlands. This subspecies is listed as threatened by the FWC. The migratory species is not a listed species, but is conferred protection under the Migratory Bird Treaty Act.

  No sandhill cranes or their nests were observed during field surveys.

  Conclusion: No effect.

- **Other Wading Birds:** Other wading birds include the little blue heron (*Egretta ceulea*), snowy egret (*Egretta thula*), white ibis (*Eudocimus albus*), limpkin (*Aramus guarauna*), and the tricolored heron (*Egretta tricolor*). All of these species are listed as SSC by the FWC and potentially could occur. While each species is distinct, wading birds are discussed collectively since they occupy similar habitats and have similar life styles.

The primary concern for the impacts to these wading birds would be the loss of feeding habitat, i.e. wetlands. As part of the project, all impacts to wetland areas will be mitigated to prevent a net loss of functional wetland area. The exact type of mitigation will be coordinated with the USCOE, FDEP, and SWFWMD**.** These agencies work closely with USFWS and FWC in reviewing the effect of wetland impacts on protected faunal species. The mitigation accepted by these agencies will be designed to provide replacement for any wading bird feeding habitat lost due to project impacts.

One limpkin was observed feeding in Moody Lake close to the road right of way.

Conclusion: No effect

6.0 CONCLUSIONS

The project has been evaluated for impacts on state and federally protected threatened and endangered species. A literature review was conducted to determine those possible threatened or endangered species which may inhabit the project area. The US Fish and Wildlife Service (USFWS) reviewed this memorandum and provided their conclusions and recommendations in a letter dated September 12, 2008 (refer to **Appendix C**).

The federally protected eastern indigo snake (*Drymarchon corais couperi*) may occur in wetland and upland habitats along the project corridor, although the prevalence of open rangeland and residential areas within the region probably restricts utilization of habitat by this species. The USFWS recommends implementation of the *Standard Protection Measures for the Eastern Indigo Snake* (1999) during the construction of the project. These protection measures can be found in **Appendix D**.

No Florida sandhill cranes or their nests were documented during field reviews, but the area could provide foraging and nesting habitat.

No federally protected wood storks (*Mycteria americana*) were seen during field reviews, but the area is within the Core Foraging Area of existing wood stork colonies. The USFWS recommends in-kind replacement of the functions and values of impacted

wetlands within the Core Foraging Area of these colonies.

Based on the previously mentioned data collection efforts, it has been determined that the proposed project will not likely have an adverse affect or jeopardize the existence of any federally- and/or state-listed threatened or endangered species, even though they are known or expected to occur in the study area. The project **may affect**, **but is not likely to adversely affect** the wood stork. The project **may affect**, **but is not likely to adversely affect** the eastern indigo snake. Furthermore, the proposed project is not located in an area designated as critical habitat by the U.S. Department of the Interior.

A total of five (5) aquatic features (excluding swales) have been identified along the project corridor with the potential to be affected by the proposed improvements. All wetlands anticipated to be affected by the project were grouped and classified according to the USFWS's Classification of Wetlands and Deepwater Habitats of the United States and the Florida Land Use/Cover and Forms Classification System. It is estimated that a total of 1.28 acres of wetlands will be affected by the Recommended Alternative.

7.0 REFERENCES

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Soil Survey of Hillsborough County; Florida United States Department of Agriculture Soil Conservation Service; Washington, DC; 1972.

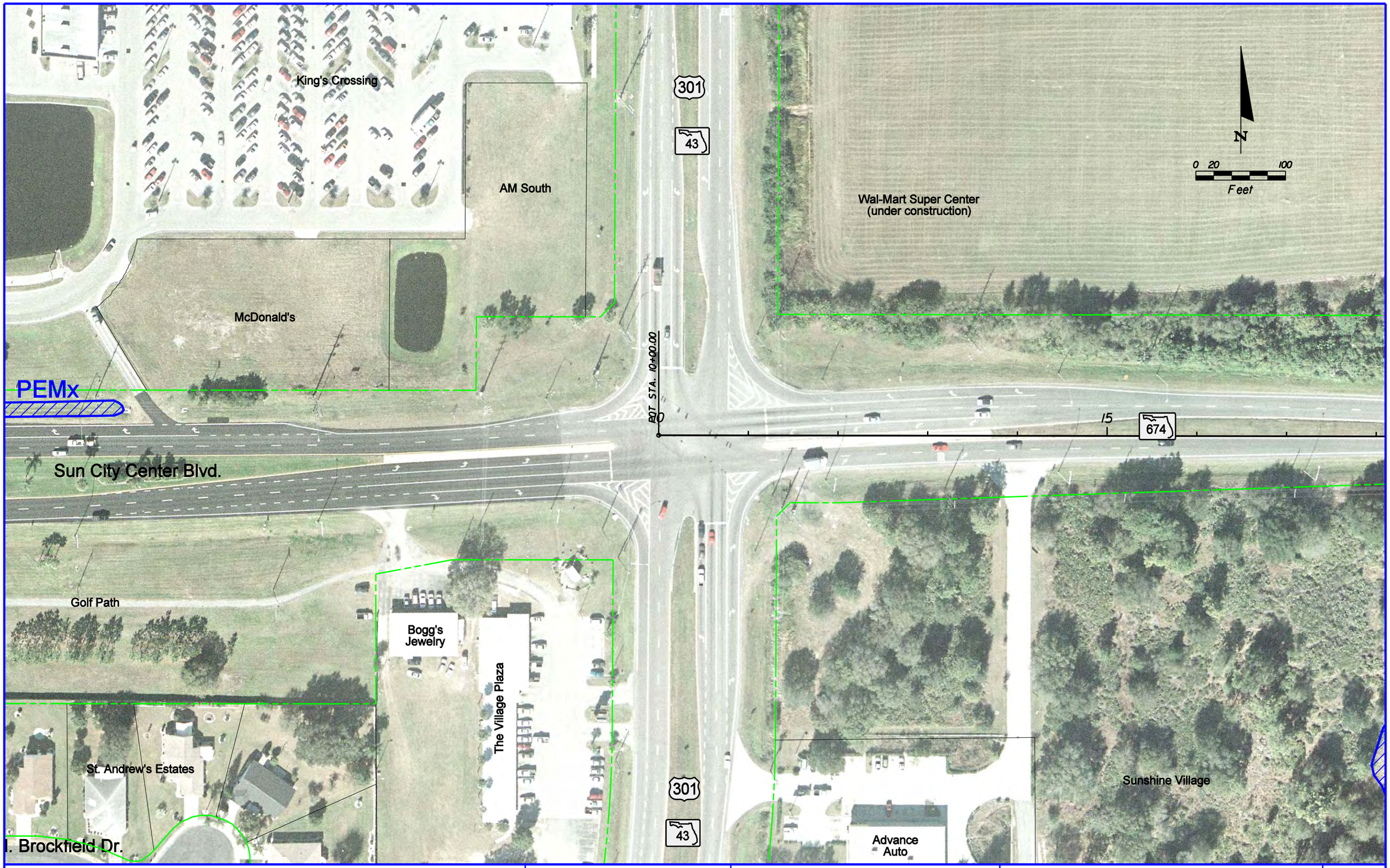
National Wetlands Inventory; United States Department of the Interior Fish and Wildlife Service; Atlanta, GA; 1988.

Guide to the Vascular Plants of Central Florida; Wunderlin, R.P; University Presses of Florida, Gainesville, FL; 1998.

APPENDICES

APPENDIX A

Aerial Photos Showing Wetland Areas



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Wetland

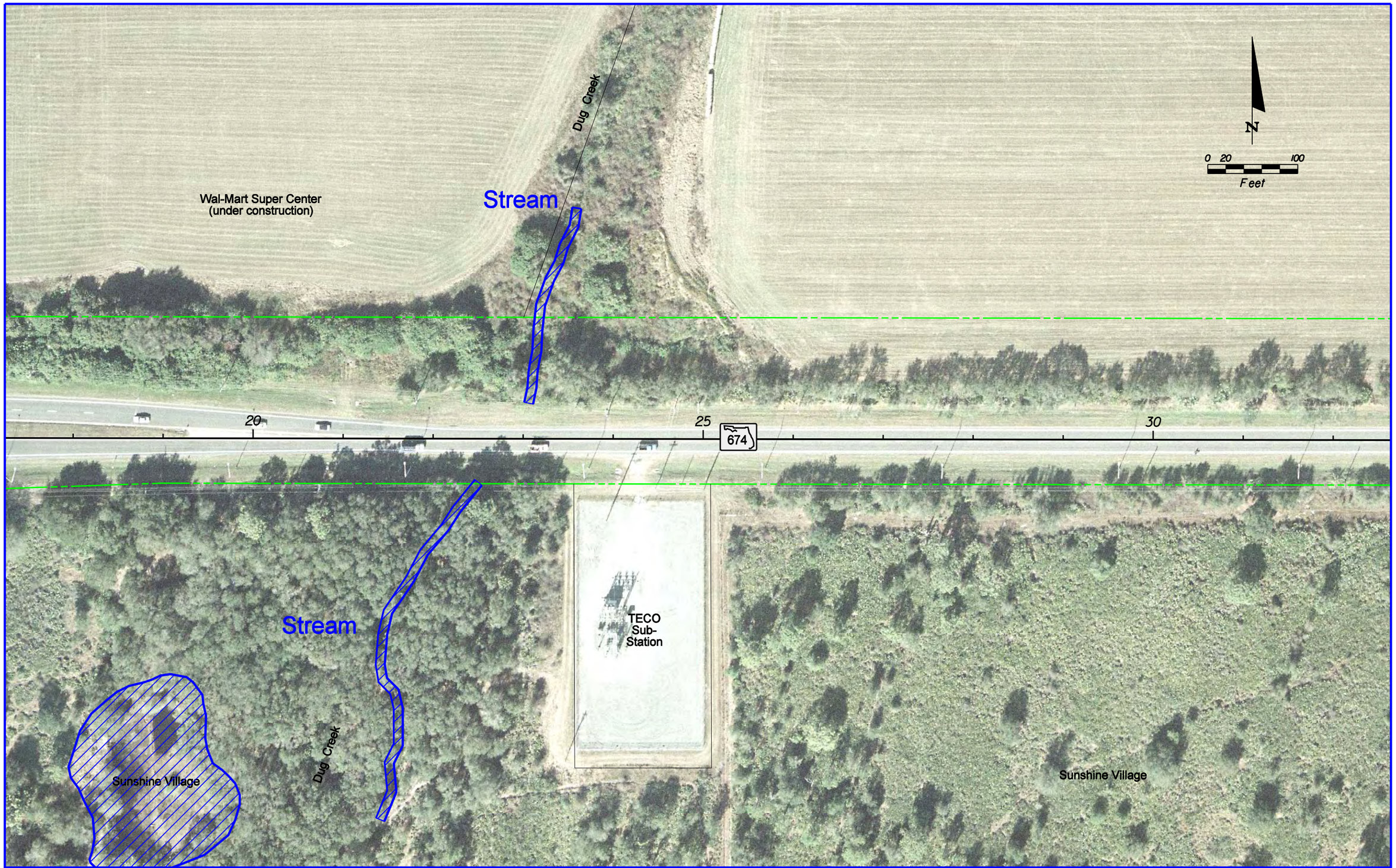
LOCHNER
13577 FEATHER SOUND DR. SUITE 600
CLEARWATER, FLORIDA 33762
FBPR CERTIFICATE OF AUTH. # 894

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 674	HILLSBOROUGH	422762 1 21 01

PLAN

SHEET NO. 1



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Wetland

LOCHNER

13577 FEATHER SOUND DR. SUITE 600
CLEARWATER, FLORIDA 33762
FBPR CERTIFICATE OF AUTH. # 894

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 674	HILLSBOROUGH	422762 1 21 01

PLAN

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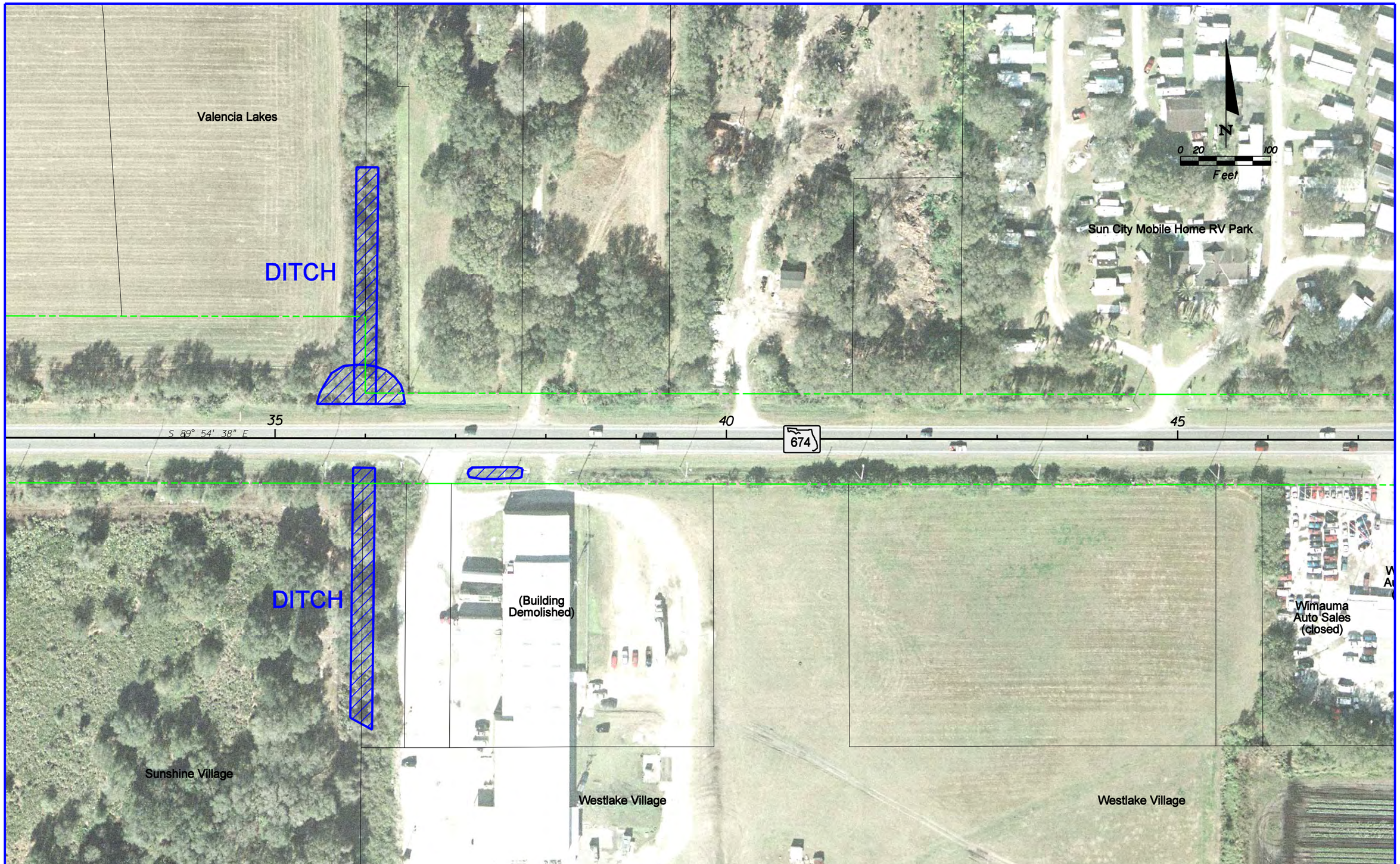

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Wetland

LOCHNER
13577 FEATHER SOUND DR. SUITE 600
CLEARWATER, FLORIDA 33762
FBPR CERTIFICATE OF AUTH. # 894

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 674	HILLSBOROUGH	422762 1 21 01

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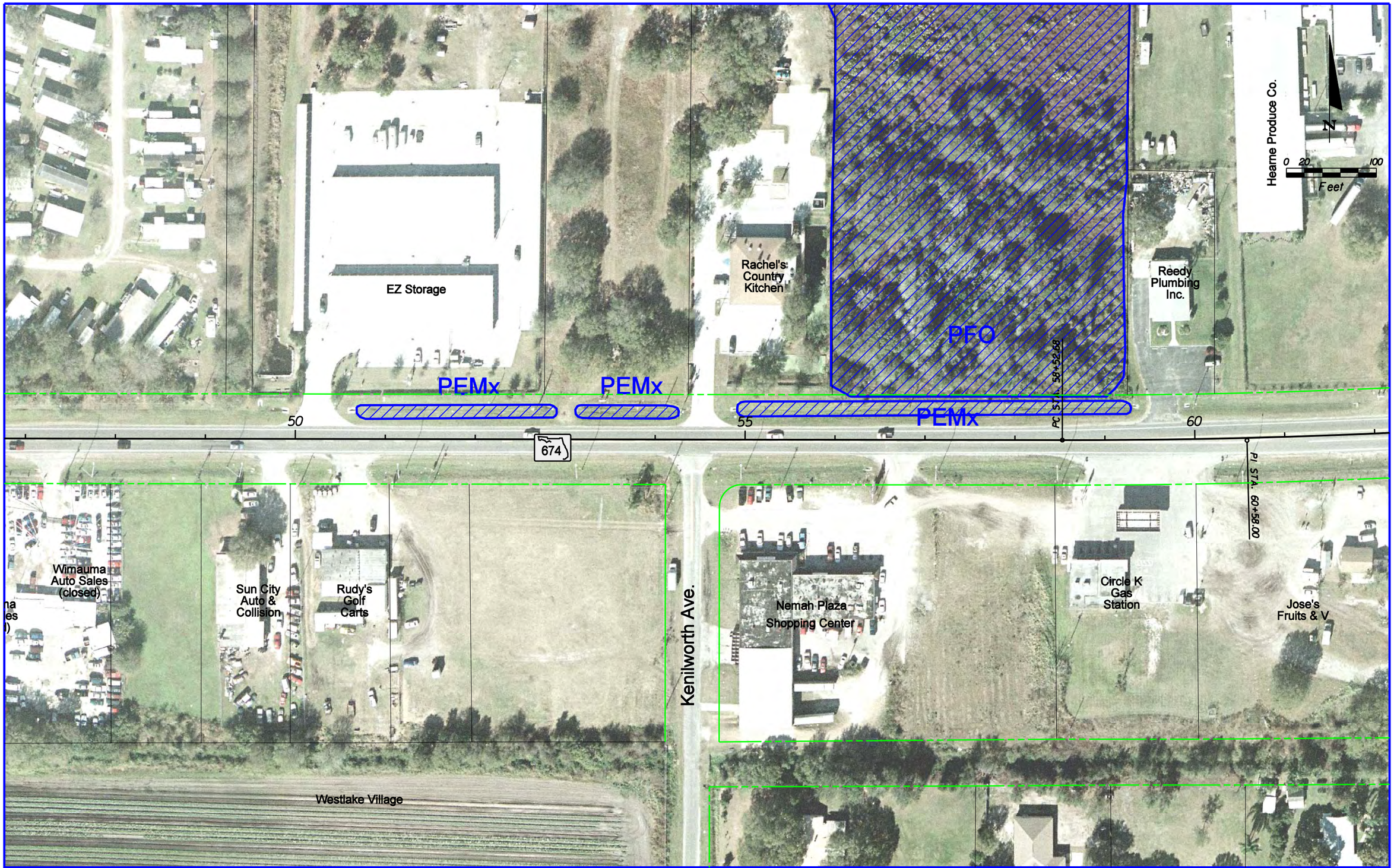

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Wetland

LOCHNER

13577 FEATHER SOUND DR. SUITE 600
CLEARWATER, FLORIDA 33762
FBPR CERTIFICATE OF AUTH. # 894

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 674	HILLSBOROUGH	422762 1 21 01

PLAN

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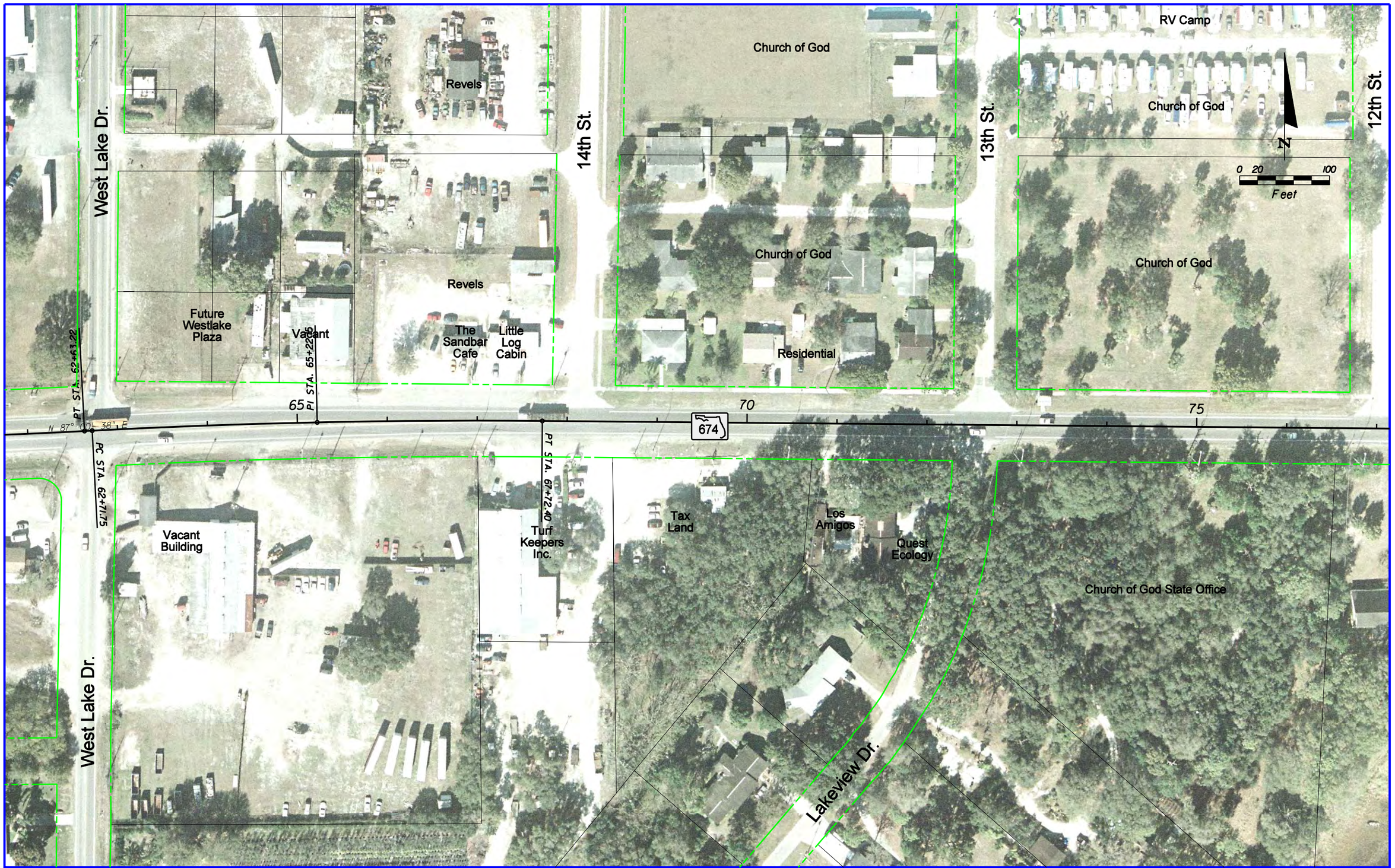

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Wetland

LOCHNER
13577 FEATHER SOUND DR. SUITE 600
CLEARWATER, FLORIDA 33762
FBPR CERTIFICATE OF AUTH. # 894

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 674	HILLSBOROUGH	422762 1 21 01

PLAN

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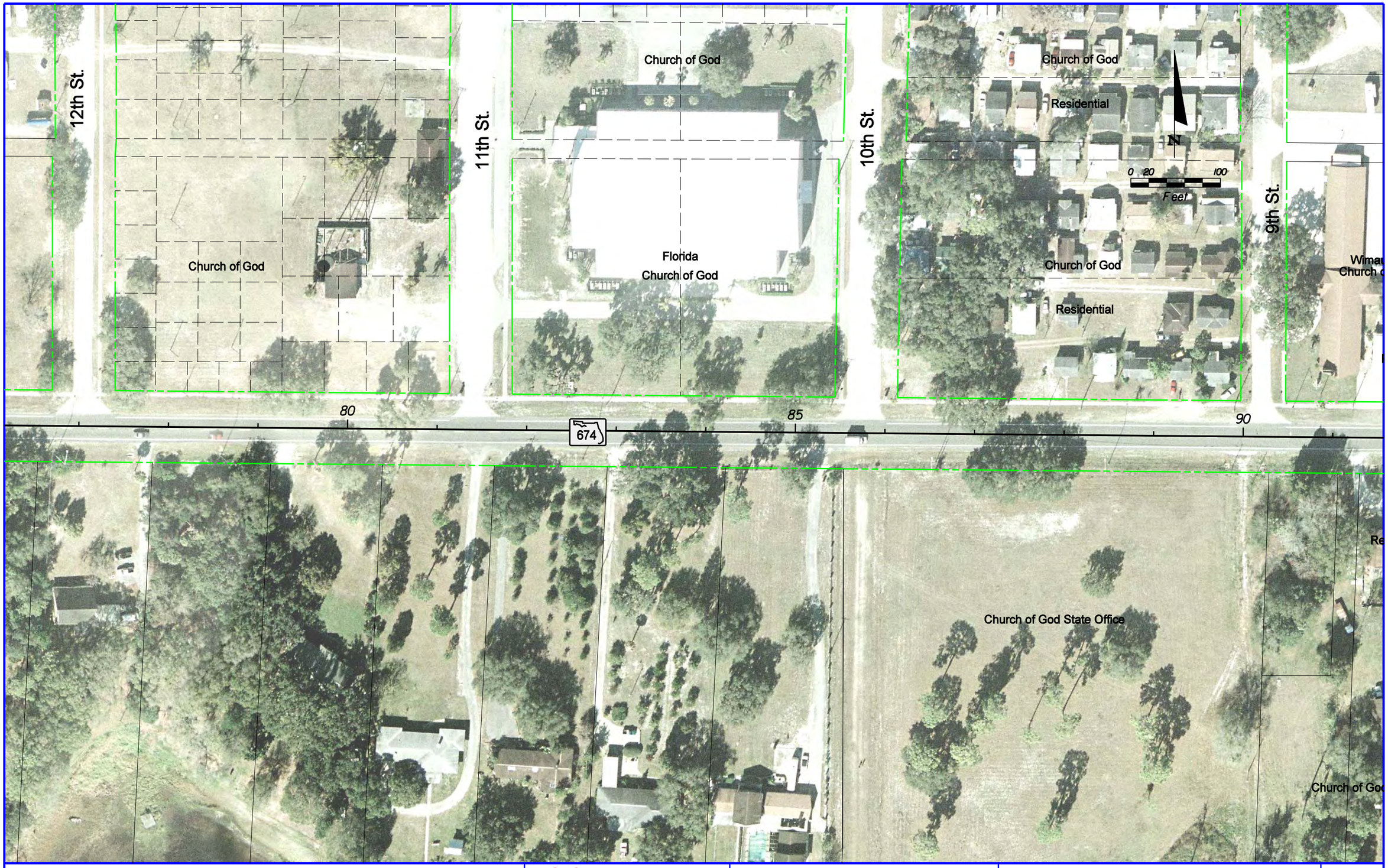

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Wetland

LOCHNER
13577 FEATHER SOUND DR. SUITE 600
CLEARWATER, FLORIDA 33762
FBPR CERTIFICATE OF AUTH. # 894

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 674	HILLSBOROUGH	422762 1 21 01

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SHEET NO.
6

9th St.

Maggie St.

Wimauma Church of God

Parsonage

Residential

Res.

Residential

Residential

N

0 20 100

Feet

95

674

S 89° 29' 06" E

100

105

PEN

Res.

PSS

PSS

PSS

Church of God State Office

Hillsborough County

Lake Wimauma

Legend

Wetland

LOCHNER

13577 FEATHER SOUND DR. SUITE 600
CLEARWATER, FLORIDA 33762
FBPR CERTIFICATE OF AUTH. # 894

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 674	HILLSBOROUGH	422762 1 21 01

PLAN

SHEET NO.

7

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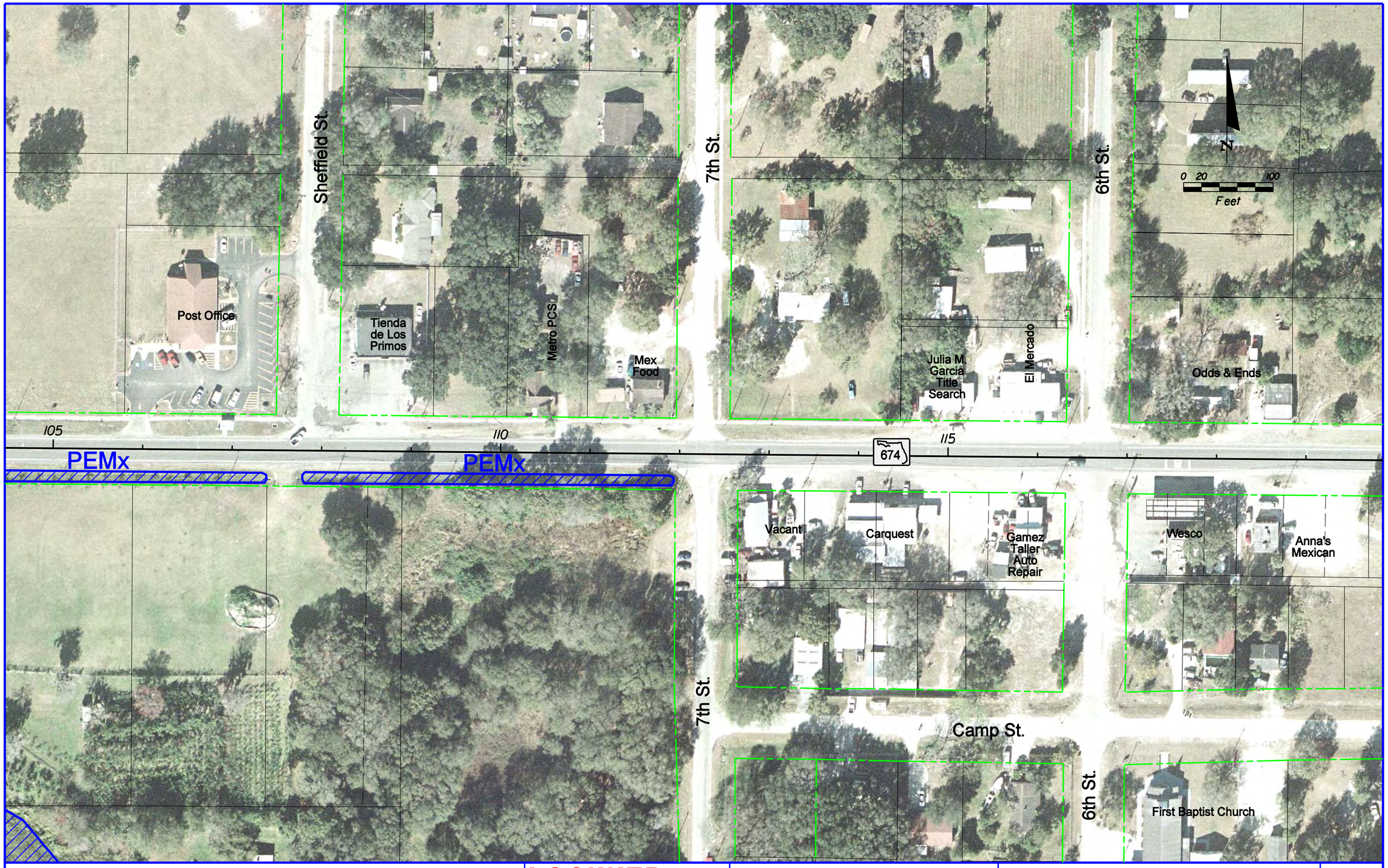


Legend

Wetland

LOCHNER

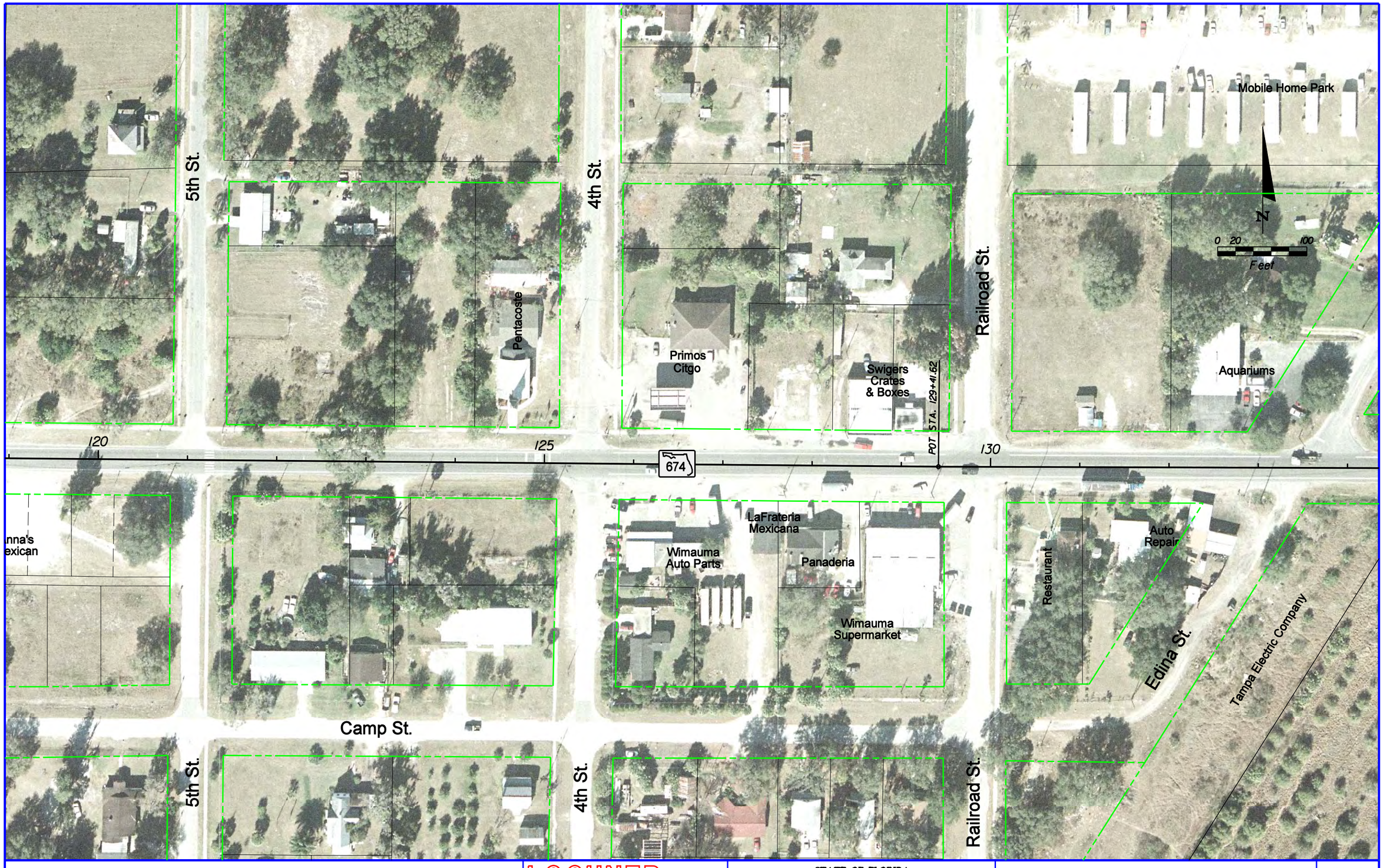
13577 FEATHER SOUND DR. SUITE 600
CLEARWATER, FLORIDA 33762
FBPR CERTIFICATE OF AUTH. # 894

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 674	HILLSBOROUGH	422762 1 21 01

PLAN

SHEET NO. 8



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Wetland

LOCHNER
13577 FEATHER SOUND DR. SUITE 600
CLEARWATER, FLORIDA 33762
FBPR CERTIFICATE OF AUTH. # 894

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 674	HILLSBOROUGH	422762 1 21 01

PLAN

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9

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Legend

Wetland

LOCHNER
13577 FEATHER SOUND DR. SUITE 600
CLEARWATER, FLORIDA 33762
FBPR CERTIFICATE OF AUTH. # 894

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 674	HILLSBOROUGH	422762 1 21 01

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SHEET NO.
10

APPENDIX B

UMAM Data Sheets

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR674		DEM

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
641		Impact	

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Dug creek Little Manatee River		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Isolated

Assessment area description

Small Freshwater marsh Dominated By Ludwigia

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Lake Wimauma Moody Lake	Not unique

Functions	Mitigation for previous permit/other historic use
~~[illegible]~~ · Flood abatement water storage	None

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Very small + Dry Right next o Roadway Possibly small Herps	None

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
DAVID Pettl	10/24/06

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 674		PEM
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	David Pettit	10/24/06

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support w/o pres or current: 3 with:	Is a lake across Hwy. Full of ludwigia which could be construed as nuisance sp. surrounded By citrus grove & Road Agricultural area	
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 3 with:	No water, soil moist, No real zonation Veg. looked healthy, no evedence of use by wildlife. not very diverse	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 2 with:	Not very diverse Lots of Ludwigia Veg looked Healthy. No MGT	

Score = sum of above scores/30 (if uplands, divide by 20)	If preservation as mitigation,	For impact assessment areas
current or w/o pres: .3 with:	Preservation adjustment factor =	FL = delta x acres =
	Adjusted mitigation delta =	

Delta = [with-current]	If mitigation	For mitigation assessment areas
	Time lag (t-factor) =	RFG = delta/(t-factor x risk) =
	Risk factor =	

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 674		PFO

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
610		Impact	

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Dug creek Basin Little Manatee River		

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

surrounded on 4 sides By Roads & Development

Assessment area description

Forested wetland w/ Laurel oak, Red maple & Sweetgum

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Lake Wimauma	not unique

Functions	Mitigation for previous permit/other historic use
nutrient assimilation	

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
should have small mammals & Herps	None

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Did not see any evidence of wildlife utilization

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
DAVID Pettl	10/24/06

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR674		PFO
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	DAVID Petti	10/24/06

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	w/o pres or current: 2	with:
	NO supporting Habitats adjacent to assessment area did not see lots of invasives (Low) surrounded on 4 sides by Roads or Buildings Lots of commercial/Res. + some AG	
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 3	with:
	surrounded on 4 side w/a swale on 1 side soil was moist. Did not see visual Hydrologic indicators. no evedence of fire Veg did not look stressed. saw no signs of wildlife Plant community was not as diverse as IT could be	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 4	with:
	Veg was Appropriate except for a couple Bracken fern. exotics were Low Canopy Tree's did not exhibit much age distribution Veg not visibly stressed. no Land MGT	

Score = sum of above scores/30 (if uplands, divide by 20)		If preservation as mitigation,	For impact assessment areas
current or w/o pres: .3	with:	Preservation adjustment factor =	FL = delta x acres =
		Adjusted mitigation delta =	

Delta = [with-current]	If mitigation	For mitigation assessment areas
	Time lag (t-factor) =	RFG = delta/(t-factor x risk) =
	Risk factor =	

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 674		Dug Creek

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
510		Impact	

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
	Class III	

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Stream through uplands

Assessment area description

~~Area near Road~~ Passes under Road via culvert

Brazilian Pepper, willow & Ludwigia @ culverts.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Lake Wimauma	Not unique

Functions	Mitigation for previous permit/other historic use
Provides wildlife cover & corridor for movement natural flow attenuation	

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Area assessed could be used by wading Birds & Herps & Possibly as a corridor for mammals	Possibly feeding area for listed wading Birds

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Nothing Observed

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
David Petti	10/24/06

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 674		Dug Creek
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	David Petti	10/24/06

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support w/o pres or current: 7 with:	Runs through AS lands & degraded Flatwoods in area of assessment Some invasives. Provides wildlife corridor no real flow impedemints except for culvert	
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 7 with:	water levels maintained Not much erosion Not much Zonation Yes did not look stressed Some exotics No turbidity	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 4 with:	Did not observe any Benthic organisms	

Score = sum of above scores/30 (if uplands, divide by 20)	If preservation as mitigation,	For impact assessment areas
current or w/o pres: .6 with:	Preservation adjustment factor =	FL = delta x acres =
	Adjusted mitigation delta =	

Delta = [with-current]	If mitigation	For mitigation assessment areas
	Time lag (t-factor) =	RFG = delta/(t-factor x risk) =
	Risk factor =	

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 674		Moody Lake

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
641		Impact	

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Dug creek Little Manatee R.	Class III	

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Seems to be Isolated Depressional & is in a pasture where 2 Roads intersect

Assessment area description

Small Lake with lots of Emersen Ves such as water Lilly & Am. Lotus

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Lake Wimauma is down the Road Eagle nest nearby	Not Unique

Functions	Mitigation for previous permit/other historic use
Nutrient Assimilation, water storage wildlife Habitat	?

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
wading Birds, Herps, Fish, & Raptor	Feeding area for Listed wading Birds & Bald eagle

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

I observed some frogs & 1 Limpkin

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
DAVID Pettl	10/24/06

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 674		moody lake
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	DAVID Pettit	10/24/06

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	7		Pasture & Roadway Adjacent & medium access for wildlife
.500(6)(b)Water Environment (n/a for uplands)	8		maintains Good water level Veg not stressed used By appropriate wildlife Plant composition relatively diverse
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	6		Plant Sp. are appropriate Veg looked good, some Exotics In a pasture in close proximity To Road

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	.7	

Delta = [with-current]

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

If mitigation
Time lag (t-factor) =
Risk factor =

For impact assessment areas
FL = delta x acres =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

APPENDIX C

Letter from U.S. Fish and Wildlife Service

United States Department of the Interior
U. S. FISH AND WILDLIFE SERVICE
7915 BAYMEADOWS WAY, SUITE 200
JACKSONVILLE, FLORIDA 32256-7517

IN REPLY REFER TO:

FWS LOG NO. 41910-2008-I-0456

September 12, 2008

Gabor Farkasfalvy
Project Manager
Florida Department of Transportation
11201 N. McKinley Drive, MS 7-500
Tampa, FL 33612

Dear Mr. Farkasfalvy:

Our office has reviewed the *Wetland Evaluation and Biological Assessment Memorandum* and correspondence requesting concurrence for the SR 674 improvements. The applicant proposes to the widen the existing two-lane roadway to a four-lane and six-lane facility from SR 43 (US 301) to CR 579 in Hillsborough County, an approximate distance of 2.4 miles.

The Service submits the following comments in accordance with section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*).

ENDANGERED SPECIES ACT

The federally listed species identified in the *Wetland Evaluation and Biological Assessment Memorandum* are the threatened eastern indigo snake (*Drymarchon corais couperi*) and the endangered wood stork (*Mycteria americana).*

The report states that no wood stork rookies are within 18 miles of the study corridor according to the Florida Atlas of Breeding Sites for Herons and their Allies; however, this is not an accurate statement. Updated information regarding the wood stork may be found at the Service's Jacksonville Ecological Service Field Office website: www.fws.gov/northflorida.

The Service analyzes the wetland impacts resulting from the proposed action and its affects to suitable foraging habitat (SFH) for the wood stork. SFH is described as water that is relatively calm, uncluttered by dense thickets of aquatic vegetation, and having a

permanent or seasonal water depth between 2 and 15 inches (5 to 38 cm) deep. Ideally, preferred foraging wetlands would include a mosaic of emergent and shallow open-water areas. Examples of SFH include freshwater marshes and stock ponds, shallow, seasonally flooded roadside or agricultural ditches, narrow tidal creeks or shallow tidal pools, managed impoundments, and depressions in cypress heads and swamp sloughs.

Core foraging areas (CFA) have been identified around all known wood stork nesting colonies that are important for reproductive success. In Central Florida, CFAs include SFH within a 15-mile (24 km) radius of the nest colony. Loss of SFH within these CFAs may reduce foraging opportunities for the wood stork.

The wetland impacts will occur within the CFA of existing wood stork colonies (refer to Nesting Colony Foraging Areas with Buffers at the above noted webpage). Currently, the Department has not developed a detailed mitigation plan. Several scenarios are discussed in the memorandum as potential options during the design and permitting phases. The Service recommends in-kind replacement of the functions and values of those wetlands impacted within the CFA of these colonies. Providing the mitigation plan addresses these concerns, the overall effects on wood storks will be insignificant and discountable. Therefore, the project may affect, but is not likely to adversely affect, the wood stork.

In regards to the eastern indigo snake, movements over large areas of fragmented habitats undoubtedly expose snakes to increased road mortality and likelihood of adverse human contact. In a recent Florida telemetry study, vehicles accounted for 40% of the in-field mortality to this species. The Service recommends the applicant implement the *Standard Protection Measures for the Eastern Indigo Snake* (1999) during construction of the project. Those measures can be found at http://northflorida.fws.gov/IndigoSnakes/east-indigo-snake-measures-071299.htm. As a result, the project may affect, but is not likely to adversely affect, the eastern indigo snake.

Although this does not represent a biological opinion as described in section 7 of the Act, it does fulfill the requirements of the Act and no further action is required. If modifications are made to the project or additional information becomes available on listed species, reinitiating consultation may be required.

FISH AND WILDLIFE COORDINATION ACT

The Service concludes after reviewing the extent of the proposed project, the proposed action will not significantly affect other fish and wildlife resources. If you have any questions regarding this response, contact Mr. Todd Mecklenborg at (727) 820-3705.

Sincerely,

David L. Hankla
Field Supervisor

APPENDIX D

Standard Protection Measures for the Eastern Indigo Snake

STANDARD PROTECTION MEASURES FOR THE EASTERN INDIGO SNAKE

1. An eastern indigo snake protection/education plan shall be developed by the applicant or requestor for all construction personnel to follow. The plan shall be provided to the Service for review and approval at least 30 days prior to any clearing activities. The educational materials for the plan may consist of a combination of posters, videos, pamphlets, and lectures (*e.g.*, an observer trained to identify eastern indigo snakes could use the protection/education plan to instruct construction personnel before any clearing activities occur). Informational signs should be posted throughout the construction site and along any proposed access road to contain the following information:

    a. a description of the eastern indigo snake, its habits, and protection under Federal Law;
    b. instructions not to injure, harm, harass or kill this species;
    c. directions to cease clearing activities and allow the eastern indigo snake sufficient time to move away from the site on its own before resuming clearing; and,
    d. telephone numbers of pertinent agencies to be contacted if a dead eastern indigo snake is encountered. The dead specimen should be thoroughly soaked in water and then frozen.

2. If not currently authorized through an Incidental Take Statement in association with a Biological Opinion, only individuals who have been either authorized by a section 10(a)(1)(A) permit issued by the Service, or by the State of Florida through the Florida Fish Wildlife Conservation Commission (FWC) for such activities, are permitted to come in contact with an eastern indigo snake.

3. An eastern indigo snake monitoring report must be submitted to the appropriate Florida Field Office within 60 days of the conclusion of clearing phases. The report should be submitted whether or not eastern indigo snakes are observed. The report should contain the following information:

    a. any sightings of eastern indigo snakes and
    b. other obligations required by the Florida Fish and Wildlife Conservation Commission, as stipulated in the permit.

Revised February 12, 2004