

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



PRELIMINARY
ENGINEERING
REPORT

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

April 2009

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This PD&E Study evaluated capacity improvements along the segment of SR 674 that extends from US 301 (SR 43) to CR 579, in Hillsborough County, Florida. The length of this segment was approximately 2.4 miles. The level of environmental documentation for this study was a State Environmental Impact Report (SEIR). The design year for the improvements was Year 2030.

Prepared for:

**Florida Department of Transportation
District Seven
11201 North McKinley Drive
Tampa, Florida 33612-6456**

April 2009

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SECTION 1.0

EXECUTIVE SUMMARY

The Florida Department of Transportation (Department) conducted 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 project was approximately 2.4 miles. The level of environmental documentation for this study was a State Environmental Impact Report (SEIR). The design year for the improvements was Year 2030.

The objective of this PD&E Study was to document the engineering and environmental analyses that were performed for this project so that the Department could 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 documented the need for the improvements as well as the procedures utilized to develop and evaluate various improvement alternatives.

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 six major north-south routes: US 41 (SR 45), I-75 (SR 93A), US 301 (SR 43), CR 579, CR 39 and SR 37. 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.

1.1 NEED FOR THE IMPROVEMENTS

The average annual daily traffic (AADT) volumes along SR 674 for 2004 in the study area, which range 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 LOS E. Due to planned development in the immediate vicinity of SR 674, these conditions should be expected to further deteriorate to LOS F in

the future should no improvements be made to this facility. 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).

Review of the Department's crash records also revealed above normal crash occurrences on this facility. Study of the causes that could potentially contribute to the high crash rates along this segment of SR 674 eliminated factors such as poor weather conditions, poor lighting or sight distance conditions, driving under the influence, and substandard geometry, pointing to the increasing traffic congestion as the most probable cause.

The *Final Corridor Management Report*¹, prepared by the Department on SR 674 in August 2006, evaluated the design year (2030) traffic conditions in the study area. To accommodate the projected transportation demand along the study segment of SR 674 at an acceptable LOS D or better during the design year, this report recommended that SR 674 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 require widening to six lanes.

1.2 RECOMMENDATIONS

Recommended Alignment – **Appendix A** provides conceptual plans of the ultimate improvements for the “Recommended Alternative” for SR 674. **Appendix B** provides conceptual plans for the staged improvements for the initial widening of SR 674. The widening improvements of SR 674 generally follow the existing alignment.

From US 301 (SR 43) to West Lake Drive, SR 674 will remain centered on the existing alignment for the initial stage of the improvements. Future widening of this segment to six lanes will require widening 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.

Recommended Typical Sections – A staged four-lane urban typical section is initially recommended for Segment 1 of SR 674 from US 301 (SR 43) to West Lake Drive (refer

to **Exhibit 1-1**). It provides a 12-foot-wide outside travel lane and an 11-foot-wide to 12-foot-wide inside travel lane in each direction, a 22-foot-wide median, 4-foot-wide bicycle lanes and 6-foot-wide concrete sidewalks on both sides, and requires a minimum of 100 feet of right of way.

In the future when the need for further widening of Segment 1 of SR 674 from US 301 (SR 43) to West Lake Drive is justified by an updated traffic analysis and is consistent with the *Hillsborough County Long-Range Transportation Plan* at the time, a six-lane urban typical section is recommended for Segment 1 of SR 674 from US 301 (SR 43) to West Lake Drive (refer to **Exhibit 1-2**). It would provide three 12-foot-wide travel lanes in each direction, a 22-foot-wide median, 4-foot-wide bicycle lanes and 5-foot-wide concrete sidewalks on both sides, and would require 126 feet of right of way.

A four-lane urban typical section is recommended for Segments 2, 3 and 4 of SR 674 from West Lake Drive to CR 579 (refer to **Exhibit 1-3**). It provides two 12-foot-wide travel lanes in each direction, a 22-foot-wide median, 4-foot-wide bicycle lanes and 5-foot-wide concrete sidewalks on both sides and would require 102 feet of right of way.

1.3 COMMITMENTS

a. The implementing entity will consider employment of suitable protection methods for the eastern indigo snake if the project's construction activities would occur within suitable eastern indigo snake habitat. A habitat survey would be undertaken by the implementing entity prior to the initiation of construction to identify any areas that would be subject to this commitment.

b. Median openings will be reassessed at the time of design to make sure they work with the Wimauma Community at that time.

c. During the project's future design, a detailed traffic noise analysis for the potential noise barrier at Sun City Mobile Home Park will be undertaken. If the analysis indicates that the proposed noise barrier remains a potentially cost reasonable and

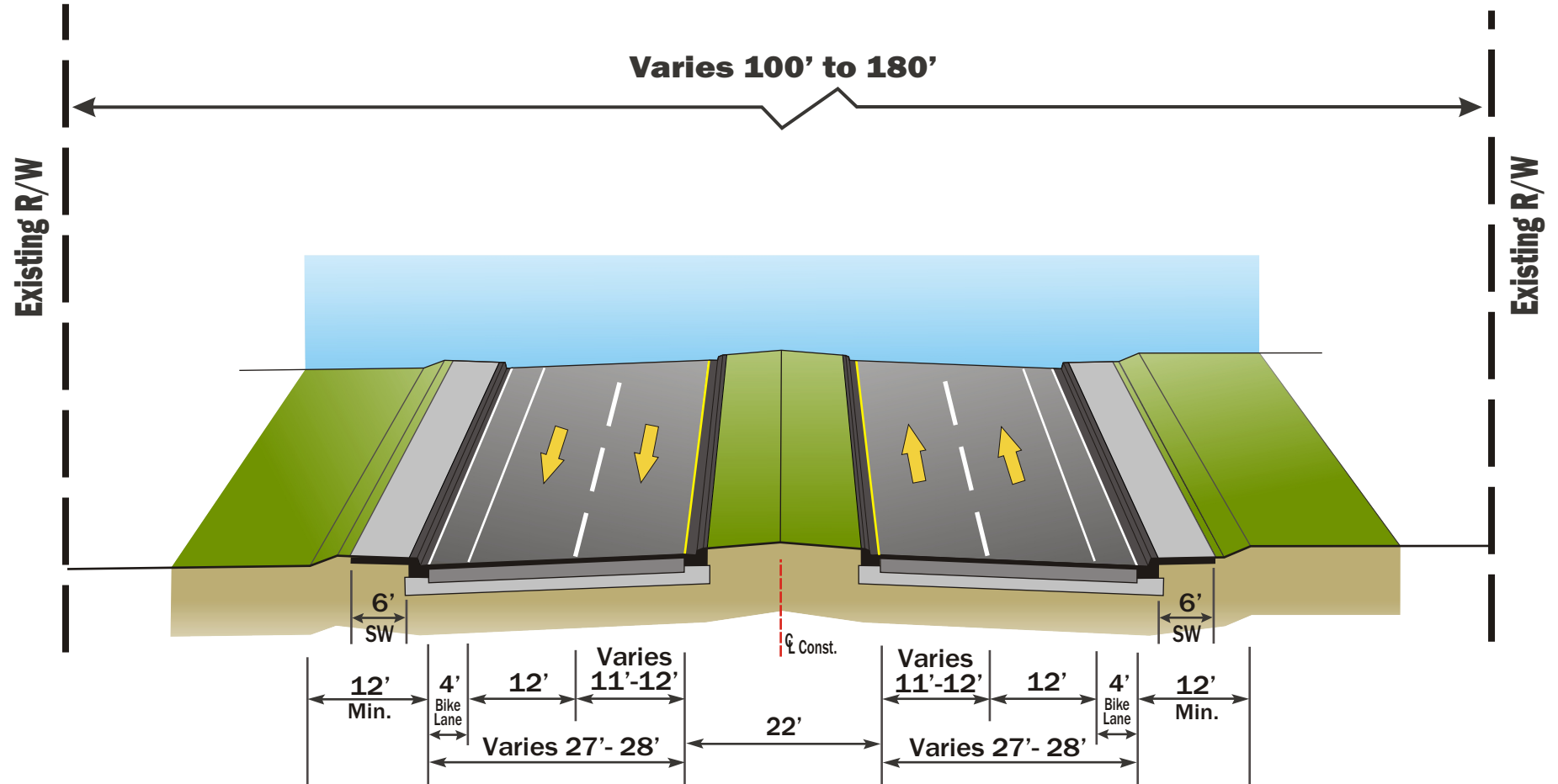
feasible method of reducing predicted impacts, the noise barrier will be included as part of the SR 674 project contingent on the following:

- The owners of the Sun City Mobile Home Park indicate a positive desire for a noise barrier (including type, height, length, and location).
- All safety and engineering aspects of a noise barrier, as they relate to the roadway users and to the adjacent property owners, have been reviewed and approved.

1.4 REFERENCES

- ¹ *Final Corridor Management Report*; SR 674 Corridor Management Study from SR 45 (US 41) to CR 579; prepared for the Florida Department of Transportation by HDR Engineering, Inc.; August 2006

Segment 1 - From US 301 to West Lake Drive



SR 674 PD&E Study

From US 301 (SR 43) to CR 579

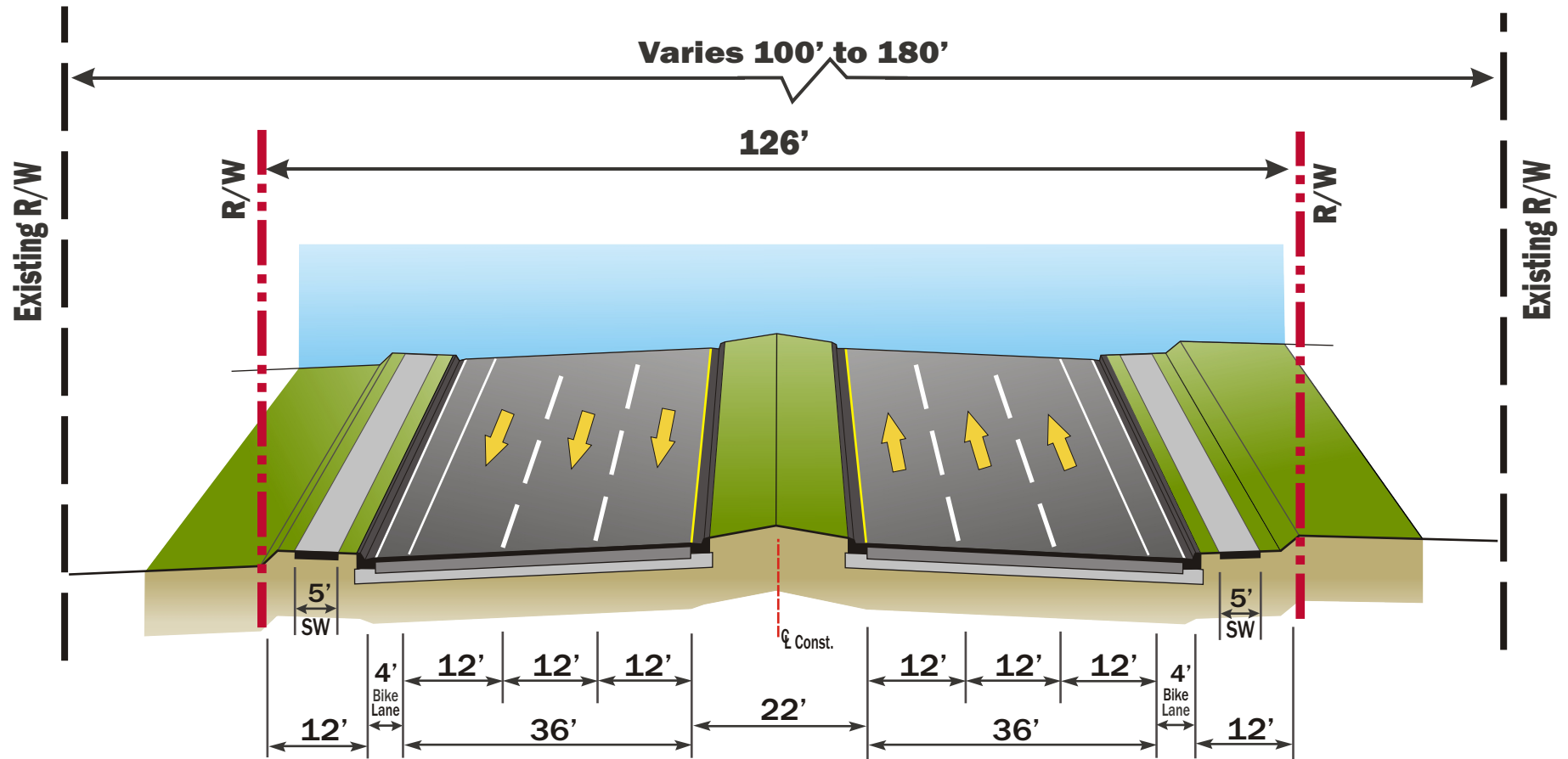
Hillsborough County

WPI Segment No. 422762 1

Proposed Interim Four-Lane Urban Typical Section for SR 674

Exhibit 1-1

Segment 1 - From US 301 to West Lake Drive



SR 674 PD&E Study

From US 301 (SR 43) to CR 579

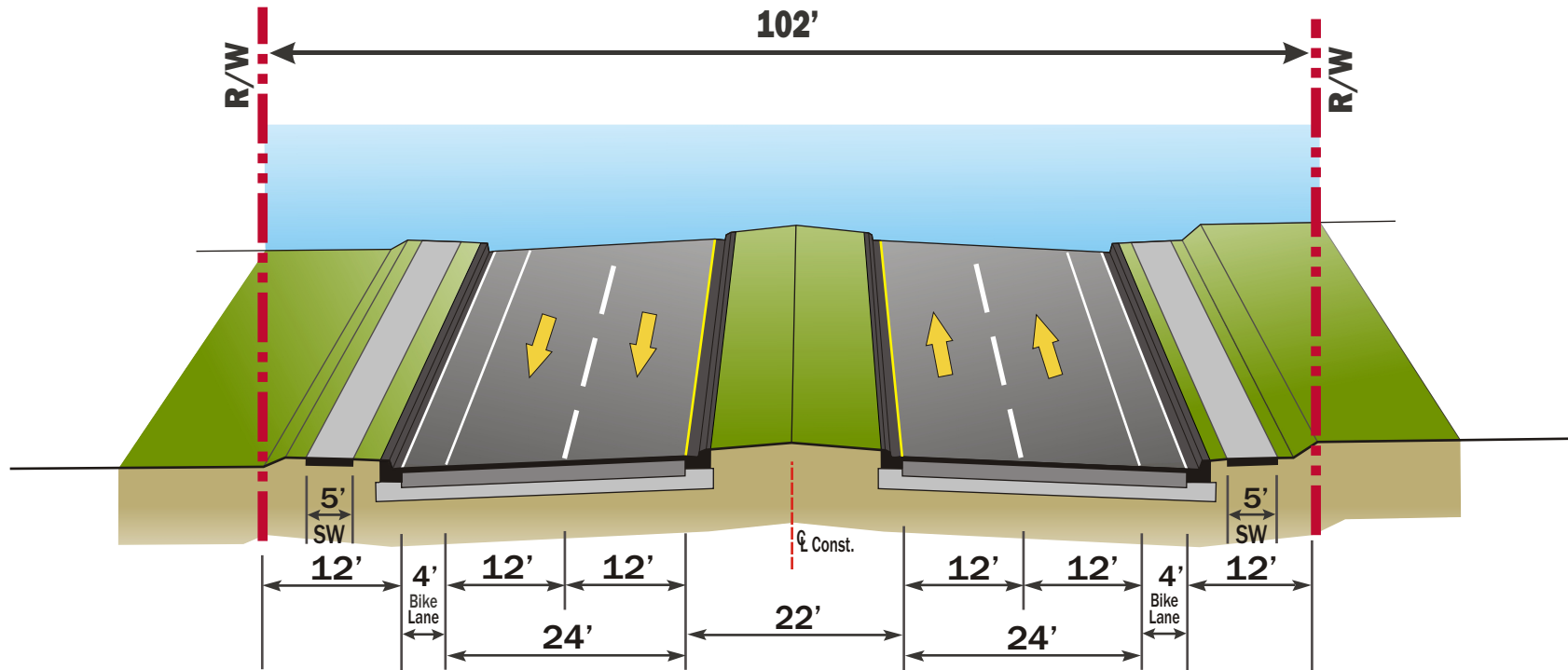
Hillsborough County

WPI Segment No. 422762 1

Proposed Ultimate Six-Lane Urban Typical Section for SR 674

Exhibit 1-2

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



SR 674 PD&E Study

From US 301 (SR 43) to CR 579

Hillsborough County

WPI Segment No. 422762 1

Proposed Ultimate Four-Lane Urban Typical Section for SR 674

Exhibit 1-3

SECTION 2.0

INTRODUCTION

The Department conducted a PD&E Study to evaluate improvements along the segment of SR 674 that extends from US 301 (SR 43) to CR 579, in Hillsborough County, Florida. The length of this segment was approximately 2.4 miles. The level of environmental documentation for this study was a State Environmental Impact Report (SEIR). The design year for the improvements was Year 2030. **Exhibit 2-1** illustrates the location and limits of this project.

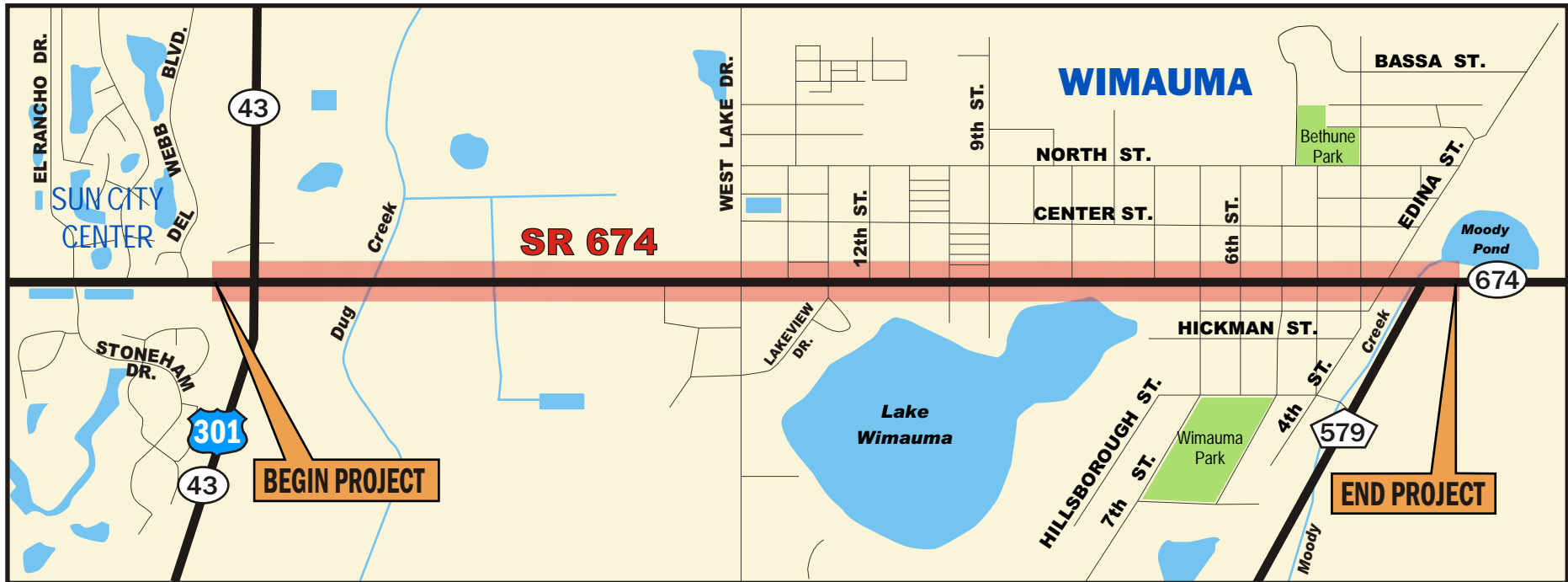
2.1 PURPOSE

The objective of this PD&E study was to document the engineering and environmental analyses that were performed for this project so that the Department could 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 documented 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 an alternative that would have minimal impacts, while providing the necessary improvements.

This *Preliminary Engineering Report (PER)* documents the need for the improvements, presents the key engineering and environmental considerations/criteria that influenced the development of the various improvement alternatives, and summarizes the comparative analyses and public involvement efforts that led to the selection of the recommended alternative.



Project Location



SR 674 PD&E Study

From US 301 (SR 43) to CR 579

Hillsborough County

WPI Segment No. 422762 1

Project Location Map

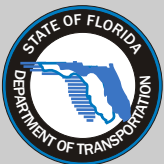
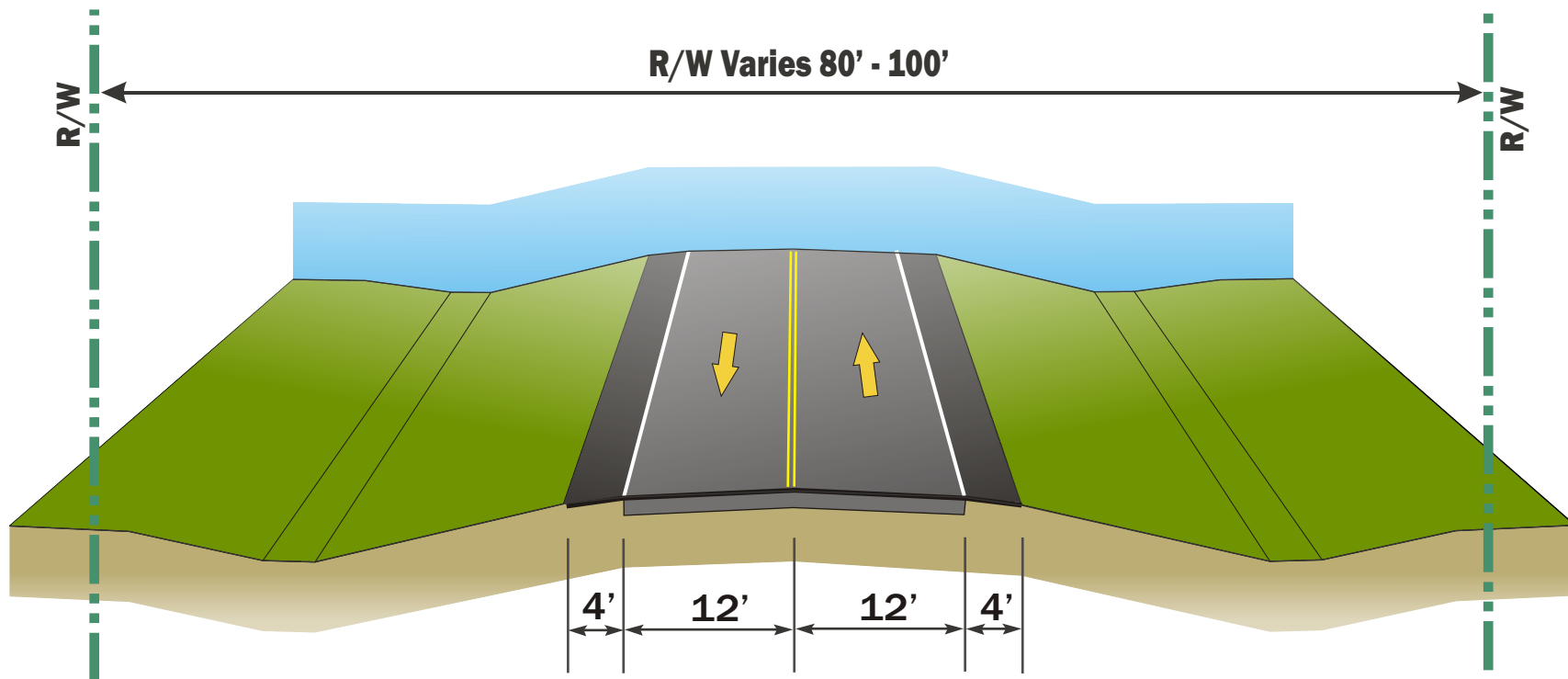
Exhibit 2-1

2.2 PROJECT DESCRIPTION

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 six major north-south routes: US 41 (SR 45), I-75 (SR 93A), US 301 (SR 43), CR 579, CR 39 and SR 37.

The study area of this project falls within Sections 7, 8, 9, and 10 of Township 32 S, Range 20 E. 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 2-2** 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 LOS for this facility is D or better.



SR 674 PD&E Study

From US 301 (SR 43) to CR 579

Hillsborough County

WPI Segment No. 422762 1

Existing Typical Section of SR 674

Exhibit 2-2

SECTION 3.0

NEED FOR IMPROVEMENT

The segment of SR 674 that extends from US 301 (SR 43) to CR 579 in Hillsborough County was evaluated for the need of widening improvements. This need was established after consideration of the following factors:

- Evaluation of the current and future contribution of SR 674 in accommodating regional travel and its importance in providing system-wide linkage within the overall roadway network.
- Assessment of current and future social and economic demands.
- Evaluation of the quality of traffic operations in the study area for the design year assuming that no capacity improvements will be implemented along this corridor (No-Build Alternative).
- Analyses of the traffic safety statistics related to the study segment of SR 674 for the five-year period between 2001 and 2005.

3.1 AREA NEEDS

3.1.1 System Linkage

SR 674 is an important 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 six major north-south routes: US 41 (SR 45), I-75 (SR 93A), US 301 (SR 43), CR 579, CR 39 and SR 37. Other east-west arterials providing connectivity to I-75 in the vicinity of SR 674 are Big Bend Road approximately 5.3 miles north of SR 674 and SR 62 approximately 10.0 miles south of SR 674.

Residential and commercial development, which is economically tied to the Tampa Bay area, continues to spread into the southern and southeastern regions of Hillsborough County. As this growth continues, the SR 674 corridor – including the study area – will serve as an increasingly important link between the growing communities of Ruskin, Sun City Center, and Wimauma and the employment areas of the Tampa Bay region.

Improving SR 674 within the study area would benefit both local and regional east-west travel in southern Hillsborough County.

3.1.2 Transportation Demand

3.1.2.1 Existing Traffic Demand

According to traffic counts performed in 2004, the annual average daily traffic (AADT) volumes along SR 674 range from 8,600 vehicles per day (vpd) in Wimauma (east of West Lake Drive) to 12,200 vpd east of US 301 (SR 43). A significant portion of these volumes (12.0%) consists of truck traffic. These volumes exceed the capacity of the roadway, resulting in LOS E during the peak periods.

3.1.2.2 Future Traffic Demand

According to the *Final Corridor Management Report*,¹ prepared by the Department for SR 674 in August 2006, traffic volumes along this corridor are 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 project limits of SR 674 at an acceptable LOS D or better during the design year of 2030, the *Final Corridor Management Report* recommended that SR 674 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 require widening to six lanes.

3.1.3 Federal, State, and Local Government Authority Policies and Plans

This project is not included in any federal, state, or local government plan. However, the Department, recognizing that SR 674 will become increasingly congested due to the rapid development growth in the Sun City Center and Wimauma areas, is proactively advancing the planning of the improvements for SR 674 so that they can be coordinated with the planned developments in this region.

3.1.4 Social Demands and Economic Developments

The southern regions of Hillsborough County have experienced rapid growth, which is expected to continue in the future. According to the Census data,^{2,3} the population of the southern region of Hillsborough County increased by 20.0% over the 10-year period between 1990 and 2000.

Table 3-1 – Population Growth Data

Area	Population in 1990	Population in 2000	Population Increase 1990-2000	Percent Population Increase 1990-2000
State of Florida	12,937,926	15,982,378	3,044,452	23.5%
Hillsborough County	834,054	998,948	164,894	19.7%
Unincorporated Hillsborough County	514,841	644,668	129,827	25.2%
South Hillsborough County	38,663	46,342	7,679	20.0%

As discussed in **Section 4.3.1.2**, large residential and commercial developments are planned in this region which, when constructed, would cause the population to grow further.

3.1.5 Modal Interrelationships

Approximately 0.5 miles east of the project limits, SR 674 provides direct access to the Wimauma Air Park, a privately owned airport. SR 674 also connects with I-75 and, as part of the overall roadway network, indirectly provides linkage with several modal facilities such as Tampa International Airport, the Port of Tampa, and the Port of Manatee.

SR 674, within the study area, is served by the Hillsborough Area Regional Transit (HART) Bus Route 87. This route operates on weekdays and runs mostly along SR 674 from the South Shore Regional Service Center in Ruskin to the Redlands Christian Migrant Association (RCMA) daycare facility, in Wimauma. SR 674 is also an existing bicycle route and is included in the Hillsborough County Metropolitan Planning Organization's (MPO) *Year 2025 Long Range Transportation Plan (LRTP)*⁴ as a needed pedestrian facility.

3.1.6 Evacuation Needs and Emergency Services

SR 674 from I-75 to CR 39 – including the study segment – is designated as an evacuation route in the *Comprehensive Plan*⁵ of Hillsborough County.

SR 674 is also used by emergency response vehicles. The Wimauma Fire Department is located on 7th Street, south of SR 674. Also, a fire station is located on the south side of SR 674 in Sun City Center approximately 1.0 mile west of US 301 (SR 43) and South Bay Hospital is located on the north side of SR 674 approximately 2.0 miles west of US 301 (SR 43).

3.1.7 Safety Statistics

Review of the Department's crash records revealed an 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.

More specifically, review of the Department's Crash Analysis Reporting System (CARS) year 2005 data indicated that the following segments and locations along SR 674 appeared on the High Crash Lists:

- the intersection of SR 674 at US 301 (SR 43) was ranked Number 130 on the list of high crash locations for District 7, with a crash rate of 2.323 crashes per million entering vehicles (MEV),
- from the US 301 (SR 43) intersection (milepost [MP] 6.063) to a point east of this intersection (MP 6.286) where the typical section of SR 674 changes from divided to undivided, and
- from east of Sheffield Street (MP 7.923) to the CR 579 intersection (MP 8.426).

Crash records indicate that from 2001 through 2005, a total of 147 crashes occurred in the study area. These crashes resulted in one fatality (in 2003) and a total of 96 injuries. From 2001 through 2005, the number of crashes steadily increased for this segment of SR 674, from 11 crashes in 2001 to 50 crashes in 2005. Likewise, the crash rate (crashes per million vehicle-miles traveled) increased steadily from 0.715 in 2001 to 2.913 in 2005. For all years studied, the average crash rates for SR 674 exceeded the statewide average rate for a comparable rural 2-3 lane highway (0.590 crashes per million vehicle-miles traveled). The total economic loss due to crashes occurring from 2001 to 2005 within the study area was estimated to be \$13,150,000.

More detailed information on the safety statistics for the study area roadways is provided in **Section 4.1.9** of this document.

3.2 REFERENCES

- ¹ *Final Corridor Management Report*; SR 674 Corridor Management Study from SR 45 (US 41) to CR 579; prepared for the Florida Department of Transportation by HDR Engineering, Inc.; August 2006
- ² *1990 Census Population and Housing by Census Tract*; Hillsborough County City-County Planning Commission; September 1991
- ³ *Census 2000 Report Initial Data Release*; Hillsborough County City-County Planning Commission; April 2001
- ⁴ *Hillsborough County – 2025 Long Range Transportation Plan*; Hillsborough County MPO; Adopted November 2004
- ⁵ *Hillsborough County Comprehensive Plan*; Hillsborough County City-County Planning Commission; Adopted 1989 and as amended

SECTION 4.0

EXISTING CONDITIONS

4.1 EXISTING ROADWAY CHARACTERISTICS

4.1.1 Functional Classification

According to the 2000 Urban Area Boundaries and Federal Functional Classification Map, between US 301 (SR 43) and CR 579, SR 674 is functionally classified as *urban minor arterial*. West of US 301 (SR 43), SR 674 is classified as *urban principal arterial-ther*. East of CR 579, SR 674 is classified as *rural minor arterial*.

In Hillsborough County's *Comprehensive Plan*,¹ SR 674 is functionally classified as *principal arterial* from US 301 (SR 43) to CR 579 and beyond to CR 39. West of US 301 (SR 43), SR 674 is classified as *minor arterial*.

4.1.2 Typical Section

Within the study area limits, SR 674 is mostly a two-lane roadway with the exception of a short segment just east of US 301 (SR 43) where it transitions from four to two lanes. As previously shown in **Exhibit 2-2**, the existing typical section of SR 674 is rural along the entire length of the project and features two 12-foot-wide travel lanes with 4-foot-wide shoulders and swales on both sides. From 14th Street to Railroad Street, a 5-foot-wide sidewalk is provided along the north right of way line. The right of way width varies from 180 feet just east of US 301 (SR 43) for a length of approximately 2,600 feet, to 100 feet from this point to West Lake Drive, to 80 feet from West Lake Drive and Edina Street, to 100 feet east of Edina Street. The posted speed limit varies from 40 to 45 mph.

4.1.3 Pedestrian and Bicycle Facilities

The Hillsborough County's *Comprehensive Plan* and the MPO's *Year 2025 LRTP*² do not include SR 674 as a proposed pedestrian corridor. However, as previously noted, a 5-foot-wide sidewalk is currently provided along the north side of SR 674 from 14th Street to Railroad Street.

SR 674 is included in the *Comprehensive Plan* of Hillsborough County (Map 22) as an existing bicycle route.

4.1.4 Right of Way

Right of way information for SR 674 was researched through the Department's files and records. There are no as-built plans and/or right of way maps available for the subject area of SR 674. **Table 4-1** summarizes the existing right of way widths along SR 674 according to the Hillsborough County Property Appraiser's records. As shown, the right of way width predominantly varies from 80 to 100 feet.

Table 4-1 – Existing Right of Way along SR 674

From – To	Segment Length (miles)	Right of Way Width* (ft)
US 301 (SR 43) – 2,600 feet east of US 301 (SR 43)	0.5	180
2,600 feet east of US 301 (SR 43) – West Lake Drive	0.5	100
West Lake Drive – Edina Street	1.3	80
Edina Street – East of CR 579	0.1	100

* Source: Hillsborough County Property Appraiser's records

4.1.5 Horizontal Alignment

The horizontal alignment information shown in **Table 4-2** was based on the Department's *Straight Line Diagrams*.³ In general, SR 674 follows a tangent alignment through the study area. Two minor curves and a "break point" adjust the horizontal alignment. Both curves meet current design standards.

4.1.6 Vertical Alignment

There are no available survey data on the vertical alignment of SR 674. According to field observations, the profile of SR 674 in the study area is flat with grades less than 2.0%.

Table 4-2 – Existing Horizontal Alignment Characteristics for SR 674

P.I. Milepost (from)	P.I. Milepost (to)	Bearing	Curve Characteristics		
			Deflection Angle	Curvature	Approximate Curve Location
4.991	7.083	S 89° 59' 08" E			
			3° 05' LT	0° 45' 00"	West of West Lake Drive
7.083	7.169	N 86° 54' 08" E			
			3° 30' RT	0° 42' 00"	East of West Lake Drive
7.169	8.376	S 89° 35' 52" E			
			0° 18' LT	0° 00' 00"	Deflection point without curve at Railroad Street
8.376	9.174	S 89° 53' 52" E			

* Based on the Department's *Straight Line Diagrams*.

4.1.7 Existing Drainage Conditions

A *Preliminary Drainage Analysis Technical Memorandum*⁴ was prepared for this PD&E Study. This section summarizes the findings presented in that document.

United States Geological Survey (USGS) Quadrangle maps, Southwest Florida Water Management District (SWFWMD) topographic maps, and Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) were used to identify flood-prone areas within the SR 674 corridor. In addition, field inspections were conducted and the Department's roadway maintenance staff was contacted in February 2007 to identify obvious drainage problems.

No flooding occurrences were cited for the study area. The existing cross drains along SR 674 appear to be adequate in serving the current drainage needs of the project. **Table 4-3** provides a list of all drainage structures along SR 674.

Section 4.3.3.2 discusses floodplain involvement within the limits of this project. There are no regulatory floodways within the limits of this project.

Table 4-3 – Existing Cross Drain Inventory

Cross Drain No.	Location (Milepost)	Size & Material	Comments
1	6.300	2 – 36” RCP ^{(1) (2)}	Located approximately 0.24 miles east of US 301 (SR 43); drains north to south into Dug Creek
2	7.691	1 – 18” RCP	Located west of Maggie Street; drains north to south into Lake Wimauma
3	7.788	2 – 30” RCP	Located east of Maggie Street; drains north to south into Lake Wimauma
4	8.402	1 – 24” RCP ⁽²⁾	Located east of Edina Street; drains south to north into Moody Lake

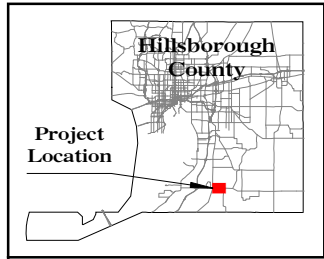
⁽¹⁾ RCP: Reinforced Concrete Pipe

⁽²⁾ Cross drain is not shown on the Department’s Straight Line Diagrams

4.1.8 Geotechnical Data

To generally assess the near-surface conditions within the limits of the project, the *Soil Surveys of Hillsborough County*⁵ provided by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) (formerly known as Soil Conservation Service) was reviewed. A map of the existing soil types in the study area is shown on **Exhibit 4-1**. The soils data are summarized in **Table 4-4**.

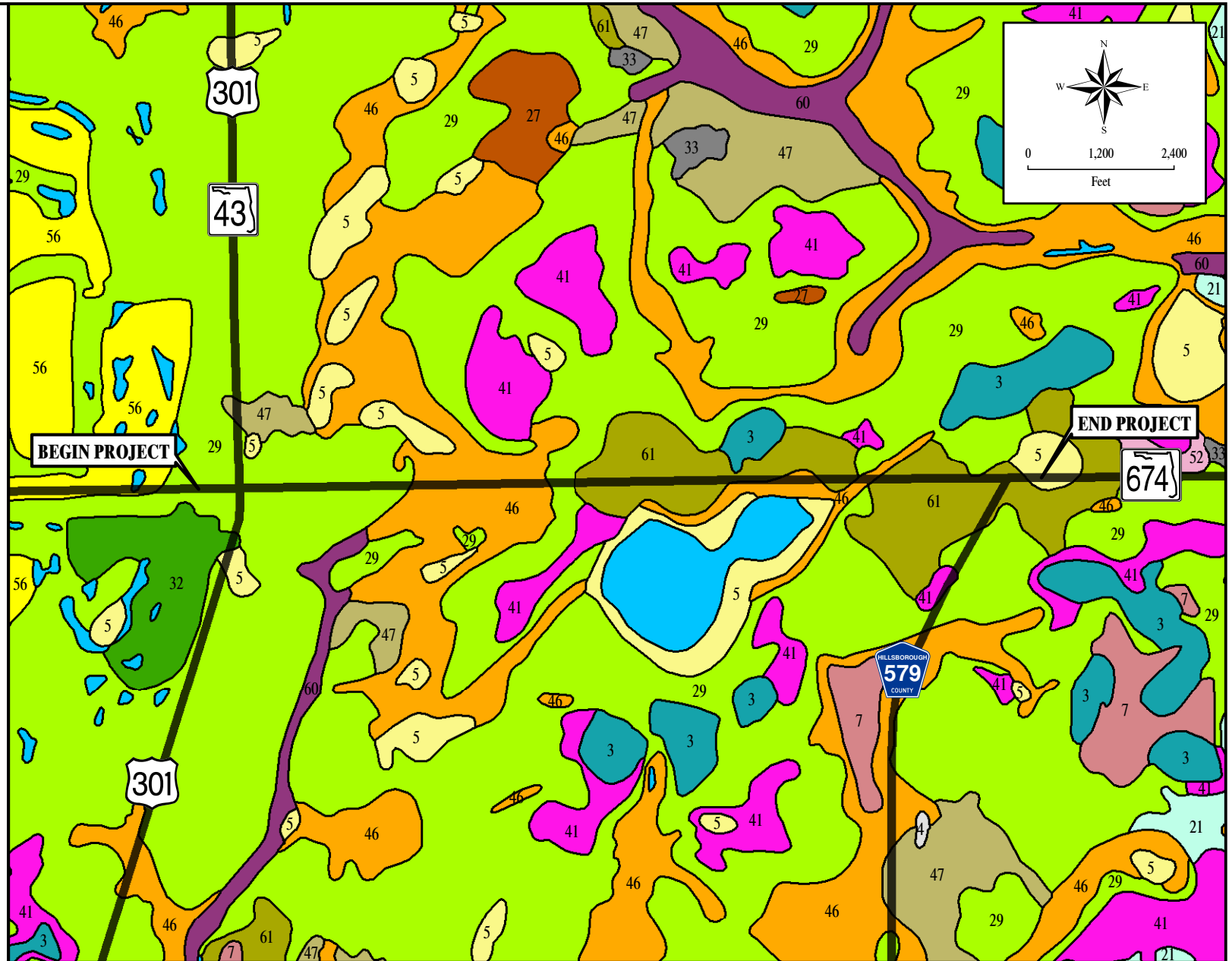
In general, the surficial soils consist of Archbold Fine Sand (Soil Number 3), Basinger, Holopaw and Samsula Soils, Depressional (Soil Number 5), Myakka Fine Sand (Soil Number 29), Pomello Fine Sand (Soil Number 41), St. John’s Fine Sand (Soil Number 46), Smyrna Fine Sand (Soil Number 52), Winder Fine Sand (Soil Number 60), and Zolfo Fine Sand (Soil Number 61). Descriptions of these soils are provided below.



USDA SOIL TYPES

- ARCHBOLD FINE SAND (3)
- ARENTS; NEARLY LEVEL (4)
- BASINGER; HOLOPAW AND SAMSULA SOILS; DEPRESSIONAL (5)
- CANDLER FINE SAND; 0 TO 5 PERCENT SLOPES (7)
- IMMOKALEE FINE SAND (21)
- MALABAR FINE SAND (27)
- MYAKKA FINE SAND (29)
- MYAKKA-URBAN LAND COMPLEX (32)
- ONA FINE SAND (33)
- POMELLO FINE SAND; 0 TO 5 PERCENT SLOPES (41)
- SEFFNER FINE SAND (47)
- SMYRNA FINE SAND (52)
- ST. JOHNS FINE SAND (46)
- URBAN LAND (56)
- WINDER FINE SAND; FREQUENTLY FLOODED (60)
- ZOLFO FINE SAND (61)
- WATER FEATURES

Data Sources:
United States Department of Agriculture &
Soil Conservation Service, November, 1988



SR 674 PD&E STUDY
From SR 43 (US 301) to CR 579
Hillsborough County
WPI Segment No. 422762 1

Soils Survey Map

Exhibit 4-1

Table 4-4 – USDA SCS Soil Survey Information

USDA SOIL SERIES	SEASONAL HIGH GROUNDWATER TABLE		SOIL CLASSIFICATION		
	DEPTH (feet)	DURATION (months)	DEPTH (inches)	UNIFIED	AASHTO
Archbold Fine Sand, 0 to 2% Slopes (3) *	3.5-6.0	Jun-Nov	0-4 4-80	SP SP	A-3 A-3
Basinger Fine Sand, Depressional 0 to 2% Slopes (5)	+2-1.0	Jun-Feb	0-7 7-28 28-42 42-80	SP SP, SP-SM SP, SP-SM SP, SP-SM	A-3 A-3, A-2-4 A-3, A-2-4 A-3, A-2-4
Holopaw Fine Sand, Depressional 0 to 2% Slopes (5)	+2-1.0	Jun-Apr	0-6 6-52 52-80	SP, SP-SM SP, SP-SM SM, SM-SC	A-3 A-3 A-2-4
Samsula Fine Sand, Depressional 0 to 1% Slopes (5)	+2-1.0	Jan-Dec	0-34 34-80	PT SP-SM, SM, SP	--- A-3, A-2-4
Myakka Fine Sand, 0 to 2% Slopes (29)	0-1.0	Jun-Nov	0-20 20-30 30-80	SP, SP-SM SM, SP-SM SP, SP-SM	A-3 A-3, A-2-4 A-3
Pomello Fine Sand, 0 to 5% Slopes (41)	2.0-3.5	Jul-Nov	0-43 43-55 55-80	SP, SP-SM SP-SM, SM SP, SP-SM	A-3 A-3, A-2-4 A-3
St. John's Fine Sand, 0 to 2% Slopes, (46)	0-1.0	Jun-Apr	0-12 12-29 29-46 46-80	SP, SP-SM SP, SP-SM SP-SM, SM SP, SP-SM	A-3 A-3 A-3, A-2-4 A-3
Smyrna Fine Sand, 0 to 2% Slopes (52)	0-1.0	Jul-Oct	0-12 12-20 20-80	SP, SP-SM SM, SP-SM SP, SP-SM	A-3, A-2-4 A-3, A-2-4 A-3
Winder Fine Sand, Frequently Flooded 0 to 2% Slopes (60)	0.0-1	Jun-Dec	0-14 14-17 17-33 33-80	SP, SP-SM SM SM, SM-SC, SC, GM-GC SP, SP-SM, SM	A-3, A-2-4 A-2-4 A-2-4, A-2-6, A-1-B A-3, A-2-4, A-1-B
Zolfo Fine Sand, 0 to 2% Slopes (61)	2.0-3.5	Jun-Nov	0-3 3-60 60-80	SP-SM SP-SM, SM SP-SM, SM	A-3, A-2-4 A-3, A-2-4 A-3, A-2-4

* Reference number for the specific soil type on the Soil Survey maps.

- **Archbold Fine Sand, less than two percent slopes (Soil Number 3):** this deep, moderately well drained soil is formed in sandy marine sediment and can be found on low ridges on the flatwoods. In most years, a seasonal high water table is at a depth of 42 to 60 inches for about 6 months. Typically, the surface layer is loose light gray fine sand 0 to 2 inches thick. The underlying layer is fine white sand to a depth of 80 inches.
- **Basinger, Holopaw and Samsula Soils, less than two percent slopes, (Soil Number 5):** Basinger, Holopaw and Samsula are deep, very poorly drained soils closely associated on the landscape. Basinger and Holopaw are formed in mineral material, whereas Samsula is organic. They can all be found in swamps and depressions and have a seasonal high water table within 10 inches of the surface.
 - Basinger: Basinger soil consists completely of single grained, loose fine sand. The surface layer is black and 7 inches deep. The next 21 inches are gray followed by 14 inches of brown and grayish brown and the lower 38 inches are brownish gray.
 - Holopaw: The surface layer is a black mucky fine sand 6 inches thick, followed by fine sand to a depth of 52 inches and sandy loam to a depth of 80 inches. From 6 to 12 inches is dark gray, the next 30 inches is light gray, followed by 10 inches of grayish brown. The next layer is 10 inches of gray with dark yellowish brown mottles and the lower 16 inches is light gray. Depression areas are often ponded in Holopaw soil.
 - Samsula: Typically, Samsula soil contains 34 inches of muck followed by fine sand to a depth of 80 inches. The surface layer is 10 inches of black muck followed by 24 inches of dark reddish brown. From 34 to 40 inches is black fine sand and the lower 40 inches is light brownish gray. Samsula soil is formed in well decomposed organic matter underlain by sandy marine sediment and the organic material ranges from 16 to 48 inches.
- **Myakka Fine Sand, less than 2 percent slope (Soil Number 29):** this deep, poorly to very poorly drained soil is formed in marine sediment and can be found on broad plains on the flatwoods and in tidal areas. During most years, the

seasonal high water table is within 10 inches of the soil surface for 1 to 4 months. Typically, Myakka fine sand has a 5 inch very dark gray surface layer, followed by 15 inches of gray then 5 inches, respectively, of black and reddish brown layers. From 30 to 38 inches is brownish yellow, the next 17 inches is very pale brown and the lower layer, from 55 to 80 inches, is dark grayish brown.

- **Pomello Fine Sand, 0 to 5 percent slope, (Soil Number 41):** this deep, moderately well drained soil is formed from marine sediment and found on low ridges on the flatwoods. The seasonal high water table is most commonly found at a depth of 24 to 40 inches for 1 to 4 months. Typically, the surface layer is very dark gray sand about 3 inches thick. The next layer, extending to a depth of 43 inches, is light gray followed by a 3 inch layer of dark brown and then brown to a depth 55 inches. The lower layer is grayish brown and extends up to 80 inches deep.
- **St. John's Fine Sand, less than 2 percent slope (Soil Number 46):** this deep, poorly drained soil is formed in sandy, marine sediment and found on broad, low-lying plains on the flatwoods. For 2 to 6 months per year, the seasonal high water table is usually within 15 inches of the surface. Typically, the surface layer is black sand 6 inches deep. The underlying layers are also fine sand to a depth of 80 inches. From 6 to 12 inches is very dark grayish brown, followed by 17 inches of light brownish gray and 7 inches of black. The next 10 inches are dark reddish brown, followed by 4 inches of dark yellowish brown and a lower light brownish gray layer that descends to the 80 inch depth.
- **Smyrna Fine Sand, less than 2 percent slope (Soil Number 52):** this deep, poorly drained soil is formed in sandy marine sediment and can be found on broad, low-lying, convex swells on the flatwoods. The seasonal high water table, for more than two months during most years, is within 10 inches of the soil surface. Typically, the surface layer is very dark gray sand about 4 inches deep. The underlying layers are also fine sand to a depth of 80 inches. From 4 to 12 inches is gray, the next three inches are dark brown, the next 5 inches are very

dark grayish brown, the next 25 inches are light brownish gray and the lower 35 inches are brown.

- **Winder Fine Sand, less than 2 percent slope (Soil Number 60):** this deep, poorly drained soil is formed in loamy marine sediment and found in broad sloughs on flatwoods. The seasonal high water table is within 10 inches of the soil surface for 2 to 6 months during most years. Typically, the surface layer is very dark gray fine sand about 4 inches thick. The underlying layers are fine sand to a depth of 10 inches, a sandy loam/fine sand mixture to a depth of 14 inches, sandy clay loam to a depth of 58 inches and sandy loam to a depth of 80 inches. From 4 to 10 inches is grayish brown, the next 4 inches are grayish brown with yellowish brown and brownish yellow mottles, the next 16 inches are gray followed by 28 inches of light gray with white and olive mottles and the lower 22 inches are gray.
- **Zolfo Fine Sand, less than 2 percent slope (Soil Number 61):** this deep, somewhat poorly drained soil is formed in sandy marine sediment and found on broad low lying ridges on the flatwoods. The seasonal high water table is usually at a depth of 24 to 40 inches for more than 2 to 6 months. Typically, the surface layer is 3 inches of very dark fine gray sand. The underlying layers are also fine sand to a depth of 80 inches. From 3 to 15 inches is grayish brown with light gray and dark yellowish brown mottles, the next 51 inches are light gray with yellowish brown and brownish yellow mottles, followed by 9 inches of grayish brown and the lower 20 inches are dark brown.

4.1.9 Crash Data

The Department's Crash Analysis Report System (CARS) crash safety records for SR 674 for the five most recent available years (2001-2005) were studied. The crash data was extracted for a distance 0.1 miles beyond the project limits in an effort to include all crashes that resulted within the study area. It should be noted that only crashes that involve injuries, fatalities or major property damage are included in the Department's crash database.

Table 4-5 summarizes the characteristics of the crashes that occurred in the study area for the five-year period from 2001 to 2005. Crash records indicate that, during this period, a total of 147 crashes occurred in the study area. Rear-end and angle crashes accounted for more than fifty-percent of the crashes. The third most common crash type was found to be a crash resulting from a left turning vehicle. Since rear-end crashes were found to be the most common type of crash in the study area, the weather and roadway conditions at the time of these crashes were investigated to see if either played a role in the crashes. It was discovered that poor weather conditions were recorded for only 13 of the 147 crashes. Similarly, a slippery roadway surface was recorded in only 13 of the 147 crashes. Therefore, neither weather nor pavement conditions appear to be a contributing factor to most of these crashes.

Of the 147 crashes, one crash in 2003 resulted in a fatality. This crash was found to be alcohol related. Also, a total of 96 injuries resulted from the 147 crashes. From 2001 through 2005, the number of crashes steadily increased for this segment of SR 674, from 11 crashes in 2001 to 50 crashes in 2005. Likewise, the crash rate (crashes per million vehicle-miles traveled) increased steadily from 0.715 in 2001 to 2.913 in 2005. Crash rates for 2001 through 2005 exceeded the statewide average rate for a rural 2-3 lane roadway (0.590 crashes per million vehicle-miles traveled), which is how 80% of this segment of SR 674 is classified.

Table 4-6 summarizes the crashes in the study area by location. As shown, of the 147 crashes, 106 crashes occurred within 200 feet of an intersection. Of the nineteen intersections within the study limits, the SR 674/US 301 (SR 43) and SR 674/West Lake Drive intersections were found to have the highest number of crashes, with 26 and 19 crashes, respectively. Further investigation suggested that the crashes at these locations were not related to lighting, as roadway lighting is provided at the intersections and most crashes occurred in the daylight. Weather was also not found to be a contributing factor to the crashes at these intersections, as no poor weather conditions were recorded for any of the crashes.

Table 4-5 – Crash Data Summary for SR 674

Crash Characteristic	2001	2002	2003	2004	2005	Total	% of Total
Type of Crash							
Unknown	0	0	1	0	0	1	1%
Rear-end	7	11	7	6	13	44	30%
Head-on	0	0	1	4	3	8	5%
Angle	1	1	8	11	13	34	23%
Left-turn	2	1	2	5	5	15	10%
Right-turn	0	1	2	0	0	3	2%
Sideswipe	0	0	4	2	5	11	7%
Backed into	0	0	0	0	2	2	1%
Collision with parked vehicle	0	0	0	0	1	1	1%
Collision with MV on roadway	0	0	0	1	1	2	1%
Collision with pedestrian	0	0	0	1	0	1	1%
Collision with animal	0	0	0	0	1	1	1%
Hit sign/sign post	0	1	1	0	0	2	1%
Hit utility/light pole	0	0	1	0	0	1	1%
Hit concrete barrier wall	0	0	1	0	0	1	1%
Hit tree/shrubbery	0	0	2	0	0	2	1%
Hit other fixed object	1	0	0	0	1	2	1%
Run in ditch/culvert	0	0	1	3	0	4	3%
Overturned	0	0	0	0	2	2	1%
Fire	0	0	2	0	0	2	1%
All other	0	2	2	1	3	8	5%
Crash Severity							
Fatalities	0	0	1	0	0	1	
Injuries	0	0	31	14	41	96	
Property damage only	11	17	17	18	28	91	
Total Number of Crashes	11	17	35	34	50	147	
AADT (vpd)	16,500	17,100	18,300	17,800	18,400		
Segment Length (miles)	2.556	2.556	2.556	2.556	2.556		
Average Crash Rate	0.715	1.066	2.050	2.047	2.913		

Table 4-6 – Crashes at Intersections of SR 674

Intersection of SR 674	Milepost	Number of Crashes	Fatalities
At US 301 (SR 43)	6.063	26	0
At Sun City Center Mobile Home Park Entrance	6.711	1	0
At Worth Avenue	6.896	2	0
At West Lake Drive	7.055	19	0
At 14 th Street	7.157	2	0
At 13 th Street	7.242	1	0
At 12 th Street	7.325	4	1
At 11 th Street	7.406	1	0
At 10 th Street	7.490	4	0
At 9 th Street	7.574	1	0
At Maggie Street	7.743	0	0
At Sheffield Street	7.906	8	0
At 7 th Street	7.993	6	0
At 6 th Street	8.076	6	0
At 5 th Street	8.159	3	0
At 4 th Street	8.243	10	0
At Railroad Street	8.326	10	0
At Edina Street	8.391	1	0
At CR 579	8.462	1	0
Total		106	1

According to the crash data, several locations within the study area appeared on the High Crash Lists in 2005. More specifically, the following locations of SR 674 were included in the list of High Crash Roadway Segments for District 7:

- from the west of the US 301 (SR 43) intersection (MP 6.063) to east of the intersection where SR 674 changes from divided to an undivided roadway (MP 6.286),
- from east of Sheffield Street (MP 7.923) to the CR 579 intersection (MP 8.426),
- the intersection of SR 674 and US 301 (SR 43) was listed as a High Crash Spot for 2005. This intersection was ranked #130 on the list of high crash locations for District 7 with a crash rate of 2.323 crashes per million entering vehicles.

Economic losses due to the crashes were estimated in accordance with the Department's Safety Office – Data Processing and Maintenance Manuals, June 2003. *Property Damage Only* crashes have an average economic loss of \$2,000 each, *Injury* crashes have an average

economic loss of \$108,000 each, and *Fatality* crashes have an average economic loss of \$2,600,000 each. Therefore, using the historical crash statistics from **Table 4-6**, the total economic losses due to crashes occurring from 2001 to 2005 within the study area were calculated to be \$13,150,000.

4.1.10 Intersections and Signalization

SR 674 intersects with several roadways in the study area. All intersections are unsignalized except the intersection at US 301 (SR 43) which is signalized. The intersection lane-geometry at the major intersections (US 301 (SR 43), West Lake Drive, and CR 579) is shown on **Exhibit 4-2**.

4.1.11 Lighting

Roadside lighting for the existing two lane roadway is provided along the south side of SR 674 from east of US 301 (SR 43) to 9th Street and along the north side of SR 674 from 9th Street to CR 579. Roadside lighting is provided on both sides of SR 674 for the short existing 4 lane section from the intersection of US 301 (SR 43) to approximately 1,200 feet east of this intersection.

4.1.12 Utilities

Table 4-7 summarizes the characteristics of the existing utilities within the study area.

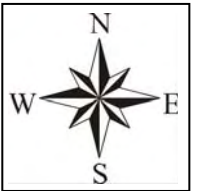
4.1.13 Pavement Conditions

According to the latest pavement condition survey, performed by the FDOT in 2006, the ratings for the segment of SR 674 between US 301 (SR 43) and MP 6.286 (the transition segment from four to two lanes) were 0.0 for cracking, 5.2 for ride ability, and 8.0 for rutting.

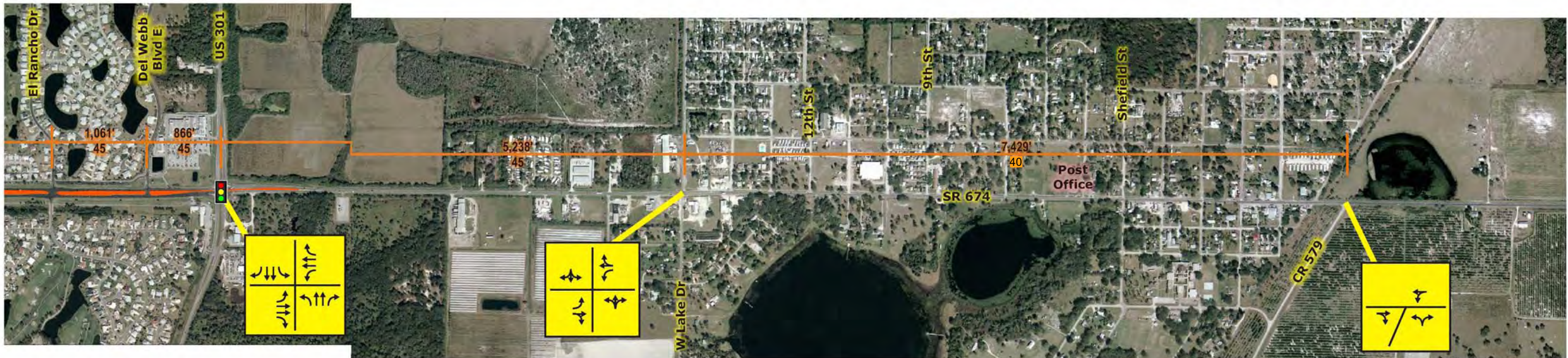
The two-lane segment of SR 674 offers good pavement conditions. Along this segment, the pavement ratings for rutting, cracking, and ride ability ranged from 7.0 to 7.9.

4.2 EXISTING STRUCTURES

There are no bridge structures within the limits of this PD&E Study. **Table 4-3**, presented earlier, provides information on the existing drainage culverts within the project limits.



N.T.S.



Source: *Final Corridor Management Report*; SR 674 Corridor Management Study from SR 45 (US 41) to CR 579; prepared for the Florida Department of Transportation by HDR Engineering, Inc.; August 2006.



SR 674 PD&E Study
From US 301 (SR 43) to CR 579
Hillsborough County
WPI Segment No. 422762 1

Travel Lane Configuration and Traffic Controls At Major Intersections Along SR 674

Exhibit 4-2

Table 4-7 – Existing Utilities within the Study Area

Type of Utility Service	Utility Owner	Type of Equipment	Location
Electric – Distribution and Transmission	TECO / Tampa Electric	Poles and overhead electric lines	Overhead lines on both sides of the right of way. Poles at the right of way line.
		Tampa Electric Easement	Easement crossing on SR 674 just west of CR 579.
		TECO Substation	South side of right of way, 1,400 feet east of US 301 (SR 43).
Natural Gas	TECO / Peoples Gas	6" steel gas main, 250 psig	North side of right of way, from west of US 301 (SR 43) to the limits of the project.
Water and Sewer	Hillsborough County	36" water main	Water main crossing along the west side of US 301 (SR 43) right of way.
		12" force main	Along the north side of the right of way for entire length of the project.
		16" water main	Along the north side of the right of way beginning at US 301 (SR 43) and heading east for approximately 320 feet.
		3" to 4" force main	Along the south side of the right of way.
Communications	Level III	12 x 1-1/4" fiber optic cable (FOC)	Ductbank crossing in the east side of US 301 (SR 43) right of way.
	AT&T Long Distance	1 x 4" HDPE conduit with fiber optic cable	Along the north side of the right of way beginning at West Lake Drive and continuing east to the limits of the project.
	Verizon of Florida	200 pair (pr) & 400 pr buried telephone retired in place	Along the south side of the right of way from US 301 (SR 43) to West Lake Drive.
		3 x 4" conduit with 2 FOC, 100 pr, 200 pr, 400 pr, 1200 pr buried telephone cable	Along the south right of way line for the entire length of the project.
Traffic Signals and Lighting	Hillsborough County	Light poles and underground cables	Along the north and south sides of the right of way for the entire length of the project.
Cable	Bright House Network, LLC	Overhead TV and buried TV cables	Overhead TV cable along the north side of the right of way for the entire project length. Buried TV cable on the NE and SE corners at the US 301 (SR 43) intersection and continuing approximately 300 feet east.

4.3 ENVIRONMENTAL CHARACTERISTICS

4.3.1 Land Use Data

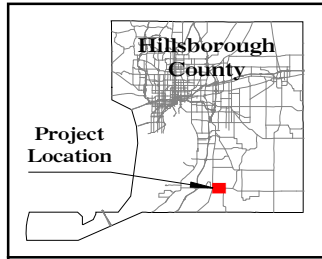
4.3.1.1 Existing Land Use

Exhibit 4-3 displays the current land uses in the vicinity of the project corridor, according to the Hillsborough County's *Comprehensive Plan*. As shown, from west of US 301 (SR 43) to West Lake Drive, land uses are mostly agricultural, residential, and commercial. Between West Lake Drive and CR 579, existing land uses are predominantly residential, commercial, and institutional (church properties). East of CR 579, the land use is primarily agricultural.

4.3.1.2 Future Land Use

Exhibit 4-4 illustrates future land use designations in and adjacent to the study area. As shown, the adopted 2015 Future Land Use Map for unincorporated Hillsborough County designates much of the land within the project area for residential uses with low gross density (from 2 to 4 dwelling units per gross acre). The areas in the vicinity of US 301 (SR 43), West Lake Drive, and between 7th Street and CR 579, in Wimauma, are designated for commercial and office land uses.

Hillsborough County prepared the *Wimauma Village Plan*, a plan that defines the vision and goals for the future growth of the Wimauma area that extends from Kenilworth Avenue to CR 579. The objectives of this Plan are to “discourage urban sprawl, promote preservation and contiguous open space, provide centralized employment and shopping opportunities, and expand areas available for light industrial and office development.” The Plan calls for encouraging commercial development along SR 674 within the study area limits and light industrial and office uses east of CR 579. It also identifies Center Street, between 7th Street and Railroad Street, as a potential alternative to SR 674 to function as the “Main Street” for this community.

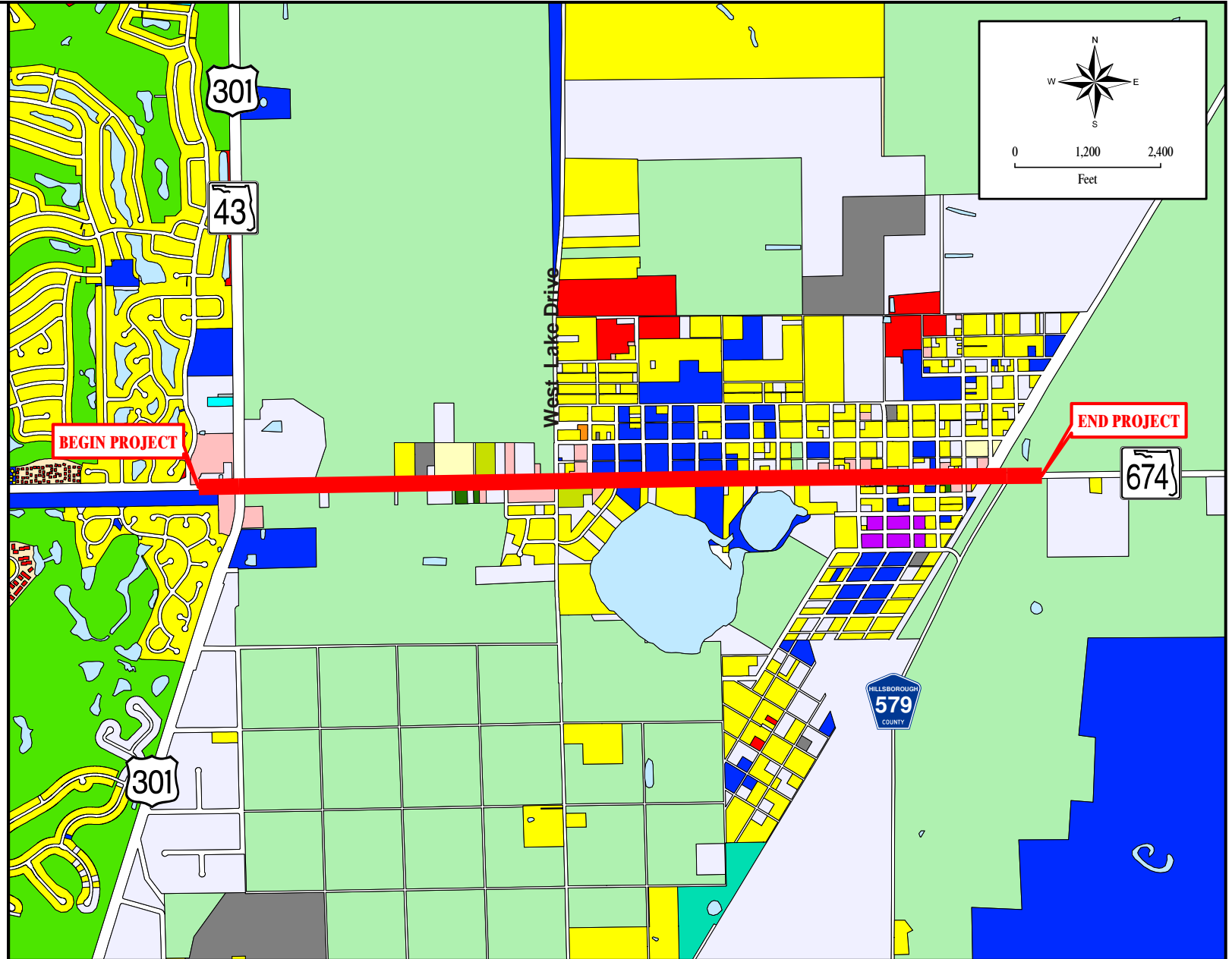


Project Location

Legend

- Agricultural
- Educational
- Heavy Commercial
- Heavy Industrial
- Light Commercial
- Light Industrial
- Mobile Home Park
- Multi-Family
- Natural
- Not Classified
- Public / Quasi-Public / Institutions
- Public Communications / Utilities
- Recreational / Open Space
- Right of Way / Roads / Highways
- Single Family / Mobile Home
- Two Family
- Unknown
- Vacant
- Water

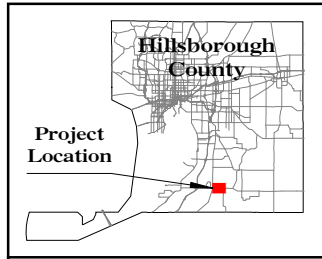
Data Source:
The Hillsborough County City-County Planning Commission,
October, 2006



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Existing Land Use

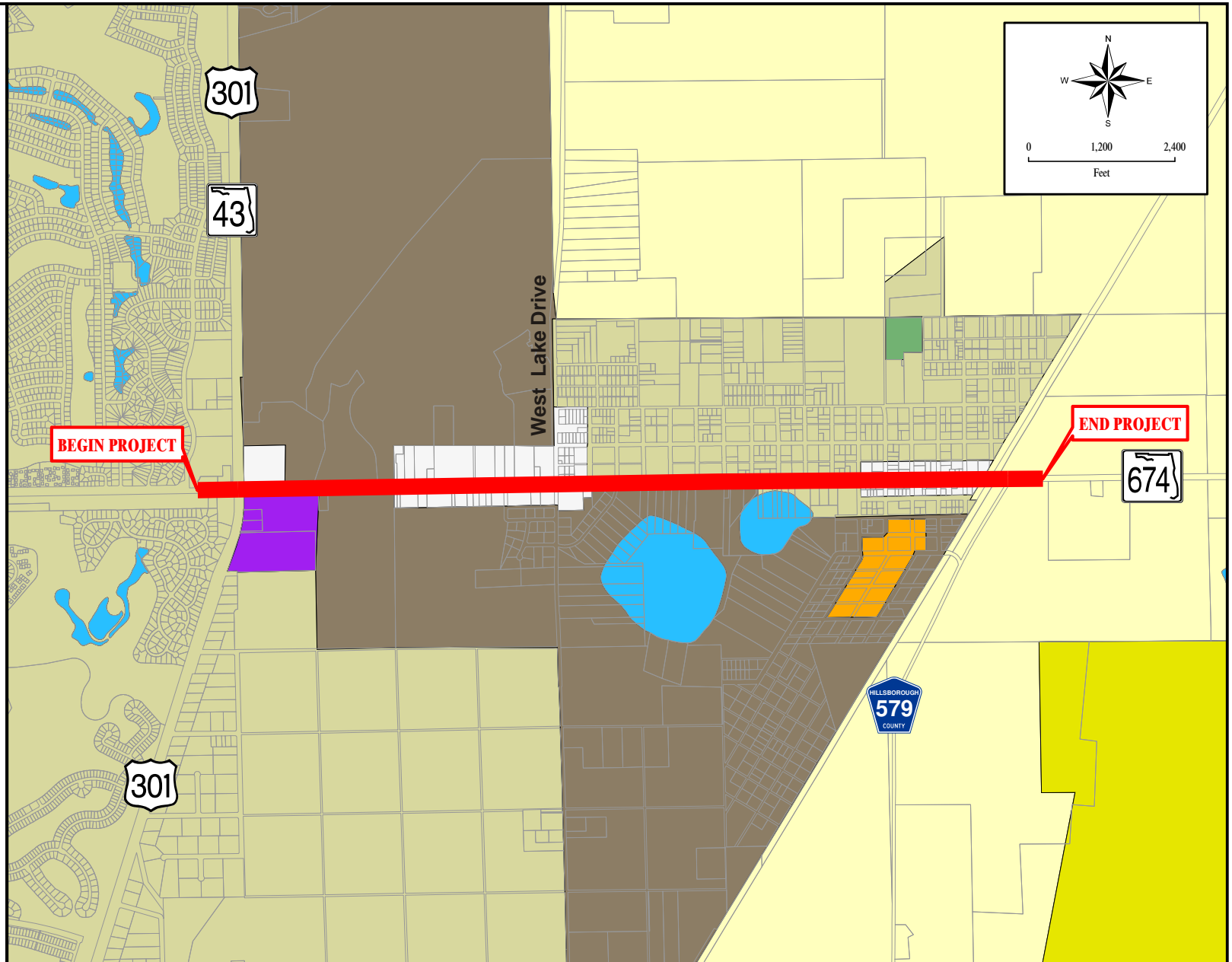
Exhibit 4-3



Legend

- NATURAL PRESERVATION
- OFFICE COMMERCIAL-20 (.75 FAR)
- PUBLIC/QUASI-PUBLIC
- RESEARCH CORPORATE PARK (1.0 FAR)
- RESIDENTIAL PLANNED-2 (.35 FAR)
- RESIDENTIAL-4 (.25 FAR)
- RESIDENTIAL-6 (.25 FAR)
- RESIDENTIAL-9 (.35 FAR)
- WATER
- PARCEL

Data Source:
The Hillsborough County City-County Planning Commission,
October, 2006



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Future Land Use

Exhibit 4-4

Several large residential developments are in the planning, permitting, or construction stages in the vicinity of SR 674, between US 301 (SR 43) and West Lake Drive. These developments are as follows:

- **DG Farms DRI** – The Valencia Homes development with a total of 2,836 residences is proposed to be constructed within the DG Farms property on the north side of SR 674 just east of US 301 (SR 43). One of the driveway connections to this development is proposed off of SR 674, approximately 1,600 feet east of US 301 (SR 43).
- **Sunshine Village** – This development is proposed to occur within the parcel that occupies the southeastern corner of the US 301 (SR 43) and SR 674 intersection. The development plan for this community proposes the construction of 184,500 square feet of retail space, 1,753 single family homes and 1,068 town homes.
- **Westlake Village** – This development proposes construction of 865 residences, in three phases, within a parcel that falls on the south side of SR 674 immediately to the east of the Sunshine Village.

Reddick Elementary School was constructed by Hillsborough County on a parcel located on the west side of West Lake Drive north of SR 674. This school accommodates approximately 575 students, and opened in August 2008. Access to this facility is provided from West Lake Drive.

4.3.2 Cultural Features and Community Services

4.3.2.1 Recreation and Conservation Lands

There are two public recreation resources within the study area. The locations of these resources are shown on **Exhibit 4-5**.

- The **Bethune Park Recreation Center** is located at the northwest corner of the North Street and Railroad Street intersection, two blocks north of SR 674. This recreation center is managed by the Hillsborough County Parks, Recreation & Conservation Department and offers playgrounds (including two basketball courts, a soccer field, a softball field, and sand volleyball court) and an electronic

library (open weekdays from 2:00 PM to 9:00 PM). It also serves as an emergency shelter for the homeless during cold weather conditions.

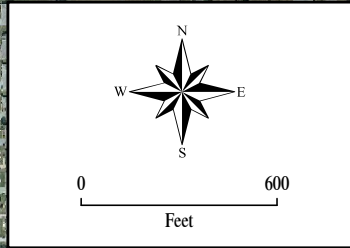
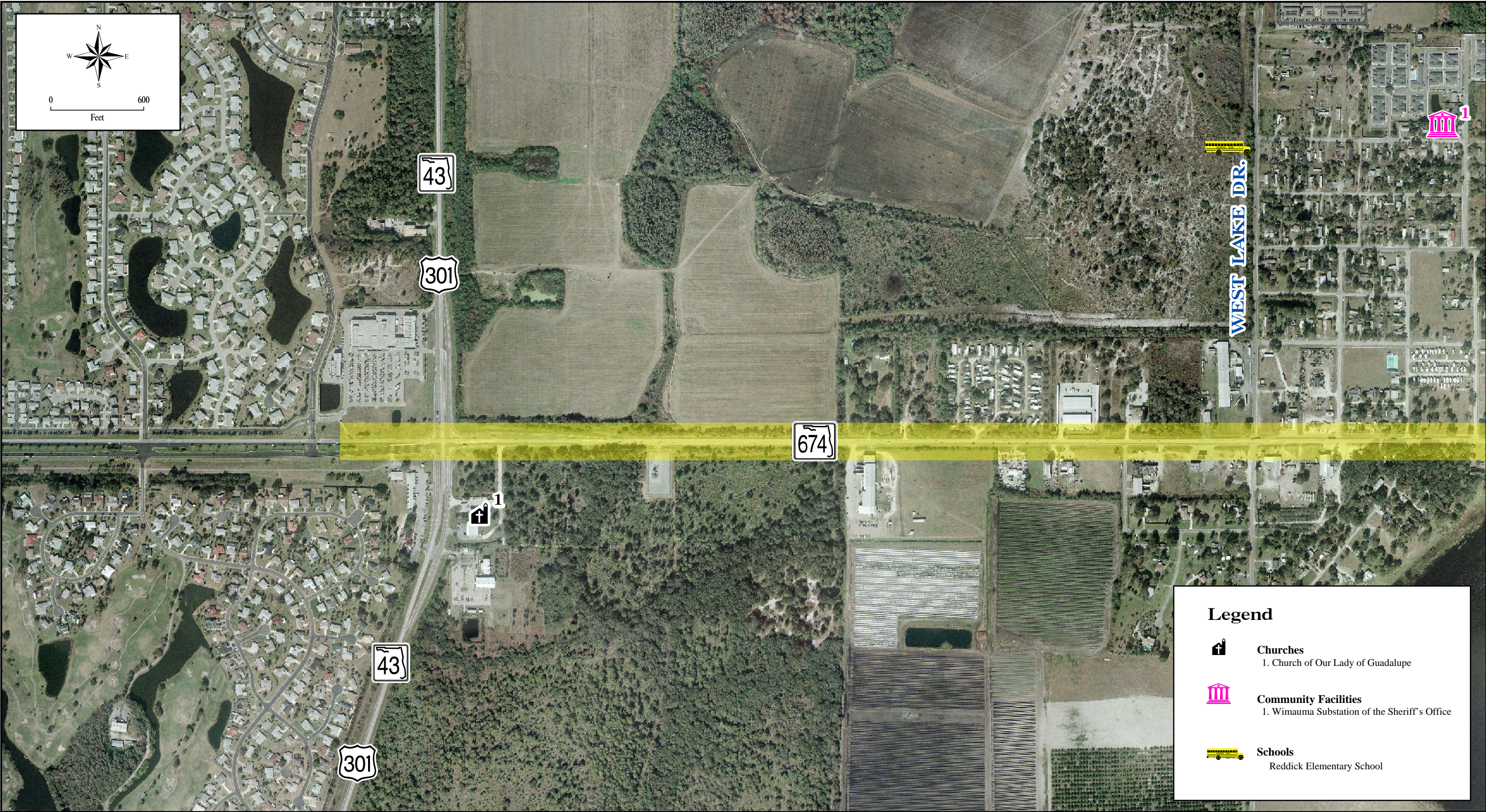
- **Wimauma Park** is located at the southeast corner of the Hillsborough Street and 7th Street intersection, three blocks south of SR 674. This park is managed by the Hillsborough County Parks, Recreation & Conservation Department and offers playgrounds including a soccer field and a softball field. It is open to the public from sunrise to sunset. The **Wimauma Civic Center** is also located in this park.

4.3.2.2 Community Facilities and Services



Several community facilities and services exist in the immediate vicinity of SR 674 as well as within small distances from SR 674, in Wimauma. **Exhibit 4-5** depicts the locations of these facilities and services.

The following facilities exist in the immediate vicinity of SR 674:

- The **Church of God Convention Center** and **Campground** is located on the north side of SR 674 between 11th and 10th Streets,
- The **Church of God** is located on the north side of SR 674 east of 9th Street,
- The **US Post Office** is located on the north side of SR 674 west of Sheffield Street,
- The **Templo Filadelfia Pentecostal Church** is located on the north side of SR 674 west of 4th Street.



Legend

-  **Churches**
1. Church of Our Lady of Guadalupe
-  **Community Facilities**
1. Wimauma Substation of the Sheriff's Office
-  **Schools**
Reddick Elementary School

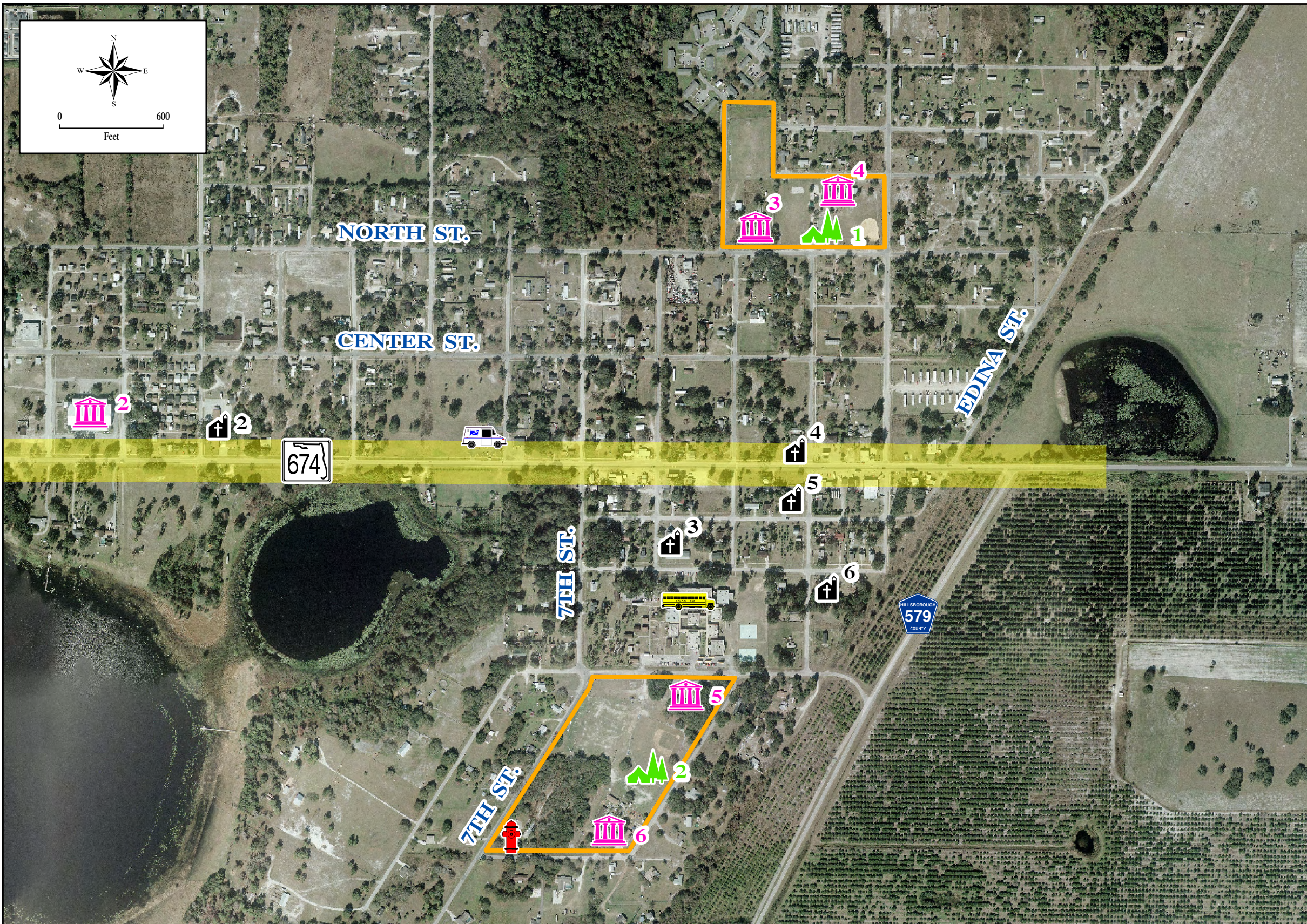


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Community Facilities and Services in the Vicinity of SR 674

Exhibit 4-5



Legend



US Post Office



Wimauma Fire Station 22



Wimauma Elementary School



Churches

2. Church of God

3. First Baptist Church

4. Templo Filadelfia Pentecostal Church

5. Church of Iglesia Adventista Hispana de Wimauma

6. Church of Iglesia de Dios



Community Facilities

2. Church of God Convention Center and Campground

3. Wimauma Senior Center

4. Bethune Park Electronic Library

5. Wimauma Civic Center

6. Wimauma RCMA Migrant Head Start Center



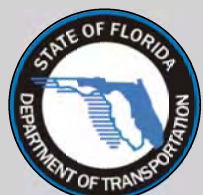
Public Parks Boundary



Public Parks

1. Bethune Park Recreation Center

2. Wimauma Park



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Community Facilities and Services in the Vicinity of SR 674

Exhibit 4-5

The following facilities exist in the general area close to SR 674:

- The **Church of Our Lady of Guadalupe** is located on US 301 (SR 43) just south of SR 674,
- The **First Baptist Church** is located at the southeast corner of the Camp Street and 6th Street intersection, one block south of SR 674,
- The **Church of Iglesia Adventista Hispana de Wimauma** is located at the northwest corner of the Camp Street and 4th Street intersection, one block south of SR 674,
- The **Church of Iglesia de Dios** is located on the south side of Hickman Street, east of 4th Street, two blocks south of SR 674,
- The **Wimauma Substation of the Sheriff's Office** is located on the west side of 12th Street, five blocks north of SR 674,
- **Wimauma Fire Station 22**, of the Hillsborough County Fire Department, is located on the east side of 7th Street, two blocks south of SR 674,
- The **Wimauma Elementary School** is located on the south side of Hickman Street, between 5th and 6th Streets, two blocks south of SR 674,
- The **Wimauma RCMA Migrant Head Start Center** is located at the southeast corner of Wimauma Park at the corner of De Soto and 5th Streets, four blocks south of SR 674,
- The **Wimauma Civic Center** is located at the grounds of the **Wimauma Park**, on Hillsborough Street, three blocks south of SR 674, and
- The **Wimauma Senior Center** is located on the north side of North Street within the grounds of the **Bethune Park Recreation Center**, two blocks north of SR 674.

4.3.2.3 Archaeological and Historic Sites

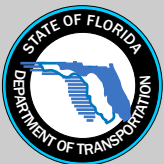
A *Cultural Resources Assessment Survey (CRAS)*⁶ was performed for this project in compliance with the provisions contained in the revised Chapter 267 of Florida Statutes and in conformity with Part 2, Chapter 12 ("Archaeological and Historical Resources") of the Department's *PD&E Manual*⁷ and the standards contained in the *Cultural Resource*

Management Standards and Operations Manual (FDHR 2003; FDOT 1999).⁸ In addition, this survey meets specifications set forth in Chapter 1A-46, Florida Administrative Code. The field surveys described in the *CRAS* were conducted in May 2007.

The purpose of the *CRAS* was to locate, identify, and bound any pre-contact and historic period archaeological sites and historic resources associated with this project, and to assess their significance in terms of eligibility for listing in the National Register of Historic Places (NRHP). A brief description of the findings presented in the *CRAS* is provided below.

- **Archaeological Sites:** The project area of potential effects (APE) for the archaeological survey was defined as the proposed right of way and the adjacent properties. Background research, including examination of the digital database of the Florida Master Site File (FMSF), indicated that no archaeological sites were previously recorded within the APE. The background research suggested a variable probability for archaeological site occurrence within the APE. As a result of the field survey, no archaeological resources were discovered.

Historical/Architectural: The APE for historic resources was defined as the proposed right of way and the adjacent properties. A review of the FMSF and the NRHP indicated that three previously recorded historic resources were located within the project APE. These resources included: the Wimauma Church of the Nazarene (8HI1002), the Church of God Campground/John D. Nichols Worship Center (8HI1003), and the West Farms Office (8HI6562). **Exhibit 4-6** depicts the locations of these resources. All three resources were originally recorded or updated in 1998 during a county-wide historic resources survey, and as a result, 8HI1002 was assessed as potentially eligible for listing in the NRHP as well as the local register. Both 8HI1003 and 8HI6562 were considered ineligible, due to extreme alterations in the case of 8HI1003; and alterations, additions, and relocation in the case of 8HI6562. These three historic resources were not



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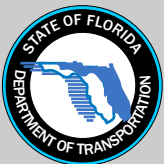
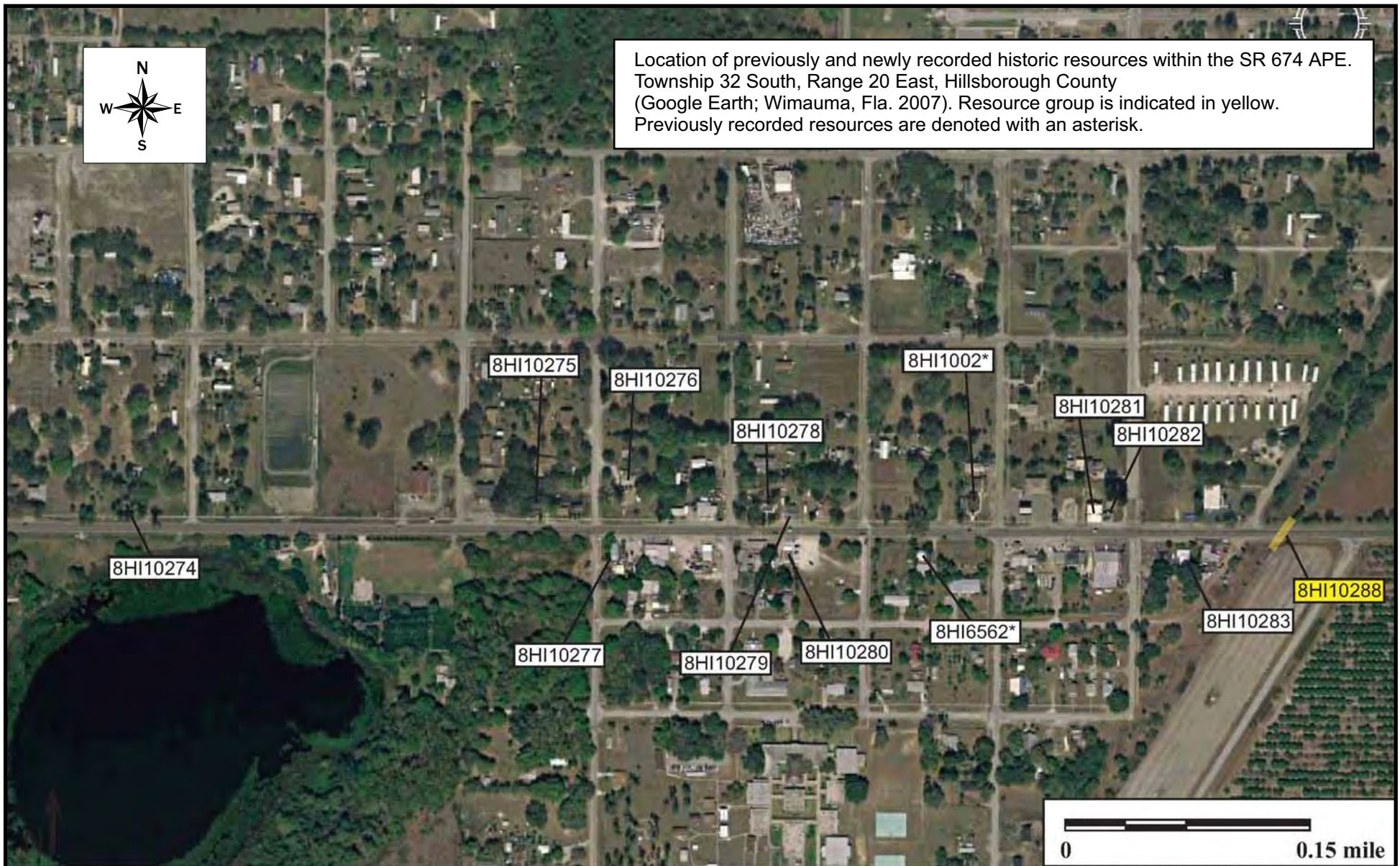
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Historic Resources within the Project's APE (1 of 2)

Exhibit 4-6



Location of previously and newly recorded historic resources within the SR 674 APE. Township 32 South, Range 20 East, Hillsborough County (Google Earth; Wimauma, Fla. 2007). Resource group is indicated in yellow. Previously recorded resources are denoted with an asterisk.



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Historic Resources within the Project's APE (2 of 2)

Exhibit 4-6

evaluated by the Florida State Historic Preservation Officer (SHPO). Based on the findings of the field survey performed for this project, it was concluded that neither 8HI1003 nor 8HI6562 are potentially eligible for listing in the NRHP. Similarly, the former Wimauma Church of the Nazarene – now the Templo Filadelfia Pentecostal Church – was considered ineligible because of a loss of integrity of design, setting, materials, workmanship, feeling, and association. Since the last survey in 1998, major alterations to the exterior fabric, removal of the spiked finial, as well as an addition, have compromised the architectural integrity of this building.

As a result of field survey, a short segment of the CSX Railroad was recorded as it was contained within the project APE. This segment, 8HI10288, constructed ca. 1902, was known in the area as the Seaboard Air Line Railroad. Furthermore, the field survey revealed 30 additional historic resources (50 years of age or older), which were identified, assessed, and recorded. **Exhibit 4-6** depicts the locations of these resources. These resources have been assigned the FMSF numbers 8HI10255 through 8HI10283. Of the 30 resources, 19 scattered residential and commercial buildings were not considered potentially eligible for listing in the NRHP due to alterations, additions, and/or lack of significant historic associations. The remaining 11 resources comprise the Wimauma Church of God Campground Resource Group (8HI10284). Individually, these small residences represent very typical examples of their respective Frame and Masonry Vernacular styles, and bear no unique characteristics. In addition, alterations and additions have compromised their architectural integrity. Therefore, as located within the project APE, the 11 historic resources which comprise 8HI10284 are not considered potentially eligible for listing in the NRHP.

However, viewed collectively as part of a larger whole, the Wimauma Church of God Campground Resource Group may be locally significant for its historical associations with the Church of God spiritual community, and thus, potentially eligible for listing as a Hillsborough County Historic Landmark. The 11 historic properties located within the project APE represent only a small part of the

remaining community of church member-owned cottages, originally estimated at 250 buildings. While few residences remain to the west of the John D. Nichols Worship Center, those portions of the original Church of God campground situated to the east and north of the church have largely survived and should be evaluated in their totality. Such an assessment was beyond the scope of the *CRAS*.

The *CRAS* concluded that no archaeological sites and 34 extant historic resources (8HI1002, 8HI1003, 8HI6562, 8HI10255-10283, and 8HI10288) are located within the SR 674 project APE. None is considered significant in terms of the criteria of eligibility for listing in the NRHP. Therefore, this project will have no effect on any archaeological sites or historic resources which are listed, determined eligible, or considered potentially eligible for listing in the NRHP. The letter from the SHPO dated 11/19/07 concurred with the results of the *CRAS*.

4.3.3 Natural and Biological Features

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.

4.3.3.1 Wetlands

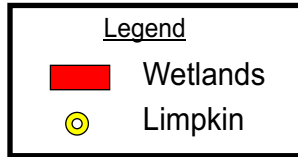
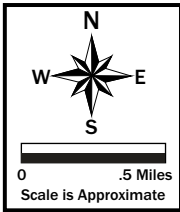
In accordance with Part 2, Chapter 18 of the Department's *PD&E Manual*,⁷ a study was conducted to identify, delineate, analyze, and evaluate potential wetland impacts; to assess the function and value of the wetlands involved; and, to recommend mitigation

measures associated with these impacts. The findings of this study are presented in the *Wetlands Evaluation and Biological Assessment Memorandum*,⁹ which has been prepared for this PD&E Study under separate cover.

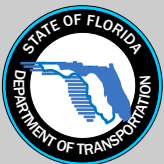
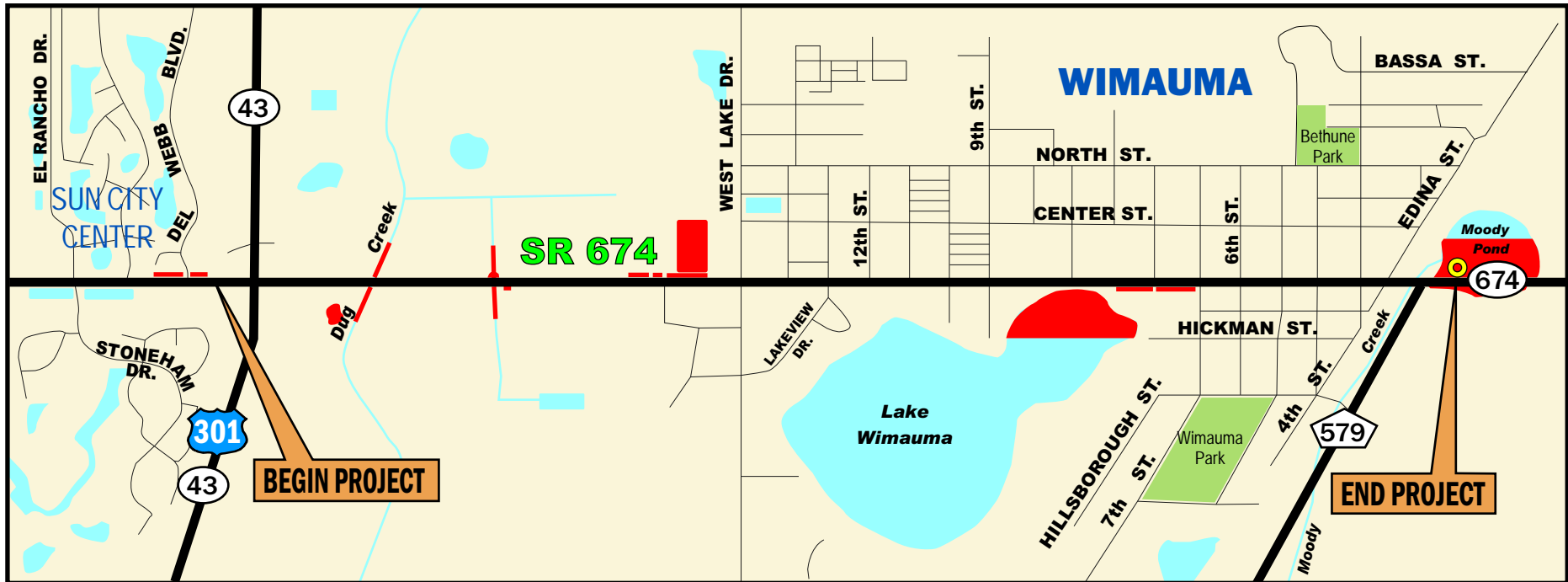
All existing wetlands within 300 feet on either side of the right of way were inventoried using the USFWS National Wetland Inventory Maps; the United States Geological Survey (USGS) Quadrangle Maps; the National Resource Conservation Service Soil Surveys for Hillsborough County; the SWFWMD Land Use Maps; USFWS Classification of Wetlands and Deepwater Habitats of the United States; Geographic Information System (GIS) data bases; aerial photography; and ground-truthing. **Exhibit 4-7** depicts the location of the wetlands in the study area.

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

- **Upland communities** include mostly pine flatwoods, which are highly degraded due to harvesting of the mature pine trees and the lack of fire management. Other species present include sand live oak, wiregrass, yellow eyed grass, long leaf pine, and muscadine grape. Improved pasture 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.
- **Wetland communities** include one freshwater marsh along the project in the vicinity of Moody Lake, one forested wetland, a riverine wetland associated with Dug Creek that crosses SR 674 with a culvert, two lakes – Moody Lake and Lake Wimauma – whose littoral zones are within the confines of this project, and some wetlands associated with the existing swales and ditches along the project. 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.



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Wetlands and Observed Listed Species

Exhibit 4-7

- 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.

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.

4.3.3.2 Floodplains and Floodways

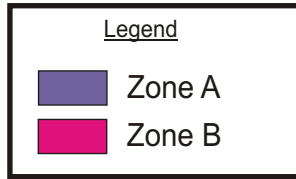
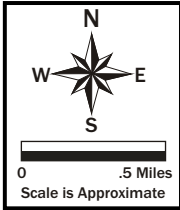
USGS Quadrangle maps, SWFWMD topographic maps, and FEMA FIRMs – panel numbers 120112 0680 B (dated June 18, 1980) and 120112 0685 C (dated April 17, 1984) – were used to identify flood-prone areas in the study area of this project.

Exhibit 4-8 depicts the floodplains in and adjacent to the study area. As shown, the majority of the project is within Zone C areas of minimal flooding. Lake Wimauma is located in the 100-year floodplain. Based on comparisons between the FIRMs and the SWFWMD contour aerials, it is estimated that the Zone “A” 100-year floodplain associated with Lake Wimauma is approximately at elevation 89.5.

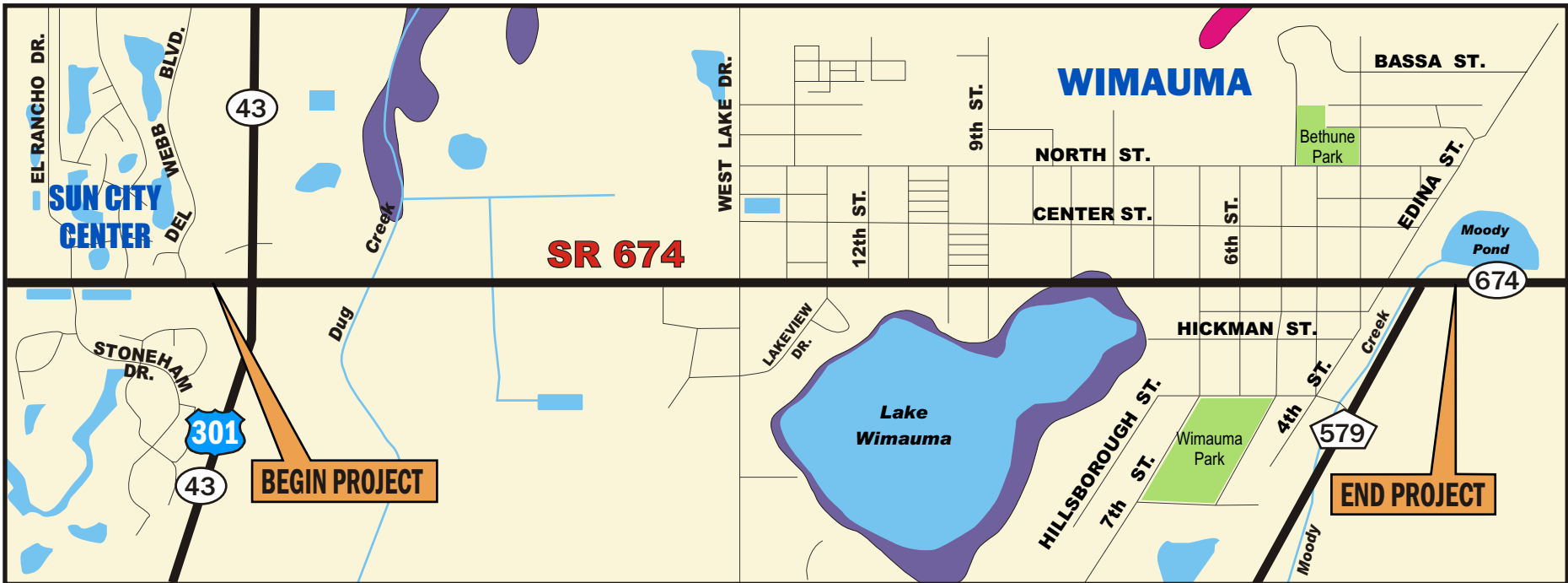
There are no regulatory floodways within the limits of this project.

4.3.3.3 Threatened and Endangered Species

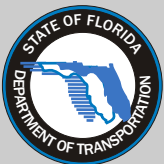
A *Wetlands Evaluation and Biological Assessment Memorandum*⁹ was prepared for this project. This document summarizes the findings from the research of the available data bases and field surveys. The data bases of the U.S. Fish and Wildlife Service (USFWS), the National Resource Conservation Service (NRCS), the Florida Fish and Wildlife Conservation Commission (FFWCC), and the Florida Natural Areas Inventory



Project Location



Source: National Flood Insurance Program FIRM Maps Hillsborough County,
Community Panel Nos. 120112 0680 B & 120112 0685 C



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FEMA 100-Year Floodplains Map

Exhibit 4-8

(FNAI) were consulted to establish a list of threatened and/or endangered species that potentially occur within the study area. The project area was surveyed during the Fall of 2006. In addition, random surveys were performed along the corridor during 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 government. **Exhibit 4-7**, presented previously, shows the listed species observed in the study area. A list of these species is provided below:

- 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 the eastern indigo snake (*Drymarchon corais couperi*). The American alligator (*Alligator Mississippiensis*) is listed as threatened due to similarity of appearance.
- State listed species with the potential to occur in the study area include the American bald eagle (*Haliaeetus leucocephalus*), the gopher tortoise (*Gopherus polyphemus*), the sandhill crane (*Grus canadensis pratensis*), and other wading birds such as the little blue heron (*Egretta ceulea*), snowy egret (*Egretta thula*), white ibis (*Eudocimus albus*), limpkin (*Aramus guarauna*), and the tricolored heron (*Egretta tricolor*). One limpkin was observed feeding in Moody Lake close to the road right of way.

The *Wetlands Evaluation and Biological Assessment Memorandum* was reviewed by the U.S. Fish and Wildlife Service (USFWS) which responded on September 12, 2008 that the planned action may affect, but is not likely to adversely affect, the eastern indigo

snake (*Drymarchon corais couperi*) and the wood stork (*Mycteria Americana*) and will not significantly affect other fish and wildlife resources protected by the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.).

4.3.4 Potential Contamination Sites

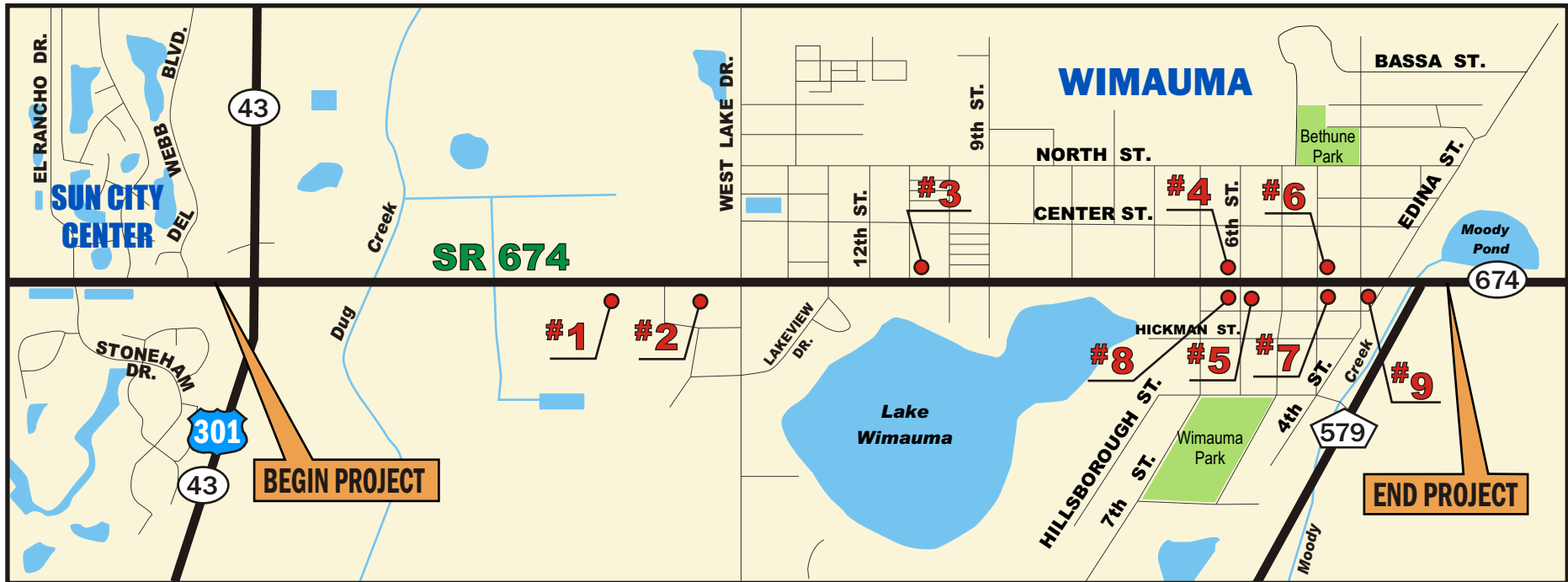
A Level I contamination analysis was performed to determine the potential for petroleum or hazardous materials contamination being present within and in the vicinity of the SR 674 right of way due to operations on adjacent properties and businesses. The findings of this analysis are summarized in the *Contamination Screening Evaluation Report (CSER)*,¹⁰ which was prepared for this PD&E Study under separate cover.

A total of nine sites were identified in the CSER as having some type of potential petroleum contamination. There were no sites identified to contain hazardous materials. **Exhibit 4-9** depicts the location of these sites and **Table 4-8** summarizes their characteristics. As shown in the table:

- Three sites were ranked **Low**. These sites include a former warehouse (Site 1) which had petroleum releases in the past and two active auto repair facilities (Sites 8 and 9).
- Six sites were ranked **Medium**. Of these sites:
 - Three sites (Sites 2, 5, and 6) are currently operating retail gas stations
 - Two sites (Sites 4 and 7) are auto repair facilities which once operated aboveground or underground storage tanks that leaked
 - One site (Site 3) is a convenience store which once operated underground storage tanks that leaked.



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Potential Contamination Sites Map

Exhibit 4-9

Table 4-8 – Potential Hazardous Materials and Petroleum Contamination Sites

Site No.	Facility Name Location (Facility ID #)	Haz. / Petroleum	Data Base	Activity or Concern	Tanks Y/N	Distance from ROW	Risk Rating
1	Former Site of Sanwa Growers Warehouse (9202291)	Petroleum	LUST UST SPILLS	<ul style="list-style-type: none"> • Diesel discharge (2/05) • 3 USTs* removed • (Property sold and business relocated) 	N	250'+	Low
2	Circle K #7169 5133 SR 674 Wimauma, FL 33598 (8625167) (FLD984251348/VG N)	Petroleum	LUST RCRAGN UST	<ul style="list-style-type: none"> • Diesel, unleaded, leaded gas discharge (12/88) • 4 USTs removed • 3 active USTs • Monitoring wells onsite 	Y	Adjoins to the south	Medium
3	Tienda de los Primos 5616 SR 674 Wimauma, FL 33598 (8625006)	Petroleum	LUST UST	<ul style="list-style-type: none"> • Unleaded gas discharge (12/88) • 2 USTs removed • Pumps removed Site inactive	N	Adjoins to the north	Medium
4	El Mercado (former Wimauma Garage) 5648 SR 674 Wimauma, FL 33598 (9200490)	Petroleum	LUST UST SPILLS	<ul style="list-style-type: none"> • 3 abandoned USTs closed in place (4/92) Site inactive	N	Adjoins to the north	Medium
5	G&S Oil Station / Wesco #5 5701 SR 674 Wimauma, FL 33598 (8625303)	Petroleum	LUST UST	<ul style="list-style-type: none"> • Diesel discharge (2/85) • Unleaded gas discharge (12/90) • 4 active ASTs** Site active	Y	Adjoins to the south	Medium
6	Primos 5802 SR 674 Wimauma, FL 33598 (8732463)	Petroleum	LUST UST	<ul style="list-style-type: none"> • Unleaded gas discharge (12/88) • 3 active USTs • NFA*** issued for site 	Y	Adjoins to the north	Medium
7	Wimauma Auto Parts (possible former Wimauma Station) 5801 SR 674 Wimauma, FL 33598 (8627340)	Petroleum	LUST UST SPILLS	<ul style="list-style-type: none"> • Unknown substance discharge (2/90) • 5 USTs removed – 3 unleaded gas, 1 diesel, 1 waste oil Site active	N	Adjoins to the south	Medium
8	Gamez Taller Auto Repair SW Corner of 6 th Street and SR 674 Wimauma, FL 33598	Petroleum	None	Site is a former service station which is now operating as an auto repair shop.	Not known	Adjoins to the south	Low
9	Un-named Auto Repair 5195 SR 674 Wimauma, FL 33598	Petroleum	None	Site operates as an auto repair shop; appears to have been in use for many years.	Not known	Adjoins to the south	Low

* UST: Underground storage tank ** AST: Above ground storage tank *** NFA: No Further Action Proposal

4.4 REFERENCES

- ¹ *Hillsborough County Comprehensive Plan*; Hillsborough County City-County Planning Commission; Adopted 1989 and as amended
- ² *Hillsborough County – 2025 Long Range Transportation Plan*; Hillsborough County MPO; Adopted November 2004
- ³ *Straight Line Diagrams*; FDOT; January 2004
- ⁴ *Preliminary Drainage Analysis Technical Memorandum*; SR 674 PD&E Study; H.W. Lochner, Inc.; December 2007
- ⁵ *Soil Survey of Hillsborough County*; United States Department of Agriculture, Natural Resources Conservation Service; Washington D.C.; 1972
- ⁶ *Cultural Resources Assessment Survey*; SR 674 PD&E Study; Archaeological Consultants, Inc.; August 2007 (Revised March 2008)
- ⁷ *Project Development and Environment Manual*; Florida Department of Transportation; 1999 and as amended
- ⁸ *Cultural Resource Management Standards and Operational Manual*; Florida Division of Historical Resources; 2003
- ⁹ *Wetlands Evaluation and Biological Assessment Memorandum*; SR 674 PD&E Study; H.W. Lochner, Inc.; October 2008
- ¹⁰ *Contamination Screening Evaluation Report*; SR 674 PD&E Study; H.W. Lochner, Inc.; December 2007

SECTION 5.0

DESIGN CONTROLS AND STANDARDS

In order for the proposed improvements of SR 674 to fulfill their objective of accommodating motorists, bicyclists, and pedestrians in a safe and efficient manner, they must adhere to specific design standards. Selection of the appropriate controls, criteria, and standards is influenced by a number of factors including traffic volume and composition, desired levels of service, functional classification, terrain features, roadside development and land use, and environmental considerations. The Department's *Plans Preparation Manual*¹ (PPM) and the American Association of State Highway and Transportation Officials' (AASHTO's) *A Policy on Geometric Design of Highways and Streets*² (also known as the *Green Book*) were utilized as primary sources in developing the design controls and standards for the roadways in the study area. Other references, such as *Straight Line Diagrams*³ (SLD), the *Final Corridor Management Report*⁴, and the *Comprehensive Plan* of Hillsborough County⁵ were also considered.

5.1 DESIGN CONTROLS AND STANDARDS FOR SR 674

Table 5-1 summarizes the design controls and standards to be used for the development of the conceptual design plans of the proposed improvements of SR 674.

Table 5-1 – Design Controls and Standards for SR 674

Design Element	Constrained Typical Section	All Other Typical Sections
Existing Functional Classification	Urban Minor Arterial	Urban Minor Arterial
Access Management Classification - Median treatment - Minimum connection spacing - Minimum median opening spacing - Minimum signal spacing	Access Class 3 Restrictive 440' 1,320' (directional); 0.5 miles (full) 0.5 miles	Access Class 3 Restrictive 440' 1,320' (directional); 0.5 miles (full) 0.5 miles
Design Classification	Urban Arterial	Urban Arterial
Speed: - Posted - Design	40 mph 40 mph	40-45 mph 45 mph
Design Vehicle	WB-62FL	WB-62FL
Horizontal Alignment - Maximum curvature ($e_{\max} = 5.0\%$) - Maximum curvature with normal crown - Maximum superelevation (e_{\max}) - Slope ratios - Minimum curve length in full superelevation - Maximum deflection without curve - Maximum deflection through intersection - Length of curve	10° 45' 00" 3° 45' 00" 0.050 ft/ft 1:125 100' 2° 00' 00" 5° 00' 00" 600' (400' min)	8° 15' 00" 2° 45' 00" 0.050 ft/ft 1:150 desirable, 1:125 minimum 100' 1° 00' 00" 3° 00' 00" 675' (400' min)
Vertical Alignment - Maximum grade - Minimum grade - Minimum distance between VPI's - Maximum change in grade without curve - Minimum stopping sight distance ⁽¹⁾ - Minimum "K" for crest curve - Minimum "K" for sag curve - Minimum crest curve length - Minimum sag curve length	7.0% 0.3% 250' 0.8% 305' 70 64 120' 120'	6.0% 0.3% 250' 0.7% 360' 98 79 135' 135'
Cross Section Elements - Travel lane width - Auxiliary lane width - Bicycle lane width - Sidewalk width - Median width - Travel lane cross slope - Maximum rollover between travel lanes	12' desirable, 11' minimum 12' desirable, 11' minimum 4' 5' minimum, 6' at back of curb 22' desirable, 15.5' minimum 2.0% minimum, 4.0% maximum 4.0%	12' desirable, 11' minimum 12' desirable, 11' minimum 4' 5' minimum, 6' at back of curb 22' desirable, 19.5' minimum 2.0% minimum, 4.0% maximum 4.0%
Roadside Slopes - Front slopes and back slopes - Transverse slopes	1:2 maximum 1:6 minimum 1:4	1:2 maximum 1:6 minimum 1:4
Border Width	10'	12'
Horizontal Clearance/Recoverable Terrain - Travel lane - Auxiliary lane	18' 10'	24' 14'
Vertical Clearance - Overhead signs & signals ⁽²⁾	17.5'	17.5'

⁽¹⁾ Lengths to be adjusted for grade (PPM, Table 2.7.1)⁽²⁾ Clearance over the entire width of pavement and shoulder

5.2 GLOSSARY

A brief description of the terms used in **Table 5-1** is provided below.

- **Functional Classification** groups the streets and highways according to the character of service they are intended to provide. This service can range from 100% mobility and limited land access (freeways) to limited mobility and 100% land access (local roads).
- **Access Management** controls and regulates the spacing and design of driveways, medians, median openings, traffic signals and intersections on arterial roads and the spacing of interchanges on freeways to ensure safe and efficient traffic flow on the road system. All roadways under state jurisdiction are classified from Access Class 1, which poses the highest degree of access restriction and is reserved for limited access freeways, to Access Class 7 which poses the lowest degree of access restriction.
- **Design Classification** groups the roads and highways according to the adjacent land use (urban or rural) and service they are intended to provide (freeways, arterials, collectors, and local roads).
- **Design Speed** is the maximum safe speed that can be maintained over a specified section of a roadway when conditions are so favorable that the design features of this roadway govern. The design speed influences design elements such as horizontal and vertical alignment controls, superelevation, and typical section elements (clear zone, median width, etc.).
- **Posted Speed** is the maximum speed at which motorists can legally travel on a specific roadway, usually designated by posted signs. The posted speed can not exceed the design speed.
- **Design Vehicle** is the typical vehicle type whose weight, dimensions, and operating characteristics are used to establish the design controls for a specific roadway.
- **Horizontal Alignment** of a roadway is the combination of tangent segments and horizontal curves that define its placement within a specific geographic area.
- **Maximum Curvature (D)** is a limiting value of curvature (defined as the quantity $D=5,729.6/R$, where R is the curve radius) for a given design speed and

- is determined from the maximum rate of superelevation and the maximum allowable side friction factor.
- **Superelevation** is the roadway cross section design where, to counter the tendency of vehicles to slip as they are traveling through curves due to the centrifugal force, the outside edge of the pavement is raised while the inside edge is lowered.
 - **Slope Ratio** is the rate of change of pavement cross slope to achieve superelevation within horizontal curves. It is expressed as a ratio of the relative change in elevation between the point of rotation and the outermost pavement edge.
 - **Deflection**, for the Horizontal Alignment, is the difference of the bearings of two consecutive tangent segments of a roadway. For the Vertical Alignment, Deflection is the difference of the grades of two consecutive tangent segments.
 - **Vertical Alignment** of a roadway is the combination of tangent segments and vertical curves that define its profile along the topography of the area through which it travels.
 - **Grade**, expressed in percent, is the product of the fraction of the vertical rise (positive grade) or drop (negative grade) of the roadway over a certain horizontal distance.
 - **Stopping Sight Distance** is the minimum roadway length that needs to be visible ahead to the driver so that a vehicle traveling at or near the design speed can safely stop before reaching a stationary object in its path.
 - **“K” Value** is the quantity L/A , where L is the length of the vertical curve and A is the algebraic difference between the grades of the in-going and out-coming tangent segments.
 - **Crest Curve** is the vertical curve where the difference between the grades of the in-going and out-coming tangent segments is equal or larger than zero.
 - **Sag Curve** is the vertical curve where the difference between the grades of the in-going and out-coming tangent segments is negative.
 - **Border Width** is the distance from the outside edge of shoulder to the right of way line on non-interstate roadways.

- **Clear Zone** is the unobstructed, relatively flat area that is provided beyond the edge of the traveled way (does not include shoulders and auxiliary lanes) for the safe recovery of errant vehicles.
- **Vertical Clearance** is the minimum distance from the surface of the pavement (including shoulders) to the lowest point of the structures (overhead signs, bridges, utilities, etc.) crossing over a roadway.

5.3 REFERENCES

- ¹ *Plans Preparation Manual*; FDOT; Tallahassee, Florida; January 2006 and as amended
- ² *A Policy on Geometric Design of Highways and Streets*; American Association of State Highway and Transportation Officials; 2004
- ³ *Straight Line Diagrams*; FDOT, District 7
- ⁴ *Final Corridor Management Report*; SR 674 Corridor Management Study from SR 45 (US 41) to CR 579; prepared for the Florida Department of Transportation by HDR Engineering, Inc.; August 2006
- ⁵ *Hillsborough County Comprehensive Plan*; Hillsborough County City-County Planning Commission; Adopted 1989 and as amended

SECTION 6.0

TRAFFIC

This section provides a summary of the findings presented in the *Final Corridor Management Report*¹ which was prepared by the Department for SR 674. This report presented information on the existing traffic conditions, the methodology for projecting design year 2030 volume demands for the study area roadway network, projections of design year 2030 volumes and analyses of the future design year No-Build and Build conditions. The Build conditions were developed to include the necessary capacity improvements to achieve, at minimum, the level of service standard dictated for each facility by either state or local government pertinent plans.

6.1 EXISTING TRAFFIC CONDITIONS

6.1.1 Roadway and Intersection Characteristics

Within the study area limits, SR 674 – Section 10 120 000 – is functionally classified by the Department as *urban minor arterial*. It is also classified as Class 3 with regards to Access Management per Florida Administrative Code 14-97. The LOS standard for this facility is D.

Just east of US 301 (SR 43) and within 3,600 feet, the typical section of SR 674 transitions from a four-lane divided urban roadway to a two-lane undivided rural roadway. **Section 4.1.2** discussed the existing typical section of SR 674. The posted speed limit along SR 674 varies from 40 to 45 miles per hour (mph).

SR 674 intersects with numerous roadways in the study area forming mostly unsignalized intersections with single-lane approaches at all directions. Exceptions to this rule are the intersections at US 301 (SR 43), which is signalized and provides two through lanes and auxiliary left- and right-turn lanes on each approach, and the West Lake Drive intersection which is unsignalized and provides an auxiliary left-turn lane on the eastbound and westbound SR 674 approaches.

The lane geometry at the major intersections of SR 674 was previously shown on **Exhibit 4-2**.

6.1.2 Existing Traffic Volumes

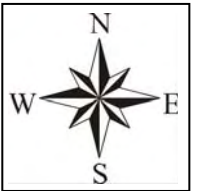
Exhibit 6-1 depicts the Year 2004 Average Annual Daily Traffic (AADT) volumes in the study area. As shown, in 2004 AADT volumes along SR 674 in the study area ranged from 8,600 vehicles per day (vpd) in Wimauma to 12,200 vpd just east of US 301. **Exhibit 6-2** depicts the Year 2004 morning and evening peak hour turning traffic volumes at key intersections in the study area.

The K_{30} factor represents the percentage of the AADT volume that occurs during the 30th highest traffic hour of the year. The directional distribution or D_{30} factor represents the directional split of the 30th highest traffic hour of the year. The T_{30} factor represents the percentage of heavy trucks present in the traffic volume of the 30th highest traffic hour of the year. The T_{24} factor represents the percentage of heavy trucks present in the AADT volume. Based on review of historic traffic count data, the Department's District 7 Planning staff suggested that the following K_{30} , D_{30} , T_{30} , and T_{24} factors be used for the study area:

- A K_{30} factor of 9.6%,
- A D_{30} factor of 57.0%,
- A T_{30} factor of 6.0%,
- A T_{24} factor of 12.0%.

6.1.3 Existing (2004) Levels of Service

The methodology of the *Highway Capacity Manual (HCM)*² was used to evaluate the existing level of service of key components of the roadway network in the study area such as the SR 674 mainline and its main intersections. **Exhibit 6-3** presents the existing levels of service in the study area. As shown, the entire segment of SR 674 operates at deficient LOS E during both, the morning and evening, peak hours. All intersection approaches analyzed operate at LOS D or better.



N.T.S.

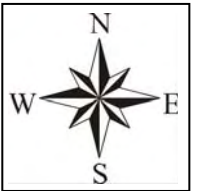


Source: *Final Corridor Management Report*; SR 674 Corridor Management Study from SR 45 (US 41) to CR 579; prepared for the Florida Department of Transportation by HDR Engineering, Inc.; August 2006.



SR 674 PD&E Study
From US 301 (SR 43) to CR 579
Hillsborough County
WPI Segment No. 422762 1

Year 2004 Average Annual Daily Traffic Volumes



N.T.S.



XXX (XXX)
└── PM Volume
└── AM Volume

Source: *Final Corridor Management Report*; SR 674 Corridor Management Study from SR 45 (US 41) to CR 579; prepared for the Florida Department of Transportation by HDR Engineering, Inc.; August 2006.

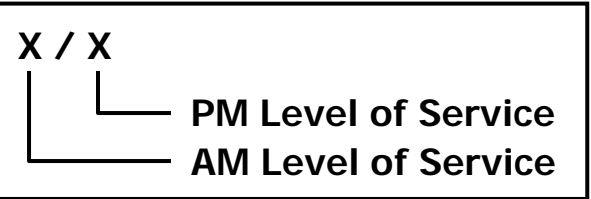
Year 2004 Intersection Peak Hour Turning Volumes



SR 674 PD&E Study
From US 301 (SR 43) to CR 579
Hillsborough County
WPI Segment No. 422762 1



N.T.S.



Source: *Final Corridor Management Report*; SR 674 Corridor Management Study from SR 45 (US 41) to CR 579; prepared for the Florida Department of Transportation by HDR Engineering, Inc.; August 2006.



SR 674 PD&E Study
From US 301 (SR 43) to CR 579
Hillsborough County
WPI Segment No. 422762 1

Year 2004 Levels of Service

6.2 MULTIMODAL TRANSPORTATION SYSTEMS

The study area is currently served by the Hillsborough Area Regional Transit (HART) Bus Route 87 which runs mostly along SR 674 from a western terminus at the South Shore Regional Service Center in Ruskin to the RCMA Daycare in Wimauma. This route operates only on weekdays on hourly intervals from 6:30 AM to 6:25 PM eastbound and from 6:15 AM to 5:25 PM westbound.

SR 674 is also an existing bicycle route and is included in the Hillsborough County Metropolitan Planning Organization's (MPO) *Year 2025 Long Range Transportation Plan* (LRTP)³ as a needed pedestrian facility.

6.3 FUTURE TRAFFIC CONDITIONS

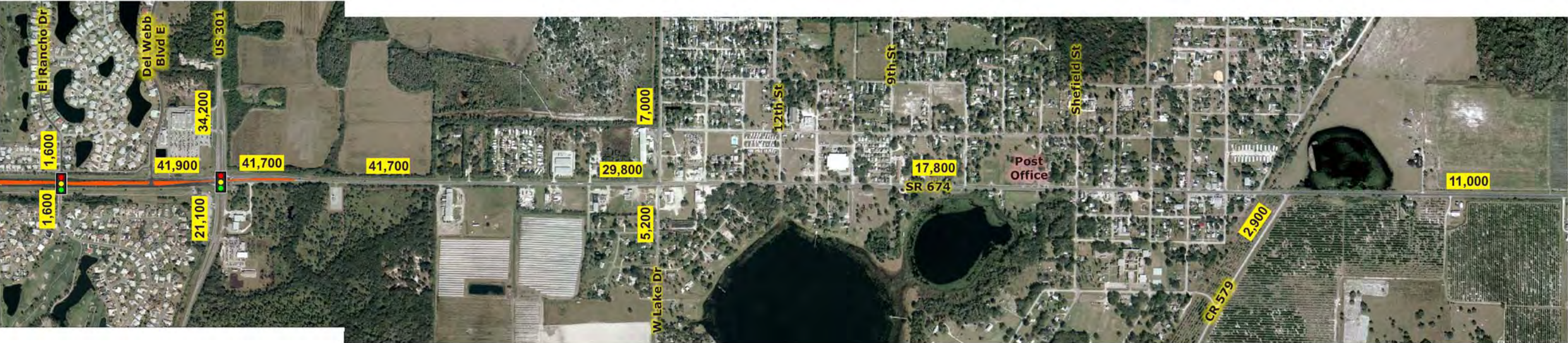
6.3.1 Design Year (2030) Traffic Volumes

The Tampa Bay Regional Model Version 5.0 was utilized by the Department's District 7 Planning staff to estimate the future traffic demand along the SR 674 corridor. This model was updated to include new developments that are already approved, such as the DG Farms DRI, in the vicinity of the SR 674 / US 301 (SR 43) intersection. **Exhibit 6-4** depicts the projected design year (2030) AADT volumes. As shown, in 2030 SR 674 is expected to carry from 17,800 vpd in Wimauma to 41,700 vpd just east of US 301 (SR 43). Compared to the existing (2004) AADT volumes, the design year volumes would represent a traffic volume growth of 107.0% (4.1% annually) in Wimauma and 241.8% (9.3% annually) just east of US 301 (SR 43).

The projected design year AADT volumes were used to project the directional design hour volumes (DDHV) and the design year morning and evening peak hour turning volumes at key intersections. The K_{30} factor of 9.6% and the D_{30} factor of 57.0%, previously discussed in **Section 6.1.2**, were used to estimate the DDHVs. **Exhibit 6-5** presents the projected design year (2030) morning and evening peak hour turning volumes, respectively.



N.T.S.



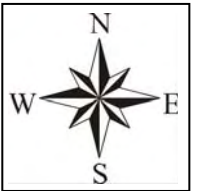
Source: *Final Corridor Management Report*; SR 674 Corridor Management Study from SR 45 (US 41) to CR 579; prepared for the Florida Department of Transportation by HDR Engineering, Inc.; August 2006.



SR 674 PD&E Study
From US 301 (SR 43) to CR 579
Hillsborough County
WPI Segment No. 422762 1

Design Year (2030) Average Annual Daily Traffic Volumes

Exhibit 6- 4



N.T.S.



Source: *Final Corridor Management Report*; SR 674 Corridor Management Study from SR 45 (US 41) to CR 579; prepared for the Florida Department of Transportation by HDR Engineering, Inc.; August 2006.



SR 674 PD&E Study
From US 301 (SR 43) to CR 579
Hillsborough County
WPI Segment No. 422762 1

Design Year (2030) Intersection Peak Hour Turning Volumes

6.3.2 Design Year (2030) No-Build Levels of Service

The performance of the various components of the roadway network in the study area was evaluated based on the peak hour traffic volume demands of the design year 2030, assuming that no capacity improvements will be implemented (No-Build condition) on any of them.

Exhibit 6-6 depicts the results of this evaluation. As shown, without capacity improvements, the segment of SR 674 east of West Lake Drive would continue to operate at a deficient LOS E while the peak hour level of service along the segment of SR 674 between US 301 (SR 43) and West Lake Drive will further deteriorate to LOS F. Also, all intersections in the study area, including the signalized intersection at US 301 (SR 43), would operate at LOS F.

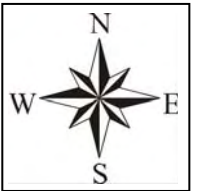
6.3.3 Design Year (2030) Build Levels of Service

Capacity improvements were evaluated for the mainline of SR 674 as well as its key intersections to restore LOS D or better for the design year (2030) peak hour operations.

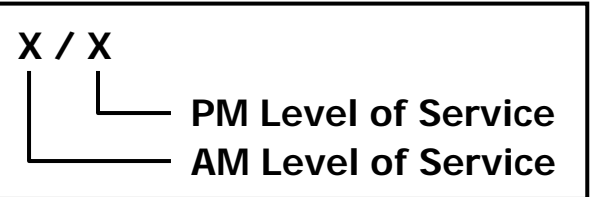
Exhibit 6-7 depicts the recommended improvements. As shown, it is recommended that:

- SR 674 be widened to an ultimate six lane facility from US 301 (SR 43) to West Lake Drive and to a four-lane facility from West Lake Drive to east of CR 579,
- The intersection at US 301 (SR 43) be widened to provide three through lanes on the eastbound and westbound approaches and dual left-turn lanes at all approaches,
- Either the intersection at West Lake Drive or at the Valencia Homes subdivision entrance be signalized,
- The intersection at CR 579 be widened to provide an exclusive left-turn lane on the northbound CR 579 approach.

Exhibit 6-7 also summarizes the results of the design year (2030) Build-condition capacity analyses. As shown, with the recommended capacity improvements in place, SR 674 should be expected to operate at LOS D or better between US 301 (SR 43) and West Lake Drive and LOS B or better in Wimauma. Even with the maximum possible



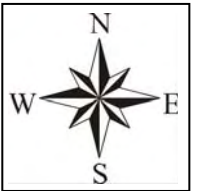
N.T.S.



Source: *Final Corridor Management Report*; SR 674 Corridor Management Study from SR 45 (US 41) to CR 579; prepared for the Florida Department of Transportation by HDR Engineering, Inc.; August 2006.

Design Year (2030) No-Build Peak Hour Levels of Service

Exhibit 6-6



N.T.S.



X / X

PM Level of Service

AM Level of Service

Improvements

Source: *Final Corridor Management Report*; SR 674 Corridor Management Study from SR 45 (US 41) to CR 579; prepared for the Florida Department of Transportation by HDR Engineering, Inc.; August 2006.



SR 674 PD&E Study
 From US 301 (SR 43) to CR 579
 Hillsborough County
 WPI Segment No. 422762 1

Design Year (2030) Build Peak Hour Levels of Service and Recommended Capacity Improvements

level of improvements at the intersection of SR 674 with US 301 (SR 43), this location will continue to operate at LOS F during both peak hours. Also, the northbound left-turning volumes at CR 579 will operate at LOS F during the evening peak hour.

6.4 TURN-LANE STORAGE LENGTHS

The required storage lengths for the auxiliary / turn lanes at the various intersections of SR 674 were estimated using the results of the HCS analysis. The HCS results of the morning and evening peak hour analyses were compared for each turning movement and the maximum 95th percentile queue length was selected. Since it is possible that traffic queuing in the through lanes can block access to the turn lanes, left-turn lane storage (queue length plus deceleration length) requirements were also compared against anticipated queue length in the through lanes. The required deceleration length was determined based on the Department's Design Standards Index No. 301 (240 feet for SR 674 and US 301 (SR 43) and 155 feet for the other minor cross streets). **Table 6-1** summarizes the turn lane lengths for key intersections in the study area.

Table 6-1 – Design Year (2030) Required Turn-Lane Lengths

Intersection of SR 674	Turn Lane Description	Available Turn Lane Length (ft)	Required 2030 Turn Lane Length (ft)	
			Without Improvements	With Recommended Improvements
At US 301(SR 43)	Eastbound Left	325	2,600	1,425
	Eastbound Right	275	1,965	1,965
	Westbound Left	300	2,225	1,175
	Westbound Right	400	3,990	3,990
	Northbound Left	200	1,140	740
	Northbound Right	300	465	590
	Southbound Left	250	2,965	1,715
	Southbound Right	400	2,440	2,440

6.5 REFERENCES

- ¹ *Final Corridor Management Report*; SR 674 Corridor Management Study from SR 45 (US 41) to CR 579; prepared for the Florida Department of Transportation by HDR Engineering, Inc.; August 2006
- ² *Highway Capacity Manual*; Transportation Research Board; 2000
- ³ *Hillsborough County – 2025 Long Range Transportation Plan*; Hillsborough County MPO; Adopted November 2004

SECTION 7.0

CORRIDOR ANALYSIS

As alternatives to the widening of SR 674, other options were considered including the widening of existing parallel corridors and/or developing new east/west corridors. The main objective of this effort was to select the best suited corridor for improvement where cost effective and technically and environmentally feasible alignment alternatives can be developed while meeting the needs and maximizing the benefits to the community.

To identify suitable alternative corridors to SR 674 and compare those to the alternative of improving SR 674, it is important to first understand what types of travel are currently accommodated by this facility. As noted earlier in this report, the segment of SR 674 being studied in this project serves two different types of travel, as follows:

- SR 674, as part of the roadway network, accommodates regional travel in southern Hillsborough County for motorists traveling east-west and provides linkage with other important regional travel corridors such as US 41, I-75, US 301 (SR 43), CR 579, CR 39 and SR 37.
- SR 674 provides local access to several communities and neighborhoods in the study area including the community of Wimauma, the Sun City Mobile Home Park, and Valencia Homes.

For a corridor to qualify as an alternative to improving SR 674, it must be able to replace SR 674 in fulfilling the above noted functions. Potential alternatives could be:

- The development of a new parallel corridor north or south of SR 674. This alternative would involve significant environmental and socio-cultural effects and costs.
- The improvement of one or more existing parallel facilities. East-west arterials in the vicinity of SR 674 include Big Bend Road approximately 5.3 miles north of SR 674 and SR 62 approximately 10.0 miles south of SR 674. Both of these facilities are too distant to efficiently serve the study area.

No prudent and feasible alternative to improving the SR 674 corridor exists.

SECTION 8.0

ALTERNATIVES ANALYSIS

As previously shown in **Sections 6.0** and **7.0**, the only viable alternative to remedy the anticipated level of service deficiencies for the design year 2030 along SR 674 and connecting roadways is to ultimately widen SR 674 to a six-lane arterial from US 301 (SR 43) to West Lake Drive and to a four-lane arterial from West Lake Drive to east of CR 579. The No-Build alternative, even though it does not resolve any of the existing and anticipated operational deficiencies for the future, will continue to be considered as an alternative for this project until the conclusion of the PD&E Study.

The following sections present the alternative concepts developed for the widening of SR 674.

8.1 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.

8.2 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.

8.3 BUILD ALTERNATIVE

To effectively develop and evaluate improvement alternatives for the SR 674 corridor, the following three-step process was applied:

- In **Step One**, the project was divided into four distinct segments,
- In **Step Two**, alternative typical sections were generated for each segment based on the roadway standards presented in **Section 5.0** and the conclusions of the traffic analyses presented in **Section 6.0**, and
- In **Step Three**, alternative alignments were developed for each project segment based on the typical sections selected in Step Two and the assumption that the additional right of way can be acquired either along the north side, the south side, or both sides of SR 674.

8.3.1 Project Segments

Based on the adjacent land uses and the existing right of way widths along SR 674, the project was divided into segments, as follows:

- Segment 1 - From US 301 (SR 43) to West Lake Drive: The existing right of way width along this 1.0-mile-long segment varies between 180 feet from US 301 (SR 43) to a point 2,600 feet east of US 301 (SR 43) and 100 feet from this point to West Lake Drive. Land uses along this segment are primarily residential, commercial, and open/vacant space. As noted in **Section 4.3.1.2**, several new

large-scale residential developments are planned to be constructed on properties abutting this segment.

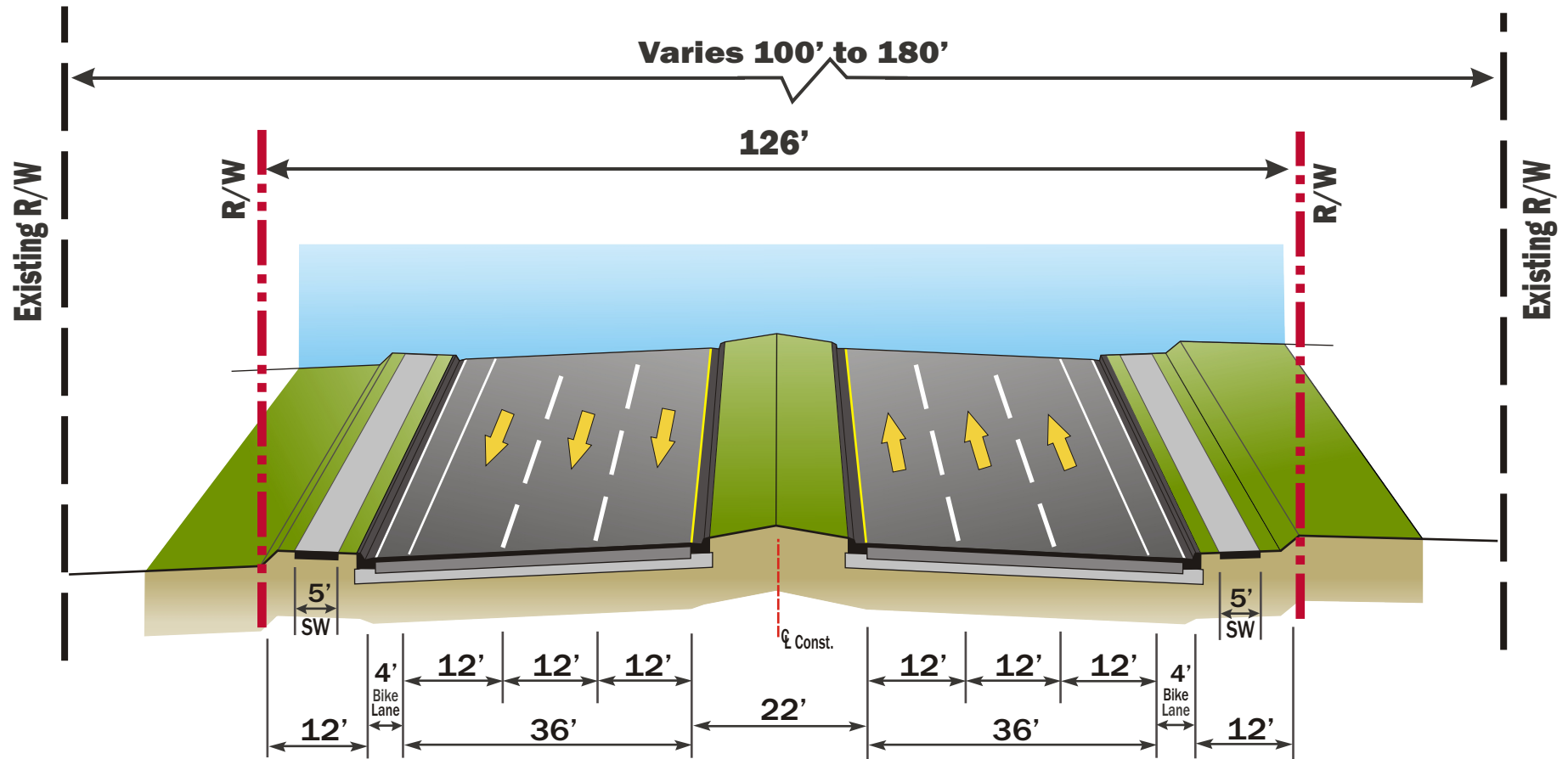
- Segment 2 - From West Lake Drive to 7th Street: The existing right of way width along this 0.9-mile-long segment is limited to 80 feet. Land uses along this segment include residential, institutional (church properties), and commercial. Most buildings along this segment are set back, allowing adequate space for widening with minimal potential relocations.
- Segment 3 – from 7th Street to Edina Street: The existing right of way width along this 0.4-mile-long segment is limited to 80 feet and most buildings along this segment are close to the roadway, allowing minimal space for widening. Existing land uses are primarily commercial.
- Segment 4 – from Edina Street to east of CR 579: The existing right of way width along this 0.1-mile-long segment is 100 feet. Existing land uses are farm land, pasture, and open space.

8.3.2 Alternative Typical Sections

Based on review of the design year 2030 traffic volumes and the recommendations of the *Final Corridor Management Report*¹, and in accordance with the design controls and standards presented in **Section 5.0**, typical sections were developed for the various segments of SR 674, as follows:

- Segment 1 - from US 301 (SR 43) to West Lake Drive: According to the traffic analyses, this segment should be ultimately widened to provide six travel lanes by the design year 2030. To minimize impacts, a six-lane urban typical section was developed for this segment that would provide three 12-foot wide travel lanes in each direction, a 22-foot wide median and bicycle lanes and sidewalks on both sides. This typical section would require 126 feet of right of way. **Exhibit 8-1** 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 1 - From US 301 to West Lake Drive



SR 674 PD&E Study

From US 301 (SR 43) to CR 579

Hillsborough County

WPI Segment No. 422762 1

Proposed Ultimate Six-Lane Urban Typical Section for SR 674

Exhibit 8-1

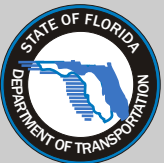
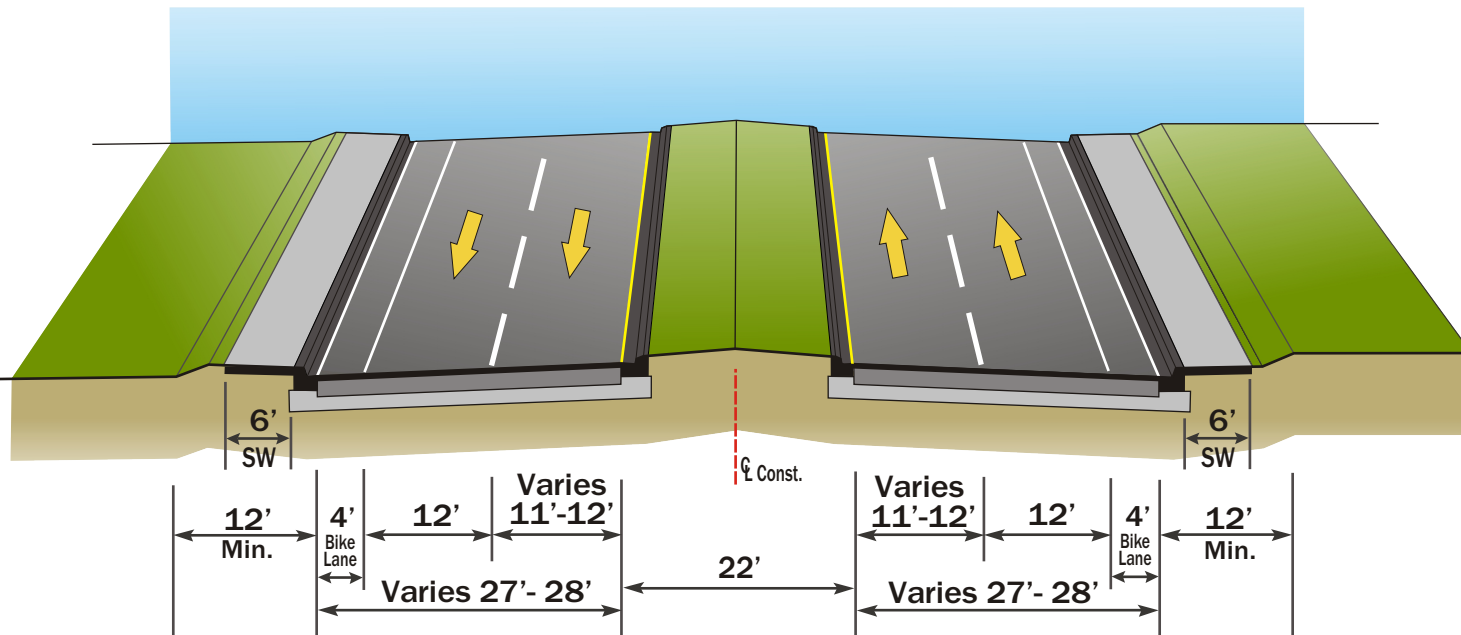
Staged interim improvements are envisioned for this segment of SR 674 when warranted to accommodate the additional traffic demand that would be generated from planned developments that may be constructed in the near future. These improvements involve the widening of SR 674 to provide an initial four-lane urban typical section (an 11-foot wide inside travel lane and a 12-foot wide outside travel lane in each direction), a 22-foot wide median and bicycle lanes and sidewalks on both sides. This interim widening of SR 674 will take place within the existing right of way. **Exhibit 8-2** depicts the proposed typical section of SR 674 for these staged interim improvements.

- Segment 2 - from West Lake Drive to 7th Street: According to the traffic analyses, this segment should be widened to provide four travel lanes. To minimize impacts, a four-lane urban typical section was developed for this segment that provides two 12-foot wide travel lanes in each direction, a 22-foot wide median and bicycle lanes and sidewalks on both sides. This typical section would require 102 feet of right of way. **Exhibit 8-3** 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: According to the traffic analyses, this segment should be widened to provide four travel lanes. As noted in the previous section, roadside development along this segment is very close to the right of way line on both sides of SR 674 and the right of way width is limited to 80 feet. For this reason, in addition to the four-lane urban typical section depicted on **Exhibit 8-3**, a constrained four-lane urban typical section was also considered for this segment. The constrained typical section requires 92.5 feet of right of way (12.5 feet of additional right of way) and provides two travel lanes in each direction (a 12-foot-wide and an 11-foot-wide travel lane), a 14.5-foot wide median, and bicycle lanes and sidewalks on both sides. **Exhibit 8-4** depicts the constrained four-lane typical section being considered for this segment.

Segment 4 - from Edina Street to east of CR 579: According to the traffic analyses, this segment should be widened to provide four travel lanes. Similar

Existing R/W

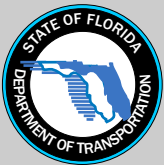
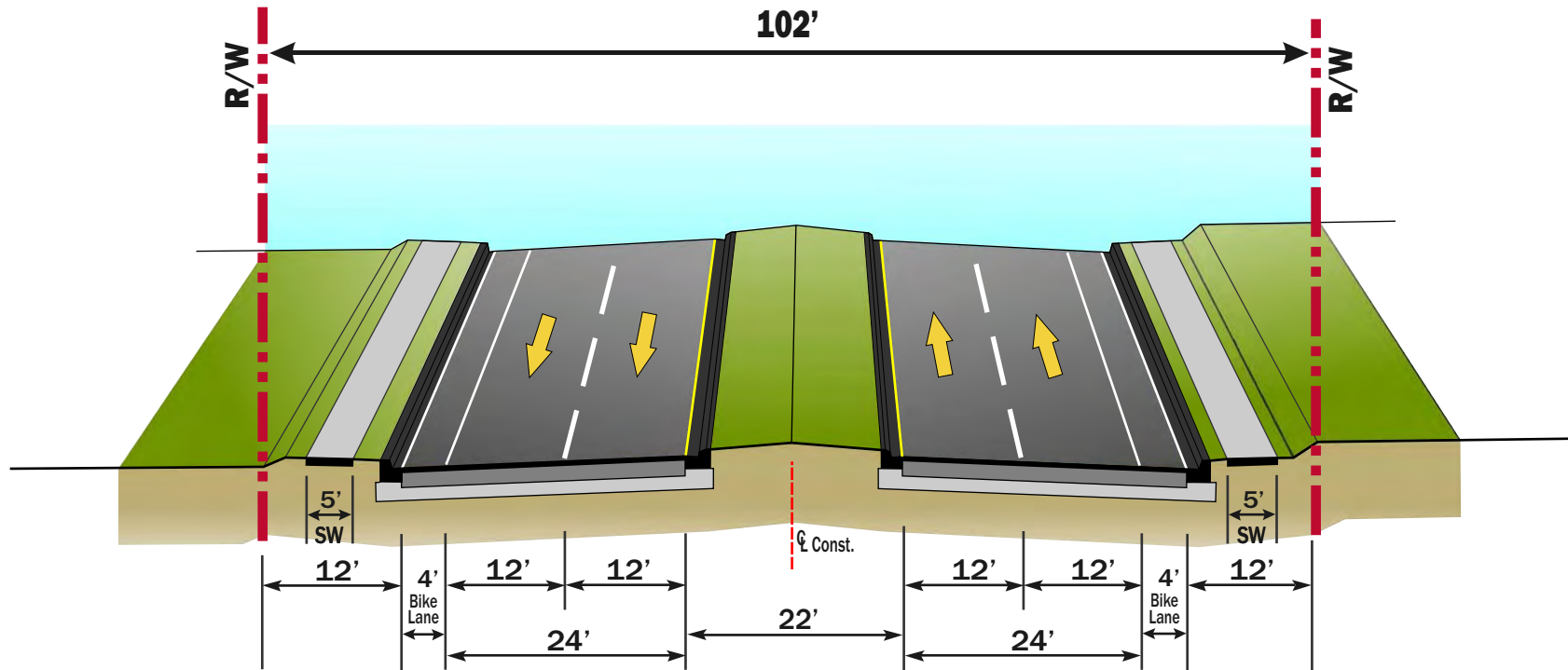
Existing R/W



WPI Segment No. 422762 1

Exhibit 8-2

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



SR 674 PD&E Study

From US 301 (SR 43) to CR 579

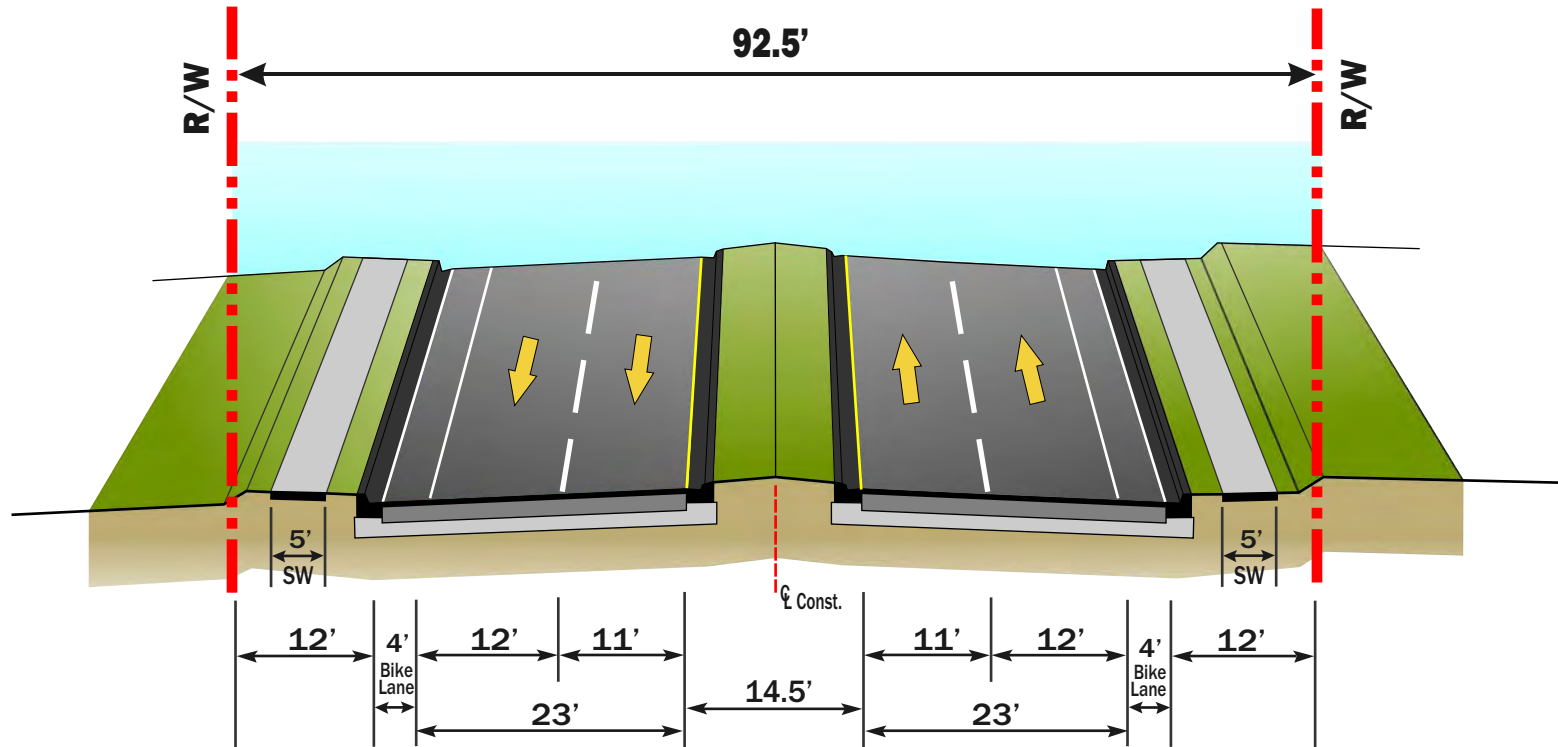
Hillsborough County

WPI Segment No. 422762 1

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

Exhibit 8-3

Segment 3 - From 7th Street to Edina Street



SR 674 PD&E Study

From US 301 (SR 43) to CR 579

Hillsborough County

WPI Segment No. 422762 1

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

Exhibit 8-4

with Segment 2, to minimize impacts, a four-lane urban typical section was considered for this segment that provides two 12-foot-wide travel lanes in each direction, a 22-foot-wide median, and bicycle lanes and sidewalks on both sides.

This typical section would require 102 feet of right of way. **Exhibit 8-3**, previously presented, depicts the proposed typical section for this segment. To accommodate this typical section, an additional two feet of right of way would be needed along SR 674.

To avoid the right of way acquisition of the additional two 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 8-5** depicts this typical section.

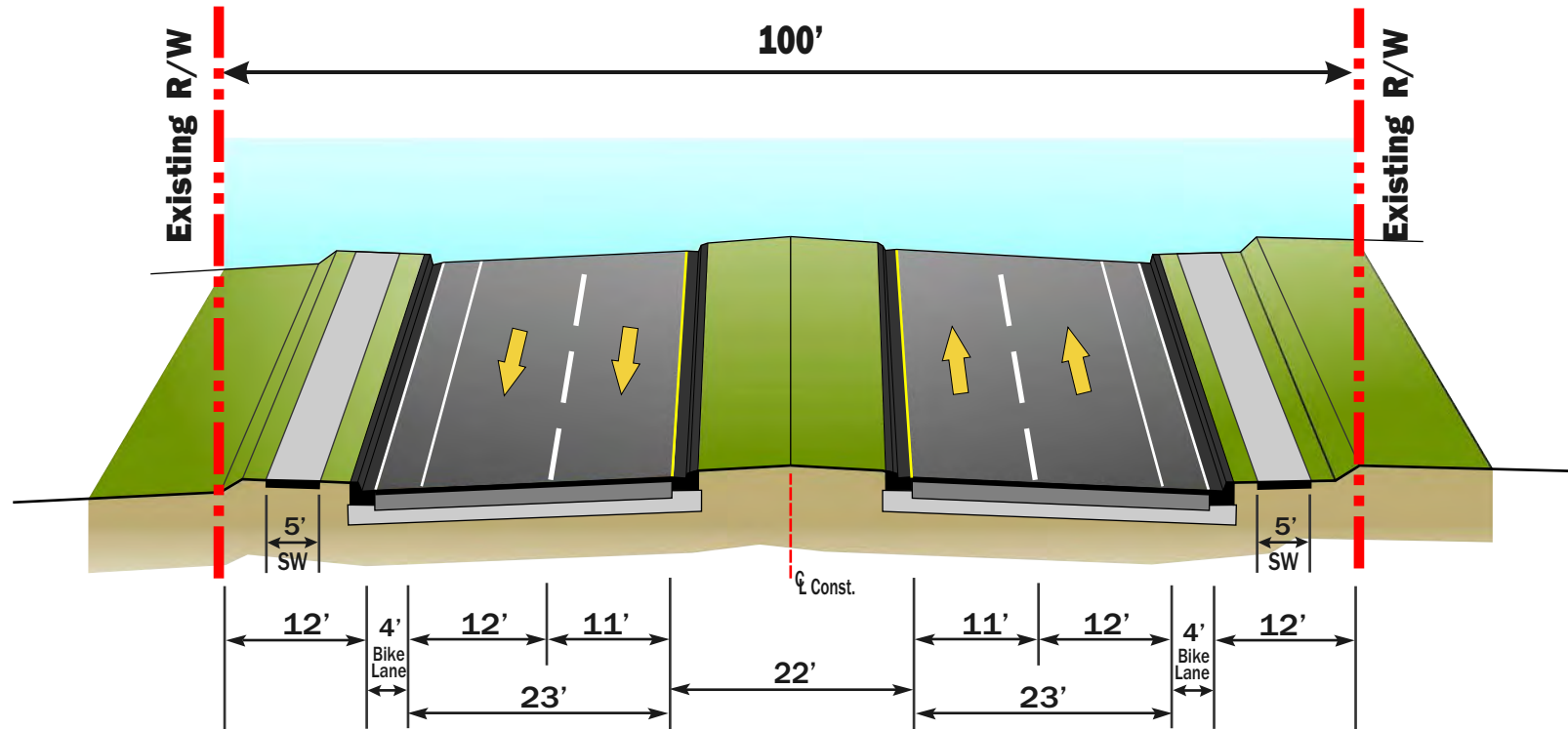
8.3.3 Project Alignments

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

Segment 4 - From Edina Street to CR 579



SR 674 PD&E Study

From US 301 (SR 43) to CR 579

Hillsborough County

WPI Segment No. 422762 1

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

Exhibit 8-5

of successive segments. **Table 8-1** summarizes the segments, typical sections, and alignments considered for this project.

8.4 ALTERNATIVES EVALUATION MATRIX

In order to evaluate competing alternative alignments and select the best suitable solution for the project, an evaluation matrix was prepared. This matrix considered project effects on a variety of categories including effects on the social, cultural, and natural environment as well as right of way, construction, and design and construction inspection costs. A brief description of the criteria used in the evaluation matrix is provided below.

8.4.1 Potential Relocations

8.4.1.1 Potential Business Relocations

Several businesses could sustain losses of parts of their parking areas and/or may need to be relocated. The number of the businesses that may be relocated was identified for each segment and alignment. Business damage costs expected to be paid to businesses to cover loss of parking areas was included in the right of way cost estimates.

8.4.1.2 Potential Residential Relocations

Several existing residences that abut the SR 674 right of way may need to be relocated as part of the recommended improvements. The number of the residences that could be relocated was identified for each segment and alignment. Relocation and property costs were included for those properties in the right of way cost estimates.

8.4.2 Effects on Community Facilities

The effects of the project on existing community facilities and services such as schools, post offices, civic centers, etc., were assessed. Similar to the residential impacts, the number of the affected community facilities was grouped into two categories: community facilities within the proposed right of way of a particular alignment and community facilities within 300 feet of the new right of way boundary, should this alignment be implemented.

Table 8-1 – Summary of Segment Characteristics

Segment Number	Segment Limits (from – to)	Length (miles)	Proposed Typical Section				Design Speed (mph)	Potential Widening Side	Alternative Alignment Code Name
			Type	Number of Lanes	Median Width (ft)	Required Right of Way Width (ft)			
1	US 301 (SR 43) – West Lake Drive	1.0	Urban	6	22.0	126.0	45	N, C, S ⁽¹⁾	1-N, 1-C, 1-S
2	West Lake Drive – 7 th Street	0.9	Urban	4	22.0	102.0	45	N, C, S	2-N, 2-C, 2-S
3	7 th Street – Edina Street	0.4	Urban	4	22.0	102.0	45	N, C, S	3-N, 3-C, 3-S
				4	14.5	92.5	40	N, C, S	3-N _C , 3-C _C , 3-S _C ⁽²⁾
4	Edina Street – east of CR 579	0.1	Urban	4	22.0	102.0	45	N, C, S	4-N, 4-C, 4-S
				4	22.0	100.0	45	C ⁽³⁾	C ₁₀₀ ⁽³⁾

⁽¹⁾ N: widening along the north side (north alignment); C: widening along both sides (centered alignment); S: widening along the south side (south alignment)

⁽²⁾ 3-N_C, 3-C_C, 3-S_C: north, centered, and south widening alternatives with use of the constrained four-lane typical section

⁽³⁾ Typical section will be centered within the existing 100-foot-wide right of way

8.4.3 Effects on Noise Sensitive Sites

Noise sensitive sites are sites associated with uses for rest, recreation, concentration, and communication. Such sites include residences, schools, churches, hospitals, nursing homes, libraries, public assembly halls, lodgings, and parks. The number of existing noise sensitive sites that may be affected by each alignment was estimated and included in the evaluation matrix.

8.4.4 Effects on Cultural/Historic Sites

A thorough investigation was undertaken to identify historically and archaeologically significant sites and structures in the study area. Similarly, the location of existing and future public parks and recreation facilities was determined. The number of the historic structures that would be located within the Area of Potential Effect (APE) boundaries of each alignment were counted and included in the evaluation matrix. There are no archaeological sites within the areas of effects of the alignments under study.

8.4.5 Effects on the Natural Environment

Impacts on the natural environment include impacts on wetlands, uplands, floodplains, and floodways. The area of these natural environment areas that falls within the boundaries of a particular alignment were determined and included in the matrix.

8.4.6 Effects on Hazardous Material and Petroleum Contamination Sites

Several petroleum contamination sites exist in the study area. Avoidance of these sites minimizes the costs to clean up these sites during the construction of the recommended project improvements. The number of the sites ranked as **Low** or **Medium** – there are no **High** ranked sites in the study area – that fall within the boundaries of a particular alignment was determined for the petroleum contamination sites.

There are no sites containing hazardous materials within the areas affected by the alignments under study.

8.4.7 Project Costs

Preliminary cost estimates were prepared for each alignment alternative. These estimates included estimates for right of way acquisition, engineering, construction, and construction engineering and inspection (CEI) costs. The right of way acquisition cost includes costs for business and residence relocations, private property purchase, and reimbursement for miscellaneous business damages. The construction cost estimates were based on the Department's Long Range Estimate (LRE) method. The engineering and CEI costs were calculated as a percentage (15%) of the construction cost.

8.4.8 Evaluation Matrix

Table 8-2 presents the evaluation criteria that were used to evaluate the alternative alignments for each segment along with the corresponding values.

Table 8-2 – Alternatives Evaluation Matrix For SR 674

	Segment 1 – From US 301 to West Lake Drive			Segment 2 – From West Lake Drive to 7 th Street				Segment 3 – From 7 th Street to Edina Street					Segment 4 – From Edina Street to CR 579				Recommended Alternative Totals
	1-N ¹	1-C ¹	1-S ¹	2-N ¹	2-C ¹	2-S ¹	3-N ¹	3-C ¹	3-S ¹	3-N _C ²	3-C _C ²	3-S _C ²	4-N ¹	4-C ¹	4-S ¹	4-C ₁₀₀ ³	
Potential Relocations																	
- Business relocations	0	0	1	3	0	0	8	14	8	5	8	9	0	0	0	0	8
- Residential relocations	0	0	0	9	2	0	0	1	1	0	1	0	0	0	0	0	0
Total Relocations	0	0	1	12	2	0	8	15	9	5	9	9	0	0	0	0	8
Community Facility Impacts (number of facilities)																	
- Community facilities within the Right of Way	0	0	0	3	3	0	1	1	0	1	1	0	0	0	0	0	1
- Community facilities within 300 feet of the Right of Way	0	0	0	3	3	3	3	3	3	3	3	3	0	0	0	0	6
Noise Sensitive Receiver Impacts (number of sites)																	
- Noise sensitive receivers affected	9	8	8	13	23	21	2	4	2	4	3	2	0	0	0	0	32
Impacts on Potential Historic Resources (number of locations)																	
- Historic Resources within the Study Area	0	1	1	9	9	0	5	6	3	5	6	3	0	0	0	0	5
Natural Environment Effects (acres)																	
- Total area of wetland involvement in acres	0.60 ac	0.49 ac	0.41 ac	0.22 ac	0.22 ac	0.22 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.46 ac	0.67 ac	0.86 ac	0.48 ac	1.28 ac
- Total area of floodplain encroachment in acres	0.00 ac	0.00 ac	0.00 ac	0.92 ac	1.01 ac	1.08 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	0.00 ac	1.08 ac
Potential Contaminated Sites Involvement (number of sites)																	
- Potential contaminated sites adjacent to the Right of Way	0	1 Low 1 Medium	1 Low 1 Medium	1 Medium	1 Medium	0	2 Medium	2 Low 4 Medium	2 Low 2 Medium	2 Medium	2 Low 4 Medium	2 Low 2 Medium	0	0	0	0	3 Medium
Estimated Costs (today’s value in millions of dollars (\$M))																	
- Right of Way acquisition cost (including ponds)	\$6.86M	\$12.65M	\$11.60M	\$12.17M	\$14.83M	\$8.03M	\$9.88M	\$21.47M	\$15.01M	\$8.78M	\$19.80M	\$13.39M	\$0.61M	\$1.11M	\$0.86M	\$0.30M	\$28.42M
- Construction cost	\$9.44M	\$12.71M	\$9.44M	\$8.55M	\$8.55M	\$8.55M	\$3.83M	\$3.83M	\$3.83M	\$3.69M	\$3.69M	\$3.69M	\$4.40M	\$4.40M	\$4.40M	\$4.35M	\$26.22M
- Engineering cost (15% of Construction Cost)	\$1.42M	\$1.91M	\$1.42M	\$1.28M	\$1.28M	\$1.28M	\$0.57M	\$0.57M	\$0.57M	\$0.55M	\$0.55M	\$0.55M	\$0.66M	\$0.66M	\$0.66M	\$0.65M	\$3.93M
- Construction engineering and inspection cost (15% of Construction Cost)	\$1.42M	\$1.91M	\$1.42M	\$1.28M	\$1.28M	\$1.28M	\$0.57M	\$0.57M	\$0.57M	\$0.55M	\$0.55M	\$0.55M	\$0.66M	\$0.66M	\$0.66M	\$0.65M	\$3.93M
Total Cost	\$19.14M	\$29.18M	\$23.88M	\$23.28M	\$25.94M	\$19.14M	\$14.85M	\$26.44M	\$19.98M	\$13.57M	\$24.59M	\$18.18M	\$6.33M	\$6.83M	\$6.58M	\$5.95 M	\$62.50M

NOTES: Highlighted columns indicate recommended alternative.

Recommended Alternative totals may not be equal to the sum of the segments due to the transitions at the segment breaks.

(1) N: widening along the north side (north alignment); C: widening along both sides (centered alignment); S: widening along the south side (south alignment)

(2) Segment 1 uses 126-ft. wide six-lane divided urban typical section; Segments 2, 3 and 4 use 102-ft. wide four-lane divided urban typical section.

(3) 3-Nc, 3-Cc, 3-Sc: north, centered, and south widening alternatives with use of the constrained 92.5-ft. wide four-lane divided urban typical section.

4-C₁₀₀: 100-ft. wide four-lane divided urban typical section will be centered within the existing 100-foot-wide right of way.

SECTION 9.0

PRELIMINARY DESIGN ANALYSIS

As shown in the previous sections, this PD&E Study considered several engineering and environmental factors in developing and evaluating suitable improvement alternatives for SR 674, within the limits of this project. This section presents the key elements of the “recommended” improvement alternative which will be carried forward into the Final Design phase.

9.1 THE “RECOMMENDED” ALTERNATIVE

The “recommended” alternative selected for this project was based on the traffic analyses presented in **Section 6.0**, the evaluation of alternatives discussed in **Section 8.0**, 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 ultimately be widened to the north to provide an urban divided facility with three 12-foot lanes in each direction of travel. Improvements for this segment will be staged, with a four-lane divided facility with an 11-foot inside travel lane and a 12-foot outside travel lane in each direction of travel provided initially. 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 to provide an urban divided facility with two 12-foot lanes in each direction of travel. Refer to **Section 9.3** for more details on the three proposed typical sections.

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.

9.2 DESIGN TRAFFIC VOLUMES AND LEVELS OF SERVICE

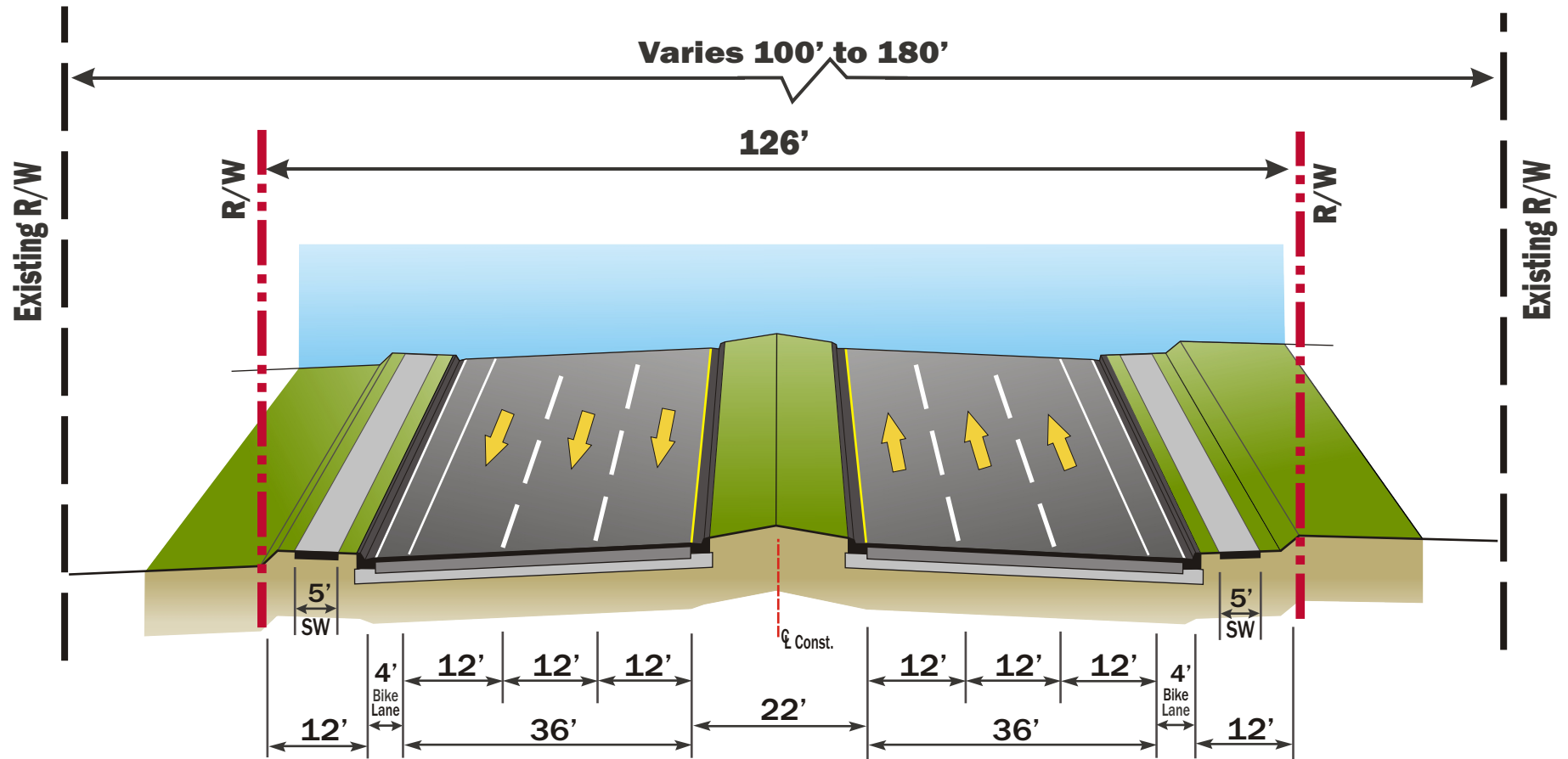
A Final *Corridor Management Report* was prepared by the Department under separate cover for SR 674. **Exhibits 6-4** and **6-5** in **Section 6.0** of this report present the projected design year (2030) AADT and DDHV for SR 674. As shown in **Exhibit 6-4**, in 2030 SR 674 is expected to carry from 17,800 vpd in Wimauma to 41,700 vpd east of US 301 (SR 43).

Exhibit 6-7 in **Section 6.0** of this report summarizes the results of the design year (2030) Build-condition capacity analyses. As shown, with the recommended capacity improvements in place, SR 674 should be expected to operate at LOS D or better between US 301 (SR 43) and West Lake Drive and LOS B or better in Wimauma. Even with the ultimate proposed improvements at the intersection of SR 674 with US 301 (SR 43), this intersection will continue to operate at LOS F during the peak hours. Also, the northbound left-turning volumes at CR 579 will operate at LOS F during the peak hour. 17,800 vpd in Wimauma.

9.3 TYPICAL SECTIONS

Exhibits 9-1, 9-2 and **9-3** depict the proposed ultimate six-lane and interim four-lane typical sections for Segment 1 and the proposed ultimate four-lane typical section for Segments 2, 3 and 4 of the “recommended” alternative, respectively. The ultimate six-lane urban typical section is proposed for the segment from US 301 (SR 43) to West Lake Drive. 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 interim four-lane urban typical section is proposed as a staged improvement for the segment from US 301 (SR 43) to West Lake Drive. It provides an 11-foot wide inside travel lane and a 12-foot wide outside travel lane in each direction, a 22-foot wide median and bicycle lanes and sidewalks on both sides, and would fit within 100 feet of right of way. The ultimate four-lane urban typical section is proposed for the remainder of the project from West Lake Drive to CR 579. 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.

Segment 1 - From US 301 to West Lake Drive



SR 674 PD&E Study

From US 301 (SR 43) to CR 579

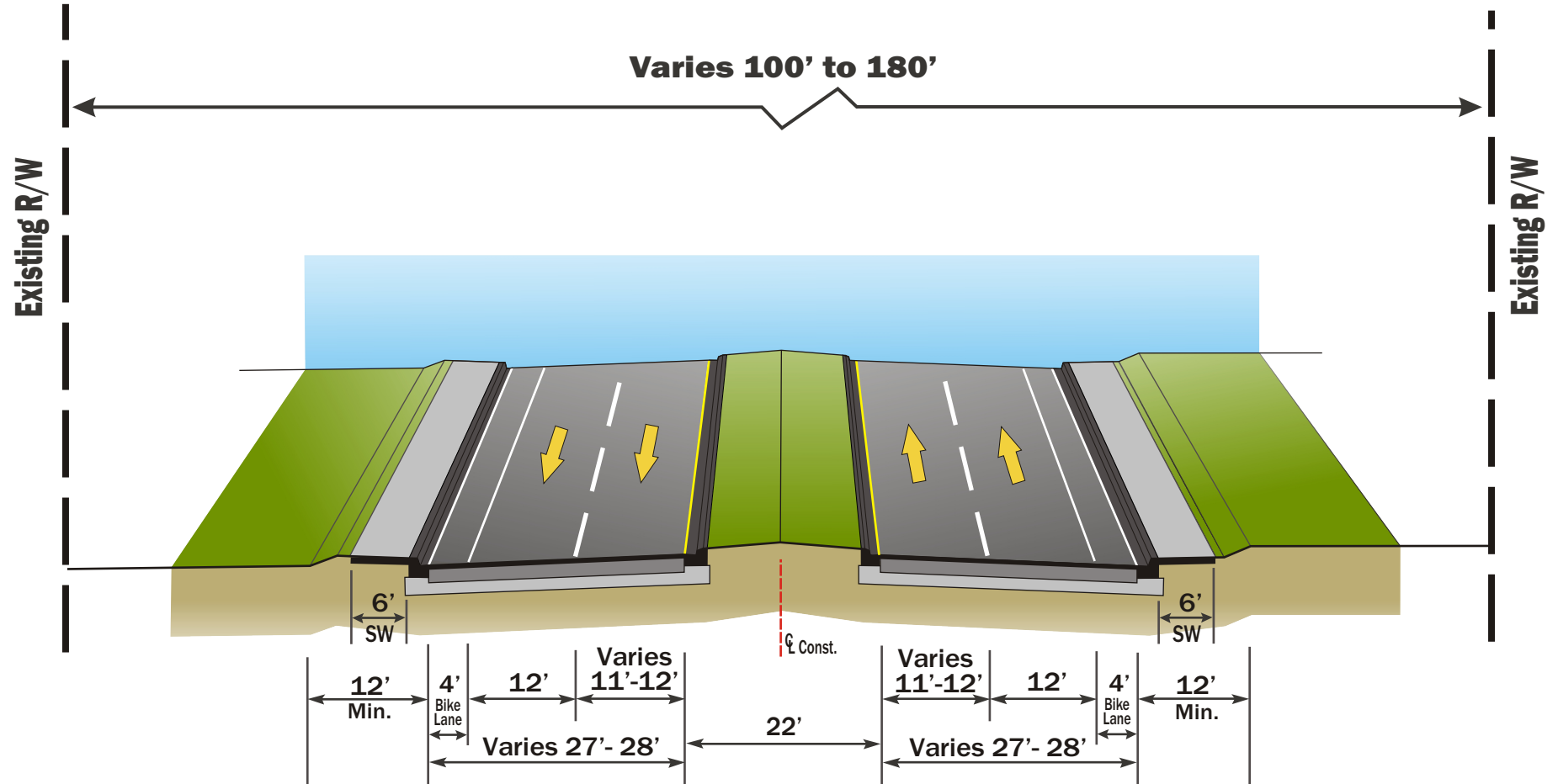
Hillsborough County

WPI Segment No. 422762 1

Proposed Ultimate Six-Lane Urban Typical Section for SR 674

Exhibit 9-1

Segment 1 - From US 301 to West Lake Drive



SR 674 PD&E Study

From US 301 (SR 43) to CR 579

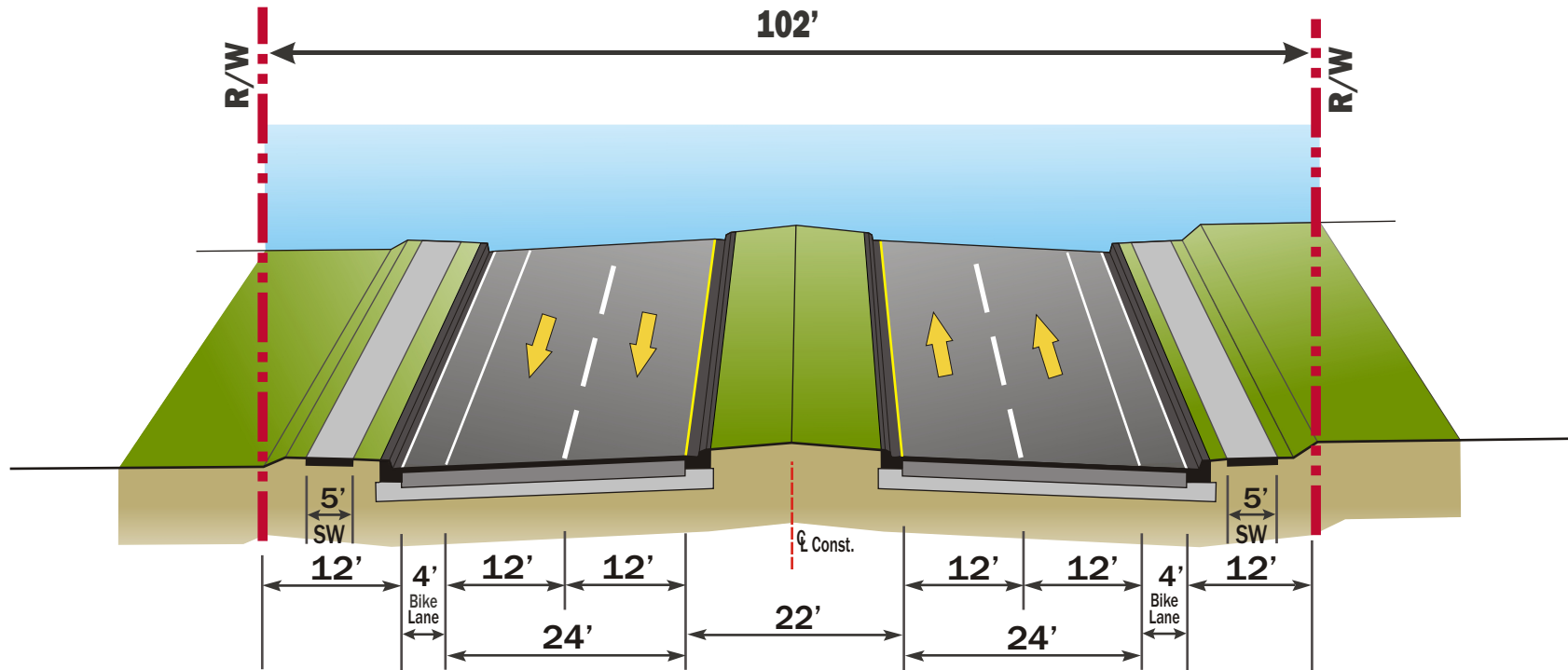
Hillsborough County

WPI Segment No. 422762 1

Proposed Interim Four-Lane Urban Typical Section for SR 674

Exhibit 9-2

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



SR 674 PD&E Study

From US 301 (SR 43) to CR 579

Hillsborough County

WPI Segment No. 422762 1

Proposed Ultimate Four-Lane Urban Typical Section for SR 674

Exhibit 9-3

9.4 INTERSECTION CONCEPTS AND SIGNAL ANALYSIS

Appendix A provides conceptual plans of the ultimate improvements for the “Recommended Alternative” for SR 674. **Appendix B** provides conceptual plans for the staged interim improvements for the initial widening of SR 674. These plans also depict the proposed improvements at the intersections. Based on the signalized intersection analysis of US 301 (SR 43) and SR 674, three through lanes for the SR 674 westbound and eastbound approaches are ultimately proposed. According to the capacity analyses of the design hour traffic volumes, signalization may be required at the intersection of West Lake Drive and SR 674 to meet level of service standards (LOS “D” or better). A warrant analysis will be conducted during the Final Design phase to determine if necessary.

9.5 ALIGNMENT AND RIGHT OF WAY NEEDS

Appendix A provides conceptual plans of the ultimate improvements for the “Recommended Alternative” for SR 674. **Appendix B** provides conceptual plans for the staged interim improvements for the initial widening of SR 674. The widening improvements of SR 674 generally follow the existing alignment.

Moving from west to east and beginning approximately 2,600 feet east of US 301 (SR 43), the existing roadway will ultimately be widened to the north until West Lake Drive, at which point the alignment transitions to a southern widening. For the interim staged improvements, the existing roadway for this segment will be widened within the existing right of way and will follow the existing alignment. Continuing eastward from West Lake Drive, the widening occurs on the south side of SR 674 until Sheffield Street, at which point the alignment transitions back to a northern widening, which continues to the end of the project at CR 579.

Additional right of way will be required to implement the proposed improvements and to accommodate the stormwater management facilities for the project. The additional right of way that will need to be acquired for the ultimate proposed improvements includes 4.9

acres for roadway improvements and 6.0 acres for stormwater management facilities (SMFs).

9.6 RELOCATIONS

Construction of the ultimate “recommended” alternative is expected to cause the potential relocation of no residences and 8 businesses. These locations are also shown on the Recommended Alternative Conceptual Plans located in **Appendix A**. For these potential relocations, and any other potential relocations that may result from this project, the FDOT will carry out a right of way acquisition and relocation program in accordance with Florida Statute 339.09 and the Uniform Relocation Assistance and Real Property Acquisition Act of 1970 (Public Law 91-646 as amended by Public Law 100-17).

At least one relocation specialist is assigned to each highway project to carry out the relocation assistance and payments program. A relocation specialist will contact each person to be relocated to determine individual needs and desires, and to provide information, answer questions, and give help in finding replacement property. Relocation services and payments are provided without regard to race, color, religion, sex, or national origin.

9.7 RIGHT OF WAY COSTS

The estimated total cost of the additional right of way needed for the ultimate SR 674 roadway improvements and stormwater management facilities is \$28.42 million (present value).

9.8 CONSTRUCTION COSTS

The total estimated construction cost of the ultimate improvements is approximately \$26.22 million (present value). These costs were calculated by applying the FDOT’s Long Range Estimate (LRE) method. The construction engineering and inspection (CEI) cost was estimated as 15% of the construction cost, at \$3.93 million (present value).

9.9 PRELIMINARY ENGINEERING COSTS

The final design of the project is estimated to cost approximately \$3.93 million (present value). These costs were also estimated as 15% of the construction cost.

9.10 PRODUCTION SCHEDULE

Currently, there are no subsequent phases (preliminary engineering, right of way acquisition or construction) funded in the adopted FDOT Five Year Work Program (Fiscal Years 2008/09 through 2012/13).

9.11 RECYCLING OF SALVAGEABLE MATERIAL

During the construction of the project, recycling of re-usable materials will occur to the greatest extent possible. Where possible, the existing pavement will be recycled and used in the new pavement. This will help to reduce both the volume of materials that need to be hauled and disposed of away from the project and the cost of purchasing materials suitable for pavement construction. Other materials – such as signs, guardrail and concrete drainage pipes – will be salvaged and re-used for regular maintenance operations if they are found to be in good condition.

9.12 USER BENEFITS

Construction of the proposed improvements associated with the “recommended” alternative will result in several user benefits including the savings in travel time, reduced vehicle operating costs, increased roadway safety, and decreased evacuation times. Access to schools and other community facilities as well as the numerous commercial establishments and residences will be enhanced, which will contribute to the economic growth of the area adjacent to the project.

9.13 PEDESTRIAN AND BICYCLE FACILITIES

The proposed improvements will accommodate bicyclists with 4-foot wide bike lanes and pedestrians with 5-foot-wide to 6-foot-wide concrete sidewalks.

9.14 SAFETY

The proposed improvements will upgrade this segment of SR 674 to a safer and more efficient transportation facility. The increased mainline capacity should result in the reduction of the number of crashes along SR 674. In addition, the application of access management measures along SR 674 will enhance the safety of the overall operations in the study area.

Pedestrian and bicycle safety will be improved throughout the project. New sidewalks are proposed along both sides of SR 674 that will provide connectivity between the existing segments of sidewalk along the north side of SR 674 and bus stop facilities for HART bus route #87. Continuous bicycle lanes will be provided on both sides of SR 674 for the entire length of the project.

9.15 ECONOMIC AND COMMUNITY DEVELOPMENT

This project is not included in any federal, state, or local government plan. However, the Department is proactively advancing the planning of the improvements for SR 674 so that they can be coordinated with the new planned large residential and commercial developments in this region. The proposed improvements were expected to accommodate, to the maximum extent feasible, the projected design year 2030 traffic demands at acceptable levels of service.

9.16 ENVIRONMENTAL EFFECTS

9.16.1 Effects on the Socio-cultural Environment

The proposed improvements should be expected to have only minimal effects on the socio-cultural environment of the study area.

9.16.1.1 Land Use

As previously noted in **Sections 4.3.1.1** and **4.3.1.2**, land uses in the vicinity of the project corridor are predominantly residential, commercial, institutional (churches), and agricultural. Several large residential developments (DG Farms DRI, Sunshine Village and Westlake Village) are currently planned in the vicinity of SR 674 between US 301 (SR 43) and West Lake Drive. Hillsborough County prepared the *Wimauma Village*

Plan, which calls for encouraging commercial development along SR 674 within the study area limits and light industrial and office uses east of CR 579. It also identifies Center Street, between 7th Street and Railroad Street, as a potential alternative to SR 674 to function as a “Main Street” for the community. Reddick Elementary School was constructed by Hillsborough County on a parcel located on the west side of West Lake Drive north of SR 674.

The proposed interim project improvements are consistent with the future land use plan of Hillsborough County. The areas abutted by the project should be expected to grow consistently with the currently established trends. Secondary development or land use changes in these areas are unlikely to occur as a result of the proposed improvements.

9.16.1.2 Community Facilities

As previously noted in **Section 4.3.2.2**, SR 674 provides access to several community services and facilities. The proposed improvements will enhance access to these facilities and services.

9.16.1.3 Cultural Features

Section 4.3.2.3 of this document presents a summary of the findings of the *Cultural Resource Assessment Survey (CRAS)* which was conducted for this PD&E Study to assess the potential project effects on any archaeological and historical within the study area. The *CRAS* considered the proposed widening of SR 674, as well as the alternative sites under consideration for stormwater management facilities.

In a letter dated November 19, 2007, the SHPO concurred that this project will have no effects on the archaeological and historical resources within the study area. A copy of this letter is located in **Appendix C**.

9.16.1.4 Recreation and Conservation Lands

As noted in **Section 4.3.2.1**, there are two public recreation resources within the study area, as follows:

- The **Bethune Park Recreation Center** is located at the northwest corner of the North Street and Railroad Street intersection, two blocks north of SR 674.
- **Wimauma Park** is located at the southeast corner of the Hillsborough Street and 7th Street intersection, three blocks south of SR 674. The **Wimauma Civic Center** is also located in this park.

The proposed widening improvements for SR 674 will not affect either of these resources.

9.16.1.5 Community Cohesion

This project involves the widening of the existing roadway with right of way acquisition necessary for the additional lanes and for the placement of stormwater treatment facilities (SMFs) and floodplain compensation areas (FCAs). This project is not expected to cause splitting or isolation of any neighborhoods or to harm in any way elderly, physically challenged, non-driving, transit dependent, and minority individuals. Therefore, the proposed project will have no effect on the cohesiveness of the community.

9.16.2 **Effects on the Natural Environment**

9.16.2.1 Effects on Wetlands

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.

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. A total of five (5) aquatic features (excluding swales and ditches) have been identified along the project corridor that present the potential to be impacted by the proposed improvements. All wetlands affected by the proposed improvements 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.

It is estimated that a total of 1.28 acres of wetlands will be affected by the proposed roadway improvements. Areas for stormwater management facilities (SMFs) and floodplain compensation areas (FCAs) will be determined during the Final Design phase for this project. The potential for impacts to the natural environment in the SMFs and FCAs will be assessed at that time. These effects will need to be coordinated with the responsible state and federal regulatory agencies through the issuance of the appropriate permits. An Environmental Resource Permit will be required from SWFWMD, a Section 404 Dredge and Fill Permit will be required from the U.S. Army Corps of Engineers and a Florida Department of Environmental Protection (FDEP) – U.S. Environmental Protection Agency National Pollutant Discharge Elimination System (NPDES) Permit will be required prior to 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.
- 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 Department of Environmental Protection to the Southwest Florida Water Management District. The Water Management District 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.

Evaluations and decisions on the most suitable mitigation options will be performed during the Final Design phase through the permitting negotiations.

9.16.2.2 Effects on Threatened and Endangered Species

The potential effects of the proposed project improvements on the state and federally listed species and habitats were studied and presented in the *Wetlands Evaluation and Biological Assessment Memorandum*, prepared for this PD&E Study under separate cover. **Section 4.3.3.3** of this report presents a list of the federally and state protected species occurring or presenting the potential to occur in the vicinity of the project.

According to the findings presented in the *Wetlands Evaluation and Biological Assessment Memorandum*, the proposed improvements will not significantly affect or jeopardize the existence of any federally- and/or state-listed threatened or endangered species known or expected to occur in the study area. Furthermore, the proposed project is not located in an area designated as critical habitat by the U.S. Department of the Interior.

The *Wetlands Evaluation and Biological Assessment Memorandum* was reviewed by the U.S. Fish and Wildlife Service (USFWS) which responded on September 12, 2008 that the planned action may affect, but is not likely to adversely affect, the eastern indigo snake (*Drymarchon corais couperi*) and the wood stork (*Mycteria Americana*) and will not significantly affect other fish and wildlife resources protected by the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.).

9.16.2.3 Effects on Water Quality

A *Water Quality Impact Evaluation (WQIE)* was prepared as part of this PD&E Study. No adverse effects to water quality are anticipated to result from the proposed improvements to SR 674. The effects of the proposed improvements on the surface water will essentially be limited to the effects due to erosion during construction. These impacts are considered temporary and will be minimized by strict adherence to Section 104 of the FDOT *Standard Specifications for Road and Bridge Construction*. The design of the proposed stormwater management facilities will be based, at a minimum, on the water quantity requirements for water quality impacts as required by the South Florida Water Management District in Florida Statutes 373 and Rules 40E-1, 40E-4, and 40E-40

Florida Administrative Code. Therefore, no further mitigation for water quality impacts will be needed.

9.16.2.4 Effects on 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 for this project.

9.16.2.5 Effects on Floodplains

USGS Quadrangle maps, SWFWMD topographic maps, and FEMA FIRMs – panel numbers 120112 0680 B (dated June 18, 1980) and 120112 0685 C (dated April 17, 1984) – were used to identify flood-prone areas in the study area of this project. The majority of the project is within Zone C areas of minimal flooding. Lake Wimauma is located in the 100-year floodplain. Based on comparisons between the FIRMs and the SWFWMD contour aerials, it is estimated that the Zone “A” 100-year floodplain associated with Lake Wimauma is at elevation 89.5.

The effects of the proposed improvements on the floodplains and floodways are presented in the *Preliminary Drainage Analysis Technical Memorandum*. The proposed project improvements may involve floodplains only along the segment of SR 674 between West Lake Drive and 7th Street. The proposed improvements related to the “Recommended” Alternative may affect approximately 1.08 acres of floodplains. There are no floodways within the study area of this project.

The SWFWMD Environmental Resource Permit (ERP) Information Manual (Section 4.4, 3/11/2004 edition) states that no net encroachment into the floodplain, up to that encompassed by the 100-year event, which will adversely affect either conveyance, storage, water quality, or adjacent lands, will be allowed. Compensating storage will be required for any fill encroachment in these floodplains. Compliance with the “Historic Basin Storage” (Section 4.7, ERP) and “Offsite Lands” (Section 4.8, ERP) criteria will

also be necessary. Mitigation for encroachment into the 100-year floodplain will be compensated through the construction of floodplain compensation areas. These areas will be addressed in the Final Design phase of this project.

With regards to the base floodplain construction activities, this project can be categorized as Category 4: “Projects on Existing Alignment Involving Replacement of Existing Drainage Structures with no Record of Drainage Problems.” The proposed drainage structures will perform hydraulically in a manner equal to or greater than the existing structures, and backwater surface elevations are not expected to increase. As a result, there will be no significant adverse effects on natural and beneficial floodplain values. There will be no significant change in flood risk, and there will be no significant change in the potential for interruption or termination of emergency service or emergency evacuation routes. Therefore, it has been determined that this encroachment is not significant.

9.16.3 Effects on the Physical Environment

9.16.3.1 Effects on Contaminated Sites

As noted in **Section 4.3.4** of this report, a *Contamination Screening Evaluation Report (CSER)* was prepared for this PD&E Study. Nine sites were identified for involvement of some type of potential petroleum contamination. There were no sites identified to contain hazardous materials. Three sites were assigned a **Low** rating for potential contamination and include a former warehouse which had petroleum releases in the past and two active auto repair facilities. Six sites were assigned a **Medium** rating for potential contamination and include three sites that are currently operating retail gas stations, two sites that are auto repair facilities which once operated aboveground or underground storage tanks that leaked, and one site that is a convenience store which once operated underground storage tanks that leaked.

The “Recommended” alternative may require acquisition of right of way from three of the **Medium** sites. These sites are as follows:

- Tienda de Los Primos convenience store located at 5616 State Road 674,

- El Mercado automotive service and audio installation shop located at 5648 State Road 674, and
- Primos Citgo retail gas station and convenience store located at 5802 State Road 674.

Another site rated **Medium** and from which right of way will not be required has groundwater flow in the direction of the proposed improvements. This site is the G & S Oil Station / Wesco #5 located at 5701 SR 674.

Due to the proximity of these sites to SR 674, contaminated soils may be encountered during construction of the proposed roadway. Therefore, additional testing for potential petroleum contamination will be undertaken at these four sites prior to construction.

9.16.3.2 Noise Effects

In accordance with 23 CFR 772, “Procedures for Abatement of Highway Traffic Noise and Construction Noise,” an assessment of traffic noise was conducted for this project and a *Noise Study Report* has been prepared for this PD&E Study.

A total of 39 noise sensitive sites (including 36 single-family residences and three churches) were evaluated. Thirty-two (32) single-family residences are predicted to experience noise levels that will approach, meet, or exceed the Noise Abatement Criteria (NAC). Noise abatement measures such as traffic management, alternative roadway alignment, and noise barriers were considered for the affected noise sensitive sites.

Based on the results of the analysis, a noise barrier is considered a potentially feasible and reasonable measure to reduce predicted future traffic noise levels for the affected residences of the Sun City Mobile Home Park. During the project’s Final Design, a detailed traffic noise analysis for the potential noise barrier at Sun City Mobile Home Park will be undertaken. If the analysis indicates that the proposed noise barrier remains a potentially cost reasonable and feasible method of reducing predicted impacts, the noise barrier will be included as part of the SR 674 project contingent on the following:

- The owners of the Sun City Mobile Home Park indicate a positive desire for a noise barrier (including type, height, length, and location).
- All safety and engineering aspects of a noise barrier, as they relate to the roadway users and to the adjacent property owners, have been reviewed and approved.

To reduce the potential for additional noise sensitive sites to be located within an area with incompatible traffic noise, noise level contours were developed for the future improved roadway. The results of the analysis indicate that the level of 66 decibels on the “A”-weighted scale (the NAC for residences) could, depending on the segment of the project, extend approximately 55 to 150 feet from the edge of the near travel lane with the proposed improvements. Notably, local officials should not allow construction of any noise sensitive sites (e.g., residences, parks, churches, etc.) within this area.

9.16.3.3 Air Quality Effects

In accordance with the Clean Air Act Amendments of 1990 and Part 2, Chapter 16 of the FDOT’s *PD&E Manual*, an air quality analysis was conducted to assess effects of the proposed project on air quality and summarized in the *Air Quality Memorandum*. This project is in an area currently designated as “attainment” for air pollutants such as: ozone, nitrogen dioxide, particulate matter (2.5 microns and 10 microns in size), sulfur dioxide, carbon monoxide, and lead.

The project alternatives were subjected to a carbon monoxide (CO) screening model that makes various conservative worst-case assumptions related to the site conditions, meteorology and traffic. The FDOT’s screening model, *CO Florida 2004* (released September 7, 2004), which uses the latest approved software (Mobile 6 and CAL3QHC) by the United States Environmental Protection Agency (USEPA), was applied to produce estimates of one-hour and eight-hour CO concentrations at SR 674 and US 301 (SR 43), which is considered the intersection containing the “worst-case” leg of all signalized intersections within the project corridor for the design year. The opening year (2010) and the design year (2030) were evaluated. Based on the results from the screening model,

the highest project-related CO one- and eight-hour levels are not predicted to meet or exceed the one- or eight-hour National Ambient Air Quality Standards (NAAQS) for the pollutant with either the No-Build or Build Alternatives. As such, the project “passed” the screening process and no further analysis is required.

This project is located in an area that has been designated as “attainment” for all of the National Ambient Air Quality Standards under the criteria provided in the Clean Air Act Amendments of 1990 and therefore, transportation conformity does not apply.

9.17 UTILITY EFFECTS

Table 4-8 of **Section 4.1.12** summarizes the existing utilities within the study area. Depending on the location, depth, and height of these utilities, implementation of the proposed improvements may require the adjustment and/or relocation of some of them. Further coordination will be conducted with the utility companies during the Final Design phase to assess the need for these adjustments and/or relocations as well as the associated costs.

9.18 TRAFFIC CONTROL PLAN

Maintenance of traffic and the sequence of construction will be planned so as to minimize traffic delays and maintain safety to the maximum extent feasible. Standard FDOT traffic control design standards and details will be utilized.

In Segment 1, the existing roadway will initially be widened to a 4 lane divided typical section. This will be accomplished by constructing the two new eastbound lanes, shifting both directions of traffic to these new lanes, then constructing the remaining two lanes and the curbed median.

When the recommended ultimate widening to 6 lanes is constructed, a third lane will be added to the inside of the eastbound lanes. Two new lanes will be added to the outside of the westbound lanes with the existing inside lane demolished to become part of the new

median. Reductions in the number of travel lanes may be necessary to accomplish portions of this widening.

For project Segments 2, 3, and 4, the existing two lane roadway will continue to accommodate traffic while two new travel lanes are constructed to the side of the road with the new widened right of way. Following construction of these first two new travel lanes, traffic will be relocated onto this new pavement while the additional travel lanes and remainder of the raised curbed median are constructed.

Pedestrians will be accommodated throughout the corridor during construction. Access to residential properties and businesses will be maintained throughout construction. Business signage will be provided to delineate access to businesses.

During the Final Design phase, a detailed Traffic Control Plan will be developed utilizing the Design Standard Indexes 415, 600, 613, 616, 641, and 660 as appropriate.

9.19 RESULTS OF THE PUBLIC INVOLVEMENT PROGRAM

A *Public Involvement Plan (PIP)* was approved for the study in March 2007 and updated in January 2008. The PIP identified the interested parties for this project and documented the techniques to be used to inform them and solicit their comments. Interested parties included local residents and business owners, public officials, and agency representatives. The techniques documented in the PIP for engaging the interested parties included the distribution of an “Advance Notification Package” and an officials “Kick-off Letter” upon commencement of the study, news releases to the local media and mailing of 3 newsletters at key milestone points of the study, an Alternatives Public Display, and a Public Hearing. The results of these activities are documented in the *Comments and Coordination Report* prepared for this study under separate cover. A brief summary of these activities is provided below.

9.19.1 Advance Notification

An Advance Notification (AN) package was prepared for the study in accordance with Part 1, Chapter 2 of the FDOT PD&E Manual and was transmitted on March 7, 2007 to

the Florida State Clearinghouse for distribution to a number of agencies. Agencies who responded to the AN included the Florida Department of Community Affairs (DCA), the Florida Department of Environmental Protection (FDEP), and the Florida Department of State Division of Historical Resources/Historic Preservation .

These agencies' comments generally indicated no anticipated negative effects or consistency with applicable policies and requirements. Others requested that standard protective measures be taken to protect the environment or that further coordination take place with the agencies during the project's Final Design phase. More detail on these agency responses can be found in the Study's *Comments and Coordination Report*.

9.19.2 Alternatives Public Display

In lieu of an Alternatives Public Workshop, the status of the study and the alternative design concepts developed for the project were made available for review at the Wimauma Senior Center in English and at the Wimauma Civic Center in Spanish for the public to view at their leisure from March 20, 2008 to April 18, 2008. A locked comment box and comment sheets were available at the sites in order to obtain public comments on the proposed alternatives. Prior to the placement of materials at the viewing sites, public officials and agencies were notified and notification newsletters in English and Spanish were mailed to property owners and other interested parties. Newsletters were hand-delivered to commercial tenants along the corridor. The comment period lasted until April 28, 2008.

Eleven (11) comment forms were received in relation to this project during the comment period after the Alternatives Public Viewing. Comments that required a response were responded to by mailing letters to the interested individuals.

Five (5) comments expressed support for the South Alternative for Segment 2, one (1) comment expressed support of the No-Build Alternative, one (1) comment suggested a new alternative involving a one-way pair utilizing SR 674 for eastbound traffic and Center Street for westbound traffic, and the remainder of the comments provided general comments and questions.

9.19.3 Public Hearing

A Public Hearing was held on December 16, 2008 from 5:00 P.M. to 7:00 P.M. at Our Lady of Guadalupe Catholic Church, 16650 US 301 S, Wimauma, FL 33598.

Prior to the Hearing, a notice was published in the Florida Administrative Weekly, and a legal display ad was published in the *Tampa Tribune* and its Spanish sister publication *Centro Mi Diario*. A newsletter invitation was mailed to all affected property owners, agencies, and interested citizens. In addition, newsletter invitations were hand delivered to all business tenants located adjacent to the proposed project. The Public Hearing was attended by approximately 29 citizens, along with 19 FDOT staff and their consultants. A total of four (4) comment forms were received at the Hearing. Four additional comment forms were received within the 10-day comment period following the Hearing, as well as a letter from the Executive Director of the Metropolitan Planning Organization (MPO).

The informal session of the Public Hearing was held in the church hall from 5:00 P.M. until 6:00 P.M. During the informal session, citizens were given an opportunity to review a handout, various exhibits, study documents, and to ask question of FDOT staff and their consultants. The exhibits included the recommended alternative, an evaluation matrix, and typical sections of the existing conditions and the recommended alternative. In addition, representatives and exhibits for FDOT's right of way section and access management, as well as FDOT's noise consultant were present.

A continuously running PowerPoint presentation was shown at the far end of the hall, and a printed copy of the presentation with a Spanish translation of the script was available.

No oral statements were recorded by the court reporter during the informal session.

The formal portion of the Hearing, also held in the church hall, was moderated by Mr. Kirk Bogen, Project Development Engineer for District Seven of the Florida Department of Transportation. His presentation covered the following topics:

- Introductions of FDOT and consultant staff and recognition of public officials
- Purpose of the Hearing
- Reference to the exhibit with State and Federal laws cited
- Ways to comment

Following the formal presentation, attendees were given an opportunity to make oral statements for the record; four (4) citizens chose to make a public statement. Following this segment, the formal session was adjourned at approximately 6:17 P.M. and the informal session resumed until 7:00 P.M. A transcript of the oral presentation and all statements made to the court reporter are included in the *Comments and Coordination Report*.

9.20 VALUE ENGINEERING

A Value Engineering (VE) review was not performed for this project during this PD&E Study. The VE review for this project will be performed during the Final Design phase.

9.21 DRAINAGE

Section 4.1.7 of this report summarizes the current drainage conditions of the study area. According to the research of available records, field visits and coordination with the Department's roadway maintenance, no flooding occurrences were identified for the study area. The existing cross drains appear to be adequate in serving the current drainage needs of the project.

As part of this PD&E Study, stormwater management facilities (SMF) alternatives were evaluated and recommendations were made on the most suitable solutions to accommodate the stormwater runoff from the project. These analyses and recommendations are presented in the *Preliminary Drainage Analysis Technical Memorandum*, which was prepared for this PD&E Study.

The stormwater runoff for SR 674 will be collected via storm drains and piped to proposed SMFs. Basin 100 begins at the Begin Project limit (US 301 (SR 43)) and

continues to 13th Street, then drains to the south side of SR 674 into Dug Creek, which ultimately drains to Cypress Creek. Basin 100 will need two SMFs to handle the roadway stormwater runoff and they should be situated to discharge to Dug Creek. Basin 200 begins at 13th Street and continues to Edina Street and drains south to Lake Wimauma, which is a closed basin. Basin 200 will need two SMFs to handle the roadway stormwater runoff and they should be situated to discharge to Lake Wimauma. Basin 300 is located between Edina Street and the End Project limits, and is within the Bullfrog Creek Basin and discharges to Moody Lake. Basin 300 will need one SMF to handle the roadway stormwater runoff and it should be situated to discharge to CD-4, which ultimately flows into Moody Lake.

The preliminary SMF acreage requirements for this project are estimated to be approximately 6.0 acres. It should be noted that the locations of the SMFs and their sizes could change during the Final Design phase of the project because more accurate data will be available for drainage design (topographic contours, soil borings, etc.).

9.22 STRUCTURES

There are no structures proposed for this project.

9.23 ACCESS MANAGEMENT

SR 674 is an Access Class 3 facility. **Table 5-1** in **Section 5.0** provides the access management criteria for an Access Class 3 facility. The proposed improvements along SR 674 – shown with the conceptual improvement plans in **Appendices A and B** - depict the locations of the proposed median openings and traffic signals.

The Access Management Review Committee met on August 27, 2008 to consider a full median opening at the entrance to Westlake Village on SR 674 approximately 2,200 feet west of West Lake Drive. The committee approved the median opening as a “T” intersection, permitting only “left in” and left out” movements from the south. This median opening is reflected in the Concept Plans provided in **Appendices A and B**.

9.24 AESTHETICS AND LANDSCAPING

The placement and maintenance of any landscaping features along SR 674 in relation to the proposed improvements of this project shall comply with the clear zone requirements and sight distance standards for intersections. No special provisions or commitments have been made to date regarding aesthetic features and landscaping as part of the proposed improvements.

9.25 COMMITMENTS AND RECOMMENDATIONS**9.25.1 Commitments**

a. The implementing entity will consider employment of suitable protection methods for the eastern indigo snake if the project's construction activities would occur within suitable eastern indigo snake habitat. A habitat survey would be undertaken by the implementing entity prior to the initiation of construction to identify any areas that would be subject to this commitment.

b. Median openings will be reassessed at the time of design to make sure they work with the Wimauma Community at that time.

c. During the project's future design, a detailed traffic noise analysis for the potential noise barrier at Sun City Mobile Home Park will be undertaken. If the analysis indicates that the proposed noise barrier remains a potentially cost reasonable and feasible method of reducing predicted impacts, the noise barrier will be included as part of the SR 674 project contingent on the following:

- The owners of the Sun City Mobile Home Park indicate a positive desire for a noise barrier (including type, height, length, and location).
- All safety and engineering aspects of a noise barrier, as they relate to the roadway users and to the adjacent property owners, have been reviewed and approved.

9.25.2 Recommendations

Recommended Alignment - **Appendix A** provides conceptual plans of the ultimate improvements for the “Recommended Alternative” for SR 674. **Appendix B** provides conceptual plans for the staged interim improvements for the initial widening of SR 674. The widening improvements of SR 674 generally follow the existing alignment.

From US 301 (SR 43) to West Lake Drive, SR 674 will remain centered on the existing alignment for the initial stage of the improvements. Future widening of this segment to six lanes will require widening 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.

Recommended Typical Sections - A staged four-lane urban typical section is initially recommended for Segment 1 of SR 674 from US 301 (SR 43) to West Lake Drive (refer to **Exhibit 9-1**). It provides a 12-foot-wide outside travel lane and an 11-foot-wide to 12-foot-wide inside travel lane in each direction, a 22-foot-wide median and 4-foot-wide bicycle lanes and 6-foot-wide concrete sidewalks on both sides, and would fit within the existing 100 feet of right of way.

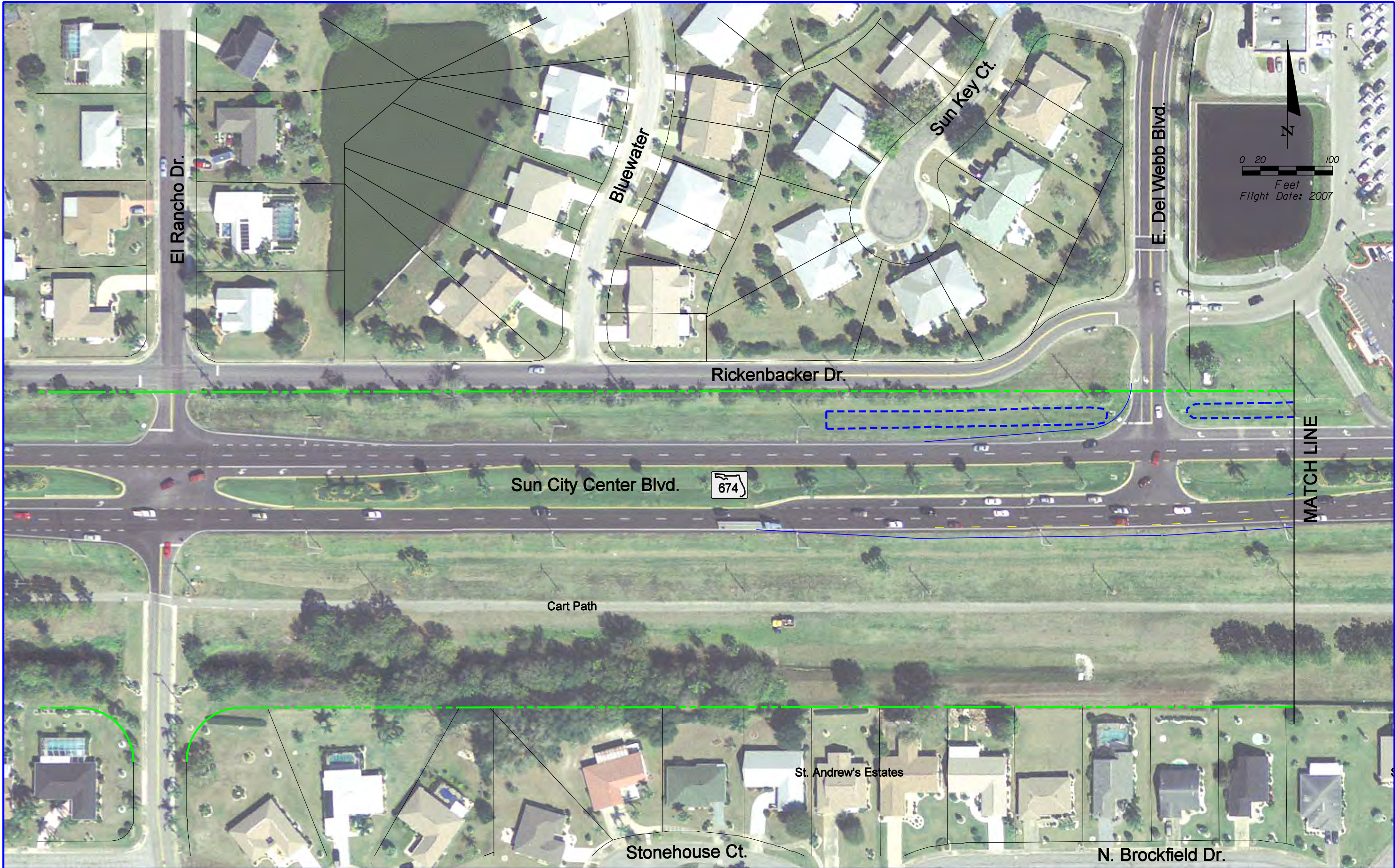
In the future when the need for further widening of Segment 1 of SR 674 from US 301 (SR 43) to West Lake Drive is justified by an updated traffic analysis and is consistent with the *Hillsborough County Long-Range Transportation Plan* at the time, a six-lane urban typical section is recommended for Segment 1 of SR 674 from US 301 (SR 43) to West Lake Drive (refer to **Exhibit 9-2**). It would provide three 12-foot-wide travel lanes in each direction, a 22-foot-wide median and 4-foot-wide bicycle lanes and 5-foot-wide concrete sidewalks on both sides, and would require 126 feet of right of way.

A four-lane urban typical section is recommended for Segments 2, 3 and 4 of SR 674 from West Lake Drive to CR 579 (refer to **Exhibit 9-3**). It provides two 12-foot-wide travel lanes in each direction, a 22-foot-wide median and 4-foot-wide bicycle lanes and 5-foot-wide concrete sidewalks on both sides and would require 102 feet of right of way.

APPENDICES

APPENDIX A

Recommended Alternative Conceptual Plans



- | | | | | | |
|-----|-----------------------|-----|-------------------------|---|-------------------------------|
| --- | EXISTING RIGHT-OF-WAY | --- | WETLAND BOUNDARY | ● | POTENTIAL BUSINESS RELOCATION |
| --- | PROPOSED RIGHT-OF-WAY | --- | FLOODPLAIN BOUNDARY | ▲ | POTENTIAL CONTAMINATION SITE |
| --- | PROPERTY LINE | --- | SIDEWALK | | |
| --- | PAVEMENT MARKINGS | --- | POTENTIAL NOISE BARRIER | | |

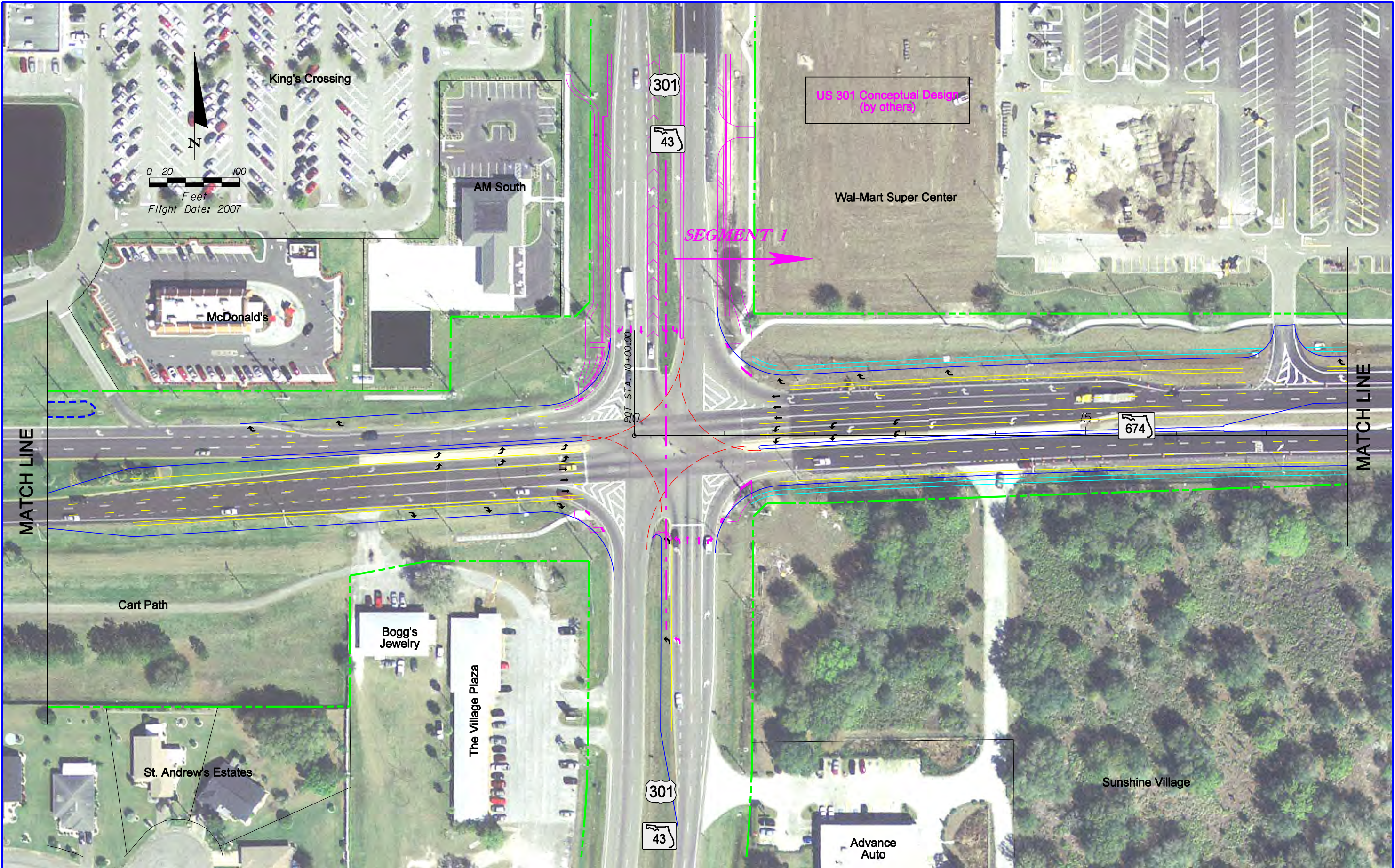
LOCHNER
13577 FEATHER SOUND DR. SUITE 600
CLEARWATER, FLORIDA 33762
FBPR CERTIFICATE OF AUTH. # 894

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	WPI Segment No.
SR 674	HILLSBOROUGH	422762 I

RECOMMENDED ALTERNATIVE

SHEET
NO.

I



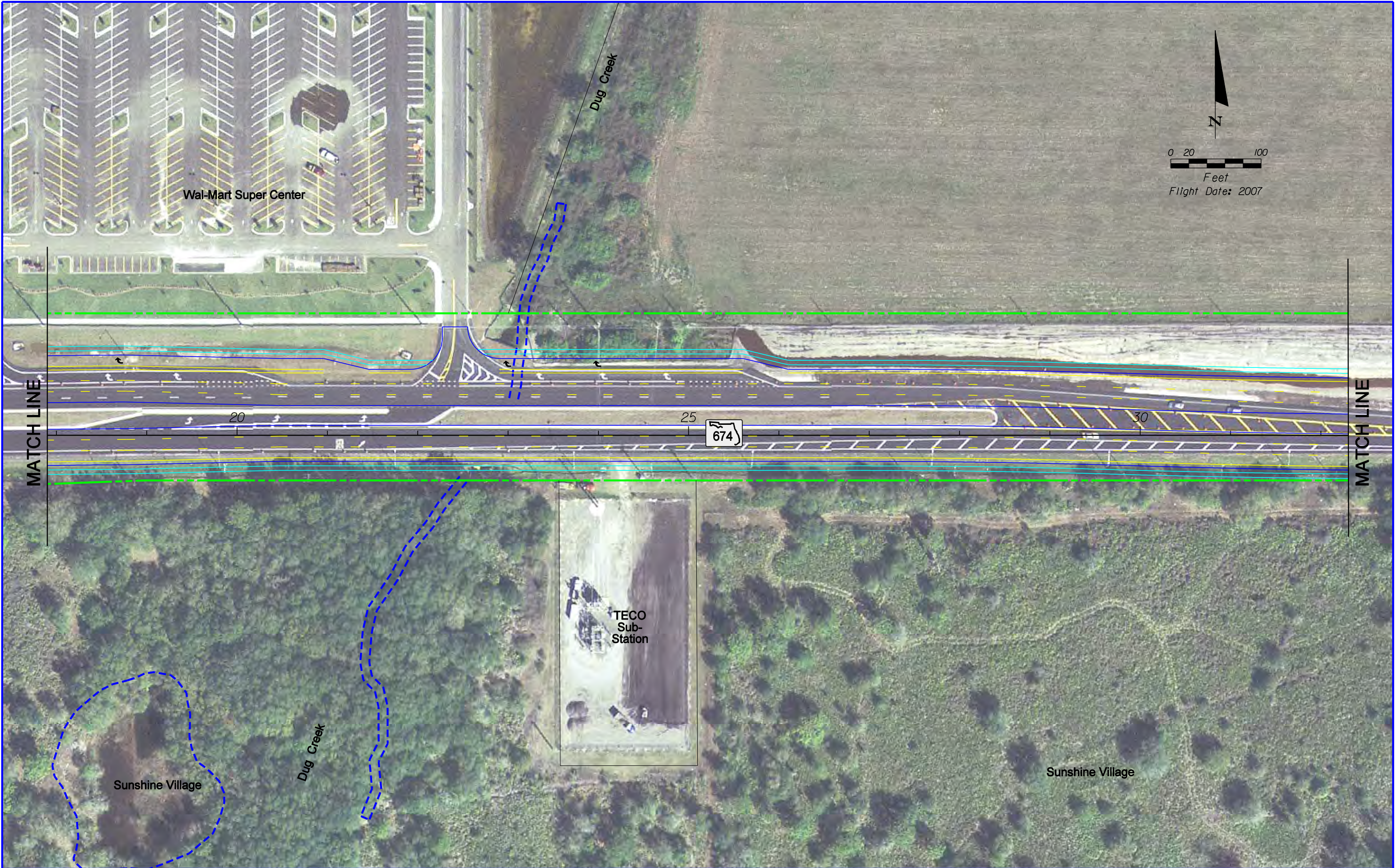
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|---------------------------|-----------------------------|---------------------------------|
| --- EXISTING RIGHT-OF-WAY | --- WETLAND BOUNDARY | ● POTENTIAL BUSINESS RELOCATION |
| --- PROPOSED RIGHT-OF-WAY | --- FLOODPLAIN BOUNDARY | ▲ POTENTIAL CONTAMINATION SITE |
| --- PROPERTY LINE | --- SIDEWALK | |
| --- PAVEMENT MARKINGS | --- POTENTIAL NOISE BARRIER | |

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CLEARWATER, FLORIDA 33762
FBPR CERTIFICATE OF AUTH. # 894

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	WPI Segment No.
SR 674	HILLSBOROUGH	422762 1

RECOMMENDED ALTERNATIVE

SHEET NO.
2



- | | | | | | |
|-----|-----------------------|-------|-------------------------|---|-------------------------------|
| --- | EXISTING RIGHT-OF-WAY | - - - | WETLAND BOUNDARY | ● | POTENTIAL BUSINESS RELOCATION |
| --- | PROPOSED RIGHT-OF-WAY | - - - | FLOODPLAIN BOUNDARY | ▲ | POTENTIAL CONTAMINATION SITE |
| --- | PROPERTY LINE | --- | SIDEWALK | | |
| --- | PAVEMENT MARKINGS | --- | POTENTIAL NOISE BARRIER | | |

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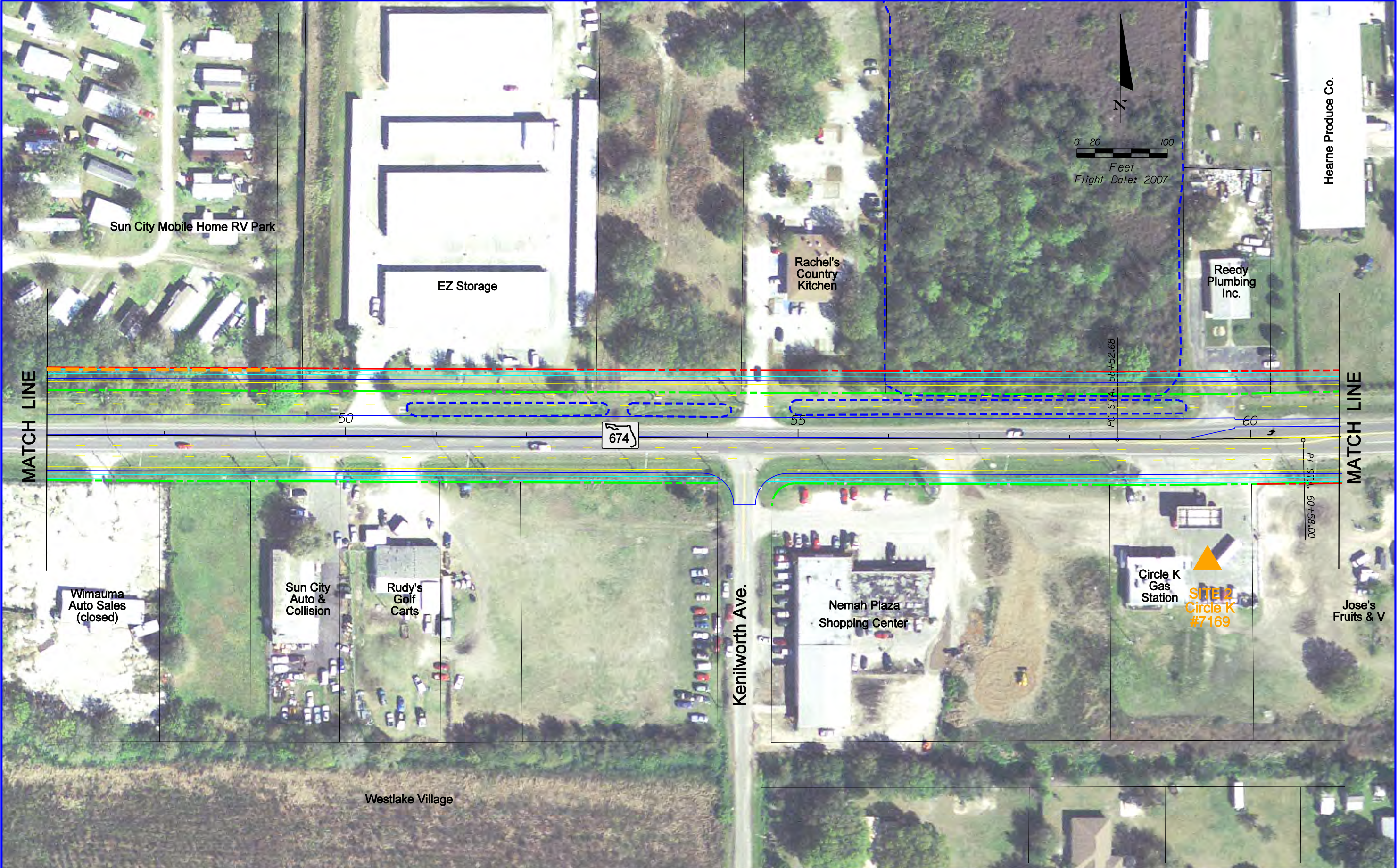
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	WPI Segment No.
SR 674	HILLSBOROUGH	422762 1

RECOMMENDED ALTERNATIVE

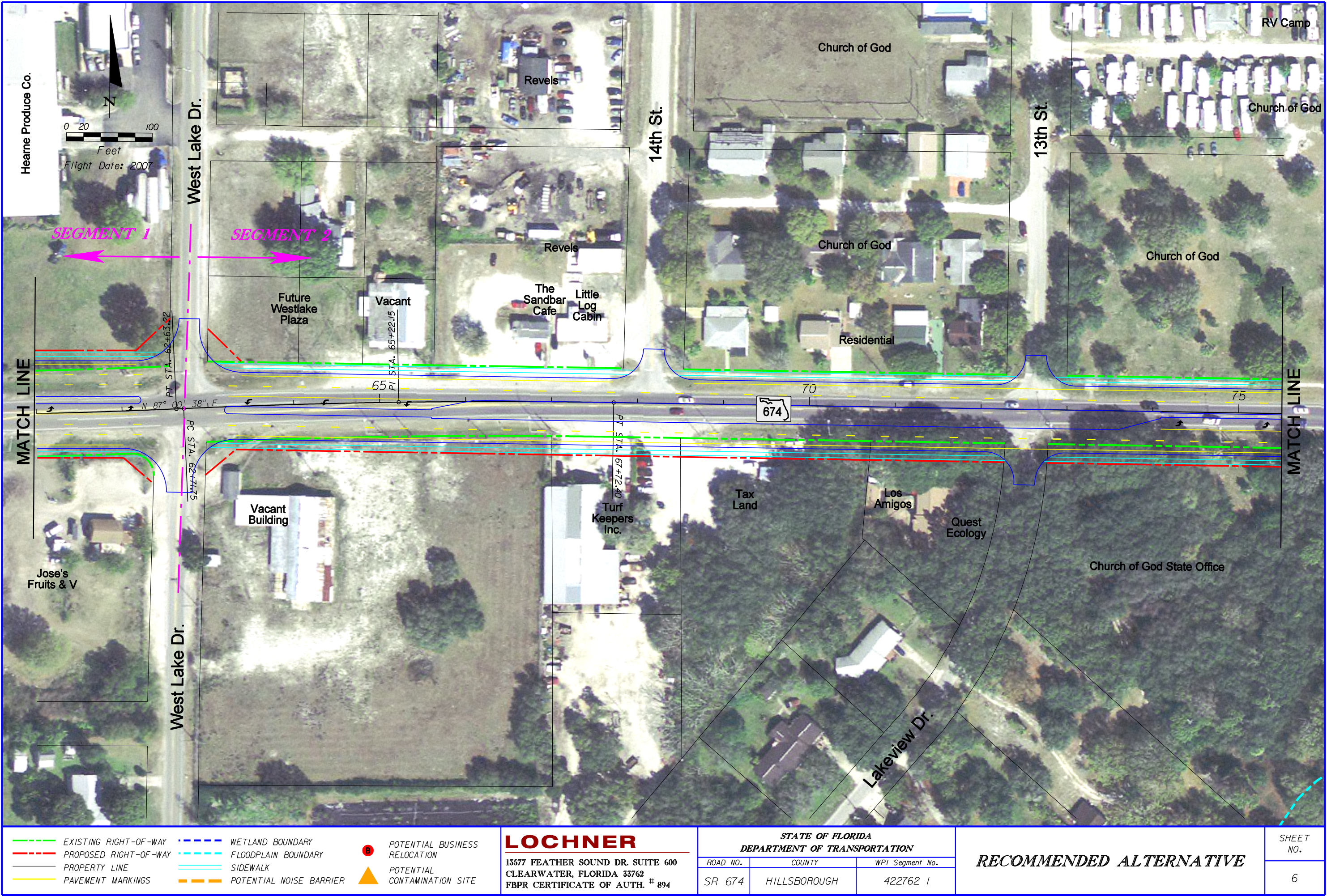
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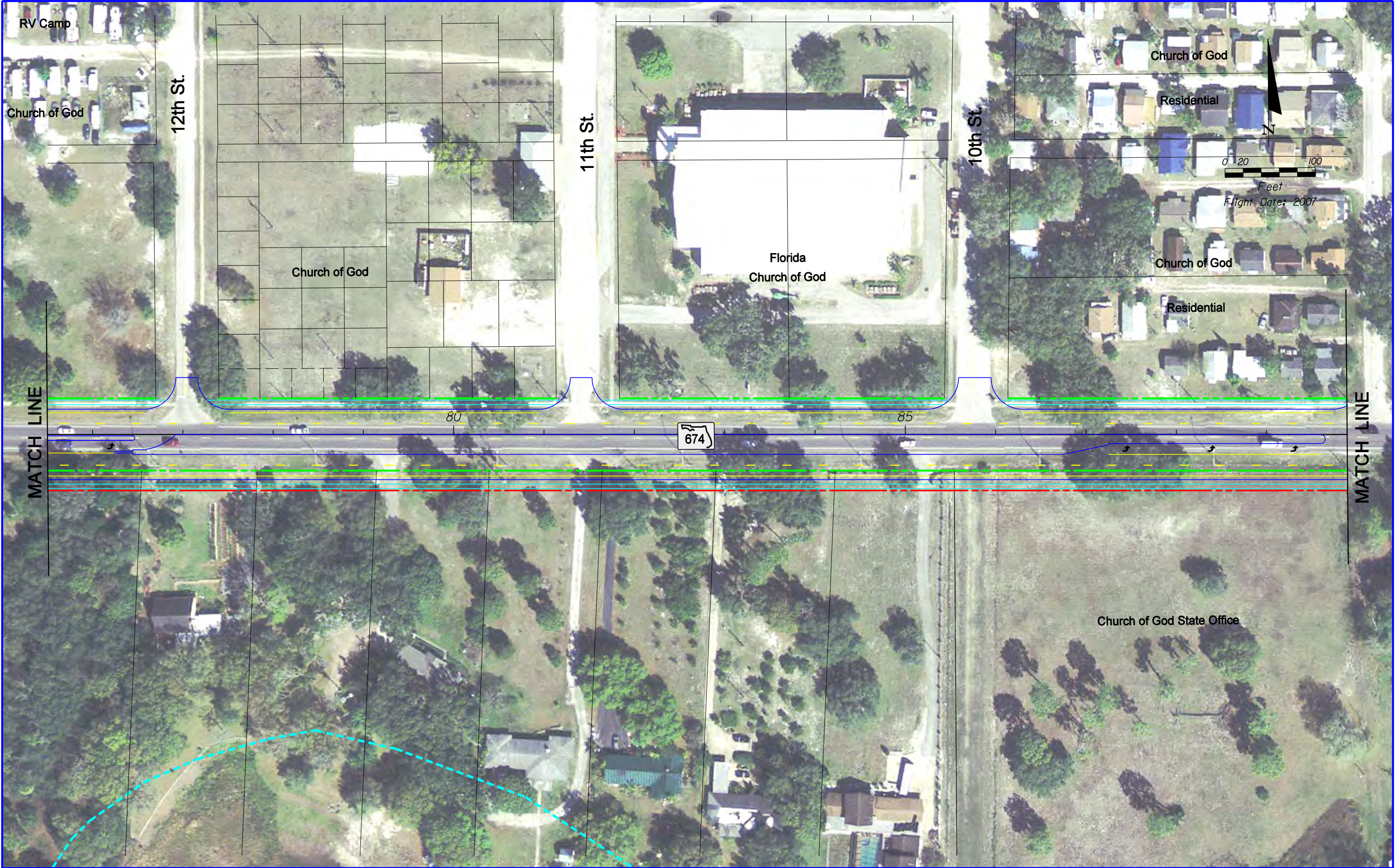


<div><div><div><div></div><div>EXISTING RIGHT-OF-WAY</div></div><div><div></div><div>PROPOSED RIGHT-OF-WAY</div></div><div><div></div><div>PROPERTY LINE</div></div><div><div></div><div>PAVEMENT MARKINGS</div></div><div><div></div><div>WETLAND BOUNDARY</div></div><div><div></div><div>FLOODPLAIN BOUNDARY</div></div><div><div></div><div>SIDEWALK</div></div><div><div></div><div>POTENTIAL NOISE BARRIER</div></div><div><div><div>B</div></div><div>POTENTIAL BUSINESS RELOCATION</div></div><div><div></div><div>POTENTIAL CONTAMINATION SITE</div></div></div></div>				<div><div>LOCHNER</div><div>13577 FEATHER SOUND DR. SUITE 600 CLEARWATER, FLORIDA 33762 FBPR CERTIFICATE OF AUTH. # 894</div></div>	<div><div>STATE OF FLORIDA</div><div>DEPARTMENT OF TRANSPORTATION</div><table><tr><td>ROAD NO.</td><td>COUNTY</td><td>WPI Segment No.</td></tr><tr><td>SR 674</td><td>HILLSBOROUGH</td><td>422762 I</td></tr></table></div>	ROAD NO.	COUNTY	WPI Segment No.	SR 674	HILLSBOROUGH	422762 I	<div><div>RECOMMENDED ALTERNATIVE</div></div>	<div><div>SHEET NO.</div><div>4</div></div>
ROAD NO.	COUNTY	WPI Segment No.											
SR 674	HILLSBOROUGH	422762 I											

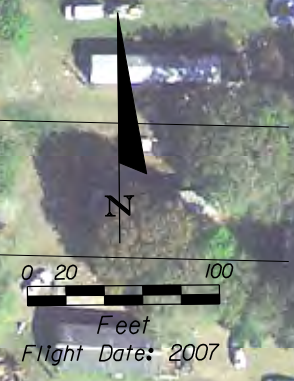
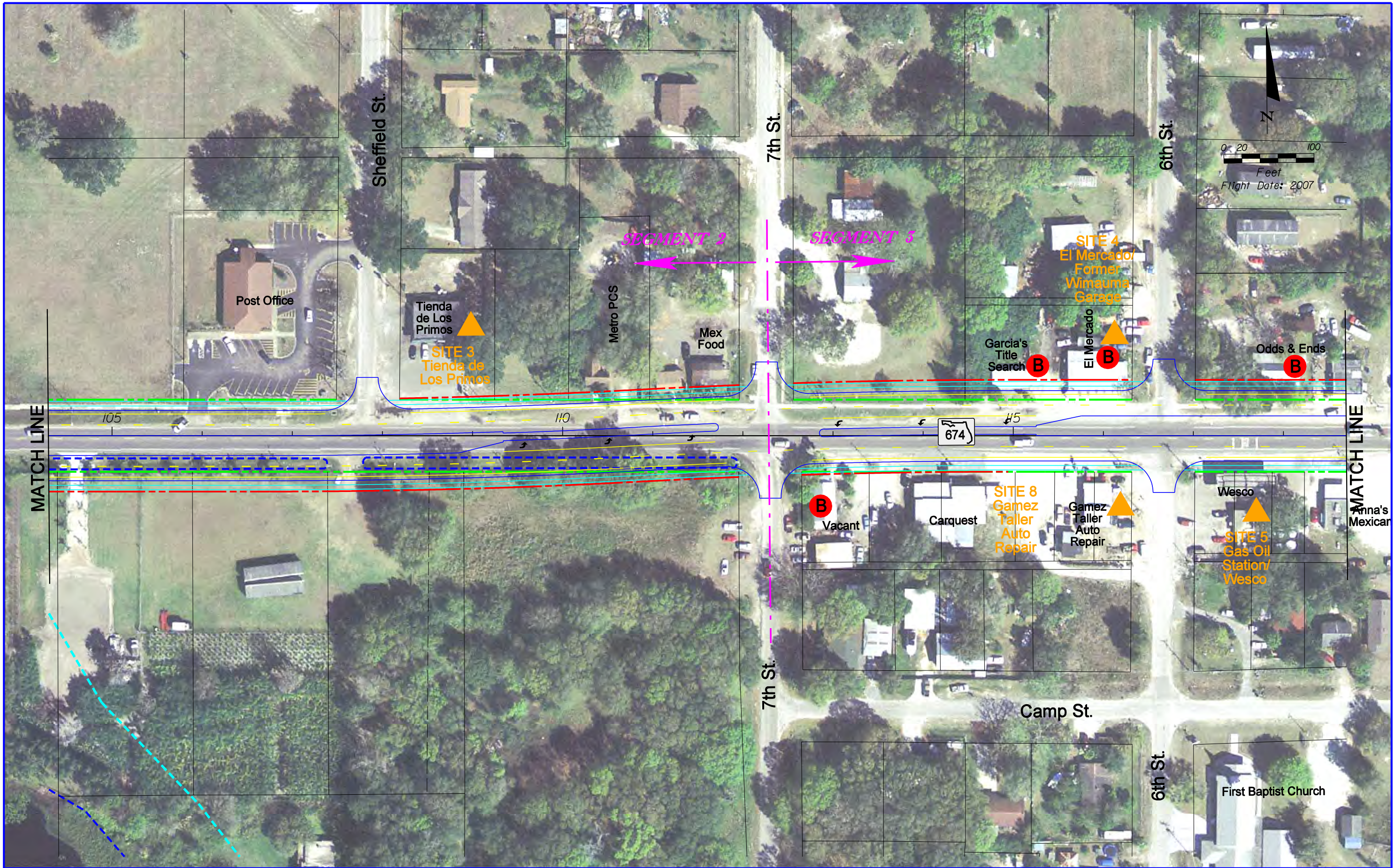


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ROAD NO.	COUNTY	WPI Segment No.											
SR 674	HILLSBOROUGH	422762 I											





<ul style="list-style-type: none">EXISTING RIGHT-OF-WAYPROPOSED RIGHT-OF-WAYPROPERTY LINEPAVEMENT MARKINGS	<ul style="list-style-type: none">WETLAND BOUNDARYFLOODPLAIN BOUNDARYSIDEWALKPOTENTIAL NOISE BARRIER	<ul style="list-style-type: none">POTENTIAL BUSINESS RELOCATIONPOTENTIAL CONTAMINATION SITE	LOCHNER 13577 FEATHER SOUND DR. SUITE 600 CLEARWATER, FLORIDA 33762 FBPR CERTIFICATE OF AUTH. # 894	<table border="1"><tr><th colspan="3">STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION</th></tr><tr><th>ROAD NO.</th><th>COUNTY</th><th>WPI Segment No.</th></tr><tr><td>SR 674</td><td>HILLSBOROUGH</td><td>422762 I</td></tr></table>	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			ROAD NO.	COUNTY	WPI Segment No.	SR 674	HILLSBOROUGH	422762 I	RECOMMENDED ALTERNATIVE	<table border="1"><tr><td>SHEET NO.</td></tr><tr><td>7</td></tr></table>	SHEET NO.	7
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	EXISTING RIGHT-OF-WAY		WETLAND BOUNDARY		POTENTIAL BUSINESS RELOCATION
	PROPOSED RIGHT-OF-WAY		FLOODPLAIN BOUNDARY		POTENTIAL CONTAMINATION SITE
	PROPERTY LINE		SIDEWALK		
	PAVEMENT MARKINGS		POTENTIAL NOISE BARRIER		

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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	WPI Segment No.
SR 674	HILLSBOROUGH	422762 1

RECOMMENDED ALTERNATIVE

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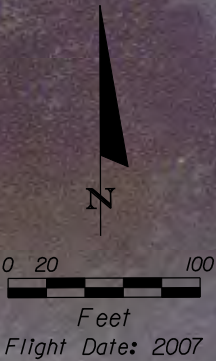
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	PROPERTY LINE		SIDEWALK		
	PAVEMENT MARKINGS		POTENTIAL NOISE BARRIER		

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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	WPI Segment No.
SR 674	HILLSBOROUGH	422762 I

RECOMMENDED ALTERNATIVE

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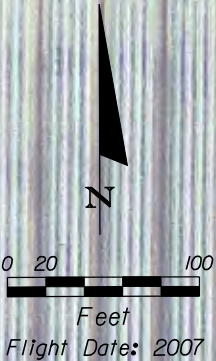
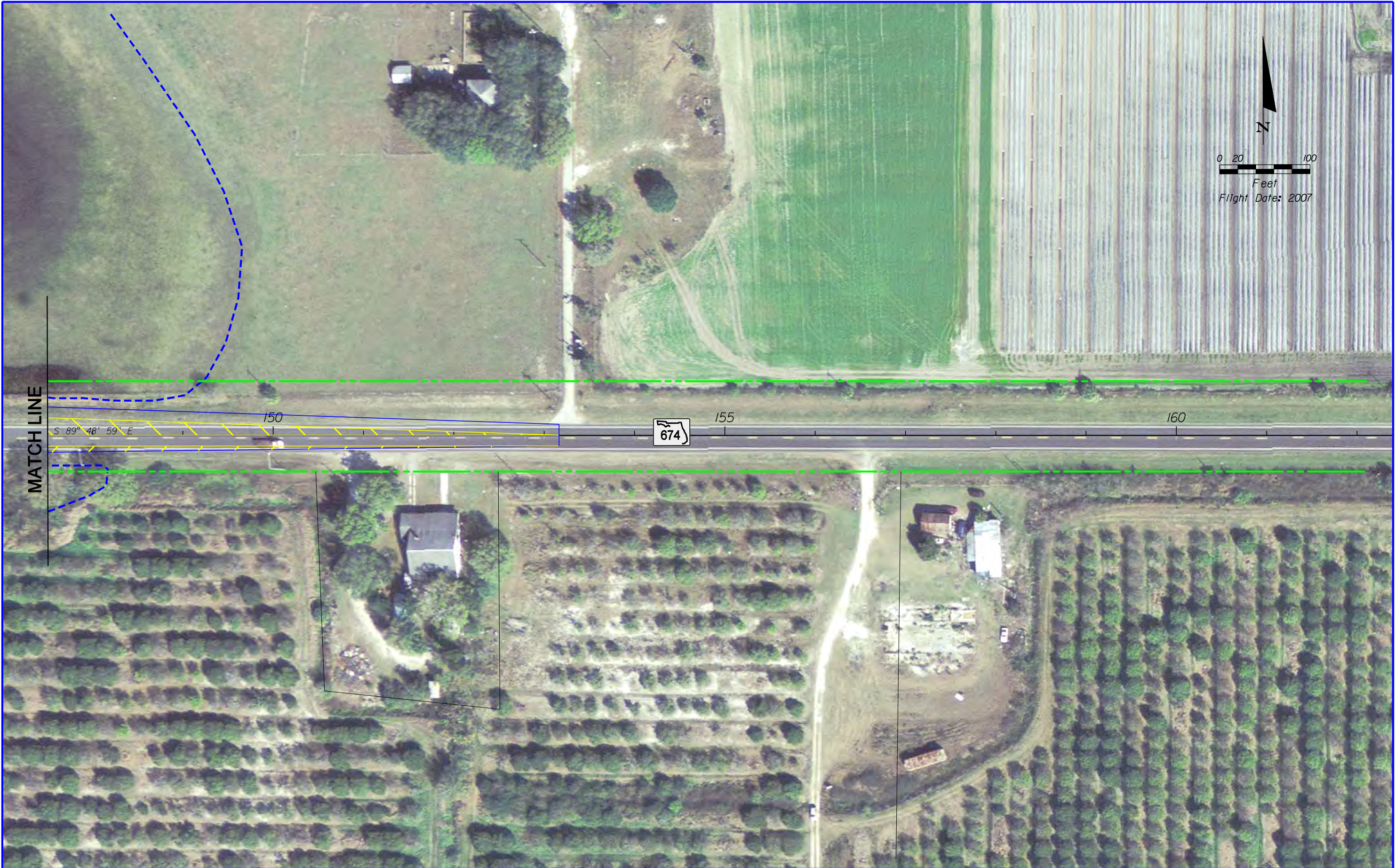
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| --- PROPOSED RIGHT-OF-WAY | --- FLOODPLAIN BOUNDARY | ▲ POTENTIAL CONTAMINATION SITE |
| --- PROPERTY LINE | --- SIDEWALK | |
| --- PAVEMENT MARKINGS | --- POTENTIAL NOISE BARRIER | |

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ROAD NO.	COUNTY	WPI Segment No.
SR 674	HILLSBOROUGH	422762 I

RECOMMENDED ALTERNATIVE

SHEET NO.
11



MATCH LINE

S 89° 48' 59" E

150

155

160

674

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| --- EXISTING RIGHT-OF-WAY | --- WETLAND BOUNDARY | ● POTENTIAL BUSINESS RELOCATION |
| --- PROPOSED RIGHT-OF-WAY | --- FLOODPLAIN BOUNDARY | ▲ POTENTIAL CONTAMINATION SITE |
| --- PROPERTY LINE | --- SIDEWALK | |
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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	WPI Segment No.
SR 674	HILLSBOROUGH	422762 1

RECOMMENDED ALTERNATIVE

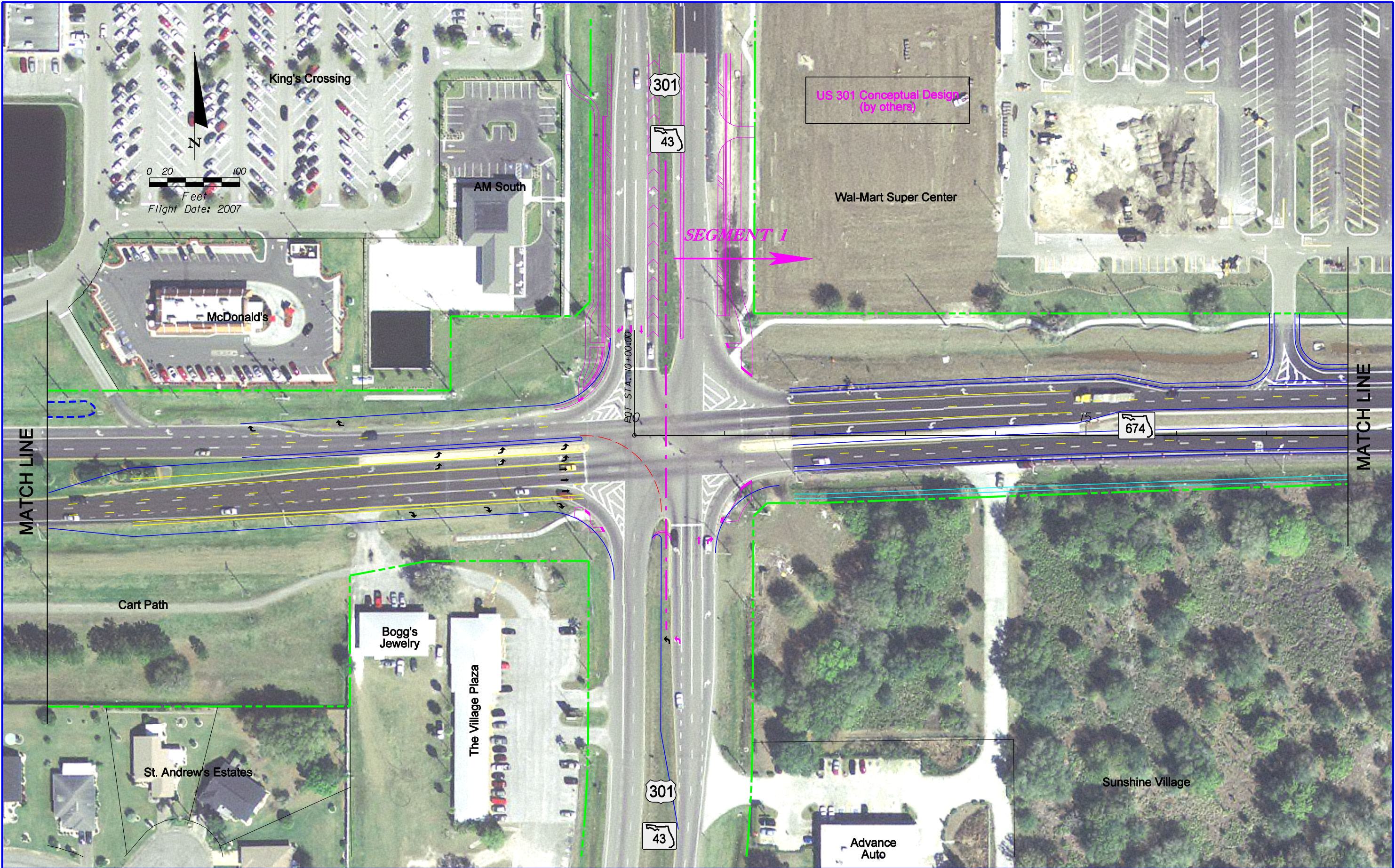
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APPENDIX B

**Interim Alternative Conceptual Plans for Staged Improvements in
Segment 1**



<div><div><div><div><div></div><div>EXISTING RIGHT-OF-WAY</div></div><div><div></div><div>PROPOSED RIGHT-OF-WAY</div></div><div><div></div><div>PROPERTY LINE</div></div><div><div></div><div>PAVEMENT MARKINGS</div></div></div><div><div><div></div><div>WETLAND BOUNDARY</div></div><div><div></div><div>FLOODPLAIN BOUNDARY</div></div><div><div></div><div>SIDEWALK</div></div><div><div></div><div>POTENTIAL NOISE BARRIER</div></div></div><div><div><div></div><div>POTENTIAL BUSINESS RELOCATION</div></div><div><div></div><div>POTENTIAL CONTAMINATION SITE</div></div></div></div></div>				<div><div><div>LOCHNER</div><div>13577 FEATHER SOUND DR. SUITE 600</div><div>CLEARWATER, FLORIDA 33762</div><div>FBPR CERTIFICATE OF AUTH. # 894</div></div></div>		<div><div><div>STATE OF FLORIDA</div><div>DEPARTMENT OF TRANSPORTATION</div></div><table><tr><td>ROAD NO.</td><td>COUNTY</td><td>WPI Segment No.</td></tr><tr><td>SR 674</td><td>HILLSBOROUGH</td><td>422762 I</td></tr></table></div>		ROAD NO.	COUNTY	WPI Segment No.	SR 674	HILLSBOROUGH	422762 I	<div><div>INTERIM ALTERNATIVE</div></div>		<div><div>SHEET NO.</div><div>I</div></div>
ROAD NO.	COUNTY	WPI Segment No.														
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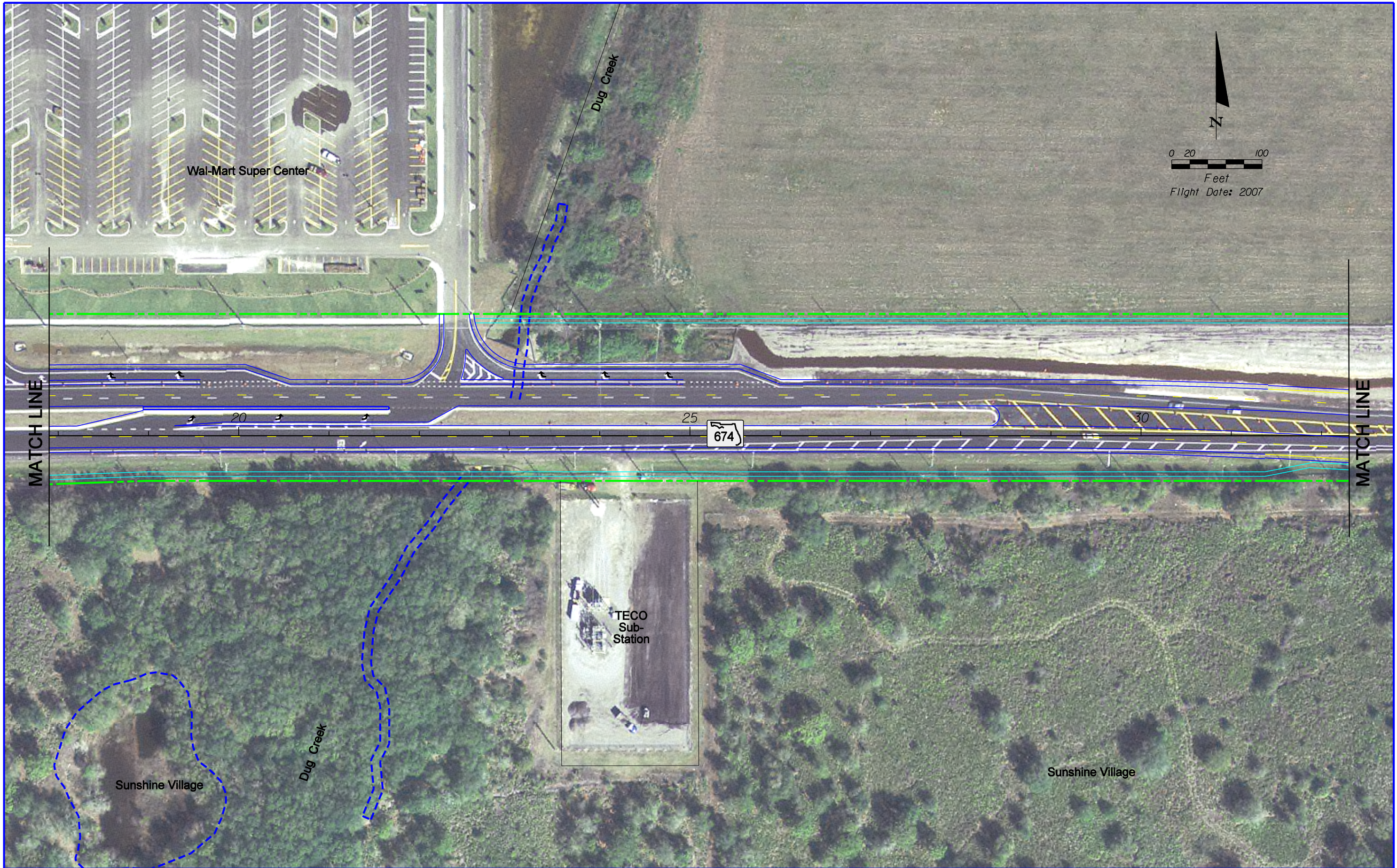
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 POTENTIAL CONTAMINATION SITE |
| --- PROPOSED RIGHT-OF-WAY | --- FLOODPLAIN BOUNDARY | |
| --- PROPERTY LINE | --- SIDEWALK | |
| --- PAVEMENT MARKINGS | --- POTENTIAL NOISE BARRIER | |
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ROAD NO.	COUNTY	WPI Segment No.
SR 674	HILLSBOROUGH	422762 1

INTERIM ALTERNATIVE

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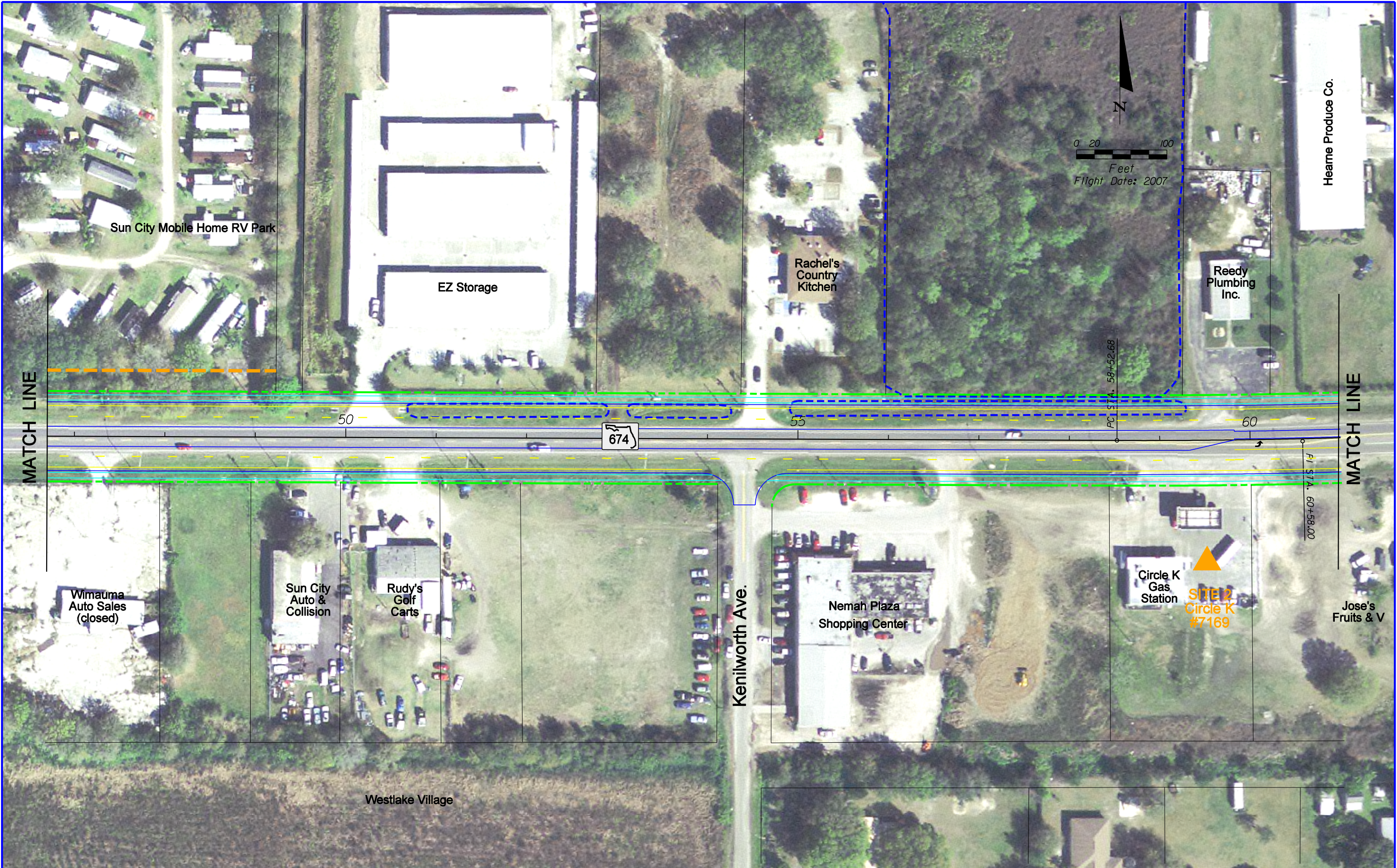
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SR 674	HILLSBOROUGH	422762 1

INTERIM ALTERNATIVE

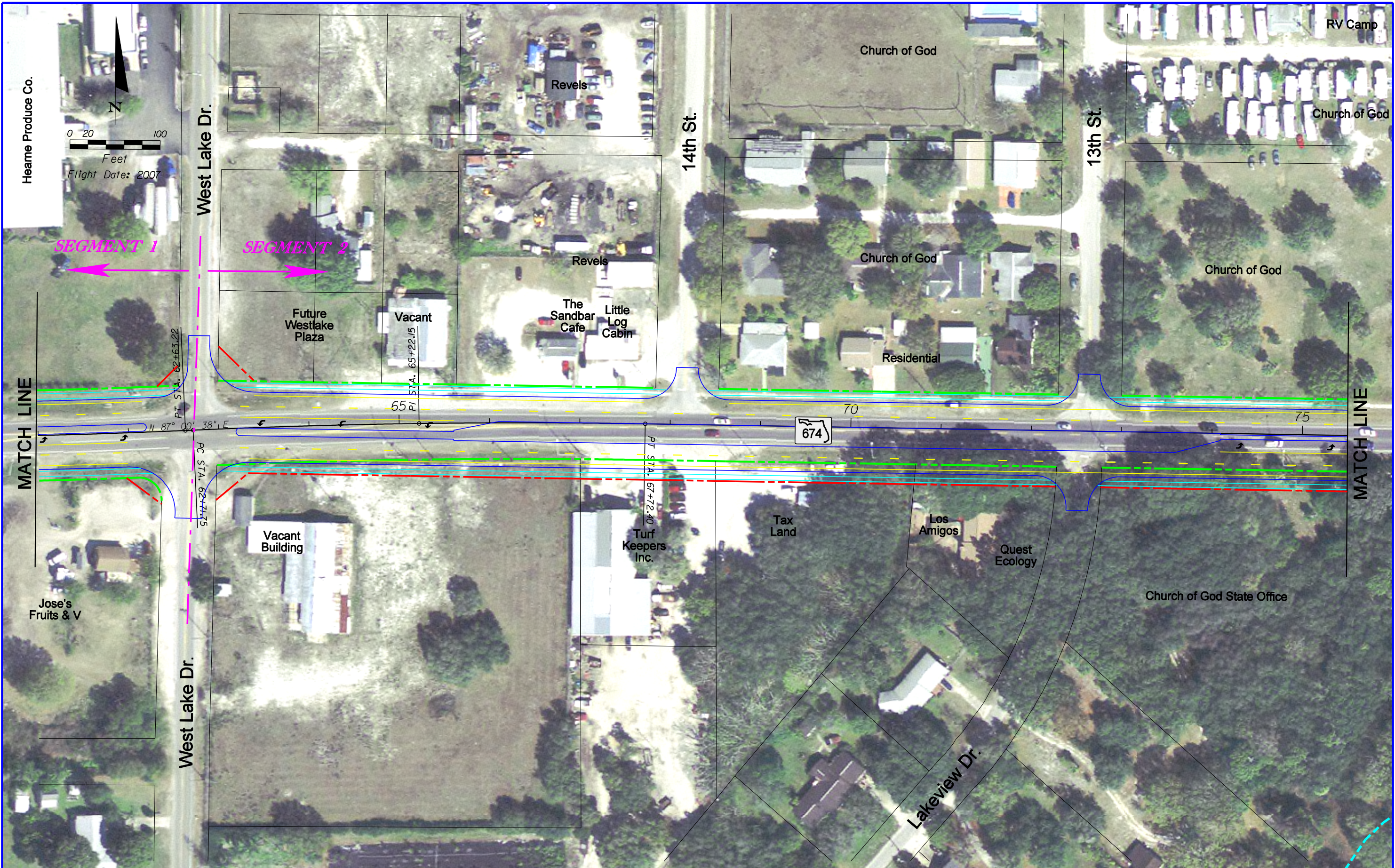
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ROAD NO.	COUNTY	WPI Segment No.						
SR 674	HILLSBOROUGH	422762 I						



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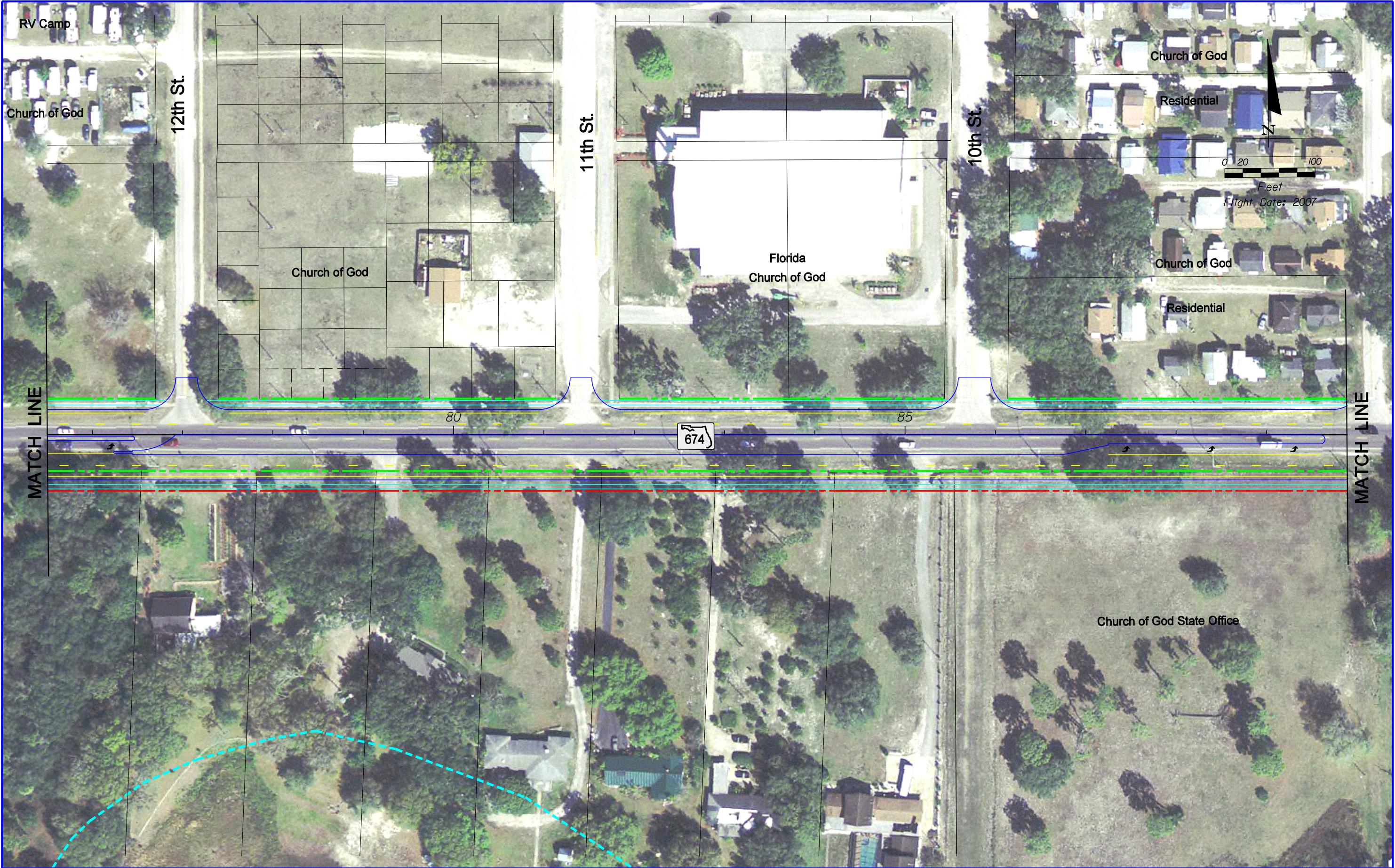
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| | PROPERTY LINE | | SIDEWALK | | |
| | PAVEMENT MARKINGS | | POTENTIAL NOISE BARRIER | | |

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ROAD NO.	COUNTY	WPI Segment No.
SR 674	HILLSBOROUGH	422762 I

INTERIM ALTERNATIVE

SHEET NO.
6



EXISTING RIGHT-OF-WAY

PROPOSED RIGHT-OF-WAY

PROPERTY LINE

PAVEMENT MARKINGS

WETLAND BOUNDARY

FLOODPLAIN BOUNDARY

SIDEWALK

POTENTIAL NOISE BARRIER

POTENTIAL BUSINESS RELOCATION

POTENTIAL CONTAMINATION SITE

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DEPARTMENT OF TRANSPORTATION

ROAD NO.

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HILLSBOROUGH

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422762 I

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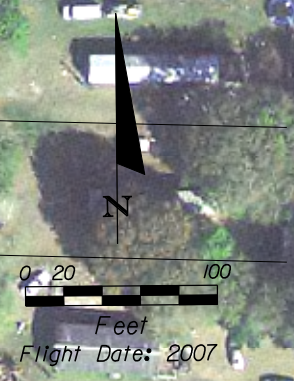
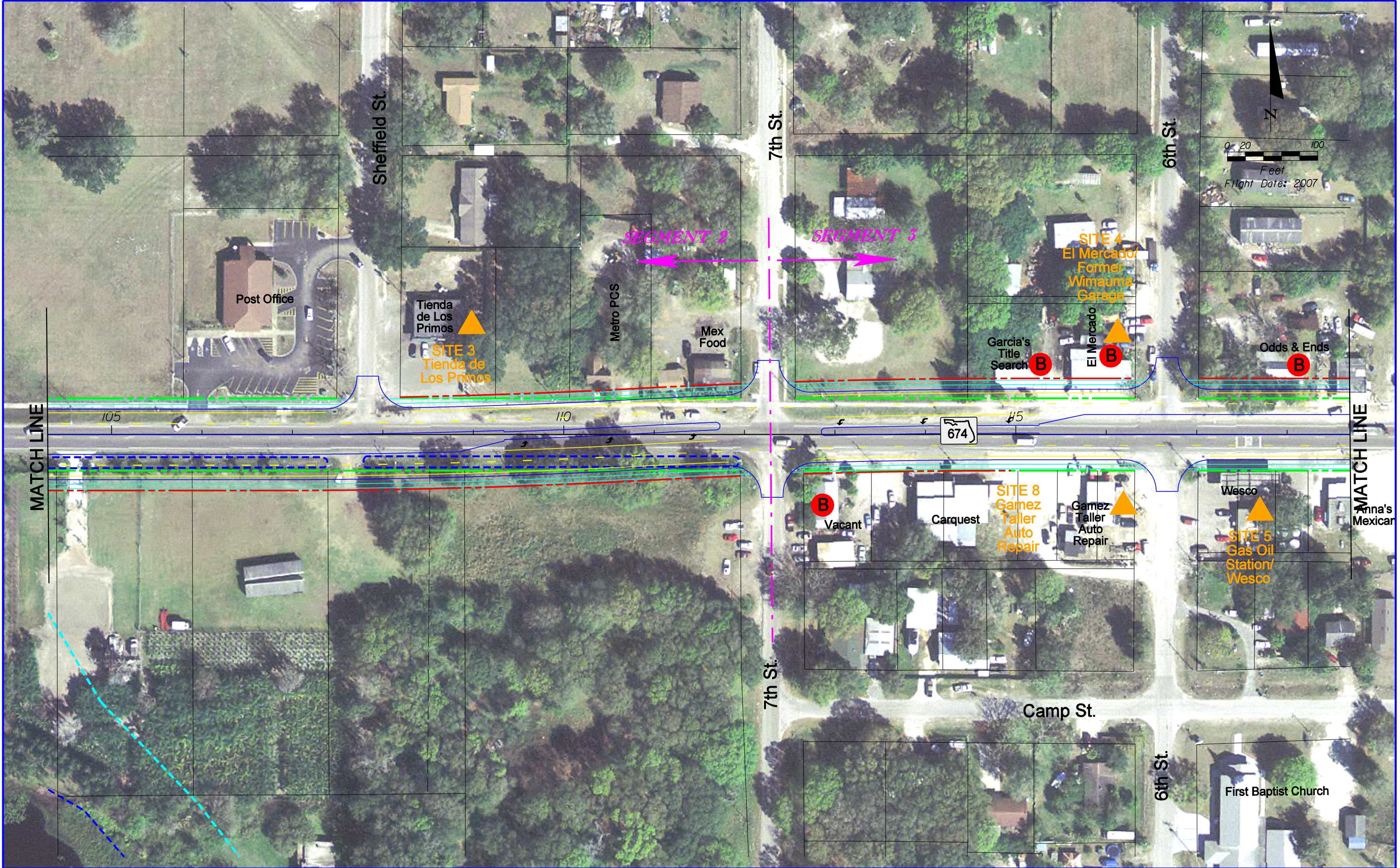
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| --- PAVEMENT MARKINGS | --- POTENTIAL NOISE BARRIER | |

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SR 674	HILLSBOROUGH	422762 I

INTERIM ALTERNATIVE

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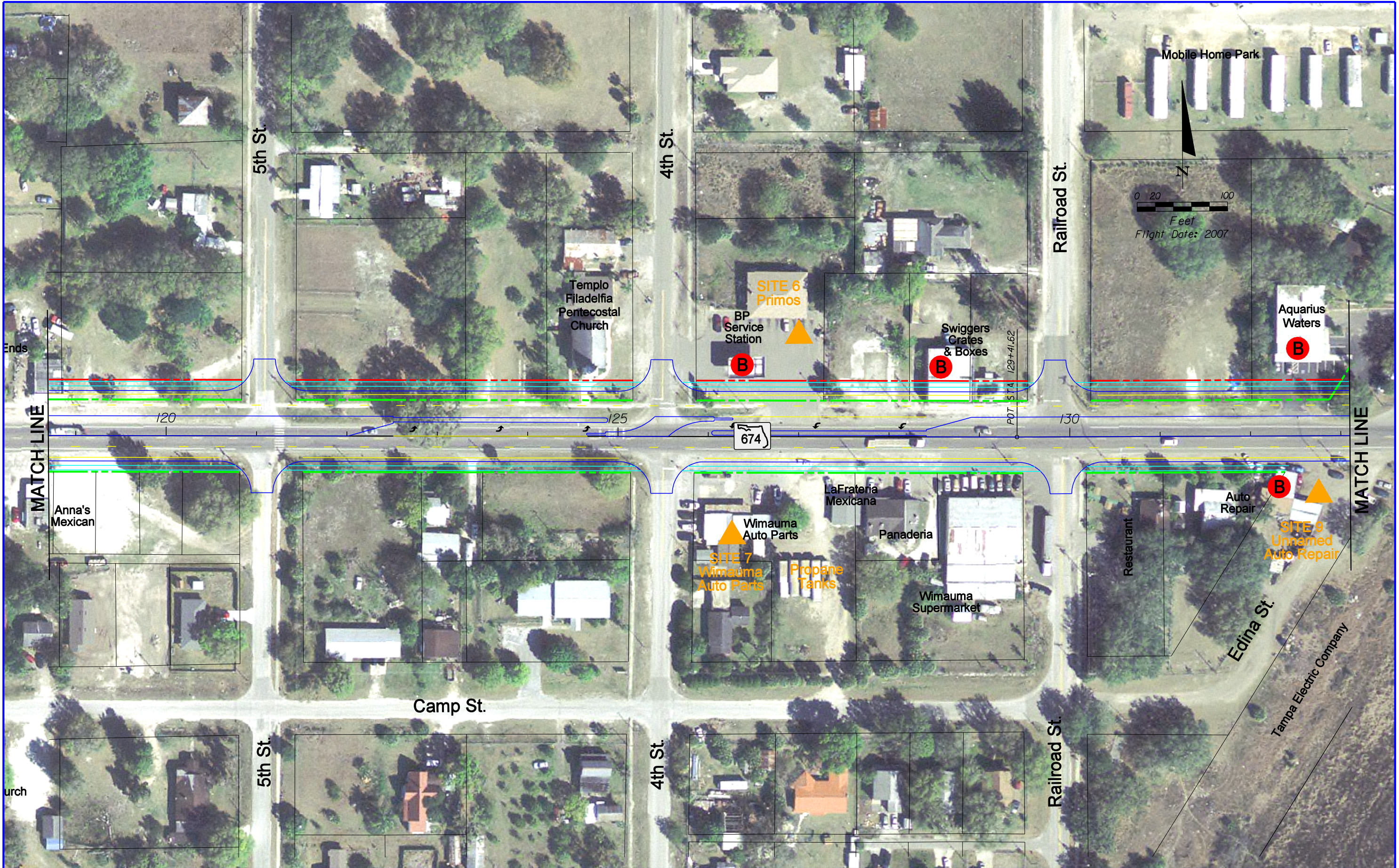
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STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	WPI Segment No.
SR 674	HILLSBOROUGH	422762 I

INTERIM ALTERNATIVE

SHEET NO.
9



<div><div><div><div></div><div>EXISTING RIGHT-OF-WAY</div></div><div><div></div><div>PROPOSED RIGHT-OF-WAY</div></div><div><div></div><div>PROPERTY LINE</div></div><div><div></div><div>PAVEMENT MARKINGS</div></div><div><div></div><div>WETLAND BOUNDARY</div></div><div><div></div><div>FLOODPLAIN BOUNDARY</div></div><div><div></div><div>SIDEWALK</div></div><div><div></div><div>POTENTIAL NOISE BARRIER</div></div><div><div></div><div>POTENTIAL BUSINESS RELOCATION</div></div><div><div></div><div>POTENTIAL CONTAMINATION SITE</div></div></div></div>				<div><div><div>LOCHNER</div><div>13577 FEATHER SOUND DR. SUITE 600</div><div>CLEARWATER, FLORIDA 33762</div><div>FBPR CERTIFICATE OF AUTH. # 894</div></div></div>		<div><div>STATE OF FLORIDA</div><div>DEPARTMENT OF TRANSPORTATION</div><table><tr><td>ROAD NO.</td><td>COUNTY</td><td>WPI Segment No.</td></tr><tr><td>SR 674</td><td>HILLSBOROUGH</td><td>422762 I</td></tr></table></div>			ROAD NO.	COUNTY	WPI Segment No.	SR 674	HILLSBOROUGH	422762 I	<div><div>INTERIM ALTERNATIVE</div></div>		<div><div>SHEET NO.</div><div>10</div></div>
ROAD NO.	COUNTY	WPI Segment No.															
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ROAD NO.	COUNTY	WPI Segment No.											
SR 674	HILLSBOROUGH	422762 I											



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ROAD NO.	COUNTY	WPI Segment No.								
SR 674	HILLSBOROUGH	422762 I								

APPENDIX C

SHPO Coordination Letter



FLORIDA DEPARTMENT OF STATE
Kurt S. Browning
Secretary of State
DIVISION OF HISTORICAL RESOURCES

Rick Adair
Florida Department of Transportation, District 7
11201 N. McKinley Drive
Tampa, FL 33612-6456

November 19, 2007

RE: DHR Project File Number: 2007-8435
Received by DHR: October 12, 2007
Project: *Cultural Resource Assessment Survey of State Road 674 from US 301 (SR 43) to CR 579*
Financial Project ID No.: 422762 1 21 01
County: Hillsborough

Dear Mr. Adair:

Our office received and reviewed the above referenced project in accordance with Chapter 267, *Florida Statutes*. It is the responsibility of the State Historic Preservation Officer to advise and assist, as appropriate, State agencies in carrying out their historic preservation responsibilities; to cooperate with State agencies to ensure that historic properties are taken into consideration at all levels of planning and development; and to consult with the appropriate agencies on State undertakings that may affect historic properties and the content and sufficiency of any plans developed to protect, manage, or to reduce or mitigate harm to such properties.

Results of the survey identified three previously recorded historic buildings (8HI1002-1003 and 8HI6562), 30 newly recorded historic buildings (8HI10255-10284), and one newly recorded railroad grade (8HI10288). No archaeological sites were identified within or adjacent to the project's area of potential effect. The Florida Department of Transportation determined the resources ineligible for listing in the National Register of Historic Places. Based on the information provided, our office concurs with the results and finds that no historic properties will be affected. If you have any questions, please contact Sherry Anderson, Architectural Historian, Transportation Compliance Review Program, by email sanderson@dos.state.fl.us or at 850-245-6432.

Sincerely,

Frederick P. Gaske, Director, and
State Historic Preservation Officer

XC: Rebecca Spain Schwarz, PBS&J

500 S. Bronough Street • Tallahassee, FL 32399-0250 • <http://www.flheritage.com>

☐ Director's Office
(850) 245-6300 • FAX: 245-6436

☐ Archaeological Research
(850) 245-6444 • FAX: 245-6452

☒ Historic Preservation
(850) 245-6333 • FAX: 245-6437

☐ Historical Museums
(850) 245-6400 • FAX: 245-6433

☐ Southeast Regional Office
(561) 416-2115 • FAX: 416-2149

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