

# CONCEPT FEASIBILITY AND MOBILITY STUDY

Southport Connector Expressway  
Poinciana Parkway to Florida's Turnpike

Concept, Feasibility, & Mobility Study Report

FINAL

Central Florida Expressway Authority

Contract No.: 001250

REFERENCE COPY

May 2018

---

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

---

**Concept, Feasibility, & Mobility Study Report  
Southport Connector Expressway**

**TABLE OF CONTENTS**

<b>Executive Summary .....</b>	<b>xii</b>
<b>1.0 Introduction .....</b>	<b>1-1</b>
1.1 Project Description .....	1-1
1.2 Purpose of Report .....	1-1
1.3 Project Location.....	1-1
1.4 Previous Studies Related to the Project.....	1-3
1.5 Other Projects In or Near Study Area .....	1-6
1.5.1 Additional CFX Feasibility Studies .....	1-6
1.5.2 Other Area Projects .....	1-8
1.5.3 Additional Capacity Projects (DOT, MPO, Local Projects) .....	1-12
<b>2.0 Project Need and Purpose .....</b>	<b>2-1</b>
2.1 Need for Improvement .....	2-1
2.1.1 System Linkage .....	2-1
2.1.2 Regional Connectivity & Mobility .....	2-2
2.1.3 Social and Economic Needs .....	2-3
2.1.4 Capacity Constraints.....	2-3
2.1.5 Consistency with Transportation Plans .....	2-5
2.1.6 Multimodal Opportunities .....	2-6
2.1.7 Safety & Evacuation Support.....	2-6
2.2 Purpose of the Proposed Project.....	2-7
<b>3.0 Existing Conditions.....</b>	<b>3-1</b>
3.1 Existing Roadway Network.....	3-1
3.1.1 Functional Classification .....	3-1
3.1.2 Access Classification .....	3-1
3.2 Existing Roadway Characteristics .....	3-1
3.2.1 Design and Posted Speeds.....	3-1
3.2.2 Right-of-Way.....	3-2
3.2.3 Typical Sections.....	3-2
3.2.4 Pavement Conditions .....	3-8
3.2.5 Horizontal Alignment.....	3-8



3.2.6	Vertical Alignment .....	3-9
3.2.7	Interchanges, Intersections, and Signalization .....	3-9
3.2.8	Lighting .....	3-10
3.3	Geotechnical Data .....	3-10
3.4	Water Resources .....	3-13
3.4.1	Surface Waters .....	3-13
3.4.2	Existing Drainage .....	3-14
3.4.3	Floodplains .....	3-14
3.4.4	Groundwater .....	3-20
3.5	Natural Environment .....	3-24
3.5.1	Wetlands and Hydric Soils .....	3-24
3.5.2	Soil Classification .....	3-26
3.5.3	Farmlands .....	3-29
3.5.4	Threatened and Endangered and Listed Species .....	3-31
3.5.5	Priority Habitat .....	3-37
3.5.6	Essential Fish Habitat .....	3-37
3.5.7	Conservation Areas .....	3-37
3.5.8	Mitigation Banks .....	3-38
3.5.9	Prescribed Burn Areas .....	3-40
3.6	Human Environment .....	3-43
3.6.1	Existing Land Use .....	3-43
3.6.2	Future Land Use .....	3-43
3.6.3	Community and Neighborhood Features .....	3-46
3.6.4	Cultural Resources .....	3-54
3.6.4.1	Historical .....	3-59
3.6.4.2	Archaeological .....	3-60
3.6.5	Demographic and Socioeconomic Characteristics .....	3-61
3.6.6	Aesthetic Features .....	3-68
3.6.7	Mass Transit Facilities .....	3-69
3.6.8	Freight and Intermodal Centers .....	3-72
3.6.9	Pedestrian and Bicycle Facilities .....	3-73
3.6.10	Transportation Plans .....	3-75
3.7	Contamination .....	3-75
3.8	Utilities .....	3-78
3.9	Railroads .....	3-78

<b>4.0</b>	<b>Traffic Considerations .....</b>	<b>4-1</b>
4.1	Historical and Current Traffic .....	4-1
4.2	Roadway Operational Conditions .....	4-1
4.3	Safety / Crash Analysis .....	4-2
4.4	Travel Demand Forecasting.....	4-6
4.4.1	CFX 3.0 – Base Year Model (2015) .....	4-6
4.4.1.1	Model Characteristics .....	4-7
4.4.1.2	Zonal Structure.....	4-8
4.4.1.3	Socio-Economic Data.....	4-9
4.4.1.4	Network.....	4-12
4.4.1.5	Toll Rates .....	4-12
4.4.1.6	Trip Generation .....	4-12
4.4.1.7	Trip Distribution.....	4-13
4.4.1.8	Mode Choice and Trip Assignment .....	4-13
4.4.1.9	Validation.....	4-14
4.4.2	CFX 3.0 Future Year Models .....	4-15
4.4.2.1	Socio-Economic Data – Base Forecast.....	4-15
4.4.2.2	Socio-Economic Data – Low and High Land Use Forecasts .....	4-21
4.4.2.3	Network – Future Year Base Network (2025, 2035, 2045).....	4-21
4.4.2.4	Networks – Future Year design and Revenue Networks .....	4-22
4.4.2.5	Toll Rates .....	4-23
4.4.2.6	Screen Lines.....	4-24
<b>5.0</b>	<b>Design Criteria.....</b>	<b>5-1</b>
5.1.1	Drainage Design Standards .....	5-5
5.1.1.1	Pond Design .....	5-6
5.1.1.2	Floodplain Impacts .....	5-7
5.1.1.3	Cross Drains .....	5-7
5.1.1.4	Canal Criteria .....	5-8
<b>6.0</b>	<b>Mobility Alternatives Evaluation .....</b>	<b>6-1</b>
6.1	No-Build Alternative .....	6-1
6.2	Transportation Systems Management.....	6-2
6.3	Transit, Intermodal, Multi-Modal Alternatives .....	6-2
6.3.1	Planned Future LYNX Corridors.....	6-2
6.3.2	Future Multimodal Corridors .....	6-2
6.3.3	Future Transit.....	6-3
6.3.4	Future Bicycle Facilities .....	6-3
6.3.5	South Lake Toho Master Plan .....	6-7

6.3.1	Multimodal Alternative for Southport Connector Expressway.....	6-7
6.4	Tolled Limited-Access Alternative.....	6-9
6.5	Corridor Development Process.....	6-9
6.5.1	Re-evaluation of Previous Study Corridors .....	6-9
6.5.2	Development of New Corridors .....	6-13
6.5.2.1	Base Map Development .....	6-13
6.5.2.2	Land Suitability Map.....	6-14
6.6	Alternative Narrative.....	6-16
6.6.1	Urban Section: Poinciana Parkway to Reedy Creek .....	6-16
6.6.1.1	Alignment Location .....	6-17
6.6.1.2	Proposed Typical Section.....	6-22
6.6.1.3	Proposed Interchanges .....	6-24
6.6.1.4	Proposed Structures.....	6-25
6.6.1.5	Maintenance of Access – Driveway Connections .....	6-26
6.6.1.6	Drainage and Stormwater Considerations.....	6-26
6.6.1.7	Proposed Right-of-Way Needs .....	6-27
6.6.1.8	Projected Design Year Traffic.....	6-30
6.6.2	Rural Section: Reedy Creek to Florida’s Turnpike .....	6-30
6.6.2.1	Alignment Location .....	6-33
6.6.2.2	Proposed Typical Section.....	6-50
6.6.2.3	Proposed Interchanges .....	6-52
6.6.2.4	Proposed Structures.....	6-53
6.6.2.5	Maintenance of Access – Driveway Connections .....	6-53
6.6.2.6	Drainage and Stormwater Considerations.....	6-53
6.6.2.7	Proposed Right-of-Way Needs .....	6-64
6.6.2.8	Projected Design Year Traffic.....	6-64
6.6.3	Weighted Average AADT .....	6-68
6.7	Summary Matrix – Mobility Alternatives Evaluation .....	6-68
<b>7.0</b>	<b>Anticipated Effects .....</b>	<b>7-1</b>
7.1	Natural Environment.....	7-1
7.1.1	Water Resources.....	7-1
7.1.1.1	Surface Waters.....	7-1
7.1.1.2	Floodplains.....	7-1
7.1.1.3	Groundwater.....	7-1
7.1.2	Wetlands and Hydric Soils.....	7-1
7.1.3	Farmlands .....	7-2
7.1.4	Threatened and Endangered Species .....	7-2

7.1.5	Priority Habitat .....	7-3
7.1.6	Essential Fish Habitat .....	7-3
7.1.7	Conservation Areas .....	7-3
7.1.8	Mitigation Banks .....	7-4
7.1.9	Prescribed Burn Areas .....	7-4
7.2	Human Environment .....	7-4
7.2.1	Community and Neighborhood Features.....	7-4
7.2.2	Cultural Resources .....	7-5
7.2.2.1	Historical.....	7-5
7.2.2.2	Archaeological.....	7-6
7.2.3	Emergency Services.....	7-6
7.3	Noise .....	7-7
7.4	Air Quality.....	7-8
7.5	Contamination.....	7-9
7.6	Utilities.....	7-10
7.7	Railroads.....	7-14
7.8	Anticipated Permits Required.....	7-14
7.9	Summary Matrix – Anticipated Effects.....	7-14
<b>8.0</b>	<b>Stakeholder Involvement .....</b>	<b>8-1</b>
8.1	Introduction.....	8-1
8.2	Stakeholder Coordination and Meetings .....	8-1
8.2.1	Environmental Advisory Group .....	8-1
8.2.2	Project Advisory Group .....	8-2
8.2.3	Local Governmental Entities .....	8-3
8.2.4	Stakeholder Meetings.....	8-5
8.2.5	Public Involvement and Meetings .....	8-11
8.2.5.1	Public Kickoff Meetings .....	8-11
8.2.5.2	Public Meeting .....	8-13
8.2.6	Summary of Public Comments.....	8-14
8.3	Project Web Site .....	8-15
8.4	Media Coverage .....	8-16
<b>9.0</b>	<b>Feasibility &amp; Viability of the Proposed Project.....</b>	<b>9-1</b>
9.1	Benefits of the Proposed Project .....	9-1
9.2	Controversy of the Proposed Project .....	9-1
9.3	Support for the Proposed Project .....	9-2

9.4 Projected Project Costs..... 9-2

9.5 Projected Traffic and Revenue ..... 9-4

9.5.1 Projected Traffic ..... 9-4

9.5.2 Projected Revenue ..... 9-4

9.5.3 Present Value ..... 9-5

9.6 Alternative Comparison Matrix..... 9-6

9.7 CFX Financial Viability Criteria ..... 9-9

9.8 Findings of the Concept, Feasibility, and Mobility Study Report..... 9-14

REFERENCE COPY

## LIST OF FIGURES

<b>Figure</b>	<b>Title</b>	<b>Page</b>
Figure E.1:	Overview of Cypress Parkway Segment.....	xiv
Figure E.2:	Southport Connector Alternatives East of Reedy Creek.....	xvi
Figure 1.3.1:	Project Location Map.....	1-2
Figure 1.4.1:	Thirteen ACE Corridors .....	1-4
Figure 1.4.2:	ACE Corridors Recommended to be Carried Forward.....	1-5
Figure 1.5.1:	OCX Master Plan Studies.....	1-7
Figure 1.5.2:	Poinciana Parkway Project Location Map .....	1-9
Figure 1.5.3:	I-4 Poinciana Parkway Connector ACE Location Map.....	1-10
Figure 1.5.4:	Southport Connector South Location Map.....	1-11
Figure 1.5.5:	Southport Connector East Alignment .....	1-12
Figure 2.1.1:	CFX 2040 Master Plan .....	2-2
Figure 3.2.1:	Overview of Existing Right-of-Way .....	3-4
Figure 3.2.2:	Existing Right-of-Way – Pleasant Hill Road to Southport Road.....	3-5
Figure 3.2.3:	Two-Lane Cypress Parkway .....	3-6
Figure 3.2.4:	Four-Lane Cypress Parkway .....	3-6
Figure 3.2.5:	Four-Lane Cypress Parkway with Frontage Roads.....	3-7
Figure 3.3.1:	Drainage Class of Soils in Project Area.....	3-13
Figure 3.4.1:	Drainage / Floodplain Evaluation .....	3-17
Figure 3.4.2:	Regulated Floodplain Location.....	3-18
Figure 3.4.3:	Annual Peak Flow within S-61 Spillway Structure.....	3-19
Figure 3.4.4:	Groundwater Depth Map.....	3-23
Figure 3.5.1:	Wetlands, OSWs, and Hydric Soils Map .....	3-25
Figure 3.5.2:	Soils Map .....	3-28
Figure 3.5.3:	Farmland Map .....	3-30
Figure 3.5.4:	Protected Species Potential Habitat Map .....	3-36
Figure 3.5.5:	Conservation and Mitigation Areas Map .....	3-39
Figure 3.5.6:	Prescribed Burn Areas Map .....	3-42
Figure 3.6.1:	Existing Land Use .....	3-44
Figure 3.6.2:	Future Land Use – Osceola County .....	3-45
Figure 3.6.3:	Future Land Use – Polk County.....	3-46
Figure 3.6.4:	Schools and Places of Worship.....	3-49
Figure 3.6.5:	Community Centers and Parks .....	3-50
Figure 3.6.6:	Law Enforcement, Fire Stations, and Government Buildings .....	3-51
Figure 3.6.7:	Healthcare Facilities.....	3-52
Figure 3.6.8:	Cultural Facilities and Social Service Facilities .....	3-53
Figure 3.6.9:	CRAS Study Area.....	3-55
Figure 3.6.10:	Previous Cultural Resource Surveys within the Study Area .....	3-56
Figure 3.6.11:	Previously Recorded Historic Resources within the Study Area.....	3-58
Figure 3.6.12:	Potential Unrecorded Historic Structures in the Study Area .....	3-60
Figure 3.6.13:	Percent of the Population Considered Minority.....	3-65
Figure 3.6.14:	Percent of the Population with Income Below the Poverty Level.....	3-66
Figure 3.6.15:	Percent of the Population that is Limited English Proficient .....	3-67
Figure 3.6.16:	Landscaped Median .....	3-68
Figure 3.6.17:	Cypress Parkway Sidewalk .....	3-69
Figure 3.6.18:	Existing Mass Transit Facilities .....	3-71
Figure 3.6.19:	Existing Pedestrian and Bicycle Facilities.....	3-74

Figure 4.3.1: Cypress Parkway Crashes (2012 to 2016) .....	4-5
Figure 4.4.1: CFX 3.0 Model Area .....	4-7
Figure 4.4.2: Study Sub-Area .....	4-8
Figure 4.4.3: CFX 3.0 Sub Area Model .....	4-14
Figure 4.4.4: CFX Facilities Scatter Plot .....	4-15
Figure 4.4.5: Total Population for Orange County (Sub Area): 2015 – 2045 .....	4-19
Figure 4.4.6: Total Population for Osceola County: 2015 – 2045 .....	4-20
Figure 4.4.7: 2045 Network Improvements .....	4-22
Figure 4.4.8: Screen Lines for OCX Projects .....	4-25
Figure 6.3.1: Osceola County Multimodal Corridors 2040 .....	6-4
Figure 6.3.2: Osceola County Transit System 2040 .....	6-5
Figure 6.3.3: Osceola County Bicycle and Trails Facilities .....	6-6
Figure 6.3.4: South Lake Toho Framework Streets .....	6-8
Figure 6.5.1: Deficient Tangent Distance Between Curve Nos. 2 and 3 .....	6-11
Figure 6.5.2: Bald Eagle Nest OS158 .....	6-11
Figure 6.5.3: Land Suitability Map .....	6-15
Figure 6.6.1: Overview of Cypress Parkway Segment .....	6-18
Figure 6.6.2: Southport Connector over Reedy Creek .....	6-21
Figure 6.6.4: Cypress Parkway / Southport Connector Typical Section - Elevated .....	6-23
Figure 6.6.5: Southport Connector Tie-in to KOA Street and Cypress Parkway .....	6-25
Figure 6.6.6: Commercial Relocation – Grocery Store .....	6-28
Figure 6.6.7: Commercial Relocation – Strip Shopping Center .....	6-29
Figure 6.6.8: Tierra Point Apartments .....	6-29
Figure 6.6.9: Southport Bay Residence Abutting Existing Right-of-Way .....	6-30
Figure 6.6.10: Southport Connector Alternatives East of Reedy Creek .....	6-32
Figure 6.6.11: Overview of Alternative 700 .....	6-34
Figure 6.6.12: Alternative 700 vs. South Lake Toho Master Plan Roadway Network .....	6-35
Figure 6.6.13: Overview of Alternative 200 .....	6-37
Figure 6.6.14: Alternative 200 vs. South Lake Toho Master Plan Roadway Network .....	6-38
Figure 6.6.15: Overview of Alternative 500 .....	6-40
Figure 6.6.16: Alternative 500 vs. South Lake Toho Master Plan Roadway Network .....	6-41
Figure 6.6.17: Overview of Alternative 300 .....	6-43
Figure 6.6.18: Alternative 300 vs. South Lake Toho Master Plan Roadway Network .....	6-44
Figure 6.6.19: Overview of Alternative 400 .....	6-46
Figure 6.6.20: Alternative 400 vs. South Lake Toho Master Plan Roadway Network .....	6-47
Figure 6.6.21: Overview of Alternative 600 .....	6-48
Figure 6.6.22: Alternative 600 vs. South Lake Toho Master Plan Roadway Network .....	6-49
Figure 6.6.23: Southport Connector Typical Section – Reedy Creek to Turnpike .....	6-51
Figure 6.6.24: Potential Eastern Terminus at Turnpike .....	6-52
Figure 6.6.25: 2045 Design Traffic AADT .....	6-67
Figure 7.6.2: East of Reedy Creek Major Utility Crossing Locations .....	7-13
Figure 9.5.1: Annual Toll Revenue - 1 .....	9-5
Figure 9.5.2: Annual Toll Revenue - 2 .....	9-5



## LIST OF TABLES

Table Title	Page
Table 1.5.1: Metroplan Orlando TIP Projects .....	1-13
Table 2.1.1: 2016 Existing Cypress Parkway Traffic Data .....	2-4
Table 2.1.2: 2015 Historical AADT Report for Monitoring Site .....	2-4
Table 2.1.3: Cypress Parkway Operational Conditions .....	2-5
Table 3.3.1: Existing Soils within Project Corridor .....	3-11
Table 3.4.1: Summary of Base Flood Elevations .....	3-16
Table 3.4.2: Summary of Discharges for Floodways .....	3-19
Table 3.4.3: HEC-SSP Statistical Analysis of Peak Flows at S-61 Spillway at Lake Toho and C-35 .....	3-20
Table 3.4.4: Depth to Groundwater Summary by Map Unit .....	3-21
Table 3.5.1: Wetlands by Type within the APE .....	3-24
Table 3.5.2: Existing Soils within Project Corridor .....	3-26
Table 3.5.3: Minimum Distances from Conservation Areas by CSDA Buffer Zones .....	3-40
Table 3.6.1: Previous Cultural Resource Surveys within the Study Area .....	3-57
Table 3.6.2: Previously Recorded Cultural Resources within the Study Area .....	3-58
Table 3.6.3: Demographic Comparison: Population .....	3-62
Table 3.6.4: Demographic Comparison: Density .....	3-62
Table 3.6.5: Demographic Comparison: Income .....	3-62
Table 3.6.6: Demographic Comparison: Transportation .....	3-63
Table 3.6.7: Demographic Comparison: Language .....	3-63
Table 3.6.8: Demographic Comparison: Education .....	3-63
Table 3.6.9: Existing LYNX Transit Routes .....	3-72
Table 3.7.1: Known Contaminated Facility .....	3-76
Table 3.7.2: Summary of Potentially Contaminated Site Risk Rating .....	3-77
Table 3.7.3: Potentially Contaminated Facilities .....	3-77
Table 3.9.1: Summary of Existing Utility Information .....	3-79
Table 4.1.1: 2016 Existing Traffic Data .....	4-1
Table 4.1.2: 2015 Historical AADT Report for Monitoring Site .....	4-1
Table 4.2.1: Cypress Parkway Operational Conditions .....	4-2
Table 4.3.1: Five-Year Crash Summary .....	4-4
Table 6.3.1: Future Multimodal Corridors in Osceola County .....	6-3
Table 6.5.1: Tabulation of Alignment Data for West Segment .....	6-10
Table 6.5.2: LSM Datasets .....	6-14
Table 6.6.1: Cypress Parkway and Reedy Creek Crossing Pond Sizing Summary .....	6-27
Table 6.6.2: Cypress Parkway and Reedy Creek Offsite Conveyance Summary .....	6-27
Table 6.6.3: Alternative 200 Pond Sizing Summary .....	6-54
Table 6.6.4: Alignment 200 Offsite Conveyance Summary .....	6-55
Table 6.6.5: Alignment 300 Pond Sizing Summary .....	6-56
Table 6.6.6: Alignment 300 Offsite Conveyance Summary .....	6-57
Table 6.6.7: Alignment 400 Pond Sizing Summary .....	6-58
Table 6.6.8: Alignment 400 Offsite Conveyance Summary .....	6-58
Table 6.6.9: Alignment 500 Pond Sizing Summary .....	6-59
Table 6.6.10: Alignment 500 Offsite Conveyance Summary .....	6-60
Table 6.6.11: Alignment 600 Pond Sizing Summary .....	6-61
Table 6.6.12: Alignment 600 Offsite Conveyance Summary .....	6-62



Table 6.6.13: Alignment 700 Pond Sizing Summary .....	6-63
Table 6.6.14: Alignment 700 Offsite Conveyance Summary .....	6-64
Table 6.6.15: Summary of Right-of-Way Impacts .....	6-64
Table 6.7.1: Summary Matrix – Design Features.....	6-69
Table 7.2.1: Impacts to Potentially Historic Resources .....	7-5
Table 7.2.2: Impacts to Potentially Archaeological Sites .....	7-6
Table 7.3.1: Noise Abatement Criteria .....	7-7
Table 7.5.1: Potential Impacts to Contaminated Facilities .....	7-9
Table 7.6.1: Major Utility Crossing per Alignment .....	7-11
Table 7.6.2: Cypress Parkway Utility Relocation Estimated Costs .....	7-14
Table 7.9.1: Summary Matrix – Anticipated Effects .....	7-15
Table 9.4.1: Summary of Projected Costs .....	9-3
Table 9.5.1: Projected Traffic .....	9-4

## APPENDICES

Appendix A	Conceptual Plans
Appendix B	Transportation Planning Consistency Documents
Appendix C	Drainage Design Documentation
Appendix D	Public Involvement Summary

REFERENCE COPY

## Executive Summary

---

The Central Florida Expressway Authority (CFX) Master Plan sets the policy for future operations and capital investment decisions and also serves as the basis for the agency's Five-Year Work Plan. The 2040 Master Plan is the first regional plan adopted by the CFX Governing Board.

The Master Plan process involved two phases. The first phase included gathering feedback from the community. CFX staff members met with local cities, counties, chambers of commerce, and civic groups to understand their transportation needs and better define CFX's role in achieving regional objectives over the next 25 years. As part of an interlocal agreement, CFX has incorporated portions of the Osceola County Expressway (OCX) Master Plan 2040 into CFX's Visioning + 2040 Master Plan.

The second phase included the identification and evaluation of elements recommended by CFX staff and approved by the CFX Governing Board. The recommendations included: (1) existing system improvements such as capacity, traffic operations and system renewal needs; and, (2) potential expansion projects such as new expressway routes and interchanges. In concert with the second item, CFX began conducting Concept, Feasibility, and Mobility (CF&M) Studies on the planned OCX Master Plan projects. The goal is to determine which, if any, projects meet CFX requirements for viability and funding. The four studies adopted for further examination are: (1) the Poinciana Parkway Extension / I-4 Connector; (2) the Southport Connector Expressway; (3) the Northeast Connector Expressway; and, (4) the Osceola Parkway Extension.

The focus of this Concept, Feasibility, and Mobility Study is the Southport Connector Expressway, the goals of which are to provide a new limited-access facility from the greater Poinciana area to Florida's Turnpike, thereby enhancing mobility of the area's growing population and economy, relieving congestion on local roads, providing for the incorporation of transit options, and promoting regional connectivity.

The Southport Connector Expressway is a proposed east-west divided four-lane freeway connecting Poinciana Parkway with Florida's Turnpike, a distance of approximately 13 miles. On the west side of the project, the proposed facility begins at Poinciana Parkway, an existing two-lane roadway which intersects with Cypress Parkway, an existing east-west suburban arterial roadway. The Southport Connector Expressway is co-located with existing Cypress Parkway for approximately 3.5 miles. At this point, the proposed freeway crosses the Reedy Creek ecosystem before traversing south of Lake Tohopekaliga (Lake Toho), an area containing the proposed South Lake Toho Mixed Use District.

The Southport Connector Expressway is a segment of a potentially larger (60-mile) expressway system connecting I-4 on the southwest side of Orlando with the Martin-Anderson Beachline Expressway, an east-west toll road connecting south Orlando with I-95 near Florida's Space Coast.

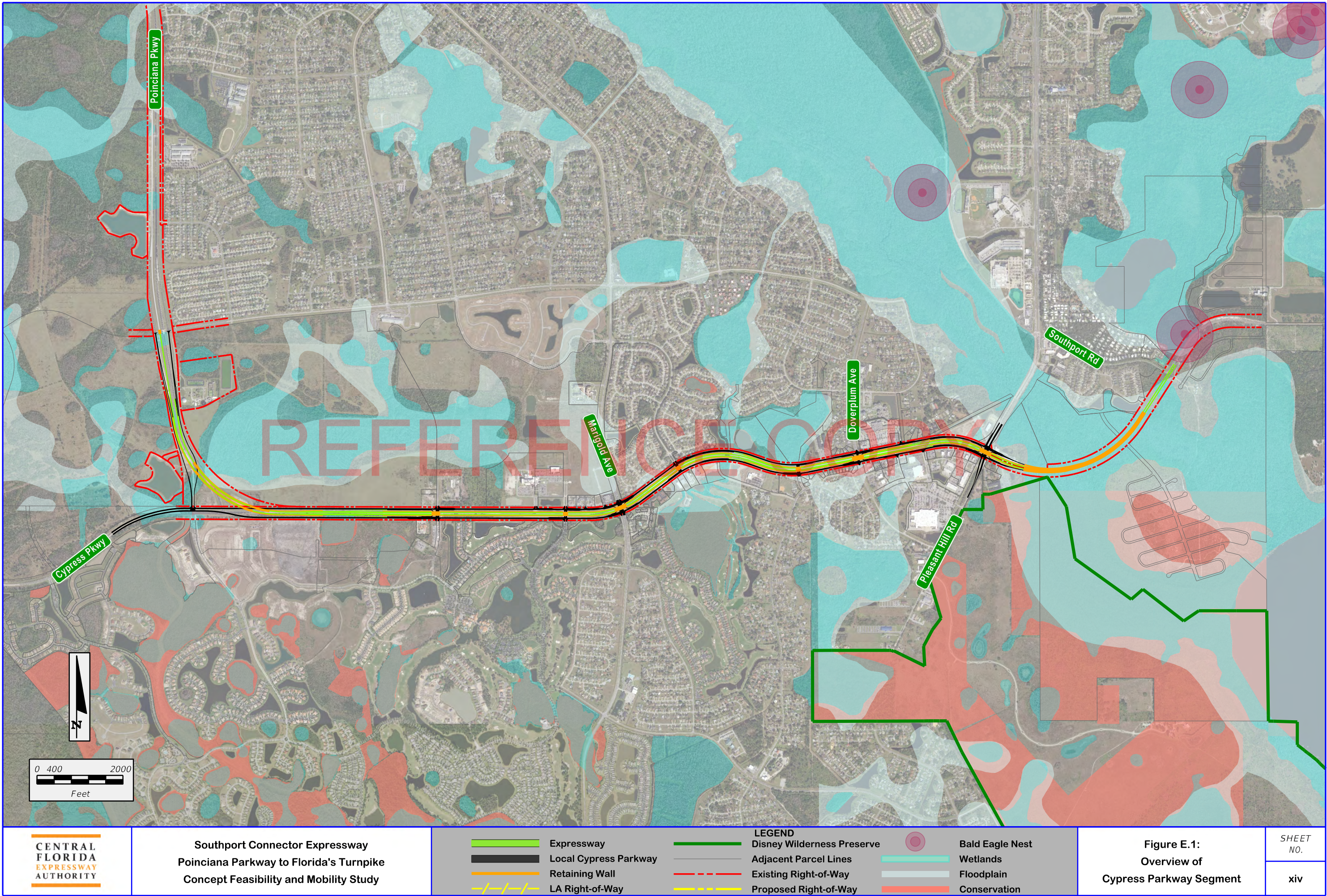
In 2015, an Alternative Corridor Evaluation Report was prepared for this corridor for the Florida Department of Transportation (FDOT). Three of the alternatives identified in this previous study were carried forward for further evaluation in this CF&M Study. In addition, three new alternatives were developed for evaluation, for a total of six alternatives. Each alternative is comprised of a three-mile co-location of the freeway with local Cypress Parkway, all located within a 300-foot wide swath of existing right-of-way.

The project begins at KOA Street along Poinciana Parkway, where the existing two-lane roadway will be converted to a four-lane freeway. The Southport Connector proposes to construct the southern half of the KOA Street diamond interchange while continuing one-way access roads to Cypress Parkway in order to facilitate local access to and from the tolled facility. The Poinciana Parkway alignment then transitions from a rural freeway at a 70 mph design speed to an urban freeway with a 26-foot wide median and a 60 mph design speed. Dual 12-foot paved shoulders are also assumed for the freeway portion, while the frontage road is a 45 mph urban curb and gutter section with seven-foot bicycle lanes and a five-foot sidewalk located three feet from the back of curb.

The proposed improvements along Cypress Parkway are characterized by an urban freeway located in the center of the right-of-way and flanked by one-way frontage roads on each side of the freeway. Much of Cypress Parkway is on fill and is supported by mechanically stabilized earth walls, with overpasses proposed at Laurel Street, Solivita Boulevard, Marigold Avenue, Cypress Branch Road, Cypress Drive, Doverplum Avenue, and Pleasant Hill Road. To facilitate ingress and egress from the urban freeway, two sets of entrance and exit ramps are provided within the Cypress Parkway corridor. These ramps – one set located between Poinciana Parkway and Cypress Drive and the other located between Doverplum Avenue and the east side of Pleasant Hill Road – function as two “stretched” diamond interchanges. Considering that the placement of an urban freeway on fill will be disruptive to the existing access management scheme, the intersections with Laurel Street, Marigold Avenue, Doverplum Avenue, and Pleasant Hill Road are proposed to feature advance U-turns beneath the proposed structures, which are anticipated to require three spans.

Figure E.1 displays an overview of the Poinciana Parkway and Cypress Parkway segments of this project.







East of Pleasant Hill Road, the proposed alignment follows dedicated right-of-way owned by Osceola County as the proposed freeway crosses the Reedy Creek ecosystem. This crossing is the most significant environmental feature impacted by the six alternatives considered. The proposed crossing is anticipated to cross the entire wetland system (approximately 3,300 feet) and utilize top-down construction methods in order to minimize environmental impacts. Extensive agency coordination is expected for this crossing.

Proceeding eastward, the common alignment across Reedy Creek evolves into six distinct alternatives, all of which are located south of Lake Toho and connect to Florida's Turnpike. The land use and terrain through this area are characterized by primarily ranch land with isolated wetlands. Southport Road is the lone public street in this area and terminates at Southport Park located on the southern shoreline of Lake Toho. The land use adjacent to Southport Road located east of Reedy Creek is characterized by small orange groves and approximately a half-dozen homes with deep lots (> 1,000 feet).

Since the vast majority of the property located south of Lake Toho is ranch land, the major features influencing the alignment locations are as follows:

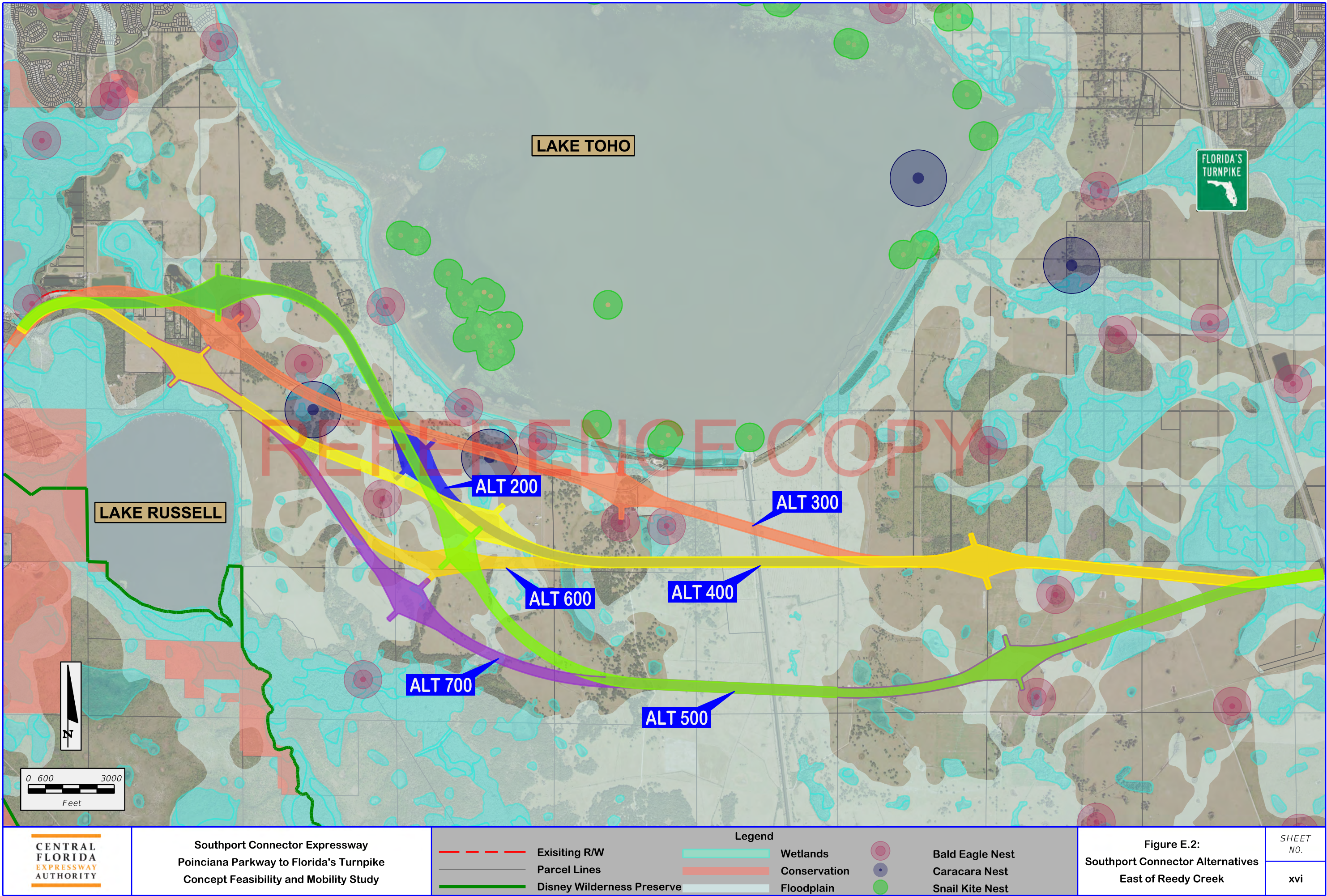
- The location of Southport Road;
- The proximity of the alignments to Lake Toho and Southport Park;
- Existing Audubon's crested caracara nests;
- Existing bald eagle nests;
- Property boundaries between major land owners;
- Smoke shed from Disney Wilderness Preserve;
- Interchange location and alignment tie-in at Florida's Turnpike based on Northeast Connector; and
- Osceola County South Lake Toho Master Plan.

The proposed typical section for the rural section between Reedy Creek and the Turnpike is characterized by a 350-foot wide right-of-way featuring a four-lane freeway with an 88-foot wide median and a 94-foot border width. A 26-foot wide envelope for a shared use path is proposed on one side of the proposed right-of-way within the 350 feet.

Figure E.2 displays an overview of the alternatives east of Reedy Creek.

East of Reedy Creek, the six alternatives under study have significant overlap and are generally similar in geometry and impacts. However, several of the alternatives have distinct advantages and disadvantages, as described in Table E.1:







**Table E.1: Benefits and Challenges of Alternatives East of Reedy Creek to Turnpike**

Alternative	Description	Benefits	Challenges
200 <sup>(1)</sup>	<ul style="list-style-type: none"> <li>• Turns northeast from Southport Road</li> <li>• Roughly parallel to southeastern shoreline of Lake Toho before turning eastward and co-locating with Green Island / Bronson property line before turning slightly southward to minimize wetland impacts just west of Turnpike</li> </ul>	<ul style="list-style-type: none"> <li>• Less invasive to Southport Ranch and Bronson Ranch</li> <li>• Eastern section follows a portion of the Green Island / Bronson Ranch property line</li> <li>• One of the farthest alternatives from the Disney Wilderness Preserve smoke shed</li> </ul>	<ul style="list-style-type: none"> <li>• Close (800-feet) to homestead of Kenansville Ranch</li> <li>• Increased disruption to Kenansville Ranch</li> <li>• Impacts (but likely no relocations) to residences along Southport Road</li> </ul>
300	<ul style="list-style-type: none"> <li>• Follows existing Southport Road to Southport Park</li> <li>• Co-located with Green Island / Bronson property line</li> <li>• Terminus at Turnpike is identical to Alternative 200</li> </ul>	<ul style="list-style-type: none"> <li>• Minimizes fragmentation of Kenansville, Southport, and Bronson ranches</li> <li>• Farther from Disney Wilderness Preserve smoke shed</li> </ul>	<ul style="list-style-type: none"> <li>• Within a quarter mile from the shoreline of Lake Toho</li> <li>• Within the core 400-foot diameter buffer zone of one documented caracara nest and within the secondary 1,970-foot diameter buffer zone of a second nest</li> <li>• Within close proximity to the buffer zone of three documented bald eagle nests</li> <li>• Impacts residences and large residential lots along Southport Road</li> <li>• Direct impacts to Southport Park</li> <li>• Alignment location is the most different from South Lake Toho Master Plan</li> </ul>

Alternative	Description	Benefits	Challenges
400	<ul style="list-style-type: none"> <li>Turns southeast from Southport Road</li> <li>Located between Lake Russell (1/4-mile north) and southern boundary of large residential lots on Southport Road</li> <li>Avoids documented bald eagle and caracara nests</li> <li>Follows bearing of Green Island / Bronson property line</li> <li>Terminus at Turnpike is identical to Alternatives 200 / 300</li> </ul>	<ul style="list-style-type: none"> <li>Alignment is located south of the large residential lots along Southport Road</li> <li>Avoids outer buffer zones of documented bald eagle and caracara nests</li> <li>Third farthest alignment from Disney Wilderness Preserve smoke shed</li> <li>Follows the Green Island / Bronson property line</li> <li>Located roughly halfway between the urban growth boundary and the southern shoreline of Lake Toho</li> </ul>	<ul style="list-style-type: none"> <li>Except for the far western portion of the alternative, does not follow the alignment favored by the South Lake Toho Master Plan (Alternative 400 is approximately 4,200 to 4,500 feet north of the Alternative 700 centerline)</li> </ul>
500 <sup>(1)</sup>	<ul style="list-style-type: none"> <li>Turns northeasterly from Southport Road, traversing Kenansville Ranch (same as Alternative 200)</li> <li>Transitions to just north of urban growth boundary line (similar to Alternative 700)</li> </ul>	<ul style="list-style-type: none"> <li>The eastern half of Alternative 200 is consistent with the Osceola County South Lake Toho Master Plan</li> <li>One of the farthest alternatives from the Disney Wilderness Preserve smoke shed</li> </ul>	<ul style="list-style-type: none"> <li>Close (800-feet) to homestead of Kenansville Ranch</li> <li>Increased disruption to Kenansville Ranch</li> <li>Impacts (but likely no relocations) to residences along Southport Road</li> </ul>
600	<ul style="list-style-type: none"> <li>Begins identical to 400</li> <li>Passes between Lake Russell and back of residential lots on Southport Road</li> </ul>	<ul style="list-style-type: none"> <li>Alignment is located south of the large residential lots along Southport Road</li> <li>Avoids outer buffer zones of documented bald eagle and caracara nests</li> </ul>	<ul style="list-style-type: none"> <li>Except for the far western portion of the alternative, does not follow the alignment favored by the South Lake Toho Master Plan (Alternative 400 is approximately</li> </ul>



Alternative	Description	Benefits	Challenges
	<ul style="list-style-type: none"> <li>Transitions south of bald eagle nest onto same bearing as Green Island / Bronson property line</li> <li>Terminates at Turnpike on same alignment as Alternatives 200 / 300 / 400</li> </ul>	<ul style="list-style-type: none"> <li>Follows the Green Island / Bronson property line</li> <li>Located roughly halfway between the urban growth boundary and the southern shoreline of Lake Toho</li> </ul>	<ul style="list-style-type: none"> <li>4,200 to 4,500 feet north of the Alternative 700 centerline)</li> <li>Similar to Alternative 700 regarding proximity to Disney Wilderness Preserve smoke shed</li> </ul>
700 <sup>(1)</sup>	<ul style="list-style-type: none"> <li>Turns southeast from Southport Road, passing between Lake Russell and existing residences along Southport Road</li> <li>Most southerly alignment (near urban growth boundary line)</li> </ul>	<ul style="list-style-type: none"> <li>Consistent with freeway alignment shown in South Lake Toho Master Plan</li> </ul>	<ul style="list-style-type: none"> <li>Closer proximity to smoke shed for Disney Wilderness Preserve</li> <li>Potentially higher disruption to two existing ranches</li> <li>Closest to Lake Russell (1/4 mile)</li> </ul>

<sup>(1)</sup> Carried forward from FDOT Alternative Corridor Evaluation Study (2015)

Table E.2 displays a summary of the costs for the Southport Connector. Since the Cypress Parkway segment is common to all alternatives, the grand-total cost includes both the Cypress Parkway segment and the proposed alignments east of Reedy Creek. However, Table E.2 also shows the cost of each component separately.

If the Southport Connector is advanced as a stand-alone project, the co-location of a freeway with Cypress Parkway will facilitate commuter traffic in and out of the Poinciana area while reducing congestion along the local frontage roads. If the recently constructed Poinciana Parkway is expanded to a four-lane freeway and extended to I-4, residents along the Cypress Parkway corridor will have the option of traveling to I-4, thereby avoiding the chronically congested local roadway system, as seen with Pleasant Hill Boulevard. If both projects are completed, then Poinciana residents will have the option to travel to I-4 or Florida's Turnpike.

The benefits of the Southport Connector are primarily two-fold:

- In the near term, provide traffic relief for the Poinciana community by connecting Poinciana Parkway with the Turnpike; and
- As part of a larger network, provide the Poinciana Parkway-to-Turnpike connection to facilitate a continuous, limited-access tollway between I-4 and the Osceola Parkway Extension.

The Southport Connector is also consistent with the roadway network contained in the South Lake Toho Master Plan.

The Southport Connector is a major public works project and will be disruptive to the environment, existing agricultural land uses, and the Poinciana community. However, the project is supported by Poinciana residents, the commissioners of Osceola and Polk Counties, the Osceola County Planning Department, and MetroPlan Orlando - the local Metropolitan Planning Organization (MPO).

Because of the sensitive and controversial nature of the alignments east of Reedy Creek, a thorough investigation of the alignments coupled with rigorous environmental surveys associated with PD&E studies and additional public and stakeholder involvement will be instrumental in determining a preferred alternative. Moreover, significant agency involvement will be required for the proposed crossing over Reedy Creek. Further coordination with Osceola County will be required regarding the South Lake Toho Master Plan.

Table E.2: Summary of Project Costs

Evaluation Criteria	Unit of Measure	Alternatives						
		Cypress Pkwy	200	300	400	500	600	700
Estimated Costs (in \$ millions)								
Roadway Construction	\$ million	\$221.5	\$248.7	\$242.5	\$240.5	\$260.0	\$252.4	\$270.4
Bridges Construction	\$ million	\$120.5	\$21.3	\$21.8	\$21.4	\$21.3	\$22.1	\$21.2
Interchanges Construction	\$ million	\$32.8	\$25.2	\$25.2	\$25.2	\$25.2	\$25.2	\$25.2
Toll Collection Equipment	\$ million	\$6.3	\$5.0	\$5.0	\$5.0	\$5.0	\$5.0	\$5.0
Half Interchange at Florida's Turnpike	\$ million	\$0	\$216.5	\$216.5	\$216.5	\$216.5	\$216.5	\$216.5
Right-of-Way Areas (including proposed ponds)	\$ million	\$0	\$168.4	\$207.8	\$187.9	\$178.0	\$180.1	\$176.3
Mitigation, Wetlands, & Wildlife	\$ million	\$5.0	\$5.7	\$4.6	\$4.7	\$4.5	\$6.0	\$4.9
Total Estimated Alternative Costs	\$ million	\$386.1	\$690.8	\$723.4	\$701.2	\$710.5	\$707.3	\$719.5
Grand Total Estimated Alternative Costs (Includes Cypress Pkwy)	\$ million		\$1,076.9	\$1,109.5	\$1,087.3	\$1,096.6	\$1,093.4	\$1,105.6

The purpose of this CF&M Report is to determine if the identified alternatives are feasible from an engineering and environmental standpoint and viable from a financial standpoint. Regarding engineering and environmental issues, no “fatal flaws” have been observed, and the six alternatives identified in this study are hereby presented to the CFX Board for consideration and further study in a future Project Development and Environment (PD&E) phase. However, at this time, the Southport Connector does not meet the viability requirements to move forward to the PD&E phase. A project is considered viable if the toll revenue over 30 years covers at least 50% of the project costs. The Southport Connector projected toll revenue compared to the estimated cost ranges from 17% to 29%, depending on the alternative and revenue stream. Therefore, the Southport Connector is considered feasible but not viable at this time.

REFERENCE COPY

# 1.0 Introduction

---

## 1.1 Project Description

The Southport Connector Expressway is a proposed east-west divided four-lane freeway connecting Poinciana Parkway with Florida's Turnpike, a distance of approximately 13 miles. On the west side of the project, the proposed facility begins at Poinciana Parkway, an existing two-lane roadway which intersects with Cypress Parkway, an existing east-west suburban arterial roadway. The Southport Connector Expressway is co-located with existing Cypress Parkway for approximately 3.5 miles. At this point, the proposed freeway crosses the Reedy Creek ecosystem before traversing south of Lake Toho, an area containing the proposed South Lake Toho Mixed Use District.

The Southport Connector Expressway is a segment of a potentially larger (60-mile) expressway system connecting I-4 on the southwest side of Orlando with the Martin-Anderson Beachline Expressway, an east-west toll road connecting south Orlando with I-95 near Florida's Space Coast.

## 1.2 Purpose of Report

The objective of this study is to develop and evaluate alternative mobility programs within the project corridor. The work includes the evaluation and documentation of the physical, natural, social, and cultural environment within the corridor and the potential impacts associated with the various mobility alternatives. This analysis also addresses economic and engineering feasibility, mobility, capacity and levels of service, conceptual geometry and structures, and potential interchanges and intersection improvements. Public involvement and interagency coordination are an integral part of the assessment process.

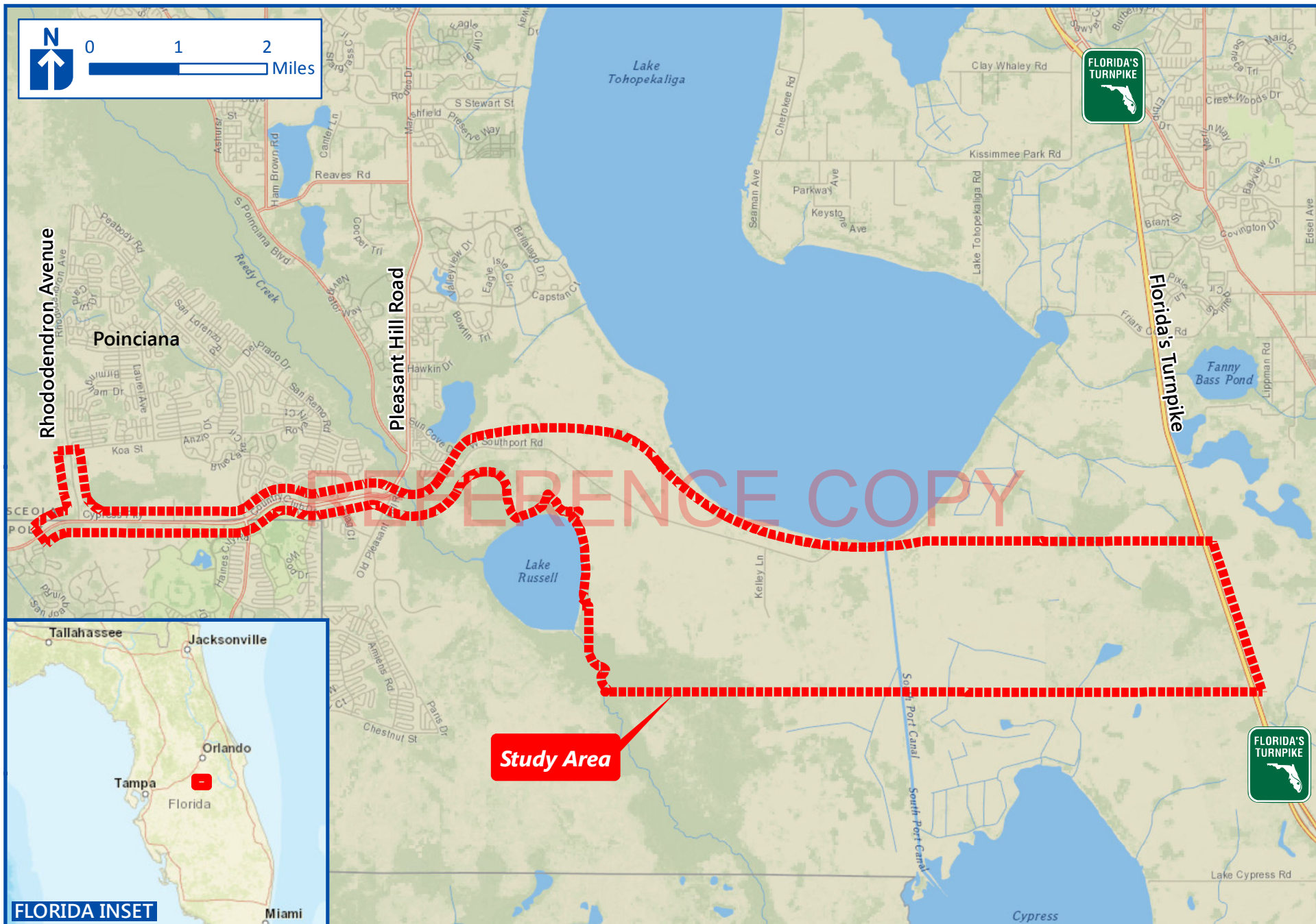
## 1.3 Project Location

The Southport Connector Expressway is located in Osceola and Polk Counties between Poinciana Parkway and Florida's Turnpike, covering a distance of approximately 13 miles. The corridor connects Poinciana Parkway to Florida's Turnpike via a limited-access facility and is co-located with Cypress Parkway for approximately 3.5 miles. Figure 1.3.1 provides a location map identifying the limits of the study area.

The Southport Connector Expressway corridor is broken into two distinct segments:

- Cypress Parkway from Poinciana Parkway to Pleasant Hill Road; and
- East of Pleasant Hill Road to Florida's Turnpike and generally bordered by Lake Toho on the north and the Osceola County Urban Growth Boundary on the south.





## 1.4 Previous Studies Related to the Project

The Florida Department of Transportation (FDOT), District Five, in cooperation with the Federal Highway Administration (FHWA), initiated an Alternative Corridor Evaluation (ACE) for the Southport Connector in June 2013. The purpose of the ACE was to document the analysis of a range of alternative corridors to provide for a connection between the Poinciana community and Florida's Turnpike for reference in a future National Environmental Policy Act (NEPA) environmental document. The resulting Alternative Corridor Evaluation Report (ACER) documented the application of the methodology, identified corridor alternatives to carry forward into a detailed NEPA study, and identified alternatives which should be eliminated.

Ten initial corridors were included in the Efficient Transportation Decision Making (ETDM) screening. These corridors were evaluated and the results of the evaluation were presented at two Corridor Workshops held on January 13, 2015 and January 15, 2015. At that time, Corridors 6, 7, and 8 were recommended for further evaluation. However, based on input received from Florida's Turnpike, Corridors 6 and 8 were determined not to be viable due to interchange spacing criteria. Corridors 11, 12, and 13 were added after the workshops were held due to additional input provided from the public. Also in response to comments received after the corridor workshops, Corridors 2 through 13 were extended to include Cypress Parkway from Rhododendron Avenue to Pleasant Hill Road. Figure 1.4.1 displays the thirteen corridors evaluated in the ACE study. The evaluation of each corridor led to the recommendation that Southport Connector Alternatives 7, 12, and 13 be carried forward for further evaluation. Figure 1.4.2 displays the three corridors recommended to be carried forward.

As part of this feasibility study, an ACE Review Technical Memorandum was completed and is available under separate cover. The purpose of this technical memorandum is described below:

- Obtain documents prepared as part of the ACE study performed by Inwood Consulting Engineers on behalf of the FDOT District 5 and the OCX;
- Review the ACE documents;
- Identify any changed conditions and verify adherence to CFX design criteria;
- Perform an in-depth evaluation of the ACE findings, recommendations and commitments; and
- Provide recommendations to be incorporated into the study.



Figure 1.4.1: Thirteen ACE Corridors





Figure 1.4.2: ACE Corridors Recommended to be Carried Forward



After reviewing the ACER, the study team concurs with the ACE decision to drop all corridors crossing Lake Toho. Corridors 7, 12, and 13 appear to be reasonable corridors to carry forward but will require refinements as additional natural, physical, and stakeholder information is obtained. Essentially, the swath of land bounded by Lake Toho on the north and the urban boundary to the south should be considered as the target location of the Southport Connector. Coordination with the adjacent Northeast Connector Expressway study and Florida's Turnpike Enterprise will ultimately determine the eastern terminus and the approaching alignments.

The study team also concurs with the ACE recommendation to co-locate all corridors with Cypress Parkway between Poinciana Parkway and the Reedy Creek ecosystem. The existing development flanking both sides of Cypress Parkway along with the available right-of-way preclude any merit to evaluating corridors substantially outside of this envelope.

## 1.5 Other Projects In or Near Study Area

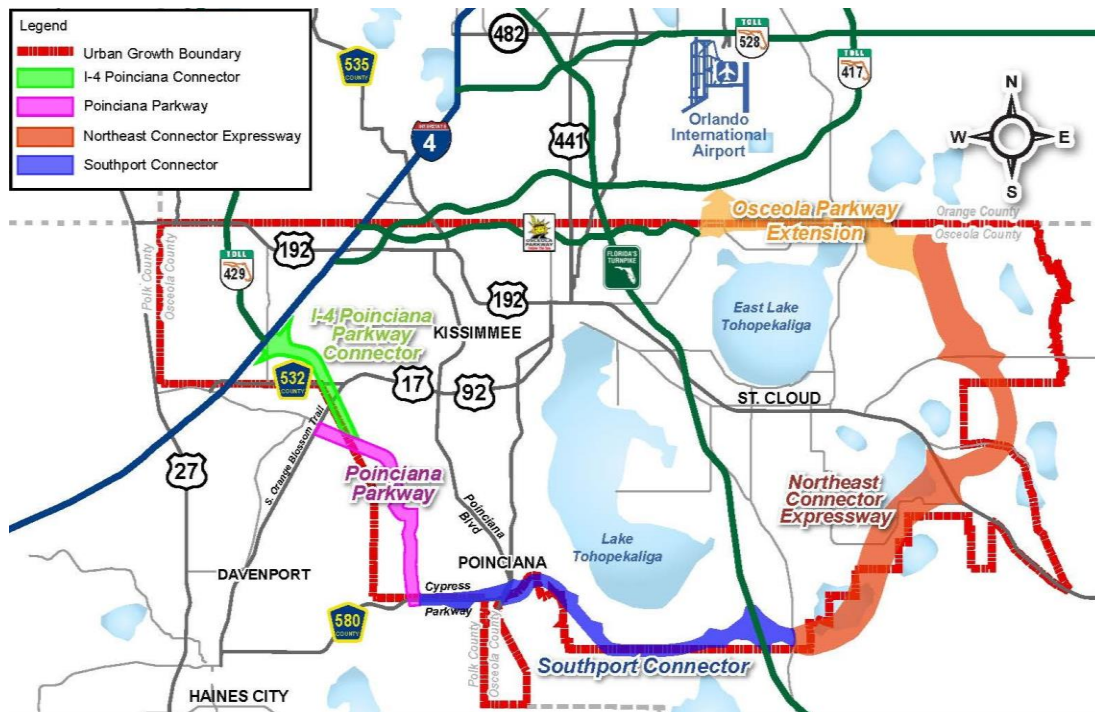
### 1.5.1 Additional CFX Feasibility Studies

The OCX Master Plan 2040 was incorporated into the CFX Master Plan. In April 2017, CFX began conducting CF&M studies on the unbuilt OCX Master Plan projects; the studies include: (1) the Poinciana Parkway Extension / I-4 Connector; (2) the Southport Connector Expressway; (3) the Northeast Connector Expressway; and, (4) the Osceola Parkway Extension. Figure 1.5.1, depicts these four expressway corridors and their location relative to the Southport Connector. The goal of the CF&M studies is to determine which, if any, meet CFX requirements for viability and funding. Below is a brief description of each of the other ongoing CFX Feasibility Studies:

#### **Poinciana Parkway Extension / I-4 Connector**

The study corridor of the proposed Poinciana Parkway Extension / I-4 Connector generally begins at the southern terminus of the existing Poinciana Parkway at Cypress Parkway, extends along the existing Poinciana Parkway alignment to the Osceola / Polk County line and then extends in a general north / northwest direction to connect with I-4. The study corridor encompasses portions of both Osceola and Polk Counties and includes a proposed interchange with I-4. The goals of this proposed new limited-access facility include improving the roadway connection from I-4 to the greater Poinciana area, enhancing mobility of the area's growing population and economy, relieving congestion on local roads, providing for the incorporation of transit options, and promoting regional connectivity.

Figure 1.5.1: OCX Master Plan Studies



### Northeast Connector Expressway

The study corridor of the proposed Northeast Connector Expressway extends from the proposed terminus of the Southport Connector Expressway at Florida's Turnpike northeast to the vicinity of the Osceola / Orange County line for a distance of approximately 25 miles. The study includes a proposed interchange with Florida's Turnpike. The Northeast Connector Expressway has been known as the "Southport Connector East" and the "SR 417 Southern Extension" in previous studies and discussions. The goals of this proposed new limited-access facility include providing a connection from Florida's Turnpike to US 192 and the Osceola Parkway Extension, enhancing mobility of the area's growing population and economy, relieving congestion on local roads, providing for the incorporation of transit options, and promoting regional connectivity.

### Osceola Parkway Extension

The study corridor of the proposed Osceola Parkway Extension begins approximately one mile west of the Boggy Creek Road and Osceola Parkway intersection and extends eastward along the Orange / Osceola County line for approximately six miles before turning south into Osceola County to meet the northern terminus of the proposed Northeast Connector Expressway. The project also includes a potential north / south segment linking to SR 417 in the general vicinity of the Boggy Creek Road interchange. The goals of this proposed new limited-access facility include providing for additional east-west capacity within the project

area, enhancing mobility of the area's growing population and economy, relieving congestion on local roads, providing for the incorporation of transit options, and promoting regional connectivity.

### 1.5.2 Other Area Projects

In addition to the CFX Feasibility Studies and the Southport ACE Study, there are four previous projects related to the CFX Southport Connector Expressway project including: Poinciana Parkway construction project, I-4 Poinciana Parkway Connector ACE Study, Southport Connector Preliminary Alignment and Feasibility Study, and the Southport Connector East Preliminary Alignment Evaluation.

#### **Poinciana Parkway Construction Project**

Poinciana Parkway is a two-lane tolled facility extending from the intersection of US 17 - 92 and Kinny Harmon Road in Polk County to Cypress Parkway in Osceola County, a distance of 9.7 miles. Interchanges are located at Marigold Avenue, KOA Street, and Cypress Parkway. The project was built in two phases:

- US 17 – 92 and Kinny Harmon Road to Marigold Avenue (Phase 1 – Opening Date April 30, 2016); and
- Marigold Avenue to Cypress Parkway (Phase 2 – Opening Date – November 18, 2016).

Figure 1.5.2 shows the location of the recently constructed Poinciana Parkway.

#### **I-4 Poinciana Parkway Connector ACE Study**

The FDOT, in cooperation with the FHWA, initiated the I-4 Poinciana Parkway Connector ACE in 2013. The project's purpose was to enhance mobility from I-4 to the Poinciana Parkway, improve overall traffic operations of existing highway network within the project study area, and expand regional system linkage in Osceola County and Polk County. Six initial corridors were developed for the ETDM Screening. None of the initial corridors were eliminated through the ETDM screening as all had the potential to meet the projects purpose and need. Figure 1.5.3 displays the project study area and corridors. During the ACE process, four corridors were considered unreasonable and recommended for elimination from further study. As a result, it was recommended that Corridors 2A and 3 be carried forward for further study. The ACER was completed in November 2015. These recommended corridors are the basis for the Poinciana Parkway Extension / I-4 Connector CFX Feasibility Study that is currently underway.



Figure 1.5.2: Poinciana Parkway Project Location Map

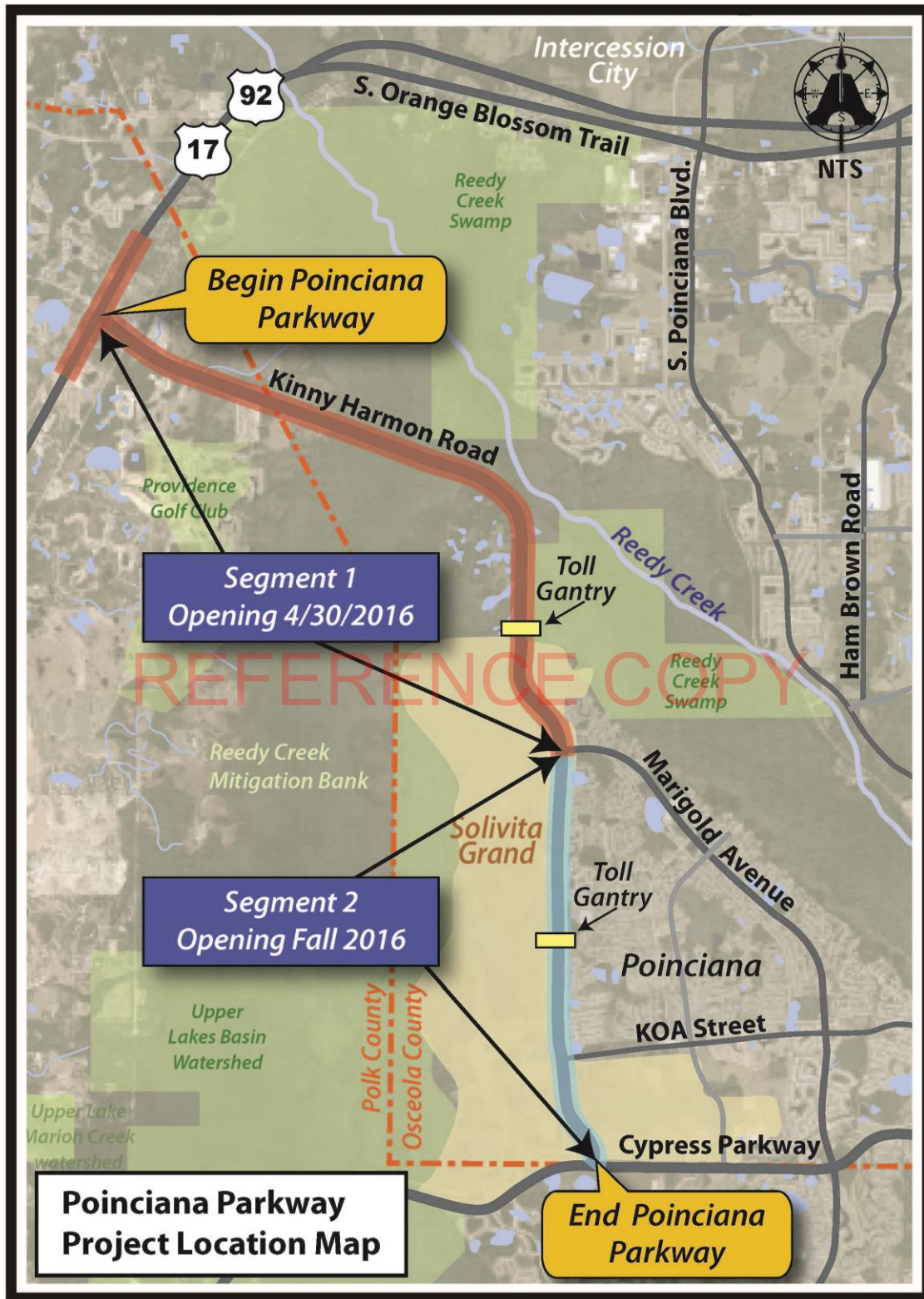
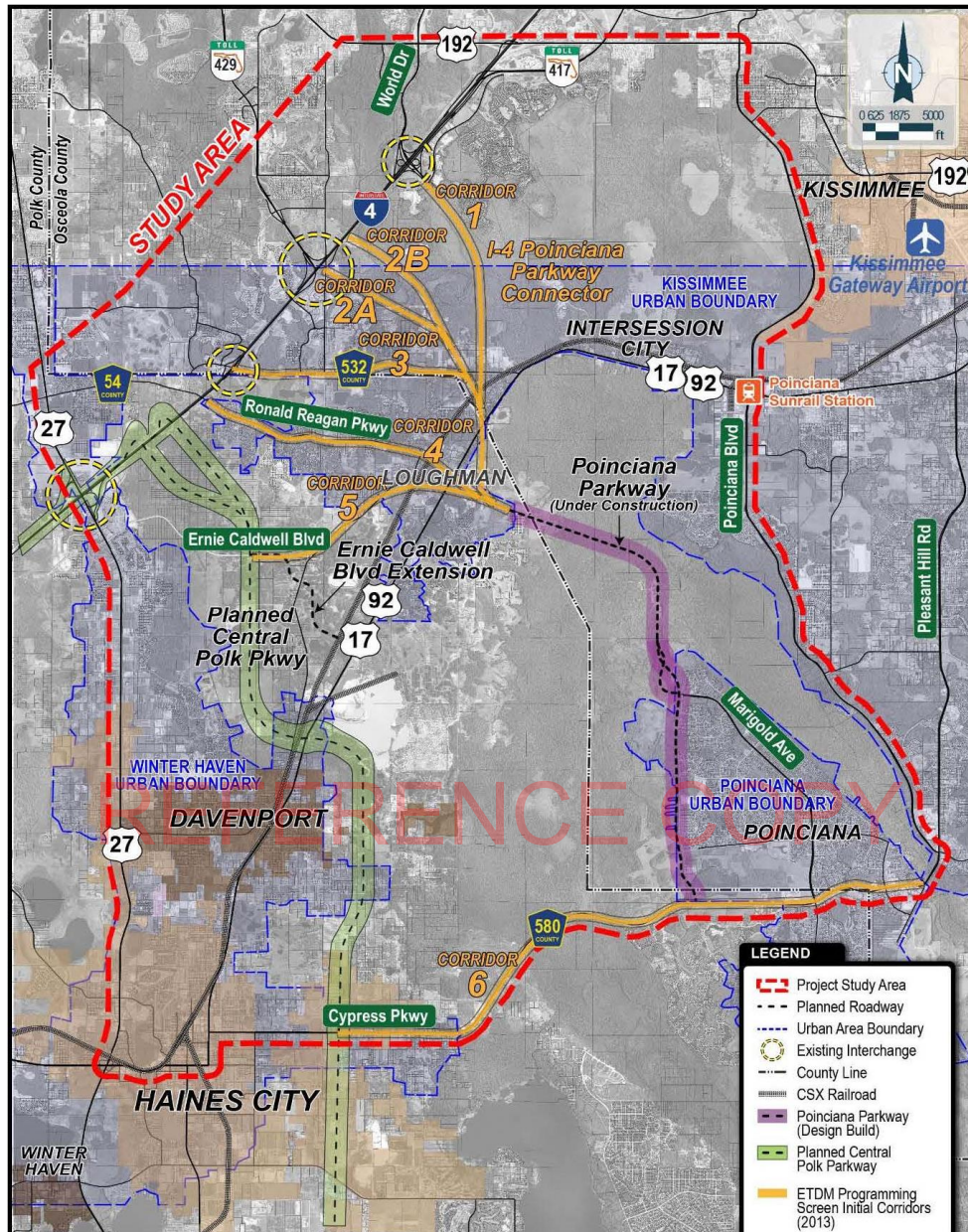




Figure 1.5.3: I-4 Poinciana Parkway Connector ACE Location Map

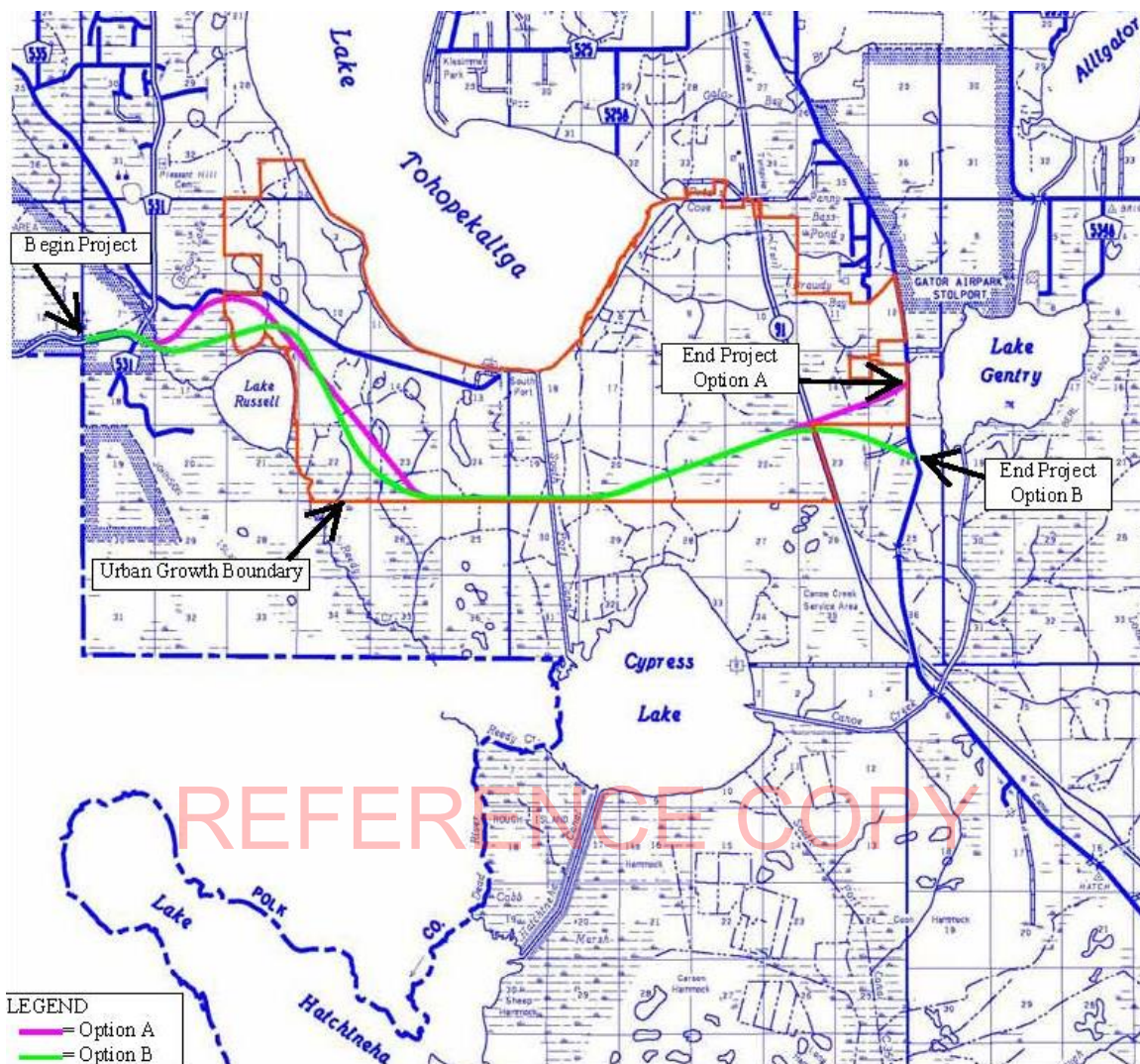


### Southport Connector Preliminary Alignment and Feasibility Study

Prior to the Southport Connector ACE Study, was the Southport Connector Preliminary Alignment and Feasibility Study completed in November 2009. This study was also referred to as the Southport Connector South. The project limits for Southport Connector South extended from Cypress Parkway at Pleasant Hill Road to Canoe Creek Road. Two alternatives were examined with alternate Canoe Creek Road tie-ins, see Figure 1.5.4. The study concluded that the project was feasible and should move forward into a PD&E Study.



Figure 1.5.4: Southport Connector South Location Map



### Southport Connector East Preliminary Alignment Evaluation

Prior to the CFX Northeast Connector Feasibility Study, was the Southport Connector East Preliminary Alignment Evaluation which was completed in June 2010. The project limits for Southport Connector East extended from Canoe Creek Road to SR 528 (Beachline), a distance of approximately 25 miles. The purpose of this study was to determine if either of the two previously identified alignments had a fatal flaw and if they should be dropped from further consideration. The two alignments are described below and shown in Figure 1.5.5:

- One alternative alignment directed the roadway north of Lake Gentry and provided a refinement of the “Purple Alignment” as identified in the SR 417 Southern Extension Concept Development and Evaluation Study, prepared for the Orlando-Orange County Expressway Authority (OOCEA). This alignment is referred to as the western alignment.

- The other alternative alignment directed the roadway south of Lake Gentry and provided a refinement of the “Orange Alignment” as identified by the Canoe Creek Road Community Residents. This alignment is referred to as the eastern alignment.

Both alternative alignments were refined in an effort to minimize the impacts to various constraints, including but not limited to existing development and environmentally sensitive areas. The final Preliminary Alignment Evaluation Report did not make any conclusions or recommendations about the viability of either corridor.

**Figure 1.5.5: Southport Connector East Alignment**



### 1.5.3 Additional Capacity Projects (DOT, MPO, Local Projects)

The Central Florida region is currently guided by the MetroPlan Orlando 2040 Long Range Transportation Plan (LRTP). The LRTP identifies current and future needs based on population projections and travel demand. The plan is updated every five years to reflect the changing dynamics of the region and projects must be included in the long range plan to receive federal funding. MetroPlan Orlando also prepares the Transportation Improvement Program (TIP) which sets the schedule for improvements to the region's transportation system over the next five years. This short-term plan assigns available funding to specific projects and covers all modes of transportation. Table 1.5.1 lists the project name, termini, length, and projected funding dates for the five projects in the vicinity of the Southport Connector Expressway.



**Table 1.5.1: Metroplan Orlando TIP Projects**

<b>Project name</b>	<b>Description</b>	<b>Limits</b>	<b>Length (miles)</b>	<b>Funding Date</b>	<b>Funding Amount</b>
<b>Old Pleasant Hill Road Extension</b>	New 2-Lane Road (CST)	Amiens Rd to Old Pleasant Hill Rd	0.40	2021/22	\$5,400,000
<b>Poinciana Boulevard</b>	Widen to 4 Lanes - Phase 4A (PE / CST)	Reaves Rd to Crescent Lakes Way	2.40	2021/22	\$12,506,000
<b>Poinciana Boulevard</b>	Widen to 4 Lanes - Phase 4B (PE / CST)	Pleasant Hill Rd to Reaves Rd	3.30	2021/22	\$9,423,000
<b>Canoe Creek Service Plaza Reconstruction</b>	Rest Area	-	0.56	2017/18	\$1,900
<b>Florida's Turnpike</b>	Guardrail & Resurfacing	MP 235 to MP 238.8	3.81	2017 - 2020	\$6,500,986

There are no projects in the vicinity of the potential Southport Connector Expressway listed in the Polk TPO TIP 2017/2018 – 2021/2022. However, during the second project advisory group (PAG) meeting on February 6, 2018, Polk County and Polk TPO representatives stated that they are interested in two projects in the Southport Connector Expressway area, including:

- Widening Marigold Avenue to four lanes; and
- Widening Cypress Parkway in Polk County to four lanes.

Due to the proposed Southport Connector project, the Polk County board voted to delay the Cypress Parkway widening project. Polk County is interested in accelerating the widening of Marigold Avenue to four lanes and hopes to complete design / permitting in 18 months.

The FDOT Five Year Work Program has no projects in Polk County and one project in Osceola County in the vicinity of the Southport Connector Expressway:

- Item Number 441076-1: Marigold Avenue, San Lorenzo Road, Donlington Court, Dartmoore Place Sidewalk Project. Funding is programmed for years 2020 and 2022, and totals \$895,189.

## 2.0 Project Need and Purpose

---

### 2.1 Need for Improvement

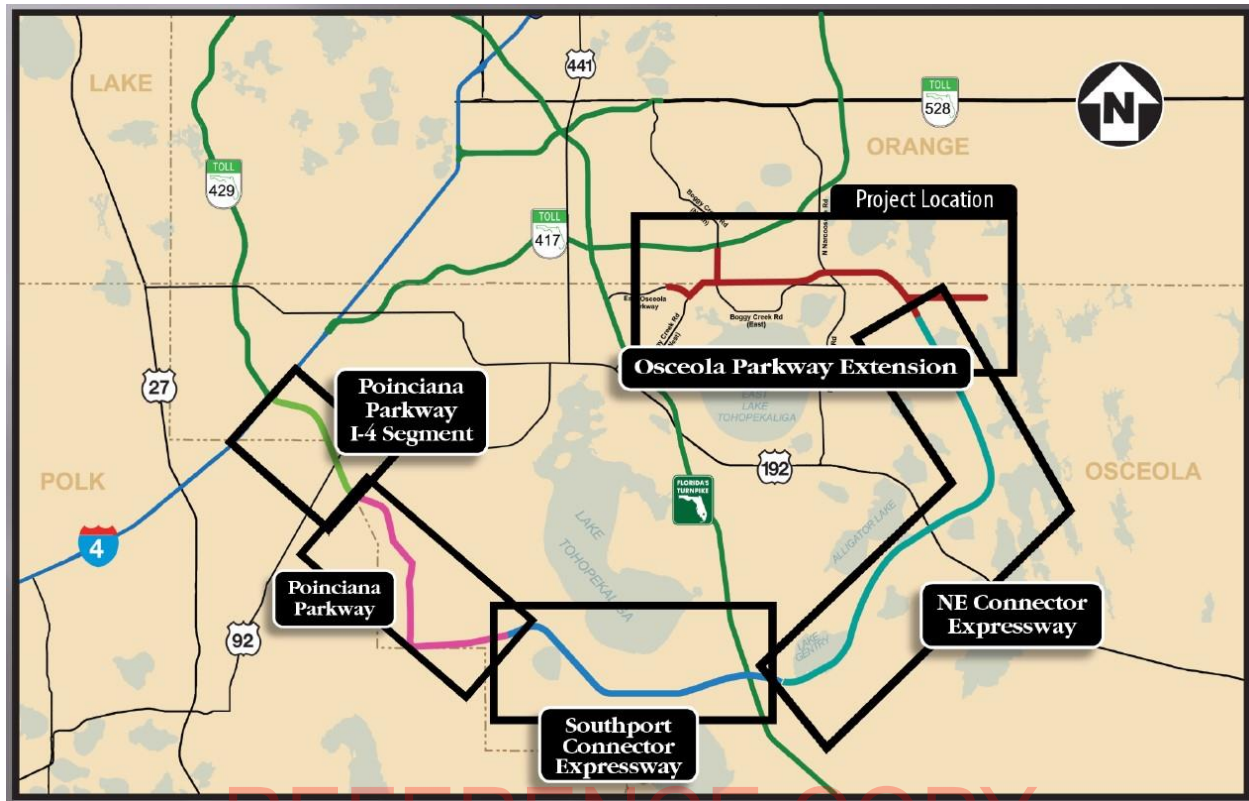
#### 2.1.1 System Linkage

The proposed Southport Connector Expressway is an approximately 13-mile segment of a potentially 60-mile expressway system around the southern portion of the Orlando metropolitan area. Originally proposed by the OCX and adopted by CFX in its Visioning + 2040 Master Plan, this tolled outer beltway begins at I-4 near the communities of ChampionsGate and Reunion, extends southeasterly through the Poinciana community, passes south of Lake Toho, connects to Florida's Turnpike via an interchange, passes southeast of the rural / suburban communities southeast of St. Cloud, and ultimately connects to SR 417 (Central Florida GreeneWay) and the Beachline Expressway (SR 528), both toll roads.

This proposed 60-mile system is consistent with a December 1, 2014 report compiled by the East Central Florida Corridor Task force created by Governor Rick Scott. As mentioned in the East Central Florida Corridor Task Force Summary Report, the total population of Brevard, Osceola, and Orange Counties is projected to nearly double from 2 to 3.8 million residents over the next 50 years. In addition to the East Central Florida Corridor Task Force Summary Report, the CFX Master Plan includes this limited-access, high-speed toll facility for the purposes of serving Poinciana residents and the southern region of the greater Orlando area near the urban growth boundary.

Figure 2.1.1 shows the five segments that are planned to be developed over the next 25 years (Poinciana Parkway is already built as a two-lane limited-access tolled facility). The CF&M Studies for the various segments, including this study, will examine which segments are cost-feasible and which segments should be prioritized. With respect to the Southport Connector, this project will connect to two existing tolled facilities – Poinciana Parkway and Florida's Turnpike. Poinciana Parkway is currently a two-lane tolled facility with the capability of being expanded to four lanes. Moreover, this facility connects to I-4 by way of Orange Blossom Trail and Osceola Polk Line Road. Should the Southport Connector be constructed first, motorists would have a connection (although with local road support) to I-4 but would gain a limited-access connection to Florida's Turnpike. Therefore, the Southport Connector could stand alone as a separate project with logical termini, thereby providing independent utility and an immediate benefit to the traveling public.

Figure 2.1.1: CFX 2040 Master Plan



### 2.1.2 Regional Connectivity & Mobility

The community of Poinciana is an unincorporated 47,000 acre residential area of approximately 53,200 people (2010 Census Data) located in both Polk and Osceola Counties. Poinciana is located approximately 25 miles south of the City of Orlando. According to the Census Bureau, the average commute times for Poinciana residents is 43 minutes, compared to an average of 26 minutes for the state of Florida. According to a National Business Journal study by G. Scott Thomas entitled, “Altus, Oklahoma has the best small-town record for commuters,” Poinciana is ranked 226 out of 226 for small towns in Florida for commute time. The study analyzed the five-year 2009 American Community Survey data from the Census Bureau for cities, incorporated towns, and census designated places; these locations were awarded points for all commuters who drive less than 30 minutes to work but would lose points for commute times greater than 30 minutes. The study showed that Poinciana has the worst commute for any small town in Florida with more than 48% of Poinciana residents having a commute time of 45 minutes or more. A major element of the congested commute is both local and regional traffic. Currently, there are only two roads out of Poinciana: Pleasant Hill Road and Poinciana Parkway. Exacerbating the traffic congestion is that the majority of Poinciana residents commute to the greater Orlando area for work, traversing on either Pleasant Hill Road or Poinciana Parkway, both of which are connected by Cypress Parkway.

The employment to population ratio (E/P) for Osceola County in 2015 was 35.3% compared to 75.6% in Orange County, thereby supporting the theory that the majority of Poinciana residents are leaving the county for work. Therefore, Poinciana needs a better regional transportation network to facilitate this “bedroom” community’s access to the greater Orlando area.

### 2.1.3 Social and Economic Needs

The existing land use surrounding Cypress Parkway from Poinciana Parkway to Pleasant Hill Road is mostly residential with some retail / office land use, public / semi-public land use, and acreage not zoned for agriculture. East of Pleasant Hill Road, the land use is almost exclusively agricultural, scattered with public / semi-public land use and residential. The future land use maps indicate that Poinciana will continue to remain a mostly residential area but, the residential developments will become denser and spread further to the east.

A Socioeconomic Data Forecast Analysis for Osceola County and the southeastern portion of Orange County was completed as part of this study by Fishkind and Associates, Inc. (FKA). According to the report, Osceola County represents the 10<sup>th</sup> fastest growing county in Florida from 2000 to 2015, with a population increase of 150,000 people. The University of Florida’s Bureau of Economic and Business Research (BEBR) and FKA’s population forecast for Osceola County anticipate the population will almost double from 2015 to 2045, from a population in the low 300,000’s to a population in the low 600,000’s, depending on the model being utilized. Similarly, the employment in Osceola County is anticipated to double between 2015 and 2045 from 115,035 to 227,612.

There are currently 46 approved Developments of Regional Impact (DRI) in Osceola County. FKA estimates that the unbuilt residential and commercial holding capacity of the 46 DRIs within Osceola County total the following: 67,789 residential units, 31.6 million square feet of commercial space and 30,235 hotel rooms. The information in the Socioeconomic Data Forecast Analysis supports the trend of more residential and commercial development in Poinciana, as shown on the future land use maps.

### 2.1.4 Capacity Constraints

Existing traffic data for Cypress Parkway was obtained from the FDOT Traffic Data Geographic Information System (GIS) shapefiles and the FDOT Florida Traffic Online (2016) website. The FDOT Office of Transportation Statistics Traffic Data Shapefiles for Annual Average Daily Traffic (AADT) in GIS, published August 26, 2017, were reviewed. A summary of the 2016 traffic data is contained in Table 2.1.1.

**Table 2.1.1: 2016 Existing Cypress Parkway Traffic Data**

Begin Limit	End Limit	AADT	K Factor	D Factor	T Factor
Poinciana Parkway	Marigold Avenue	10,800	9	53.3	4.8
Marigold Avenue	Pleasant Hill Road	43,500	9	52.5	9.6

There is one FDOT portable traffic monitoring site on Cypress Parkway located 0.18 mile west of Doverplum Avenue (milepost 0.959). Table 2.1.2 contains the historical AADT report for this monitoring site.

**Table 2.1.2: 2015 Historical AADT Report for Monitoring Site**

Year	AADT	Eastbound AADT	Westbound AADT	K Factor	D Factor	T Factor
2015	42,500	21,000	21,500	9.0	52.7	9.6
2014	38,500	23,500	15,000	9.0	52.8	12.4
2012	35,500	18,000	17,500	9.0	53.1	12.5
2009	32,000	15,500	16,500	9.1	53.7	7.8

The FDOT 2012 Generalized Service Volume Tables were used to evaluate the level of service (LOS) along Cypress Parkway. Table 2.1.3 details the LOS for each segment.

As shown in Table 2.1.3, the segment from Marigold Avenue to Pleasant Hill Road has an unacceptable LOS. A four-lane divided signalized arterial, with a posted speed of 40 mph or greater, can accommodate a maximum of 39,800 vehicles per day and function at LOS D. Currently, Cypress Parkway from Marigold Avenue to Pleasant Hill Road already handles 43,500 vehicles per day resulting in the failing LOS. By comparison, the segment west of Marigold Avenue has a significantly lower AADT and therefore functions at a LOS better than C. However, due to the construction of Poinciana Parkway, the AADT for the segment west of Marigold Avenue may see a significant increase in traffic.

No future traffic data was available for Cypress Parkway. However, a segment of the roadway already operates at a failing LOS and with continued growth in Poinciana, the future traffic conditions are anticipated to significantly decline.

**Table 2.1.3: Cypress Parkway Operational Conditions**

Begin	End	Number of Lanes	Divided	2016 AADT	Area Type	LOS
Poinciana Parkway	1,850 feet West of Solivita Blvd	2	No	10,800	Transitioning	Better than C
1,850 feet west of Solivita Blvd	Marigold Ave	4	Yes	10,800	Transitioning	Better than C
Marigold Ave	Pleasant Hill Rd	4	Yes	43,500	Urbanized	F

### 2.1.5 Consistency with Transportation Plans

Although the Southport Connector Expressway is located in both Polk and Osceola Counties, the project will be funded by the CFX if the project is deemed feasible. The MPO supporting this region is MetroPlan Orlando.

The proposed project is included in the MetroPlan Orlando 2017 TIP and the 2017 CFX Five-Year Work Plan (fiscal year 2018 – fiscal year 2022). Funding for subsequent phases of project development, design, right-of-way acquisition and construction, are included in the MetroPlan Orlando MPO 2040 LRTP in the Plan Development & Cost Feasible Projects, which were adopted in January 2016 and updated in August 2016. This project is also listed on Osceola County's South Lake Toho Element Comprehensive Plan 2025. CFX has included this project in their 2040 Master Plan as a potential new expressway project. Currently, no funding is listed for phases beyond the Feasibility Study. Appendix B contains the transportation planning consistency documents for the Southport Connector Expressway.

Due to the growing population and economy of Osceola County, OCX's 2040 Master Plan is centered on a series of expressways that follow the interior of the Osceola County's Urban Growth Boundary; thereby connecting existing and emerging cities and centers. One of the expressways is the Southport Connector Expressway. CFX incorporated portions of the OCX Master Plan 2040 into CFX's Visioning + 2040 Master Plan, which includes the Southport Connector Expressway. In addition, the Southport Connector Expressway was adopted as part of the 2025 Osceola County Comprehensive Plan.

The Southport Connector Expressway and the ultimate 60-mile outer beltway system is consistent with the East Central Florida Corridor Task Force Summary Report submitted to Governor Rick Scott on December 1, 2014. As mentioned in the Summary Report, the total



population of Brevard, Osceola, and Orange Counties is projected to nearly double from 2 to 3.8 million residents over the next 50 years. The report also identifies trends that indicate a significant increase in demand for travel between Brevard, Osceola and Orange Counties during the next 50 years. The task force determined that, “Limited options for both east-west and north-south travel raise concerns about the region’s ability to achieve economic opportunities and to support the planned development of new population centers.”<sup>1</sup>

### 2.1.6 Multimodal Opportunities

Policy objectives within the Osceola County Comprehensive Plan indicate a desire to accommodate and provide for multi-modal transportation options. These objectives establish a commitment to planning and supporting multimodal corridors, bicycle and pedestrian networks, and transit through highly connected, gridded street networks. Currently, the study area does not contain significant pedestrian accommodations or bicycle facilities. The Central Florida Regional Transportation Authority (LYNX) does operate within portions of the study area, but its service is concentrated at the Poinciana Walmart Center. There are no documented freight or intermodal logistics centers present within the study area. The proposed Southport Connector Expressway will accommodate pedestrian and bicycle facilities outside of the limited-access right-of-way. In addition, mass transit services will be evaluated as part of this study.

REFERENCE COPY

### 2.1.7 Safety & Evacuation Support

Crash data for years 2012 to 2016 was obtained from Signal Four Analytics for a 300-foot buffer around Cypress Parkway from Poinciana Parkway in Polk County to Pleasant Hill Road in Osceola County. Signal Four Analytics is an interactive, web-based system designed to support the crash mapping and analysis needs of law enforcement, traffic engineering, transportation planning agencies, and research institutions in the state of Florida. This system is developed by the GeoPlan Center at the University of Florida, and funded by the state of Florida through the Traffic Records Coordinating Committee (TRCC).

Over the five-year period, a total of 814 crashes including 321 injury crashes and four fatal crashes were reported. Below is a summary of the crash statistics for the 3.5-mile section of Cypress Parkway:

- 7 fatalities;
- 572 injuries;
- 12 crashes involved drugs or alcohol;
- 19.2% of all crashes occurred at an intersection;
- 18.2% of all crashes were intersection-related;

---

<sup>1</sup> East Central Florida Corridor Task Force Summary Report

- 47% were rear-end crashes;
- 15% were right or left-turn crashes;
- 10% were sideswipe crashes;
- 754 crashes occurred in Osceola County; and
- 60 crashes occurred in Polk County.

The high proportion of rear-end crashes is indicative of a congested urban roadway with frequent stopping. The highest concentration of crashes located along Cypress Parkway are the intersections at Doverplum Avenue (275), Pleasant Hill Avenue (203), and Marigold Avenue (204). The proposed Southport Connector Expressway will reduce congestion and should diminish the total number of crashes, particularly rear-end and intersection crashes.

## 2.2 Purpose of the Proposed Project

The purpose of this proposed project is to construct a limited-access, high-speed freeway that will improve roadway connectivity from the community of Poinciana to Florida's Turnpike by providing additional traffic capacity, and the opportunity for multimodal facilities, interconnectivity to regional transportation networks, and enhancing emergency evacuation routes. Since a major portion of the Southport Connector Expressway is in Osceola County's urban growth area, a secondary purpose for the project includes supporting economic development.



## 3.0 Existing Conditions

---

### 3.1 Existing Roadway Network

The Southport Connector Expressway is located between Poinciana Parkway and Florida's Turnpike, covering a distance of approximately 13 miles. The corridor connects Poinciana Parkway to Florida's Turnpike and is co-located with Cypress Parkway for approximately 3.5 miles.

The Southport Connector Expressway corridor is broken into two distinct segments:

- Cypress Parkway from Poinciana Parkway to Pleasant Hill Road; and
- East of Pleasant Hill Road to the Florida Turnpike and generally bordered by Lake Toho on the north and the Osceola County Urban Growth Boundary on the south.

#### 3.1.1 Functional Classification

The roadway network within the project study area is comprised of county roads, expressways, and local roads, all of which provide access and traffic circulation to and from the residential and commercial areas along Cypress Parkway in Osceola and Polk Counties. Cypress Parkway is an east-west corridor southeast of I-4 and is an important passageway giving residents access to commercial areas and the Poinciana Medical Center.

Within the project corridor, Cypress Parkway has three roadway functional classifications:

- Poinciana Parkway to 700 feet east of Poinciana Parkway – Major Collector – Rural;
- 700 feet east of Poinciana Parkway to Marigold Avenue – Major Collector – Urban;
- Marigold Avenue to Pleasant Hill Road – Principal Arterial – Other.

#### 3.1.2 Access Classification

Cypress Parkway is not on the State Highway System and therefore does not have a formal Access Management Classification.

### 3.2 Existing Roadway Characteristics

#### 3.2.1 Design and Posted Speeds

The posted speed limit on Cypress Parkway from Poinciana Parkway to 500 feet west of Solivita Boulevard is 55 mph. Based on permit plans, the Cypress Parkway four-lane divided section starting 500 feet west of Solivita Boulevard and continuing to Pleasant Hill Road was designed and is posted at 45 mph. The frontage road south of Cypress Parkway has a posted advisory speed of 15 mph in the vicinity of Vance Harmon Community Park.

### 3.2.2 Right-of-Way

The existing right-of-way data for Cypress Parkway was gathered from the parcel lines and verified using the Avatar Phase I Cypress Parkway Plans and Cypress Parkway / Pleasant Hill Road at Old Pleasant Hill Road Plans. An overview of existing right-of-way along this portion of the corridor is shown in Figure 3.2.1. Along Cypress Parkway, from Poinciana Parkway to Pleasant Hill Road, the right-of-way width is approximately 300 feet. The right-of-way extends eastward beyond Pleasant Hill Road, across Reedy Creek, and ties into Southport Road, which is shown in Figure 3.2.2. The right-of-way between Pleasant Hill Road to 1,400 feet east of Pleasant Hill Road narrows to 150 feet, then widens back to 300 feet for the rest of the corridor. On November 1, 2004, Osceola County vacated a portion of the existing right-of-way to Ray Parsons – creating the narrower 150-foot right-of-way. This newly vacated right-of-way was incorporated into the adjacent parcel 2526286155000H0010 located immediately to the north. This parcel is zoned as mixed use and is currently owned by Poinciana Gateway Center LLC. A strip mall including Bravo Supermarkets is now located on this property.

### 3.2.3 Typical Sections

Cypress Parkway varies from a two-lane roadway to a four-lane roadway with a frontage road from Marigold Avenue to 900 feet east of Cypress Branch Road. Bicycle lanes are not present on either side of Cypress Parkway in the project limits; a sidewalk is present for a portion of the project corridor. The existing typical sections for Cypress Parkway are shown in Figure 3.2.3, Figure 3.2.4, and Figure 3.2.5.

#### Two-lane Cypress Parkway Typical Section

- Poinciana Parkway to 1,850 feet West of Solivita Boulevard
  - One 12-foot travel lane in each direction;
  - Grass shoulders on each side; and
  - 300-foot right-of-way.

#### Four-lane Cypress Parkway Typical Section

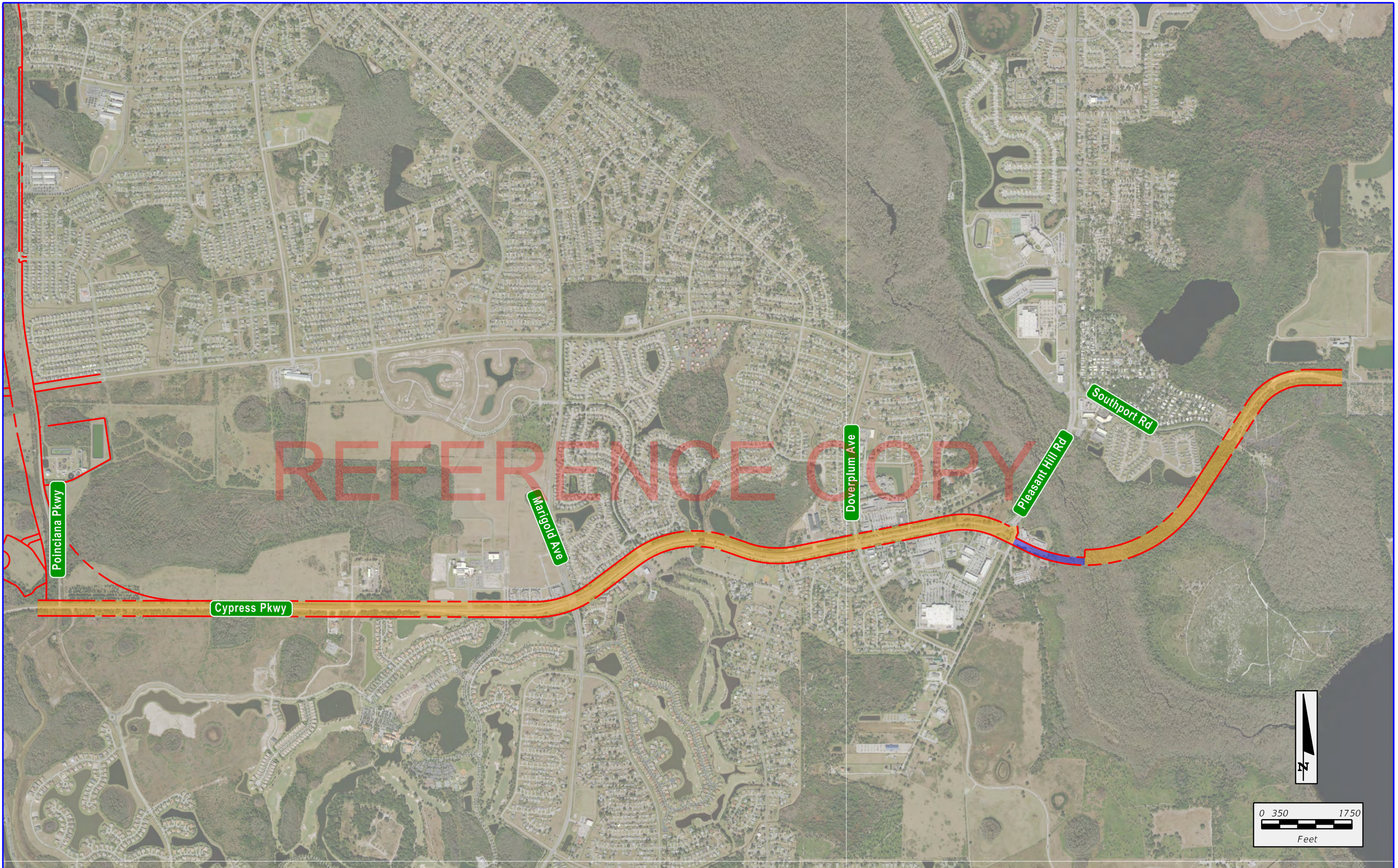
- 1,850 feet West of Solivita Boulevard to 900 feet East of Marigold Avenue
- 900 feet East of Cypress Branch Road to Pleasant Hill Road
  - Two 12-foot travel lanes in each direction;
  - 10-foot grass shoulders on the outside;
  - 8-foot grass shoulders on the inside;
  - 24-foot landscaped median; and
  - 300-foot right-of-way.

#### Four-lane Cypress Parkway with Frontage Roads Typical Section

- 900 feet East of Marigold to 900 feet East of Cypress Branch Road
  - Two 12-foot travel lanes in each direction on Cypress Parkway;
  - 10-foot grass shoulders on the outside;
  - 8-foot grass shoulders on the inside;
  - 24-foot landscaped median;
  - 300-foot right-of-way;
  - A frontage road (Country Club Road) is located on the south side of Cypress Parkway and has the following characteristics:
    - One 11-foot travel lane in each direction;
    - Right-most edge of pavement on Country Club Road is 11 feet from the existing right-of-way line; and
    - Left-most edge of pavement on Country Club Road is no less than, 40 feet from Cypress parkway.

REFERENCE COPY





**Legend**

--- Existing R/W

150 feet  
300 feet

**Figure 3.2.1:  
Overview of  
Existing Right-of-Way**





Legend

--- Existing R/W  
--- Existing Property Line

150 feet  
300 feet

Figure 3.2.2:  
Existing Right-of-Way  
Pleasant Hill Road to  
Southport Road



Figure 3.2.3: Two-Lane Cypress Parkway

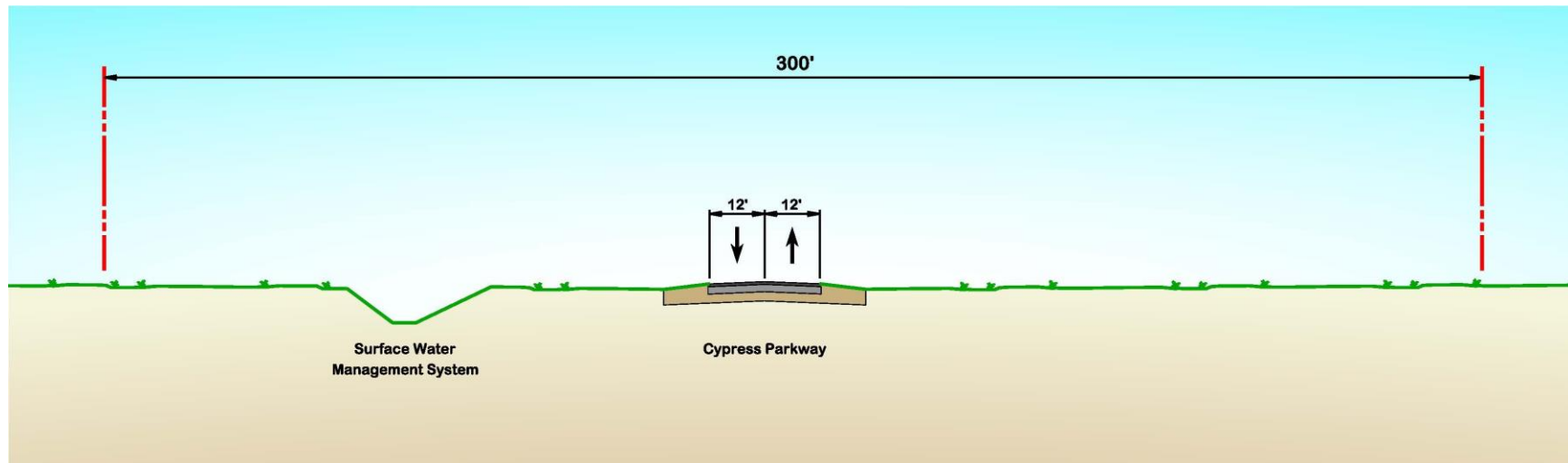


Figure 3.2.4: Four-Lane Cypress Parkway

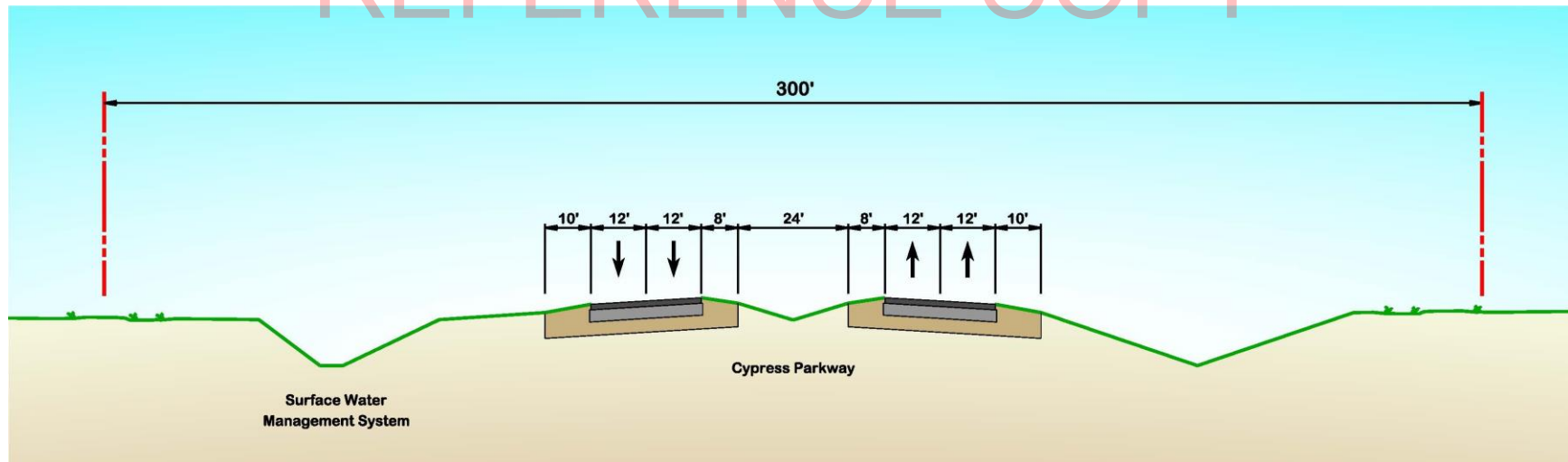
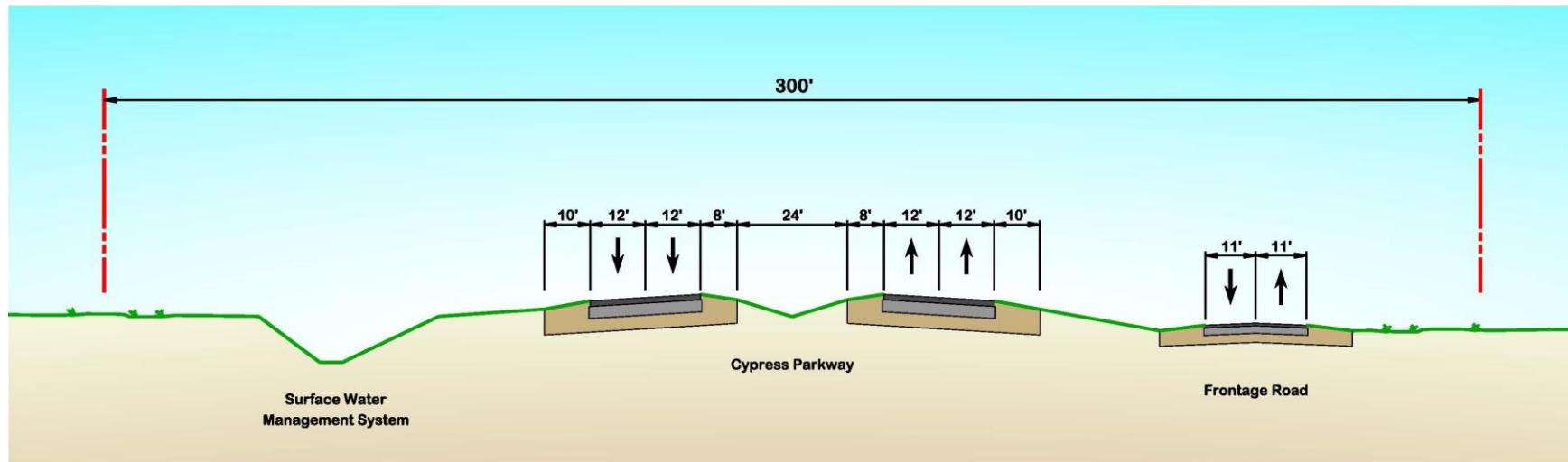




Figure 3.2.5: Four-Lane Cypress Parkway with Frontage Roads



REFERENCE COPY

### 3.2.4 Pavement Conditions

A pavement survey was not completed for this study. However, the FDOT Office of Transportation Statistics Road Data Shapefiles for Pavement Conditions in GIS were reviewed, and field observations confirmed the existing condition of the pavement. The Pavement Conditions file was published on August 12, 2017. Based upon the research, Table 3.2.1 contains the pavement condition values obtained.

**Table 3.2.1: Pavement Conditions**

<b>Cypress Parkway Limits</b>	<b>Score</b>
Poinciana Parkway to Marigold Avenue	3.5
Marigold Avenue to Pleasant Hill Road	3.8

The values listed are based upon an overall pavement condition scale as shown in Table 3.2.2.

**Table 3.2.2: Pavement Condition Scale**

<b>Value</b>	<b>Pavement Condition</b>
<1.0	Very Poor
1.0 to 2.0	Poor (Large potholes, deep cracks exist)
2.0 to 3.0	Fair (Rutting, cracking and extensive patching)
3.0 to 4.0	Good (First class ride, slight deterioration)
4.0 to 5.0	Very Good (New or nearly new)

Based upon field reviews, these pavement scores are reasonable.

### 3.2.5 Horizontal Alignment

Cypress Parkway is oriented in the east-west direction and has a number of long, sweeping curves within the project area. Below is a brief description of the existing roadway geometry:

- At Rhododendron Avenue, a 4,200-foot tangent section begins the existing alignment along Cypress Parkway;
- Approximately 1,200 feet west of the Polk County Fire Station entrance, the tangent section transitions to a 422-foot-long curve with a centerline radius of 10,545 feet;
- A short tangent of 340 feet separates the first and second curve;
- The second curve has a centerline radius of 10,430 feet and continues for 410 feet before transitioning to a 1,837-foot tangent section at the Polk County Fire Station entrance;
- The 1,837-foot tangent transitions to a 1,019-foot tangent ending near the entrance to the Poinciana Medical Center, where a third tangent begins;

- Just east of Solivita Boulevard, a third tangent with a length of 858 feet transitions to a third curve;
- The third curve has a centerline radius of 2,888 feet for a length of 1,890 feet. This curve carries the Cypress Parkway alignment across Marigold Avenue;
- The third curve transitions to a 451-foot tangent at a point 800 feet east of Marigold Avenue before transitioning to a fourth curve near Cypress Branch Road;
- The fourth curve has a centerline radius of 1,888 feet for a length of 1,835 feet;
- The fourth curve then transitions to a 371-foot tangent ending near the Mary Jane Arrington Gym and Aquatics Center;
- The fifth curve has a centerline radius of 1,949 feet for a length of 1,035 feet;
- The fifth curve transitions to a 2,369-foot tangent section from just east of Cypress Drive to the Walmart entrance;
- At this point, eastbound and westbound Cypress Parkway diverge into two distinct alignments connecting to Pleasant Hill Road:
  - Eastbound Cypress Parkway continues to Pleasant Hill Road via reverse curves. The first curve has a centerline radius of 2,462 feet for 1,025 feet; no tangent separates the first and second curve. The second curve has a centerline radius of 701 feet for a length of 561 feet ending at Pleasant Hill Road.
  - Westbound Cypress Parkway also continues to Pleasant Hill Road via a short tangent section followed by a series of reverse curves. At the Walmart entrance, a 374-foot tangent transitions to the reverse curves. The first curve has a centerline radius of 1,459 feet for a length of 667 feet; no tangent separates the first and second curve. The second curve has a centerline radius of 680 feet for a length of 488 feet ending at Pleasant Hill Road.
  - The median width varies from 40 feet to as much as 92 feet between the Walmart entrance and Pleasant Hill Road.

### 3.2.6 Vertical Alignment

No topographic survey is readily available to assess the existing vertical geometry. The existing four-lane Cypress Parkway plans were also not available to determine the existing profile. However, visual inspection indicates that Cypress Parkway is located on a relatively flat section of roadway with grades less than 1%.

### 3.2.7 Interchanges, Intersections, and Signalization

In the project corridor, there are a total of six signalized intersections, one full median opening, and one directional median opening. A complete list of signalized intersections and median openings on Cypress Parkway is shown in Table 3.2.3.

**Table 3.2.3: Intersections along Cypress Parkway**

Crossroads	Median Type	Spacing (feet)
Poinciana Parkway	Signalized Intersection	
		8,660
Solivita Boulevard	Signalized Intersection	
		1,262
Marigold Avenue	Signalized Intersection	
		1,593
Cypress Branch Road	Signalized Intersection	
		2,994
Cypress Drive	Full Median Opening	
		1,373
Doverplum Avenue	Signalized Intersection	
		1,529
Walmart Shopping Center	Directional Median Opening	
		1,650
Pleasant Hill Road	Signalized Intersection	

### 3.2.8 Lighting

Single-arm lights mounted to distribution poles are present on the north side of Cypress Parkway from Poinciana Parkway to the Toho Water Authority entrance road, a distance of approximately 900 feet in Polk County. The spacing for these light poles is approximately 225 feet. No lighting is present on Cypress Parkway from the Toho Water Authority entrance road until 600 feet east of Solivita Boulevard. On the south side of Cypress Parkway, east of Solivita Boulevard, single-arm light poles are located approximately 15 to 20 feet off the rightmost eastbound travel lane. The light spacing on the south side of Cypress Parkway from Solivita Boulevard to Pleasant Hill Road is approximately 250 to 300 feet.

On the north side of Cypress Parkway from Marigold Avenue to Pleasant Hill Road, single-arm light poles are located approximately 10 to 15 feet off the rightmost westbound travel lane. The light spacing on the north side of Cypress Parkway from Marigold Avenue to Pleasant Hill Road is approximately 250 to 300 feet.

## 3.3 Geotechnical Data

The soil survey published by the Natural Resource Conservation Service (NRCS) was reviewed as part of this study for Osceola and Polk Counties. The USDA soil survey identifies 42 primary mapping soil units within the project vicinity. The soil units are presented in Table 3.3.1.



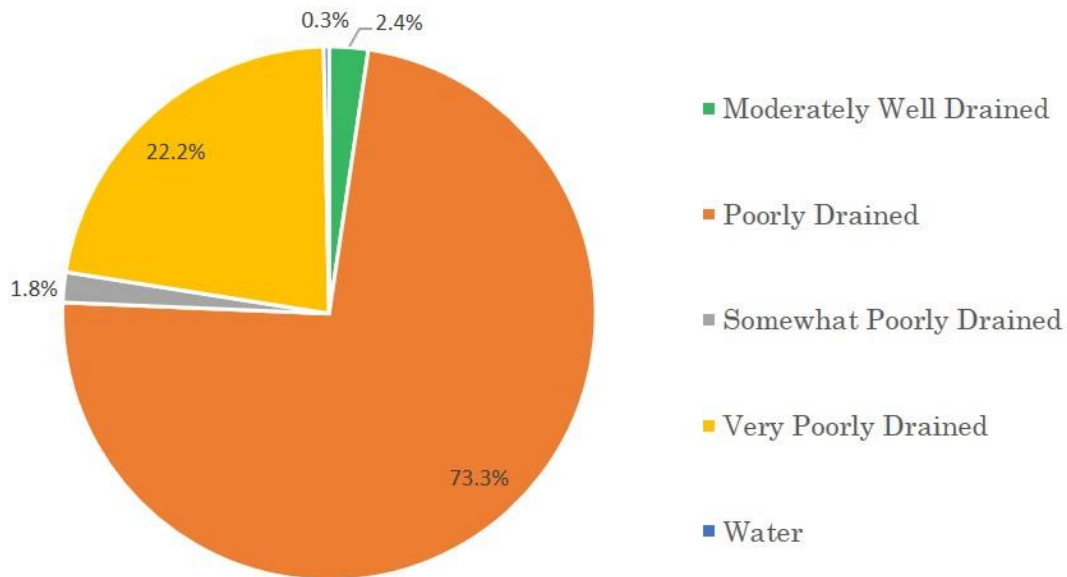
**Table 3.3.1: Existing Soils within Project Corridor**

Soil Type	Slope	Hydraulic Soil Group	Drainage Class	Acreage
Smyrna Fine Sand	0 to 2% Slopes	A/D	Poorly Drained	2514.4
Immokalee Fine Sand	-	A/D	Poorly Drained	1195.7
Myakka Fine Sand	0 to 2% Slopes	A/D	Poorly Drained	988.6
Basinger Fine Sand, Depressional	0 to 1% Slopes	A/D	Very Poorly Drained	696.3
Winder Loamy Fine Sand	-	C/D	Poorly Drained	611.7
Lokosee Fine Sand	-	A/D	Poorly Drained	515.2
Pineda Fine Sand	-	C/D	Poorly Drained	340.8
Floridana Fine Sand, Depressional	-	C/D	Very Poorly Drained	339.5
Riviera Fine Sand	0 to 2% Slopes	A/D	Poorly Drained	280.2
Eaugallie Fine Sand	-	A/D	Poorly Drained	274.4
Gentry Fine Sand	-	C/D	Very Poorly Drained	263
Basinger Fine Sand	0 to 2% Slopes	A/D	Poorly Drained	236
Placid Fine Sand, Depressional	-	A/D	Very Poorly Drained	231.9
Tavares Fine Sand	0 to 5% Slopes	A	Moderately Well Drained	193.8
Delray Loamy Fine Sand, Depressional	-	A/D	Very Poorly Drained	179.3
Smyrna And Myakka Fine Sands	-	A/D	Poorly Drained	166.9
Samsula Muck	-	A/D	Very Poorly Drained	161
Kaliga Muck	-	C/D	Very Poorly Drained	147
Pompano Fine Sand	0 to 2% Slopes	A/D	Poorly Drained	136.9
Riviera Fine Sand, Depressional	0 to 1% Slopes	A/D	Very Poorly Drained	131.9
Oldsmar Fine Sand	-	A/D	Poorly Drained	123.2
Adamsville Sand	0 to 2% Slopes	A	Somewhat Poorly Drained	120.2
Holopaw Fine Sand	0 to 2% Slopes	A/D	Poorly Drained	114.3
Nittaw Muck	-	C/D	Very Poorly Drained	101
Wabasso Fine Sand	-	C/D	Poorly Drained	76.7
Wauchula Fine Sand	-	A/D	Poorly Drained	52.8
Hontoon Muck	-	A/D	Very Poorly Drained	43.3

Soil Type	Slope	Hydraulic Soil Group	Drainage Class	Acreage
Arents	0 to 5% Slopes	A	Somewhat Poorly Drained	42.9
Narcoossee Fine Sand	0 to 2% Slopes	A	Moderately Well Drained	38.7
Water	-			34.1
Adamsville Variant Fine Sand	0 to 5% Slopes	A	Somewhat Poorly Drained	27.8
Ona Fine Sand	-	B/D	Poorly Drained	17
Pomello Fine Sand	0 to 5% Slopes	A	Moderately Well Drained	14.5
Malabar Fine Sand	-	A/D	Poorly Drained	13.3
Ona-Ona, wet, fine sand	0 to 2% Slopes	B/D	Poorly Drained	13
Pompano Fine Sand, Depressional	-	A/D	Very Poorly Drained	10.1
Basinger Mucky Fine Sand, Depressional	-	A/D	Very Poorly Drained	9.5
Wabasso Fine Sand	0 to 2% Slopes	A/D	Poorly Drained	9.2
Placid And Myakka Fine Sands, Depressional	-	A/D	Very Poorly Drained	8.7
Paola Sand	0 to 5% Slopes	A	Excessively Drained	4.3
Felda Fine Sand, Depressional	-	A/D	Very Poorly Drained	1.5
Arents, Organic Substratum-Urban Land Complex	-	A	Somewhat Poorly Drained	0.2

The most frequently occurring soil types within the project vicinity are Smyrna Fine Sand, Immokalee Fine Sand, and Myakka Fine Sand. Figure 3.3.1 demonstrates the breakdown of soil classes along the CFX Southport Connector Expressway study area. The soils consist of a majority of poorly and very poorly drained soils.

**Figure 3.3.1: Drainage Class of Soils in Project Area**



A more in-depth analysis of geotechnical data will be performed during the PD&E phase.

## 3.4 Water Resources

### 3.4.1 Surface Waters

The Southport Connector Expressway area of potential effect (APE) includes Cypress Parkway from Poinciana Parkway to Pleasant Hill Road and the area between the Lake Toho Shoreline and the Osceola County Urban Growth Boundary. The APE is located just east of Lake Russell, south of Lake Toho, and north of Cypress Lake, and crosses Reedy Creek and the C-35 Canal as shown in Figure 3.5.1. Lake Russell is a cypress-lined undeveloped lake fed by Reedy Creek from the northwest, and empties into marshlands that become part of the Kissimmee River and eventually, the Everglades. Lake Toho is a designated fish management area, the largest lake in Osceola County, and the northernmost lake in the Kissimmee Chain of Lakes (KCOL) that form the headwaters of the Everglades. Occupying 22,700 acres, Lake Toho is connected to Cypress Lake by the C-35 (Southport) Canal. Cypress Lake, also part of the KCOL, occupies 4,097 acres south of the APE. Only 60 acres of surface water is actually located within the APE, with approximately half of that acreage as isolated water features primarily concentrated on the western end of the APE. The rest of the acreage includes the APE's crossing of the C-35 Canal.

### 3.4.2 Existing Drainage

The alternatives utilize the existing Cypress Parkway corridor from Poinciana Parkway to Pleasant Hill Road. In this area, there are portions of Cypress Parkway which receive treatment, and there are untreated portions. The Cypress Parkway existing drainage infrastructure is comprised of roadside ditches, which direct runoff either to existing stormwater management facilities for treatment or to existing cross drains without treatment. Treatment facilities along Cypress Parkway were permitted under South Florida Water Management District (SFWMD) Permit Application 160818-11 (Poinciana Parkway Segment 4), SFWMD Permit Application 050707-5 (Marigold Avenue intersection), and SFWMD Permit Application 050805-11 (Pleasant Hill Road intersection).

### 3.4.3 Floodplains

The Base Flood Elevation (BFE) corresponds to the flood elevation associated with the one percent-annual chance storm event. Approximately 5,060 acres of the 10,471-acre project area (48%) is classified as a Zone A or Zone AE Federal Emergency Management Agency (FEMA) floodplain. The majority of these floodplains are Zone A, where an established BFE has not been determined. Based on a preliminary review of BFE (where available), historical aerial imagery, permit data, NRCS soils inventory, US Geological Survey (USGS) Quad Maps, SFWMD Monitoring Stations (wells and surface waters), and 2016 Osceola County LiDAR, the floodplain depths in this area range between one-half foot and seven feet from the seasonal high water table to the BFE.

The overall hydrology of the project area consists of several isolated wetlands, agricultural drainage ditches, a crossing over Reedy Creek, and a crossing over C-35 Navigational Canal (Southport Canal) between Lake Toho and Cypress Lake (see Figure 3.4.1). Development within the project area utilizes both dry retention and wet detention ponds that provide treatment and attenuation prior to discharge to the tributaries.

A history of flooding at Cypress Parkway and Rhododendron Avenue is documented within the Poinciana Parkway Segment 4 Drainage Report (SFWMD Permit Application 160818-11, dated 2016). The double 38-inch x 24-inch cross drain west of this intersection was extended during the Poinciana Parkway project; calculations show overtopping Cypress Parkway will occur within the 25-year storm event.

The study area includes two regulatory floodways, Reedy Creek Tributary No. 3 and Reedy Creek. Development within a regulatory floodway will require a FEMA No-Rise Certification, which requires demonstrating no impacts to the 100-year flood elevations along the floodway. Reedy Creek Tributary No. 3 is located within the existing right-of-way and flows parallel to



Cypress Parkway for 0.95 miles (refer to Figure 3.4.2). Reedy Creek flows from northwest to southeast until its confluence with Lake Russell, approximately 1.42 miles southeast of the existing Pleasant Hill Road bridge over Reedy Creek. This existing bridge has a SFWMD surface water-monitoring site, REEDC (USGS Site Number 02266550), which is approximately 1,500 feet upstream from the potential crossing of Reedy Creek. This monitoring station provides daily mean flows from 1983 to 1991 (9 years of data), and daily mean stages from 1983 to 2017 (35 years of data). The historical stage data was used to perform a regression frequency analysis within Hydrologic Engineering Center's Statistical Software Package (HEC-SSP).

Southport Canal (C-35) is a part of the KCOL Upper Basin. The KCOL Restoration Project has been on-going since 1999 with an expected completion date of 2020. From a U.S. Army Corps of Engineers (USACE) 1996 Integrated Project Modification Report and Supplement to the Final Environmental Impact Statement, the KCOL Upper Basin restoration projects were deemed necessary for the successful restoration of the KCOL Lower Basin ecosystem. Documented in the 2014 Kissimmee Restoration Project Update Report, C-35 was dredged to maintain existing flood protection levels within the headwater lakes of the KCOL under USACE Contract No. 2A and was completed in July 2001. In 2010 the KCOL and KCOL Upper Basin Monitoring and Assessment Project was initiated. This project involves data collection of various water quality and biological information for evaluation of the KCOL ecosystem and reports activities to support water resource management and protection. It is anticipated that C-35 will remain in its current condition within the KCOL for the purposes of Southport Connector Expressway Project.

C-35 is a navigable canal that connects Lake Toho and Cypress Lake. The S-61 Spillway structure, located at the connection point of Lake Toho and the C-35 canal, is designed to control lake levels and discharge rates to the KCOL. The S-61 spillway structure has three associated SFWMD monitoring sites with several decades of daily data to measure the headwater in Lake Toho (S61\_H), the flowrate through the structure (S61\_S), and the tailwater levels (S61\_T). The historical daily mean data provided from these monitoring stations were used to perform regression frequency analysis within HEC-SSP. The FEMA Flood Insurance Study (FIS) states that Lake Toho levels are regulated between 50.5 to 54.0 feet NAVD88 to enhance fish habitat and snail kite nesting in the lake, which corresponds to the expected probability of the historical stages measured at S-61 Headwater (S61\_H) Monitoring Station shown in Table 3.4.1. However, the statistical probabilities of these historical elevations are skewed due to the consistent annual maximum stages within the lake due to the control structure. Within the 55 years of data, the largest peak stage reached an elevation of 55.82 feet NAVD88 in 2004. Within the 2005 Draft Regulation Schedule for S-61, the target elevations for Lake Toho should fluctuate between 51 to 54 feet NAVD88 (52

to 55 feet NGVD29), and the specified maximum head should never exceed 58.9 feet NAVD88 (59.9 feet NGVD29). It was noted that the FEMA FIS Lake Toho water elevations are based off of a USACE Detail Design Memorandum for C-35 and S-61 from June 1961, before C-35 was completed and before updated regulation schedules were in place. However, the FEMA FIS elevations provide a better representation of the anticipated flood elevations and the associated regulation schedules created for S-61.

A preliminary review of the available data for the peak stages and flow rates for the 10-year, 50-year, 100-year, and 500-year storm events between the SFWMD monitoring stations, the 1988 Pleasant Hill Road Bridge Hydraulics Report (BHR) over Reedy Creek, and the 2013 FEMA FIS for Osceola County is shown in Table 3.4.1 and Table 3.4.2.

**Table 3.4.1: Summary of Base Flood Elevations**

Source	Location	Peak Stages (feet NAVD88)			
		10% annual-chance	2 % annual-chance	1% annual-chance	0.2% annual-chance
1988 BHR <sup>1</sup>	Reedy Creek – At State Hwy 531	61.41	--	62.4	63.06
SFWMD Monitoring Station – REEDC <sup>1,2</sup>	Reedy Creek – At State Hwy 531	60.27	61.01	61.31	62.00
2013 FEMA FIS	Reedy Creek – At State Hwy 531	--	--	63.0	--
	Lake Toho	54.9	56.5	57.1	58.6
SFWMD Monitoring Station – S61_H <sup>1,3</sup>	Lake Toho Headwater at S-61 Spillway	55.00	55.32	55.43	55.63

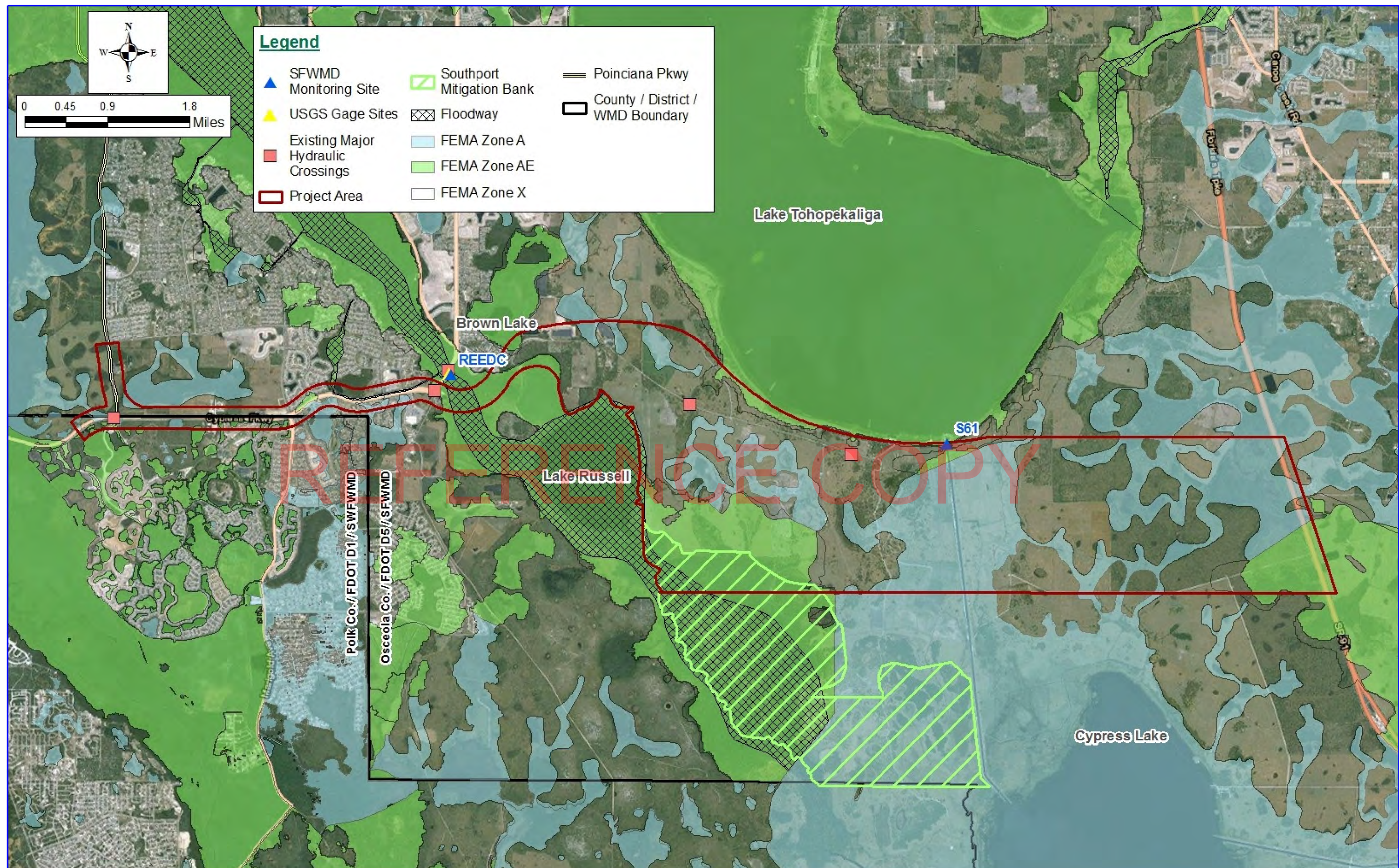
<sup>1</sup>Elevations were converted from NGVD29. Conversion used is -1.00 to NAVD88 datum.

<sup>2</sup>Percent Annual Chance stages were calculated using HEC-SSP, with the 5% Confidence Limits of +/- of approximately 0.45 feet.

<sup>3</sup>Percent Annual Chance stages were calculated using HEC-SSP, with the 5% Confidence Limits of +/- of approximately 0.2 feet.

For the proposed analysis, it is assumed that the established 2013 FEMA FIS information will govern.







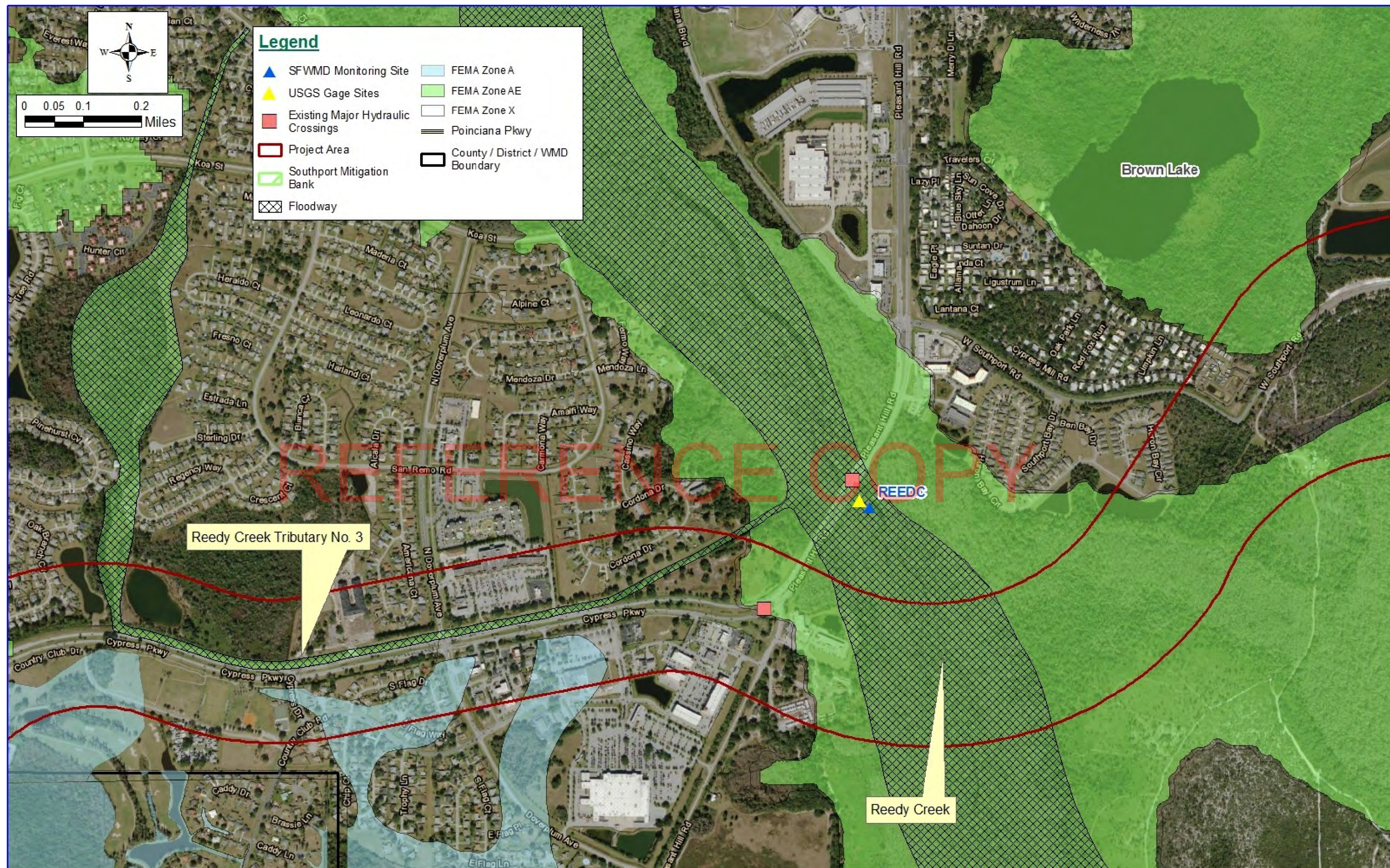




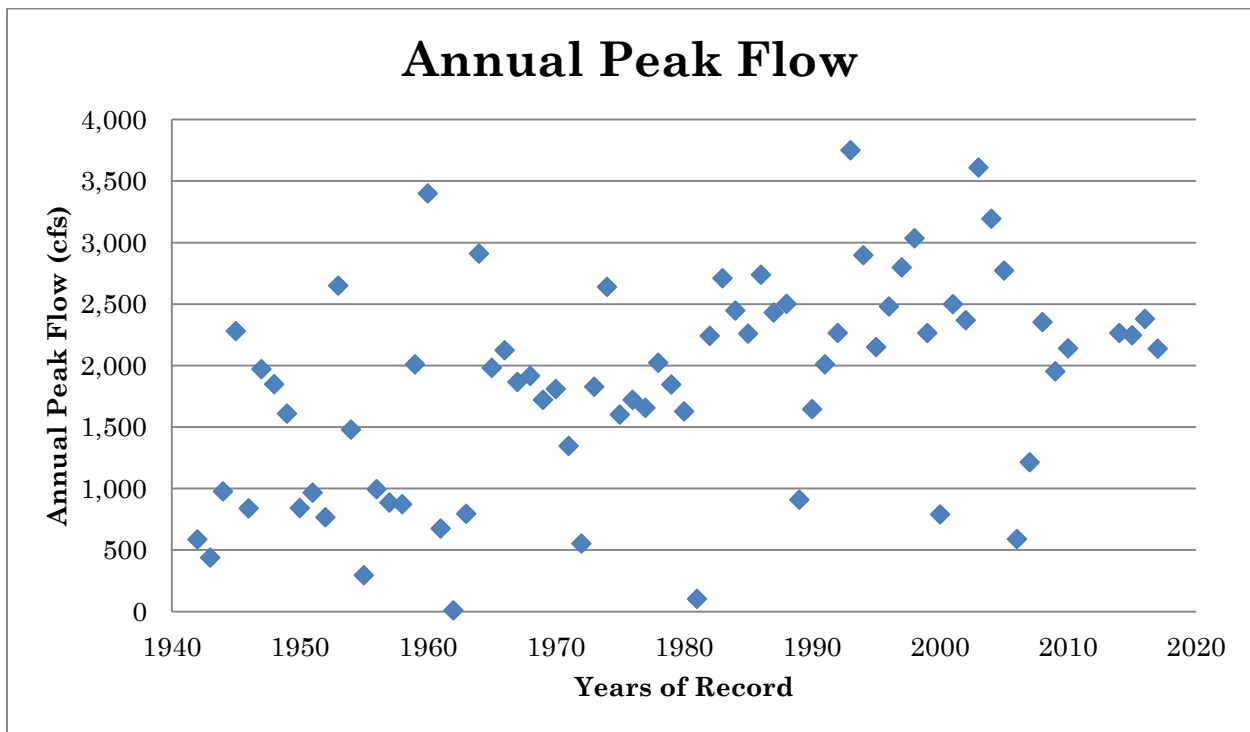
Table 3.4.2: Summary of Discharges for Floodways

Source	Location	Drainage Area (Square Miles)	Peak Discharge (Cubic Feet per Second)			
			10% annual-chance	2% annual-chance	1% annual-chance	0.2% annual-chance
1988 BHR	Reedy Creek – At State Hwy 531		2,474	--	3,585	4,104
2013 FEMA FIS	Reedy Creek – At Lake Russell	264.0	2,700	4,000	4,500	5,100
	Reedy Creek Tributary No. 3 – At Doverplum Ave	0.90	204	253	264	290

Note: HEC-SSP statistical analysis of storm frequencies was not performed for REEDC monitoring station due to insufficient historical data to run an analysis.

C-35 has 76 years of flow data which show the changes in flow rate patterns over the spillway due to changes in the outfall canal and regulations schedules. Data was reviewed according to the Draft 2005 schedule. See Figure 3.4.3 and Table 3.4.3 for details.

Figure 3.4.3: Annual Peak Flow within S-61 Spillway Structure





**Table 3.4.3: HEC-SSP Statistical Analysis of Peak Flows at S-61  
Spillway at Lake Toho and C-35**

Years Range	Peak Discharge (Cubic Feet per Second)			
	10% annual- chance	2% annual- chance	1% annual- chance	0.2% annual- chance
1942 to 2017 (Full Data Record)	2,872	3,504	3,727	4,170
1963 to 2010	2,973	3,633	3,892	4,462
Draft 2005 Regulation Schedule	2,300			

The statistical analysis of annual peak flow for the 10-year, 50-year, 100-year, and 500-year storm frequencies were analyzed between years 1963 to 2010 since the C-35 canal began operation in 1963 and includes a full data set. The full record of data was also reviewed for comparison purposes. The 2005 Draft Regulation Schedule for S-61 specifies that the design capacity of S-61 is 2,300 cubic feet per second; only two years have exceeded this flow by 3.5% since 2005. Current Regulation Schedule for S-61 will be used as a basis for sizing the hydraulic crossing over C-35.

There are several existing cross drains along Cypress Parkway and Southport Road. Locations, types, and sizes of cross drainages were compiled from existing permits, Osceola County LiDAR, and Google Earth. There are two major existing crossings with the bridge crossing at Pleasant Hill Road over Reedy Creek and one box culvert along Southport Road connecting a large wetland to Lake Toho (see Figure 3.4.1). The known existing cross drains sizes within the study area vary from a 36-inch pipe to quadruple 36-inch pipes.

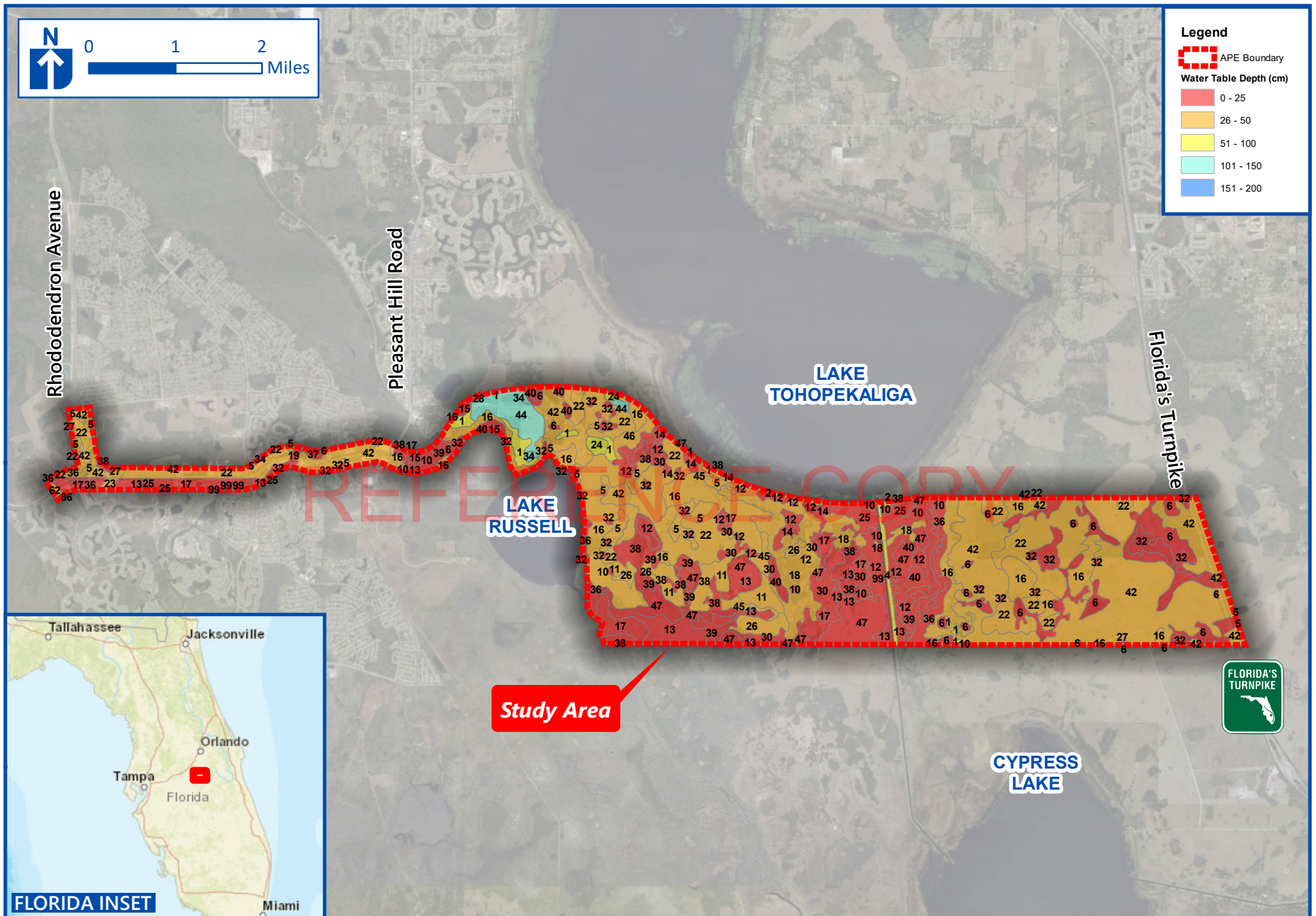
#### 3.4.4 Groundwater

A review of NRCS Soil Survey data was conducted within the APE for both Polk and Osceola Counties to determine groundwater depth ratings. Table 3.4.4 shows the groundwater depths by map unit within the APE, as well as the approximate acreages for each soil type and soil shares of the APE. Groundwater depths ranged from 0 to 57 inches below the soil surface, with an average depth of approximately 11 inches. The majority of the APE (59%) has a groundwater depth of approximately 12 inches. Groundwater depths are the most shallow in the vicinity of Reedy Creek and the C-35 Canal, and highest in a small area just north of Lake Russell as shown in Figure 3.4.4.

**Table 3.4.4: Depth to Groundwater Summary by Map Unit**

ID	Map Unit Name	Depth to Groundwater (Inches)	Acreage within APE	Percentage of APE
42	Smyrna fine sand, 0 to 2 percent slopes	12	2514.40	24.10%
16	Immokalee fine sand, 0 to 2 percent slopes	12	1195.70	11.40%
22	Myakka fine sand, 0 to 2 percent slopes	12	988.60	9.50%
6	Basinger fine sand, depressional, 0 to 1 percent slopes	0	696.30	6.70%
47	Winder loamy fine sand	0	611.70	5.90%
18	Lokosee fine sand	12	515.20	4.90%
30	Pineda fine sand, 0 to 2 percent slopes	6	340.80	3.30%
12	Floridana fine sand, frequently ponded, 0 to 1 percent slopes	0	339.50	3.20%
38	Riviera fine sand, 0 to 2 percent slopes	6	280.20	2.70%
13	Gentry fine sand	0	263.00	2.50%
11	EauGallie fine sand	12	247.40	2.40%
5	Basinger fine sand, 0 to 2 percent slopes	12	236.00	2.30%
32	Placid fine sand, frequently ponded, 0 to 1 percent slopes	0	231.90	2.20%
44	Tavares fine sand, 0 to 5 percent slopes	57	193.80	1.90%
10	Delray loamy fine sand, depressional	0	179.30	1.70%
17	Smyrna and Myakka fine sands	12	166.90	1.60%
40	Samsula muck, frequently ponded, 0 to 1 percent slopes	3	161.00	1.50%
17	Kaliga muck, frequently ponded, 0 to 1 percent slopes	0	147.00	1.40%
36	Pompano fine sand, 0 to 2 percent slopes	3	136.90	1.30%
39	Riviera fine sand, frequently ponded, 0 to 1 percent slopes	0	131.90	1.30%
26	Oldsmar fine sand, 0 to 2 percent slopes	12	123.20	1.20%
1	Adamsville sand, 0 to 2 percent slopes	34	120.20	1.10%
14	Holopaw fine sand, 0 to 2 percent slopes	6	114.30	1.10%
25	Nittaw muck	0	101.00	1.00%
45	Wabasso fine sand, 0 to 2 percent slopes	12	76.70	0.70%
46	Wauchula fine sand	12	52.80	0.50%

ID	Map Unit Name	Depth to Groundwater (Inches)	Acreage within APE	Percentage of APE
15	Hontoon muck, frequently ponded, 0 to 1 percent slopes	0	43.30	0.40%
4	Arents, 0 to 5 percent slopes	27	42.90	0.40%
24	Narcoossee fine sand, 0 to 2 percent slopes	33	38.70	0.40%
99	Water	-	34.10	0.30%
2	Adamsville variant fine sand, 0 to 5 percent slopes	33	27.80	0.30%
27	Ona fine sand, 0 to 2 percent slopes	12	17.00	0.20%
34	Pomello fine sand, 0 to 5 percent slopes	33	14.50	0.10%
19	Malabar fine sand, 0 to 2 percent slopes	6	13.30	0.10%
23	Ona-Ona, wet, fine sand, 0 to 2 percent slopes	12	13.00	0.10%
37	Pompano fine sand, frequently ponded, 0 to 1 percent slopes	3	10.10	0.10%
36	Basinger mucky fine sand, depressional	0	9.50	0.10%
62	Wabasso fine sand	12	9.20	0.10%
25	Placid and Myakka fine sands, depressional	0	8.70	0.10%
28	Paola sand, 0 to 5 percent slopes	-	4.30	0.00%
86	Felda fine sand, frequently ponded, 0 to 1 percent slopes	0	1.50	0.00%
61	Arents, organic substratum-Urban land complex	30	0.20	0.00%





## 3.5 Natural Environment

### 3.5.1 Wetlands and Hydric Soils

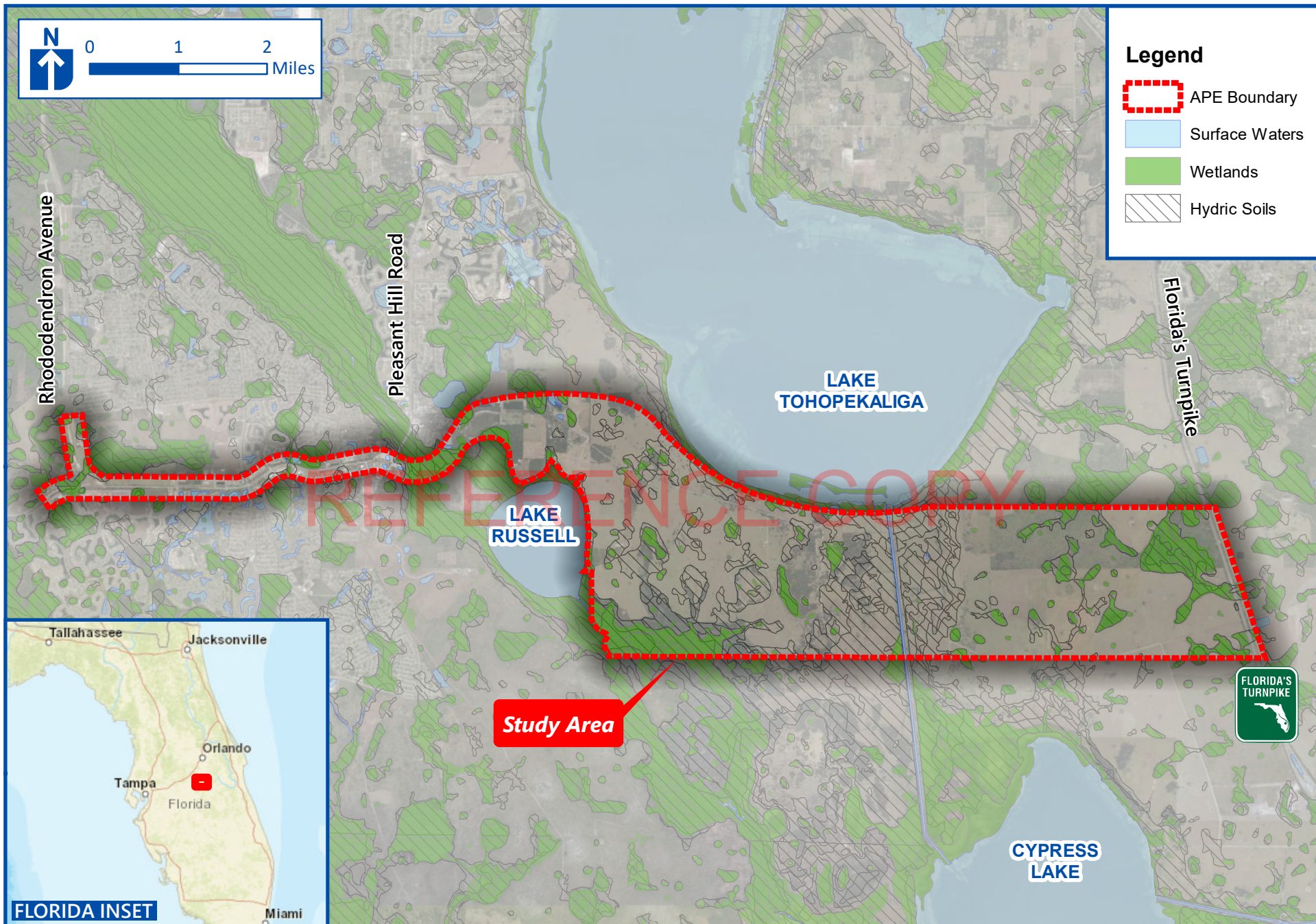
A review of 2008 SFWMD Florida Land Use, Cover and Forms Classification System (FLUCCS) data within the project area shows there are approximately 1,596 acres of wetlands within the APE, which represents 15.27% of the total APE. Wetlands found within the APE are identified by the FLUCCS codes in order of prevalence and as a percentage of the wetland total in Table 3.5.1.

**Table 3.5.1: Wetlands by Type within the APE**

FLUCCS Code	FLUCCS Description	Cover Type	Acres Within APE	Percent of Total Wetland Acreage
6210	Cypress	Forested	655.89	41.09%
6170	Mixed Wetland Hardwoods	Forested	482.33	30.22%
6410	Freshwater Marshes	Non Forested	272.01	17.04%
6430	Wet Prairies	Non Forested	140.32	8.79%
6110	Bay Swamps	Forested	23.99	1.50%
6300	Hydric Pine Flatwoods	Forested	12.28	0.77%
6440	Emergent Aquatic Vegetation	Non Forested	1.14	0.07%

Approximately 74% of the wetlands within the APE are forested wetlands, and 26% are non-forested wetlands. Forested wetlands that are found within the APE include Cypress, Mixed Wetland Hardwoods, Hydric Pine Flatwoods, and Bay Swamps. Non-forested wetlands in order of prevalence include Freshwater Marshes, Wet Prairies, and Emergent Aquatic Vegetation. Within the APE, wetlands are concentrated around Reedy Creek, just northwest and southeast of Lake Russell, and adjacent to Florida's Turnpike on the eastern end of the APE as shown in Figure 3.5.1.

The NRCS defines hydric soils as soils that are sufficiently wet in the upper part to develop anaerobic conditions in the growing season. For the purposes of this analysis, hydric soils were defined using NRCS soils survey data, which includes hydric criteria in the dataset. Analysis of NRCS soil data within the study area indicates that approximately 39% of the APE includes hydric soils, predominantly between Lake Toho and Cypress Lake along the C-35 Canal, and in those locations already identified as wetlands within the APE as shown in Figure 3.5.1.



**Southport Connector Expressway  
Poinciana Parkway to Florida's Turnpike  
Concept Feasibility and Mobility Study**

**Figure 3.5.1  
Wetlands, Surface Waters,  
& Hydric Soils Map**



### 3.5.2 Soil Classification

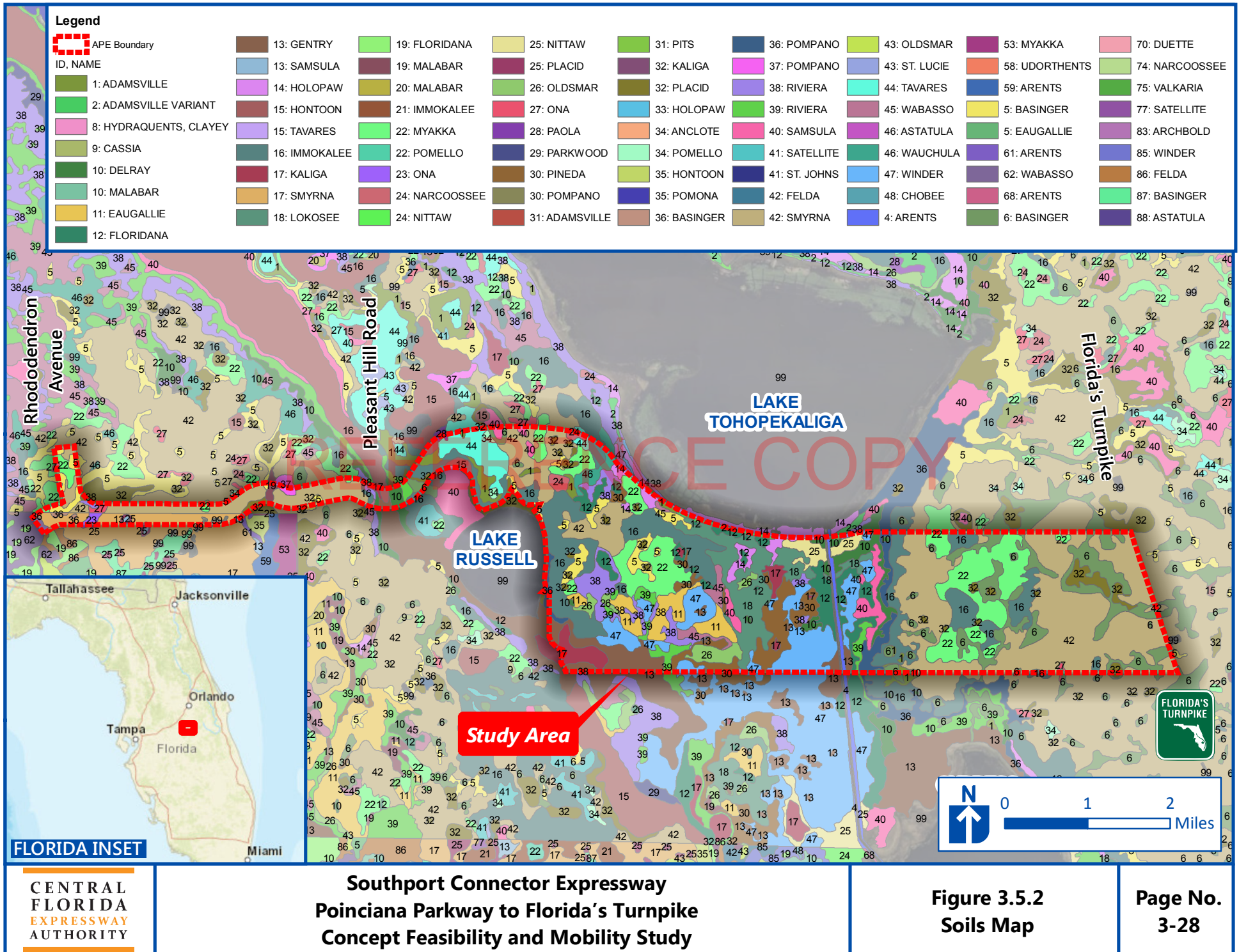
As previously stated in Section 3.3, the soil survey published by the NRCS was reviewed as part of this study for Polk and Osceola Counties. The USDA soil survey identifies 42 primary mapping soil units within the project vicinity, which are presented in Table 3.5.2 and shown in Figure 3.5.2. The most frequently occurring soil types within the project vicinity are Smyrna Fine Sand, Immokalee Fine Sand and Myakka Fine Sand. Table 3.5.2 shows the CFX Southport Connector Expressway study area consists of a majority of poorly and very poorly drained soils.

**Table 3.5.2: Existing Soils within Project Corridor**

Soil Type	Slope	Hydraulic Soil Group	Drainage Class	Acreage
Smyrna Fine Sand	0 to 2% Slopes	A/D	Poorly Drained	2514.4
Immokalee Fine Sand	-	A/D	Poorly Drained	1195.7
Myakka Fine Sand	0 to 2% Slopes	A/D	Poorly Drained	988.6
Basinger Fine Sand, Depressional	0 to 1% Slopes	A/D	Very Poorly Drained	696.3
Winder Loamy Fine Sand	-	C/D	Poorly Drained	611.7
Lokosee Fine Sand	-	A/D	Poorly Drained	515.2
Pineda Fine Sand	-	C/D	Poorly Drained	340.8
Floridana Fine Sand, Depressional	-	C/D	Very Poorly Drained	339.5
Riviera Fine Sand	0 to 2% Slopes	A/D	Poorly Drained	280.2
Eaugallie Fine Sand	-	A/D	Poorly Drained	274.4
Gentry Fine Sand	-	C/D	Very Poorly Drained	263
Basinger Fine Sand	0 to 2% Slopes	A/D	Poorly Drained	236
Placid Fine Sand, Depressional	-	A/D	Very Poorly Drained	231.9
Tavares Fine Sand	0 to 5% Slopes	A	Moderately Well Drained	193.8
Delray Loamy Fine Sand, Depressional	-	A/D	Very Poorly Drained	179.3
Smyrna And Myakka Fine Sands	-	A/D	Poorly Drained	166.9
Samsula Muck	-	A/D	Very Poorly Drained	161
Kaliga Muck	-	C/D	Very Poorly Drained	147
Pompano Fine Sand	0 to 2% Slopes	A/D	Poorly Drained	136.9

Soil Type	Slope	Hydraulic Soil Group	Drainage Class	Acreage
Riviera Fine Sand, Depressional	0 to 1% Slopes	A/D	Very Poorly Drained	131.9
Oldsmar Fine Sand	-	A/D	Poorly Drained	123.2
Adamsville Sand	0 to 2% Slopes	A	Somewhat Poorly Drained	120.2
Holopaw Fine Sand	0 to 2% Slopes	A/D	Poorly Drained	114.3
Nittaw Muck	-	C/D	Very Poorly Drained	101
Wabasso Fine Sand	-	C/D	Poorly Drained	76.7
Wauchula Fine Sand	-	A/D	Poorly Drained	52.8
Hontoon Muck	-	A/D	Very Poorly Drained	43.3
Arents	0 to 5% Slopes	A	Somewhat Poorly Drained	42.9
Narcoossee Fine Sand	0 to 2% Slopes	A	Moderately Well Drained	38.7
Water	-			34.1
Adamsville Variant Fine Sand	0 to 5% Slopes	A	Somewhat Poorly Drained	27.8
Ona Fine Sand	-	B/D	Poorly Drained	17
Pomello Fine Sand	0 to 5% Slopes	A	Moderately Well Drained	14.5
Malabar Fine Sand	-	A/D	Poorly Drained	13.3
Ona-Ona, wet, fine sand	0 to 2% Slopes	B/D	Poorly Drained	13
Pompano Fine Sand, Depressional	-	A/D	Very Poorly Drained	10.1
Basinger Mucky Fine Sand, Depressional	-	A/D	Very Poorly Drained	9.5
Wabasso Fine Sand	0 to 2% Slopes	A/D	Poorly Drained	9.2
Placid And Myakka Fine Sands, Depressional	-	A/D	Very Poorly Drained	8.7
Paola Sand	0 to 5% Slopes	A	Excessively Drained	4.3
Felda Fine Sand, Depressional	-	A/D	Very Poorly Drained	1.5
Arents, Organic Substratum-Urban Land Complex	-	A	Somewhat Poorly Drained	0.2





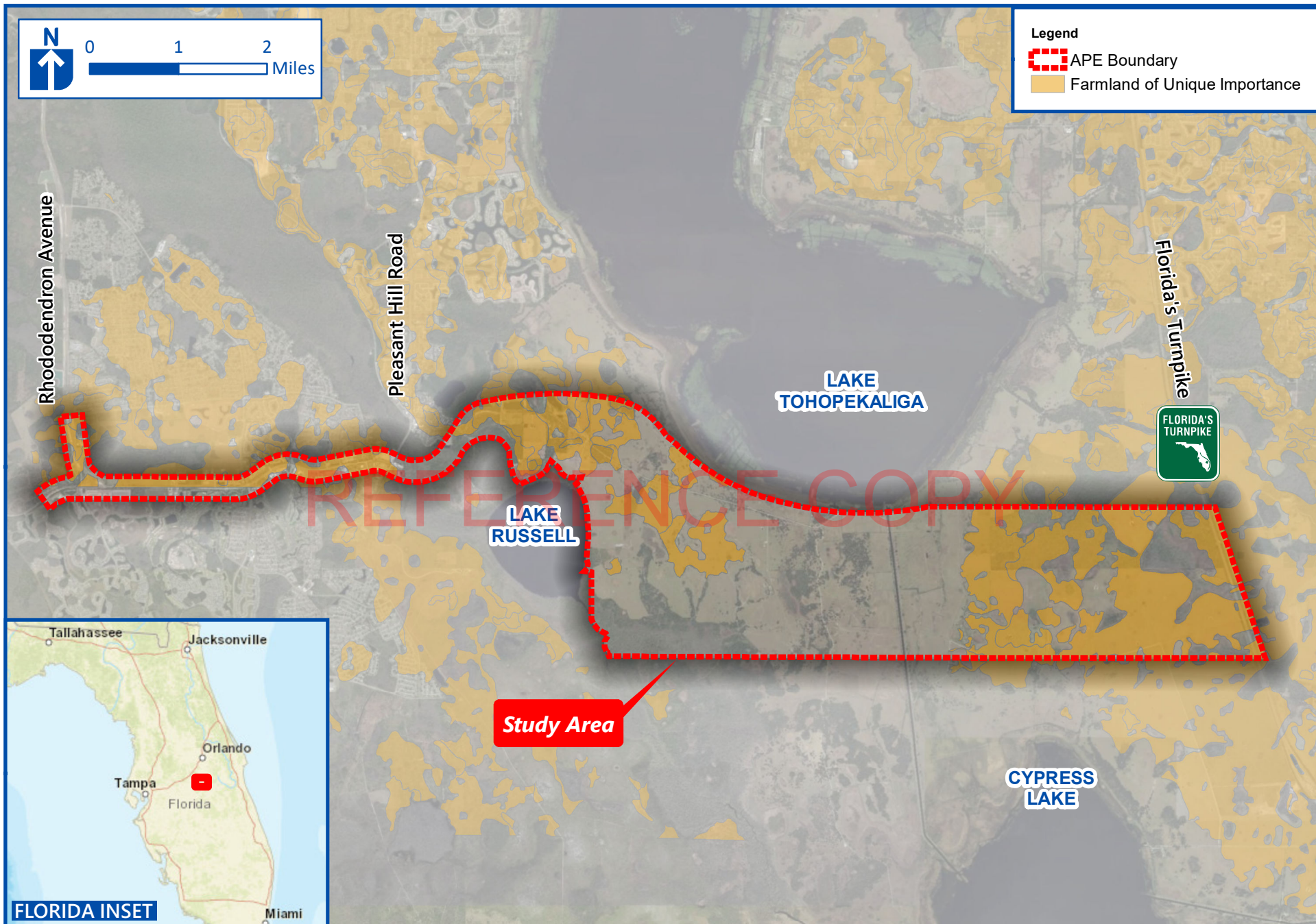
### 3.5.3 Farmlands

According to the NRCS, the Farmland Protection Policy Act (FPPA) is intended to minimize the impact federal programs have on the conversion of farmland to nonagricultural uses. The FPPA assures that – to the extent possible – federal programs are administered to be compatible with state, local units of government and private programs and policies to protect farmland. Federal agencies are required to develop and review their policies and procedures every two years. The act does not authorize the federal government to regulate the use of private or nonfederal land or, in any way, affect the property rights of owners. Projects are subject to FPPA requirements if they may irreversibly convert farmland to nonagricultural use and are completed by a federal agency or with assistance from a federal agency.

Farmland includes: prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. This land can also include forest land, pastureland, cropland, or other land but not water or urban built-up land.

An analysis of soil data within the study area indicates that there are approximately 3,870 acres of land within the APE (37%) classified as “Farmland of Unique Importance” by NRCS. Areas of concentrated prime farmland can be found on the eastern and western ends of the APE, just west of Lake Toho, and just west of Florida’s Turnpike as shown Figure 3.5.3. The majority of the farmland in the project corridor is grazing land for beef cattle, although citrus groves are also located in the corridor.





### 3.5.4 Threatened and Endangered and Listed Species

Existing conditions related to five listed species were evaluated in this analysis. These species include: Audubon's crested caracara (*Polyborus plancus audubonii*), the bald eagle (*Haliaeetus leucocephalus*), the Everglade snail kite (*Rostrhamus sociabilis plumbeus*), the gopher tortoise (*Gopherus polyphemus*) and the Florida grasshopper sparrow (*Ammodramus savannarum floridanus*). Avoidance and minimization of impacts to these five species is a focus of the alternatives developed during this CF&M Study as their habitat can affect the permitting efforts in future design phases. The evaluation was completed with the benefit of limited field surveys and relies primarily upon available GIS data, preliminary field reviews for habitat assessments, and habitat requirements of the key listed species.

#### Audubon's Crested Caracara

The Audubon's crested caracara is listed by the United States Fish and Wildlife Service (USFWS) as threatened. The crested caracara is a large, distinctive raptor with a large head, black cap and crest. It has a long neck, hooked bill, long legs, and long, rounded wings bent back at the wrist. The crested caracara inhabits open country, including dry prairie and pasture lands with cabbage palm, cabbage palm / live oak hammocks, and shallow ponds and sloughs. Its preferred nest trees are cabbage palms, followed by live oaks.

On December 9, 2016, the USFWS provided an updated Crested Caracara Draft Survey Protocol. Caracara surveys are recommended following this updated draft survey protocol to determine the locations of active caracara nests that could be adversely affected by the proposed project. The surveys also determine the presence and use of the project area by breeding and non-breeding caracaras, including the approximate boundaries of breeding territories, if possible, and to determine the fate and productivity of any caracara nest found. During field observations conducted in January 2018, two adult caracara were observed south of Southport Road, west of Southport Park. The scope of this CF&M Study did not include formal caracara surveys following the current USFWS guidance.

Land use and land cover data where caracara are known to occur, was obtained from the SFWMD and was reviewed and compared to habitat types within the APE. Within the project study area, suitable caracara habitat was considered to be both improved and unimproved pasture areas on the south side of Lake Toho, as well as pasture and citrus groves located in the northeast portion of the project study area along both sides of Kissimmee Park Road and Canoe Creek Road.

There is no available occurrence data within the APE, therefore a GIS-based analysis of potential caracara habitats was completed. Within the APE, the following FLUCCS codes were identified as habitat types that are potentially suitable for caracara:

- 2110: Improved Pastures (FLUCCS #2110)
- 2120: Unimproved Pastures (FLUCCS #2120)
- 2130: Woodland Pastures (FLUCCS #2130)
- 2210: Improved Pastures (FLUCCS #2210)
- 3100: Herbaceous (Dry Prairie) (FLUCCS #3100)
- 3200: Upland Shrub and Brushland (FLUCCS #3200)
- 3300: Mixed Rangeland (FLUCCS #3300)
- 4280: Cabbage Palm (FLUCCS #4280)
- 4340: Upland Mixed Coniferous/Hardwoods (FLUCCS #4340)
- 6172: Mixed Shrubs (FLUCCS #6172)
- 6216: Cypress-Mixed Hardwoods (FLUCCS #6216)
- 6240: Cypress – Pine – Cabbage Palm (FLUCCS #6240)

The acreages of each of these habitat types was calculated using GIS. It should be noted that this analysis focused only on the type of habitat, as defined by FLUCFCS, and did not take into account specific features like tree density, frequency of fire, grazing practices, and percent bare ground. These characteristics are crucial when determining habitat suitability for caracara but were beyond the scope of the desktop analysis.

An analysis of the land cover data within the APE indicates that 70% of the APE's boundary contains potentially suitable habitat for caracara. A map of potentially suitable caracara habitat is shown in Figure 3.5.4. Nearly all 7,260 acres of potentially suitable caracara habitat within the APE is found east of Reedy Creek. Without formal surveys, it is not possible to determine exactly how many caracara nests could be affected by any of the alignments presented.

### **Bald Eagle**

Although the bald eagle was removed from the federal and state endangered species list in 2007 and 2008, respectively, it is still afforded protection under the federal Bald and Golden Eagle Protection Act (1940) and the Migratory Bird Treaty Act (1918). These federal protections prohibit the taking of eagles, their nests, or trees containing their nests. The bald eagle is also afforded protections by the state's eagle rule adopted by the Florida Fish and Wildlife Conservation Commission (FFWCC).

The FFWCC completes nesting season surveys for Osceola County every three years, and up-to-date nesting data for the Osceola County population is readily available. As such, potential impacts to this species and their nests could be accurately assessed based on the available nesting data. A review of 2015 active eagle nest GIS data indicates that there are six active



eagle nests within the APE: OS065, OS085, OS093, OS005, OS158, and OS141. The locations of the active eagle nests are shown in Figure 3.5.4.

### **Everglades Snail Kite**

The Everglade snail kite is federally listed as endangered. The range of the Florida population of snail kites is restricted to watersheds in the central and southern part of the state. The snail kite uses its slender, curved bill to extract its primary prey, apple snails from their shell. Snail kite habitat consists of freshwater marshes and the shallow vegetated edges of natural and manmade lakes where apple snails can be found. Snail kites require clear and open foraging areas free of dense vegetation, so they can visually search for apple snails. Nearly continuous flooding of wetlands supports apple snail populations that sustain foraging by snail kites.

Historic Everglade snail kite nesting location data for Lake Toho from 1991-2013 was obtained from the USFWS. Everglades snail kite nesting is limited to the Lake Toho shoreline. Water levels within Lake Toho are managed by the SFWMD in coordination with USFWS to benefit federally endangered snail kites and their habitat. All corridors evaluated in this study, and the APE are south of Lake Toho. This project is not anticipated to affect the Everglades snail kite.

### **Florida Grasshopper Sparrow**

The Florida grasshopper sparrow (FGS) is a federally-listed, endangered passerine species whose nesting habitat is restricted to dry prairie that is relatively open and low, and has a history of frequent fires (USFWS 2004). According to the SLOPES, suitable habitat for FGS is dry prairie including improved pasture, palmetto prairie, and unimproved pasture. Additional habitat characteristics include:

- Open, dry habitats within less than 1 tree per acre;
- Minimum of 20% cover of bare ground; and
- Large, contiguous areas of suitable habitat (240-1348 ha).

Much of the project corridor has been converted over time from dry prairie to pasture used for cattle grazing, which usually results in the decline or extirpation of breeding populations (USFWS 2004). There are currently six known populations for Florida grasshopper sparrows. Three populations exist on Avon Park Air Force Range, one on Kissimmee Prairie State Preserve, one on Three Lakes Wildlife Management Area, and one on private property (USFWS 2004). Known populations of FGS are located approximately 12 miles south-southeast of the APE. As no available occurrence data is available within the APE, a GIS-

based analysis of potential FGS habitats was completed. The following land uses and cover types were included in the analysis:

- Improved Pastures (FLUCCS #1100)
- Unimproved Pastures (FLUCCS #1120)
- Herbaceous (Dry Prairie) (FLUCCS #3100)

The acreages of each of these habitat types was calculated using GIS based on the above habitat types. A noteworthy point is that this analysis focused only on the type of habitat, as defined by FLUCCS, and did not take into account specific features like tree density, frequency of fire, grazing practices, and percent bare ground. These characteristics are crucial when determining habitat suitability for grasshopper sparrows, but were beyond the scope of the desktop analysis.

On June 15, 2004, the USFWS released a Draft Survey Protocol for the FGS. Surveys for the FGS following the Draft Protocol should be completed during the design phase, prior to consultation with USFWS regarding the FGS.

An analysis of the land cover data within the APE indicates that 56% of the APE's boundary contains potentially suitable habitat for FGS. Nearly all 5,903 acres of potentially suitable FGS habitat within the APE is found east of Reedy Creek. A map of potentially suitable FGS habitat is shown in Figure 3.5.4.

### **Gopher Tortoise**

Gopher tortoises (*Gopherus polyphemus*) are listed by the FFWCC as a threatened wildlife species and are protected by state law, Chapter 68A–27, FAC. This species is known to utilize a variety of habitats including pine flatwoods and some rangeland communities but prefers well-drained soils that enable burrowing and support a high diversity of low-growing herbs.

On January 1, 2017, FFWCC implemented revisions to the Gopher Tortoise Permitting Guidelines (April 2008 - revised January 2017), which outlines survey protocol for the gopher tortoise. The scope of this CF&M Study did not include formal gopher tortoise surveys following the current FFWCC guidance.

No occurrence data is available within the APE. Therefore a GIS-based analysis of potential gopher tortoise habitats was completed. The following land uses and cover types were included in the analysis:

- Pine Flatwoods (FLUCCS #4110);
- Unimproved Pasture (FLUCCS #2120);
- Herbaceous (Dry Prairie) (FLUCCS #3100);
- Longleaf Pine – Xeric Oak (FLUCCS #4120);
- Mixed Rangeland (FLUCCS #3300);
- Upland Hardwood Forests (FLUCCS #4200);
- Upland Mixed Coniferous/Hardwoods (FLUCCS #4340); and
- Upland Shrub and Brushland (FLUCCS #3200).

The acreages of each of these habitat types was calculated using GIS based on the above habitat types. This analysis focused only on the type of habitat, as defined by FLUCCS, and did not take into account specific features of suitability.

An analysis of the land cover data within the APE indicates nearly nine percent of the APE's boundary contains potentially suitable habitat for gopher tortoises. Nearly all 921 acres of potentially suitable gopher tortoise habitat within the APE is found in the upland hardwood forested and pine flatwoods areas just north of Lake Russell, or in the predominantly pine flatwoods area in the NE quadrant of the APE near Florida's Turnpike. A map of potentially suitable gopher tortoise habitat is shown in Figure 3.5.4.

REFERENCE COPY





### 3.5.5 Priority Habitat

No priority habitat is found in or around the APE boundary.

### 3.5.6 Essential Fish Habitat

Essential fish habitat is not found in or around the APE boundary.

### 3.5.7 Conservation Areas

Preliminary review of the Florida Natural Areas Inventory (FNAI) managed lands GIS dataset (2017) indicates there are four conservation areas that extend into the APE. The conservation areas include: SFWMD's Upper Lakes Basin and Kissimmee Chain of Lakes Area (KCOLA), Southport Regional Park, and the Disney Wilderness Preserve. Figure 3.5.5 displays these conservation areas in and around the APE.

#### **SFWMD Conservation Areas**

The Upper Lakes Basin consists of several tracts of land managed by the SFWMD. The tract that extends into the APE is located northwest of Lake Russell, and is known as the "Lake Russell Tract". The Lake Russell Tract lies along the Reedy Creek floodplain just east of Poinciana and contains an isolated island of scrub, dry prairie, scrubby flatwood, and is surrounded by the Reedy Creek floodplain swamp. Currently, the Lake Russell Tract is being managed in a natural state by the SFWMD and with the Osceola County School Board providing environmental and natural resource education. Approximately 103 acres of the Lake Russell Tract lies within the APE, or just under 1% of the total acreage of the Upper Lakes Basin Watershed.

The KCOLA spans 21,000 acres in Polk and Osceola Counties, and includes Cypress Lake just south of the APE. The lakes are part of the greater Kissimmee Chain of Lakes Watershed that forms the headwaters of the Kissimmee-Okeechobee-Everglades system, which includes more than 24 lakes. The KCOLA is comprised of five units: North, Northwest Shore, Drasdo, East Shore Marshes, and West Shore. Approximately 13 acres of the North unit near Cypress Lake is located within the APE.

#### **Southport Regional Park**

Southport Regional Park is a 35 acre park located at the end of Southport Road on the southern shore of Lake Toho west of the C-35 Canal. The park is managed by Osceola County for both recreation and conservation, and offers boat access to the lake with a boat ramp and an airboat concessionaire on site. Other amenities include a campground, fire pits, picnic pavilions, and a volleyball court. Approximately 74% of the park's 35 acres are within the APE.



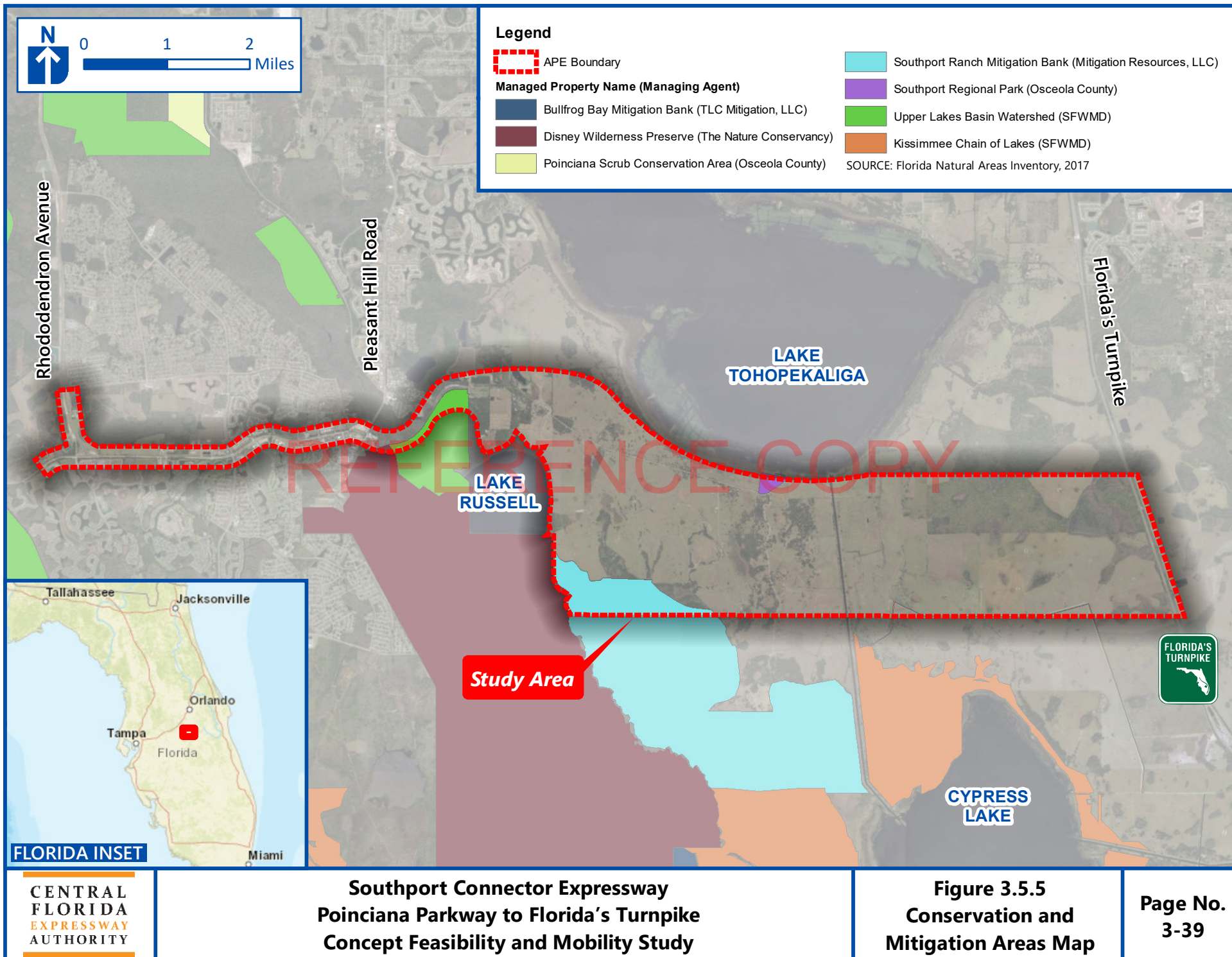
### **Disney Wilderness Preserve**

The Disney Wilderness Preserve is located west and south of Lake Russell and includes nearly 11,500 acres originally purchased by the Walt Disney Company, but now owned and managed by the Nature Conservancy. The Disney Wilderness Preserve is located at the head of the Everglades watershed, includes scrub, scrubby flatwoods mesic hammocks, cypress swamp, baygall, floodplain forest, floodplain marsh, wet prairie, and wet flatwoods. It features a Conservation Learning Center and hiking trails open to the public. Approximately 15 acres of the Disney Wilderness Preserve is located within the APE.

#### **3.5.8 Mitigation Banks**

The Southport Ranch Mitigation Bank is the only mitigation bank within the APE, as shown in Figure 3.5.5. Southport Ranch Mitigation Bank consists of 3,316 acres owned and managed by Mitigation Resources, LLC, with approximately 423 acres located inside the APE's southern boundary. This mitigation bank offers improved pasture, swamp, marshlands, mesic hammocks, oak hammocks, and dry prairie enhancements as well as habitat suitable for the Florida black bear, crested caracara, bald eagle, red-cockaded woodpecker, Florida sandhill crane, wood stork, deer, turkey, and gopher tortises. The Southport Mitigation Bank is located adjacent to SFWMD land, Disney Wilderness Preserve, and Reedy Creek Swamp.





### 3.5.9 Prescribed Burn Areas

According to the Nature Conservancy, fire has historically been a normal and natural occurrence in Florida. Natural fires are typically ignited by lightning, which cause fires that burn across land and clear out non-native invasive plant species and prevent overgrowth. After these fires, native plant species rebound, stimulated by the burned vegetation. Human development has disrupted this natural pattern, and prescribed burns are now used to restore this natural cycle.

Disney Wilderness Preserve, Southport Ranch Mitigation Bank, and a portion of the Upper Lakes Basin Watershed all require prescribed burns as a land management tool to keep non-native species in check. During these prescribed burns, smoke from the fires extends beyond the boundaries of these conservation areas. Smoke can impact surrounding land uses during these prescribed burns.

In 2010, the Nature Conservancy's Lake Wales Ridge Program developed a Critical Smoke Dispersal Area (CSDA) GIS data layer to secure the long-term use of prescribed fire as a land management tool. The CSDA data layer includes four buffer zones, with distances of one-quarter mile, one-half mile, one-mile, and two-miles from conservation areas that use prescribed burns. Table 3.5.3 shows the transportation facilities and land uses that should be located at the various CSDA buffer zones.

**Table 3.5.3: Minimum Distances from Conservation Areas by CSDA Buffer Zones**

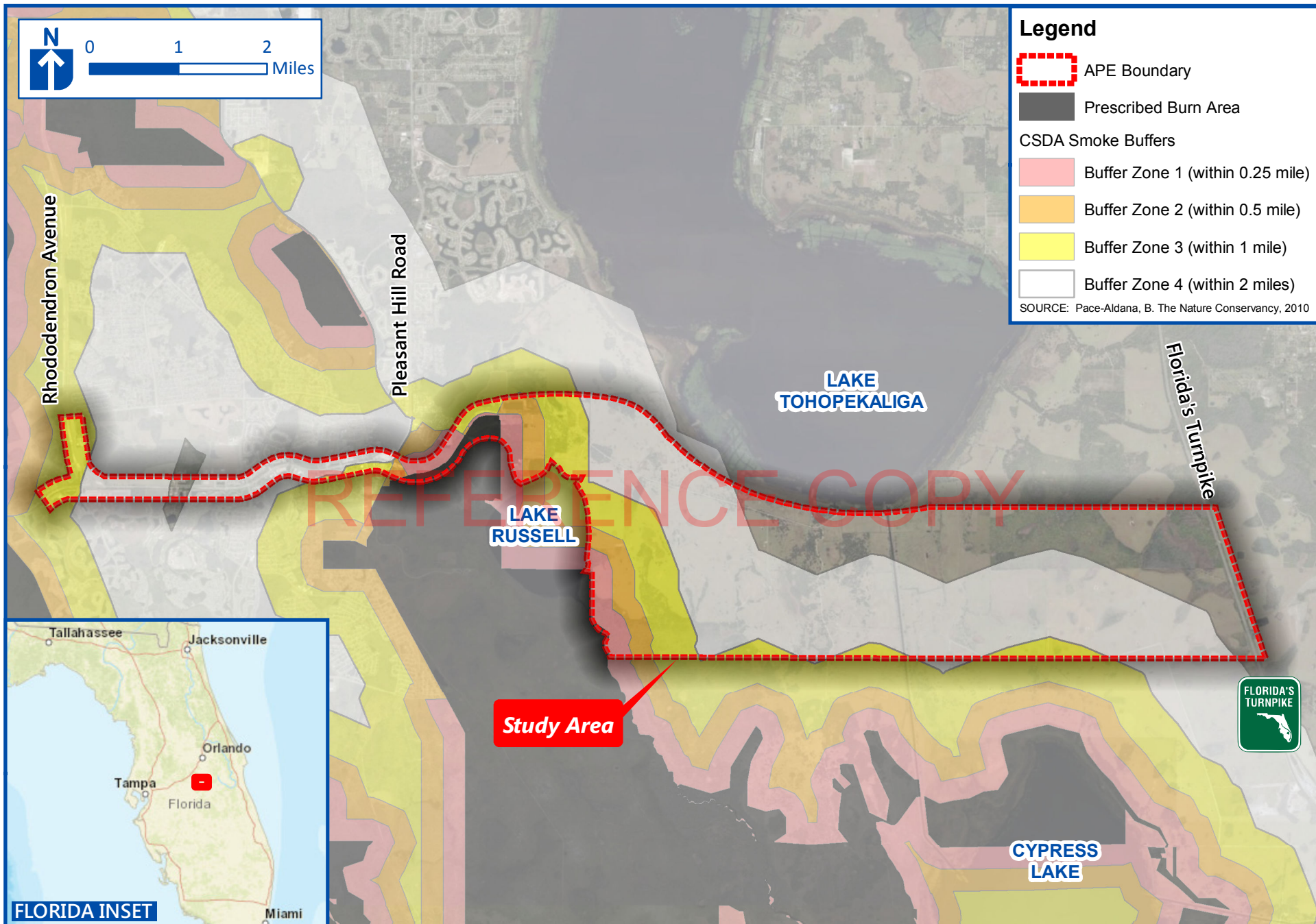
Smoke-sensitive area		Minimum distance from conservation boundary	CSDA buffer zone(s) in which can be present
FDOT <sup>a</sup> Road Class	Description		
6	Minor arterial—rural	402 m (0.25 mi)	2, 3, and 4
8	Minor collector—rural	402 m (0.25 mi)	2, 3, and 4
9	Local—rural	402 m (0.25 mi)	2, 3, and 4
1	Principal arterial—interstate, rural	805 m (0.50 mi)	3 and 4
2	Principal arterial—other, rural	805 m (0.50 mi)	3 and 4
7	Major collector—rural	805 m (0.50 mi)	3 and 4
16	Minor arterial—urban	805 m (0.50 mi)	3 and 4
17	Collector—urban	805 m (0.50 mi)	3 and 4
19	Local—urban	805 m (0.50 mi)	3 and 4
11	Principal arterial—interstate, urban	1,609 m (1 mi)	4
	Principal arterial—freeways/		
12	expressways, urban	1,609 m (1 mi)	4
14	Other principal arterial—urban	1,609 m (1 mi)	4
Other land uses			
	Residential/commercial/industrial	402 m (0.25 mi)	2, 3, and 4
	Hospitals/nursing homes	1,609 (1 mi)	4
	Aviation areas	3,220 m (2 mi)	Do not occur within CSDA

<sup>a</sup> FDOT, Florida Department of Transportation.

According to Table 3.5.3, transportation facilities with an FDOT roadway classification of 11, 12, and 14 are recommended to be greater than one mile from a conservation area's prescribed burns, therefore located in Buffer Zone 4 or outside of the CSDA. A GIS analysis of the CSDA within the APE indicates approximately 23% of the APE is within one mile of a conservation area that uses prescribed burning, and this portion of the APE would be subject to impacts from smoke. As shown in Figure 3.5.6, CSDA Buffer Zones unsuitable for new roadways are concentrated on the western end of the APE near Rhododendron Avenue, around Lake Russell, and along the southern edge of the APE.

REFERENCE COPY





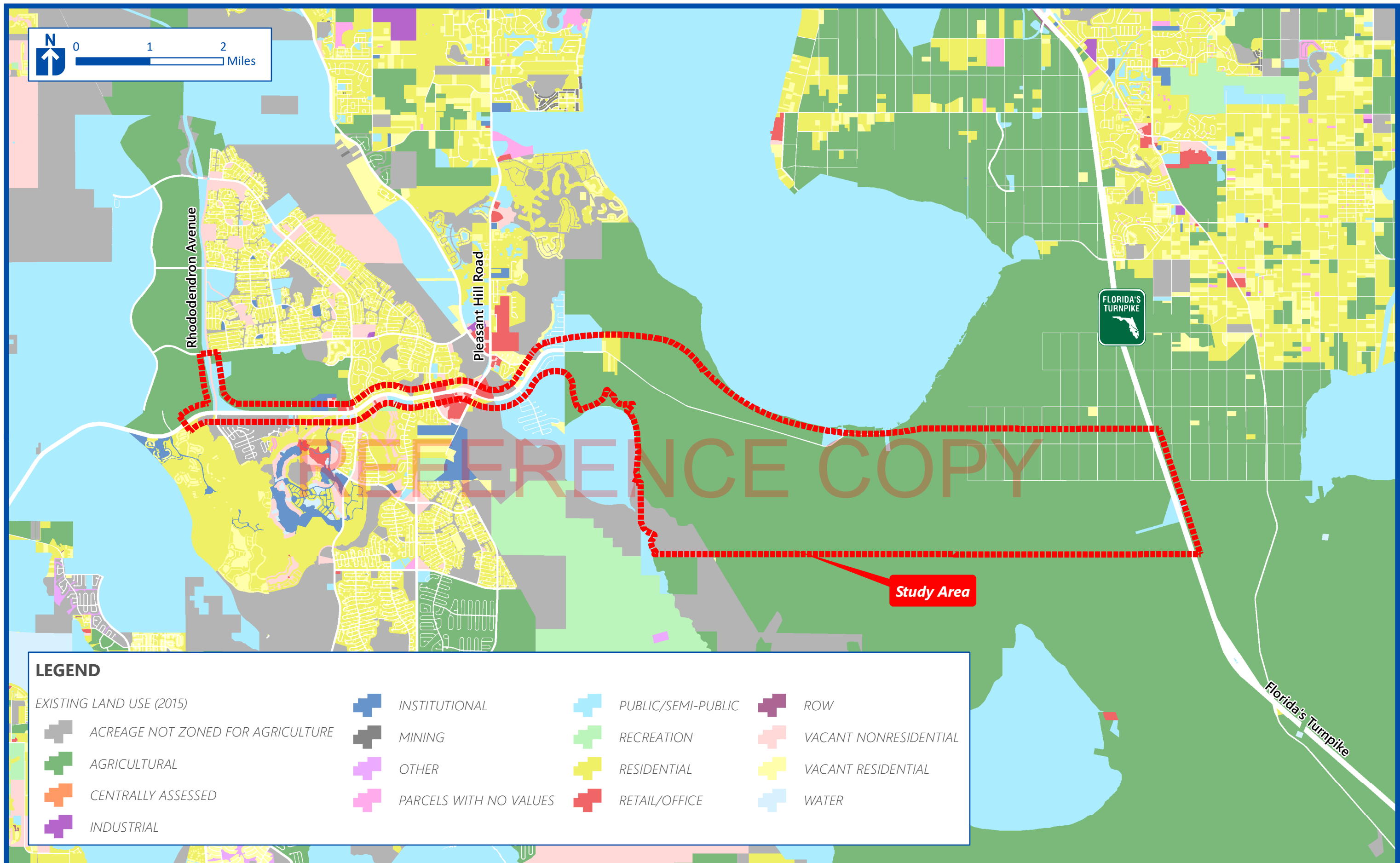
## 3.6 Human Environment

### 3.6.1 Existing Land Use

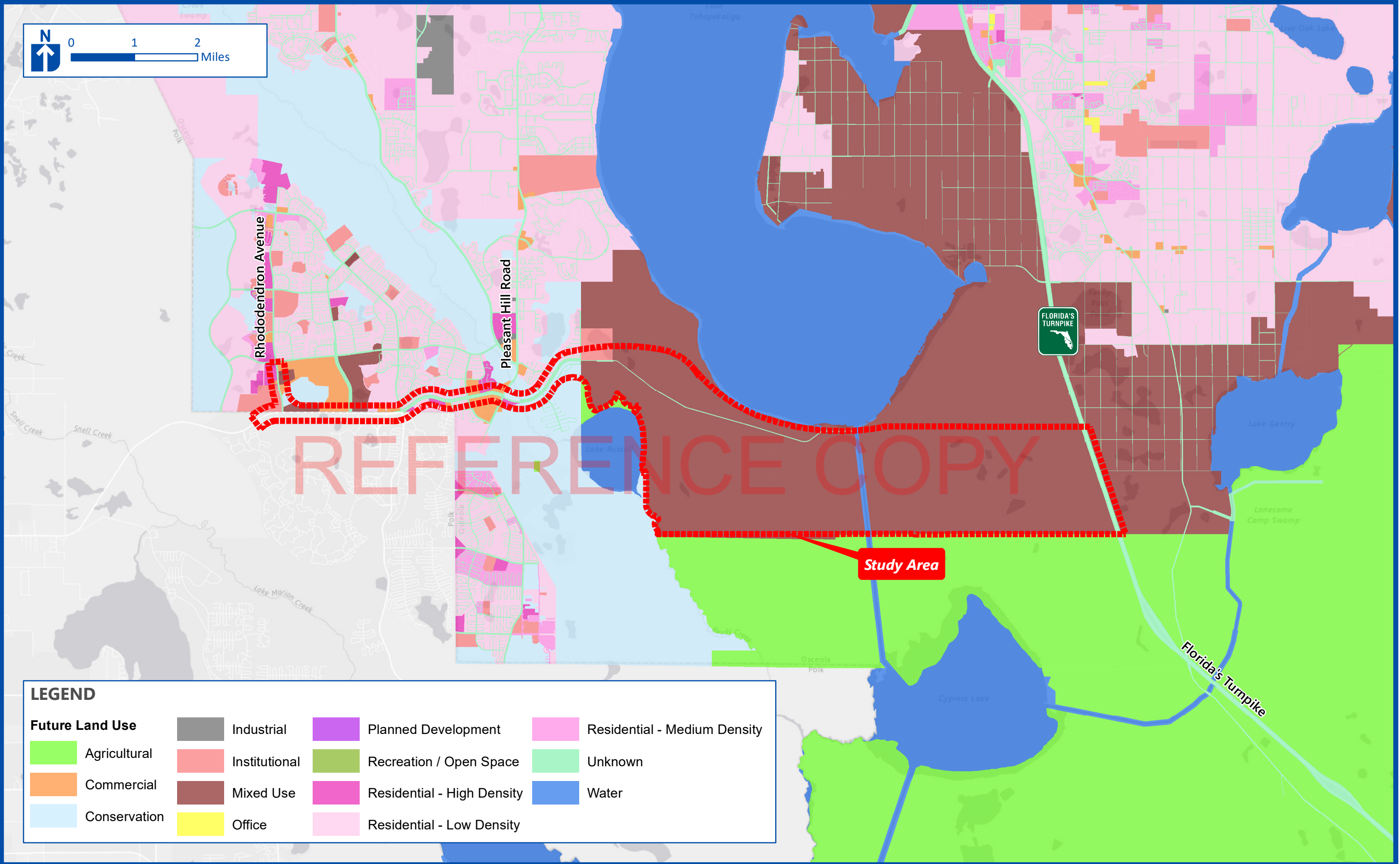
The Southport Connector Expressway corridor is co-located with Cypress Parkway for the western 3.5 miles of the project corridor. The existing land use surrounding Cypress Parkway from Poinciana Parkway to Pleasant Hill Road is mostly residential with a scattering of retail / office land use, public / semi-public land use, and acreage not zoned for agriculture. East of Pleasant Hill Road, the land use is almost exclusively agricultural scattered with public / semi-public land use and residential. Figure 3.6.1 shows the existing land use in the project corridor.

### 3.6.2 Future Land Use

The future land use map from the East Central Florida Regional Planning Council shows the land use surrounding Cypress Parkway from Poinciana Parkway to Pleasant Hill road will remain mostly residential with a scattering of mixed use, commercial and institutional. The future land use east of Pleasant Hill Road, shows almost exclusively mixed use up to the Osceola County Urban Growth Boundary line with some conservation land surrounding Reedy Creek. Figure 3.6.2 shows the future land use in the project corridor. No future land use maps were available in a digital format for Polk County. Using the Polk County GIS viewer, the future land use map (2030) for Polk County shows the land south of Cypress Parkway is expected to be a DRI. Figure 3.6.3 shows the future land use map for this portion of Polk County.





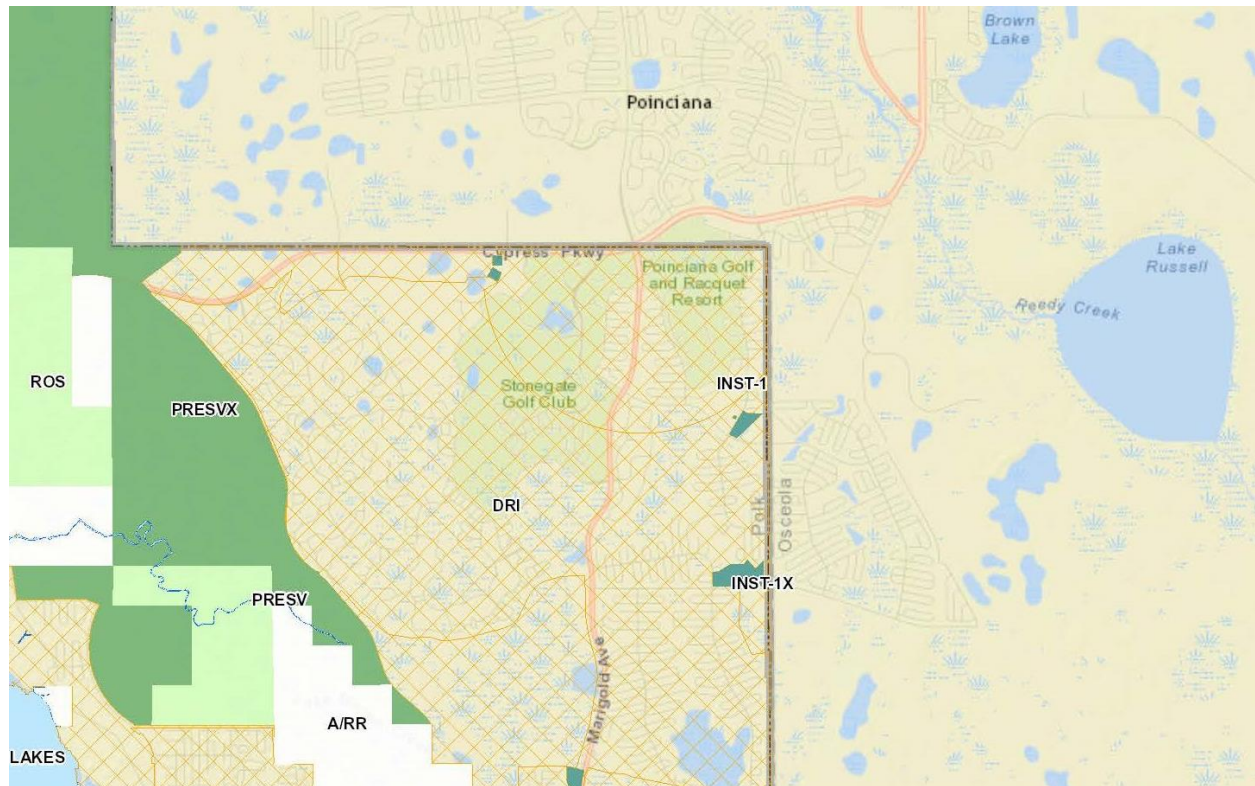


**LEGEND**

**Future Land Use**

	Agricultural		Industrial		Planned Development		Residential - Medium Density
	Commercial		Institutional		Recreation / Open Space		Unknown
	Conservation		Mixed Use		Residential - High Density		Water
			Office		Residential - Low Density		

**Figure 3.6.3: Future Land Use – Polk County**



### 3.6.3 Community and Neighborhood Features

Community focal points / facilities are public or private locations or organizations that are important to the local residents and communities. Many community focal points are located near the existing Cypress Parkway. Community focal points include: schools, places of worship, community centers, parks, cemeteries, fire stations, law enforcement facilities, government buildings, healthcare facilities, and social service facilities. Below are a list of community focal points within the project study area.

#### Schools

- Solid Ground Christian Academy;
- Osceola Schools Environmental Center;
- New Dimensions High School;
- KOA Elementary; and
- Laurel Avenue Elementary School.

#### Places of Worship

- Iglesia De Dios Pentecostal M.I.;
- SDA Poinciana Church;
- The New Jerusalem Church;
- Poinciana Pentecostal Church; and

- Gladdings Pentecostal Assembly of Poinciana.

#### Community Centers

- YMCA – Poinciana Family Center; and
- Association of Poinciana Village Community Center.

#### Parks

- Southport Park and Boat Ramp; and
- Vance Harmon Community Park and Mary Jane Arrington Gym & Aquatic Center.

#### Cemeteries

- None

#### Law Enforcement Facilities

- Osceola County Sheriff's Office – South

#### Fire Station Facilities

- Joint Osceola County and Polk County Fire Department and Rescue Station

#### Government Buildings

- US Post Office – Poinciana;
- US Post Office – Poinciana Postal Center; and
- Osceola County Health Department – Primary Care Medical Services of Poinciana.

#### Health Care Facilities

- Poinciana Medical Center (Hospital);
- Aviva Healthcare;
- Mumtaz Medical Associates;
- Poinciana Dialysis;
- Nephrology Associates;
- Family Physicians Of Poinciana;
- Poinciana Woman's Health Center;
- Nuestra SRA Del Carmen;
- Central Florida Primary Physicians;
- IMA Medical Center;
- Florida Lung Asthma & Sleep Specialists;
- Daystar Skin and Cancer Center;
- Cardiovascular Clinic;
- Osceola Community Health Services at Poinciana;
- Poinciana Medical Clinic; and



- Pediatrics of Central Florida.

#### Cultural Facilities

- Poinciana Branch Library

#### Civic Centers

- None

#### Social Service Facilities

- Poinciana Two Forty Seven Pre-K and Pre-School;
- Cheryl's Day Care; and
- Solivita Life Styles.

Figure 3.6.4 through Figure 3.6.8 show the location of these community focal points.

There are two parks in the project corridor: Vance Harmon Community Park and Southport Park and Boat Ramp, as shown in Figure 3.6.5.

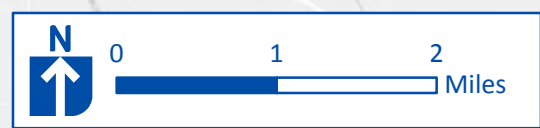
#### Vance Harmon Community Park

The Vance Harmon Community Park is bordered by Cypress Parkway on the north, Cypress Drive on the east and Country Club Drive on the south and west. The park is owned by Osceola County and consists of approximately 18.5 acres. Vance Harmon Community Park recently completed Phase I construction updates and Phase II is currently underway. The Phase I renovations which were completed around Memorial Day 2017 include:


- Mary Jane Arrington Gym and Aquatic Center;
- Six-foot Fitness Trail;
- Community Center; and
- Flex Lawn and Outdoor Terrace.


Phase II of the Vance Harmon Community Park broke ground in June 2017, and will include the following amenities when completed:

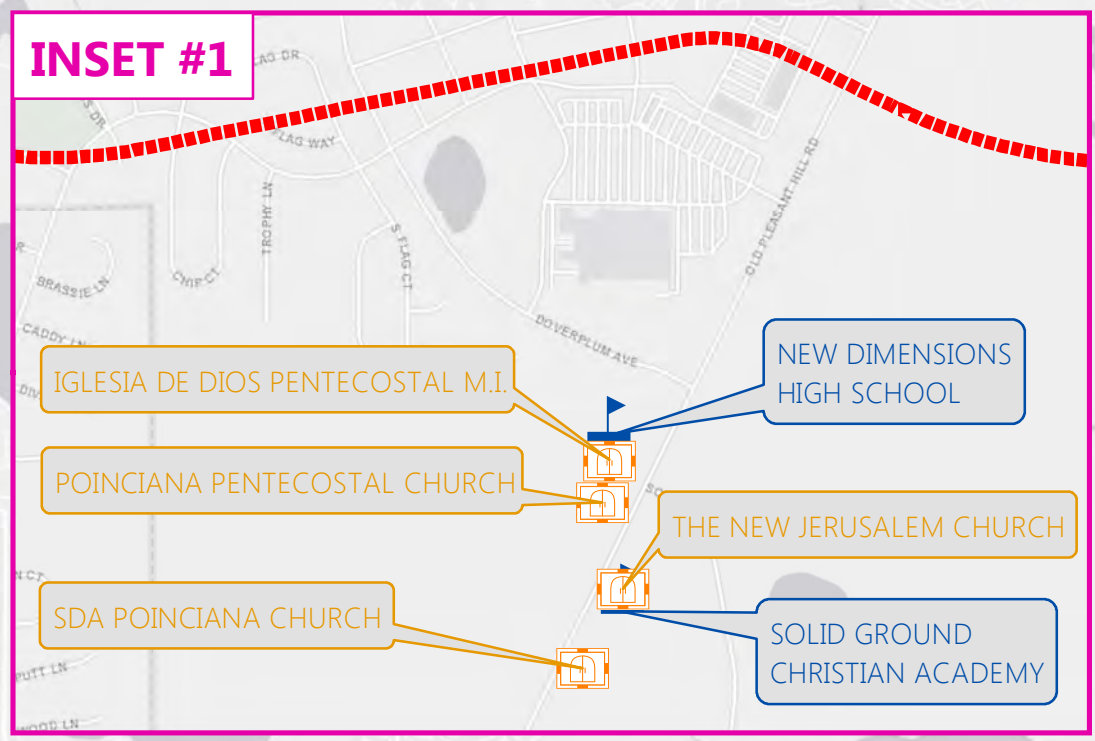
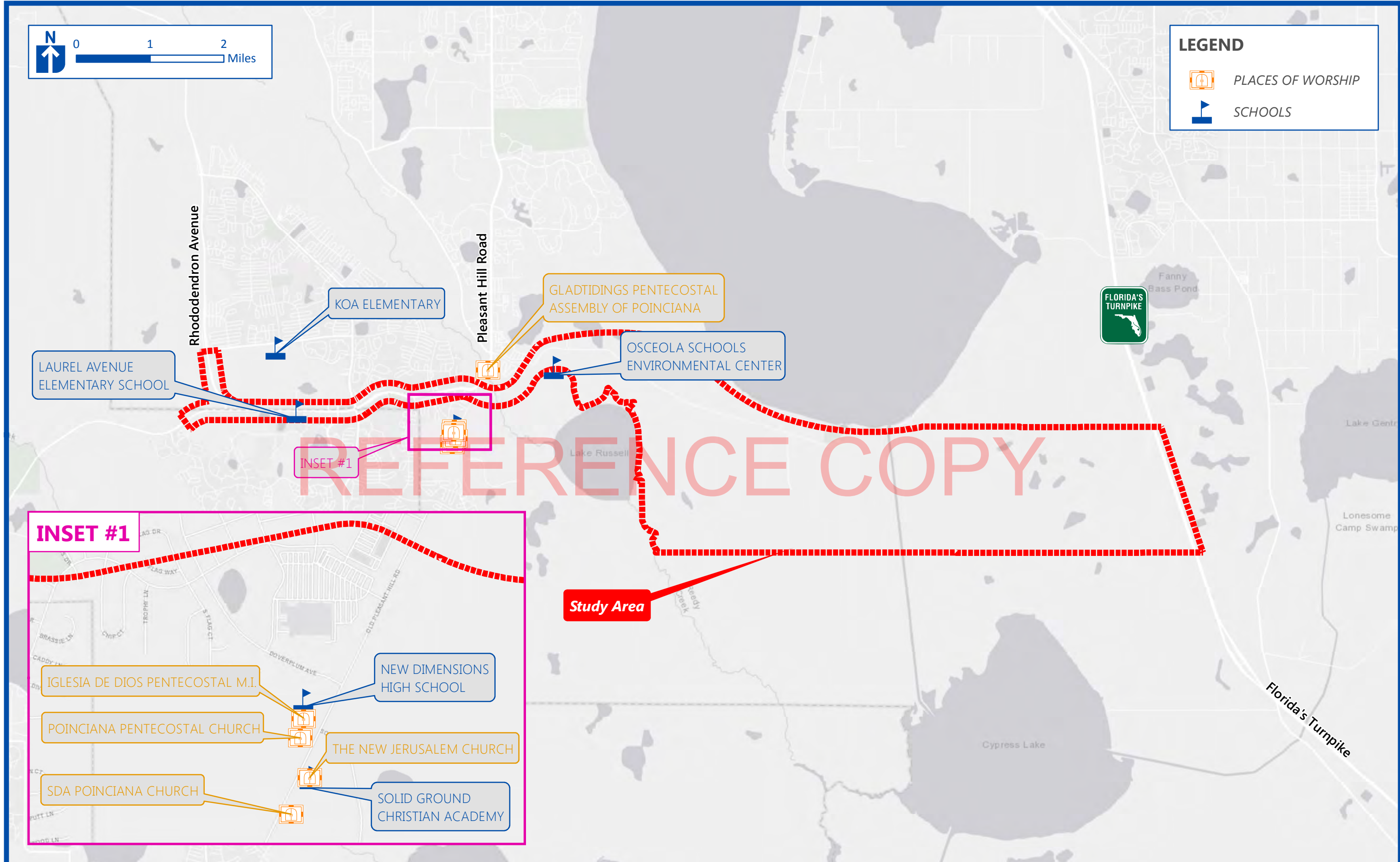
- Improved Football Field;
- Relocated Playground;
- Picnic Shelters;
- Basketball Courts;
- Improved Softball Field;
- Batting Cages;
- Existing Tennis Courts;
- Existing Racquetball / Basketball Courts;

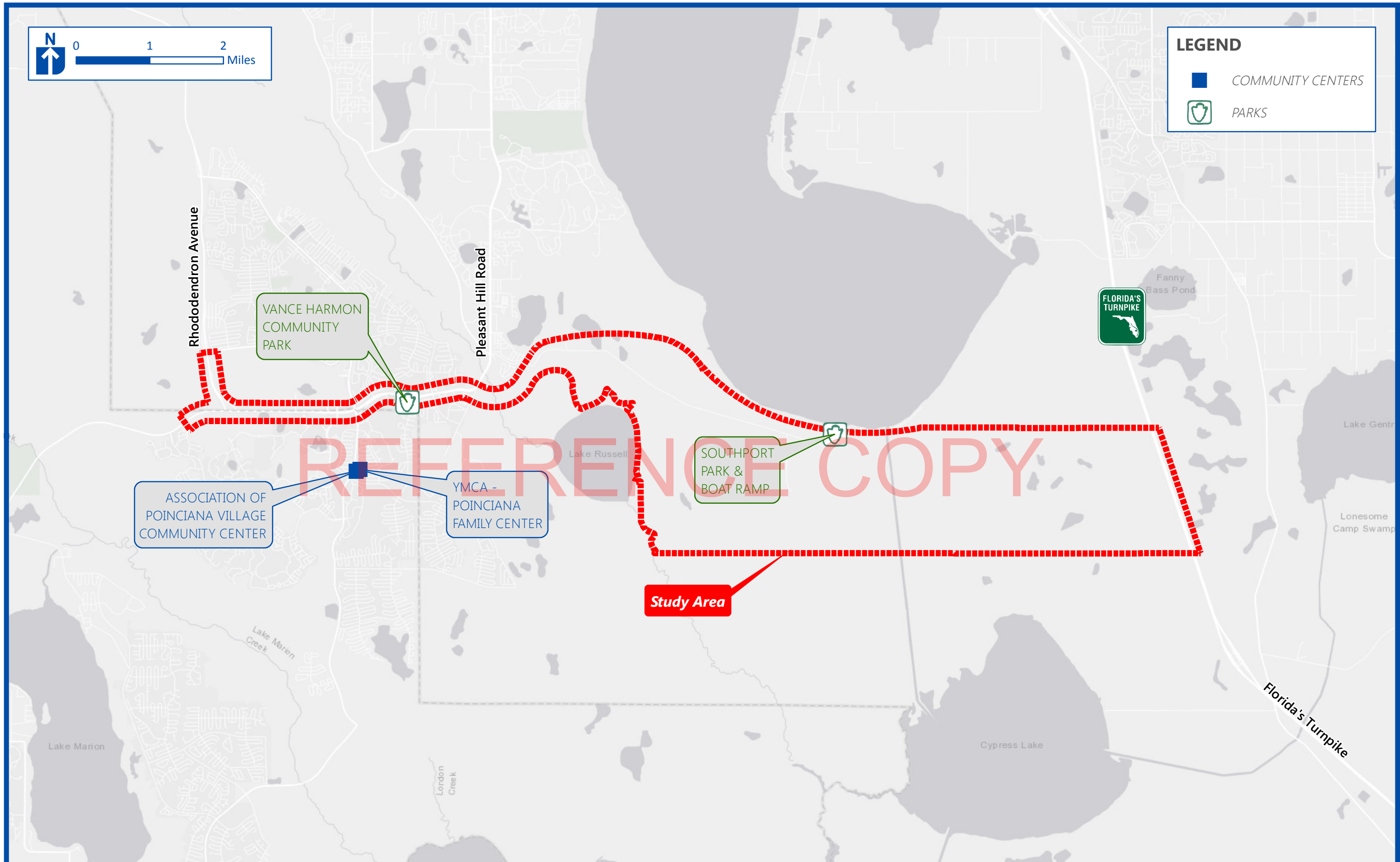


**LEGEND**

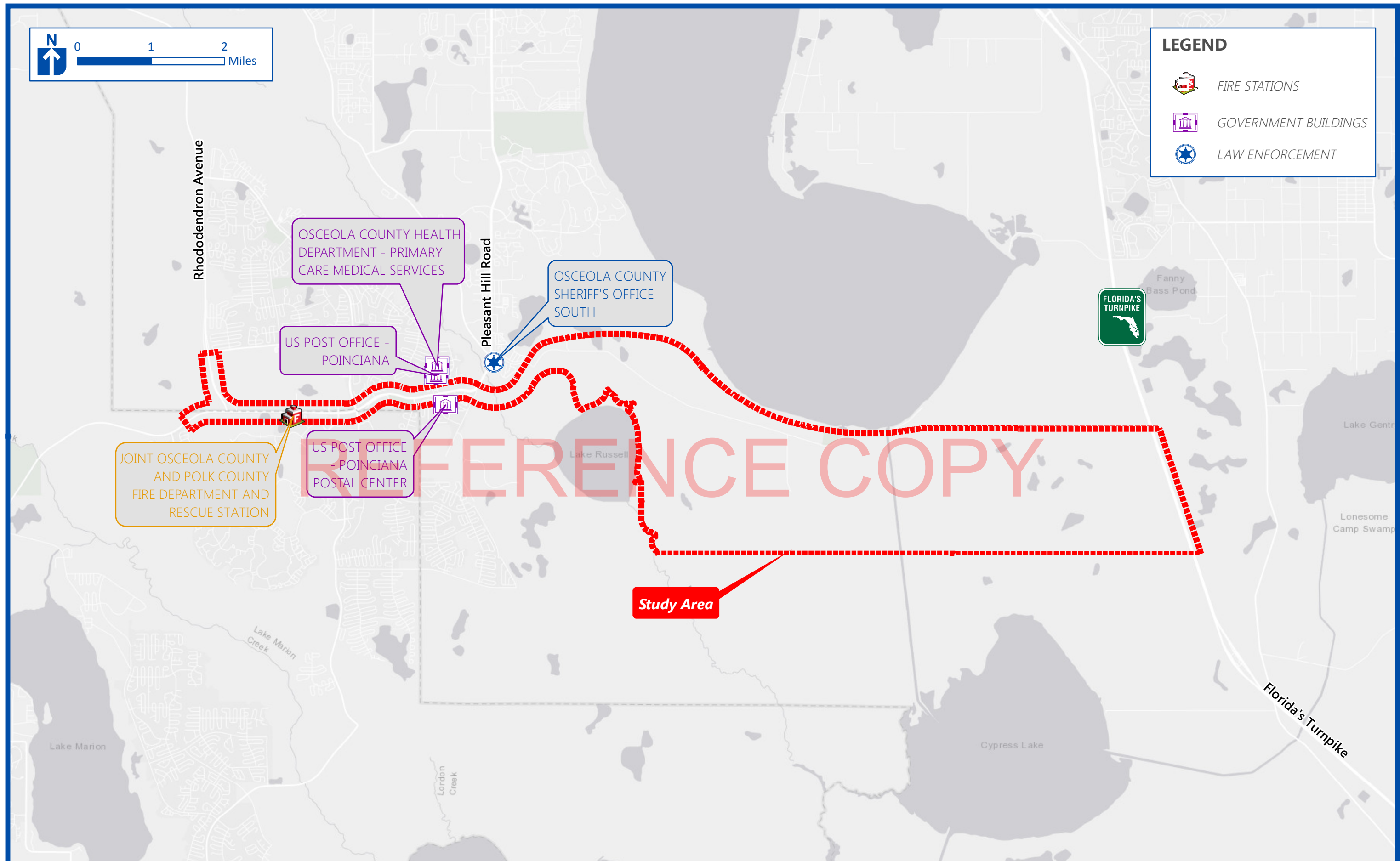
 PLACES OF WORSHIP

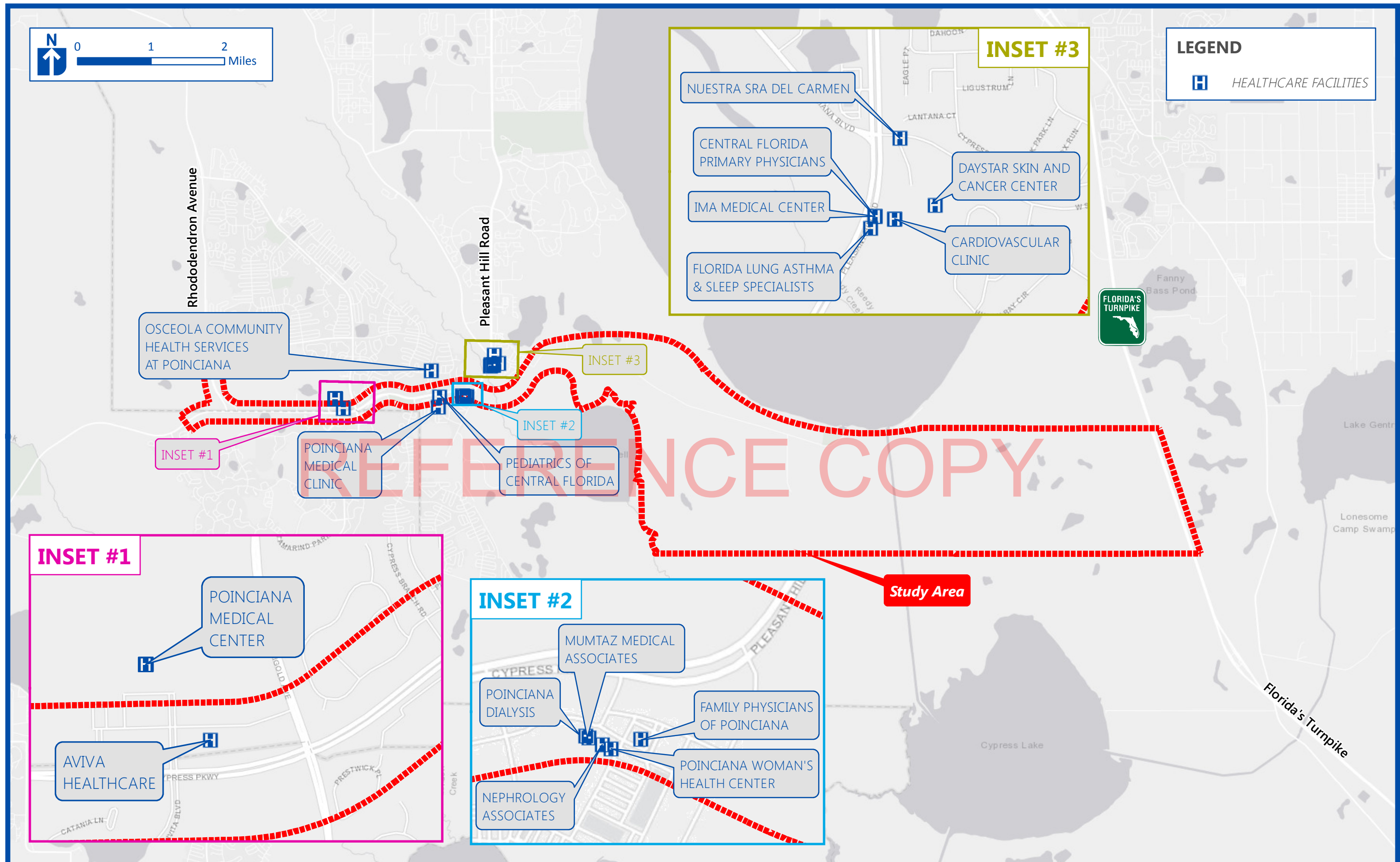
 SCHOOLS



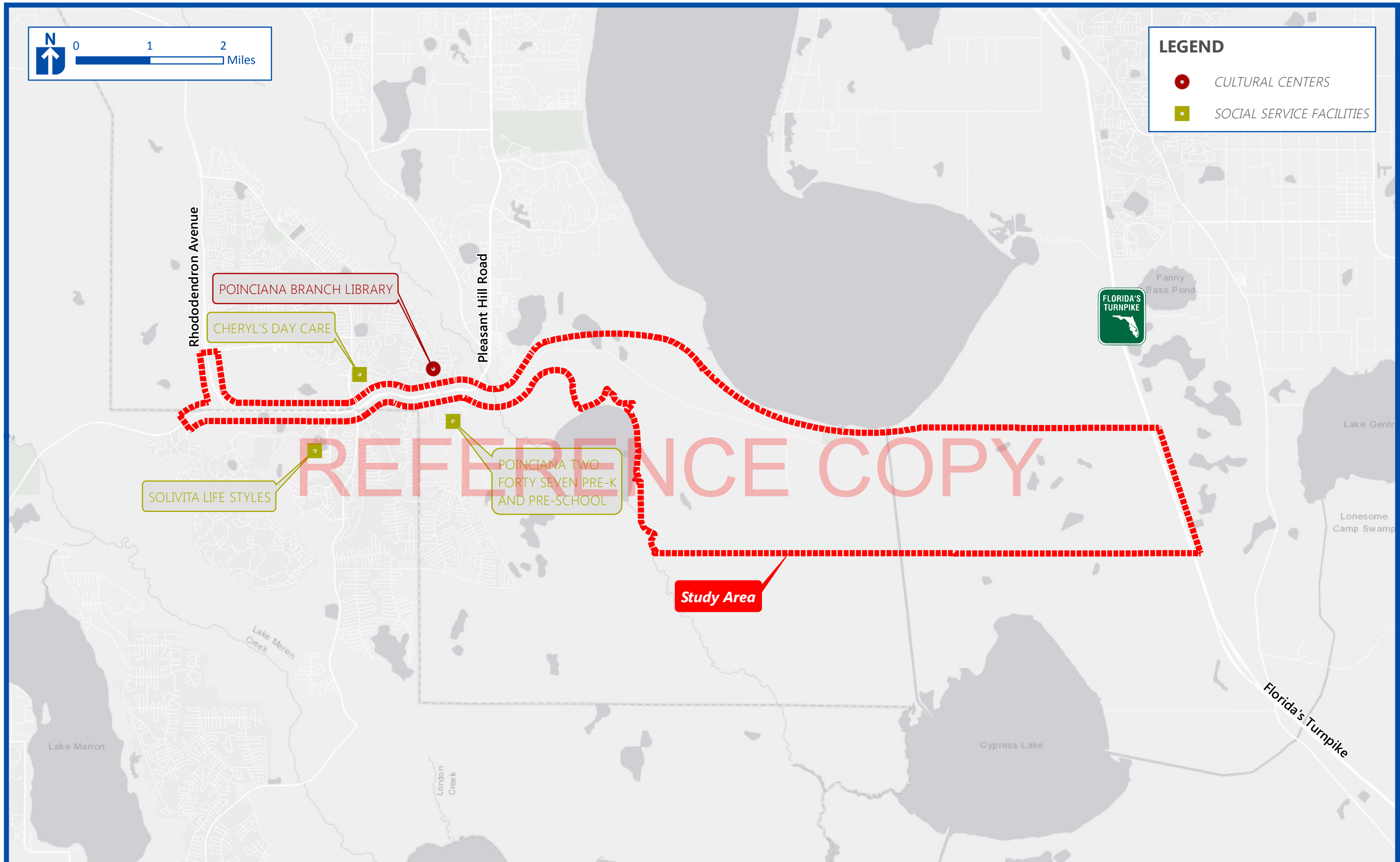














- Sand Volleyball Court;
- Small and Large Dog Park; and
- Restrooms.

#### Southport Park and Boat Ramp

The Southport Park and Boat Ramp is located on the southern edge of Lake Toho and is accessed from Southport Road. The park consists of approximately 35 acres and was purchased by the State of Florida in 1966 and has been managed by Osceola County since 1967 for outdoor recreation and conservation. Southport Park and Boat Ramp has the following amenities:

- Campground (>50 spaces);
- Fire Pits;
- Pavilions (Figure 2.20.6);
- Boat Ramp (Figure 2.20.7);
- Volleyball Court; and
- Airboat Concessionaire.

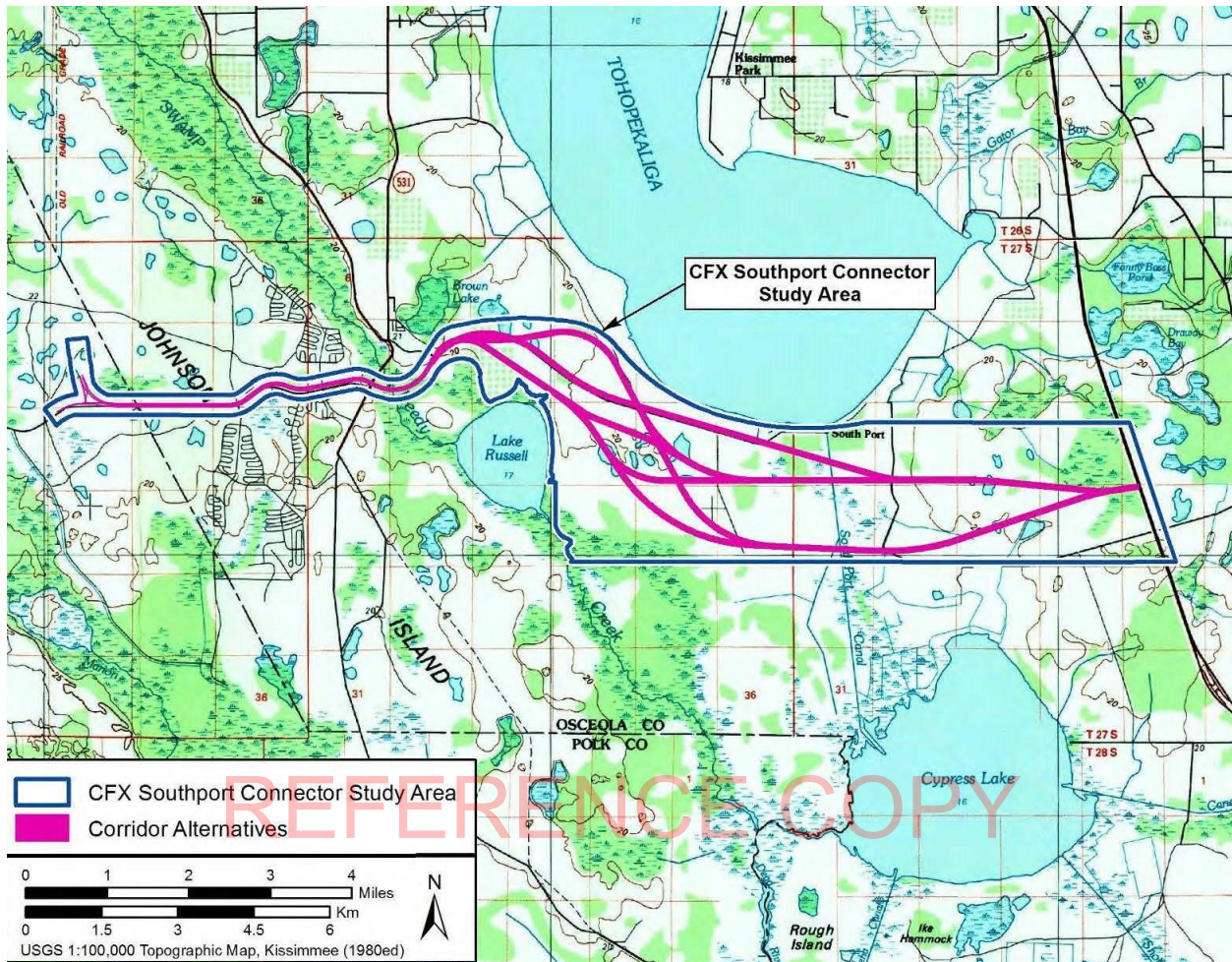
In addition to the park's recreational amenities, the rural setting along the shores of Lake Toho support live oak, cypress and littoral vegetation. As a result, the park provides suitable habitat for bald eagle, Sherman's fox squirrel, Everglades snail kite, sandhill crane, wood stork, gopher tortoise and American alligator.

#### 3.6.4 Cultural Resources

In August 2017, SEARCH, Inc. completed a desktop analysis of the proposed CFX Southport Connector Study Area in Osceola and Polk Counties. The present desktop analysis was conducted with the purpose of identifying cultural resource potential and previously recorded historic properties in the vicinity of the proposed project that are listed, or may be eligible for listing, in the National Register of Historic Places (NRHP).

The project APE, as determined by the study team, was defined as an approximately 10,461-acre swath of land (Figure 3.6.9). The Florida Master Site File (FMSF) database was reviewed for any previous surveys or previously recorded resources within the CFX Southport Connector Study Area. In addition, the Property Appraiser databases for Osceola and Polk Counties and historic maps were reviewed to determine if potential historic resources constructed prior to 1973 are located within the CFX Southport Connector Study Area.

Figure 3.6.9: CRAS Study Area

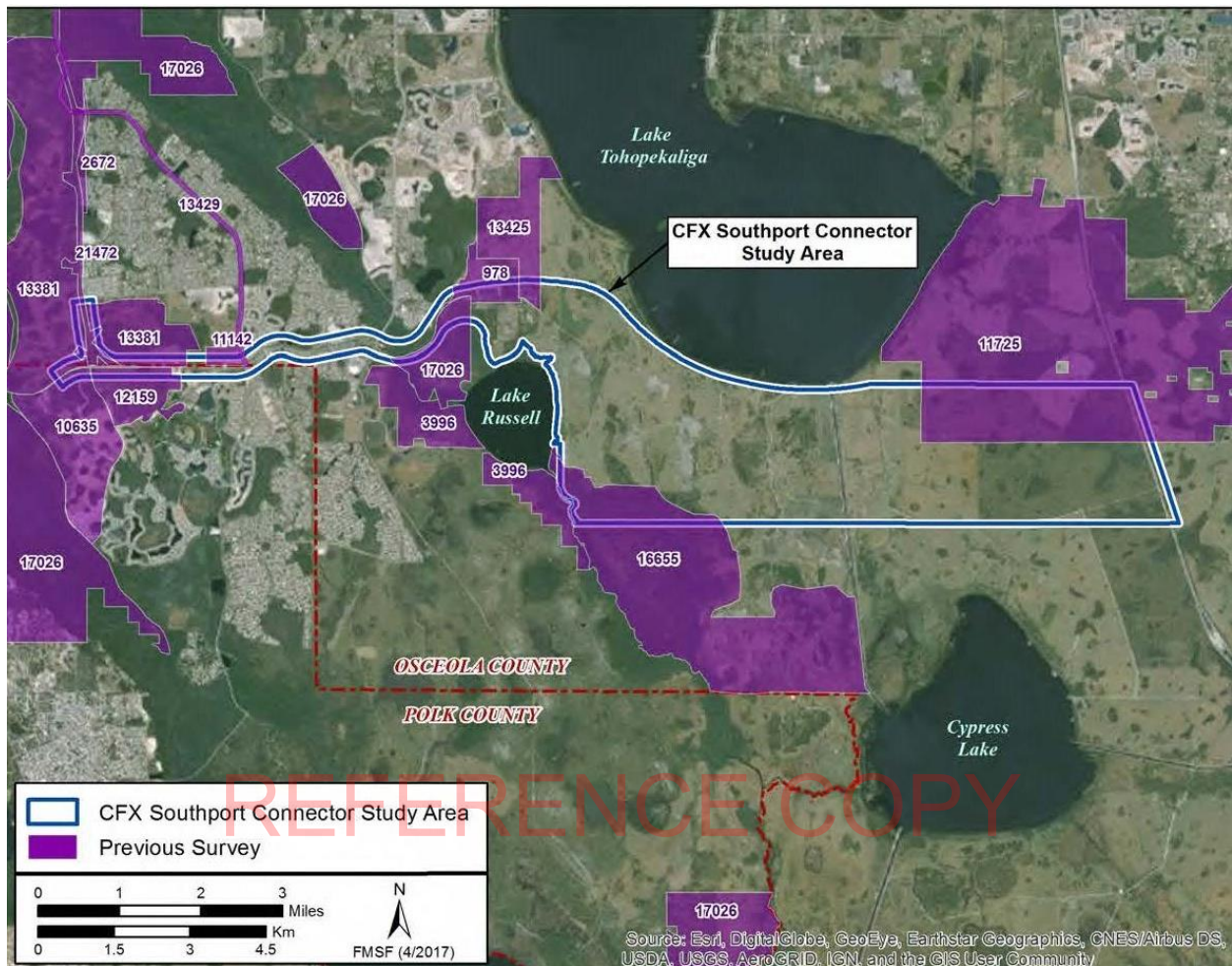


Examination of the FMSF database (updated April 2017) indicates that 13 previous cultural resource surveys intersect the CFX Southport Connector Study Area (Table 3.6.1 and Figure 3.6.10).

Figure 3.6.10 shows the overall coverage of these surveys within the study area. The existence of a previous survey in the area may not negate the need for an updated survey for the current project. Factors such as the date of the previous study and the scope / intensity of the actual work performed in a previous survey would need to be considered.



Figure 3.6.10: Previous Cultural Resource Surveys within the Study Area





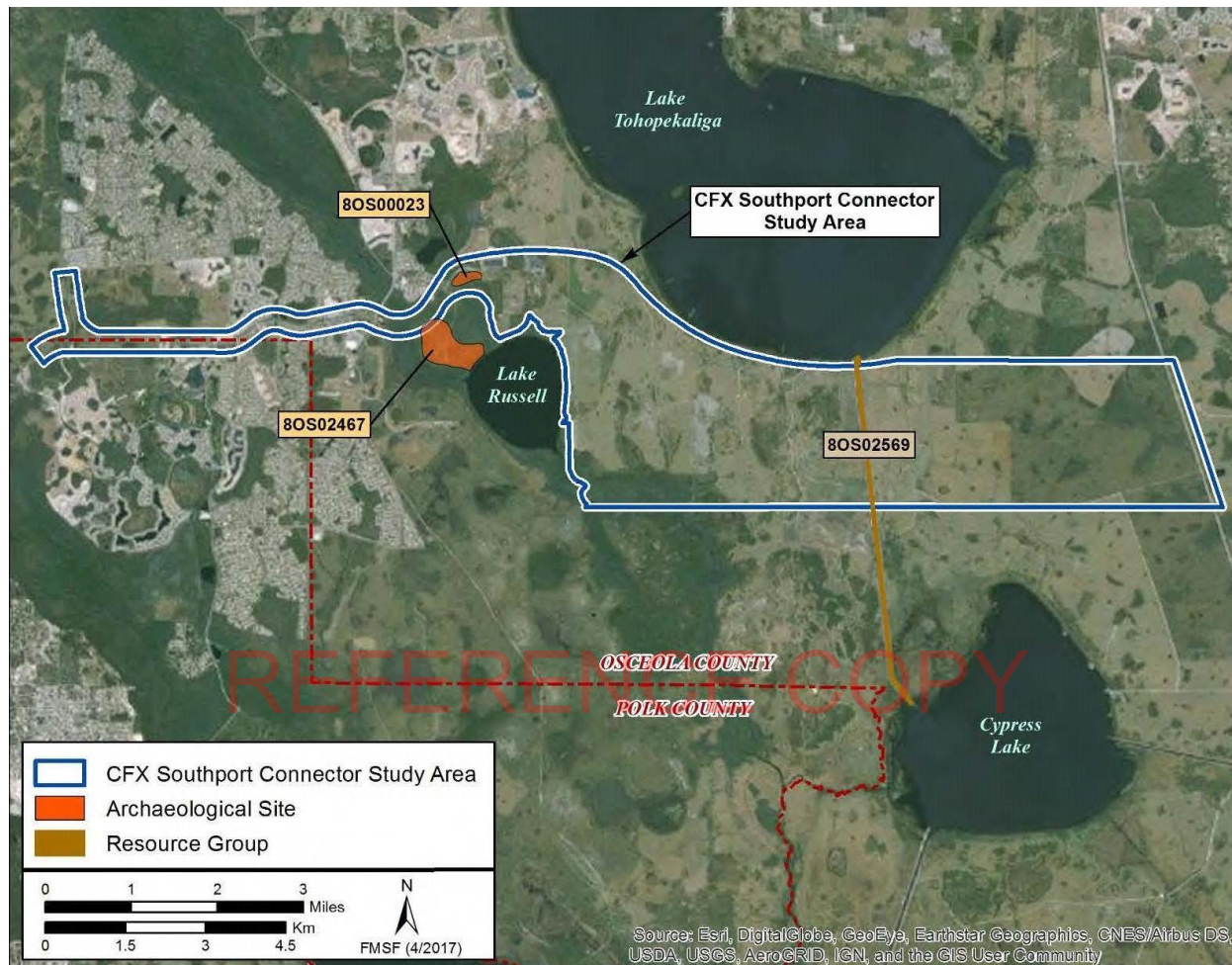
**Table 3.6.1: Previous Cultural Resource Surveys within the Study Area**

<b>FMSF No.</b>	<b>Title</b>	<b>Year</b>	<b>Reference</b>
978	CRAS of the proposed Southport Sanitary Landfill Site, Osceola County, Florida	1984	Piper Archaeological Research, Inc.
2672	CRAS of proposed Parker Highway Right-of-Way Alignment, Polk & Osceola Counties, Florida	1991	Piper Archaeological Research, Inc.
3996	CRAS of the Southern Lakes, Brevard Engineering and Al Marah Additions to the Disney Wilderness Preserve, Osceola County, Florida	1994	Janus Research
10635	CRAS Solivita West, Polk County, Florida	2004	SouthArc, Inc.
11142	CRAS Solivita Marketplace, Osceola County, Florida	2005	SouthArc, Inc.
11725	CRAS, Green Island, Osceola County, Florida	2005	SouthArc, Inc.
12159	Reconnaissance Survey of the Solivita Phase 5 and 7F in Osceola County, Florida	2005	SouthArc, Inc.
13381	CRAS Solivita Grande Osceola and Polk Counties, Florida	2006	SouthArc, Inc.
13425	CRAS Tranquility, Osceola County, Florida	2006	SouthArc, Inc.
13429	CRAS Poinciana Parkway, Osceola and Polk Counties, Florida	2006	SouthArc, Inc.
16655	CRAS of Southport Ranch Mitigation Bank Tract, Osceola County, Florida	2008	Environmental Services, Inc.
17026	Phase I CRAS of Catfish Point, Johnson Island, Lake Marion Creek, and Upper Reedy Creek Management Areas, Osceola and Polk Counties, Florida	2009	Archaeological and Historical Conservancy, Inc.
21472	Cultural Resource Resurvey and Assessment, Poinciana Parkway Segment 4, Osceola County, Florida	2015	SouthArc, Inc.

FMSF data (April 2017) indicates that two archaeological sites and one historic linear resource are located within the CFX Southport Connector Study Area (Figure 3.6.11 and Table 3.6.2). None of these previously recorded resources have been evaluated by the State Historic Preservation Officer (SHPO) regarding eligibility for listing on the NRHP. If the project Cultural Resource Assessment Survey (CRAS) determines that evidence of these or

other sites is located within the APE of the recommended roadway alignment or ponds, the SHPO will review and provide a determination of NRHP eligibility.

**Figure 3.6.11: Previously Recorded Historic Resources within the Study Area**



**Table 3.6.2: Previously Recorded Cultural Resources within the Study Area**

FMSF No.	Name	Time Period	Surveyor Evaluation	SHPO Evaluation
<b>Archaeological Sites</b>				
8OS00023	Brown's Landing Mound C	Prehistoric	Insufficient Information	Not Evaluated by SHPO
8OS02467	Dead Gopher Pass	Middle Archaic	Insufficient Information	Not Evaluated by SHPO
<b>Linear Resources Groups</b>				
8OS02569	South Port Canal	Constructed in 1882		Not Evaluated by SHPO

#### 3.6.4.1 Historical

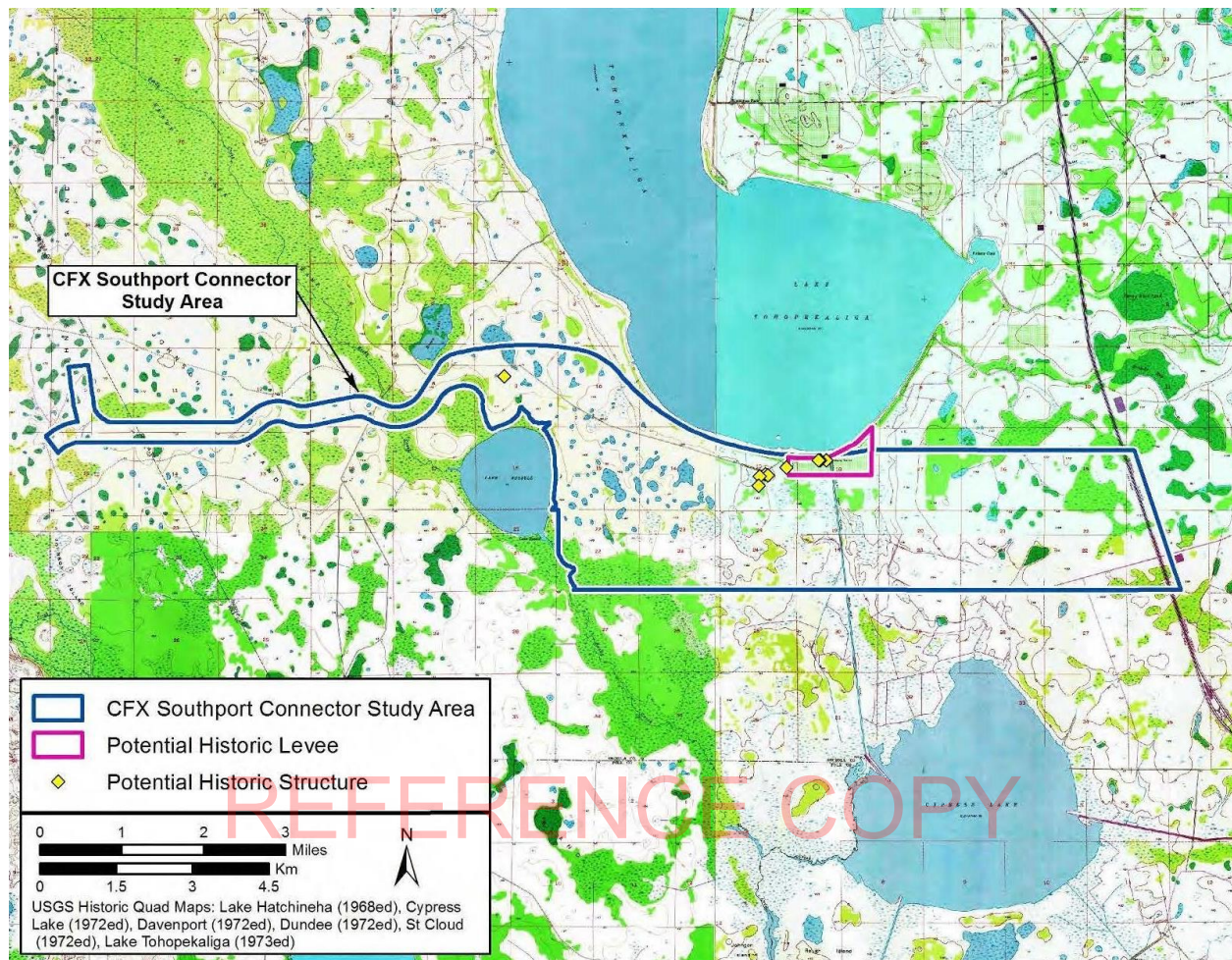
For transportation projects, using a 45-year cut-off (i.e., “structures constructed prior to 1973”) for the architectural history survey is typical in order to give the CRAS document a five-year “shelf life.” This time frame is the standard for transportation projects in Florida where construction is not anticipated during the same year as the completion of the CRAS. This rationale and approach is accepted by SHPO.

Review of the Osceola and Polk Counties Property Appraiser’s GIS database indicates there are two parcels each containing at least one historic building (pre-1973 construction date) that intersect the CFX Southport Connector Study Area and have not been previously recorded with the FMSF. Both of these structures are within Osceola County; no historic parcels were identified in the Polk County portion of the study area.

Review of historic United States Geologic Survey (USGS) quadrangle maps from the late 1960s and early 1970s depict at least 10 potential historic resources that have not been previously recorded within the current study area, including a levee and nine historic structures (Figure 3.6.12). Additionally, the historic quadrangle maps show a gauging station within one of the historic parcels identified by the Property Appraiser database, discussed above, and four structures with the other parcel. Paved and unimproved roads are also shown on the historic quadrangle maps. Once the recommended alignment and ponds are selected, should any of these unrecorded historic resources be located within the APE, they would need to be field surveyed, documented with the FMSF, and evaluated with regard to NRHP eligibility.



**Figure 3.6.12: Potential Unrecorded Historic Structures in the Study Area**



### 3.6.4.2 Archaeological

The CFX Southport Connector Study Area consists of a majority of poorly and very poorly drained soils (73% - poorly drained and 22% - very poorly drained). The portion of the project area with excessively drained soils are generally considered to have a high probability of encountering intact historic or prehistoric archaeological deposits, while the probability is moderate in areas of moderately well drained to somewhat poorly drained soils, and low for the remainder of the study area. However, several environmental variables in addition to soil drainage, including access to wetlands and freshwater resources, relative elevation, and the results of the previously conducted survey, help determine the potential for prehistoric archaeological sites to be present within the project area. Poorly drained soils are not ideal for prehistoric habitation, while well drained soils in proximity to a navigable water system may represent ideal conditions for prehistoric activities. Once the recommended alignment and ponds are selected, archaeological probability can be determined for areas of proposed ground-disturbing activity.

Once the recommended roadway alignment has been developed and preferred pond locations have been selected, a CRAS, including both archaeological and architectural historic survey, should be conducted. The APE for the roadway and ponds should be subjected to subsurface testing at intervals according to the probability of identifying archaeological material. Unrecorded historic resources should be recorded and assessed. The identified historic structures and archaeological sites, if any, should be assessed for their potential eligibility for listing in the NRHP. The results of this evaluation should then be reviewed by the Florida SHPO for concurrence and possible comment.

### 3.6.5 Demographic and Socioeconomic Characteristics

Demographic data describes a community's structure and is primarily collected by local, state, or federal agencies such as the Census Bureau, as well as other local government departments. Demographic data covers a range of community topics including: population size, gender, age composition, ethnic backgrounds, household characteristics, and geographic distribution. This data assists in designing public participation, outreach, and education strategies that reflect the age, education, and economic backgrounds of the community.

The 2010 Census Block Group Data, which contains the most recent demographic profile, was used to complete the demographic analysis. The United States Census Bureau defines Block groups as “statistical divisions of census tracts and are generally defined to contain between 600 and 3,000 people.” Census blocks are statistical areas bounded by visible features, such as streets, roads, streams, and railroad tracks, and by nonvisible boundaries, such as selected property lines and city, township, school district, and county limits.

The one-mile buffer around the Cypress Parkway centerline west of Reedy Creek, and the area between the Lake Toho Shoreline and the Osceola County Urban Growth Boundary east of Reedy Creek intersects 10 census block groups in Polk and Osceola County. After grouping the 10 census blocks intersecting this area, the averages of specific demographic information was compared to the demographic information for Polk and Osceola County and is shown in Table 3.6.3 to Table 3.6.8.

**Table 3.6.3: Demographic Comparison: Population**

Evaluation Criteria	Polk County	Osceola County	Study Area
Total population	602,095	268,685	63,590
Percent of the population that is White	59.0 %	39.9 %	19.3 %
Percent of the population that is Black	15.8 %	9.3 %	18.3 %
Percent of the population that is Hispanic	15.9 %	36.0 %	44.0 %
Percent of the population that is Asian	1.4 %	2.4 %	2.4 %
Percent of the population that is Other	9.3 %	8.0 %	18.4 %
Percent of the population that is considered "Minority"	34.4 %	48.4 %	64.9 %
Median population age	41.4	39.2	37.5
Percent of the population that is above 65 years old	19.2 %	14.6 %	12.7 %

**Table 3.6.4: Demographic Comparison: Density**

Evaluation Criteria	Polk County	Osceola County	Study Area
Total acres	1,286,749	963,778	106,524
Population density (persons per acre)	0.5	0.3	0.6
Household density (houses per acre)	1.2	1.6	0.6
Percent of housing units occupied	80.9 %	78.0 %	80.4 %
Percent of housing units vacant	19.1 %	22.0 %	19.6 %
Average family size	3.0	3.1	3.4
Average household size	2.6	2.8	3.0

**Table 3.6.5: Demographic Comparison: Income**

Evaluation Criteria	Polk County	Osceola County	Study Area
Median Household Income (\$)	\$ 44,431	\$ 45,395	\$ 47,245
Median Family Income (\$)	\$ 50,874	\$ 47,628	\$ 49,884
Percent of households below the poverty line	0.04 %	12.8 %	11.7 %
Percent of the population below the poverty line	14.5 %	12.6 %	13.2 %



**Table 3.6.6: Demographic Comparison: Transportation**

<b>Evaluation Criteria</b>	<b>Polk County</b>	<b>Osceola County</b>	<b>Study Area</b>
Percent of the population that commute to /from work via a car, truck, or van	92.4 %	91.2 %	94.0 %
Percent of the population that does not commute to/from work	3.1 %	3.9 %	3.2 %
Percent of the population that bikes, walks, or takes public transportation to /from work	2.0 %	2.6 %	1.6 %
Percent of the population that travels to /from work via a motorcycle	0.3 %	0.3 %	0.5 %
Percent of the population that travels to work/from via “other” means	2.2 %	2.1 %	0.8 %
Percent of occupied housing units that do not have a vehicle	5.6 %	5.4 %	3.7 %

**Table 3.6.7: Demographic Comparison: Language**

<b>Evaluation Criteria</b>	<b>Polk County</b>	<b>Osceola County</b>	<b>Study Area</b>
Percent of the population that speaks only English	81.8 %	55.5 %	50.7 %
Percent of the population that speaks a language other than English and also speaks English “very well”	9.7 %	25.9 %	30.6 %
Percent of the population that is considered to be Limited English Proficient	8.5 %	18.7 %	18.7 %

Note: People with Limited English Proficiency (LEP) speak English “less than very well” or “not at all”. These people have a limited ability to read, write, speak or understand English.

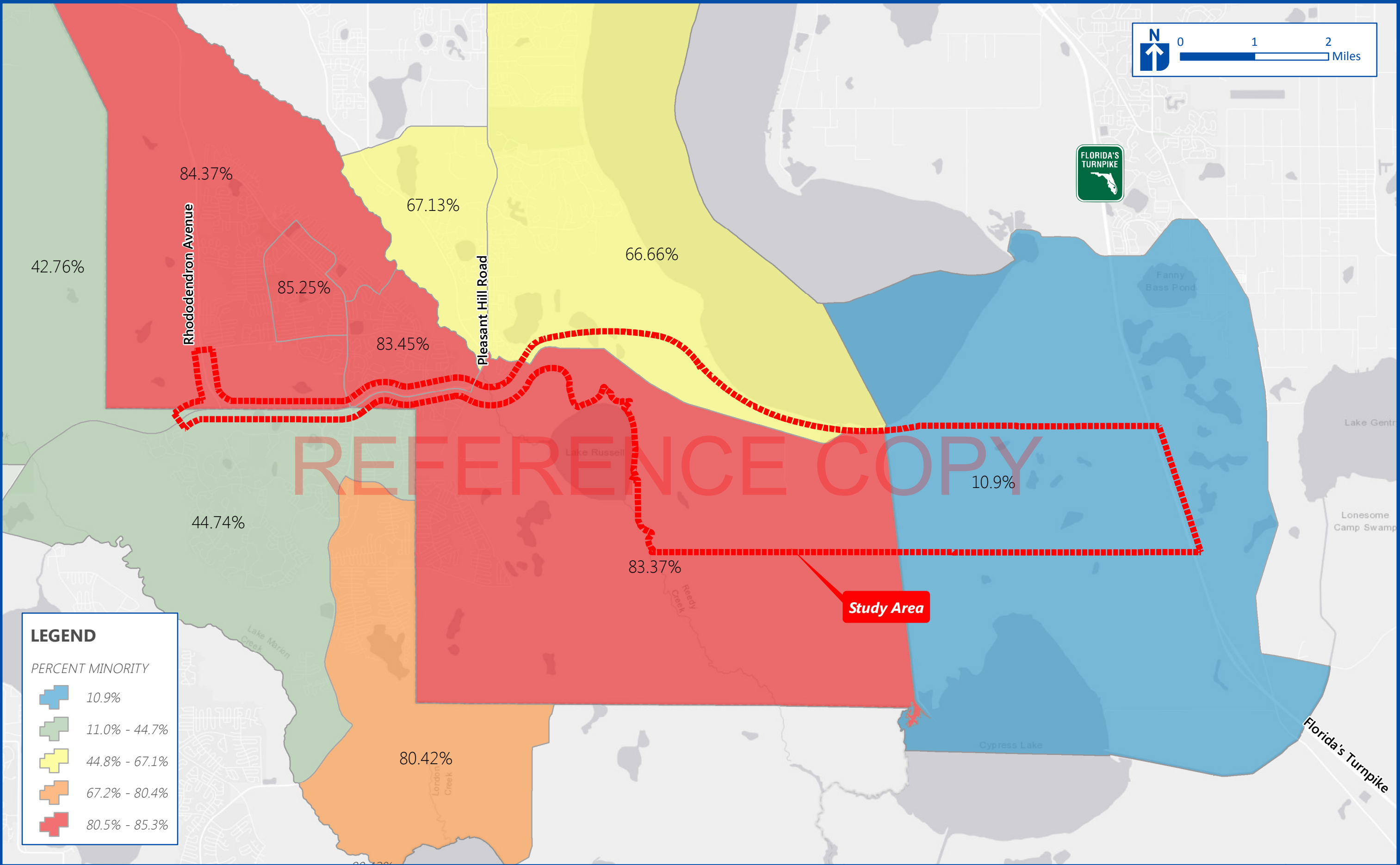
**Table 3.6.8: Demographic Comparison: Education**

<b>Evaluation Criteria</b>	<b>Polk County</b>	<b>Osceola County</b>	<b>Study Area</b>
Percent of the population that is over 25 years old and has less than a 9 <sup>th</sup> grade education	6.6 %	6.5 %	7.0 %
Percent of the population that is over 25 years old and has completed more than 9 <sup>th</sup> grade but does not have a high school diploma	11.5 %	9.2 %	8.4 %
Percent of the population that is over 25 years old and has a high school diploma	81.9 %	84.4 %	84.7 %
Percent of the population that has some college or an associate’s degree	27.2 %	30.9 %	32.5 %
Percent of the population that has a bachelor’s, master’s, doctorate or professional degree	18.0 %	18.3 %	17.4 %

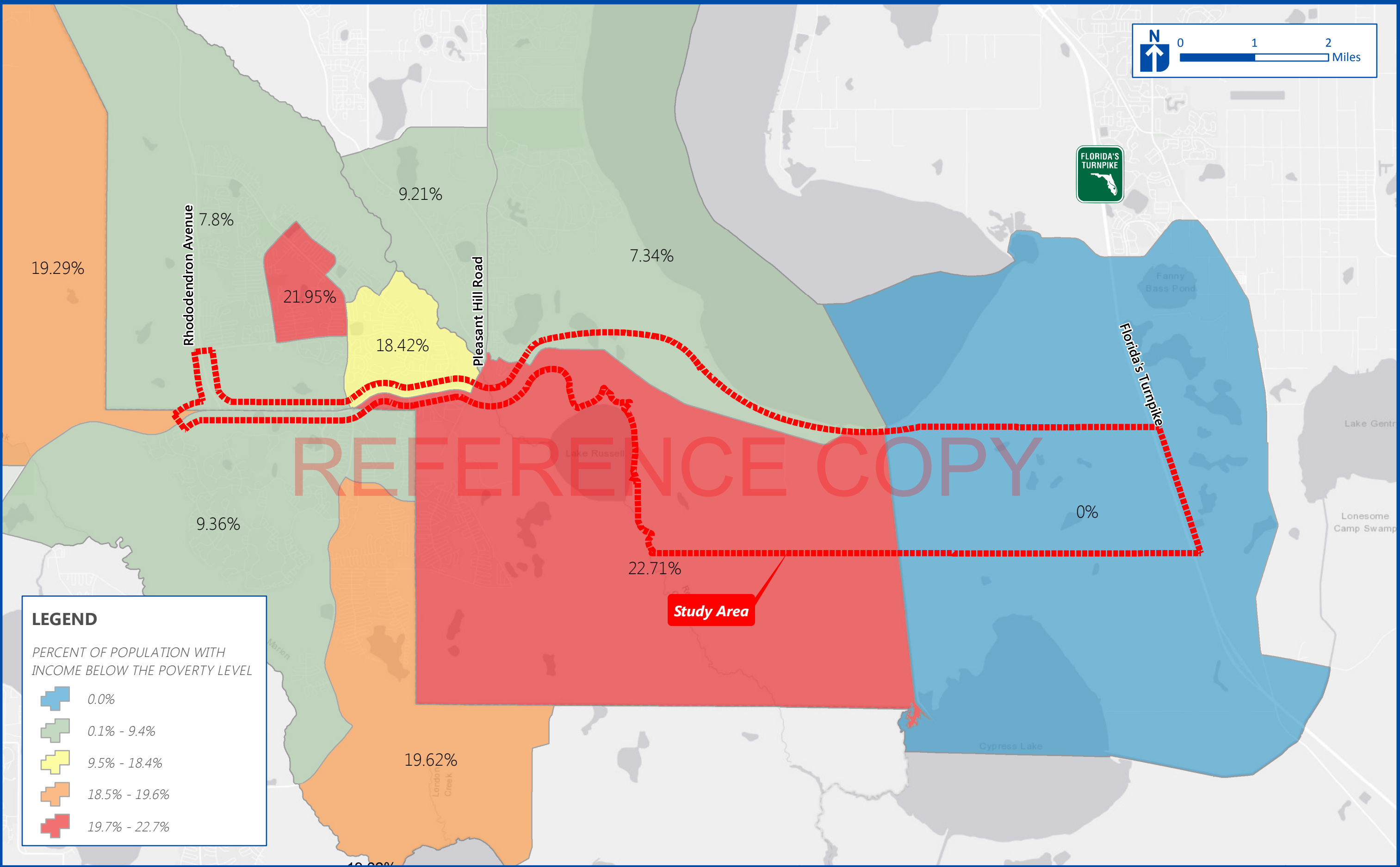
As shown in the Demographic Comparison tables, the study area has a similar demographic profile as the whole of Osceola County and Polk County. The population and language indicators are the two categories with the largest variations between the study area and Polk and Osceola County. Within the study area, a very small percentage of the population is white (19.3%) and a very large percentage of the population is Hispanic (44.0%). Therefore, the total percentage of the population that is considered a minority is also very high (64.9%) compared to Osceola County (48.4%) and Polk County (34.4%). The percentage of the study area that is LEP is 18.7% which is identical to Osceola County, but much higher than Polk County (8.5%).

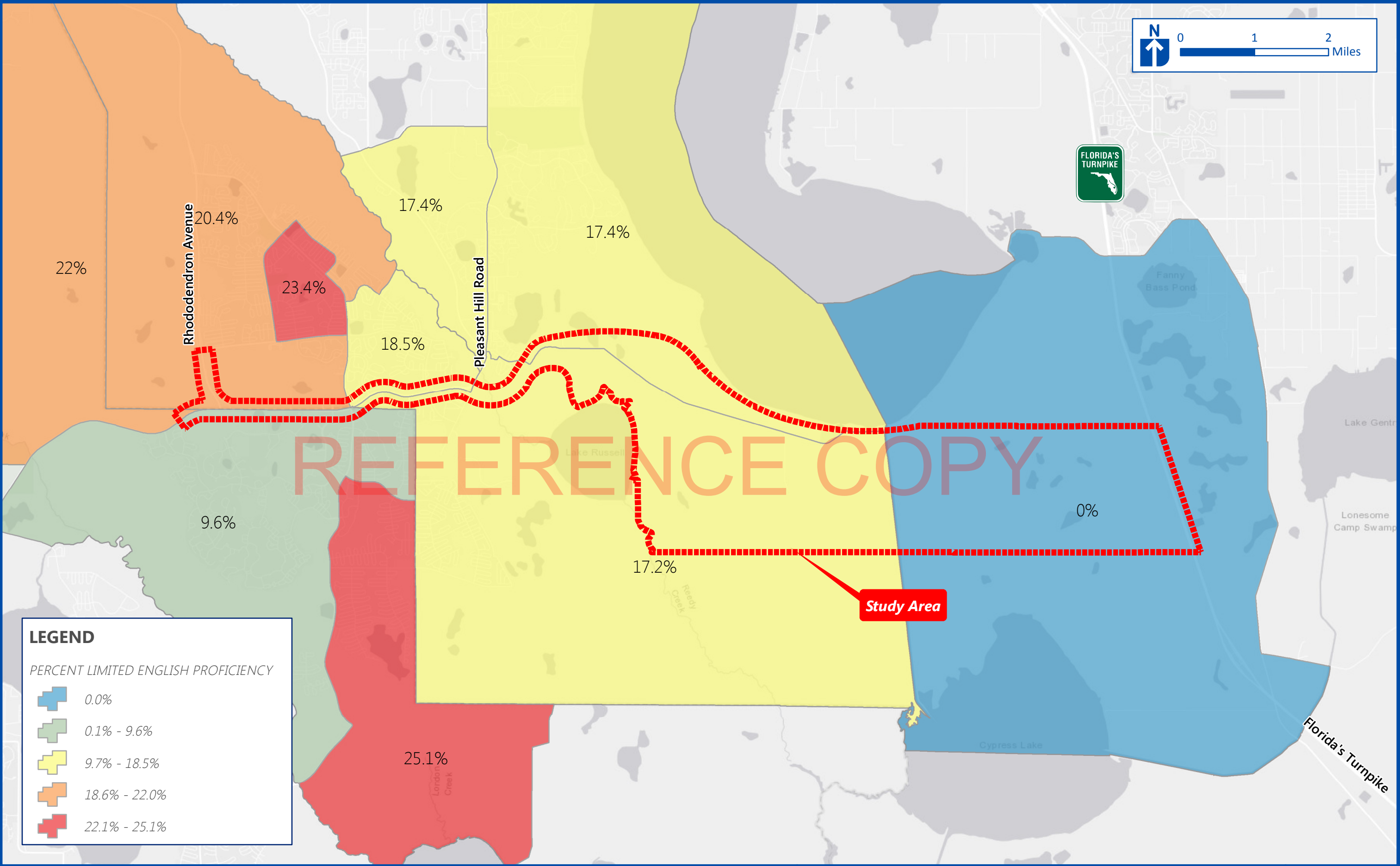
The 2010-2014 American Community Survey (ACS) data includes a demographic indicator referred to as the Demographic Index. The demographic index is a combination of percent low-income and percent minority, the two demographic factors that were explicitly named in Executive Order 12898 on Environmental Justice. The demographic index for the study area is 61% compared to 55% in Osceola County and 40% in Polk County. For reference, the average demographic index for the state of Florida is 41%. The study area and Osceola County have above average demographic indices as compared to the state, indicating that there is a larger percentage of minority and low income persons in the project corridor.

Figure 3.6.13 shows the percent minority for each block group. Figure 3.6.14 shows the population with income below the poverty line. Figure 3.6.15 shows the percent of the population that is LEP.









### 3.6.6 Aesthetic Features

Cypress Parkway is a typical urban arterial roadway with minimal aesthetic features inside the existing right-of-way. Noteworthy aesthetic features in the project area include: landscaped medians and well maintained sidewalk sections. In addition, the two parks located in the project corridor also contribute to the aesthetics of the corridor, they are described in Section 3.6.3.

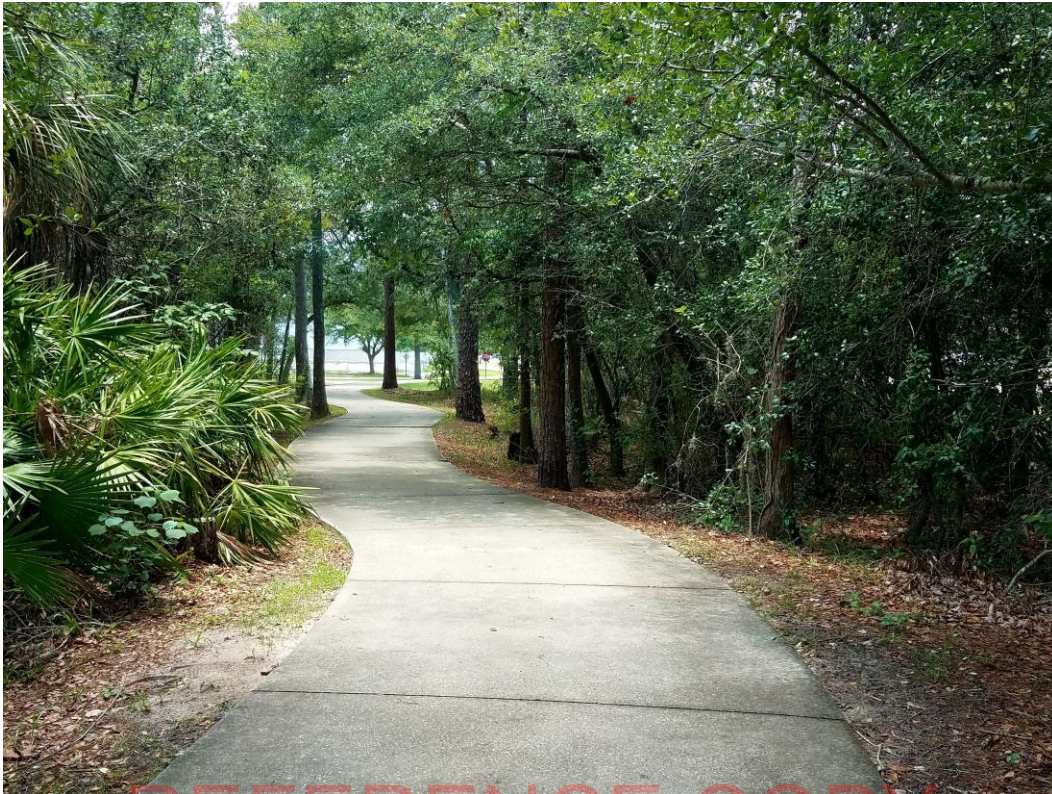
Cypress Parkway has wide grassed medians with large trees and other plants like the crape myrtles shown in Figure 3.6.16. In addition, along Cypress Parkway there is discontinuous sidewalk on the south side of the road, which is well maintained and landscaped, as shown in Figure 3.6.17.

**Figure 3.6.16: Landscaped Median**





**Figure 3.6.17: Cypress Parkway Sidewalk**



### **3.6.7 Mass Transit Facilities**

The two major mass transit providers in Central Florida include LYNX and SunRail. The existing mass transit routes are shown in Figure 3.6.18.

#### **LYNX**

LYNX was originally founded in 1972 as the Orange Seminole Osceola Transportation Authority (OSOTA), eventually becoming Tri-County Transit in 1984. The agency began doing business as LYNX in 1992. In March 1994, the official name of the agency became the Central Florida Regional Transportation Authority.

The agency is a statutory independent authority and continues to do business as LYNX. Funding for the agency comes from four local funding partners: Orange, Osceola, and Seminole Counties, as well as the City of Orlando. Other funding, or system generated funding, is generated by the fares, advertising, contract services, interest and other income which accounts for approximately 27% of operating funds followed by federal (13.2%), and state (10.6%) funding.

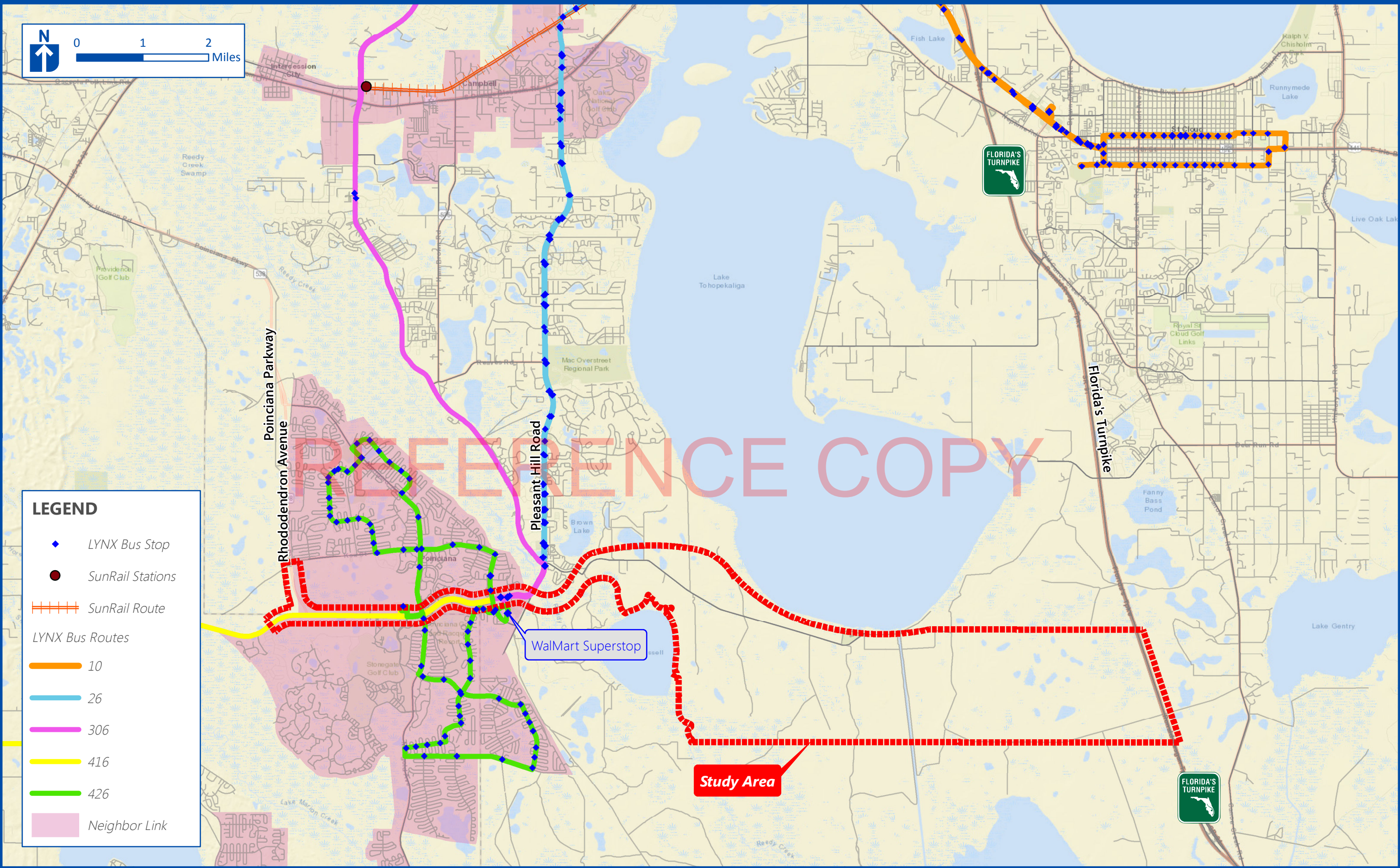
LYNX serves an area approximately 2,500 square miles with a resident population of more than 1.8 million people. The service area includes all of Orange, Osceola, and Seminole Counties with small portions of Polk and Lake Counties. Daily service includes 77 local routes / Links beginning as early as 4:00 a.m. and as late as 12:45 a.m. Other services besides fixed routes includes: LYMMO Bus Rapid Transit, Xpress Bus limited stop service to downtown Kissimmee and the Sand Lake SunRail station, vanpool commuter services, FastLink weekday morning and afternoon commuter service, ACCESS LYNX door-to-door paratransit service, Neighborlink flexible route service (designed to serve rural areas for pick up and connection to stops within a designated service area), and KnightLYNX, (a partnership with the University of Central Florida Student Government Association to provide safe Friday and Saturday evening service near the campus and downtown Orlando).

LYNX currently operates six routes or “Links” in and around the west side of Lake Toho in the Study Area. The major transfer station—for four links—is located at the Poinciana Walmart Center on Pleasant Hill Road. The existing Links in the study area include 26, 426, 416, and 306. Details about the service characteristics of these routes are shown in Figure 3.6.18. Link 10 operates along US 192 servicing Kissimmee and St. Cloud and is outside the study area.

NeighborLink service (NL) is a flex-service offered by LYNX enabling residents living in less-populated areas to make use of both local and LYNX local bus routes by calling in with two hours notice to be picked up and dropped off within the service area or at a local LYNX bus stop. There are two NeighborLinks offered within the Study Area. Of the four Links in the study area, one is a Disney Springs Direct (Link 306) operating only one trip in the early morning and one trip in the evening. This service is primarily provided for shift workers at Disney but is available to the general public. Link 426 operates only within Poinciana, whereas Link 26 and Link 416 connect the Poinciana Walmart Center to Kissimmee Intermodal Station and Haines City, respectively.

The Walmart Superstop located adjacent to the Walmart Supercenter contains a bus bay that accommodates four standard transit buses. This stop serves as the major transfer point for all routes in the Poinciana area and is the transfer point where rides on Neighborlink routes are able to transfer to regular fixed route service for the rest of the LYNX system. Amenities at this stop include shelters, bus loading platforms, solar powered trash compactors and concrete shelter pads set back from the platform to allow sufficient room for waiting passengers and those boarding and alighting. There are also three LYNX stops located on Cypress Parkway, two of which include shelters. These stops primarily serve the Poinciana Town Center development and the Superstop.







**Table 3.6.9: Existing LYNX Transit Routes**

	<b>Link 26</b>	<b>Link 426</b>	<b>Link 416</b>	<b>Link 306</b>	<b>NeighborLink 601</b>	<b>NeighborLink 603</b>
<b>Route</b>	Pleasant Hill Road / Poinciana	Poinciana Circulator	Poinciana/ Haines City	Disney Springs Direct	Poinciana	SW Poinciana
<b>Time(s)</b>	6 a.m. – 9 p.m.	5 a.m. – 10 p.m.	10:40 a.m. – 7 p.m.	6 a.m. & 5 p.m.	6:10 a.m. – 7:10 p.m.	6:10 a.m. – 7:10 p.m.
<b>Frequency</b>	7 days	M – Sat.	M – F	2 trips per day	M – Sat.	M – Sat.
<b>2016 Ridership</b>	304,584	40,820	7,748	24,612	20,012	19,862

### SunRail

SunRail Phase I opened in spring of 2014. The southern terminus is located at Sand Lake Road in Orange County. Phase II is currently under construction. The southern terminus of Phase II is located in Poinciana near the intersection of Orange Blossom Trail and Poinciana Boulevard. Phase II is expected to begin operation in summer of 2018. Service will be every 30 minutes for morning and evening peak hours and two hour service at other times. SunRail also only operates on weekdays. No other commuter rail options exist on the east side of the study area.

### 3.6.8 Freight and Intermodal Centers

There are currently no freight or intermodal logistics facilities within the study area. However, Florida's Turnpike is a designated Strategic Intermodal System (SIS) corridor, and Poinciana Boulevard is considered a primary freight corridor. Both facilities are identified as having high truck volumes (>5% truck traffic volume) with Poinciana Boulevard having nearly 21% truck traffic and Florida's Turnpike having over 15%.

With the opening of SunRail, rail freight traffic on the CSX A-line was diverted to the S-line. As a result, the majority of intermodal and automotive operations from the existing facility in Taft (just south of Orlando) was diverted to the Winter Haven Rail Terminal Facility and Integrated Logistics Center in Polk County, which opened in 2014 concurrent with the opening of SunRail. While the facility is not located within the study area, truck traffic and other freight mobility will continue to grow along nearby Pleasant Hill Boulevard and Cypress Parkway.

### 3.6.9 Pedestrian and Bicycle Facilities

Slightly more than two miles of sidewalk is located within the study area. Sidewalks and shared use paths are sparsely located in northern Osceola County and located mostly along major corridors. Existing sidewalk facilities are shown in Figure 3.6.19. Existing sidewalks are located in the westernmost portion of the study area in Poinciana along the south side of Cypress Parkway, on both sides of Marigold Avenue, and the east side of Doverplum Avenue. Other short connecting sidewalks are located at cross streets providing sidewalk connections to Cypress Parkway.

Existing sidewalks typically border newer planned development such as shopping centers and residential development on the west side of the study area, specifically the Poinciana Town Center and Solivita developments. Pedestrian accommodations are particularly lacking along minor arterials such as Reaves Road on the northwest side of the study area and Kissimmee Park Road in the northeast portion of the study area. Additionally, the sidewalk along Cypress Parkway is located along just the south side of Cypress Parkway from Solivita Boulevard to Pleasant Hill Road.

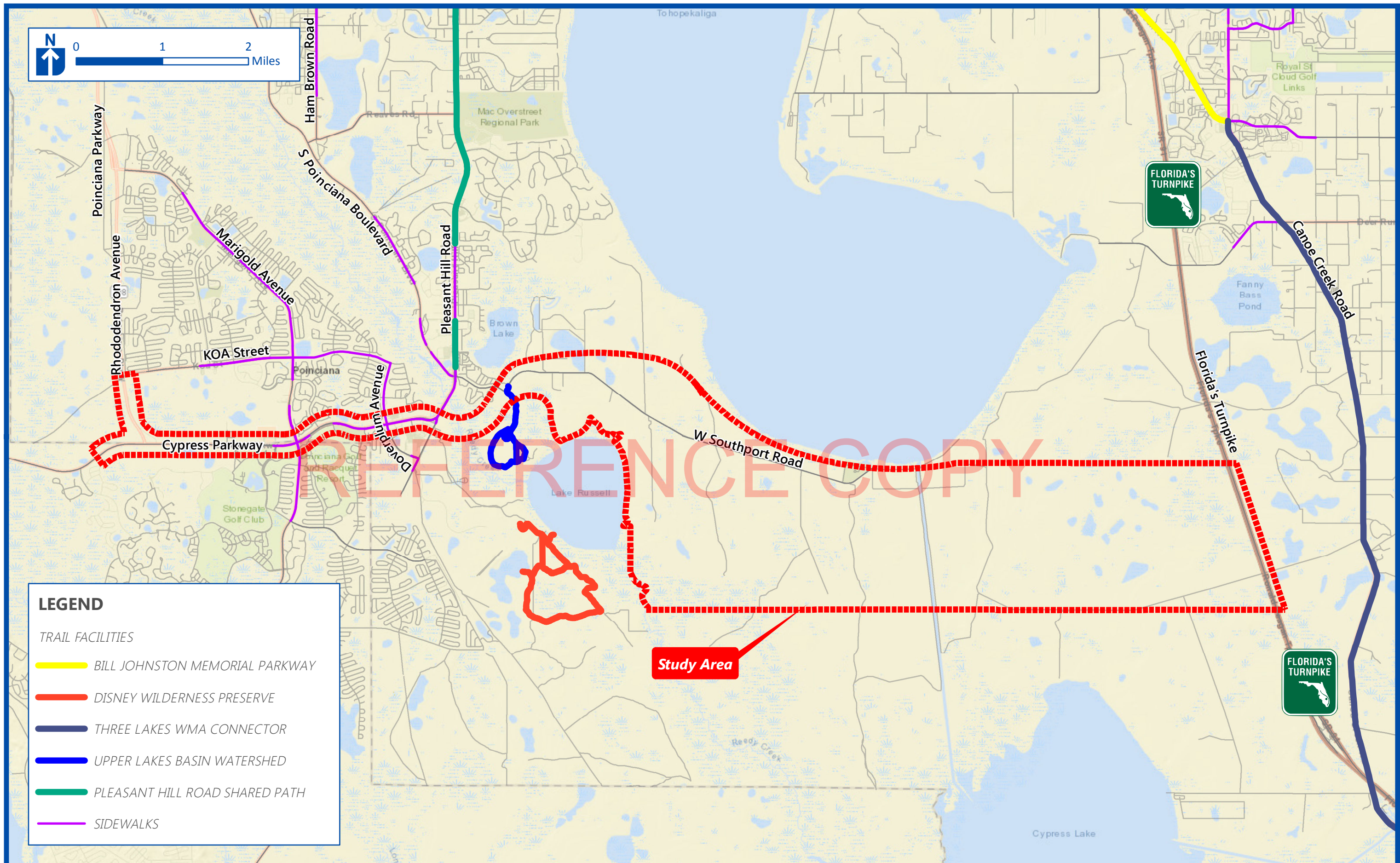
Several sections of sidewalks are located in surrounding areas outside of the study area, thereby creating links to Cypress Parkway and major activity centers at the Poinciana Town Center development. These facilities are located along major roadways such as Pleasant Hill Road, Marigold Avenue, and Poinciana Boulevard.

A few dedicated bicycle facilities are present within the study area. The Pleasant Hill Road multi-use pathway begins at Pleasant Hill Road and South Orange Blossom Trail and continues south into Poinciana, ending at Cypress Parkway and Marigold Avenue. This trail also serves as a pedestrian facility.

The Upper Lakes Basin Watershed trail is located on the south side of West Southport Road just east of where the roadway intersects with the southern end of Poinciana Boulevard. This trail is unpaved and is part of the Osceola County School District Environmental Study Center.

Other trails are located outside of the study project area and are also shown in Figure 3.6.19. These trails include the Disney Wilderness Preserve Trail located south and west of the study area. Other significant shared paths are located to the east of the study area, south of St. Cloud, and east of Florida's Turnpike. These facilities include connections to the Three Lakes Wildlife Management area along Old Canoe Creek Road (Bill Johnston Memorial Path) and Canoe Creek Road (Three Lakes Wildlife Management Area Connector).







### 3.6.10 Transportation Plans

The Southport Connector Expressway is in both Polk and Osceola Counties however, the project will be funded by the CFX if the project is deemed feasible. The MPO that supports this region is MetroPlan Orlando.

The Southport Connector Feasibility Study is included in the MetroPlan Orlando 2017 TIP for Toll Road Projects for fiscal years 2017/2018. The MetroPlan Orlando Plan Development & Cost Feasible Projects included in the 2040 LRTP updated in August 2016 includes the Southport Connector in two pieces: Pleasant Hill Road to Florida's Turnpike and Rhododendron to Pleasant Hill Road. Funding for subsequent phases of project development, design, right-of-way acquisition and construction are shown for the first segment in 2025 and the second segment in 2030 however, the projects are listed under OCX. The CFX 2040 Master Plan includes the Southport Connector Expressway as a potential new expressway from Poinciana Parkway to Florida's Turnpike with an estimated cost ranging from \$520 million to \$700 million. Currently, no funding is listed for phases beyond the Feasibility Study. The CFX Five-Year Work Plan (fiscal year 2018 – fiscal year 2022) also includes the Southport Connector Feasibility Study for the CF&M Study. No other phases are included in the Five-Year Work Plan. The FDOT State Transportation Improvement Program (STIP) includes funding in fiscal years 2017 and 2018 for the previous ACE Study. This project is also listed on Osceola County's South Lake Toho Element Comprehensive Plan 2025. Appendix B contains the transportation planning consistency documents for the Southport Connector Expressway.

## 3.7 Contamination

In September 2017, a preliminary Contamination Screening Evaluation (CSE) was completed for the proposed Southport Connector Expressway Study Area in Osceola and Polk Counties, Florida. The purpose of this screening is to evaluate the presence / absence of Recognized Environmental Conditions (RECs) along the Southport Connector Expressway corridor. The term "REC" as defined by American Society for Testing and Materials (ASTM) is the presence or likely presence of any hazardous substances or petroleum products in, on or at a property:

- Due to any release to the environment;
- Under conditions indicative of a release to the environment; and
- Under conditions that pose a material threat of a future release to the environment.

The methodology used to complete the Preliminary Contamination Screening Evaluation included obtaining pertinent environmental records from federal, state and local regulatory

agencies, reviewing and evaluating a computerized environmental database and aerial photographs, and evaluating potential environmental impacts along the project corridor.

The environmental records were requested within the proposed roadway corridor buffer from the following sources:

- Environmental Data Resources Inc. (EDR);
- Florida Department of Environmental Protection (FDEP) Database; and
- Sanborn Fire Insurance Maps.

One known contaminated facility appears to have potential for environmental impacts to the project corridor due to proximity, anticipated direction of groundwater flow, and / or potential for migrating contamination and is presented in Table 3.7.1.

**Table 3.7.1: Known Contaminated Facility**

Database	Facility Name	Site ID / Location	Concern	Summary
Lust	7-Eleven Store #37636	8735506 / 800 Cypress Pkwy, Kissimmee, FL 34759	Groundwater	Discharge date 3/28/1988. Cleanup ongoing. Score Data 01/15/2016.

A total of 14 facilities, including the known contaminated facility, were found along the proposed corridor in available federal and state databases.

A determination of the risk of encountering contamination was made for all facilities after review of all available information. These determinations are based on the following: existence of contamination at the facility, direction of groundwater flows, clean-up efforts on the known contaminated sites, distance of the subject property to the proposed roadway widening corridor, questionnaire results, where applicable, and on the degree of concern to the proposed project. The Contamination Risk Potential Rating (CRPR) identifies three degrees of risk for general reference purposes. For each potentially contaminated property, a contamination rating of low, medium, or high were assigned.

The risk ratings are defined as follows:

1. **Low:** The former or current site operation has hazardous waste generator identification (ID) number, or deals with hazardous materials; however, based on all available information, there is no reason to believe there would be any involvement with contamination in relation to this project.
2. **Medium:** The subject property is located near or at the same location of a known contaminated site, and there is a record shown that a cleanup effort has been done in

the vicinity. Included within this risk rating are sites which present a moderate degree of concern regarding contamination but do not have sufficient indications of contaminations to be included in high risk category.

3. **High:** After a review of all available information, there is a definite potential for contamination problems. Further assessment will be required to determine the actual presence and/or levels of contamination and the need of remedial action. Included in this category is a facility located in the same location of known contaminated sites that has no record of a cleanup effort.

Based on the criteria established above, a summary of the potentially contaminated facilities, grouped by risk rating is shown in Table 3.7.2.

**Table 3.7.2: Summary of Potentially Contaminated Site Risk Rating**

Risk Rating	Number of Facilities
High	1
Medium	8
Low	5

The 14 potentially contaminated facilities and their risk rating are presented in Table 3.7.3.

**Table 3.7.3: Potentially Contaminated Facilities**

Database	Facility ID	Facility Name	Address	Risk Assessment
LUST	8735506	7-Eleven #37636	800 Cypress Parkway Kissimmee, FL 34759	High
AST	9101841	Osceola County Bass Rd Landfill	750 Bass Road Kissimmee, FL 34746	Medium
AST / RCRA- SQG	9806622 / FLR000109157	Wal-Mart Supercenter	904 Cypress Parkway Poinciana, FL 34759	Medium
RCRA- CESQG	FLR000122903	Tire Kingdom LLC #292	825 Towne Center Drive Kissimmee, FL 34758	Medium
LUST	9808071	Severn Trent Service	4601 Rhododendron Ave Poinciana, FL 34758	Medium
SWF / LF	97239	Rick Holborn Excavation	1150 W Southport Road Kissimmee, FL 34759	Medium



Database	Facility ID	Facility Name	Address	Risk Assessment
SW / LF	25473	Southport Road SLF, Phase I & II	¾ MI E JCT SR 531 Southport Road Kissimmee, FL 34758	Medium
UST	9804681	Circle K #2704876	801 Cypress Parkway Poinciana, FL 34758	Medium
UST	8943614	Osceola County Southport Landfill	4400 Hunt Road Kissimmee, FL 34759	Medium
AST	8627117	Poinciana Golf & Rac	500 E Cypress Parkway Poinciana, FL 34759	Low
AST	8838503	Poinciana Utility WWTP #2	4601 N Rhododendron Poinciana, FL 34758	Low
LUST	8520965	Boggy Creek at South	2001 Southport Road Kissimmee, FL 34759	Low
RCRA- CESQG	FLR000205781	Poinciana Medical Center	325 Cypress Parkway Kissimmee, FL 34759	Low
UST	8520637	Kissimmee Construction Corp	4755 Laurel Avenue Poinciana, FL 34758	Low

### 3.8 Utilities

Sunshine State One Call of Florida utility design tickets were obtained for the study area to ascertain the initial list of utility agency / owners. Osceola County Community Development Department provided a list of utility providers that have direct service coverage within Osceola County. Utility coordination was performed by an initial phone call to the provided contact and follow-up distribution via email transmission of the study area (either in pdf format or kmz file), as requested. Existing utility information was requested for the utility agency/owners for the study area. Table 3.9.1 provides a list of companies, contact information, and existing utility information within the study area.

There are numerous agricultural pumps and wells within the study area. As potential corridors are developed, impacts to these facilities will be evaluated.

### 3.9 Railroads

There are no railroads in the vicinity of the project corridor.

**Table 3.9.1: Summary of Existing Utility Information**

Utility Company	Contact Information	Notes Regarding Utilities within Project Area
American Traffic Solutions	Jason Lang (330) 807-3611	No information received.
Amerigas Dundee	Teri Brescia Teri.Brescia@amerigas.com (863) 439-1597	Onsite tank in back of Southport Shopping Plaza at 3350 West Southport Road. This is north of project area of interest.
AT&T	Steve Eriksson (PEA, Inc.) seriksson@pea-inc.net (407) 578-8000	High capacity FOC conduit system along Florida's Turnpike (SR 91)
Centurylink - Winter Garden	Ty Leslie Michel.T.Leslie@centurylink.com (407) 814-5293	Fiber & Copper utilities are located along Cypress Parkway from Poinciana Parkway through Pleasant Hill Road and along Southport Road from Pleasant Hill Road to Friar's Cove Road. Aerial Copper is located along E Southport Road.
Charter Communications	John Smith John.Smith5@charter.com (407) 532-8520	Buried and overhead facilities along both sides of Cypress Parkway from Poinciana Parkway to Pleasant Hill Road, and at every intersection along Cypress Parkway. No facilities are located east of the existing Cypress Parkway right-of-way.
Duke Energy	Mark Manner Mark.Manner@Duke-Energy.com (863) 678-4476	Major distribution lines (overhead & underground) on both sides of Cypress Parkway (Poinciana Pkwy to Pleasant Hill Rd) with major crossings at substation near Laurel Ave, Marigold Ave, and Doverplum Rd. Overhead transmission lines along westbound of Cypress Pkwy at the beginning of the project and along eastbound of Cypress Pkwy from Marigold to Pleasant Hill Rd. A 12.47kV 3 Ph branch line along Southport Rd from Pleasant Hill Rd to Friar's Cove Rd (south of Lake Toho) with a side line heading south along Kelly

Utility Company	Contact Information	Notes Regarding Utilities within Project Area
		Lane. Duke Energy does not have distribution facilities between Southport Canal (C-35) and Florida's Turnpike.
Embarq Communications Inc.	Robert Godek Rob.m.godek@centurylink.com (407) 830-3421	Short run of FOC (24F) servicing fire station along Cypress Parkway.
Frontier Communications	Fred Valdes Fred.n.valdes@ftr.com (863) 688-9714	Buried cables, fiber cables, and single 4-inch pipe within Cypress Parkway right-of-way from beginning of project to Marigold Avenue.
Kissimmee Utility Authority (KUA)		KUA Service Area Map shows their service area is north of project's area of interest.
Orlando Utility Commission (OUC)		OUC Service Area Map shows their service area is north of project's area of interest.
Osceola County Traffic	Joedel Zaballero Joedel.Zaballero@osceola.org (407) 742-0623	No information received.
Peace River Electric Cooperative (PRECO)	PRECO Engineering Department 1 (800) 282-3824 x4x2	PRECO Service Area within Osceola County is south of project area. Located south of Lake Kissimmee along SR 60 to the Florida Turnpike then north along SR 441 towards Lake Marian.
Sprint	Mark Caldwell Mark.d.caldwell@sprint.com (321) 280-2178	FOB along Cypress Parkway for entire length of project, then follows Pleasant Hill Road north.



Utility Company	Contact Information	Notes Regarding Utilities within Project Area
<p>Toho Water Authority – Zone 4</p>	<p>Veronica Vargas vvargas@tohowater.com (407) 944-5034</p>	<p>Water distribution lines run along the eastbound side of Cypress Parkway from the beginning of the project to just east of Cypress Branch Rd, and crosses Cypress Pkwy at every intersection from Poinciana Pkwy to Pleasant Hill Rd.</p> <p>Reuse water distribution lines run along the westbound side of Cypress Parkway from Poinciana Pkwy to Doverplum Ave, runs along Poinciana Pkwy, and crosses Cypress Pkwy at major intersections.</p> <p>Wastewater force mains are located along Poinciana Pkwy and eastbound Cypress Pkwy from beginning of project to Poinciana Pkwy. Wastewater FM crosses Cypress Pkwy at Poinciana Pkwy/Solivita Blvd, Marigold Ave, Doverplum Ave, and Pleasant Hill Rd.</p> <p>All utilities parallel to Cypress Pkwy and Poinciana Pkwy are located along the right-of-way property line. No utilities are located east of Pleasant Hill Road.</p>

## 4.0 Traffic Considerations

### 4.1 Historical and Current Traffic

Existing traffic data for Cypress Parkway was obtained from the FDOT Traffic Data GIS shapefiles and the FDOT Florida Traffic Online (2016) website. The FDOT Office of Transportation Statistics Traffic Data Shapefiles for Annual Average Daily Traffic (AADT) in GIS, published August 26, 2017, were reviewed. A summary of the 2016 traffic data is contained in Table 4.1.1.

**Table 4.1.1: 2016 Existing Traffic Data**

Begin Limit	End Limit	AADT	K Factor	D Factor	T Factor
Poinciana Parkway	Marigold Avenue	10,800	9	53.3	4.8
Marigold Avenue	Pleasant Hill Road	43,500	9	52.5	9.6

One FDOT portable traffic monitoring site is located 0.18 mile west of Doverplum Avenue (milepost 0.959) on Cypress Parkway. Table 4.1.2 contains the historical AADT report for this monitoring site.

**Table 4.1.2: 2015 Historical AADT Report for Monitoring Site**

Year	AADT	Eastbound AADT	Westbound AADT	K Factor	D Factor	T Factor
2015	42,500	21,000	21,500	9.0	52.7	9.6
2014	38,500	23,500	15,000	9.0	52.8	12.4
2012	35,500	18,000	17,500	9.0	53.1	12.5
2009	32,000	15,500	16,500	9.1	53.7	7.8

### 4.2 Roadway Operational Conditions

The FDOT 2012 Generalized Service Volume Tables were used to evaluate the LOS along Cypress Parkway. Table 4.2.1 details the LOS for each segment.

As shown in Table 4.2.1, the segment from Marigold Avenue to Pleasant Hill Road has a failing LOS. A four-lane divided signalized arterial, with a posted speed of 40 mph or greater, can accommodate a maximum of 39,800 vehicles per day and function at LOS D. By comparison, the segment west of Marigold Avenue has a significantly lower AADT and

therefore functions at a LOS better than C. However, due to the construction of Poinciana Parkway, the AADT for the segment west of Marigold Avenue may see a significant increase.

**Table 4.2.1: Cypress Parkway Operational Conditions**

Begin	End	Number of Lanes	Divided	2016 AADT	Area Type	LOS
Poinciana Parkway	1,850 feet West of Solivita Blvd	2	No	10,800	Transitioning	Better than C
1,850 feet west of Solivita Blvd	Marigold Avenue	4	Yes	10,800	Transitioning	Better than C
Marigold Ave	Pleasant Hill Road	4	Yes	43,500	Urbanized	F

### 4.3 Safety / Crash Analysis

Crash data for years 2012 to 2016 was obtained from Signal Four Analytics for a 300-foot buffer around Cypress Parkway from Poinciana Parkway in Polk County to Pleasant Hill Road in Osceola County. Signal Four Analytics is an interactive, web-based system designed to support the crash mapping and analysis needs of law enforcement, traffic engineering, transportation planning agencies, and research institutions in the state of Florida. This system is developed by the GeoPlan Center at the University of Florida, and funded by the state of Florida through the TRCC.

A total of 814 crashes including 321 injury crashes and four fatal crashes were reported over the five-year period. Below is a summary of the crash statistics for the 3.5-mile section of Cypress Parkway:

- 7 fatalities;
- 572 injuries;
- 12 crashes involved drugs or alcohol;
- 19.2% of all crashes occurred at an intersection;
- 18.2% of all crashes were intersection-related;
- 754 crashes occurred in Osceola County; and
- 60 crashes occurred in Polk County.

Table 4.3.1 displays a detailed summary of the crashes within 300 feet of Cypress Parkway. The high proportion of rear end crashes is indicative of a congested urban roadway with frequent stopping. Locations with the highest concentration of crashes are the intersections



with Doverplum Avenue (275), Pleasant Hill Avenue (203), and Marigold Avenue (204). Figure 4.3.1 shows the location of the crashes along Cypress Parkway.

The four fatal car crashes in the project area resulted in seven fatalities. A brief description of each fatal crash is summarized below:

- May 12, 2013 at 10:45 a.m. on Cypress Parkway 2,000 feet west of Laurel Avenue a two vehicle head-on crash occurred. The first vehicle was traveling east on Cypress Parkway and the second vehicle was traveling west on Cypress Parkway when a passenger in the first vehicle grabbed the steering wheel causing the vehicle to cross the median and collide with Vehicle 2. This crash resulted in one fatality and five injuries.
- May 19, 2013 at 3:40 p.m. on Cypress Parkway 0.1 mile west of Cypress Drive a single vehicle crash occurred. The vehicle was traveling east when the driver lost control and eventually struck a tree. The vehicle subsequently caught fire and both the driver and passenger were killed.
- March 16, 2014 at 12:40 a.m. westbound on Cypress Parkway 1,500 feet west of Pleasant Hill Road a single vehicle crash occurred. The vehicle was negotiating a curve when it ran off the road and hit a tree. The driver had a blood alcohol level above the legal limit and was the sole fatality in this crash.
- February 6, 2016 at 8:40 p.m. on Cypress Parkway 800 feet west of Laurel Avenue a two vehicle head-on crash occurred. The first vehicle was traveling westbound on Cypress Parkway when it began to fishtail and then lost control and started to spin and cross into the opposite lane of traffic where it struck the second vehicle traveling eastbound on Cypress Parkway. Each vehicle had five occupants for a total of 10 occupants (six children). The crash occurred during rainy conditions when the road surface was wet. The crash resulted in three fatalities and seven injuries. One occupant from Vehicle 1 was pronounced dead at the scene, and two occupants from Vehicle 2 were pronounced deceased at the hospital.

Table 4.3.1: Five-Year Crash Summary

		5 Year Total Crashes	Percentage (%)
CRASH TYPE	Rear End	386	47.4
	Head On	8	1.0
	Angle	39	4.8
	Left Turn	103	12.7
	Right Turn	21	2.6
	Sideswipe	82	10.1
	Pedestrian	5	0.6
	Bicycle	5	0.6
	Off Road	46	5.6
	Rollover	8	1.0
	Animal	6	0.7
	Unknown	15	1.8
	Other	90	11.1
	<b>Total Crashes</b>	<b>814</b>	<b>100</b>
SEVERITY	PDO Crashes	491	60.3
	Fatal Crashes	4	0.5
	Injury Crashes	319	39.2
LIGHTING CONDITIONS	Daylight	558	68.6
	Dusk	30	3.7
	Dawn	18	2.2
	Dark – Lighted	166	20.4
	Dark – Not Lighted	40	4.9
	Unknown	2	0.2
SURFACE CONDITIONS	Dry	670	82.3
	Wet	141	17.3
	Others	3	0.4
YEAR	2012	135	16.6
	2013	164	20.1
	2014	133	16.3
	2015	185	22.7
	2016	197	24.2
MONTH OF YEAR	January	63	7.7
	February	63	7.7
	March	88	10.8
	April	79	9.7
	May	83	10.2
	June	50	6.1
	July	56	6.9
	August	75	9.2
	September	72	8.8
	October	65	8.0
	November	56	6.9
	December	64	7.9

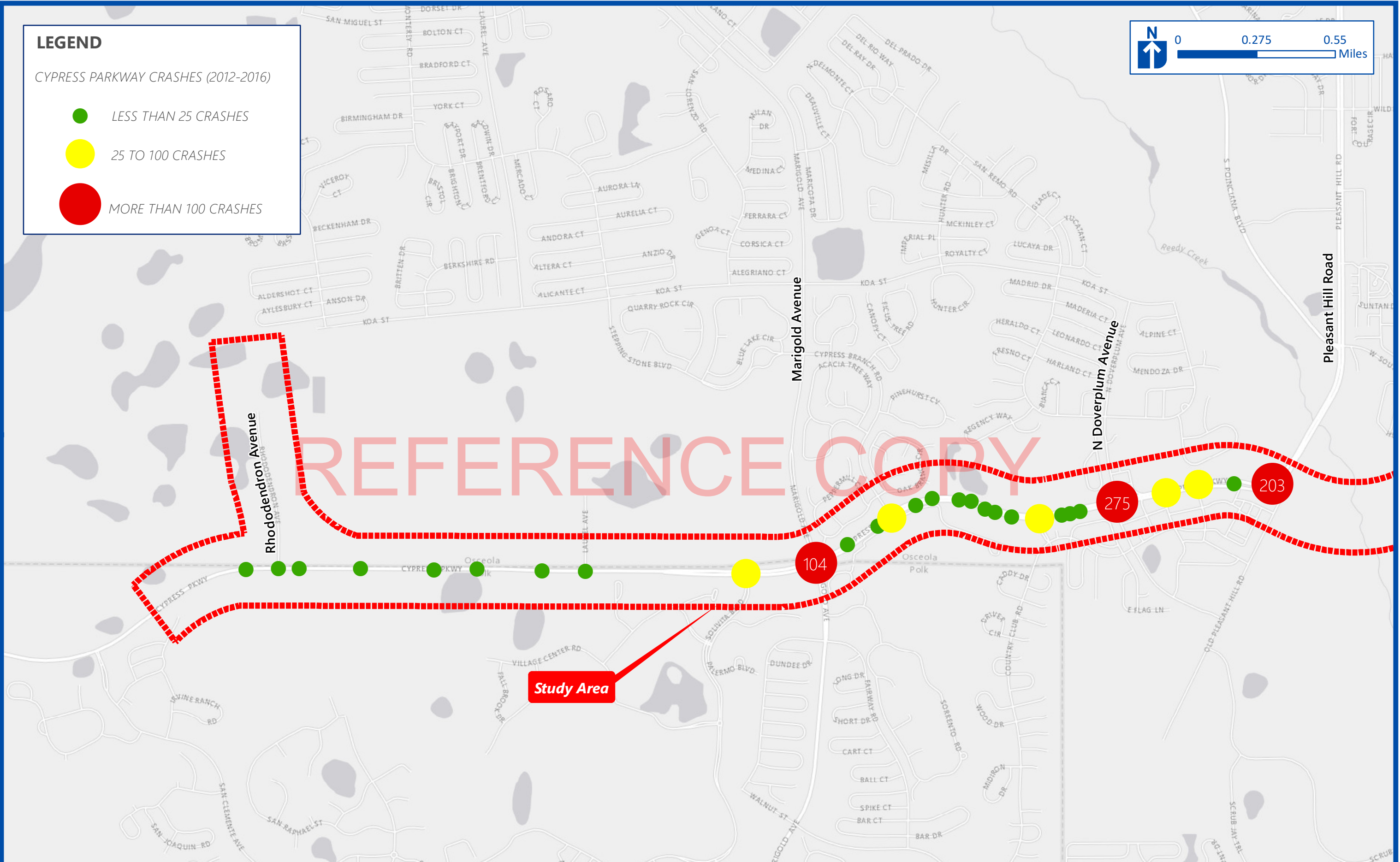
**LEGEND**

CYPRESS PARKWAY CRASHES (2012-2016)

● LESS THAN 25 CRASHES

● 25 TO 100 CRASHES

● MORE THAN 100 CRASHES





## 4.4 Travel Demand Forecasting

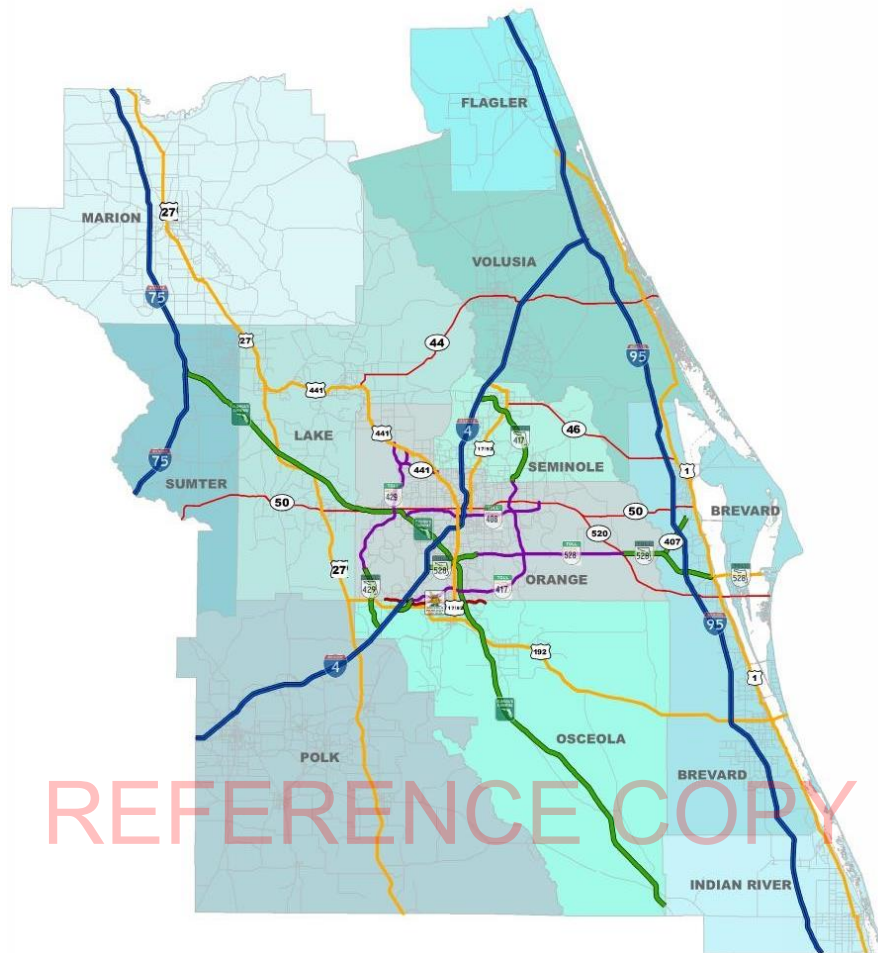
The traffic forecasts used to analyze the Southport Connector and the other CFX CF&M studies are based on an updated and improved travel demand model created specifically for this effort. The travel demand model was used to estimate the expected traffic based on input data such as socio-economic data (i.e. land use, population, employment) and transportation network data (e.g. number of lanes, facility types, trip rates). The primary forecasting tool used over the last 30 years in Florida has been the Florida Standard Urban Transportation Model Structure (FSUTMS). Within the FSUTMS, toll modeling originated by establishing specific toll amounts for appropriate network links and a coefficient to convert tolls to travel time impedance. FSUTMS is run from the Cube Voyager operating system.

CDM Smith, the General Traffic and Earnings Consultant for CFX, previously developed a travel demand model for a coverage area that includes the CFX system and areas of future expansion and influence. This previous model was based on the 2004 Orlando Urban Area Transportation System (OUATS) model and the 2005 Central Florida Regional Planning Model (CFRPM), version 5.0 and was updated to a base year of 2010. This daily model for the Central Florida region, was developed in the Cube Voyager platform and was designated CFX 1.0. Due to the expansion of the CFX jurisdictional area and the need to study projects in this expanded area, CDM Smith updated the travel demand model to include a larger study area. This new model, herein referred to as the CFX 3.0 model, is developed specifically for forecasting analysis for the CFX System. The CFX 3.0 model is based on the CFRPM version 6.1, in Cube Voyager, because of the larger study area and updated socio-economic data sets.

### 4.4.1 CFX 3.0 – Base Year Model (2015)

The CFX 3.0 model was developed using only the daily model from the CFRPM 6.1. The CFRPM 6.1 time of day model was not contemplated for use for the first version of this model. This first version of the CFX 3.0 model was developed for the purpose of evaluating the following projects: Osceola Parkway Extension, Northeast Connector Parkway, Southport Connector Expressway, and the Poinciana Parkway I-4 Connector projects for the CF&M Studies. The CFX 3.0 was validated for a 2015 base year with a concentration on the sub-area of Osceola County and south Orange County. This model covers all of Orange, Seminole, Osceola, Lake, Sumter, Marion, Volusia, Flagler, Polk, Brevard Counties, as well as connected portions of Indian River County. Figure 4.4.1 contains a map showing the geographic extent of the CFX 3.0 and some of the more important (higher volume) roadways, including the CFX toll facilities, I 4, I-95, Florida's Turnpike System, US Highways and State Routes. The future (or forecast) years for CFX 3.0 are 2025, 2035 and 2045. The CFX 3.0 model has a total of 5,406 traffic analysis zones (TAZs) including the 56 external zones.

**Figure 4.4.1: CFX 3.0 Model Area**

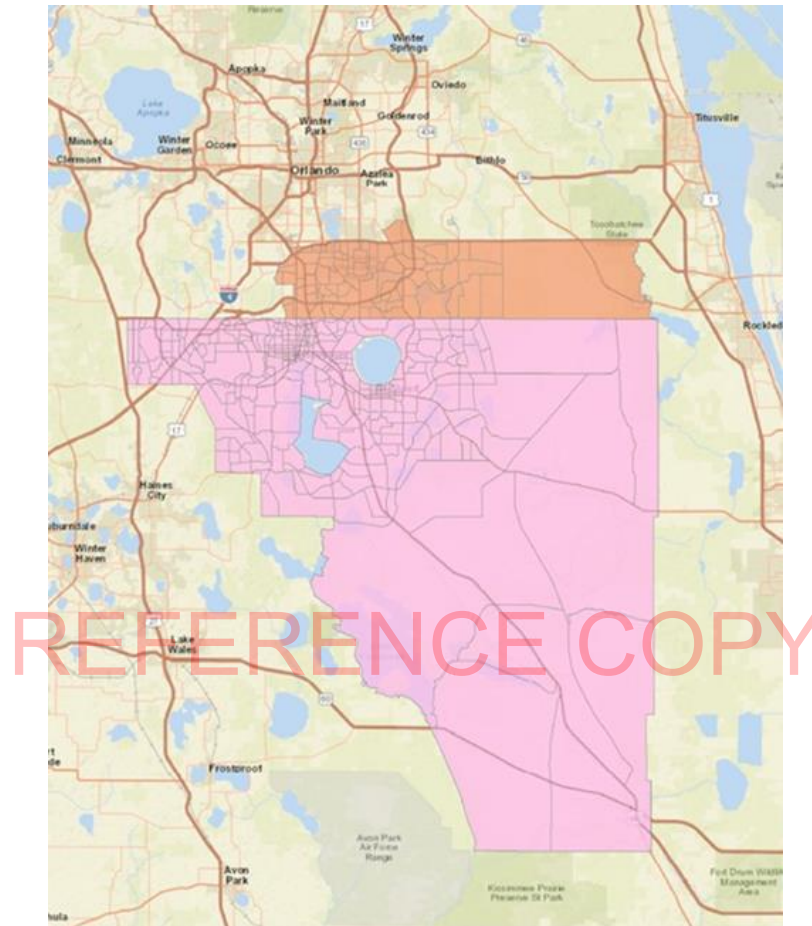


#### 4.4.1.1 Model Characteristics

The base model is the CFRPM Model version 6.1, which has a base-year socio-economic data set for 2015. For use in studying the CF&M projects several changes were made to the base year model before validation. The 2015 base year socioeconomic data for the CFX model was developed by utilizing the 2015 socioeconomic (SE) data set from the CFRPM model for all locations other than Orange County sub-area and Osceola County. For Orange County sub-area and Osceola County (study sub-area highlighted in Figure 4.4.2), FKA was employed to develop population, dwelling units / households, school enrollment and employment control totals for the base year SE data sets. FKA was provided the disaggregated zonal structure (described in next section) for the study sub-area and allocated the population, school population and employment using the methodology described in the FKA report. The base-year network was reviewed and improved to reflect the 2015 existing conditions and include details about the CFX System and other toll roads. In addition, using GIS, the network was compared to 2010 aerial photography and corrections were made to various link

characteristics, such as the number of lanes, facility type, area type and speed. Traffic counts in the base year were assembled and reviewed. These included counts from CFX, FDOT, county, and municipal governments.

**Figure 4.4.2: Study Sub-Area**



#### 4.4.1.2 Zonal Structure

The zonal structure from CFRPM 6.1 Model was used in its entirety for the CFX 3.0 model. For the purpose of evaluating the new corridors from the CFX Master Plan (Osceola Parkway Extension, Northeast Connector Parkway, Southport Connector Expressway, and the Poinciana Parkway I-4 Connector projects), traffic analysis zone disaggregation was needed as the project alignments and supporting roads were added. In Orange County, the southeast portion of the county was modified to incorporate the project alignments and new developments in the study area. Orange County TAZ zones ranging from 883 to 1,077 in CFRPM model were evaluated, 74 zones in all. After disaggregation there were 93 zones, a total of 19 new zones were added in this area of the county. In Osceola County, the entire county was evaluated with zones numbered 1,101 to 1,350, 250 zones in all. After



disaggregation there were 349 zones, with 99 new zones added. A summary of the zone disaggregation is presented in Table 4.4.1.

**Table 4.4.1: Zone Disaggregation Summary**

	Old Zone Count	New Zone Count	New Zones Added
Orange County	74	93	19
Osceola County	250	349	99
Total	324	442	118

#### 4.4.1.3 Socio-Economic Data

FKA developed socioeconomic estimates for the following components of the TAZ datasets for the development of the traffic and revenue study:

1. Population and Dwelling Units
  - a. Single Family Dwelling Units and Population
  - b. Multi-Family Dwelling Units and Population
2. Hotel / Motel Units (includes Timeshare) and Hotel / Motel occupants
3. Employment
  - a. Industrial
  - b. Commercial
  - c. Service
4. Student Enrollment

In addition, FKA conducted an analysis of developments of regional impact (DRIs) which impact development patterns and the allocation of population and employment throughout the study sub-area.

The baseline analysis involved a detailed evaluation of each county's property appraiser data by land use type intersected with the TAZs via GIS shapefiles. FKA used Woods & Poole (W&P) Economics data, BEBR, the Florida Department of Business and Professional Regulation licensure data, ESRI, and DataStory as the sources of its 2015 population control totals and base year hotel / motel population. FKA base year control total for population in Orange County is 2.9% more than BEBR estimates and 1.3% higher than W&P estimates, as shown in Table 4.4.2. The FKA base year control total for population in Osceola County is 5.1% higher than BEBR estimates and 2.0% higher than W&P estimates.

**Table 4.4.2: 2015 Population Control Totals**

County	Countywide (2015)				Study Area (2015)	
	W&P	BEBR	FKA	ESRI	DataStory	Final - FKA
Orange	1,272,090	1,252,396	1,288,130	1,258,251		
Osceola	317,680	308,327	323,993	305,855	301,498	323,993
Orange (Study Area)*					104,318	106,795
*Orange Study Area – not entire County Source: W&P: Woods & Poole 2016 Source: BEBR: University of Florida, BEBR Medium (Volume 49, Bulletin 174, January 2016) Source: FKA: Fishkind and Associates, Inc. Source: ESRI: ESRI BAO 2017 Source: DataStory: (ESRI TAZ Data) *partial county						

FKA used W&P Economics data, ESRI, and DataStory as the sources of its 2015 employment control totals. FKA base year control total for employment in the study portion of Orange County is 7.7% of W&P's total Orange County employment estimate in 2015. FKA base year control total for employment in Osceola County is 2.5% more than W&P estimates as shown in Table 4.4.3. The FKA base year control total for population in Osceola County is 5.1% higher than BEBR estimates and 2.0% higher than Woods & Poole estimates.

FKA verified existing school enrollments through county school board information, Florida Department of Education Public School data, supplemented by private school data and data for university enrollment within the study area. The 2015 school enrollment control totals are presented in Table 4.4.4.

**Table 4.4.4: 2015 School Enrollment Control Totals**

Location	2015 Students
Orange- Study Area	26,240
Osceola County	78,547
Total	104,787
Source: ESRI (2015) and FKA	

**Table 4.4.3: 2015 Employment Control Totals**

Data Source	County	Employment (2015)				Percentages			
		Industrial	Commercial	Service	Total	Industrial	Commercial	Service	Total
W&P	Orange (Entire County)	142,080	217,700	601,420	961,200	14.8%	22.6%	62.6%	100.0%
	Osceola	14,540	31,420	66,280	112,240	13.0%	28.0%	59.1%	100.0%
ESRI/ DataStory	Orange (Study Area)	25,101	12,443	21,957	59,501	42.2%	20.9%	36.9%	100.0%
	Osceola	11,912	30,853	59,423	102,188	11.7%	30.2%	58.2%	100.0%
FKA	Orange (Study Area)	30,954	15,344	28,109	74,407	41.6%	20.6%	37.8%	100.0%
	Osceola	14,902	32,202	67,930	115,034	13.0%	28.0%	59.1%	100.0%
Source: W&P: Woods & Poole 2016 Source: DataStory: DataStory (ESRI TAZ Data) for partial county Source: FKA: Fishkind and Associates, Inc.									



#### 4.4.1.4 Network

The 2015 network was developed from the CFRPM 2015 network. First, the network was reviewed against the most recent transportation capital improvement plans to determine if certain projects were implemented in the time-period between 2010 and 2015. Using GIS and 2015 aerial imagery, the network facility types, speeds and capacities were checked, concentrating on expressway and arterial facilities, to ensure that the network was properly coded to match existing conditions. Adjustments were made to the link attributes in the study area, including operating speed and capacity. Traffic count data was assembled from CFX, FDOT, county, and municipal governments and was reviewed for consistent growth at the stations. Again, the review of count stations focused on the arterial and higher facilities.

#### 4.4.1.5 Toll Rates

The toll rates collected on CFX and other toll facilities, including Florida's Turnpike and Osceola County facilities, in 2015 were reviewed for use in the modeling process. At most toll location there are two toll rates: one for customers paying through electronic toll collection (ETC), i.e., E-PASS or SunPass; and the other for customers paying with cash. More precisely, the toll rates used in the model are the weighted average of the ETC and cash toll rates, where the ETC participation rate is the weight. Truck volumes are relatively low on CFX facilities and therefore not included as a model feature.

#### 4.4.1.6 Trip Generation

Several modifications were made to the trip generation model from CFRPM Version 6.1 to ensure a production-attraction balance at the county level. The Volusia Lifestyle Trip Generation Model is incorporated for the remainder of the CFRPM 6.1 model to produce school trips in the remaining 10 counties. In running the CFX 3.0, school trips were missing in all counties but Volusia County, accounting for approximately 5% of the total trip productions. CDM Smith made corrections in CFX 3.0. With the incorporation of the Lifestyle Trip Generation Model, a lifestyle model characteristic was not populated in two hundred zones, so no trips were generated from those zones. CDM Smith corrected the missing characteristics in those zones. CDM Smith also reconstructed the Special Generator model by removing hard-coded trips between major attractions, such as trips between Walt Disney World and the Kennedy Space Center. CDM Smith used Streetlight Data, Inc. origin-destination (OD) surveys to adjust / update the trip productions and attractions in the Special Generator Model for three major attractions (Walt Disney World, Universal and SeaWorld) in Orlando.

In external trip models, the External to External (EE) and External to Internal (EI) were reviewed for count and growth rates. Based on the OD Survey of external station locations,

including Turnpike in Osceola County, I-95 in Indian River County, I-4 in Polk County and I-75 in Marion County, many EE Trips were reset to the travel patterns shown in the OD survey. The adjustments in the trip generation model produced reasonable results, consistent with the current traffic movements, other regional models and with national averages.

#### 4.4.1.7 Trip Distribution

Trip distribution model from CFRPM Version 6.1 Model is the gravity model in which trips are distributed across TAZs based on the number of productions and attractions and the travel impedance, or generalized cost of travel, between origins and destinations. The distribution step produces trip length frequency distributions (TLFD), which show the probability of trips at different trip lengths. CDM Smith found that the trip lengths were in many cases too long, creating illogical trip patterns between counties. CDM Smith adjusted friction factors in CFX 3.0 model to make the model TLFDs replicate the data from the National Household Transportation Survey. This was completed for each of the 11 counties and six trip purposes in the CFX 3.0 model and resulted in a significant improvement to the representation of intercounty movements.

The CFRPM 6.1 model also produced very high volumes on I-4 at the Polk County / Osceola County line. CDM Smith reconstructed friction factors for I-4 at the external station, because not enough trips from the Lakeland area were being attracted to the external station (heading to Tampa) and instead were being attracted to Orlando Metro area. CDM Smith used the OD data to reconstruct and calibrate the TLFD of I-4 in Polk County.

Other updates to the trip distribution model include K-factor adjustments for I-4, I-95 and Florida's Turnpike to adjust trip patterns from Polk External Stations to Brevard and Indian River County Zones, Brevard and Indian River County External Stations to Polk County zones, as well as Polk County Internal-Internal Trips.

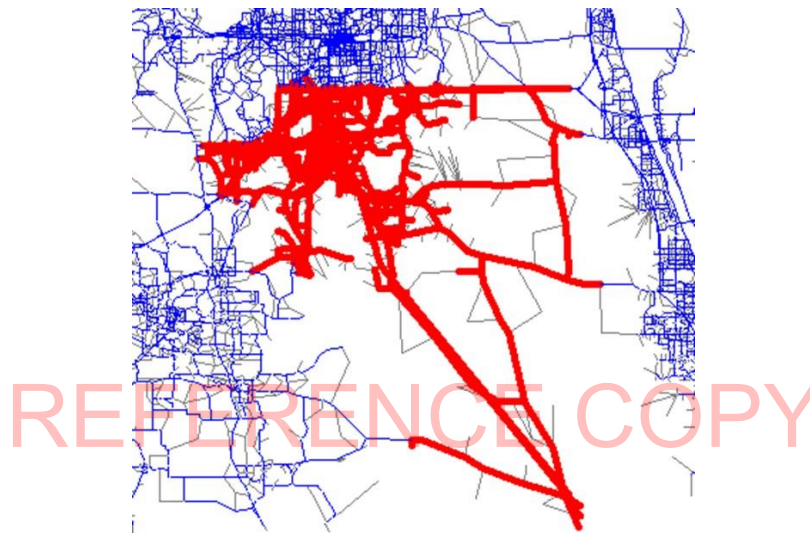
#### 4.4.1.8 Mode Choice and Trip Assignment

The mode choice model from CFRPM 6.1 (a nested logit model) was reviewed and included in CFX 3.0 without update. This model separates (splits) the total number of trips into low occupancy vehicles, high occupancy vehicles and premium transit (fixed rail and express bus) classes. The trip assignment model from CFRPM 6.1 implements equilibrium assignment techniques, with the Bureau of Public Roads (BPR) volume-delay function to estimate the effect of volume on link speeds and CTOLL to estimate the effect of toll on travel impedance. The assignment model from CFRPM 6.1 was included in CFX 3.0 with update.

#### 4.4.1.9 Validation

The purpose of the CFX 3.0 model was to evaluate the viability of the CFX Master Plan (Osceola Parkway Extension, Northeast Connector Parkway, Southport Connector Expressway, and the Poinciana Parkway I-4 Connector) projects. The validation of the CFX 3.0 model concentrated on a sub-area including the South Orange County and Osceola County study area. The facilities highlighted in red in Figure 4.4.3 were the facilities of focus for the validation effort. The main validation test for trip assignment is the ratio of model predicted volumes (base year) to traffic counts, known as volume / count (v/c) ratio.

**Figure 4.4.3: CFX 3.0 Sub Area Model**



As with the regional planning model, two ways to evaluate the goodness of fit are the ratio of model predicted volumes to counts (v/c ratio) and root-mean squared error (RMSE). Table 4.4.5 contains a summary of the v/c ratios and RMSE for various categories of links in the 2015 model, including expressway facilities and toll facilities. In the global model, SR 429 had volumes higher than the counts, with an RSME of 155.09% and v/c ratio of 2.21, which is improved to a RSME of 95.12% and v/c ratio of 1.95 in the sub-area model. This issue will need to be addressed in further refinements of this model.

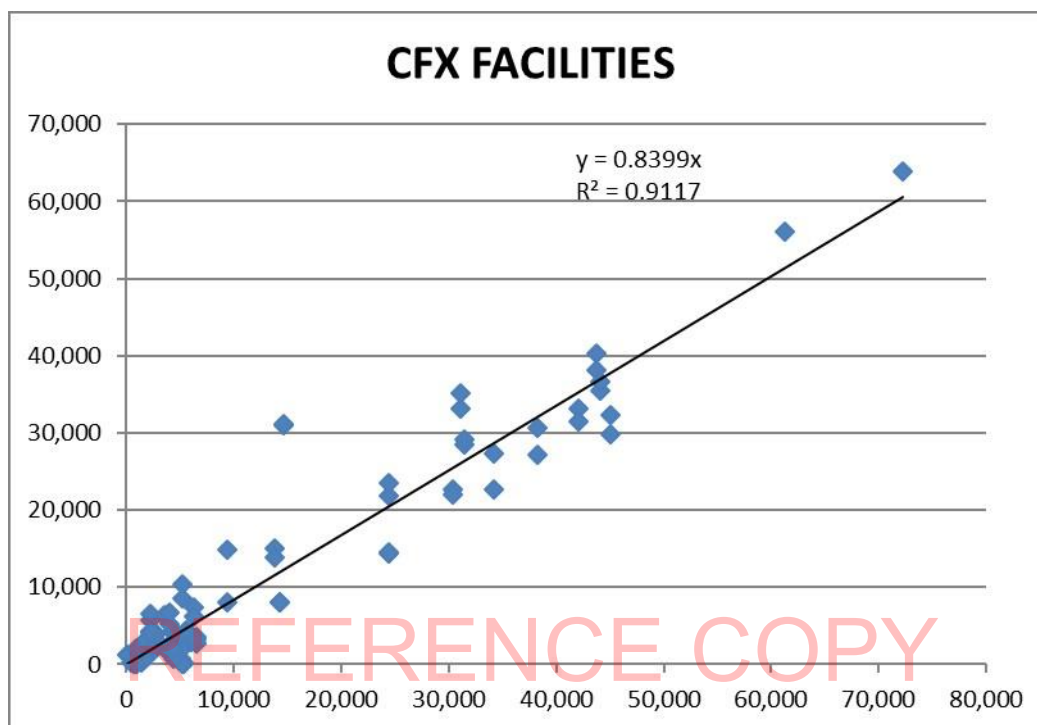
**Table 4.4.5: CFX 3.0 Validation: High Capacity Facilities**

	Volume/Count (v/c)	% RMSE
Expressway Facilities	1.24	27.42%
Toll Facilities	1.17	27.78%
Expressway Facilities in Subarea	1.03	11.18%
Toll Facilities in Subarea	1.12	26.32%
Source: Results_v64_new_counts_new_resultsv2.xlms		



Figure 4.4.4 contains a graph showing the model predicted traffic volumes against traffic counts on CFX facilities in the sub-area. The correlation between the two is very close ( $R^2 = 0.8933$ ).

**Figure 4.4.4: CFX Facilities Scatter Plot**



#### 4.4.2 CFX 3.0 Future Year Models

By starting with the CFX 3.0, the future year model retains all of the updates and enhancements created for that model and with additional model improvements in the study area. The forecast years are set to 2025, 2035, and 2045, consistent with the requirements for design of the CFX Projects. The information for these years was, in general, taken from the data sets describing FY 2020, FY 2030 and FY 2040 in the CFRPM 6.1.

##### 4.4.2.1 Socio-Economic Data – Base Forecast

The socio-economic data forecasts for the 2025, 2035 and 2045 were based on the CFRPM 6.1 SE data forecasts from years 2020, 2030 and 2040. The assumption was that the forecasts were prepared by the local governments and MPO prior to the recent economic recession and using the data sets and moving the horizon out five years would be a conservative approach for the entire model. As previously referenced, special attention was given to the southeast portion of Orange County and all of Osceola County for the population, employment and school enrollment data. FKA completed an independent socio-economic data forecast for these two counties in the model.

Based on the adjusted 2015 socioeconomic data estimated by FKA, the socioeconomic data sets were forecast for the 2025, 2035 and 2045 horizon years. FKA first evaluated the historic growth rates in population, employment, and school enrollment since 1990. Considering the population growth rates over the last 25 years, KHA also employed two data sources: BEBR and W&P, both of which provide estimates of population at a county control total level. The range of population forecast are provided in Table 4.4.6.

**Table 4.4.6: Population Forecasts**

	County	2015	2025	2035	2045
FKA	Orange (Entire County)	1,288,130	1,591,844	1,839,786	2,034,767
	Osceola	323,993	436,348	537,245	634,366
Source: Fishkind and Associates, Inc.					
W&P	Orange	1,272,090	1,488,110	1,724,150	1,963,435
	Osceola	317,680	405,340	514,260	638,550
Source: Woods & Poole 2016					
BEBR	Orange	1,252,396	1,551,400	1,799,100	2,004,000
	Osceola	308,327	427,900	525,700	605,800
Source: University of Florida, BEBR Medium (Volume 49, Bulletin 174, January 2016)					

To determine the control total for the portion of Orange County identified in the study area, FKA also employed ESRI data, Datastory, which has data at a TAZ level. FKA evaluated the data, converted to the zone structure for the CFX 3.0 model and determined a control total for the portion of Orange County in the study area. The population forecasts control totals for the study area are shown in Table 4.4.7. The compound average annual growth rates for population by county in the 30-year forecast period are 2.66% and 2.26% for partial Orange County and Osceola County, respectively.

**Table 4.4.7: Population Control Totals for Study Area**

	County	2015	2020	2025	2035	2045
FKA	Orange (Partial County)	106,795		151,181	193,563	234,908
	Osceola	323,993		436,348	537,245	634,366
Source: Fishkind and Associates, Inc.						
Datastory (ESRI)	Orange	104,318	123,544			
	Osceola	301,498	352,817			
Source: DataStory (ESRI TAZ Data)						

Employment control total forecasts were estimated in a similar fashion, using W&P, ESRI, and DataStory sources. W&P data is the preferred employment data source because it includes full and part-time workers by place of work as well as proprietors, home employment, military and miscellaneous workers. The employment forecasts control totals for the study area are shown in Table 4.4.8.

**Table 4.4.8: Employment Control Totals for Study Area**

	County	2015	2025	2035	2045
FKA	Orange (Partial County)	74,403	102,576	129,397	154,687
	Osceola	115,035	156,213	192,114	227,612
Source: Fishkind and Associates, Inc.					
W&P	Orange (Entire County)	961,200	1,173,890	1,394,735	1,618,825
	Osceola	112,240	145,110	184,260	229,040
Source: Woods & Poole (2016)					

Employment/ Population (E/P) ratio is a good way to ensure consistency of employment growth in the forecast. The W&P E/P ratio is slightly higher than the E/P ratio for ESRI and DataStory, which has lower ratios in the study area, specifically in Orange County. The E/P ratio forecast estimated by Fishkind is presented in Table 4.4.9. Osceola County functions as a bedroom community to the Central Florida employment hub, mostly in Orange County, so a lower E/P ratio is consistent for the economy.

**Table 4.4.9: Study Area Employment to Population Ratios**

	County	2015	2025	2035	2045
EMP/POP Ratio	Orange (Partial County)	69.7%	67.9%	66.9%	79.6%
	Osceola	35.5%	35.8%	35.8%	35.9%

School enrollment forecasts were completed by geocoding the existing 2015 enrollments for k-12 students for public and private schools in the study area, analyzing the county specific detailed age profile forecasts, estimating the future control totals for each county and allocating the forecasted student enrollment based on each TAZs' share of student forecasts based on the 2015 percent allocation. The forecasts for school enrollment control totals are presented in Table 4.4.10.



**Table 4.4.10: School Enrollment Control Forecasts**

Location	2025 Students	2035 Students	2045 Students
Orange- Study Area	32,123	41,293	46,160
Osceola County	96,539	113,775	134,095
Total	128,662	155,068	180,255
Source: FKA			

With the control total forecasts developed, FKA used a land use allocation model to allocate the population and employment control total forecasts in the study area. FKA considered market characteristics including acres of developable vacant land, holding capacity of vacant land, DRIs and other approved developments, utility and transportation access proximity, surrounding land use compatibility and other variables to determine the attractiveness of development. Historic development patterns, using the DataStory TAZ level allocation, was also considered in the future year allocations. For the market characteristics, FKA creates an implicit “Index of Attractiveness,” described as Super Zones of TAZs based on criteria likely to influence growth within the study area. The county control total forecasts were allocated to the super zones and checked for population shifts. This check ensures that not too much of the population or employment growth is shifted between the zones in the forecast periods. From there the super zones are disaggregated to the TAZ level for application in the model. The distribution of population forecast in 2015 – 2045 are shown in Figure 4.4.5 for Orange County (portion) and Figure 4.4.6 for Osceola County.

Figure 4.4.5: Total Population for Orange County (Sub Area): 2015 – 2045

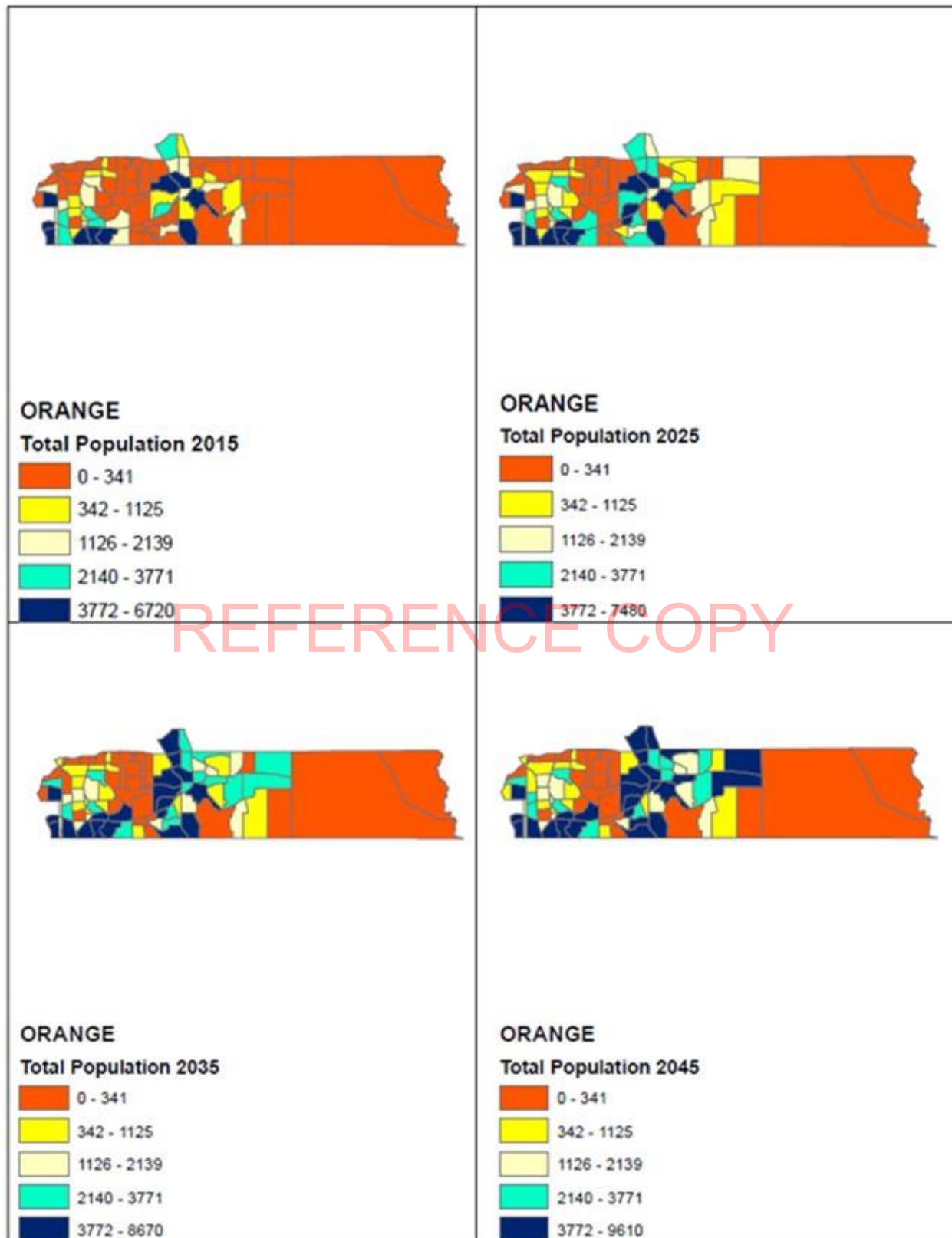
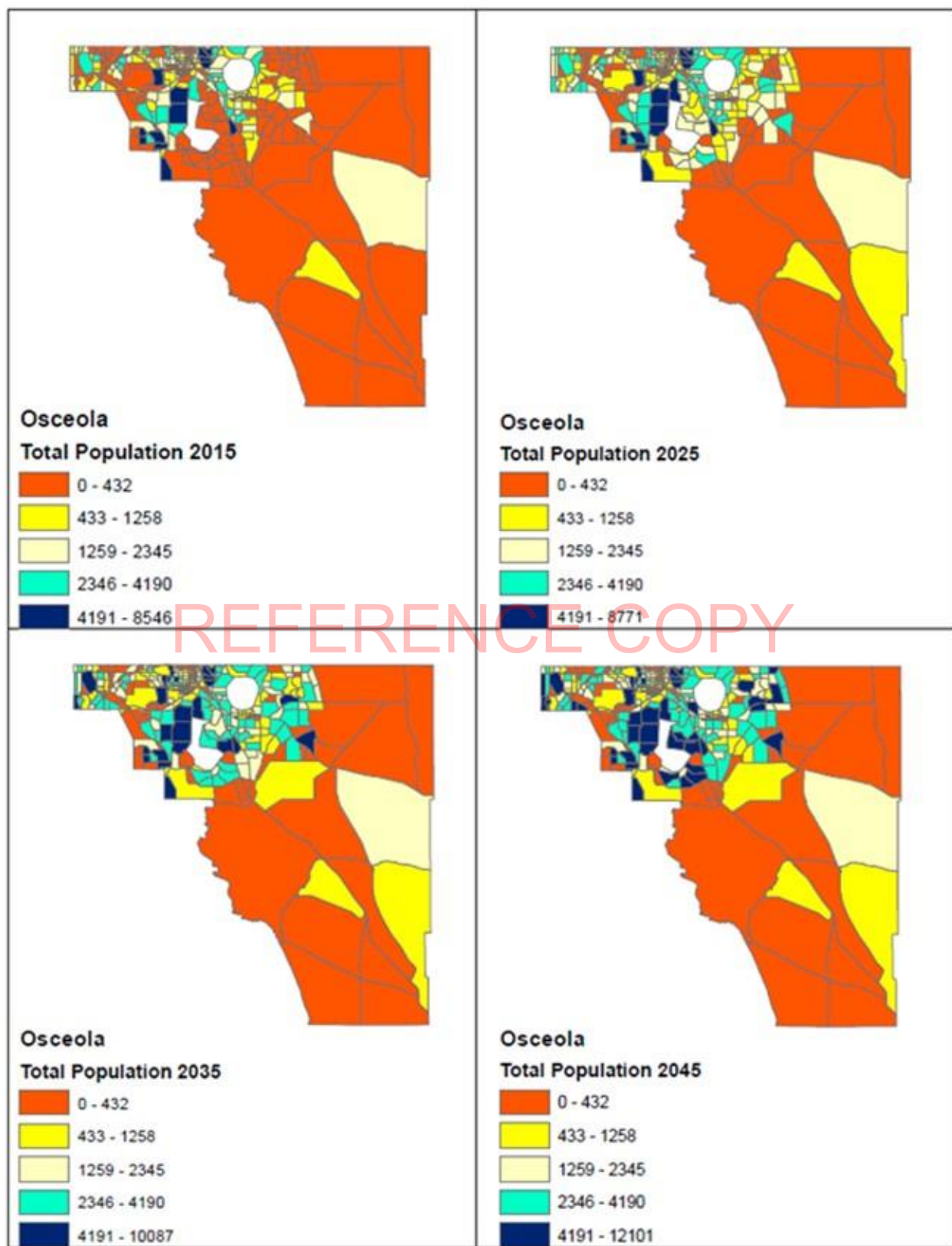


Figure 4.4.6: Total Population for Osceola County: 2015 – 2045





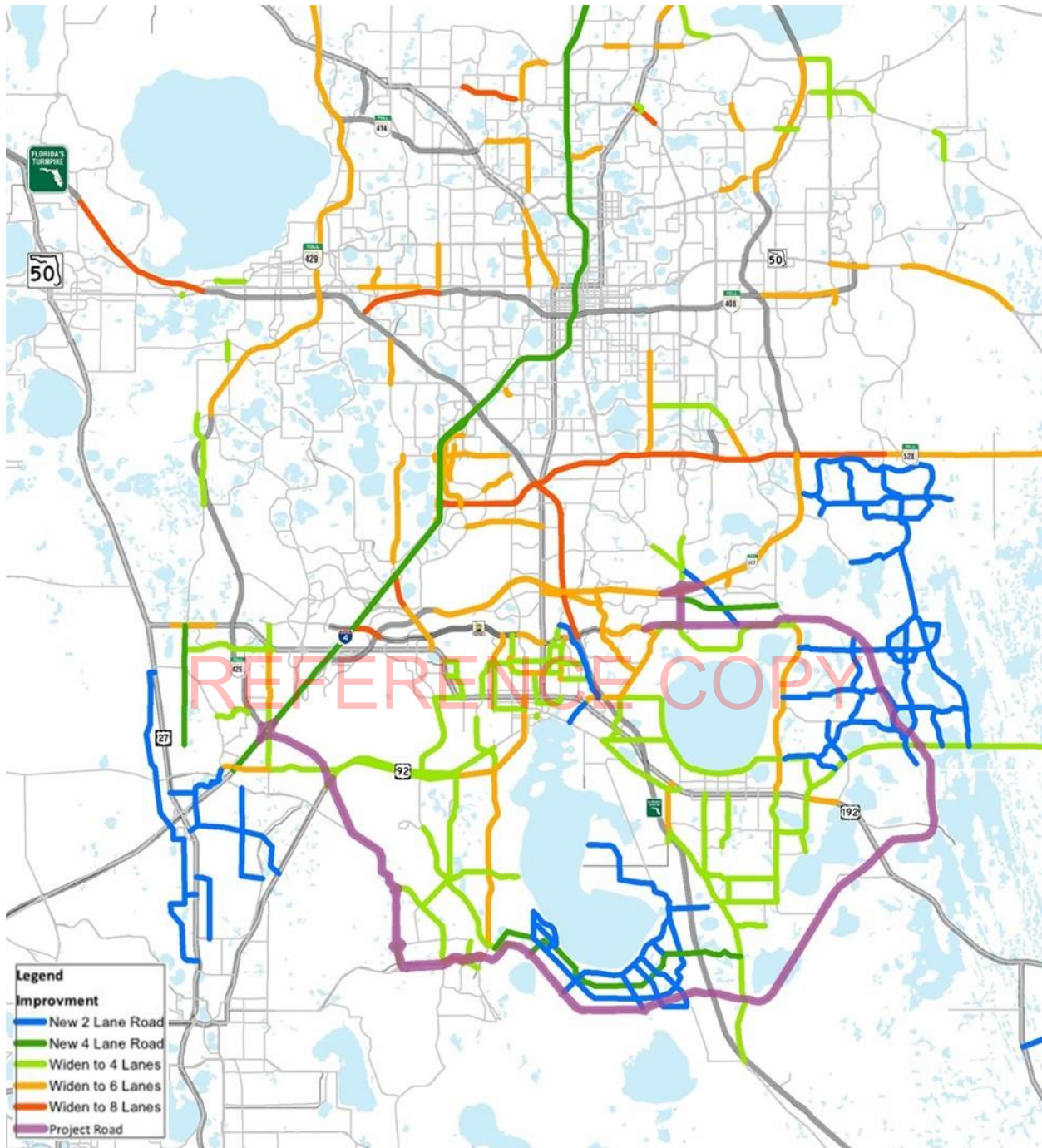
#### 4.4.2.2 Socio-Economic Data – Low and High Land Use Forecasts

In addition to this normal growth (base year forecast), FKA developed a low-side and high-side forecast of socioeconomic data. These variations in land use and development take into consideration the probability of slow growth or housing booms in the 30-year horizon. Using 45 years of Florida population growth, FKA reviewed the history and created a frequency distribution with respect to the annual percentage change in population growth. Based on the frequency distribution and median growth rates, FKA recommended an adjustment to the existing forecasted growth rate of an additional 30% on the high side and a reduction in the existing forecasted growth of 20% on the low side.

#### 4.4.2.3 Network – Future Year Base Network (2025, 2035, 2045)

The future year networks in the model contain the transportation improvements identified in the CFX, FDOT and the county work programs, as well as the improvements included in the cost feasible plan from the LRTP for year 2040. In addition to these improvements, additional network was added, specifically in the high growth areas and the study area. To ensure proper loading and distribution of trips on the CFX Master Plan study corridor, there was significant zone (TAZ) disaggregation in the study area, specifically along the four study corridors. This zone disaggregation includes significant future roadway networks to support the study corridors and surrounding future development. For several of the study corridors, the TAZ structure in the surrounding area consisted of a handful of zones. The number of zones in Osceola County increased by over 40%, or an additional 99 zones, and the portion of Orange County increased by 26% or 19 zones. These zones are supported in part by a network of “development” roads or roads not considered in the LRTP or County transportation plans. The 2045 network improvements are highlighted in Figure 4.4.7, with the development roads mainly highlighted in blue. The 2025 and 2035 base networks were created from the 2045 network, and are based on improvements in the 2020 and 2030 networks from the CFRPM 6.1 model. The development roads were included in both the 2025 and 2035 base networks. While the No-Build alternatives does not contain the CFX Master Plan projects, it does, however, include the other improvements and development roads.

Figure 4.4.7: 2045 Network Improvements



#### 4.4.2.4 Networks – Future Year design and Revenue Networks

The traffic forecasts used for design are developed so that the projects would be adequately sized to serve customers through its useful life (30 years). The traffic forecasts used for revenue estimation are, on the other hand, created so that the projects would be able to produce the forecasted revenue, especially in the opening years. The traffic forecasts

prepared for design purposes are therefore somewhat different from (higher than) the traffic forecasts prepared for revenue-estimation purposes. While the basic assumptions (including overall level and location of future socio-economic activity and toll amounts / values of time) are the same, the network assumptions near the project are somewhat different.

As such, a design network and a revenue network were developed for use in the design traffic and revenue traffic forecasts. The design networks were developed to maximize the amount of traffic on the CFX projects (including the Southport Connector), so competitor roads are constrained. The revenue network were developed to maximize the local street utilization, (i.e. planned improvements, higher speeds and capacities) and dampen the use of the toll facility.

To “maximize” the traffic on the project facilities in the design network, future improvements were limited to the 2025 LRTP network in Osceola County. More specifically, any improvements identified in in Osceola County after 2025 were removed from the network for the 2035 and 2045 networks. In addition, the following 2025 improvements were removed from all of the design networks:

- Boggy Creek Road from Simpson Road to Narcoossee Road: 2 to 4 lanes;
- Cyrils Drive from Narcoossee Road to Absher Road: 2 to 4 lanes;
- Simpson Road from Osceola Parkway to Boggy Creek Road: 2 to 4 lanes;
- Lakeshore Boulevard from Boggy Creek to Narcoossee Road: 2 to 4 lanes;
- US 192 from Partin Settlement Road to Brown Chapel Road: 4 to 6 lanes;
- Narcoossee Road from Boggy Creek Road to US 192: 4 to 6 lanes;
- Reaves Road from Poinciana Boulevard to Pleasant Hill Road: 2 to 4 lanes;
- Poinciana Boulevard from Crescent Lakes Way to Pleasant Hill Road: 2 to 4 lanes;
- Lake Wilson Road from Sinclair Road to Osceola Polk Line Road (CR 532): 2 to 4 lanes; and
- Osceola Polk Line Road (CR 532) from I-4 to Old Lake Wilson Road: 4 to 6 lanes.

#### 4.4.2.5 Toll Rates

Future-year tolls in the project-specific model reflect current toll amounts and agency policies concerning future toll rate adjustments. The Build alternatives for the CFX Master Plan projects were evaluated with and without tolls. For the analysis, the toll rate was set to \$0.18 per mile in 2018 for design traffic, consistent with the toll rate established for the Wekiva Parkway (SR 429). Toll rates were escalated at 1.5% per year according to the CFX Customer First Toll Policy.



#### 4.4.2.6 Screen Lines

A final measure of success in validation is the volume of traffic crossing the screen lines within the study area. Eleven screen lines were established in the model study area and v/c ratios were evaluated. Table 4.4.11 contains a summary of the 2015 traffic counts, 2015 model-predicted traffic volumes, and the volume to count ratios for each of the screen lines. The table also contains the 2045 volumes for the screen lines and compound annual average growth rates (CAAGR). The screen lines are shown in Figure 4.4.8.

**Table 4.4.11: Screen-Line Counts and Forecasts**

Screen Line	2015			2045	
	Count	Volume	v/c	Volume	CAAGR
1	87,135	98,746	13.33%	163,355	1.7%
2	34,400	37,792	9.86%	90,105	2.9%
3	89,400	84,580	-5.39%	124,280	1.3%
4	88,881	80,947	-8.93%	162,475	2.3%
5	54,096	53,079	-1.88%	86,203	1.6%
6	118,000	136,319	15.52%	310,613	2.8%
7	106,246	93,387	-12.10%	246,506	3.3%
8	140,703	140,995	0.21%	282,295	2.3%
9	147,700	168,999	14.42%	325,155	2.2%
10	249,305	266,849	7.04%	504,555	2.1%
11	62,900	64,656	2.79%	126,928	2.3%
<b>Total</b>	<b>1,178,766</b>	<b>1,226,349</b>	<b>4.04%</b>	<b>2,422,470</b>	<b>2.3%</b>

There is a good fit between model and counts on these screen lines with v/c ratios all between +/- 15%. The table also contains model forecasts for the same locations under the No-Build conditions in the 2045 forecast year. Forecasted traffic growth rates are similar to population and employment growth rates in the study area.



## 5.0 Design Criteria

The design criteria used in the development of the Southport Connector Expressway alternatives per the CFX scope of services are detailed below in Table 5.1.1.

**Table 5.1.1: Geometric Design Criteria**

Design Element	Design Standard	Source
<u>Design Year</u>	2045	Scope of Services
<u>Design Vehicle</u>	WB-62FL / WB-67	AASHTO 2004, Pg. 18
<u>Design Speed</u> Rural Freeway Urban Freeway Urban Arterial Rural Arterial Other Frontage Road Service Road Access Road Ramp Directional Loop	 70 mph 60 mph 45 mph 55 mph  45 mph 50 mph As appropriate  50 mph 30 mph	   FDOT PPM Vol. 1, Tbl. 1.9.1, 1.9.2
<u>Lane Widths</u> Freeway Ramp 1-lane 2-lane Turning Roadway Arterial Collector / Service Road Bicycle Rural / Urban	 12-ft  15-ft 24-ft Case dependent 12-ft 12-ft  5-ft / 4-ft (designated or undesignated)	   FDOT PPM Vol. 1, Tbl. 2.1.1, 2.1.2, 2.1.3, & 2.14.1
<u>Cross Slopes (lanes 1 – way)</u> Roadway 2 – lane (2) 3 – lane (3) 4 – lane (4) Bridge Section  <u>Max. Lane “Roll – over”</u> DS 35 mph DS 35 mph	 -0.02 ft / ft (2) -0.02 ft / ft (2), -0.03 ft / ft (1) +0.02 ft / ft (1), -0.02 ft / ft (2), -0.03(2) -0.02 (typical, uniform, no slope break)  4.0% 5.0% (between through lane & aux. lane) 6.0% (between through lane & aux. lane)	 FDOT PPM Vol. 1, Fig. 2.1.1  FDOT PPM Vol. 1, Sec. 2.1.5  FDOT PPM Vol. 1, Fig 2.1.1 PPM Vol. 1, Table 2.1.4



Design Element	Design Standard				Source
<u>Median Width</u>					FDOT PPM Vol. 1, Tbl. 2.2.1
Freeway					
DS 60 mph	60 to (64-ft)				
DS 60 mph	40-ft				
All	26-ft (with barrier)				
Arterial & Collector					
DS 45 mph	22-ft				
DS 45 mph	40-ft				
Offset Left Turn Lanes					FDOT PPM Vol. 1, Sect.
Median width 30-ft	Parallel offset lane				2.13.3 & Fig. 2.13.2
Median width 30-ft	Taper offset lane				AASHTO Exh. 9-98
<u>Shoulder Width (lanes 1-way)</u>	Total (ft)		Paved (ft)		FDOT PPM Vol. 1, Tbl. 2.3.1
Freeway	Outside	Left	Outside	Left	to 2.3.4, Fig. 2.3.1
3-lane or more	12	12	10	10	
2-lane	12	8	10	4	
Ramp					Design Standards Index No.
1-lane	6	6	4	2	510
2-lane	10	8	8	4	
Aux. Lane	12	N/A	10	N/A	
Arterial & Collector (Norm. Volume)					
2-lane divided	10	8	5	0	
1-lane undivided	10	N/A	5	N/A	
Service Road, 2-Lane, 2-Way, Undivided	10	10	5	5	
<u>Shoulder Cross Slope</u>	0.06	0.05	-	-	
<u>Max. Shoulder "Roll-over"</u>	7.0%	7.0%	-	-	
<u>Bridge section (lanes 1-way)</u>					
2-lane	10	6	-	-	
3-lane or more	10	10	-	-	
1-lane ramp	6	6	-	-	
2-lane ramp	10	6	-	-	
Service Road, 2-Lane, 2-Way, Undivided	10	10	-	-	FDOT PPM Vol. 1, Fig.
					2.0.1, 2.0.2, 2.0.4
<u>Border Width</u>					
Freeway	94-ft, (94-ft desirable)				
Ramp	94-ft, (L.O.C. plus 10-ft as minimum)				
Arterial / Collector					FDOT PPM Vol. 1, Tbl.
DS 45 mph	40-ft				2.5.1, 2.5.2
DS 45 mph	33-ft				(CFX Policy)
Arterial / Collector (Curb & Gutter)					
DS = 45mph	14-ft (12-ft with bike lane)				
DS 40 mph	12-ft (10-ft with bike lane)				

Design Element	Design Standard		Source
<u>Roadside Slopes</u>	Fill Height (ft)	Rate	
Front slope	0.0-5 5-10 10-20 >20	1:6 1:6 to CZ & 1:4 1:6 to CZ & 1:3 1:2 with guardrail (Use 10-ft bench at half the height of fill)	FDOT PPM Vol. 1, Tbl. 2.4.1  <i>(CFX Policy)</i> Use 1:3 slopes, avoid 1:2 slopes except where necessary
Front slope (curb & gutter)	All	1:2 not flatter than 1:6	
Back slope		1:4 or 1:3 w/ standard width trap. ditch & 1:6 front slope	
Back slope (curb & gutter)	All	1:2 not flatter than 1:6	
<u>Max. Grade / Max. Change in Grade</u>	Max. Grade	-	FDOT PPM Vol. 1, Tbl.
Freeway (Rural / Urban)	3.0%	0.20% / 0.40%	2.6.1. 2.6.2
Ramp			
Directional	5.0%	0.60%	
Loop	7.0%	1.00%	
Arterial			
Rural	3.5%	0.50%	
Urban	6.0%	0.70%	
Collector	6.5% to 9.0%	-	
Frontage Road / Service Road	8.0%	0.70%	
Min. Grade Curb & Gutter	0.3%	-	FDOT PPM Vol. 1, Tbl. 2.6.4
<u>Minimum Stopping Sight Distance</u> (Grade 2.0%)	Dsgn. Speed (mph)	Distance (ft)	
	70	730	FDOT PPM Vol. 1, Tbl. 2.7.1
	60	570	
	55	495	
	50	425	
	45	360	
	30	200	
<u>Decision Sight Distance</u> (Per avoidance maneuver)	Dsgn. Speed (mph)	Distance (ft)	
	70	780-1445	AASHTO Exh. 3-3
	60	610-1280	
	55	535-1135	
	50	465-1030	
	45	395-930	
	30	220-620	

Design Element	Design Standard			Source
<u>Horizontal Curve Length</u> Freeway Others	V = Design Speed 30V (15V min.) 15V (400-ft min.)			FDOT PPM Vol. 1, Tbl. 2.8.2a  FDOT PPM Vol. 1, Tbl. 2.8.3
<u>Max. Curvature (Degree of Curve)</u> Freeway DS = 70 mph Rural DS = 60 mph Urban Arterial DS = 55 mph Rural DS = 45 mph Urban Collector DS = 45 mph Frontage Road DS = 50 mph Service Road Ramp DS = 50 mph Directional DS = 30 mph Loop	3 30' 00" 5 15' 00"  6 30' 00" 8 15' 00"  8 15' 00" 8 15' 00"  8 15' 00" 24 45' 00"			
<u>Superelevation Transition</u> Tangent Curve <i>Spirals</i>	80% (50% min.) 20% (50% min.) <i>(Curves &lt; 1°30'00" do not use spirals)</i>			
<u>Superelevation Rates</u> Freeway DS = 70 mph Rural DS = 60 mph Urban Arterial DS = 55 mph Rural DS = 45 mph Urban Collector DS = 45 mph Frontage Road DS = 50 mph Service Road Ramp DS = 50 mph Directional Loop DS = 30 mph Loop	<u>e<sub>max</sub></u>   <			



Design Element	Design Standard		Source
<u>Ramps</u> Ramp Terminals Length Taper	<u>Entrance</u> “Parallel – Type” 900 to 1200-ft 300-ft (25:1)	<u>Exit</u> “Taper – Type” 550-ft (2° to 5°, 3° desirable)	Design Standards Ind. No. 525 AASHTO Pg. 850-856
<u>Minimum Spacing</u> Entrance to Exit Exit to Entrance Entrance Exit to Exit Turning Roadways	1,600 to 2000-ft 500-ft 1,000-ft 1,000-ft 600 to 800-ft		AASHTO Exh. 10-68, Pg. 844
<u>Lane Drop Taper</u>	L = WS (DS = 45mph) L = WS <sup>2</sup> / 60 (DS ≤ 40 mph)  50:1 min, 70:1 desirable (freeways)		Design Standards Ind. No. 525, 526  AASHTO Pg. 818
<u>Clear Zone</u> Freeway DS = 70 mph Rural DS = 60 mph Urban Arterial DS = 55 mph Rural DS = 45 mph Urban Collector DS = 45 mph Frontage Road DS = 50 mph Service Road Ramp DS = 50 mph Directional 1 to 2-lane DS = 30 mph Loop 1 to 2-lane	36-ft 36-ft 30-ft 4-ft (Curb & Gutter) as appropriate 4-ft (Curb & Gutter) as appropriate 24-ft  14-ft to 24-ft 10-ft to 18-ft		FDOT PPM Col. 1, Tbl. 2.11.11
<u>Vertical Clearance</u> Over Roadway Over Railroad Sign over Roadway Over Water	16'-6" 23'-6" 17'-6" 12'-0" min.		FDOT PPM Vol. 1, Tbl. 2.10.1 to 2.10.4, Sect. 2.10.1
<u>Limited-access Limits</u> Rural Urban Crossroad overpass / no interchange	300-ft min. 100-ft min. 200-ft		FDOT PPM Vol. 1, Sect. 2.14.1

### 5.1.1 Drainage Design Standards

The Southport Connector Expressway basins are open basins all located within Osceola County and all are within the Upper Kissimmee River watershed, which is a part of the Lake Okeechobee Basin Management Action Plan (BMAP). None of the basins discharge to Outstanding Florida Waters (OFW); however, the Reedy Creek Mitigation Bank is considered a sensitive waterbody according to previous permits and it is assumed the Southport Mitigation Bank would be treated similarly. Water Body Identification Numbers (WBIDs) that fall within the Southport Connector Expressway basins are Class 3F and are as follows:

- 3179 (S-36A);

- 3180 (Lake Cypress Outlet);
- 3180B (South Port Canal);
- 3170 (Reedy Creek Below Lake Russell);
- 3170 (Reedy Creek Drain);
- 3170C (Reedy Creek Above Lake Russell);
- 1472A1 (Lake Marion Creek); and
- 3173C (Lake Toho Drain – south segment).

Only WBID 3173C Lake Toho Drain – South Segment is impaired for nutrients.

The criteria used for design is set by the CFX, SFWMD, FDEP, FDOT, and Osceola County<sup>1</sup>. The most stringent criteria governs.

#### 5.1.1.1 Pond Design

The ponds are sized for the future build out condition (a minimum of six lanes). All ponds are assumed to be wet detention. Pond design criteria is outlined below:

- Peak Runoff Rates
  - Calculated using SCS Runoff Curve Number Method;
- Attenuation Criteria
  - SFWMD: The post developed peak rate of discharge must not exceed the pre-developed peak rate of discharge for the 25 year / 72 hour storm;
    - The precipitation for the 25 year / 72 hour storm is nine-inches;
  - Osceola County: The post developed peak rate of discharge must not exceed the pre-developed peak rate of discharge for the 10 year / 72 hour storm;
    - The precipitation for the 10 year / 72 hour storm is eight-inches;
- Treatment Volume Criteria
  - Water Quality: Provide wet detention volume for the greater of:
    - First inch of runoff from the project area;
    - Two and a half inches times the percentage of impervious;
  - Special Basin:
    - Reedy Creek and Southport Mitigation Bank requires an additional 50% of treatment volume;

<sup>1</sup> Sources: ERP Applicant's Handbook Volume 2, SFWMD, May 22, 2016; SFWMD Right-of-Way Criteria Manual for Use of Works or Lands of the District, August 12, 2013; Osceola County Land Development Code, Ch 4 – Site Design and Development Standards, July 17, 2017; FDOT Drainage Manual, January, 2018; FDOT Drainage Design Guide, January, 2018; FDOT Design Manual, January, 2018; NRCS Urban Hydrology for Small Watersheds – TR-55, June 1986

- Nutrient Reduction Criteria
  - BMAP – Lake Okeechobee (impaired for Phosphorus)
    - Limit post development discharge loading rates to meet pre development rates;
    - Presumptive criteria - An additional 50% water quality treatment is required in all the basins as a best management practice to address impaired waters;
  - WBID 3173C- Limit post development discharge loading rates to meet pre development rates.
- Control Devices / Bleed-down
  - Maximum discharge of one-half inch of the detention volume in 24 hours;
  - Devices greater than six square inches cross sectional area, two-inches minimum dimension;
- Pond Configuration
  - One-half acre minimum;
  - Minimize short circuiting;
  - Minimum width of 100 feet for linear areas in excess of 200 feet;
  - Maximum side slope 1V:4H from top of bank to three feet below the control elevation per Osceola County;
  - Twenty-foot wide maintenance easement provided beyond control elevation and connect to a public road;
  - One foot of freeboard between design high water level and the minimum berm elevation; and
  - Permanent Pool Volume provide a minimum six-foot depth.

#### 5.1.1.2 Floodplain Impacts

The FEMA has developed Flood Insurance Rate Maps (FIRM) for Osceola County. The following maps effective, June 18, 2013, cover the project limits: 12097C0270G, 12097C0410G, 12097C0265G, 12097C0425G, 12097C0400G, 12097C0245G, and 12097C0240G. These maps have established the 100-year floodplain limits of Zone A and Zone AE in the vicinity of the project limits. With regard to the SFWMD there would be no net encroachment into the floodplain, between the average wet season water table and that encompassed by the 100 year event. Compensating storage would be provided for the impacts.

#### 5.1.1.3 Cross Drains

The maximum allowable headwater for design flood frequency is at or below the edge of shoulder.

- Peak Runoff Rates



- Basins 0 to 600 Acres: Rational Method
  - IDF Curves Zone 7
- Basins 600+ Acres: USGS Regression Equations
  - Florida Region 3
- Design Frequency
  - High Use or Essential Highway: 50 Year Storm
  - FEMA regulated Floodways: 100 Year Storm
    - Regulated floodways that cross the proposed project corridors are Reedy Creek and Reedy Creek Tributary No. 3
    - FEMA No-Rise Certification will be required for proposed crossings

#### 5.1.1.4 Canal Criteria

One Regulated Canal falls within the corridor basins and is the C-35 (Southport Canal) of the Upper Kissimmee River watershed which connects Lake Toho to Cypress Lake. Defined tailwaters would be used for each canal and their design would be subject to current navigation requirements and would require a Department of Transportation (Federal) Permit.

The following design criteria would be applied to the design of canals within the project area:

- FDOT: The minimum vertical clearance would be six feet above the control elevation.
- SFWMD
  - Horizontal
    - Center Span – 25 feet clear bent spacing, measured perpendicular to channel; and
    - Approach Spans – 20 feet between faces of bents.
  - Vertical
    - Six feet above the seasonal high optimum water control elevation or two feet above the design surface elevation, whichever produces the higher low member elevation.

Unregulated Canals would be governed by FDOT criteria. The minimum vertical clearance must be between the design flood stage and low member of a bridge is two feet. No drift clearance required for box culverts. If navigable the minimum vertical clearance that must be provided is six feet above the Normal High Water.

## 6.0 Mobility Alternatives Evaluation

---

### 6.1 No-Build Alternative

A scenario in which the project is not undertaken is included as a benchmark by which the build alternatives can be compared. This scenario is referred to as the No-Build Alternative. The No-Build Alternative is used to show conditions in the project's design year if no transportation improvements are made but does include minor construction activities such as safety upgrades, regular maintenance, and any transportation projects that have been funded within the project study area. In essence, the No-Build Alternative includes the existing transportation system plus any additional funded future transportation projects.

In the case of the Southport connector project, under the No-Build scenario, the typical section for Cypress Parkway would remain as it is described in Section 3.0 varying from a two-lane roadway to a four-lane roadway with a frontage road from Marigold Avenue to 900 feet east of Cypress Branch Road. No bicycle lanes would be present on either side of Cypress Parkway in the project limits. The existing sidewalk would remain sporadic in the project corridor.

The No-Build Alternative has certain advantages and disadvantages. The advantages of the No Action Alternative include:

- No new expenditure for roadway design, utility relocations, right-of-way acquisition, or construction costs;
- No disruption or temporary impacts (air, noise, vibration, travel patterns) due to construction activities;
- No right-of-way acquisition or business relocations; and
- No impacts to the natural environment.

The disadvantages of the No-Build Alternative include:

- Does not meet the project's purpose and need;
- Is not consistent with CFX Master Plan or Osceola County South Lake Toho Master Plan;
- No traffic relief for Cypress Parkway;
- Does not provide a critical limited-access connection between Poinciana Parkway and Florida's Turnpike;
- Increased vehicular congestion and delay, which leads to increased travel costs and reduced accessibility to Poinciana;
- Increased safety concerns, particularly with respect to intersection crashes and access management;
- Increased emergency response and evacuation time;

- Does not meet economic development goals in Osceola County;
- Increasing air pollution from vehicular emissions; and
- No additional non-motorized improvements (bicycle lanes and sidewalks).

## 6.2 Transportation Systems Management

Transportation System Management (TSM) alternatives include improvements such as separate turn lanes, traffic signal timing optimization, and pavement marking improvements to enhance traffic safety and mobility. The implementation of TSM strategies will aid in local intersection safety and will be utilized in the proposed concepts. However, TSM improvements alone do not sufficiently address the purpose and need, the capacity problems or improve overall network efficiency, and the majority of the disadvantages of the No-Build Alternative will remain. The TSM Alternative, by itself, is not considered a viable option, and no further evaluation of only the TSM Alternative is conducted in this study.

## 6.3 Transit, Intermodal, Multi-Modal Alternatives

As part of the CFX Southport Connector Expressway CF&M Study, the following plans were reviewed to determine relevancy and impact to the project:

- Osceola County Comprehensive Plan: South Lake Toho Elements – Transportation Elements;
- South Lake Toho Conceptual Master Plan; and
- LYNX System Plan: LYNX Vision Plan 2030 – LYNX Transit Development Plan 2015.

### 6.3.1 Planned Future LYNX Corridors

Per the LYNX 2015 Transit Development Plan, LYNX plans to increase service frequency for routes serving Poinciana. By 2025, plans call for Links 416 and 306 to maintain current service while Links 26 and 426 will have increased frequencies. Neither of these service changes would involve dedicated transit facilities, however, consideration will be made for transit stops along Cypress Parkway and maintaining the existing traffic signal at Doverplum and Cypress Parkway to facilitate access to the Poinciana Superstop located near the Walmart Supercenter.

### 6.3.2 Future Multimodal Corridors

There are two identified future multi-modal corridors, the Cross Prairie Parkway Corridor and the Southport Connector Expressway, shown in the Osceola Comprehensive Plan. Both corridors are planned to connect to the Poinciana Parkway Expressway by 2025. By 2040, future plans call for connecting the Southport Connector Expressway to the Northeast Connector Expressway (see Figure 6.3.1).



### 6.3.3 Future Transit

The Osceola County Comprehensive Plan conceptually allows for future “premium” transit operating on the Southport Connector Expressway. For the purposes of this report, premium transit is defined as Express Bus, Bus Rapid Transit (BRT), Light Rail (LRT), or Commuter Rail (CRT). No specific plans for premium transit currently exist in the study area, other than conceptual plans shown in the Osceola County Comprehensive Plan Transportation Element Map Series (see Figure 6.3.2). Premium transit is shown along the Southport Connector and Cross Prairie Parkway providing a future transit linkage between Poinciana Parkway Expressway to the west and the Northeast Connector Expressway to the east.

### 6.3.4 Future Bicycle Facilities

There is no documented plan for bicycle facilities to be in place in the corridor study area by 2025. However, by year 2040, on-street facilities are planned along the Cross Prairie Parkway Corridor but not along the Southport Connector Expressway (see Figure 6.3.3). A network of planned off-street trails is planned from the southern and southeastern perimeter of Lake Toho to the Urban Growth Boundary. There is no change between the 2040 and 2080 planning horizons for these elements.

Table 6.3.1 below shows the future multimodal, transit, and bicycle and trail facilities identified in the Comprehensive Plan Transportation Element and how they are planned to evolve through the year 2080.

**Table 6.3.1: Future Multimodal Corridors in Osceola County**

Type	2025	2040
Multimodal Corridors	<ul style="list-style-type: none"><li>• Cross Prairie Parkway Corridor</li><li>• Southport Connector Expressway (Both connect to the Poinciana Parkway Expressway)</li></ul>	<ul style="list-style-type: none"><li>• Southport Connector Expressway to connect to new NE Connector Expressway</li></ul>
Transit System	<ul style="list-style-type: none"><li>• “Premium” transit to connect Southport to local transit in Poinciana (W) and east of the Turnpike (E)</li></ul>	<ul style="list-style-type: none"><li>• Premium transit and local transit interspersed</li></ul>
Bicycle and Trail Facilities	<ul style="list-style-type: none"><li>• None</li></ul>	<ul style="list-style-type: none"><li>• Planned on-street facilities for Cross Prairie Parkway Corridor</li><li>• Planned off-street trail for perimeter of Lake Toho and interspersed throughout Southport</li></ul>

*Source: Osceola County Comprehensive Plan 2025*

Figure 6.3.1: Osceola County Multimodal Corridors 2040

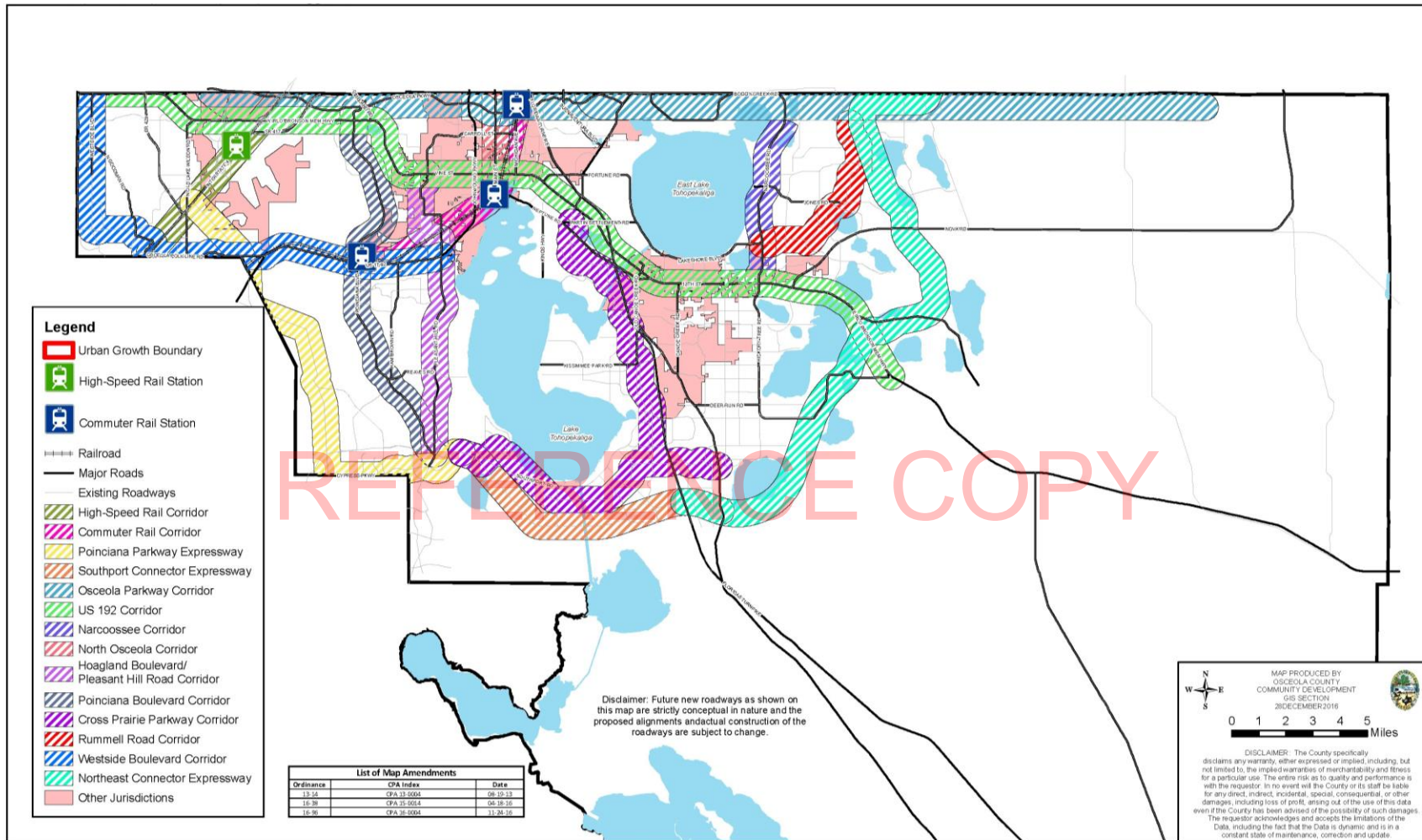


Figure 6.3.2: Osceola County Transit System 2040

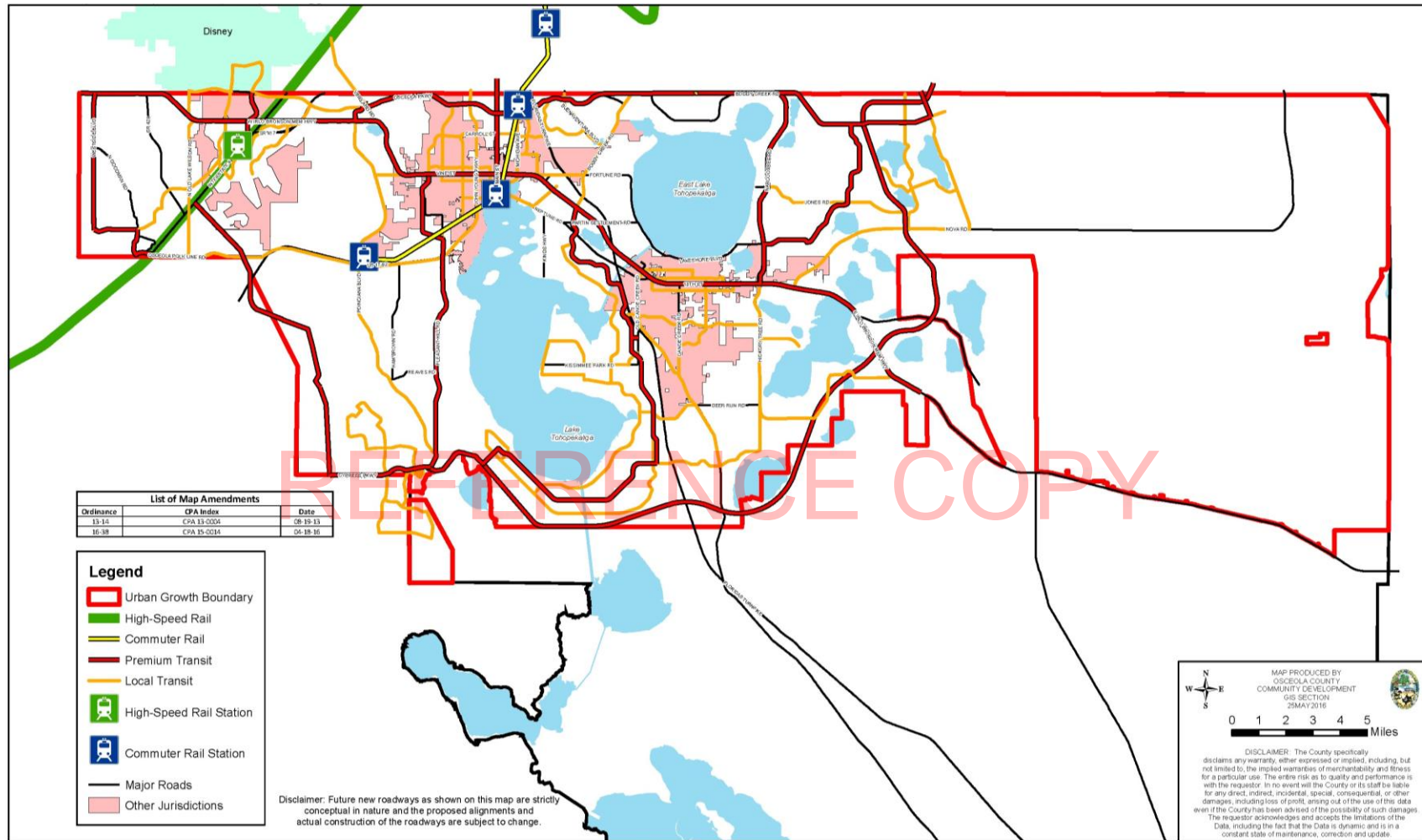
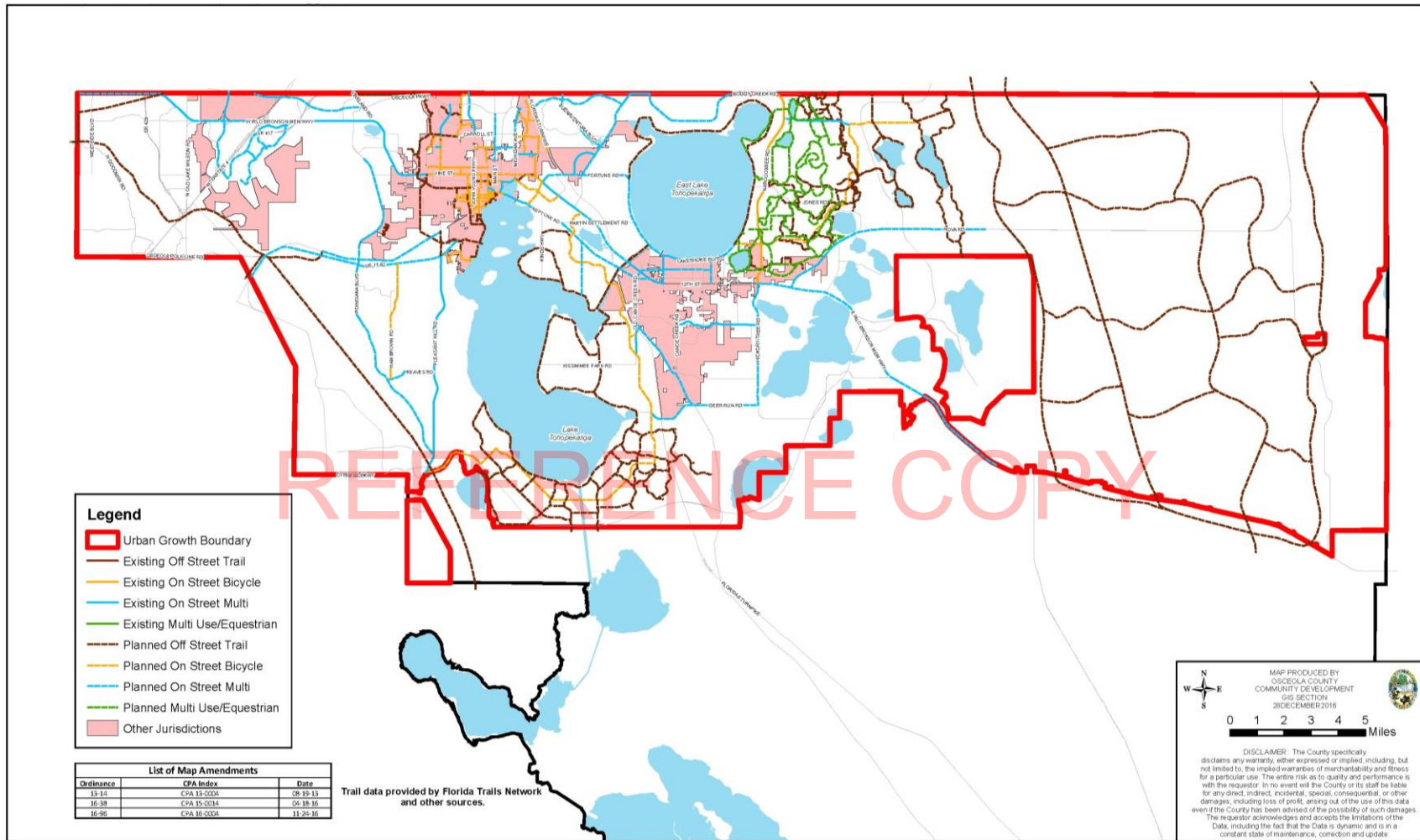




Figure 6.3.3: Osceola County Bicycle and Trails Facilities



### 6.3.5 South Lake Toho Master Plan

The intent of the South Lake Toho Conceptual Master Plan is to balance social, environmental, and economic sustainability while protecting the environment and preventing sprawl. Key components for the conceptual development plan is the Southport Connector Expressway and the Cross Prairie Parkway. Figure 6.3.4 illustrates the major transportation elements planned for the South Lake Toho Area.

While mostly aspirational, notable multimodal improvements highlighted in the plan include premium transit along Cross Prairie Parkway, which is shown to connect to the Southport Expressway at the western end and on the east at Canoe Creek Road. Park and Ride facilities combined with transit centers near the Southport Connector Expressway at future interchanges serving South Lake Toho could support future premium transit serving the development.

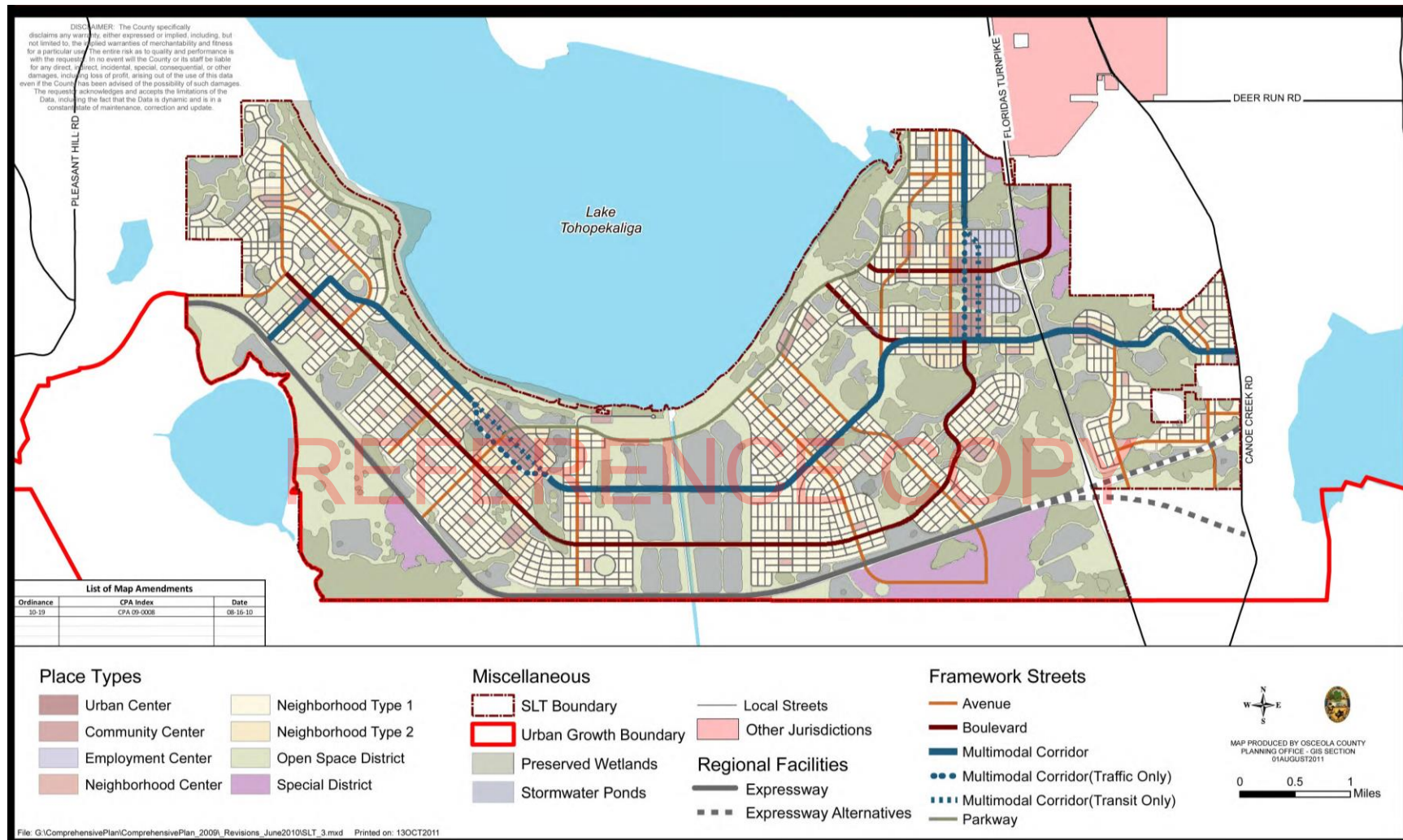
#### 6.3.1 Multimodal Alternative for Southport Connector Expressway

The proposed project is divided into two segments: Poinciana Parkway to Reedy Creek, and Reedy Creek to Florida's Turnpike. The Poinciana Parkway to Reedy Creek typical section proposes an at grade section with Cypress Parkway operating as a frontage road on either side of the Southport Connector Expressway. The Reedy Creek to Florida's Turnpike segment proposes a limited-access expressway within a 350-foot right-of-way envelope.

Both segments include multimodal facilities. The Reedy Creek Road to Turnpike segment includes a 26-foot wide right-of-way swath to accommodate a shared use path corridor adjacent to the expressway. This facility would support Osceola County's multimodal transportation goals in the Comprehensive Plan. In addition, it would provide non-vehicular access to other planned off road trails for the South Lake Toho Planning area, as well as to Osceola County's existing facilities to the west along Pleasant Hill Road and Cypress Parkway.

The segment from Poinciana Parkway to Reedy Creek Road proposes seven-foot bicycle lanes and five-foot sidewalks along both sides of Cypress Parkway. The sidewalk is proposed to be separated with a grass median from the bike line.

Figure 6.3.4: South Lake Toho Framework Streets





With respect to premium transit, both corridors can accommodate future premium transit service with some slight modifications. For the Poinciana Parkway to Reedy Creek segment, premium transit would likely need to operate in mixed traffic. BRT and Express bus service can easily be accommodated in this section with Transit Signal Priority (TSP) providing travel time savings for such service. The Reedy Creek to Turnpike segment features an 88-foot wide median that could accommodate a future dedicated transit way option. The proposed roadway typical sections can be found in Section 6 of this report in Figure 6.6.3, Figure 6.6.4, and Figure 6.6.23.

## 6.4 Tolled Limited-Access Alternative

Since the No-Build and TSM alternatives, and multi-modal only alternative do not meet the purpose and need for this feasibility study, tolled limited-access alternatives are evaluated. A detailed description of the tolled limited-access alternatives are contained in Section 6.6.

## 6.5 Corridor Development Process

### 6.5.1 Re-evaluation of Previous Study Corridors

As part of the data collection effort, the ACE study recently completed by the FDOT District 5 was reviewed. Figure 1.4.1 displays the thirteen corridors analyzed in the ACE study. The thirteen corridors were analyzed with respect to the horizontal alignment, particularly the proposed radii and tangent lengths. The eastern portion (Lake Toho area) of the corridors are comprised of long, sweeping curves and generally long tangent sections. The western portion of the corridors begins at Poinciana Boulevard and are co-located with existing Cypress Parkway. Except for Corridor 1, the corridor alignments follow the existing suburban arterial alignment, which was not designed for freeway speeds. In the vicinity of the Reedy Creek crossing, the alignments utilize an abrupt reverse curve maneuver before diverging into the thirteen alignments shown in Figure 1.4.1. This section focuses on the project segment between Poinciana Parkway and Reedy Creek.

Between Poinciana Parkway and just east of Reedy Creek, five curves (including three reverse curve maneuvers) are highlighted. For reference in this section, these curves are numbered one through five and are tabulated in Table 6.5.1.

**Table 6.5.1: Tabulation of Alignment Data for West Segment**

Feature	Tangent Length (feet)	Radius (feet)	Curve Length (feet)
Tangent	6,844		
Curve No. 1		1,910	1,229
Tangent	1,020		
Curve No. 2		1,910	1,864
Tangent	372		
Curve No. 3		1,910	1,015
Tangent	2,489		
Curve No. 4		9,949	2,193
Tangent	1,937		
Curve No. 5		1,637	1,671
Tangent	1,210		
Curve No. 6		1,637	2,371

Per the design criteria contained in the scope of services, the maximum degree of curvature for a freeway at 70 mph is 3° 30' 00", which equates to a radius of 1,637 feet, according to Table 2.9.1 in the FDOT Plans Preparation Manual (PPM). This radius equates to a maximum superelevation rate of 0.10.

The six curves identified in Table 6.5.1 meet the minimum radius / degree of curve requirement for a 70 mph freeway. However, the 372-foot tangent between Curve No. 2 and Curve No. 3 presents a particular challenge. Based on the two radii of 1,910 feet, a total superelevation runout distance of 695 feet is required for each curve. Standard practice is to place 20% of the superelevation runout distance inside of the curve and 80% outside of the curve. Based on this ratio, a runout distance of 556 feet outside of the PC or PT is required for each curve, for a total minimum tangent distance of 1,111 feet. As mentioned in the PPM, a runout ratio of 50 / 50 may be used in scenarios where the close proximity of reverse curves does not allow an 80 / 20 distribution. Based on a 50 / 50 runout ratio, a single curve requires 347 feet, for a total minimum tangent distance of 695 feet. The available distance of 372 feet is slightly more than half of the required minimum distance but is 323 feet shy of meeting the standard. As currently configured, this geometry would require a design exception. Expanding this tangent section is challenging because the south side of the roadway is occupied by residences and Vance Harmon Community Park, as seen in Figure 6.5.1. No other horizontal alignment deficiencies were observed.

The Osceola Schools Environmental Center is located on the south side of Southport Road. Bald eagle nest OS158, observed by the FFWCC in 2016, is in close proximity to ACE

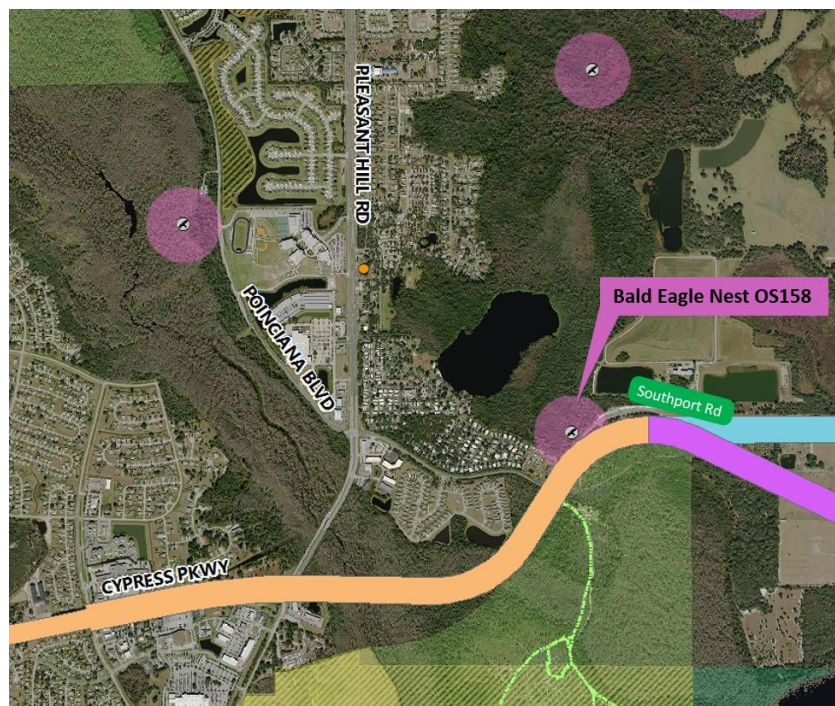
Corridors 7, 12, and 13 (the corridors recommended to be carried forward), which are co-located as a single alignment through this area. The corridor alignment is within the primary 330-foot zone of the surveyed nest location, as shown in Figure 6.5.2.

**Figure 6.5.1: Deficient Tangent Distance Between Curve Nos. 2 and 3**



REFERENCE COPY

**Figure 6.5.2: Bald Eagle Nest OS158**





Lake Toho is managed by the FFWCC and the SFWMD for federally endangered snail kites. During the ACE study, the FFWCC expressed concern that corridors crossing the lake would be detrimental to snail kites. Since snail kite habitat is actively managed and is being expanded along the lake shore, corridors crossing the lake have major flaws with respect to environmental impacts. Corridor 1 has the highest potential impacts to wetlands. These potential direct wetland impacts consist of 33 acres of non-forested wetlands and 149 acres of forested wetlands, for a total of 182 acres of potential wetland impacts. Additional secondary and cumulative impacts to these systems would be anticipated due to fragmentation and increased edge effects caused by the construction of the roadway corridor through a previously undisturbed portion of Reedy Creek. Since the 2015 ACER, no changes to anticipated impacts to listed species and wetlands are apparent. The ACER recommendation to drop the corridors crossing Lake Toho (Corridors 1, 2, and 3) are therefore concurred with.

The ACE corridors recommended to be carried forward (Corridors 7, 12, and 13) have the following characteristics:

- Begin at Poinciana Parkway;
- Co-located with Cypress Parkway;
- Cross the Reedy Creek ecosystem in the same location;
- Located south of Lake Toho; and
- Alignment location is largely based on avoidance of caracara and bald eagle nests.

While these corridor locations appear to be rational, a number of corridor constraints are being explored and revisited as part of this CF&M Study. The area south of Lake Toho requires further analysis in order to optimize the alignments of the corridors to carry forward. As this study progresses, additional information regarding the current environmental features will be obtained. Meetings with the major landowners and stakeholders located south of Lake Toho may have a substantial effect on the location of the corridor alignments to carry forward. Input from the Environmental Advisory Group (EAG) and Project Advisory Group (PAG) as well as the general public will be instrumental in refining corridor alternatives.

In summary, the study team concurs with the ACE decision to drop all corridors crossing Lake Toho. Corridors 7, 12, and 13 appear to be reasonable corridors with which to carry forward but will require refinements as additional natural, physical, and stakeholder information is obtained. Essentially, the swath of land bounded by Lake Toho on the north and the urban boundary to the south should be considered as the target location of the Southport Connector.

The study team also concurs with the ACE recommendation to co-locate all corridors with Cypress Parkway between Poinciana Parkway and the Reedy Creek ecosystem. The existing development flanking both sides of Cypress Parkway along with the available right-of-way preclude any merit to evaluating corridors substantially outside of this envelope.

### 6.5.2 Development of New Corridors

After reviewing the ACER, the study team concurs with the ACE decision to drop all corridors crossing Lake Toho. Corridors 7, 12, and 13 appear to be reasonable corridors with which to carry forward but will require refinements as additional natural, physical, and stakeholder information is obtained.

Therefore, the recommended ACE corridors were re-evaluated during this feasibility study with a new naming convention:

- Corridor 7 is referred to as Alternative 700;
- Corridor 12 is referred to as Alternative 200; and
- Corridor 13 is referred to as Alternative 500.

In addition, three other alternatives were developed: Alternative 300, Alternative 400 and Alternative 600. Alternative 300 was developed based on comments from Southport Ranch as well as other public comments received during the ACE process. Alternatives 400 and 600 were developed in order to provide an alignment that splits the property owners and provides access to the Green Island DRI. More information about the development of new corridors is contained in Section 6.6.

#### 6.5.2.1 Base Map Development

Appendix A contains the one-inch = 400 feet conceptual plan sheets for the alternatives. These conceptual plan sheets include the Southport Connector pavement, proposed right-of-way, and the following driving elements in the alternatives analysis:

- Existing right-of-way;
- Existing parcel lines;
- Disney's Wilderness Preserve boundary;
- Wetlands;
- Conservation land;
- Floodplains;
- Bald eagle nests;
- Caracara nests; and
- Snail kite nests.

### 6.5.2.2 Land Suitability Map

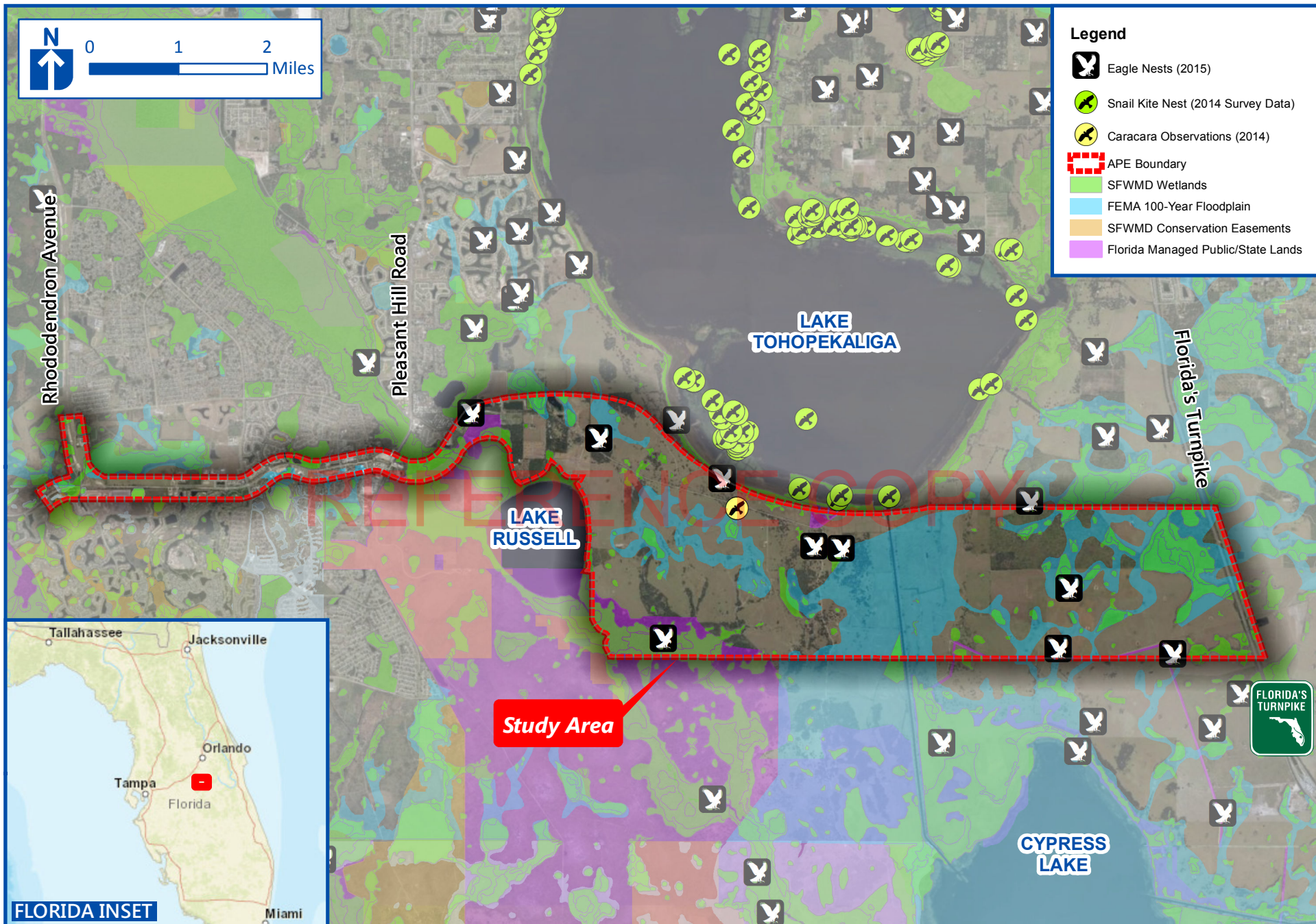
Land Suitability Mapping (LSM) was used to map constraints within the project limits. The LSM was developed by assembling known GIS environmental constraints datasets from sources including the Florida Geographic Data Library (FGDL), FNAI, FEMA, SFWMD, and FFWCC. Protected species data was supplemented with field observations within the project limits. Once the datasets were reviewed and evaluated, they were assembled as layers into a LSM to be used in corridor development. Datasets used to assemble the LSM are listed in Table 6.5.2 along with their sources. Preliminary new corridors were aligned across the study area to avoid the mapped constraints on the LSM wherever possible.

**Table 6.5.2: LSM Datasets**

GIS Layer	Source (Year)
FFWCC Managed Lands	FGDL(2010)
Managed Lands	FNAI (2017)
SFWMD Conservation Easements	SFWMD (2017)
Eagle Nests	FFWCC (2014)
Flood Zones	FEMA (2017)
Protected Species (multiple layers)	FFWCC (2015), Field Observations (2014)
Water Features	SFWMD (2008)
Wetlands	SFWMD (2008)

The preliminary corridor development LSM is shown in Figure 6.5.3.





## 6.6 Alternative Narrative

The Southport Connector begins at the junction of Poinciana Parkway and Cypress Parkway and extends approximately 13 miles to Florida's Turnpike. A total of six alignment alternatives were examined in this corridor, which can be subdivided into the following segments:

- Poinciana Parkway / Cypress Parkway interchange;
- Existing Cypress Parkway;
- Reedy Creek crossing; and
- Rural segment – Reedy Creek to Florida's Turnpike (includes three interchanges).

Conceptual layouts of the proposed interchange with the Southport Connector and Florida's Turnpike are included in the Northeast Connector Study, which is available under separate cover.

The subsequent section describes the six alternatives, all of which share the same alignment along Cypress Parkway and the crossing of Reedy Creek. Section 6.6.1 describes the characteristics of the following three sub-segments, known as the "Cypress Parkway from Poinciana Parkway to Reedy Creek" segment:

- Poinciana Parkway from KOA Street to Cypress Parkway
- Cypress Parkway from Poinciana Parkway to Pleasant Hill Road
- Reedy Creek Crossing

Section 6.6.2 describes the project segment between Reedy Creek to Florida's Turnpike.

### 6.6.1 Urban Section: Poinciana Parkway to Reedy Creek

In order to ensure continuity between Poinciana Parkway and Cypress Parkway, the Southport Connector actually begins as an extension of Poinciana Parkway beginning at KOA Street and proceeding southward. In its ultimate configuration, Poinciana Parkway will consist of a rural, four-lane freeway typical section. Currently Poinciana Parkway is a two-lane freeway facility which opened to traffic in 2016. The existing lanes will function as the proposed northbound lanes in the ultimate condition. The Southport Connector project is anticipated to construct the southbound lanes south of KOA Street, as well as entrance and exit ramps to the freeway. The entrance and exit ramps will emanate from northbound and southbound connector roadways providing a local link between KOA Street and Cypress Parkway. More information on this interchange is contained in Section 6.6.2.3, Proposed Interchanges.

Figure 6.6.1 provides an overview of the Southport Connector segment between KOA Street and Poinciana Parkway to Reedy Creek, known as the “Cypress Parkway” segment. Detailed concept plan sheets at one inch = 400 feet can be found in Appendix A to this report.

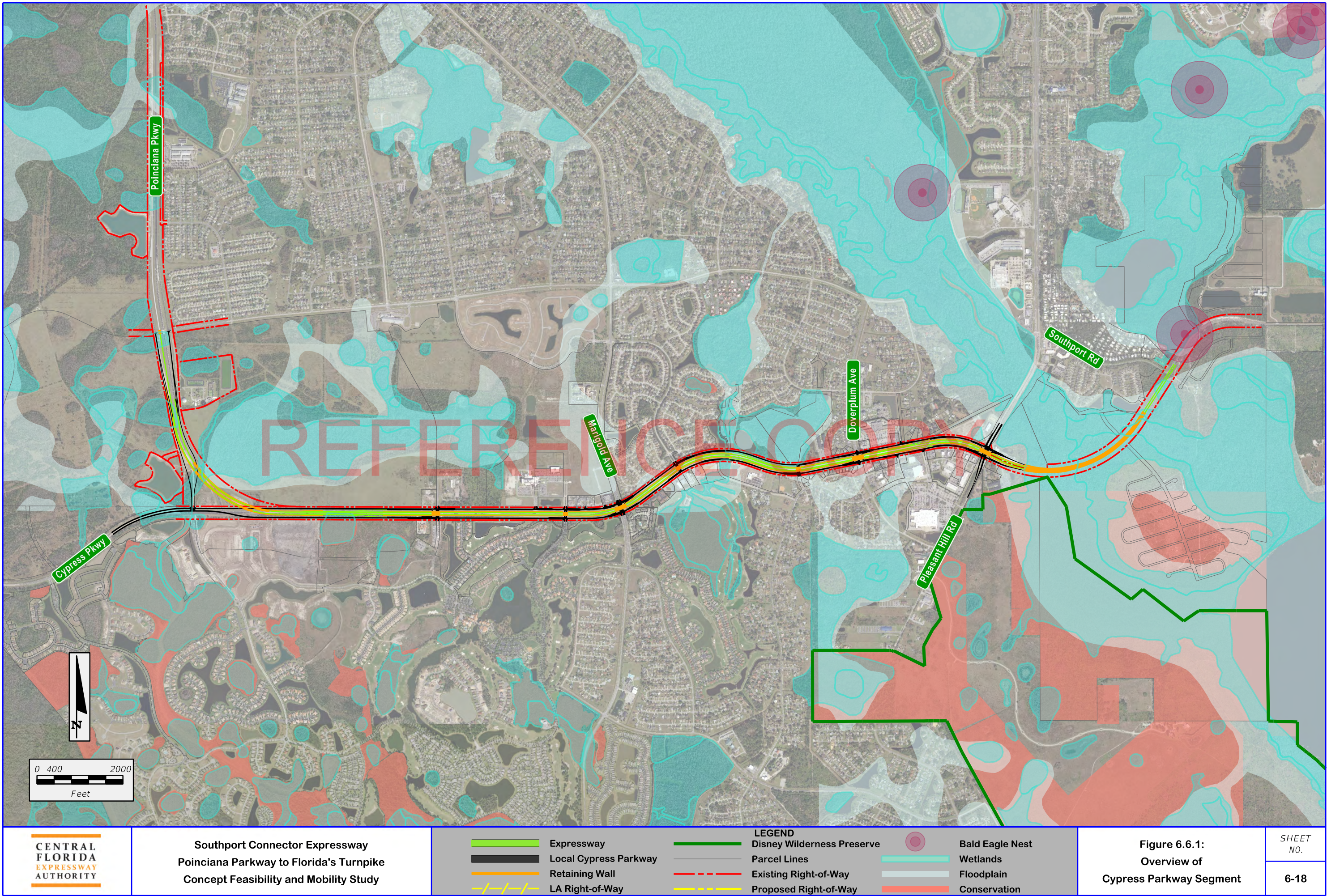
#### 6.6.1.1 Alignment Location

Proceeding from north to south and beginning at KOA Street, the Southport Connector begins by extending the Poinciana Parkway alignment in a southeasterly direction on its existing trajectory. Approaching Cypress Parkway, the freeway curves via a radius of 2,556 feet, which requires a superelevation rate of 0.078 at 70 mph. To facilitate the transition to Cypress Parkway, a compound curve is employed, with the 2,556-foot radius curve transitioning into a 2,372-foot radius curve. The resulting tangential centerline bisects the existing 300-foot right-of-way and is located generally in the vicinity of existing two-lane pavement. A noteworthy point is that the proposed median width transitions through this curve from a rural median width of 64 feet to an urban freeway width of 26 feet, which is sufficient to accommodate dual 12-foot shoulders and a two-foot concrete barrier wall.

Beyond the horizontal curve and median transition onto Cypress Parkway, the freeway is reduced to a 60 mph design speed and extends approximately 3,425 feet before overpassing a private roadway known as Laurel Street and located on the north side of the right-of-way. As is typical of the proposed overpasses, the structure assumes a U-turn, in this case, in the eastbound-to-westbound direction. Each bridge also assumes the intersecting roadway is a four-lane divided roadway with a raised median. Left and right turn lanes featuring standard deceleration distances are also assumed.

Several ingress and egress ramps are located along the Cypress Parkway segment. The first pair of ramps is located in between the aforementioned horizontal curve and Laurel Street. In the westbound direction, a left-hand exit gore is located approximately 1,000 feet from the U-turn maneuver. This U-turn arc forms a third inside lane, which terminates into the ramp that ultimately provides ingress to the Southport Connector Expressway. As a result, motorists have a 1,000-foot area in which to weave after traveling through the proposed intersection.







As is typical with these “slip” ramps along this corridor, the ramp geometry is comprised of reverse normal-crown curves designed for 50 mph. The distance between painted gore noses, in this case, is a relatively short 1,100 feet. Again, the close proximity of the one-way frontage road pairs and the freeway necessitates fairly aggressive ramp geometry in order to convey traffic to and from the freeway while avoiding close proximity to intersections and elevated profiles at overpasses. All entrance and exit ramp terminals are assumed to be parallel-type ramps using standard American Association of State Highway and Transportation Officials (AASHTO) Green Book acceleration / deceleration lane lengths and 300-foot tapers.

Conversely, the eastbound direction features a freeway exit ramp utilizing similar geometry and conveying traffic to a dedicated inside third lane that terminates into a dedicated left-turn lane at the Laurel Street intersection. As a general rule, the painted gore nose of these egress ramps is located at least 1,000 feet from the approaching intersection in order to accommodate weaving to the outside lanes and the intersection right-turn lane.

At each overpass, the expressway approaches are assumed to be supported by earthen fill flanked by mechanically stabilized earth (MSE) walls. Wall lengths of at least 1,100 feet are expected to accommodate the 60 mph design speed and associated vertical curves.

East of the Laurel Street bridge, the alignment continues on a tangent section before following the existing alignment curvature via a 1,907-foot horizontal curve (0.077 superelevation at 60 mph). An important point to note is that the freeway alignment follows the existing Cypress Parkway alignment in order to eliminate right-of-way impacts. Regarding the vertical profile, the proposed grade transitions downward on MSE wall for approximately 1,400 feet before immediately rising again to overpass Solivita Boulevard, which is also the entrance to the Poinciana Medical Center campus. At this intersection, no advanced U-turns are proposed, and the structure is a relatively short 120 feet. However, 1,100 feet to the east, the proposed profile overpasses a major intersection, Marigold Avenue. Between Solivita Boulevard and Marigold Avenue, the profile is expected to remain elevated on MSE wall. Advance U-turns are located in either side of Marigold Avenue, which is overpassed by a three-span bridge.

Continuing in a northeasterly direction, the alignment follows a 1,000-foot tangent before curving in a southeasterly direction via a 1,912-foot radius curve (0.077 superelevation). A short tangent section of 370 feet is followed by a reverse curve of the same radius. Approximately 2,800 feet east of Marigold Avenue, the freeway overpasses Cypress Drive. This close proximity of bridges and curvilinear geometry is somewhat challenging for a freeway alignment, although sufficient distance exists between the sag vertical curves to provide for a 300-foot section of freeway that is not supported on fill by MSE wall. This

location is an opportunity to provide a second pair of ingress and egress ramps. In the westbound freeway direction, a motorist would experience a downgrading parallel-type exit ramp terminal followed by a 1,200-foot horizontal curve before transitioning into a third inside lane, which terminates as a dedicated left turn at the Cypress Drive intersection. Conversely, an eastbound motorist on the local one-way pair would exit to the left (again, via a parallel-type exit ramp), transition to the freeway via a 2,455-foot radius curve, and enter the eastbound freeway. In this case, the parallel-type entrance ramp terminal is actually an outer auxiliary lane conveying traffic to an exit ramp to the local system in advance of Pleasant Hill Road.

Between Cypress Drive and Doverplum Avenue, the profile remains elevated and supported by MSE wall along the 1,200 feet separating the two overpasses. The bridge over Doverplum Avenue is configured similar to the three-span bridge at Marigold Avenue. Advanced U-turns are provided on either side of Doverplum Avenue.

Approaching Pleasant Hill Road, the aforementioned eastbound exit ramp forms an inside third lane, which becomes the eastbound-to-northbound left turn lane. Continuing across Pleasant Hill Road, the two through lanes narrow to a single lane conveying traffic into a parallel-type entrance ramp terminal, which merges onto the expressway and the bridge over the Reedy Creek ecosystem. In the westbound direction, a parallel-type exit ramp terminal conveys traffic to a single lane ramp, which widens to two at-grade through lanes (as well as left and right turn lanes) in advance of the Pleasant Hill Road intersection.

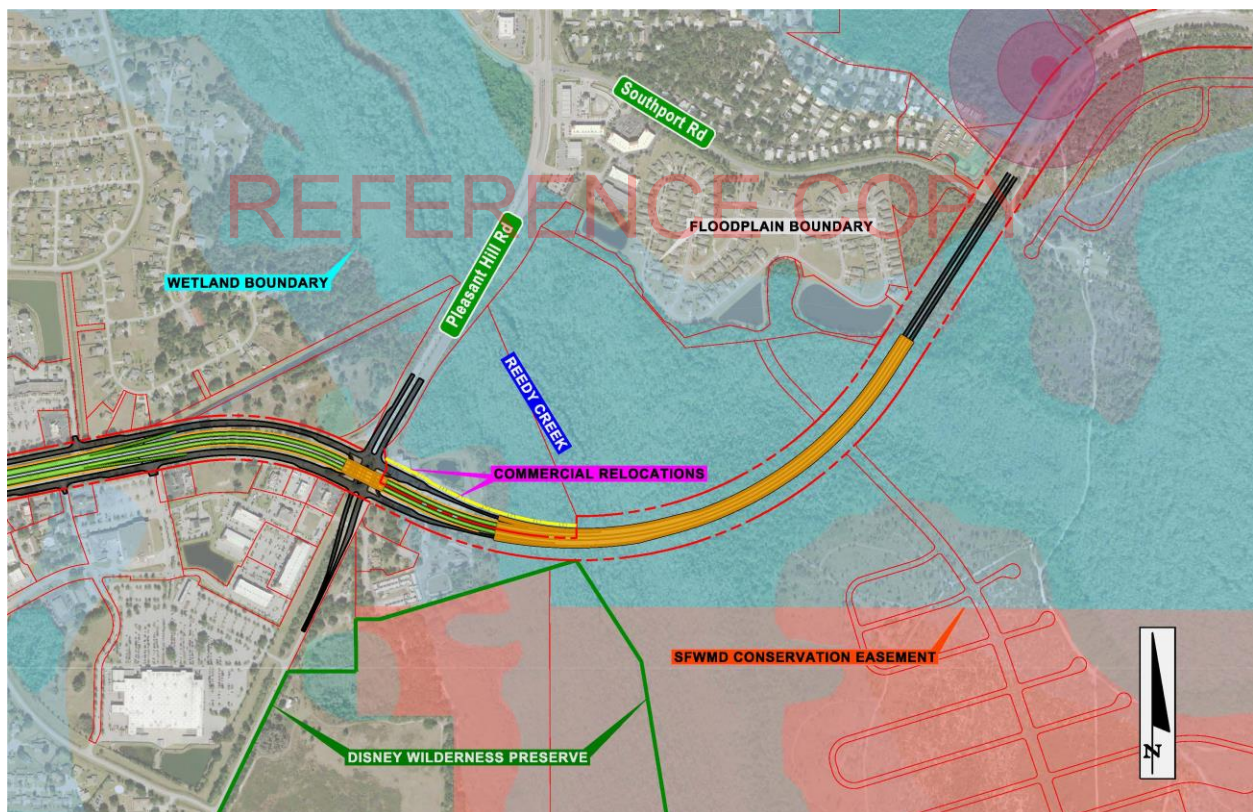
Proceeding across Pleasant Hill Road in the westbound direction, a left-hand parallel-type entrance ramp terminal is formed approximately 1,200 feet west of the structure over Pleasant Hill Road. This ramp becomes an expressway entry point for motorists traveling westbound on the local system (many of which will originate from southbound Pleasant Hill Road). The Southport Connector Expressway design speed transitions back to 70 mph after crossing Pleasant Hill Road. The bridge carrying the expressway over Pleasant Hill Road is configured similarly to the proposed bridges at Marigold Avenue and Doverplum Avenue, with an anticipated three-span structure providing under-bridge envelopes for advance U-turns on each side of Pleasant Hill Road. In order to provide for adequate ramp intersections, approximately 2,000 feet of Pleasant Hill Road is assumed to require reconstruction and realignment.

The crossing of Reedy Creek provides a unique physical challenge for the Southport Connector. The creek crossing is also complicated by an easterly finger of a wetland system that drains to Lake Russell. Osceola County has a 300-foot swath of dedicated right-of-way across the Reedy Creek ecosystem. From a roadway geometry standpoint, this right-of-way



is an ideal location for the proposed Southport Connector alignment, as the radius bisecting the established right-of-way is 2,499 feet and equates to a superelevation rate of 0.080 at 70 mph. Figure 6.6.2 displays an overview of the Pleasant Hill Road intersection and the crossing of Reedy Creek. As can be seen on the figure, the proposed alignment crosses Reedy Creek plus the easterly wetland system draining to Lake Russell. Because of this large ecosystem, the proposed crossing is anticipated to be supported by a continuous structure with a length of approximately 3,350 feet. In lieu of fill, a bridge section is hydraulically superior while also affording ample space for wildlife crossings and habitat connectivity. The permitting process for this crossing is expected to require significant attention to detail and extensive agency coordination. However, using a structure over Reedy Creek is anticipated to help with the permitting process and will demonstrate avoidance and minimization of wetland impacts. Because of the environmentally sensitive ecosystem, top-down construction is anticipated.

**Figure 6.6.2: Southport Connector over Reedy Creek**



An important point to note is that the Cypress Parkway segment is common to all six alternatives examined as part of this study.

### 6.6.1.2 Proposed Typical Section

Figures 6.6.3 and 6.6.4 display the two typical sections in the Cypress Parkway section between Poinciana Parkway and Pleasant Hill Road. The freeway portion, known as the Southport Connector Expressway, features two 12-foot travel lanes in each direction flanked by 12-foot inside and outside shoulders. While the CFX design criteria shown in Chapter 5 requires a minimum inside shoulder width of eight feet, a 12-foot inside shoulder is recommended in order to facilitate future expansion to six lanes. In addition, the required minimum median width is 26 feet, which accommodates dual 12-foot shoulders and a center concrete barrier wall.

Existing Cypress Parkway is proposed to be removed in its entirety and replaced with a one-way couple separated by the Southport Connector Expressway. The local system consists of two-lane urban roadways in the eastbound and westbound directions. Through lanes of 12 feet wide are provided, along with a seven-foot bicycle lane and five-foot sidewalks. The distance between the inside yellow pavement marking of the frontage road and the white pavement marking of the freeway is 52 feet. This area will accommodate landscaping, turn lanes, and potentially future freeway widening, since widening to the center would not be feasible.

As described in the previous section, a number of segments of the reconstructed Cypress Parkway consist of elevated sections approaching overpasses, or in some cases, between overpasses. Figure 6.6.5 depicts an elevated section supported by MSE walls. Note that the distance between the yellow inside stripe of the local road and the face of the outer concrete barrier wall on the freeway is 40 feet – sufficient distance to accommodate left-turn lanes or advanced U-turn maneuvers.

Figure 6.6.3: Cypress Parkway / Southport Connector Typical Section – At-Grade

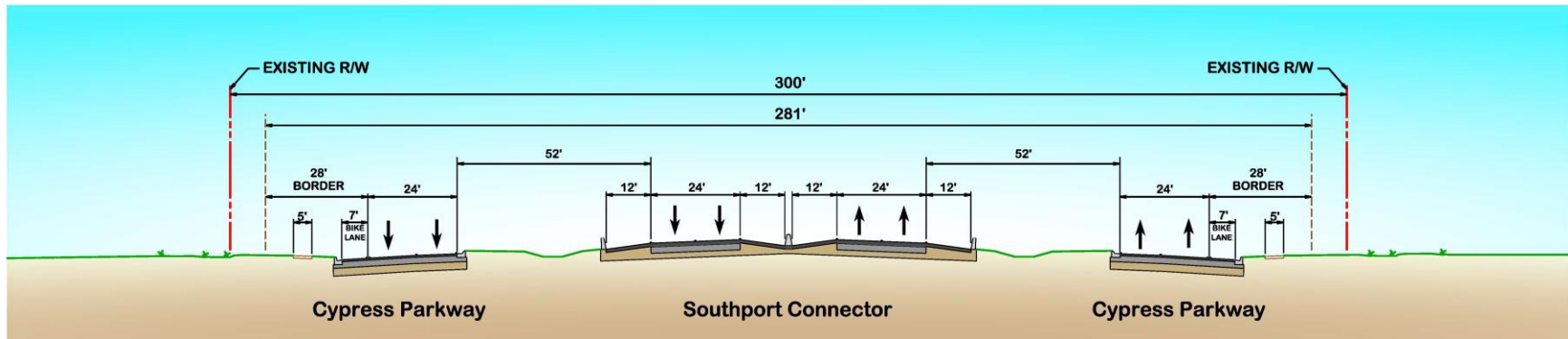
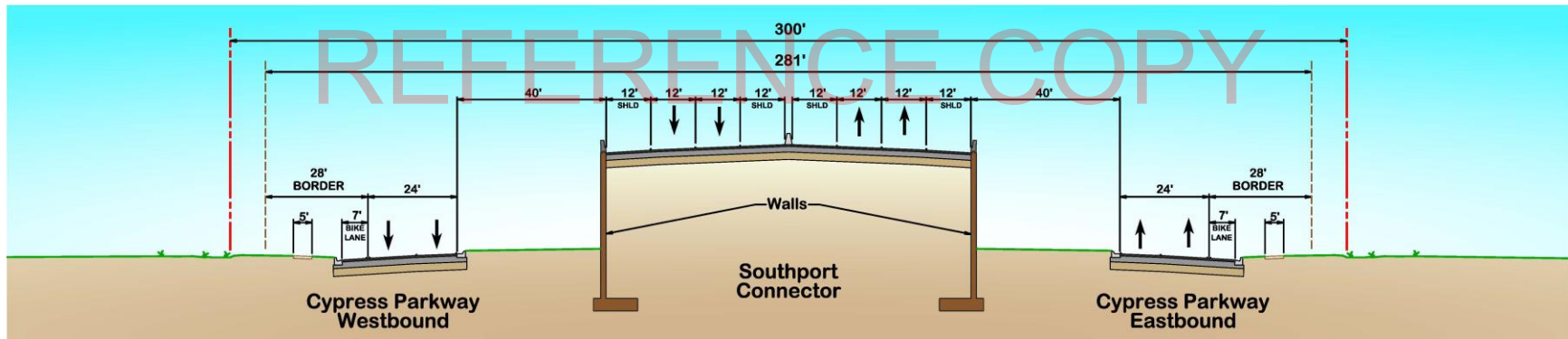


Figure 6.6.4: Cypress Parkway / Southport Connector Typical Section - Elevated





### 6.6.1.3 Proposed Interchanges

#### **Poinciana Parkway / Cypress Parkway Interchange / KOA Street**

The “interchange” at Poinciana Parkway and Cypress Parkway is a continuation of the entrance and exit ramps completing the diamond interchange on the south side of KOA Street. The entrance and exit ramps associated with KOA Street both begin and end at KOA Street as single lane ramps. However, beyond these slip ramp gores, the ramps become a connector road tying into existing Cypress Parkway. With this configuration, eastbound or westbound motorists on Cypress Parkway can travel to or from KOA Street or enter or exit the expressway. Thus, a full interchange is ultimately provided at KOA Street; a half interchange is provided at Cypress Parkway, with the remaining eastbound entrance and westbound exit ramps occurring between Cypress Branch Drive and Cypress Drive located approximately two miles to the east.

As part of the Poinciana Parkway northbound lanes completed in 2016, a dedicated two-lane access road was constructed from Cypress Parkway to the Toho Water Authority treatment plant located south of KOA Street. As can be seen from Figure 6.6.5, the existing access road intersection with Cypress Parkway will need to be either removed or reconfigured. A full median opening for this access road would likely not be feasible due to its close proximity to the intersection immediately to the west. Two options are therefore available for further consideration should this project proceed into a PD&E phase:

- Reconfigure the access road intersection as right-in, right-out onto westbound Cypress Parkway; or
- Remove the access road and connect the plant entrance to the proposed northbound access road connecting Cypress Parkway with KOA Street. Under this scenario, plant traffic would utilize the same northbound and southbound connecting roadways as the general public. While plant traffic would need to travel to KOA Street to travel south, the primary benefit is that motorists would arrive at Cypress Parkway under signal and would have the ability to turn left to travel eastbound.

This access issue will be investigated further in the next phase of this project.

Figure 6.6.5 illustrates the connections of the Southport Connector with KOA Street and Cypress Parkway.

#### **Cypress Parkway Ramps**

While various “slip” ramps are proposed along the Cypress Parkway corridor, the pairings of ramps function as full interchanges, albeit with some distance between the ingress and

egress points. Below is a summary of the ramp pairings that form a “complete” diamond interchange:

- Eastbound exit and westbound entrance ramps west of Laurel Street / eastbound entrance and westbound exit ramps between Cypress Branch Road and Cypress Drive; and
- Eastbound exit and westbound ramps west of Pleasant Hill Road / eastbound entrance and westbound exit ramps east of Pleasant Hill Road (merges on / off of Reedy Creek bridge).

Refer to Appendix A for detailed concept plan sheets of the proposed mainline and interchange improvements.

**Figure 6.6.5: Southport Connector Tie-in to KOA Street and Cypress Parkway**



#### 6.6.1.4 Proposed Structures

The following structures are proposed within the Cypress Parkway segment:

- Poinciana Parkway over northbound access road at western interchange;
- Expressway over Laurel Street (two spans);
- Expressway over Solivita Boulevard (single span);
- Expressway over Marigold Avenue (three spans);

- Expressway over Cypress Branch Road (single span);
- Expressway over Cypress Drive (single span);
- Expressway over Doverplum Avenue (three spans);
- Expressway over Pleasant Hill Road (three spans); and
- Expressway over Reedy Creek (major waterway and ecosystem crossing).

#### 6.6.1.5 Maintenance of Access – Driveway Connections

Because of the local frontage road system proposed in Figures 6.6.3 and 6.6.4, local businesses will continue to have access to Cypress Parkway. Existing side roads will also continue to have access to Cypress Parkway. However, the placement of a freeway between the eastbound and westbound local one-way couples will provide a more restrictive median opening environment compared to the existing conditions. The strategic placement of advanced U-turns will mitigate any inconvenience motorists may experience due to the elimination of existing median openings. In fact, the restrictions in access management are expected to cause local Cypress Parkway to function in a significantly improved manner.

#### 6.6.1.6 Drainage and Stormwater Considerations

The stormwater ponds for the Cypress Parkway segment, the Reedy Creek Crossing, and the two interchanges at Poinciana Parkway and Pleasant Hill Road were sized to accommodate 63.1 acres of net additional impervious area, which assumes a fully paved median. The required treatment volume is 18.2 ac-ft, and includes the additional 50% to accommodate the Lake Okeechobee BMAP and Southport Mitigation Bank criteria. The proposed improvements are estimated to impact 13 acres of floodplain and provide compensating storage of 39.3 ac-ft. The Cypress Parkway segment and Reedy Creek Crossing were subdivided into a total of six onsite basins, which result in a total required pond area of 31.8 acres. The summary of required volumes and required pond area for each basin is provided in Table 6.6.1. Please refer to Appendix C for additional clarification on the pond sizing methodology and the supporting calculations.



**Table 6.6.1: Cypress Parkway and Reedy Creek Crossing Pond Sizing Summary**

Basin	Required Attenuation Volume	Required Treatment Volume	Required Floodplain Compensation Volume	Total Required Pond Volume	Required Pond Area
	(ac-ft)	(ac-ft)	(ac-ft)	(ac-ft)	(ac)
BCYP1	2.1	0.0	0.5	2.6	1.3
BCYP2	1.5	3.2	0.2	4.9	2.3
BCYP3	1.3	0.0	11.6	12.9	5.6
BCYP4	1.4	3.9	11.6	20.1	8.7
BCYP5	1.3	3.9	0.0	5.2	2.4
BReedy	4.5	7.2	15.4	27.1	11.5
Total	12.1	18.2	39.3	72.8	31.8

As part of the location hydraulics analysis, locations were identified where significant offsite hydraulic conveyance is necessary in order to not adversely impact offsite properties. For the Cypress Parkway segment and Reedy Creek Crossing, three existing crossings were identified to be extended and are summarized in Table 6.6.2. C100\_CD02A\_EX is the proposed closed system to accommodate the Reedy Creek Tributary No. 3, which runs for 0.95 miles along the north of Cypress Parkway and ultimately discharges into Reedy Creek. A 3,315-foot bridge over Reedy Creek is proposed. Both Reedy Creek and the Reedy Creek Tributary No. 3 are regulated floodways, which will require a FEMA No-Rise certification. Please refer to Appendix C for additional clarification on the location hydraulics methodology, the supporting calculations, and specific locations.

**Table 6.6.2: Cypress Parkway and Reedy Creek Offsite Conveyance Summary**

Cross Drain ID	Required Minimum Size
C100_CD01_EX	2-38"x24" Pipes
C100_CD02_EX	2-24" Pipes
C100_CD02A_EX	3-60" Pipes
C100_CD03_EX	4-29"x45" RCP

#### 6.6.1.7 Proposed Right-of-Way Needs

Besides the need for pond sites, improvements along Cypress Parkway are not expected to require significant right-of-way acquisition. The existing 300-foot right-of-way will be mostly sufficient to accommodate the proposed improvements. One exception is an approximate 1,400-foot segment on the east side of the Pleasant Hill Road intersection. At this location, the existing 300-foot right-of-way is reduced to 150 feet. The proposed improvements will

displace strip shopping and a grocery store. These displacements are the only relocations proposed on the project due to the proposed roadway alignment.

Figures 6.6.6 and 6.6.7 display the commercial properties that would need to be acquired. In Figure 6.6.6, the camera is facing west, and the proposed centerline is located atop the first row of parking nearest the street in the foreground. The proposed freeway portion of the typical section is located in the parking lot, while the westbound local lanes are located atop the two buildings.

**Figure 6.6.6: Commercial Relocation – Grocery Store**



Immediately south of the two businesses previously mentioned, an apartment complex (Tierra Point Apartments) is located just south of the dedicated right-of-way. While no part of this facility will be directly impacted by the proposed Southport Connector, the close proximity of this facility will necessitate careful consideration during the noise analysis as part of the PD&E phase. Access to the facility will be achieved by turning right-in and right-out of the existing entrance onto the eastbound frontage road. Figure 6.6.8 displays the facility in question.

**Figure 6.6.7: Commercial Relocation – Strip Shopping Center**



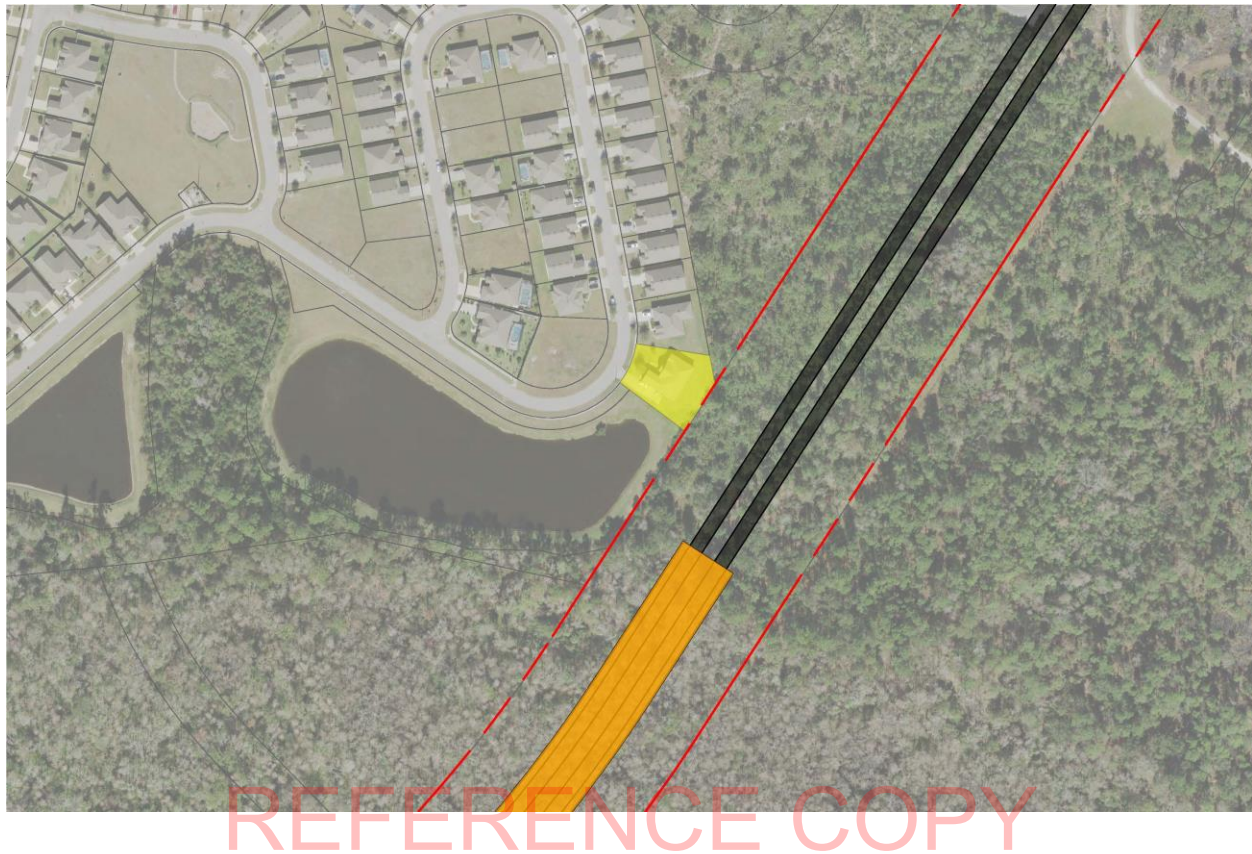
**Figure 6.6.8: Tierra Point Apartments**



On the east side of the Reedy Creek crossing, the dedicated right-of-way (and consequently the roadway alignment) is located immediately adjacent to an established neighborhood known as Southport Bay. One home in particular abuts the existing right-of-way and will be most affected by the proposed freeway. Noise walls will likely be a major consideration in this vicinity, as shown in Figure 6.6.9.



**Figure 6.6.9: Southport Bay Residence Abutting Existing Right-of-Way**



#### 6.6.1.8 Projected Design Year Traffic

Refer to Section 6.6.2.8 for detailed project design year traffic information.

#### 6.6.2 Rural Section: Reedy Creek to Florida's Turnpike

After crossing the Reedy Creek ecosystem, the Southport Connector has the potential to be located on a number of distinct alignments between Reedy Creek and Florida's Turnpike. The alignments evaluated are all located south of Lake Toho. The land use and terrain through this area is characterized by primarily ranch land with isolated wetlands. Southport Road is the lone public street in this area and terminates at Southport Park located on the southern tip of Lake Toho. The land use adjacent to Southport Road located east of Reedy Creek is characterized by small orange groves and approximately a half-dozen homes with deep lots (> 1,000 feet).

Since the vast majority of the property located south of Lake Toho is ranch land, the major features influencing the alignment locations are as follows:

- The location of Southport Road;
- The proximity of the alignments to Lake Toho and Southport Park;
- Existing caracara nests;

- Existing bald eagle nests;
- Property boundaries between major land owners;
- Smoke shed from Disney Wilderness Preserve;
- Interchange location and alignment tie-in at Turnpike based on Northeast Connector; and
- Osceola County South Lake Toho Master Plan.

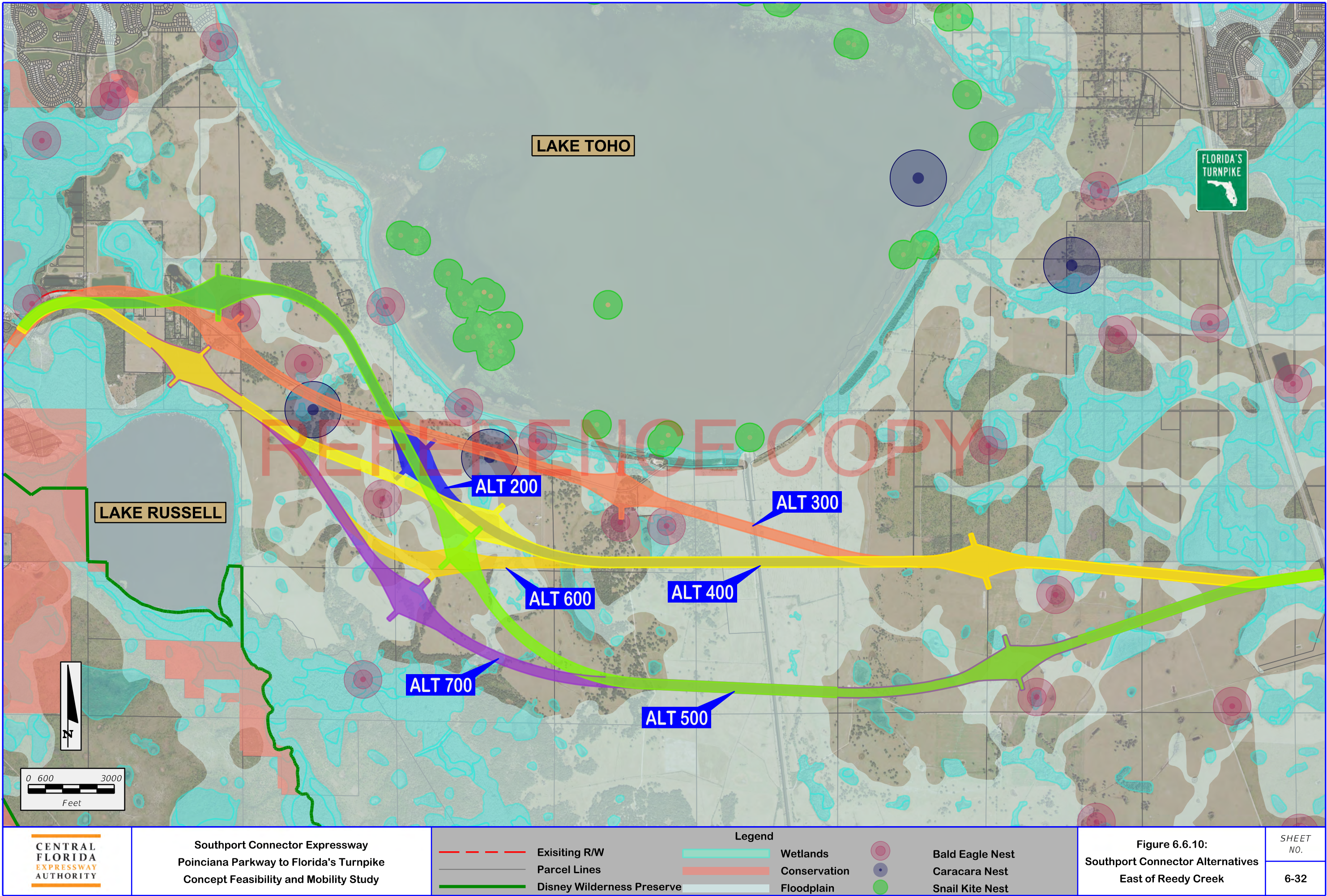
As described in Section 1.4, Previous Studies Related to the Project, this CF&M Study affirmed that the optimal alignments to connect Poinciana Parkway with the Turnpike are located south of Lake Toho as opposed to crossing Lake Toho. Three of the ACE alignments were carried forward and refined in this study, while three new alignments were added, for a total of six alternatives analyzed.

East of Reedy Creek, the six alternatives under evaluation have significant overlap and are generally similar in geometry and impacts. The following sections briefly describe the geometric highlights of each alternative, the primary factors influencing the alignment location, the pros and cons of each alternative, and a final disposition for further study.

Figure 6.6.10 displays an overview of the alternatives east of Reedy Creek. Each section describing the alternatives also contains an overview of the alternative, as well as the same alternative superimposed on the Osceola County South Lake Toho Master Plan.

Appendix A contains detailed sheets at one inch = 400 feet for each of the six alternatives.







### 6.6.2.1 Alignment Location

#### **Alternatives Carried Forward from ACE Study**

##### **Alternative 700 (ACE 7)**

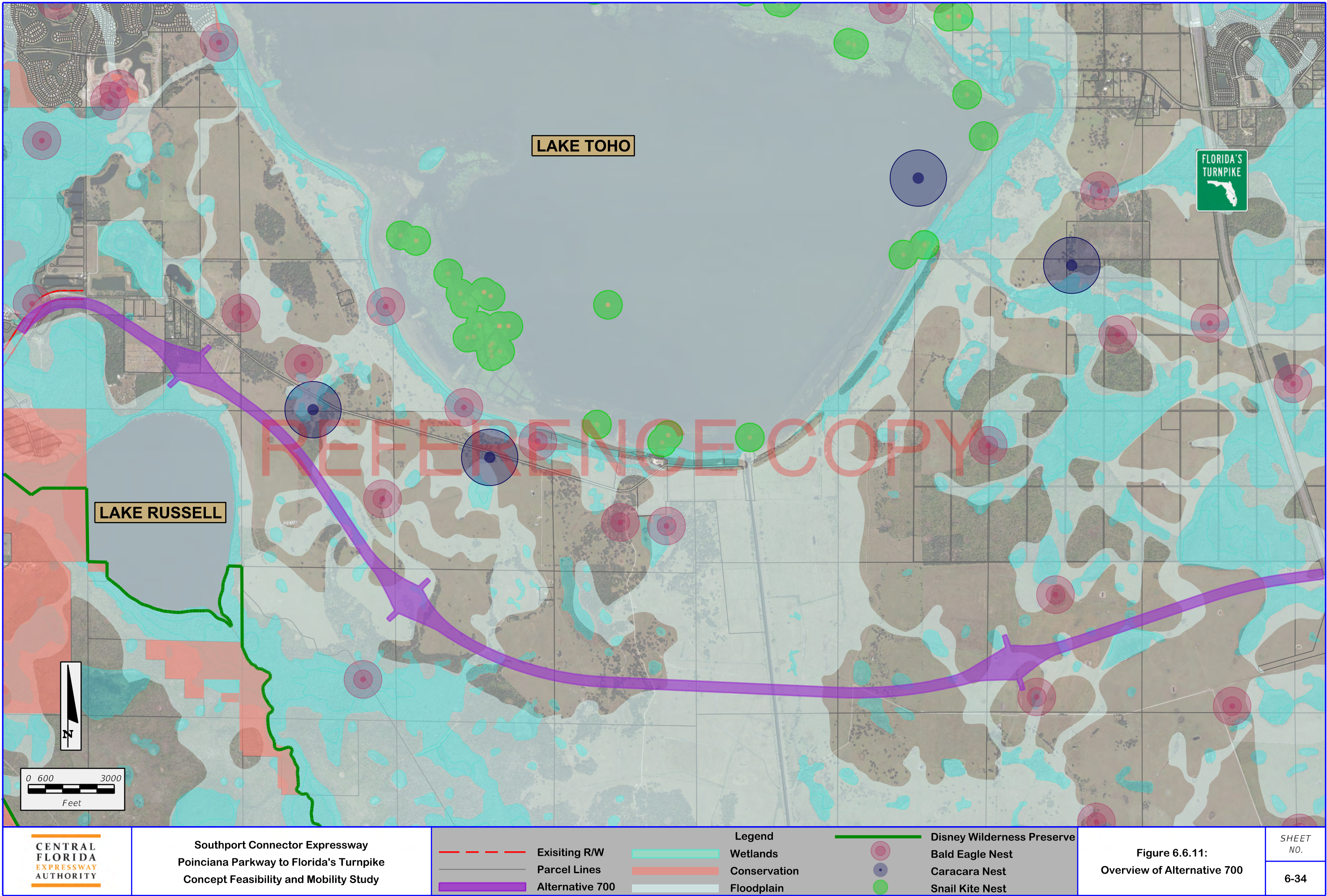
Alternative 700 is the southernmost alignment evaluated as part of this study and is the closest to the urban growth boundary of Osceola County. The alignment is based on the freeway location contained in the South Lake Toho Master Plan.

East of Reedy Creek, Alternative 700 begins with a 2,213-foot radius curve to the southeast. This initial curve is also shared by Alternatives 400 and 600. Proceeding in a southeasterly direction, the curve transitions into a 5,516-foot tangent section before curving further in a southeasterly direction via a 9,613-foot curve in order to avoid a documented caracara nest east of Lake Russell. The centerline of Alternative 700 (as well as 400 and 600) is located as close as ¼-mile from the northeastern shoreline of Lake Russell. This alignment is located south of the large residential lots located along the south side of Southport Road.

Alternative 700 then begins a large, sweeping curve of radius 10,887, transitioning the alignment in an easterly direction. The alignment then experiences a 6,870-foot tangent section before curving in a northeasterly direction via a normal crown 14,701-radius curve. Approaching the Turnpike, Alternative 700 utilizes an 8,011-foot tangent followed by a 14,427-foot radius curve that straightens the alignment into a short, ¼-mile tangent that intersects the Turnpike. The alignment in this vicinity is located just south of a large wetland system and bisects the narrow wetland connection to the larger wetlands to the south.

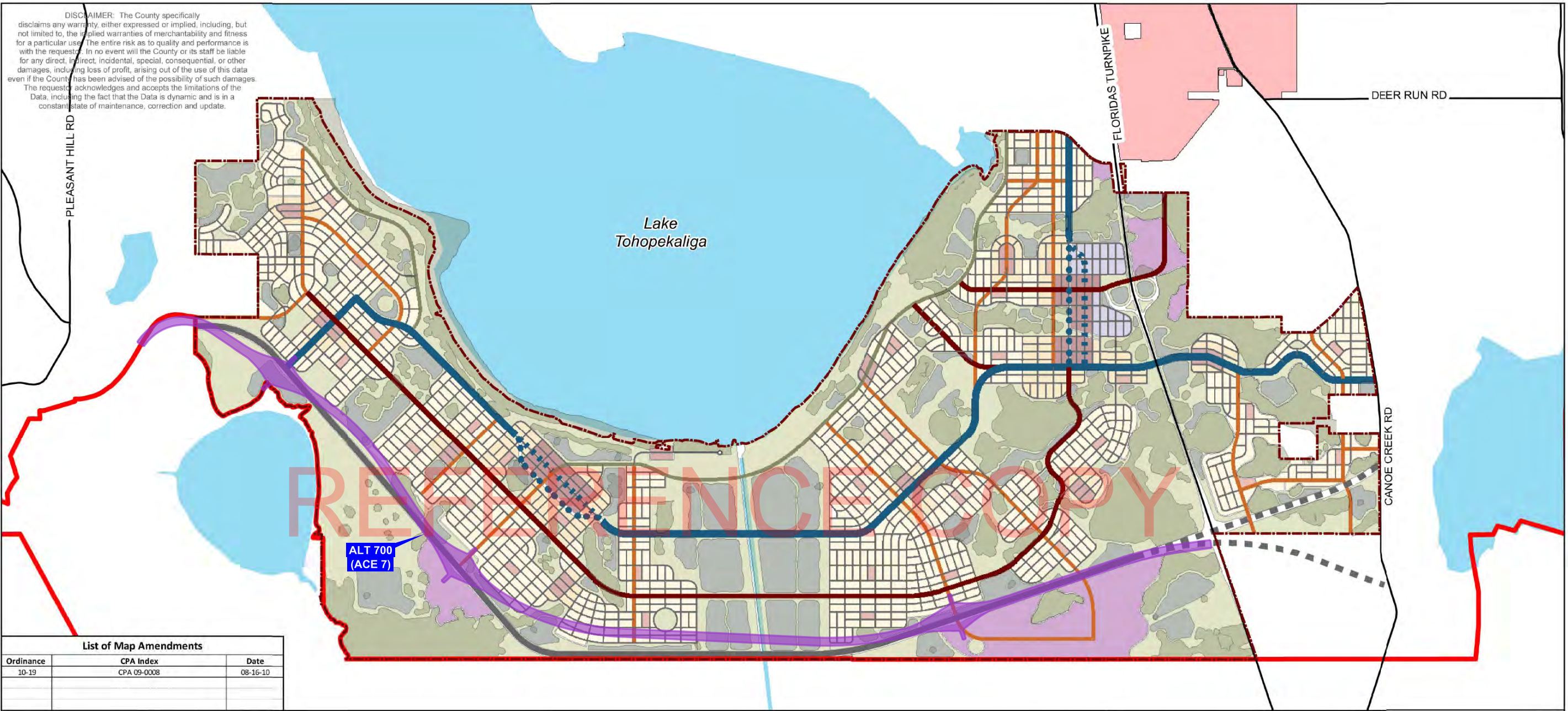
Figure 6.6.11 and Figure 6.6.12 display Alternative 700 on the base map and atop the South Lake Toho Master Plan, respectively.







DISCLAIMER: The County specifically disclaims any warranty, either expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular use. The entire risk as to quality and performance is with the requester. In no event will the County or its staff be liable for any direct, indirect, incidental, special, consequential, or other damages, including loss of profit, arising out of the use of this data even if the County has been advised of the possibility of such damages. The requester acknowledges and accepts the limitations of the Data, including the fact that the Data is dynamic and is in a constant state of maintenance, correction and update.



### Place Types

- Urban Center
- Community Center
- Employment Center
- Neighborhood Center
- Neighborhood Type 1
- Neighborhood Type 2
- Open Space District
- Special District

### Miscellaneous

- SLT Boundary
- Urban Growth Boundary
- Preserved Wetlands
- Stormwater Ponds

- Local Streets
- Other Jurisdictions

### Regional Facilities

- Expressway
- Expressway Alternatives

### Framework Streets

- Avenue
- Boulevard
- Multimodal Corridor
- Multimodal Corridor(Traffic Only)
- Multimodal Corridor(Transit Only)
- Parkway

MAP PRODUCED BY OSCEOLA COUNTY  
PLANNING OFFICE - GIS SECTION  
01AUGUST2011

0 0.5 1 Miles

File: G:\ComprehensivePlan\ComprehensivePlan\_2009\Revisions\_June2010\SLT\_3.mxd Printed on: 13OCT2011



Southport Connector Expressway  
Poinciana Parkway to Florida's Turnpike  
Concept Feasibility and Mobility Study

Figure 6.6.12:  
Alternative 700 vs. South Lake Toho  
Master Plan Roadway Network

SHEET  
NO.  
6-35



### **Alternative 200 (ACE 12)**

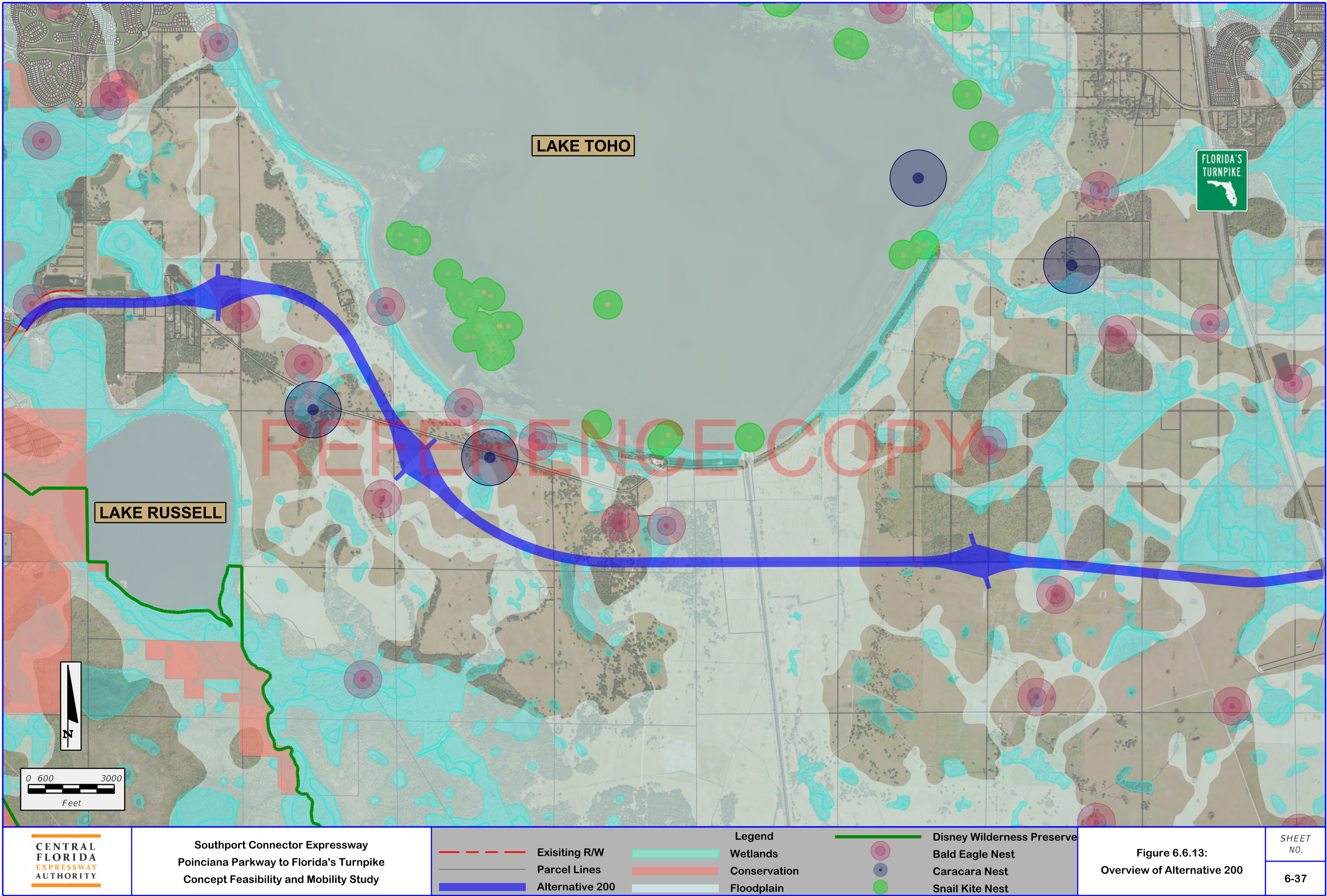
Alternative 200 was also carried forward from the ACE study. The alignment begins by generally following Southport Road before transitioning into a northeastern trajectory towards Lake Toho before curving sharply south and turning due east south of Lake Toho.

East of Reedy Creek, Alternative 200 begins with a 1,923-foot radius curve (0.096 superelevation) to the east. Beyond this curve, the centerline of the freeway is located approximately 190 feet south of existing Southport Road before transitioning northeasterly to avoid a documented caracara nest located on the north side of Southport Road. Approaching Lake Toho, the alignment then turns southward via a 3,833-foot radius curve and follows a trajectory that is roughly parallel to (and approximately 1,600 west of) the southwestern shoreline of Lake Toho. It is important to note that the freeway centerline is located approximately 800 feet southwest of the residence for Kenansville Ranch.

After curving southeasterly, the alignment is located on a 3,524-foot tangent section before curving gradually to the east via a 8,837-foot radius curve. This curve location is roughly equidistant between a documented bald eagle nest and a caracara nest. Once on an easterly bearing, the alignment briefly follows the property line between Green Island and the Bronson Ranch (approximately 2,940 feet). The freeway centerline then curves slightly to the southeast to avoid the large wetland system located in Green Island just west of the Turnpike. A short 4,751-foot radius curve transitions the alignment towards the Turnpike, thereby crossing the wetland system at its narrowest point (similar to Alternative 700).

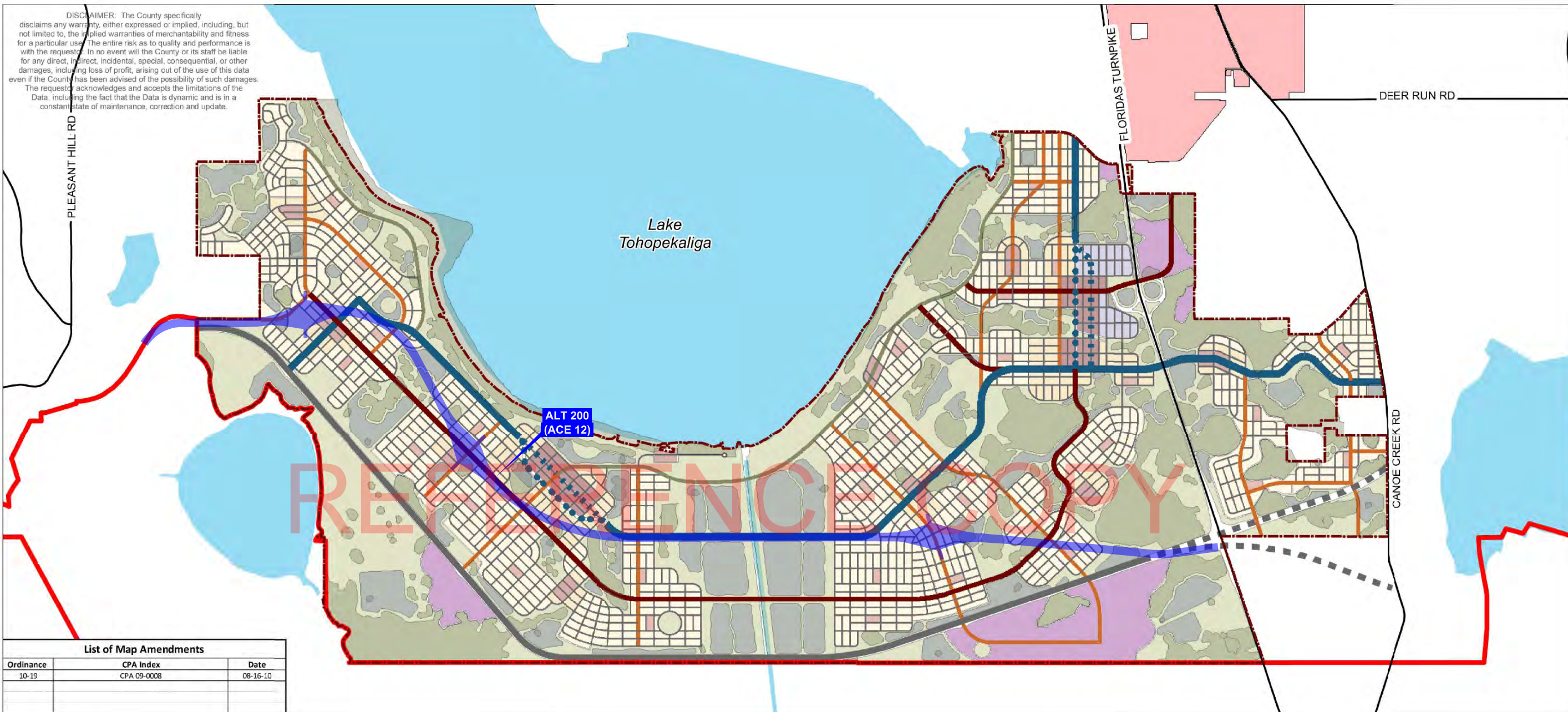
Figures 6.6.13 and 6.6.14 display Alternative 200 on the base map and atop the South Lake Toho Master Plan, respectively.







DISCLAIMER: The County specifically disclaims any warranty, either expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular use. The entire risk as to quality and performance is with the requester. In no event will the County or its staff be liable for any direct, indirect, incidental, special, consequential, or other damages, including loss of profit, arising out of the use of this data even if the County has been advised of the possibility of such damages. The requester acknowledges and accepts the limitations of the Data, including the fact that the Data is dynamic and is in a constant state of maintenance, correction and update.



List of Map Amendments		
Ordinance	CPA Index	Date
10-19	CPA 09-0008	08-16-10

### Place Types

- Urban Center
- Community Center
- Employment Center
- Neighborhood Center
- Neighborhood Type 1
- Neighborhood Type 2
- Open Space District
- Special District

### Miscellaneous

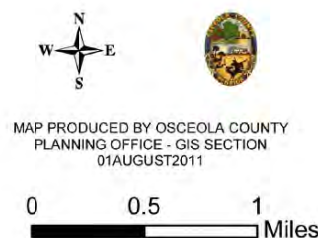
- SLT Boundary
- Urban Growth Boundary
- Preserved Wetlands
- Stormwater Ponds
- Local Streets
- Other Jurisdictions

### Regional Facilities

- Expressway
- Expressway Alternatives

### Framework Streets

- Avenue
- Boulevard
- Multimodal Corridor
- Multimodal Corridor(Traffic Only)
- Multimodal Corridor(Transit Only)
- Parkway



MAP PRODUCED BY OSCEOLA COUNTY  
PLANNING OFFICE - GIS SECTION  
01AUGUST2011

File: G:\ComprehensivePlan\ComprehensivePlan\_2009\Revisions\_June2010\SLT\_3.mxd Printed on: 13OCT2011



### **Alternative 500 (ACE 13)**

The last of the three alternatives carried forward from the ACE study, Alternative 500, is a combination of Alternatives 700 and 200 described above. The first one-third of the alternative is identical to Alternative 200, where the alignment begins by generally following Southport Road before turning slightly northward and then curving sharply to the southeast. Where Alternative 200 turns to proceed easterly along the Green Island / Bronson property line, Alternative 500 continues southward and curves easterly via a 6,787-foot radius curve to tie into Alternative 700. As with Alternative 200, Alternative 500 is placed generally equidistant between documented bald eagle and caracara nests located west and east of the alignment, respectively.

Figures Figure 6.6.15 and Figure 6.6.16 display Alternative 500 on the base map and atop the South Lake Toho Master Plan, respectively.

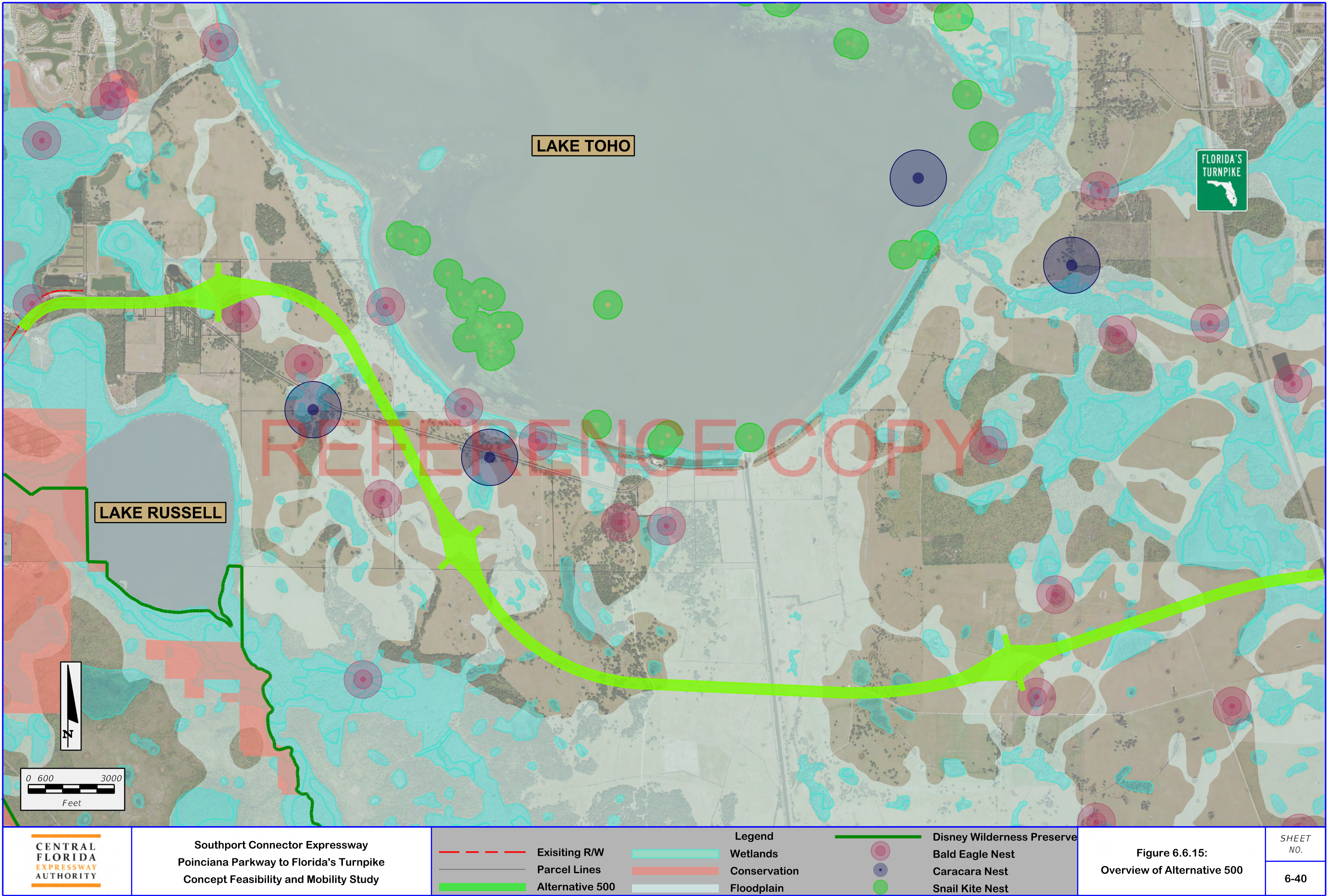
### **New Alternatives in CF&M Study**

#### **Alternative 300 (Southport Road)**

Alternative 300 was added to the CF&M Study based on a letter dated February 23, 2015 from the manager of Southport Ranch. While opposing the project in general, the letter suggested an alignment that generally follows existing Southport Road and the Green Island / Bronson property line. The basis of this alignment is that by following Southport Road and the Green Island / Bronson property line, fragmentation of existing ranch land is avoided.

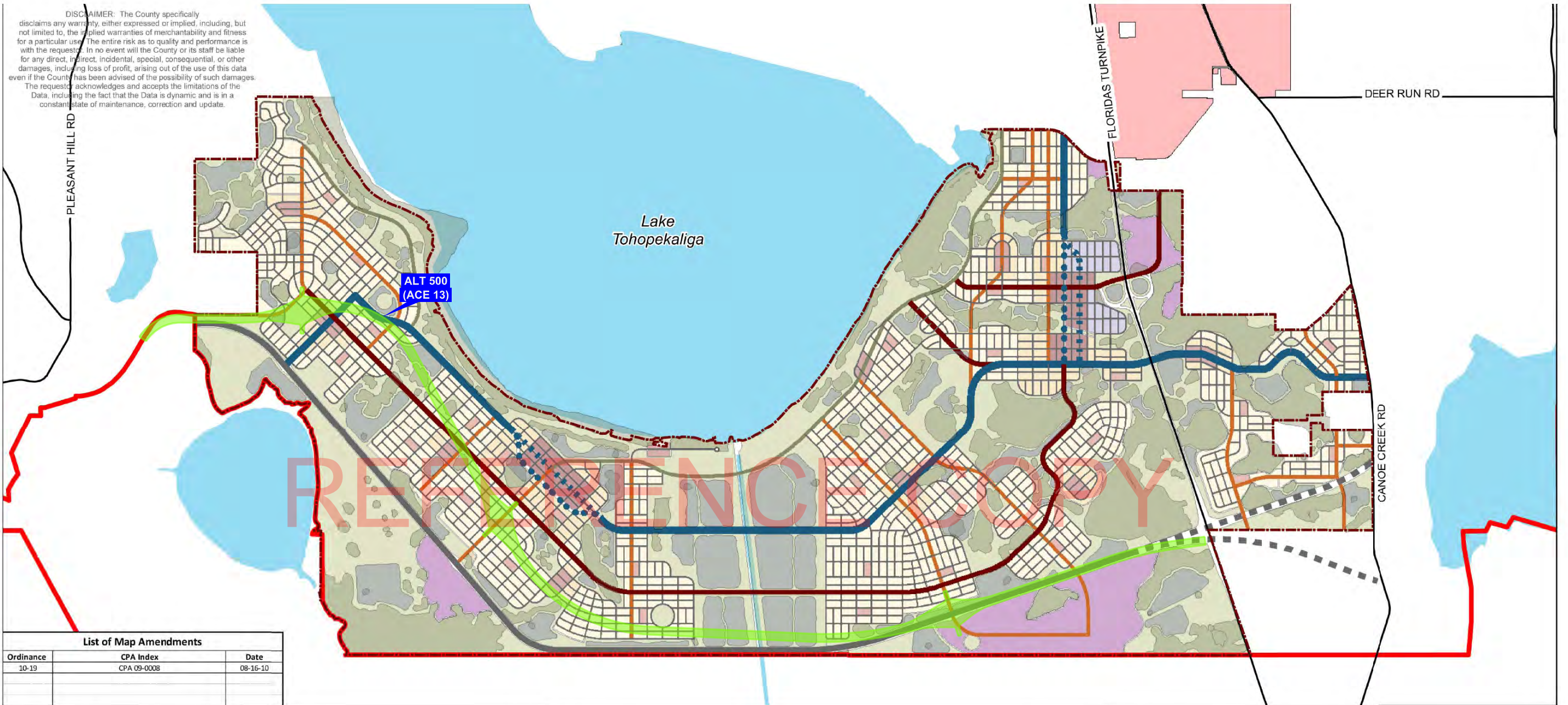
With Alternative 300, existing Southport Road will require further investigation regarding its location relative to the freeway alignment. For example, existing Southport Road may be retained as is, with the freeway alignment located south of the local road. By contrast, Alternative 300 may be co-located along existing Southport Road, which would be reconstructed as a one-way couple on each side of the freeway (similar to Cypress Parkway). Should Alternative 300 move forward into the next phase of this project, providing a local access road for existing properties must be considered along with the potential street layout of the South Lake Toho Master Plan.







DISCLAIMER: The County specifically disclaims any warranty, either expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular use. The entire risk as to quality and performance is with the requester. In no event will the County or its staff be liable for any direct, indirect, incidental, special, consequential, or other damages, including loss of profit, arising out of the use of this data even if the County has been advised of the possibility of such damages. The requester acknowledges and accepts the limitations of the Data, including the fact that the Data is dynamic and is in a constant state of maintenance, correction and update.



List of Map Amendments		
Ordinance	CPA Index	Date
10-19	CPA 09-0008	08-16-10

### Place Types

- Urban Center
- Community Center
- Employment Center
- Neighborhood Center
- Neighborhood Type 1
- Neighborhood Type 2
- Open Space District
- Special District

### Miscellaneous

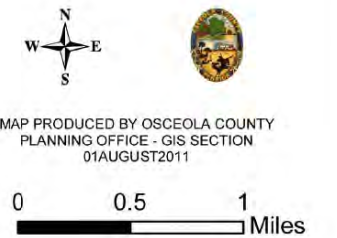
- SLT Boundary
- Urban Growth Boundary
- Preserved Wetlands
- Stormwater Ponds
- Other Jurisdictions

### Regional Facilities

- Expressway
- Expressway Alternatives

### Framework Streets

- Avenue
- Boulevard
- Multimodal Corridor
- Multimodal Corridor(Traffic Only)
- Multimodal Corridor(Transit Only)
- Parkway



File: G:\ComprehensivePlan\ComprehensivePlan\_2009\Revisions\_June2010\SLT\_3.mxd Printed on: 13OCT2011

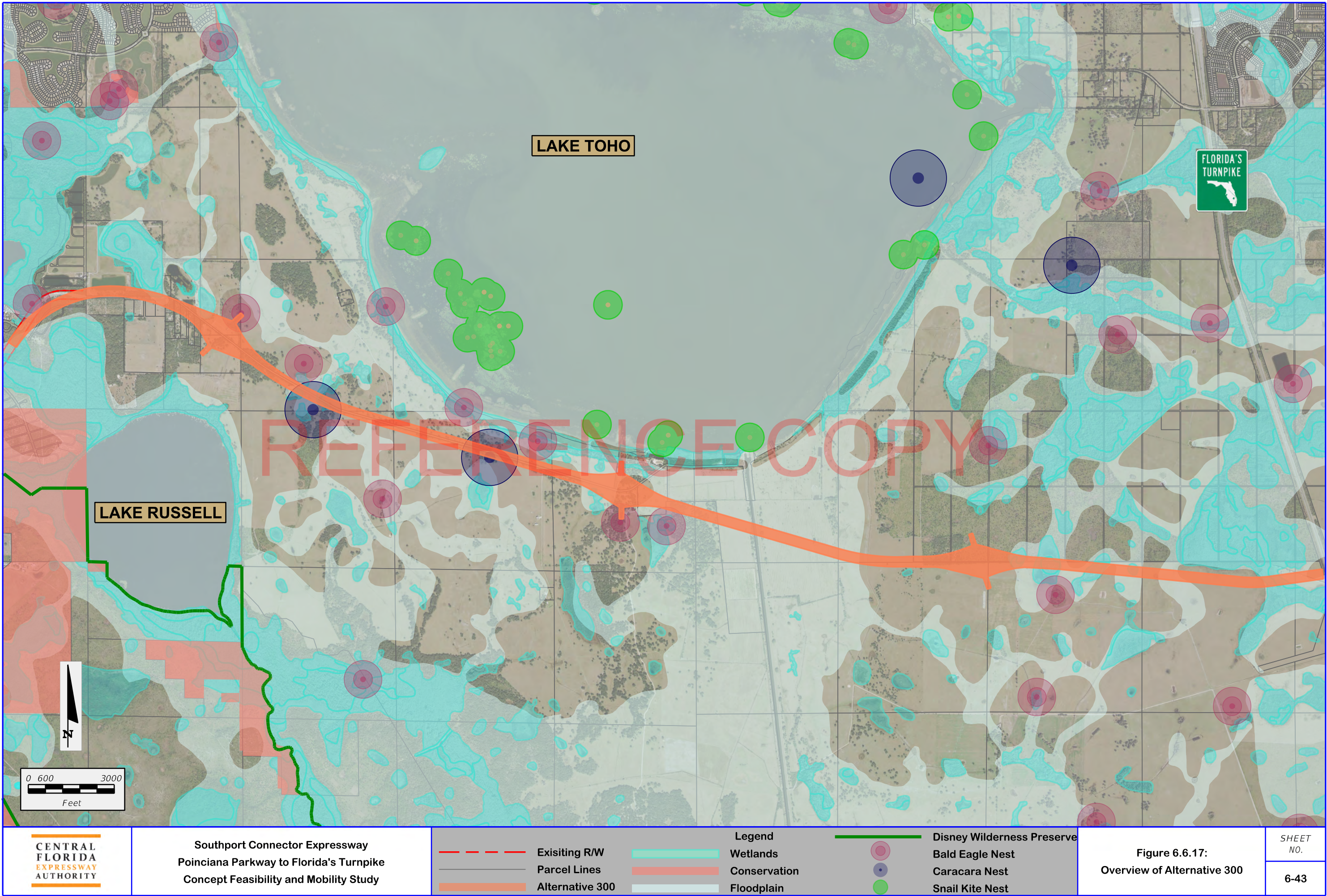


East of Reedy Creek, Alternative 300 begins with a compound curve to the south with radii of 4,113 and 6,113 feet. This compound curve orients the alignment centerline generally atop the existing centerline of Southport Road. Continuing along the existing centerline, a 1,983-foot tangent is followed by a normal crown 11,446-radius curve and a long tangent of 3.25 miles. This outgoing tangent places the freeway centerline within a quarter mile of the southern shoreline of Lake Toho. Approximately 1.75 miles from the end of the normal crown curve, Southport Road terminates into Southport Park while Alternative 300 continues on its bearing to the Green Island / Bronson property line. At this junction, the alignment turns eastward via a 7,356-foot radius curve and follows the Alternative 200 alignment to the Turnpike.

While a primary benefit of Alternative 300 is the reduced fragmentation of the existing ranch land and support from the adjacent ranch owners, the primary challenge of Alternative 300 is the magnitude of impacts. Alternative 300 could be shifted slightly southward to avoid Southport Park and to increase the separation from South Lake Toho. A second adjustment would be to shift the alignment to the tangent located north of Lake Russell – similar to Alternatives 400, 600, and 700. However, this alignment shift would directly impact a second caracara nest. If this project proceeds into the next phase of study, new environmental surveys would be acquired. A possible scenario is that the caracara nests that are currently major variables affecting the alignment location may not exist in a future phase of this project. Alternative 300 could then be further optimized.

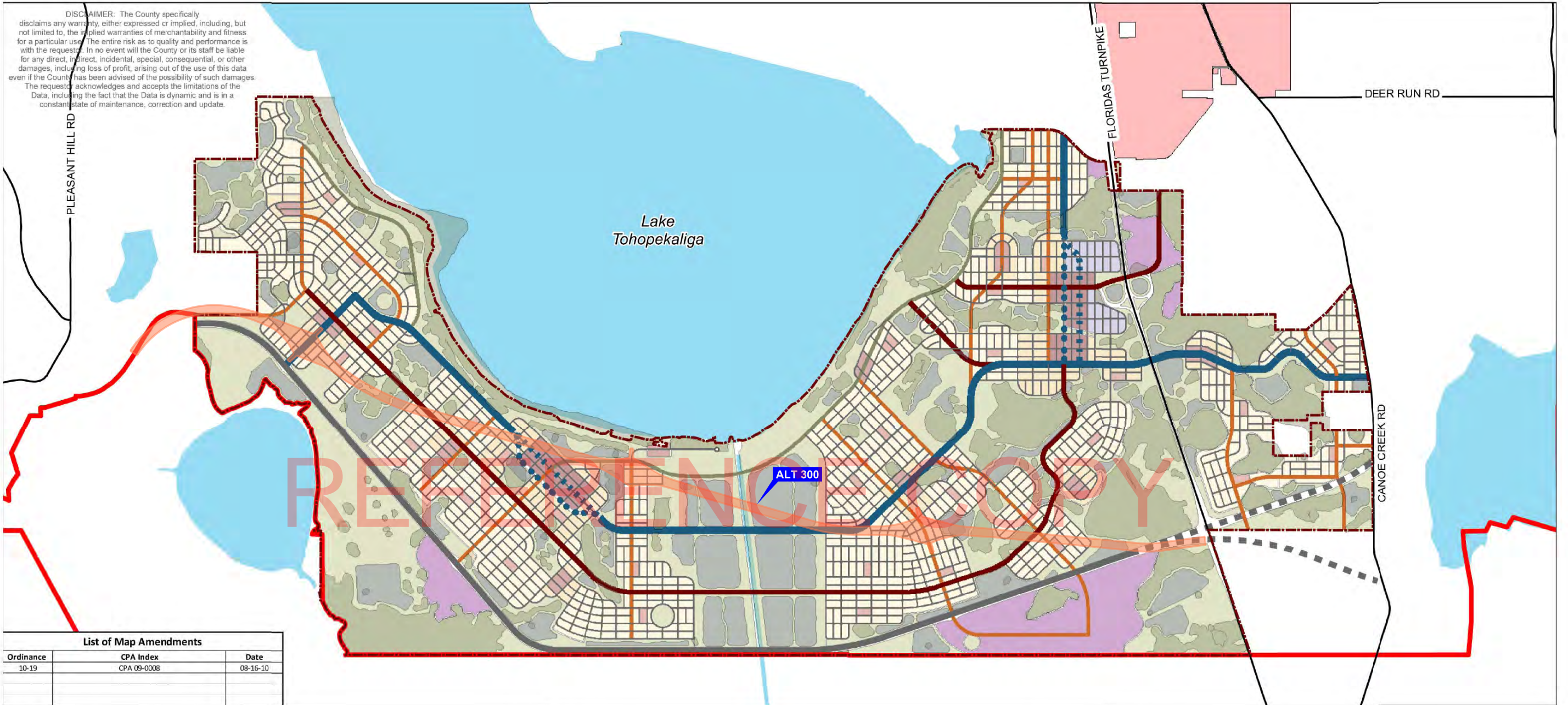
Figure 6.6.17 and Figure 6.6.18 display Alternative 300 on the base map and atop the South Lake Toho Master Plan, respectively.







DISCLAIMER: The County specifically disclaims any warranty, either expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular use. The entire risk as to quality and performance is with the requester. In no event will the County or its staff be liable for any direct, indirect, incidental, special, consequential, or other damages, including loss of profit, arising out of the use of this data even if the County has been advised of the possibility of such damages. The requester acknowledges and accepts the limitations of the Data, including the fact that the Data is dynamic and is in a constant state of maintenance, correction and update.



List of Map Amendments		
Ordinance	CPA Index	Date
10-19	CPA 09-0008	08-16-10

### Place Types

- Urban Center
- Community Center
- Employment Center
- Neighborhood Center
- Neighborhood Type 1
- Neighborhood Type 2
- Open Space District
- Special District

### Miscellaneous

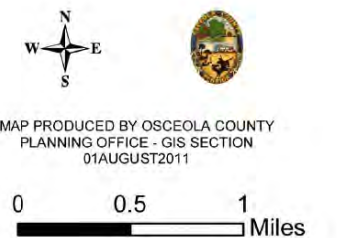
- SLT Boundary
- Urban Growth Boundary
- Preserved Wetlands
- Stormwater Ponds
- Local Streets
- Other Jurisdictions

### Regional Facilities

- Expressway
- Expressway Alternatives

### Framework Streets

- Avenue
- Boulevard
- Multimodal Corridor
- Multimodal Corridor(Traffic Only)
- Multimodal Corridor(Transit Only)
- Parkway



File: G:\ComprehensivePlan\ComprehensivePlan\_2009\Revisions\_June2010\SLT\_3.mxd Printed on: 13OCT2011



Alternatives 400 and 600 seek to combine the benefits of the western portion of Alternatives 600 and 700 with the eastern benefits of Alternatives 200 and 300 with respect to the co-location along the existing Green Island / Bronson property line. An important point to note is that Alternative 400 is located roughly halfway between the Urban Growth Boundary and Lake Toho.

#### **Alternative 400**

This alternative begins in the same configuration as Alternatives 600 and 700, beginning along Southport Road before turning and passing to the north of Lake Russell. While Alternatives 600 and 700 diverge south of a documented bald eagle nest, Alternative 400 passes north of this nest while remaining just south of the buffer zone of two caracara nests. After passing north of Lake Russell, the alignment curves northeasterly via a 4,571-foot curve followed by a 2,958-foot tangent, a 7,652-foot radius curve to the southeast, a 2,771-foot tangent, and a long, sweeping curve of an 8,387-foot radius that turns the alignment eastward in the direction of the Green Island / Bronson property line as seen with Alternatives 200 and 300. Approaching Green Island, the alignment passes just south of a pair of caracara nests.

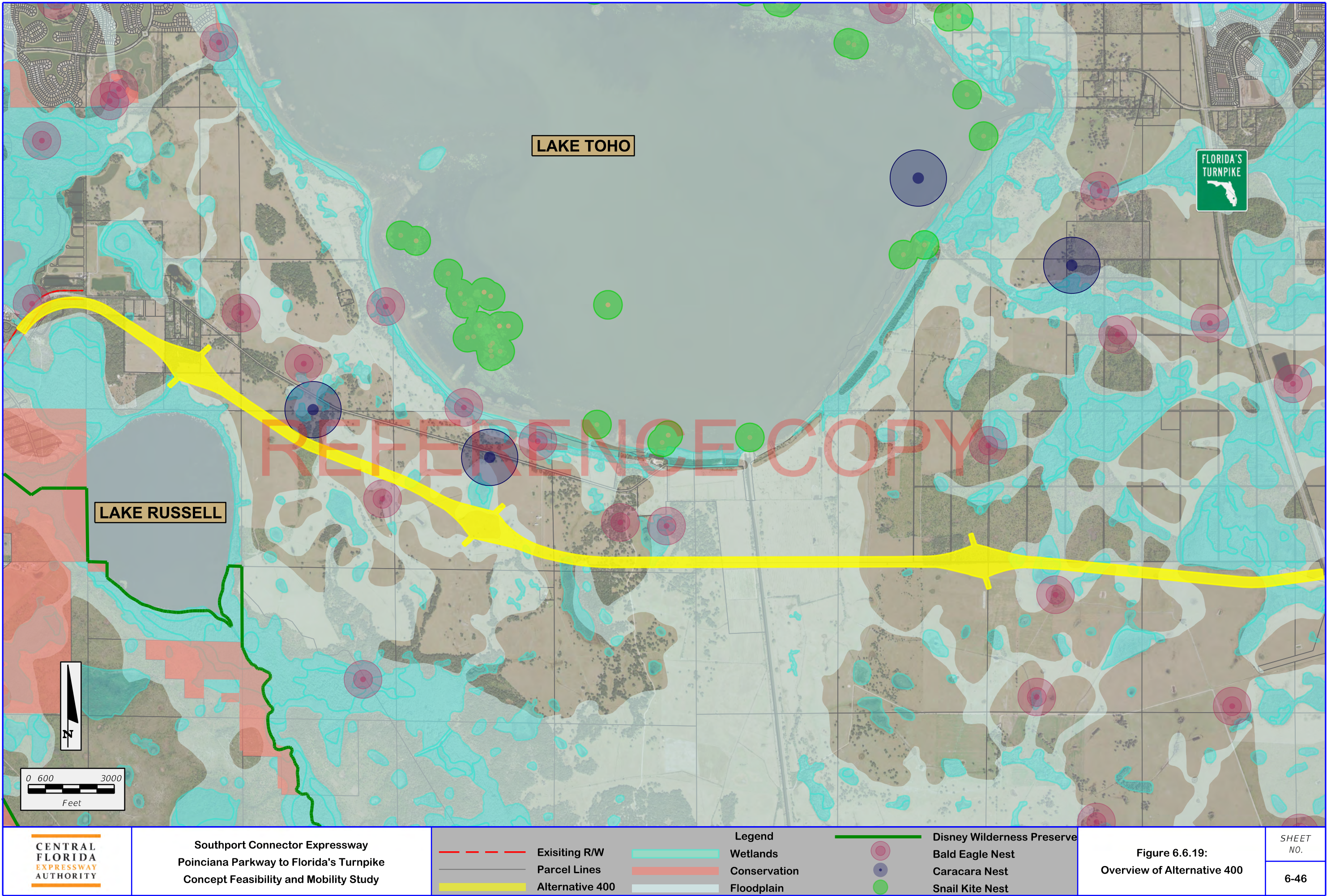
Figure 6.6.19 and Figure 6.6.20 display Alternative 400 on the base map and atop the South Lake Toho Master Plan, respectively.

#### **Alternative 600**

Alternative 600 is very similar to Alternative 400 except that instead of transitioning north of a documented bald eagle nest, the alignment curves southeasterly via a 4,751-foot radius curve and passes south of this nest. The curve matches into an extension of the previously mentioned tangent located along the Green Island / Bronson property line. While Alternative 400 experiences a series of three curves approaching the Green Island / Bronson property line, Alternative 600 utilizes only this single, 4,751-foot radius curve before being located on a tangent until the alignment diverges from the Green Island / Bronson property line, crosses the narrow point in the Green Island wetland system, and approaches the Turnpike – in the same fashion as Alternatives 200, 300, and 400.

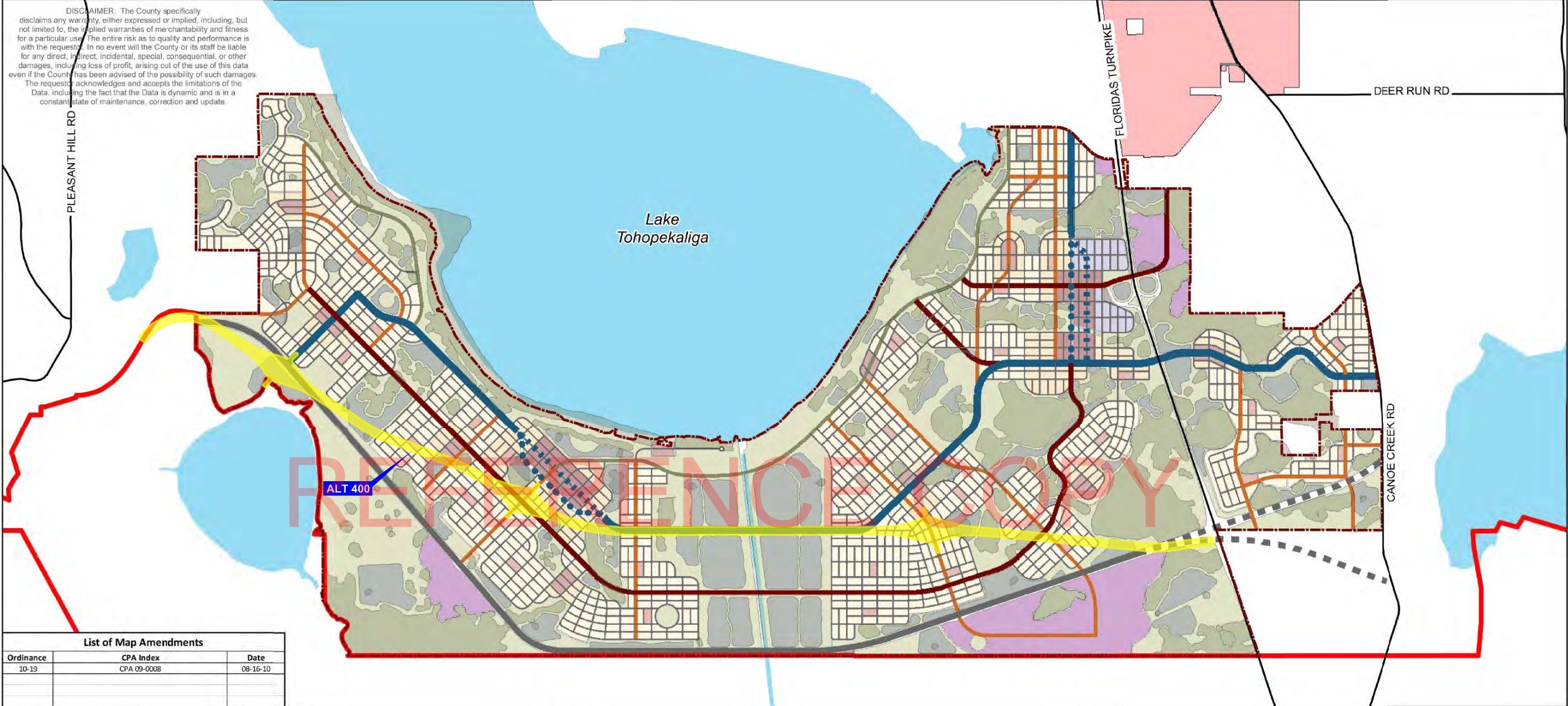
Figure 6.6.21 and Figure 6.6.22 display Alternative 600 on the base map and atop the South Lake Toho Master Plan, respectively.







DISCLAIMER: The County specifically disclaims any warranty, either expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular use. The entire risk as to quality and performance is with the requester. In no event will the County or its staff be liable for any direct, indirect, incidental, special, consequential, or other damages, including loss of profit, arising out of the use of this data even if the County has been advised of the possibility of such damages. The requester acknowledges and accepts the limitations of the Data, including the fact that the Data is dynamic and is in a constant state of maintenance, correction and update.



List of Map Amendments		
Ordinance	CPA Index	Date
10-19	CPA 09-0008	08-16-10

### Place Types

- Urban Center
- Community Center
- Employment Center
- Neighborhood Center
- Neighborhood Type 1
- Neighborhood Type 2
- Open Space District
- Special District

### Miscellaneous

- SLT Boundary
- Urban Growth Boundary
- Preserved Wetlands
- Stormwater Ponds

- Local Streets
- Other Jurisdictions

### Regional Facilities

- Expressway
- Expressway Alternatives

### Framework Streets

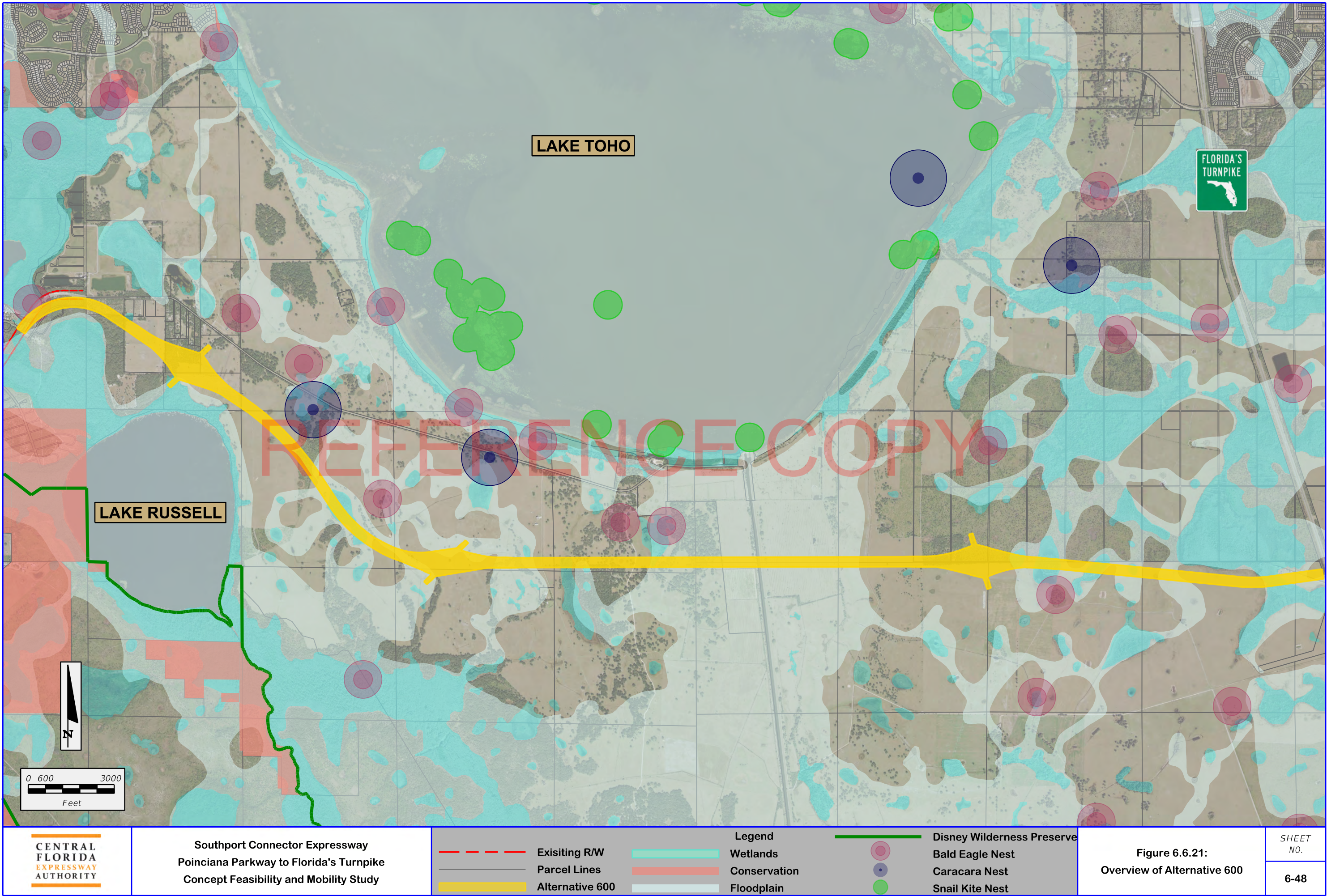
- Avenue
- Boulevard
- Multimodal Corridor
- Multimodal Corridor(Traffic Only)
- Multimodal Corridor(Transit Only)
- Parkway

MAP PRODUCED BY OSCEOLA COUNTY  
PLANNING OFFICE - GIS SECTION  
01AUGUST2011

0 0.5 1 Miles

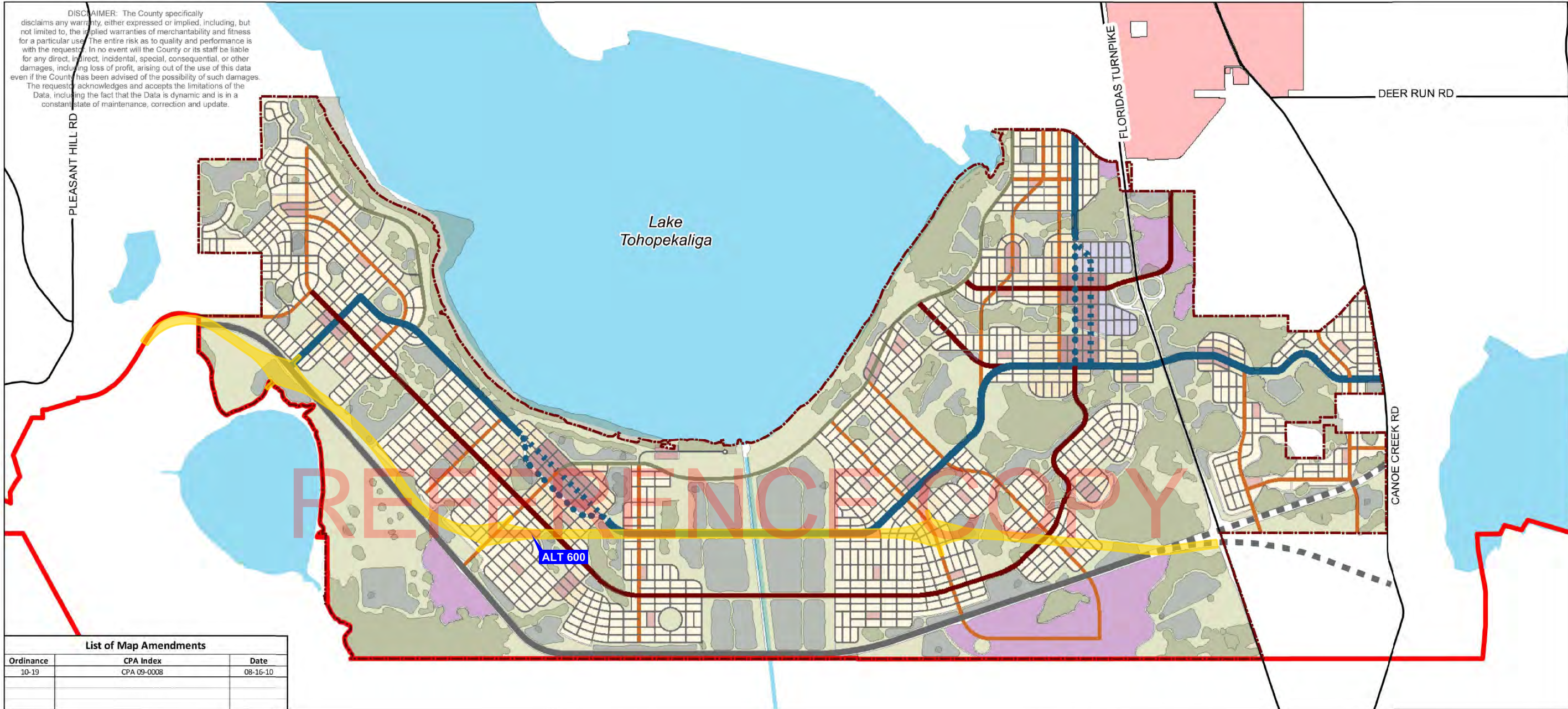
File: G:\ComprehensivePlan\ComprehensivePlan\_2009\Revisions\_June2010\SLT\_3.mxd Printed on: 13OCT2011







DISCLAIMER: The County specifically disclaims any warranty, either expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular use. The entire risk as to quality and performance is with the requestor. In no event will the County or its staff be liable for any direct, indirect, incidental, special, consequential, or other damages, including loss of profit, arising out of the use of this data even if the County has been advised of the possibility of such damages. The requestor acknowledges and accepts the limitations of the Data, including the fact that the Data is dynamic and is in a constant state of maintenance, correction and update.



List of Map Amendments		
Ordinance	CPA Index	Date
10-19	CPA 09-0008	08-16-10

Place Types

- Urban Center
- Community Center
- Employment Center
- Neighborhood Center
- Neighborhood Type 1
- Neighborhood Type 2
- Open Space District
- Special District

Miscellaneous

- SLT Boundary
- Urban Growth Boundary
- Preserved Wetlands
- Stormwater Ponds

- Local Streets
- Other Jurisdictions

Regional Facilities

- Expressway
- Expressway Alternatives

Framework Streets

- Avenue
- Boulevard
- Multimodal Corridor
- Multimodal Corridor(Traffic Only)
- Multimodal Corridor(Transit Only)
- Parkway

MAP PRODUCED BY OSCEOLA COUNTY  
PLANNING OFFICE - GIS SECTION  
01AUGUST2011

0 0.5 1 Miles

File: G:\ComprehensivePlan\ComprehensivePlan\_2009\Revisions\_June2010\SLT\_3.mxd Printed on: 13OCT2011



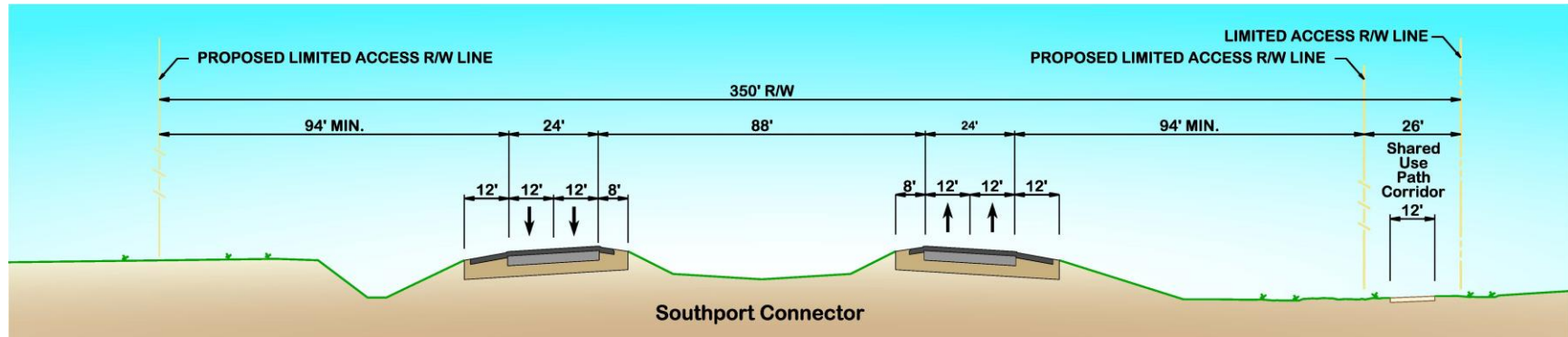
### 6.6.2.2 Proposed Typical Section

The proposed right-of-way for the rural portion of the Southport Connector located east of Reedy Creek is characterized by a 350-foot right-of-way envelope. This swath of right-of-way conservatively accommodates a 94-foot border between the outer edge of pavement and the proposed right-of-way line. This footprint also includes an 88-foot wide median, thereby allowing for widening to the inside to accommodate six lanes in the future. Lastly, a 12-foot wide shared use path is accounted for within the 350 feet of right-of-way and is proposed to be located beyond the swale section on one side of the freeway. A dedicated transit envelope was examined but is not included in this footprint, since no new transit facilities are planned in the vicinity of this corridor. This issue will be revisited during the PD&E phase. Figure 6.6.23 displays the proposed typical section for the rural segment east of Reedy Creek.

REFERENCE COPY



Figure 6.6.23: Southport Connector Typical Section – Reedy Creek to Turnpike

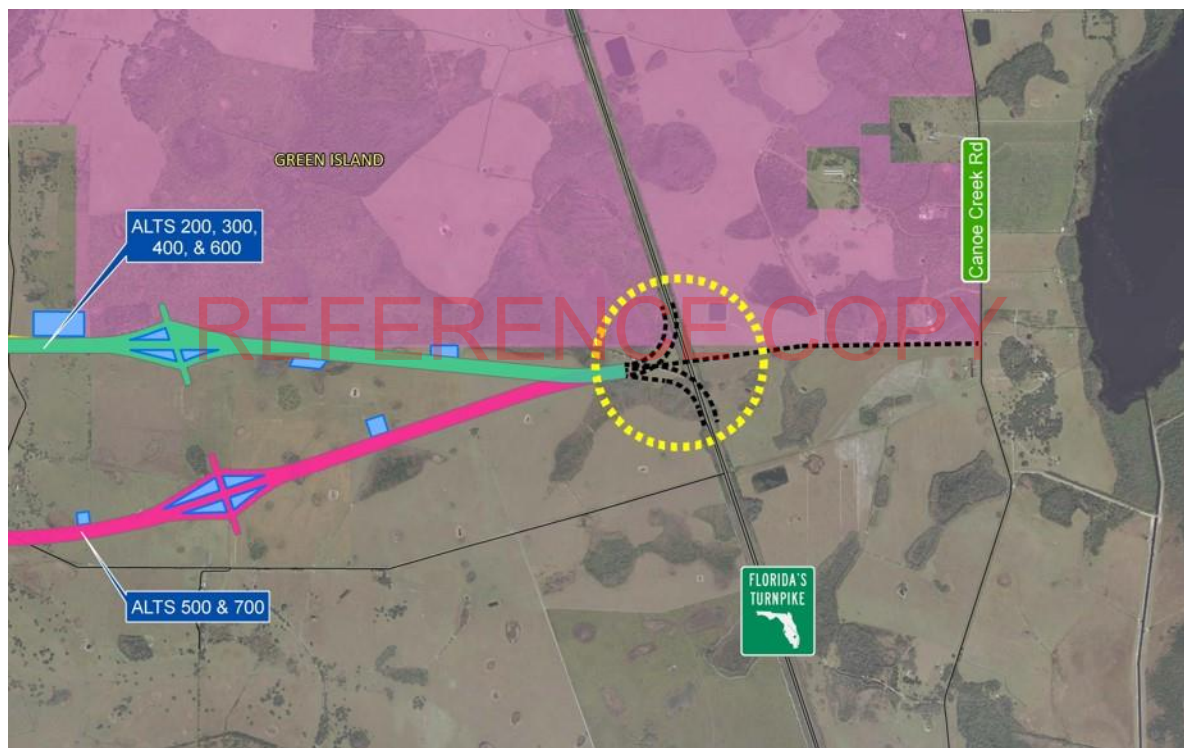


REFERENCE COPY

### 6.6.2.3 Proposed Interchanges

Other than Southport Road and Florida's Turnpike, no other public roadways exist in the study corridor east of Reedy Creek. The interchange with the Turnpike is addressed in the CF&M Report for the Northeast Connector. However, consideration for a logical terminus for the Southport Connector could be to end the freeway at Canoe Creek Road and provide a partial interchange at the Turnpike to allow motorists to travel to or from the Turnpike in the northbound or southbound directions. Figure 6.6.24 displays a diagram of how the Southport Connector may end at its eastern terminus. The costs contained in the evaluation matrix in Section 6.7 include the extension to the Turnpike and the ramps shown in Figure 6.6.24.

**Figure 6.6.24: Potential Eastern Terminus at Turnpike**



The South Lake Toho Master Plan includes three theoretical interchange locations, in addition to the connection to Florida's Turnpike. As a result, each of the six alternatives evaluated east of Reedy Creek also include the footprint for three interchanges. These interchange locations are based generally on theoretical north-south roadways crossing the Southport Connector corridor included in the South Lake Toho Master Plan. For planning purposes, each interchange has been configured similarly. Theoretical pond sizes and sites have been determined along the corridor and at each interchange. Interchanges in close proximity to water bodies, such as the western-most interchanges on Alternatives 400 / 600

/ 700 or the middle interchange on Alternative 300, would likely need adjustment to optimize the actual location and minimize environmental impacts.

The three theoretical interchanges included for each alternative have the following characteristics:

- Rural diamond interchange;
- 3,500 feet between ramp gores;
- Parallel-type entrance and exit ramps based on 70 mph;
- Signalized ramp intersections separated by approximately 1,000 feet; and
- Crossroads assumed to be four-lane arterials.

These interchanges are used for costing and planning purposes. Further study is needed to confirm the traffic need, operational characteristics and location of each interchange site.

#### 6.6.2.4 Proposed Structures

Beyond the crossing of Reedy Creek, the eastern rural segment of the Southport Connector includes proposed overpasses above the crossroads at the three theoretical interchanges and the C-35 Canal. The structures over the crossroads at each interchange are assumed to be two spans for a total bridge length of approximately 130 feet.

The crossing over the C-35 canal is assumed to be 375 feet long. This length assumes crossing of the adjacent floodplain as well as an expected access road along the east side of the canal.

#### 6.6.2.5 Maintenance of Access – Driveway Connections

Since the portion of the Southport Connector east of Reedy Creek is sparsely populated, maintaining access is much less complex compared to the Cypress Parkway segment. Alternative 300, which follows existing Southport Road, has the most challenging issues regarding access to the local properties along Southport Road. Consideration must also be given to providing access to both sides the expressway for property owners whose large parcels are bisected. Should the South Lake Toho Master Plan evolve into approved DRIs, the location of crossroads and interchanges will also be an integral component of finalizing the right-of-way to acquire.

#### 6.6.2.6 Drainage and Stormwater Considerations

##### **Alternative 200**

The stormwater ponds for Alternative 200 mainline including the three interchanges were sized (for feasibility purposes) to accommodate 129.0 acres of net additional impervious area, which assumes a six-lane typical section (136 feet – six 12-foot lanes, four 12-foot shoulders,



and 16 feet of miscellaneous pavement). The required treatment volume is 58.0 ac-ft, and includes the additional 50% to accommodate the Lake Okeechobee BMAP and Southport Mitigation Bank criteria. The proposed improvements are estimated to impact 120 acres of floodplain and provide compensating storage of 114.9 ac-ft. Alignment 200 was subdivided into a total of 11 onsite mainline basins, which result in a total required pond area of 73.4 acres, which is equivalent to 7.7 acres of pond/mile of alignment. The three proposed interchanges result in 13.2 acres of required pond area. It is estimated that there is sufficient infield area to accommodate the interchange required pond area. The total required pond area for Alignment 200 and three interchanges is 86.6 acres with 73.4 acres of additional right-of-way needed. The summary of required volumes and required pond area for each basin is provided in Table 6.6.3. Please refer to Appendix C for pond sizing and location hydraulics methodology, supporting calculations, and specific locations for all alternatives described in this section.

**Table 6.6.3: Alternative 200 Pond Sizing Summary**

Basin		Required Attenuation Volume	Required Treatment Volume	Required Floodplain Compensation Volume	Total Required Pond Volume	Required Pond Area
		(ac-ft)	(ac-ft)	(ac-ft)	(ac-ft)	(ac)
B201		1.5	2.8	0.7	5.0	2.3
B202		1.4	3.1	2.4	6.9	3.1
B203		3.0	5.7	7.6	16.3	7.1
B204		2.0	3.4	0.9	6.3	2.9
B205		1.3	3.2	10.1	14.6	6.4
B206		0.7	2.0	0.7	3.4	1.6
B207		2.8	5.8	41.7	50.3	21.1
B208		4.5	5.8	32.1	42.4	17.8
B209		2.2	2.9	1.6	6.7	3.0
B210		2.0	2.8	4.7	9.5	4.2
B211		2.6	2.5	3.6	8.7	3.9
Subtotal		24.0	40.0	106.1	170.1	73.4
<b>Interchanges</b>						
B202_IC1	Southport	0.0	6.0	4.0	10.0	4.4
B204_IC2	East C-35	0.7	6.3	3.6	10.6	4.7
B209_IC3	West C-35	2.3	5.7	1.2	9.2	4.1
<b>Total</b>		<b>27.0</b>	<b>58.0</b>	<b>114.9</b>	<b>199.9</b>	<b>86.6</b>

As part of the location hydraulics analysis, locations were identified where significant offsite hydraulic conveyance is necessary in order to not adversely impact offsite properties. For Alignment 200, seven crossings were identified and are summarized in Table 6.6.4. There are

no regulated floodway crossings; however, it is assumed that there is a proposed bridge over the C-35 Canal.

**Table 6.6.4: Alignment 200 Offsite Conveyance Summary**

Cross Drain ID	Required Minimum Size		
C200_CD06_EX	36 inch	Pipe	
C200_CD07_PR	7 ft x 6 ft	CBC	
C300_CD10_PR	7 ft x 4 ft	CBC	
C300_CD11_PR	36 inch	Pipe	
C700_CD09_PR	8 ft x 4 ft	CBC	
C700_CD12_PR	7 ft x 4 ft	CBC	
C700_CD16_PR	6 ft x 4 ft	CBC	

### Alignment 300

The stormwater ponds for Alignment 300 mainline including the three interchanges were sized to accommodate 122.0 acres of net additional impervious area, which assumes a six-lane typical section. The required treatment volume is 54.8 ac-ft, and includes the additional 50% to accommodate the Lake Okeechobee BMAP and Southport Mitigation Bank criteria. The proposed improvements are estimated to impact 101 acres of floodplain and provide compensating storage of 118.7 ac-ft. Alignment 300 was subdivided into a total of ten onsite mainline basins, which result in a total required pond area of 64.1 acres, which is equivalent to 7.1 acres of pond / mile of alignment. The three proposed interchanges result in 22.3 acres of required pond area. It is estimated that there is sufficient infield area to accommodate the interchange required pond area for the Southport and West C-35 interchanges; however, an additional 6.7 acres of right-of-way will be needed for the ponds at the East C-35 interchange. The total required pond area for Alignment 300 and three interchanges is 86.4 with 70.8 acres of additional right-of-way needed. The summary of required volumes and required pond area for each basin is provided in Table 6.6.5.



**Table 6.6.5: Alignment 300 Pond Sizing Summary**

Basin		Required Attenuation Volume	Required Treatment Volume	Required Floodplain Compensation Volume	Total Required Pond Volume	Required Pond Area
		(ac-ft)	(ac-ft)	(ac-ft)	(ac-ft)	(ac)
B301		0.5	3.0	8.3	11.8	5.2
B302		2.0	3.1	0.0	5.1	2.4
B303		1.4	4.7	13.2	19.3	8.3
B304		1.9	6.7	0.0	8.6	3.8
B305		1.3	2.8	4.5	8.6	3.8
B306		1.5	3.2	26.9	31.6	13.4
B307		4.8	6.1	27.0	37.9	16.0
B308		2.2	2.9	1.6	6.7	3.0
B309		2.0	2.8	4.7	9.5	4.2
B310		2.6	2.5	3.6	8.7	3.9
Subtotal		20.2	37.8	89.8	147.8	64.1
<b>Interchanges</b>						
B302_IC1	Southport	1.9	5.8	1.0	8.7	3.9
B305_IC2	East C-35	1.7	5.5	26.7	33.9	14.3
B308_IC3	West C-35	2.3	5.7	1.2	9.2	4.1
<b>Total</b>		<b>26.1</b>	<b>54.8</b>	<b>118.7</b>	<b>199.6</b>	<b>86.4</b>

As part of the location hydraulics analysis, locations were identified where significant offsite hydraulic conveyance is necessary in order to not adversely impact offsite properties. For Alignment 300, eight crossings were identified and are summarized in Table 6.6.6. There are no regulated floodway crossings; however, it is assumed that there is a proposed bridge over the C-35 Canal.

**Table 6.6.6: Alignment 300 Offsite Conveyance Summary**

Cross Drain ID	Required Minimum Size		
C200_CD06_EX	36 inch	Pipe	
C200_CD07_PR	7 ft x 6 ft	CBC	
C300_CD08_EX	54 inch	Pipe	
C300_CD09_EX	8 ft x 5 ft	CBC	
C300_CD10_PR	7 ft x 4 ft	CBC	
C300_CD11_PR	36 inch	Pipe	
C700_CD12_PR	7 ft x 4 ft	CBC	
C700_CD16_PR	6 ft x 4 ft	CBC	

**Alignment 400**

The stormwater ponds for Alignment 400 mainline including the two interchanges were sized to accommodate 118.6 acres of net additional impervious area, which assumes a six-lane typical section. The required treatment volume is 50.3 ac-ft, and includes the additional 50% to accommodate the Lake Okeechobee BMAP and Southport Mitigation Bank criteria. The proposed improvements are estimated to impact 94 acres of floodplain and provide compensating storage of 101.9 ac-ft. Alignment 400 was subdivided into a total of 11 onsite mainline basins, which result in a total required pond area of 70.1 acres, which is equivalent to 7.7 acres of pond / mile of alignment. The two proposed interchanges result in 9.0 acres of required pond area. It is estimated that there is sufficient infield area to accommodate the interchange required pond area. The total required pond area for Alignment 400 and two interchanges is 79.2 with 70.1 acres of additional right-of-way needed. The summary of required volumes and required pond area for each basin is provided in Table 6.6.7.



**Table 6.6.7: Alignment 400 Pond Sizing Summary**

Basin		Required Attenuation Volume	Required Treatment Volume	Required Floodplain Compensation Volume	Total Required Pond Volume	Required Pond Area
		(ac-ft)	(ac-ft)	(ac-ft)	(ac-ft)	(ac)
B401		2.7	2.4	0.0	5.1	2.4
B402		2.7	2.7	0.0	5.4	2.5
B403		2.7	4.8	0.0	7.5	3.4
B404		1.3	3.7	3.0	8.0	3.6
B405		1.8	3.7	9.9	15.4	6.7
B406		0.7	2.1	0.7	3.5	1.7
B407		2.8	5.7	41.7	50.2	21.0
B408		4.6	5.8	32.1	42.5	17.9
B409		2.2	2.9	1.6	6.7	3.0
B410		2.0	2.7	4.7	9.4	4.2
B411		2.6	2.5	3.6	8.7	3.9
Subtotal		26.1	39.0	97.3	162.4	70.1
<b>Interchanges</b>						
B402_IC1	Southport	2.2	5.6	3.4	11.2	4.9
B409_IC2	West C-35	2.3	5.7	1.2	9.2	4.1
<b>Total</b>		<b>30.6</b>	<b>50.3</b>	<b>101.9</b>	<b>182.8</b>	<b>79.2</b>

As part of the location hydraulics analysis, locations were identified where significant offsite hydraulic conveyance is necessary in order to not adversely impact offsite properties. For Alignment 400, six crossings were identified and are summarized in Table 6.6.8. There are no regulated floodway crossings; however, it is assumed that there is a proposed bridge over the C-35 Canal.

**Table 6.6.8: Alignment 400 Offsite Conveyance Summary**

Cross Drain ID	Required Minimum Size		
C300_CD10_PR	7 ft x	4 ft	CBC
C300_CD11_PR	36 inch		Pipe
C700_CD06_PR	8 ft x	5 ft	CBC
C700_CD09_PR	8 ft x	4 ft	CBC
C700_CD12_PR	7 ft x	4 ft	CBC
C700_CD16_PR	6 ft x	4 ft	CBC

## Alignment 500

The stormwater ponds for Alignment 500 mainline including the three interchanges were sized to accommodate 137.0 acres of net additional impervious area, which assumes a six-lane typical section. The required treatment volume is 61.2 ac-ft, and includes the additional 50% to accommodate the Lake Okeechobee BMAP and Southport Mitigation Bank criteria. The proposed improvements are estimated to impact 117 acres of floodplain and provide compensating storage of 172.5 ac-ft. Alignment 500 was subdivided into a total of 11 onsite mainline basins, which result in a total required pond area of 95.3 acres, which is equivalent to 9.4 acres of pond / mile of alignment. The three proposed interchanges result in 16.2 acres of required pond area. It is estimated that there is sufficient infield area to accommodate the interchange required pond area. The total required pond area for Alignment 500 and three interchanges is 111.5 acres with 95.3 acres of additional right-of-way needed. The summary of required volumes and required pond area for each basin is provided in Table 6.6.9.

**Table 6.6.9: Alignment 500 Pond Sizing Summary**

Basin		Required Attenuation Volume	Required Treatment Volume	Required Floodplain Compensation Volume	Total Required Pond Volume	Required Pond Area
		(ac-ft)	(ac-ft)	(ac-ft)	(ac-ft)	(ac)
B501		1.5	2.8	0.7	5.0	2.3
B502		1.4	3.1	2.4	6.9	3.1
B503		3.7	7.4	7.6	18.7	8.1
B504		0.8	2.1	2.3	5.2	2.4
B505		1.4	2.4	0.0	3.8	1.8
B506		2.4	5.0	26.3	33.7	14.3
B507		3.3	6.8	87.2	97.3	40.2
B508		2.0	3.6	25.0	30.6	13.0
B509		1.0	2.4	0.8	4.2	2.0
B510		2.3	3.5	3.5	9.3	4.1
B511		3.5	4.4	1.2	9.1	4.1
Subtotal		23.3	43.5	157.0	223.8	95.3
<b>Interchanges</b>						
B502_IC1	Southport	0.0	6.0	4.0	10.0	4.4
B505_IC2	East C-35	1.2	5.5	2.6	9.3	4.1
B510_IC3	West C-35	2.6	6.2	8.9	17.7	7.6
<b>Total</b>		<b>27.1</b>	<b>61.2</b>	<b>172.5</b>	<b>260.8</b>	<b>111.5</b>

As part of the location hydraulics analysis, locations were identified where significant offsite hydraulic conveyance is necessary in order to not adversely impact offsite properties. For

Alignment 500, nine crossings were identified and are summarized in Table 6.6.10. There are no regulated floodway crossings; however, it is assumed that there is a proposed bridge over the C-35 Canal.

**Table 6.6.10: Alignment 500 Offsite Conveyance Summary**

Cross Drain ID	Required Minimum Size		
C200_CD06_EX	36 inch	Pipe	
C200_CD07_PR	7 ft x 6 ft	CBC	
C700_CD09_PR	8 ft x 4 ft	CBC	
C700_CD10_PR	60 inch	Pipe	
C700_CD12_PR	7 ft x 4 ft	CBC	
C700_CD14_PR	42 inch	Pipe	
C700_CD15_EX	6 ft x 5 ft	CBC	
C700_CD16_PR	6 ft x 4 ft	CBC	
C700_CD17_EX	5 ft x 4 ft	CBC	

#### **Alignment 600**

The stormwater ponds for Alignment 600 mainline including the three interchanges were sized to accommodate 125.8 acres of net additional impervious area, which assumes a 6-lane typical section. The required treatment volume is 55.0 ac-ft, and includes the additional 50% to accommodate the Lake Okeechobee BMAP and Southport Mitigation Bank criteria. The proposed improvements are estimated to impact 122 acres of floodplain and provide compensating storage of 153.7 ac-ft. Alignment 600 was subdivided into a total of 11 onsite mainline basins, which result in a total required pond area of 85.1 acres, which is equivalent to 9.1 acres of pond / mile of alignment. The three proposed interchanges result in 17.9 acres of required pond area. It is estimated that there is sufficient infield area to accommodate a majority of the interchange required pond area; however, an additional 1.9 acres of right-of-way will be needed for the East C-35 Interchange ponds. The total required pond area for the mainline and three interchanges is 103.0 acres with 87.0 acres of additional right-of-way needed. The summary of required volumes and required pond area for each basin is provided in Table 6.6.11.



**Table 6.6.11: Alignment 600 Pond Sizing Summary**

Basin		Required Attenuation Volume	Required Treatment Volume	Required Floodplain Compensation Volume	Total Required Pond Volume	Required Pond Area
		(ac-ft)	(ac-ft)	(ac-ft)	(ac-ft)	(ac)
B601		2.7	2.4	0.0	5.1	2.4
B602		2.7	2.7	0.0	5.4	2.5
B603		2.4	4.0	0.0	6.4	2.9
B604		0.0	3.5	32.3	35.8	15.1
B605		2.8	4.5	17.5	24.8	10.6
B606		0.4	2.0	1.0	3.4	1.6
B607		2.8	5.7	41.7	50.2	21.0
B608		4.6	5.8	32.1	42.5	17.9
B609		2.2	2.9	1.6	6.7	3.0
B610		2.0	2.8	4.7	9.5	4.2
B611		2.6	2.5	3.6	8.7	3.9
Subtotal		25.2	38.8	134.5	198.5	85.1
<b>Interchanges</b>						
B602_IC1	Southport	2.2	5.6	3.4	11.2	4.9
B605_IC2	East C-35	1.2	4.9	14.6	20.7	8.9
B609_IC3	West C-35	2.3	5.7	1.2	9.2	4.1
<b>Total</b>		<b>30.9</b>	<b>55.0</b>	<b>153.7</b>	<b>239.6</b>	<b>103.0</b>

As part of the location hydraulics analysis, locations were identified where significant offsite hydraulic conveyance is necessary in order to not adversely impact offsite properties. For Alignment 600, eight crossings were identified and are summarized in Table 6.6.12. There are no regulated floodway crossings; however, a proposed bridge is assumed over the C-35 Canal.

**Table 6.6.12: Alignment 600 Offsite Conveyance Summary**

Cross Drain ID	Required Minimum Size		
C300_CD10_PR	7 ft x	4 ft	CBC
C300_CD11_PR	36 inch		Pipe
C700_CD06_PR	8 ft x	5 ft	CBC
C700_CD07_PR	8 ft x	6 ft	CBC
C700_CD08_PR	54 inch		Pipe
C700_CD09_PR	8 ft x	4 ft	CBC
C700_CD12_PR	7 ft x	4 ft	CBC
C700_CD16_PR	6 ft x	4 ft	CBC

### **Alignment 700**

The stormwater ponds for Alignment 700 mainline including the three interchanges were sized to accommodate 131.2 acres of net additional impervious area, which assumes a six-lane typical section. The required treatment volume is 59.3 ac-ft, and includes the additional 50% to accommodate the Lake Okeechobee BMAP and Southport Mitigation Bank criteria. The proposed improvements are estimated to impact 156 acres of floodplain and provide compensating storage of 279.3 ac-ft. Alignment 700 was subdivided into a total of 11 onsite mainline basins, which result in a total required pond area of 111.9 acres, which is equivalent to 11.5 acres of pond / mile of alignment. The three proposed interchanges result in 43.9 acres of required pond area. It is estimated that there is sufficient infield area to accommodate a majority of the interchange required pond area; however, an additional 22.6 acres of right-of-way will be needed for the East C-35 Interchange ponds. The total required pond area for the mainline and three interchanges is 155.8 acres with 134.5 acres of additional right-of-way needed. The summary of required volumes and required pond area for each basin is provided in Table 6.6.13.

Table 6.6.13: Alignment 700 Pond Sizing Summary

Basin		Required Attenuation Volume	Required Treatment Volume	Required Floodplain Compensation Volume	Total Required Pond Volume	Required Pond Area
		(ac-ft)	(ac-ft)	(ac-ft)	(ac-ft)	(ac)
B701		2.7	2.4	0.0	5.1	2.4
B702		2.7	2.7	0.0	5.4	2.5
B703		2.4	4.0	0.0	6.4	2.9
B704		0.0	3.9	31.1	35.0	14.8
B705		1.5	2.5	11.9	15.9	6.9
B706		2.5	5.4	37.5	45.4	19.1
B707		3.3	6.8	87.2	97.3	40.2
B708		2.0	3.6	25.0	30.6	13.0
B709		1.0	2.4	0.8	4.2	2.0
B710		2.3	3.5	3.5	9.3	4.1
B711		3.5	4.4	1.2	9.1	4.1
Subtotal		23.9	41.6	198.2	263.7	111.9
<b>Interchanges</b>						
B702_IC1	Southport	2.2	5.6	3.4	11.2	4.9
B705_IC2	East C-35	0.7	5.9	68.8	75.4	31.3
B710_IC3	West C-35	2.6	6.2	8.9	17.7	7.6
<b>Total</b>		<b>29.4</b>	<b>59.3</b>	<b>279.3</b>	<b>368.0</b>	<b>155.8</b>

As part of the location hydraulics analysis, locations were identified where significant offsite hydraulic conveyance is necessary in order to not adversely impact offsite properties. For Alignment 700, ten crossings were identified and are summarized in Table 6.6.14. There are no regulated floodway crossings; however, it is assumed that there is a proposed bridge over the C-35 Canal.



**Table 6.6.14: Alignment 700 Offsite Conveyance Summary**

Cross Drain ID	Required Minimum Size		
C700_CD06_PR	8 ft x	5 ft	CBC
C700_CD07_PR	8 ft x	6 ft	CBC
C700_CD08_PR	54 inch		Pipe
C700_CD09_PR	8 ft x	4 ft	CBC
C700_CD10_PR	60 inch		Pipe
C700_CD12_PR	7 ft x	4 ft	CBC
C700_CD14_PR	42 inch		Pipe
C700_CD15_EX	6 ft x	5 ft	CBC
C700_CD16_PR	6 ft x	4 ft	CBC
C700_CD17_EX	5 ft x	4 ft	CBC

#### 6.6.2.7 Proposed Right-of-Way Needs

Table 6.6.15 contains a summary of the right-of-way impacts for each of the alternatives and includes the Cypress Parkway impacts to the Bravo Supermarket and strip mall. Alternative 700 impacts the least number of parcels or property owners followed by Alternatives 400 and 600. Alternative 300 impacts the most parcels and land owners.

**Table 6.6.15: Summary of Right-of-Way Impacts**

	Alt 200	Alt 300	Alt 400	Alt 500	Alt 600	Alt 700
Total Parcels Impacted	38	42	26	31	27	20
Total Acreage Acquired	490.4	439.5	474.4	517.7	477.0	510.4
Number of Land Owners Affected	18	21	10	16	10	8
Number of Parcels Affected that contain a Building	8	11	4	6	4	2

#### 6.6.2.8 Projected Design Year Traffic

##### 2045 Design Traffic

The traffic forecasts used for design purposes are developed so that the project would be adequately sized to serve customers through its useful life (30 years). The traffic forecasts used for revenue estimation are, on the other hand, created so that the project would be able to produce the forecasted revenue, especially in the opening years. Therefore, traffic forecasts prepared for design purposes are somewhat different from, and higher than, the traffic

forecasts prepared for revenue-estimation purposes. While the basic assumptions, including overall level and location of future socio-economic activity and toll amounts / values of time are the same, the assumptions about the network near the project are somewhat different.

CDM Smith, CFX's General Traffic and Earnings Consultant, developed a project-specific travel demand model to prepare traffic forecasts for both the design process and for traffic & revenue estimates. The following section describes the model assumptions used in developing the traffic forecasts for design purposes.

### **2045 Design Traffic Network**

The CFX 3.0 model has a 2045 Base Network that includes the transportation improvements included in the Metroplan Orlando 2040 LRTP and CFX's 2040 Master Plan. In the 2040 LRTP, the former OCX Master Plan Projects: Osceola Parkway Extension, Northeast Connector Expressway, Southport Connector Expressway, and Poinciana Parkway I-4 Connector are included as four-lane tolled expressways. To ensure that traffic forecasts provide the level of traffic over the life of the project, the 2045 Design Traffic Network was scaled back to reflect the 2025 LRTP improvements to the local street network. In addition, for the design traffic network other arterials and major collector improvements in the study area that act as competitors to the new toll project, including improvements to Reaves Road (Poinciana Boulevard to Pleasant Hill Road), Poinciana Boulevard (Crescent Lakes Way to Pleasant Hill Road), Lake Wilson Road (Sinclair Road to Osceola Polk Line Road / CR 532) and Osceola Polk Line Road / CR 532 (I-4 to Old Lake Wilson Road) were removed from the network.

### **Socioeconomic Assumptions**

In the CFX 3.0 Model, the SE data sets from CFRPM 6.1 were used except for Osceola County and portions of Southeast Orange County. For these select areas, CDM Smith employed FKA, an independent economist, to provide forecasts of population, employment, school enrollment and hotel / motel. FKA updated the 2015 base year SE data sets and developed socioeconomic forecasts for years 2025, 2035 and 2045. These forecasts are known as the Medium SE Data Forecasts. FKA also provided high and low side forecasts for use in traffic estimates for revenue. For the design traffic forecasts, the Medium SE data forecasts were used.

### **Toll Rates**

The project has been coded in the design network with a toll rate of \$0.18 per mile in FY 2018 dollars, consistent with the average toll on all new CFX facilities. The toll rates were set by multiplying the rate per mile with the project segment lengths in miles, measured to the centerline of the interchange cross street. The toll rates were then inflated to 2045 using the

new toll policy of a compounded annual growth rate of 1.5%, in accordance with the CFX Customer First toll rate policy, adopted by the CFX Board in January 2017.

### **2045 AADT Volumes**

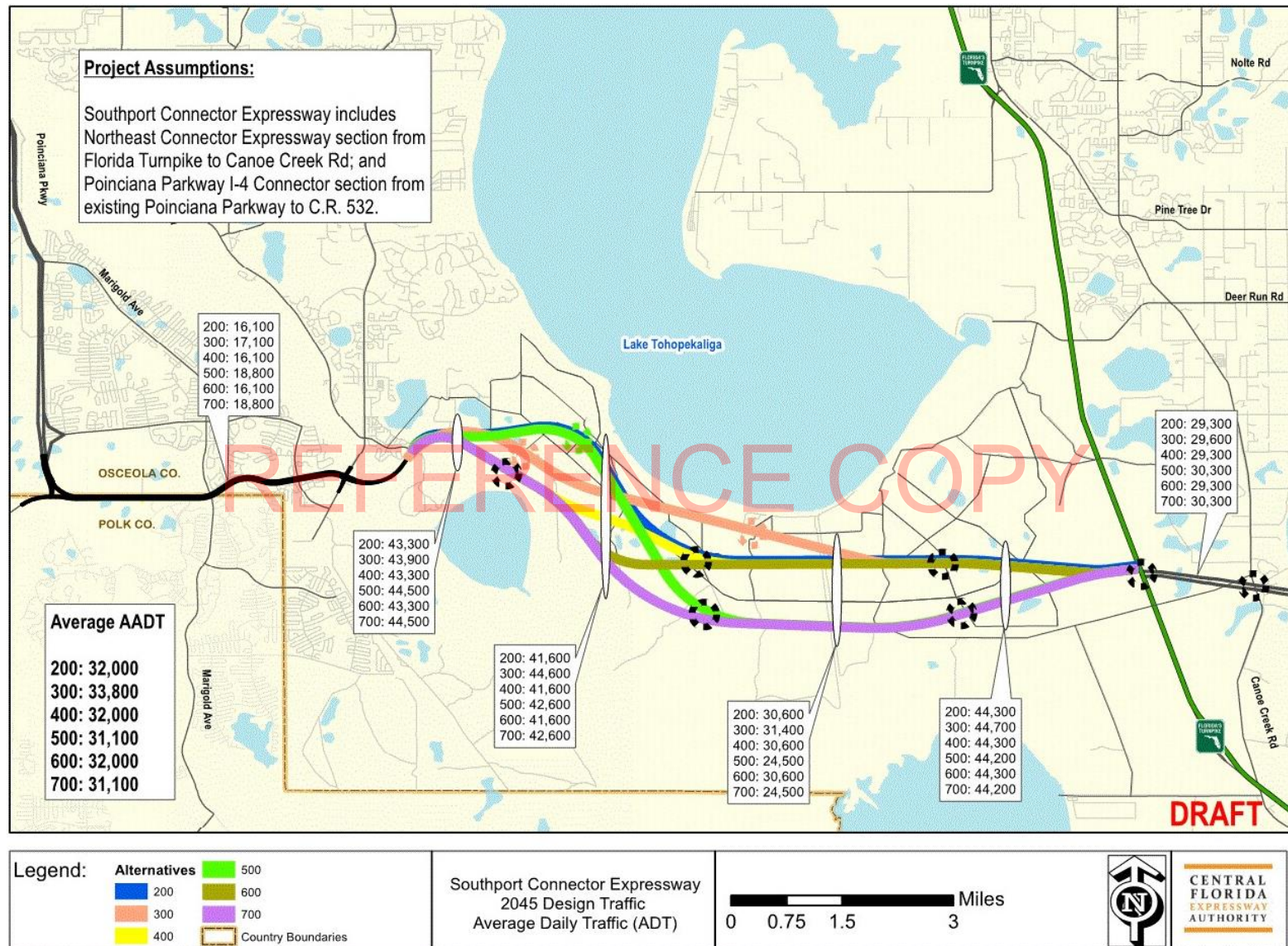
For study purposes, the Southport Connector Expressway was studied with the Poinciana Parkway I-4 Connector project and with the segment of Northeast Connector Expressway from Florida's Turnpike to Canoe Creek Road. The "No-Build" alternative assumes the following:

- The Poinciana Parkway I-4 Connector was constructed up to CR 532;
- The Northeast Connector Expressway from Florida's Turnpike to Canoe Creek Road was constructed; and
- Osceola Parkway Extension was not constructed.

Using the calibrated model, traffic forecasts were developed for the year 2045 to coincide with the design year of the project. The full model was run using the Design Network, Medium SE data set for the Build No Toll option to attract the most amount of traffic to the study area. Using the Trip Table from this full model run, assignment only runs were completed for each of the build options or project tolled alternative alignments. The FDOT Model Output Conversion Factor (MOCF) of 0.98 was applied to the model segment volumes to estimate the 2045 AADT. The MOCF for Orange and Osceola Counties was obtained from the Florida Transportation Information (FTI) webpage. As the purpose of the study was to develop conceptual design traffic forecasts for the Southport Connector Expressway, only the segment volumes are provided. The traffic modeling analyzed three alignments for the Southport Connector Expressway: a southern alignment, a center alignment, and a northern alignment. The southern alignment applies to Alternatives 500 and 700. The center alignment applies to Alternatives 200, 400, and 600 and the northern alignment applies to Alternative 300. The 2045 AADT is shown in Figure 6.6.25.



Figure 6.6.25: 2045 Design Traffic AADT



### 6.6.3 Weighted Average AADT

For the project evaluation matrix, a weighted average AADT was provided to compare the alternatives. The weighted average provided an even comparison based on the amount of traffic generated by the project weighted by the length of the project. The 2045 design traffic AADT per segment was multiplied by the length of each segment and the sum was divided by the total length of the alternative. The weighted average 2045 design AADT for each alternative is provided in Table 6.6.16. The 2045 AADT volumes were provided for the Southport Connector with and without a connection to Canoe Creek Road. Based on the traffic modeling, the AADT for with or without the Canoe Creek Road connection is very similar but including the connection to Canoe Creek Road does provide a higher AADT. The three alignments produce similar projected AADT volumes but the further north the alignment, the higher the projected traffic volumes, therefore Alternative 300 has the highest project 2045 traffic volumes.

**Table 6.6.16: 2045 Design Traffic AADT**

2045 Design Traffic AADT	Southern Alignment (Alts 500 & 700)	Center Alignment (Alts 200, 400, & 600)	Northern Alignment (Alt 300)
Southport Connector Expressway without Canoe Creek Road Connection	31,100	32,000	33,800
Southport Connector Expressway <b>with</b> Canoe Creek Road Connection	31,300	32,300	34,300

## 6.7 Summary Matrix – Mobility Alternatives Evaluation

Table 6.7.1 contains a summary of the design features for the tolled limited-access alternatives described above.

Table 6.7.1: Summary Matrix – Design Features

Evaluation Criteria	Unit of Measure	Alternative						
		Cypress Parkway	200	300	400	500	600	700
Design								
Alternative Length (approximate)	Miles	5.0	9.6	9.1	9.2	10.2	9.4	9.8
Proposed Right-of-Way Width (general and varies at interchanges)	feet	300	350	350	350	350	350	350
Proposed Bridges (total structures per alternative / total length of all structures)	Structures	12	8	8	8	8	8	8
	feet	5,667	752	782	756	751	801	747
Proposed Interchanges	Number	5	3	3	3	3	3	3
Projected 2045 Annual Average Daily Traffic (AADT) Volume (as a tolled facility) - <b>includes</b> connection to Canoe Creek Rd	vehicles	-	32,300	34,300	32,300	31,300	32,300	31,300



## 7.0 Anticipated Effects

---

### 7.1 Natural Environment

The following is a summary of the known environmental impacts for each of the evaluated alternatives.

#### 7.1.1 Water Resources

##### 7.1.1.1 Surface Waters

All build alternatives have anticipated impacts to surface waters. Cypress Parkway crosses Reedy Creek, and the alternatives east of Cypress Parkway cross the C-35 Canal. For other surface waters, only Alternatives 200, 300, and 500 have impacts. Alternatives 200 and 500 have just under two acres of impacts to other surface waters, and Alternative 300 has approximately 1/3 of an acre of impacts.

##### 7.1.1.2 Floodplains

All build alternatives have anticipated floodplain impacts. Cypress Parkway has approximately 13 acres of floodplain impacts. All build alternatives east of Cypress Parkway have an average floodplain impact of approximately 118 acres. Alternative 400 has the lowest floodplain impacts with approximately 94 acres, and Alternative 700 has the highest floodplain impacts with approximately 156 acres.

##### 7.1.1.3 Groundwater

The depth to water throughout the APE is low, with only a small portion of the APE just north of Lake Russell of sufficient depth for a roadway base clearance of four and a half feet. No portion of Cypress Parkway has sufficient depth for a roadway base clearance of four and a half feet. The Cypress Parkway portion has an average groundwater depth of nine inches. For the remaining alternatives east of Cypress Parkway, less than 10% of the proposed right-of-way for any of the alternatives would be constructed on soils with a groundwater depth greater than four and a half feet. The average groundwater depth for the alternatives east of Cypress Parkway is 13 inches. All alternatives would require the new roadway to be raised to allow for sufficient base clearance.

#### 7.1.2 Wetlands and Hydric Soils

Wetland impacts are anticipated for all build alternatives. There are approximately 42 acres of wetland impacts associated with the Cypress Parkway segment alone, with most of these impacts associated with the crossing of Reedy Creek northwest of Lake Russell. The remaining alternatives east of Cypress Parkway average about 40 acres of wetland impacts

for each alternative. Alternatives 500, 300, 400, and 700 have anticipated wetland impacts below the average, and Alternatives 200 and 600 have anticipated wetland impacts above the average. Alternative 500 has the lowest amount of anticipated wetland impacts with 34 acres, although Alternatives 300, 400, and 700 have only slightly more (less than 5 additional acres). Alternatives 200 and 600 have the highest amount of anticipated wetland impacts with 46 and 49 acres, respectively.

### 7.1.3 Farmlands

Impacts to NRCS-defined prime farmland are anticipated for all build alternatives. Cypress Parkway is expected to impact approximately 115 acres of prime farmland. Of the build alternatives east of Cypress Parkway, Alternatives 200 through 700 have an average impact of 241 acres. Alternatives 300, 600, and 700 have impacts below the average, and Alternatives 200, 400, and 500 have prime farmland impacts above the average. Alternative 700 has the lowest impacts to prime farmlands with approximately 200 acres, and Alternative 500 has the highest with 268 acres impacted.

### 7.1.4 Threatened and Endangered Species

#### **Audubon's Crested Caracara**

The APE does include suitable habitat for Audubon's crested caracara. A consultation with the USFWS under the Endangered Species Act will be required for activities that may affect the caracara. Informal surveys conducted in 2015 and 2018 noted a nesting tree approximately 500 feet south of Southport Road, west of Southport Park. This nesting tree could be affected by Alternative 300. Formal survey for caracara will be required during the permitting phase of this project. Financial contributions to a crested caracara conservation fund managed by The Wildlife Foundation of Florida may be used to offset impacts to the crested caracara.

#### **Bald Eagle**

The APE includes several documented bald eagle nests. On April 20, 2017, the FFWCC approved revisions to the state's bald eagle rule (68A-16.002, F.A.C.). The approved rule revisions eliminate the need for applicants to obtain both a state and federal permit for activities with the potential to take or disturb bald eagles or their nests. Under the approved revisions, only a federal permit is required. The rule revisions became effective June 22, 2017. A USFWS permit is needed for activities with the potential to disturb nesting bald eagles, or to remove or "take" a bald eagle nest. "Take" means to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, or disturb. As the alternative corridors have been adjusted to avoid impacts to the bald eagle, it does not appear that any of the alternatives

would remove or “take” a bald eagle nest. A disturbance permit may be required for activities within 660 feet of a nest. All the alternatives considered appear to be within 660 feet of Nest OS158. Nest OS158 is located north of Southport Road and east of Brown Lake. Updated surveys for bald eagle nests will be required during the permitting phase of this project.

### **Everglade Snail Kite**

The APE boundary is south of Lake Toho, so none of the corridors are likely to adversely affect the Everglade snail kite.

### **Florida Grasshopper Sparrow**

Although the APE does include potential habitat for the Florida grasshopper sparrow, no known populations of the grasshopper sparrow have been documented within the APE. A consultation with the USFWS under the Endangered Species Act will be required for activities that may affect the Florida grasshopper sparrow. Formal survey for the grasshopper sparrow will be required during the permitting phase of this project. Due to the lack of documented individuals within the APE, none of the corridors are likely to adversely affect the Florida grasshopper sparrow.

### **Gopher Tortoise**

The APE does include suitable gopher tortoise habitat. To date, no formal surveys for the gopher tortoise have been conducted. Informal surveys within the APE noted a few scattered burrows. As the density of gopher tortoise burrows within the APE was low, none of the corridors ranked higher or lower regarding potential impacts to this species. A formal gopher tortoise survey following FFWCC’s Gopher Tortoise Permitting Guidelines will be required during the permitting phase.

#### **7.1.5 Priority Habitat**

There is no priority habitat found in or around the APE boundary, and therefore there are no anticipated affects.

#### **7.1.6 Essential Fish Habitat**

There is no essential fish habitat found in or around the APE boundary, therefore there are no anticipated affects.

#### **7.1.7 Conservation Areas**

All build alternatives have impacts to conservation areas within the APE. Cypress Parkway requires just over a quarter of an acre of impacts to the Solivita HOA conservation easement, but has no impacts to the other three conservation easements within the APE. The build



alternatives east of Cypress Parkway have 12 to 13 acres of impacts to the SFWMD-owned Upper Lakes Basin Watershed conservation easement. Alternative 300 has nearly 10 acres of impacts to Southport Regional Park for an interchange at that location, but none of the other build alternatives east of Cypress Parkway impact this park. SFWMD's KCOLA conservation land is only impacted by Alternatives 500 and 700. Of the build alternatives east of Cypress Parkway, Alternative 300 has the highest total impacts to conservation areas (Upper Lakes Basin Watershed and Southport Regional Park). Alternatives 200, 400, 500, 600, and 700 have between 12 and 14 acres of impacts to conservation areas, but differ in which conservation areas they impact.

#### 7.1.8 Mitigation Banks

The only mitigation bank within the APE is the Southport Ranch Mitigation Bank. The Southport Ranch Mitigation Bank consists of 3,316 acres owned and managed by Mitigation Resources, LLC, with approximately 423 acres located just inside the APE's southern boundary. No direct impacts are anticipated for any of the build alternatives since they pass north of the Southport Ranch Mitigation Bank.

#### 7.1.9 Prescribed Burn Areas

All build alternatives cross through areas within the CSDA Buffer Zones 1, 2, and 3, which are areas incompatible with a new major roadway. Cypress Parkway has approximately 34% of its right-of-way within these incompatible zones. For the build alternatives east of Cypress Parkway, Alternative 700 has the largest percentage (33%) of its right-of-way within these incompatible zones, followed by Alternative 600 (31%). Alternatives 200 and 500 have the lowest percentage of their right-of-way within these zones (17% each), followed by Alternative 300 and 400 with 20% and 24%, respectively. There is no route between Rhododendron Avenue and Florida's Turnpike across the APE that does not cross through CSDA Buffer Zones 1, 2, or 3 due to Cypress Parkway's proximity to the Disney Wilderness Preserve.

## 7.2 Human Environment

### 7.2.1 Community and Neighborhood Features

As referenced in Section 3.6.3, there are many community features located near the existing Cypress Parkway including: schools, places of worship, community centers, parks, fire stations, law enforcement facilities, government buildings, healthcare facilities, and social service facilities. A list of the community and neighborhood features located in the study area can be found in Section 3.6.3. While there would be some minor inconveniences during construction, there will be no permanent impacts to any community features on Cypress Parkway. The proposed Southport Connector Expressway would reduce congestion along Cypress Parkway and therefore enhance access to community and neighborhoods features.

East of Pleasant Hill Road, the proposed connection to the Turnpike would provide more connectivity in the region and allow for better access to community features. All of the alternatives east of Reedy Creek impact the Osceola Schools Environmental Center property. However, none of the alternatives will impact any of the buildings on the property or the critical habitat on the south side of the property. Alternative 300 also impacts the Southport Park and Boat Ramp. These are the only community features impacted by the proposed alternatives.

## 7.2.2 Cultural Resources

Based on the desktop analysis completed in August 2017, the following is a summary of the potential cultural resource impacts.

### 7.2.2.1 Historical

The Cypress Parkway segment of the Southport Connector Expressway will have no impact to any known potential historic resources.

East of Reedy Creek, the alternatives will impact the South Port Canal (8OS02569) which is a previously recorded linear resource group that has not been evaluated by SHPO due to insufficient information. Alternative 300 will also impact a potentially historic levee and three potentially historic structures. These historic structures and levee are all in the vicinity of the Southport Park and Boat Ramp and are newly recorded resources (Figure 3.6.12 shows the location of the potentially historic structures). None of the other alternatives will impact any potentially historic resources. Table 7.2.1 displays the impacts to potentially historic resources.

**Table 7.2.1: Impacts to Potentially Historic Resources**

Alternative	Previously Recorded Resource Group	Previously Recorded Historic Structure	Potential Historic Structure	Potential Historic Levee
Cypress Parkway	0	0	0	0
200	1	0	0	0
300	1	0	3	1
400	1	0	0	0
500	1	0	0	0
600	1	0	0	0
700	1	0	0	0

Once the recommended alignment and ponds are selected, should any of these unrecorded historic resources be located within the APE, they would need to be field surveyed, documented with the FMSF, and evaluated with regard to NRHP eligibility.

#### 7.2.2.2 Archaeological

The Cypress Parkway segment of the Southport Connector Expressway will have no impact to any potential archaeological sites. East of Reedy Creek, the alternatives will impact Brown's Landing Mound C (8OS00023) which is a previously recorded archaeological site that has not been evaluated by SHPO due to insufficient information.

**Table 7.2.2: Impacts to Potentially Archaeological Sites**

Alternative	Brown's Landing Mound C	Dead Gopher Pass
Cypress Parkway	No	No
200	Yes	No
300	Yes	No
400	Yes	No
500	Yes	No
600	Yes	No
700	Yes	No

Once the recommended roadway alignment has been developed and preferred pond locations have been selected, a CRAS, including both archaeological and architectural historic survey, should be conducted. The APE for the roadway and ponds should be subjected to subsurface testing at intervals according to the probability of identifying archaeological material. Unrecorded historic resources should be recorded and assessed. The identified historic structures and archaeological sites, if any, should be assessed for their potential eligibility for listing in the NRHP. The results of this evaluation should then be reviewed by the Florida SHPO for concurrence and possible comment.

#### 7.2.3 Emergency Services

It is not anticipated that any of the proposed alternatives would negatively impact emergency services in the project area. Figure 3.6.7 shows the location of emergency facilities in the area. While there would be some minor inconveniences during construction, disruption of services would be minimal. The Southport Connector Expressway will enhance services and reduce congestion-induced wait times. In addition, the proposed limited-access connection to the Turnpike will provide more connectivity in the area, improving accessibility to emergency services.



## 7.3 Noise

Noise sensitive areas represent any property where frequent exterior human use occurs. This includes residential land use (Noise Abatement Criteria Activity Category B); a variety of nonresidential land uses not specifically covered in Category A or B including parks and recreational areas, medical facilities, schools, and places of worship (Category C); and commercial/developed properties with exterior areas of use (Category E). Noise sensitive sites can also include interior use areas where no exterior activities occur for facilities such as auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, recording studios, schools, and television studios (Category D). Categories F and G do not have noise abatement criteria levels. Category F includes land uses such as airports and retail facilities that are not considered noise sensitive. Category G includes undeveloped lands.

The FHWA has established noise abatement criteria for seven land use activity categories. The NAC levels and criteria are presented in Table 7.3.1.

**Table 7.3.1: Noise Abatement Criteria**

Activity Category	Activity Leq(h) <sup>1</sup>		Evaluation Location	Description of Activity Category
	FHWA	FDOT		
A	57	56	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B <sup>2</sup>	67	66	Exterior	Residential
C <sup>2</sup>	67	66	Exterior	Active sports areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreational areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52	51	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E <sup>2</sup>	72	71	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.

Activity Category	Activity Leq(h) <sup>1</sup>		Evaluation Location	Description of Activity Category
	FHWA	FDOT		
F	–	–	–	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	–	–	–	Undeveloped lands that are not permitted.
<p><i>(Based on Table 1 of 23 CFR Part 772)</i></p> <p><sup>1</sup> The Leq(h) Activity Criteria values are for impact determination only, and are not a design standard for noise abatement measures.</p> <p><sup>2</sup> Includes undeveloped lands permitted for this activity category.</p> <p><i>Note:</i> FDOT defines that a substantial noise increase occurs when the existing noise level is predicted to be exceeded by 15 decibels or more as a result of the transportation improvement project. When this occurs, the requirement for abatement consideration will be followed.</p>				

The existing land use patterns and natural features along the project corridor are depicted in Figure 3.6.1. The existing land use surrounding Cypress Parkway from Poinciana Parkway to Pleasant Hill Road is mostly residential with a scattering of retail / office land use, public / semi-public land use, and acreage not zoned for agriculture. East of Pleasant Hill Road, the land use is almost exclusively agricultural scattered with public / semi-public land use and residential. Because of the density and residential character of the western half of the project it has more potential to contain noise impacts. A noise study will be performed in accordance with the Title 23 Code of Federal Regulations Part 772, “Procedures for Abatement of Highway Traffic Noise and Construction Noise,” and the procedures outlined in the FDOT PD&E Manual (Part 2, Chapter 17 dated May 24, 2011) to assess the potential noise impacts associated with the proposed project during the PD&E phase.

## 7.4 Air Quality

The project is located in an area which is designated attainment for all of the National Ambient Air Quality Standards under the criteria provided in the Clean Air Act. Therefore, the Clean Air Act conformity requirements do not apply to the project. An air quality analysis will be conducted during the PD&E phase.

Construction activities will cause short-term air quality impacts in the form of dust from earthwork and unpaved roads. These impacts will be minimized by adherence to all applicable State and local regulations and to the FDOT Standard Specifications for Road and Bridge Construction.

## 7.5 Contamination

Based on the desktop analysis completed in September 2017, below is a summary of the potential contamination impacts.

The Cypress Parkway section of the Southport Connector Expressway does not acquire any property other than at the Bravo SuperMarkets strip mall and therefore has no potential contamination impacts.

East of Reedy Creek, Alternatives 400, 600 and 700 have no potential contamination impacts. Alternatives 200, 300 and 500 impact the Rick Holborn Excavation site which is a medium contamination site. In addition, Alternative 300 also impacts the following sites:

- Southport Road SLF Phase I and II Site – Medium risk assessment;
- Osceola County Southport Landfill – Medium risk assessment; and
- Boggy Creek at South Site – Low risk assessment.

Table 7.5.1 shows which potentially contaminated sites are impacted by the Southport Connector Expressway alternatives.

**Table 7.5.1: Potential Impacts to Contaminated Facilities**

Facility ID	Facility Name	Address	Risk Assessment	Impacted by Alternative?
8735506	7-Eleven #37636	800 Cypress Parkway Kissimmee, FL 34759	High	No
9101841	Osceola County Bass Rd Landfill	750 Bass Road Kissimmee, FL 34746	Medium	No
9806622 / FLR000109157	Wal-Mart Supercenter	904 Cypress Parkway Poinciana, FL 34759	Medium	No
FLR000122903	Tire Kingdom LLC #292	825 Towne Center Drive Kissimmee, FL 34758	Medium	No
9808071	Severn Trent Service	4601 Rhododendron Ave Poinciana, FL 34758	Medium	No
97239	Rick Holborn Excavation	1150 W Southport Road Kissimmee, FL 34759	Medium	200, 300 & 500
25473	Southport Road SLF, Phase I & II	¾ MI E JCT SR 531 Southport Road Kissimmee, FL 34758	Medium	300



Facility ID	Facility Name	Address	Risk Assessment	Impacted by Alternative?
9804681	Circle K #2704876	801 Cypress Parkway Poinciana, FL 34758	Medium	No
8943614	Osceola County Southport Landfill	4400 Hunt Road Kissimmee, FL 34759	Medium	300
8627117	Poinciana Golf & Rac	500 E Cypress Parkway Poinciana, FL 34759	Low	No
8838503	Poinciana Utility WWTP #2	4601 N Rhododendron Poinciana, FL 34758	Low	No
8520965	Boggy Creek at South	2001 Southport Road Kissimmee, FL 34759	Low	300
FLR000205781	Poinciana Medical Center	325 Cypress Parkway Kissimmee, FL 34759	Low	No
8520637	Kissimmee Construction Corp	4755 Laurel Avenue Poinciana, FL 34758	Low	No

## 7.6 Utilities

The existing utilities within the project area are located along Cypress Parkway, Pleasant Hill Road, Southport Road, and the Florida's Turnpike. Major utility crossings along each alignment per utility agency are summarized within Table 7.6.1.

There are significant utilities along Cypress Parkway within the existing right-of-way. Major utilities include overhead electrical distribution lines from the substation south of Cypress Parkway and Laurel Avenue intersection and large sanitary, water, and reuse water force mains distributed from the wastewater treatment facility north of the Poinciana Parkway and Cypress Parkway intersection. Cypress Parkway also functions as a main distribution line for fiber optics and water mains for the various subdivisions along Cypress Parkway. Refer to Figure 7.6.1 for the locations of the known existing utilities and major crossings along Cypress Parkway.

Southport Road functions as the main distribution of overhead electric and fiber optic utilities for the landfill along Southport Road, the control structure at Lake Toho and C-35 Canal, as well as the rural homes along Southport Road. Refer to Figure 7.6.2 for the locations of the

known existing utilities along Southport Road and the utility crossing locations along the proposed alignments.

The proposed corridor along Cypress Parkway is anticipated to have major utility crossings and relocation coordination, whereas the alternatives east of Reedy Creek would require minor coordination for the utility relocation effort. Table 7.6.2 provides an estimated cost associated with the anticipated utility relocation for the known existing utilities along Cypress Parkway.

**Table 7.6.1: Major Utility Crossing per Alignment**

Utility provider	Alignment Alternatives						
	200	300	400	500	600	700	Cypress Parkway
Amerigas	0	0	0	0	0	0	0
AT&T	0	0	0	0	0	0	0
Centurylink	3	3	1	2	1	0	2
Charter Communications	0	0	0	0	0	0	1
Duke Energy	2	3	0	2	0	0	4
Frontier Communications	0	0	0	0	0	0	0
Osceola County Traffic	0	0	0	0	0	0	0
Sprint	0	0	0	0	0	0	1
TOHO	0	0	0	0	0	0	6
<b>Total number of utility crossings per alignment</b>	<b>5</b>	<b>6</b>	<b>1</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>14</b>

Figure 7.6.1: Cypress Parkway Major Utility Crossing Locations

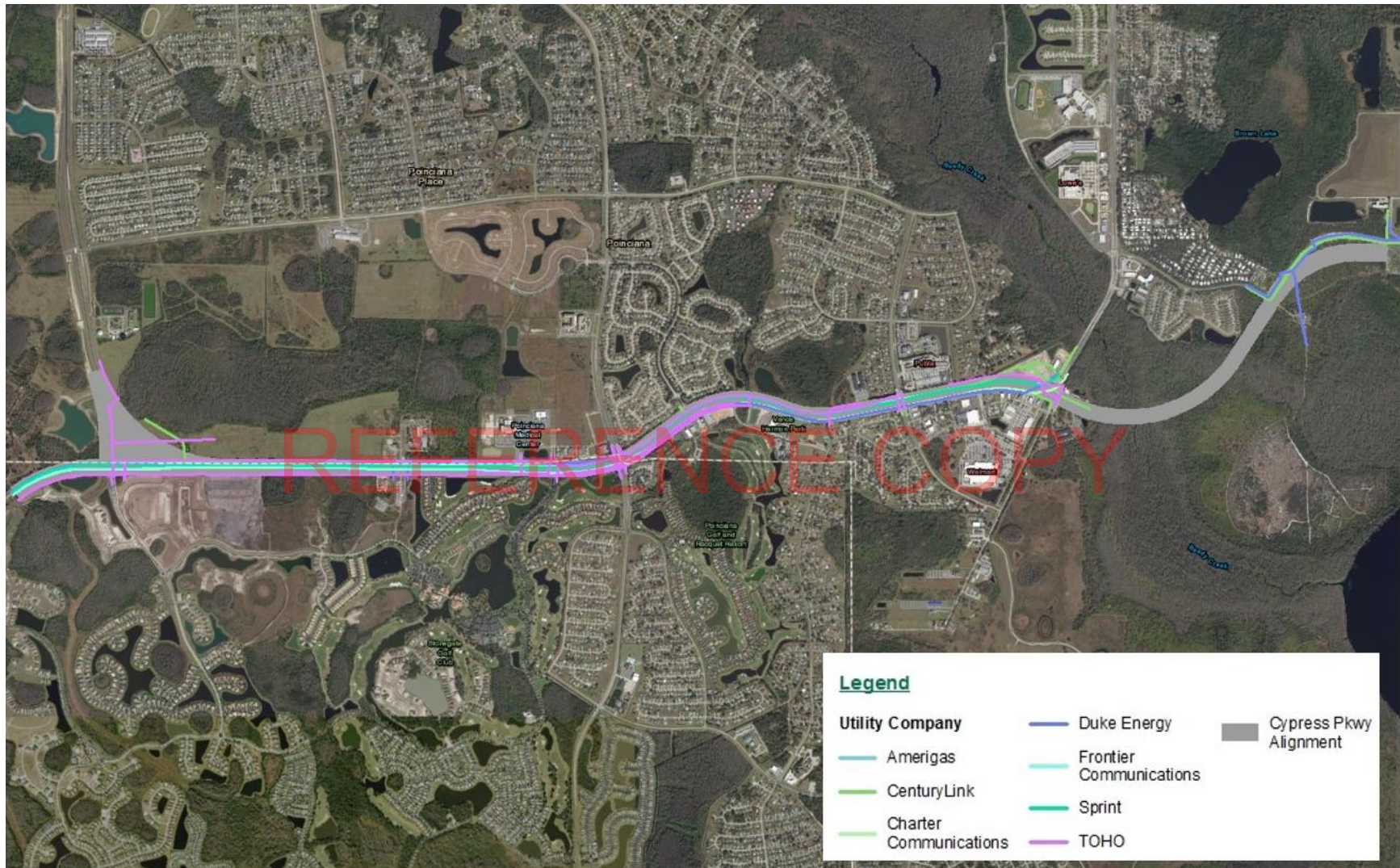
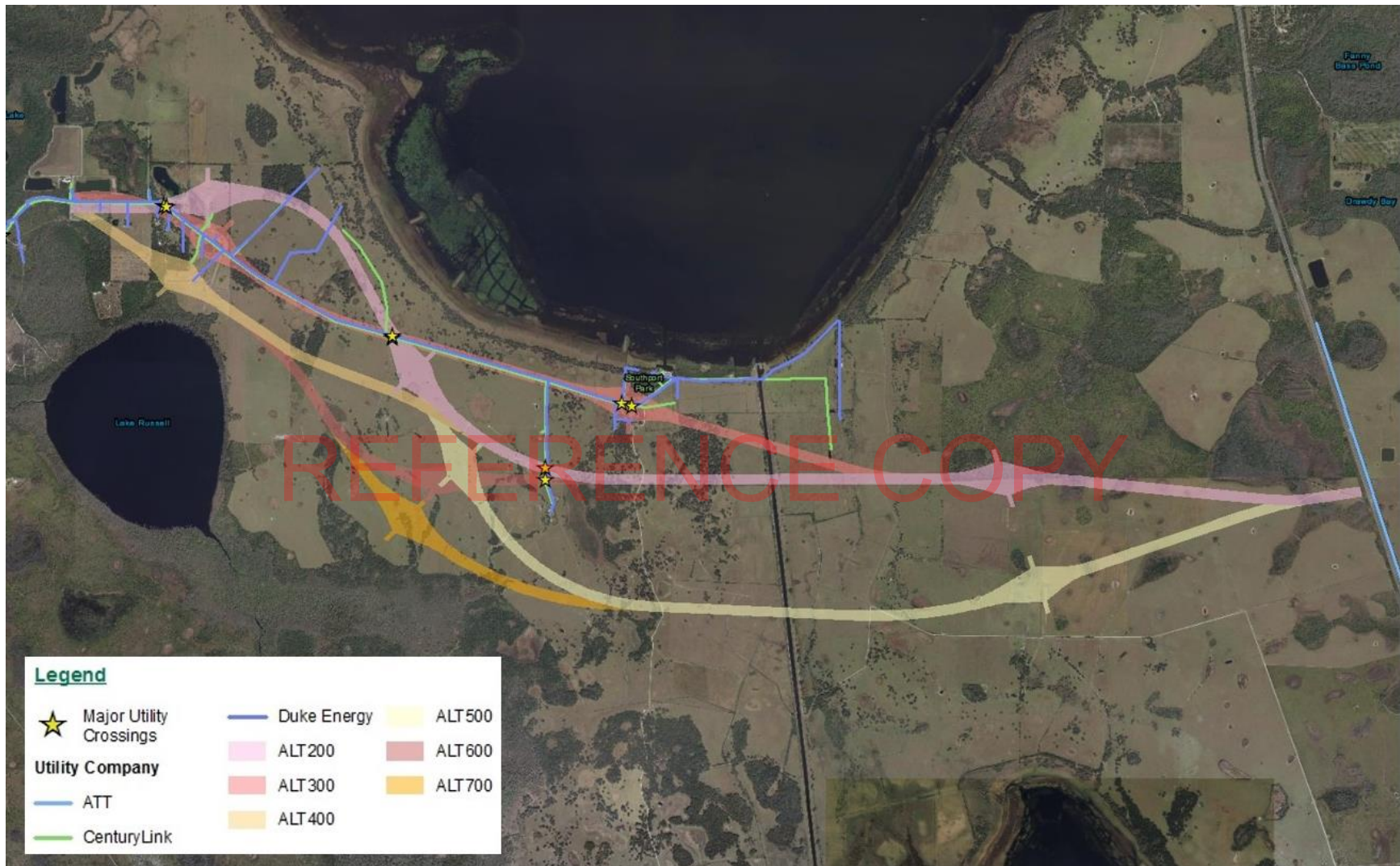




Figure 7.6.2: East of Reedy Creek Major Utility Crossing Locations



**Table 7.6.2: Cypress Parkway Utility Relocation Estimated Costs**

Utility provider	Type	Total Cost
Frontier Communications	Buried Cable/Buried Fiber Optic Cable	\$ 263,525
	Pull Box	
Centurylink	Copper/Fiber Optic Cable	\$ 724,074
	Pull Box	
Duke Energy	12.47kV 3 phase	\$ 9,698,106
	Overhead transmission	\$ 246,970
Sprint	Fiber Optic Cable	\$ 233,344
	Pull Box	
TOHO	24" RWM	\$ 1,785,669
	10" WM	\$ 1,379,582
	16" WM	\$ 425,393
	12" WM	\$ 1,087,955
	8" WM	\$ 216,100
	14" FM	\$ 75,635
	12" FM	\$ 75,635
	4" FM	\$ 41,531
<b>Grand Total Costs:</b>		<b>\$ 16,253,519</b>

## 7.7 Railroads

There are no railroads in the vicinity of the project corridor.

## 7.8 Anticipated Permits Required

Anticipated permits required for this project include:

- Regional General Permit SAJ-92 – USACE
- Individual Environmental Resource Permit (ERP) – Northwest Florida Water Management District (NFWMD)
- National Pollutant Discharge Elimination System (NPDES) Permit – FDEP

## 7.9 Summary Matrix – Anticipated Effects

Table 7.9.1 contains a summary of the anticipated effects for the tolled limited-access alternatives described above.

**Table 7.9.1: Summary Matrix – Anticipated Effects**

Evaluation Criteria	Unit of Measure	Alternatives						
		Cypress Parkway	200	300	400	500	600	700
Physical								
Major Utility Conflicts - Existing	No. of Conflicts	14	5	6	1	4	1	0
Major Utility Conflicts - Planned	No. of Conflicts	0	0	0	0	0	0	0
Contamination Sites & Facilities	No. of Conflicts	0	1	4	0	1	0	0
Railroad Involvement	No. of Conflicts	0	0	0	0	0	0	0
Cultural Environment Effects								
Public Lands	acres	0	12	22	13	13	13	14
Section 4(f) Coordination Required (Public Recreation Lands, Wildlife Refuges, etc.)	Y/N	Y	N	Y	N	N	N	N
Potential Historic Resources	No. of Conflicts	0	0	4	0	0	0	0
Potential Historic Linear Resources (Canals)	No. of Resources	0	1	1	1	1	1	1
Potential Archaeological Resources	No. of Resources	0	1	1	1	1	1	1
Natural Environment								
Water Features								
Ponds / Lakes	acres	1	2	0	0	2	0	0



Evaluation Criteria	Unit of Measure	Alternatives						
		Cypress Parkway	200	300	400	500	600	700
Canals / Regulated Floodways	No. of Conflicts	2	1	1	1	1	1	1
Flood Hazard Areas - 100 Year Floodplain	acres	13	120	101	94	117	122	156
Wetlands (non-forested and forested)	acres	42	46	35	36	34	49	38
Potential Habitat - Federal Listed Species	acres	53	378	351	379	448	369	443
Potential Habitat - State Listed Species	acres	7	59	67	66	24	68	33
Potential Bald Eagle Nest	Y/N	N	Y	Y	Y	Y	Y	Y
Potential Species Impacts (composite rating)	Rating	Low	Medium	Medium	Medium	Medium	Medium	Medium
Mitigation Banks								
None	acres	0	0	0	0	0	0	0
Conservation Easement								
Solivita HOA	acres	0	0	0	0	0	0	0
SFWMD Land (Upper Lakes Basin Watershed / KCOLA)	acres	0	12	12	13	13	13	14
Southport Regional Park	acres	0	0	10	0	0	0	0
Social								
Right-of-Way Area (including proposed ponds)	acres	25	565	514	549	593	552	585

Evaluation Criteria	Unit of Measure	Alternatives						
		Cypress Parkway	200	300	400	500	600	700
Potential Residential Impacts (Includes partially impacted parcels)	Total Parcels	0	3	5	0	4	0	0
<i>Existing</i>	<i>Parcels</i>	0	3	5	0	4	0	0
<i>Planned</i>	<i>Parcels</i>	0	0	0	0	0	0	0
Potential Non-Residential Impacts (Includes partially impacted parcels)	Total Parcels	5	35	37	26	27	27	20
<i>Existing</i>	<i>Parcels</i>	5	35	37	26	27	27	20
<i>Planned</i>	<i>Parcels</i>	0	0	0	0	0	0	0
Community Facilities	No. of Conflicts	0	1	1	1	1	1	1
Parks and Recreational Facilities (public and private)	No. of Conflicts	0	0	1	0	0	0	0
Trails	No. of Conflicts	0	0	0	0	0	0	0
Community Cohesion Effects	Ranking	Med	High	High	Med	High	Med	Med
Socioeconomic Impacts to Special Populations	Ranking	Med	Med	Med	Med	Med	Med	Med
Proposed Development (PD) / Development of Regional Impact (DRI)	acres	0	50	42	39	0	39	0

## 8.0 Stakeholder Involvement

---

### 8.1 Introduction

This study has involved a robust public involvement program. Environmental Advisory Group (EAG), and Project Advisory Group (PAG) meetings were held in July 2017 and February 2018. More than 400 people attended public workshops held in September and October 2017. Public meetings were also held in February 2018, when a total of 924 people attended these meetings. More than 630 written comment forms were received as well as hundreds of other emails and calls throughout the study process. Dozens of meetings with officials, neighborhoods, affected property owners, community organizations and other stakeholders have also been conducted and are described below.

### 8.2 Stakeholder Coordination and Meetings

#### 8.2.1 Environmental Advisory Group

An EAG acts as a special advisory resource to CFX and the study team and is an important component of the natural environment analysis. The EAG assists in providing environmental impact input in the evaluation of the feasibility of the project corridors. The EAG also informs the project team of local knowledge, issues and concerns within the study limits regarding environmental impacts.

The first EAG meeting was held on Tuesday, July 11, 2017 from 9 a.m. to 11 a.m. at Osceola Heritage Park. There were 25 attendees and 21 staff members present at the meeting. One EAG meeting was held for all four of the CFX expressway feasibility projects since they will ultimately function as one network. A short PowerPoint presentation was given to present the history of the projects, goals of the corridor studies, the schedule, and the EAG roles. A brief discussion period followed regarding how the studies' goals and objectives were developed. The ensuing discussion noted that the project goals and alternatives will all undergo a "refresh" as part of the study process. A presentation from each of the project study areas was then given on specific project background, previous studies, and current alternatives. A robust discussion on the environmental impacts for the study areas ensued. The major themes were as follows:

- Pursue regional mitigation plan;
- Concern about switching consultants working on the projects;
- Splitting managed areas will make portions unusable;
- Need to closely evaluate smoke shed in the development of alternatives; and
- Concern about developing southern regions – not wanting to spread the urban growth boundary further south by building an expressway.



The input from the EAG was taken into consideration and a second EAG meeting was held on Wednesday, January 31, 2018 from 9 a.m. to 11 a.m. at Osceola Heritage Park. Similar to the first meeting, a brief overview of the study history was given, followed by a summary of each of the studies' progress to date. A discussion on the environmental impacts for the study areas ensued. The major themes were as follows:

- What is the schedule and what happens next?
- Identify habitat and wildlife corridors on the maps. Habitat is the most important environmental feature.
- Burn line is critical – if the projects result in managed areas that can't be burned – then that will increase the cost of managing those lands. Those associated costs should be handled by CFX not the managed lands.
- Suggest regional mitigation project like the Disney Wilderness Preserve to mitigate for all of the projects.
- Prefer Southport Connector alternative that is furthest north.

### 8.2.2 Project Advisory Group

A PAG is a special advisory resource to CFX and the study team. The PAG is an important component of the mobility analysis and assists in providing input in the evaluation of the feasibility of the project corridors. The PAG also informs the project team of local knowledge, issues and concerns within the study limits.

A project specific PAG meeting was held for each study area. The first Southport Connector Expressway PAG meeting was held on Wednesday, July 18, 2017 from 9 a.m. to 9:30 a.m. at Church of St. Luke and St. Peter. There were nine attendees and eight staff members. Similar to the EAG meetings, the study overview and background were presented followed by a brief project update. An open discussion on the project ensued. The major themes were as follows:

- What is the status of Green Island DRI?
- What is the role of the FDOT during this project?
- What is the timeline for the project?

A second PAG meeting was held on Tuesday, February 6, 2018 from 9 a.m. to 9:45 a.m. at Church of St. Luke and St. Peter. There were six attendees and seven staff members. Similar to the previous PAG meeting, the study overview and background were reviewed followed by a brief project update. The major themes during the open discussion were as follows:

- Polk County is interested in widening Marigold Avenue and wants to know if the Cypress Parkway typical section is final.
- Osceola County wants to ensure coordination continues into the next project phase.

- Osceola County wanted to put on record that Alternative 700 is the preferred alternative and Alternative 300 is the least preferred alternative due to the disturbance to the urban center of the Master Plan.

### 8.2.3 Local Governmental Entities

The Southport Connector Expressway is in both Polk and Osceola Counties and therefore there has been extensive coordination with both counties over the course of the study. Both counties had representatives attend the EAG and PAG meetings. An hour before the first public meeting, there was a local elected officials meeting. In addition, a representative of Osceola County was present at the majority of the Southport CFX bi-weekly progress meetings.

A meeting was held at Osceola County on Thursday, April 27, 2017 from 3:30 p.m. to 4:30 p.m. to discuss the scope of work, public outreach, the previous FDOT ACE Study from 2015, and the schedule for the Southport Connector Expressway study. A handout packet consisting of the ACER Corridors 7, 12, and 13 including the Green Island Ranch DRI map; corridor maps from previous FDOT ACE study; and an overarching progress schedule; were distributed. Below is a synopsis of the meeting discussion:

- Osceola County staff appreciated the overlaying of the recommended corridors with the South Lake Toho Master Plan and Green Island Ranch DRI as it provides a good understanding of potential impacts and incompatible areas.
- They indicated that ACE recommended Corridors 7 and 13 would be easier to incorporate with the South Lake Toho Master Plan with a preference for ACE recommended Corridor 7 as most compatible with the Master Plan.
- The staff stated that ACE recommended Corridor 12 is more challenging to incorporate with the South Lake Toho Master Plan as portions are incompatible with proposed land uses, but indicated that accommodations could be made and modifications to the Master Plan incorporated to make this route feasible, but not desired.
- They relayed to the project team that there are no current plans to extend the Poinciana Parkway to the south of Cypress Parkway.
- Green Island Ranch DRI:
  - Osceola County staff indicated that Green Island Ranch has an approved DRI that supersedes the County Master Plan but not the land use code. Major differences noted are:
    - Green Island Ranch indicates an industrial center where the Osceola County plan shows the town center located.
    - The DRI does not show an interchange with the Florida Turnpike, which is opposite from the Lake Toho Master Plan.

- The DRI depicts a “Planned Southport Expressway” at a location different from the Lake Toho Master Plan
- Tranquility DRI:
  - Osceola County staff indicated this DRI had been rescinded
- Bellelago DRI:
  - Osceola County staff indicated this project is moving forward but will have little effect on the Southport Connector recommended alignments.
- The County staff indicated there were no transit (rail) initiatives that may impact the study.
- The staff stated that current Urban Growth Boundary shown on the Osceola County South Lake Toho Master Plan is the same as originally approved and the county has no current plans to modify the boundary.

A second meeting was held with Osceola County on July 31, 2017 from 1:30 p.m. to 2:30 p.m. to provide a status update, review alternatives, and understand the County’s interchange location priorities. Below is a synopsis of the meeting discussion:

- There are two major components:
  - Cypress Parkway – safety, traffic operations, overpass locations, and interchanges; and
  - South Lake Toho alignments – alternatives analysis, consistency with South Lake Toho Master plan, land owner discussions.
- Need to prioritize overpass locations along Cypress Parkway – Osceola County concurred the following overpasses were least important:
  - Cypress Drive, Walmart, Cypress Branch, and at the hospital
  - Osceola County asked that an overpass be added at the fire station
- Osceola County mentioned traffic on Cypress Parkway is highly directional
- Osceola County reiterated the importance of access to the Southport Connector Expressway from the joint Osceola / Polk fire station and that a frontage road along Poinciana Parkway (Rhododendron Drive) be evaluated and to coordinate with Kimley-Horn.
- Osceola County wants to ensure there is proper access to Vance Harmon Park.
- In the East segment, discussion ensued over major land owner opinions versus the South Lake Toho Master Plan which are in opposition to each other currently.
  - Several land owners and stakeholders (Southport Ranch, Kenansville Ranch, The Nature Conservancy, and Green Island DRI) stated Alternative 300 was the preferred alternative.
  - Osceola County gave an overview on how the South Lake Toho Master Plan was developed and stated that Alternative 700 was their preferred alternative since it is most consistent with the master plan.



- If Alternative 700 is not the roadway alignment selected, then the County would need to pursue an amendment to the master plan.

Osceola County's recommendations were evaluated, the priority overpass locations were all accommodated into the design, as was the fire station access and Rhododendron Drive connection.

On August 8, 2017 a presentation was made to the Polk County Board to provide a status update and review the alternatives. As a result of the presentation to the Polk County Board, Polk County decided to delay the widening of Cypress Parkway in Polk County until the viability of the Southport Connector Expressway project is known.

#### 8.2.4 Stakeholder Meetings

The project team conducted stakeholder meetings with representatives from the largest property owners along the potential alignments south of Lake Toho and staff from The Nature Conservancy – a local non-profit organization. The meetings were conducted to encourage each stakeholder to identify their particular concerns, provide local knowledge along the corridor, and discuss community issues. The project team indicated the purpose of this connector is to serve the population with a limited-access roadway. During the meetings, the team discussed the scope of work for this project, the previous FDOT ACE Study from 2015, and the schedule for the Southport Connector Expressway study. A handout packet consisting of the ACER Corridors 7, 12, and 13 including the Green Island Ranch DRI map; corridor maps from previous FDOT ACE study; and an overarching progress schedule; were distributed at each stakeholder meeting. The following summarizes the individual stakeholder meetings.

##### **Green Island Ranch**

On Thursday, May 4, 2017, the Southport Connector Expressway project team met with Mr. Jeremy Kibler, representative of Green Island Ranch. The following is a recap of the meeting discussion:

- Mr. Kibler appreciated the overlaying of the ACE recommended corridors with the Green Island Ranch DRI as it provides a good understanding of potential impacts and incompatible areas.
- He indicated Corridor 11 was missing from the map. Corridor 11 tied in Corridor 7 directly to Corridor 12.
- Further, he stated that Corridor 12 is most desirable to the Green Island Ranch and would not want issues / concerns with the Kenansville Ranch ownership to preclude Corridor 12 from being feasible.

- Mr. Kibler expressed the importance of the Green Island Ranch Interchange connection with the Turnpike Mainline and stated that he planned to work directly with the Turnpike to determine the location for this interchange.
- He provided a letter indicating that the previous FDOT ACE study did not address Green Island Ranch concerns about connections.
- Mr. Kibler explained the Urban Growth Boundary shifted to the south and that Osceola County has not followed through with agreements for purchasing right-of-way for the North-South connector (SOHO Parkway).
- Mr. Kibler discussed the Green Island Ranch DRI development plans and stated that there are three entities and five siblings (family owned) so plans are moving at a measured pace.
- He inquired if CFX had funding to move the project to construction. The project team explained the CFX model is toll revenue based and a financial component will be analyzed as part of this study to see if there is feasibility for moving the project forward.

### **The Nature Conservancy**

On Tuesday, May 9, 2017 a meeting was held with The Nature Conservancy (TNC) staff. The following is a synopsis of the meeting discussion:

- TNC staff stated that any future roadway should be sited as far as possible from the Disney Wilderness Preserve (DWP) due to “hyper-frequent” fire used to reduce amount of fuel in the preserve, manage red cockaded woodpeckers, and support a rare calopogon orchid. The fire frequency at the DWP is typically two or three fires a year and therefore, protecting the smoke shed is very important for TNC.
- From the previous FDOT ACE study, TNC noted that alignment 12 represents the best alternative as it is one mile from the nearest burn unit at DWP.
- They mentioned a smoke-fog warning system could provide a benefit to a roadway anywhere near the DWP smoke shed to improve safety.
- TNC staff noted that there is limited large mammal activity through the DWP and is considered the start of the water corridor for the Everglades.
- The project team invited TNC staff to join the EAG.

### **Bronson Partnership**

On Tuesday, May 9, 2017 a meeting was held with the Bronson Partnership staff. The following is a summary of the meeting:

- The Bronson Partnership staff appreciated the overlaying of the recommended corridors with the property lines as it provides a good understanding of potential impacts and incompatible areas.

- They indicated that any of the three ACE corridors shown (7, 12, and 13) are agreeable for the Partnership – their biggest concern is access to their various parcels on both sides of any proposed corridor.
- The project team discussed the project schedule and stated the best case (most aggressive) scenario is after this 12 month study, there would be an 18 to 24 month PD&E study followed by a 24 month design, then a 24 to 36 month right-of-way acquisition period and a 24 month construction period. Work would progress only if these corridors proved viable from a construction cost to tolling revenue standpoint.
- The Partnership understood that biologists / surveyors / others would need access to their sites and asked that the gates be left in the condition that they were found upon arrival.
- They also indicated a new water well (27 million gallons per day) was being planned for their property south of the Urban Growth Boundary to support growth in the region.
- The Bronson Partnership staff stated they own approximately 25,000 acres and have control over approximately 35,000 acres through leases and other arrangements.
- The staff indicated that they are not a development company and they have no intention to become one. However, they understand development is moving their way and are most concerned about access to their property if this expressway is advanced.

### **Southport Ranch**

On Thursday, May 11, 2017 a meeting was held with Mr. Gary Lee representing Southport Ranch. The following was discussed:

- Mr. Lee noted that Drew Kelly passed away in 2014 and left him as the trustee for the Southport Ranch.
- He indicated that Southport Ranch had no input on the South Lake Toho Master Plan, and that there are no plans for development of the Southport Ranch.
- During the previous study, Mr. Lee had problems with surveyors cutting locked gates and asked that the project team contact him for access.
- He noted that the Southport Mitigation Bank occupies about 3,200 of the total 7,000 acre Southport Ranch and that this unique property serves as the headwaters of the Everglades.
- Mr. Lee noted that he could possibly support an alignment that would follow the existing Southport Road. He stated that the alignment will need to avoid SFWMD lands and the landfill. After the meeting, Mr. Lee provided two figures (Figure 8.2.1 and 8.2.2) indicating a possible alignment along existing Southport Road.
- He noted that there are eagles and caracara thriving on this parcel.



Figure 8.2.1: Southport Road Alignment – 1

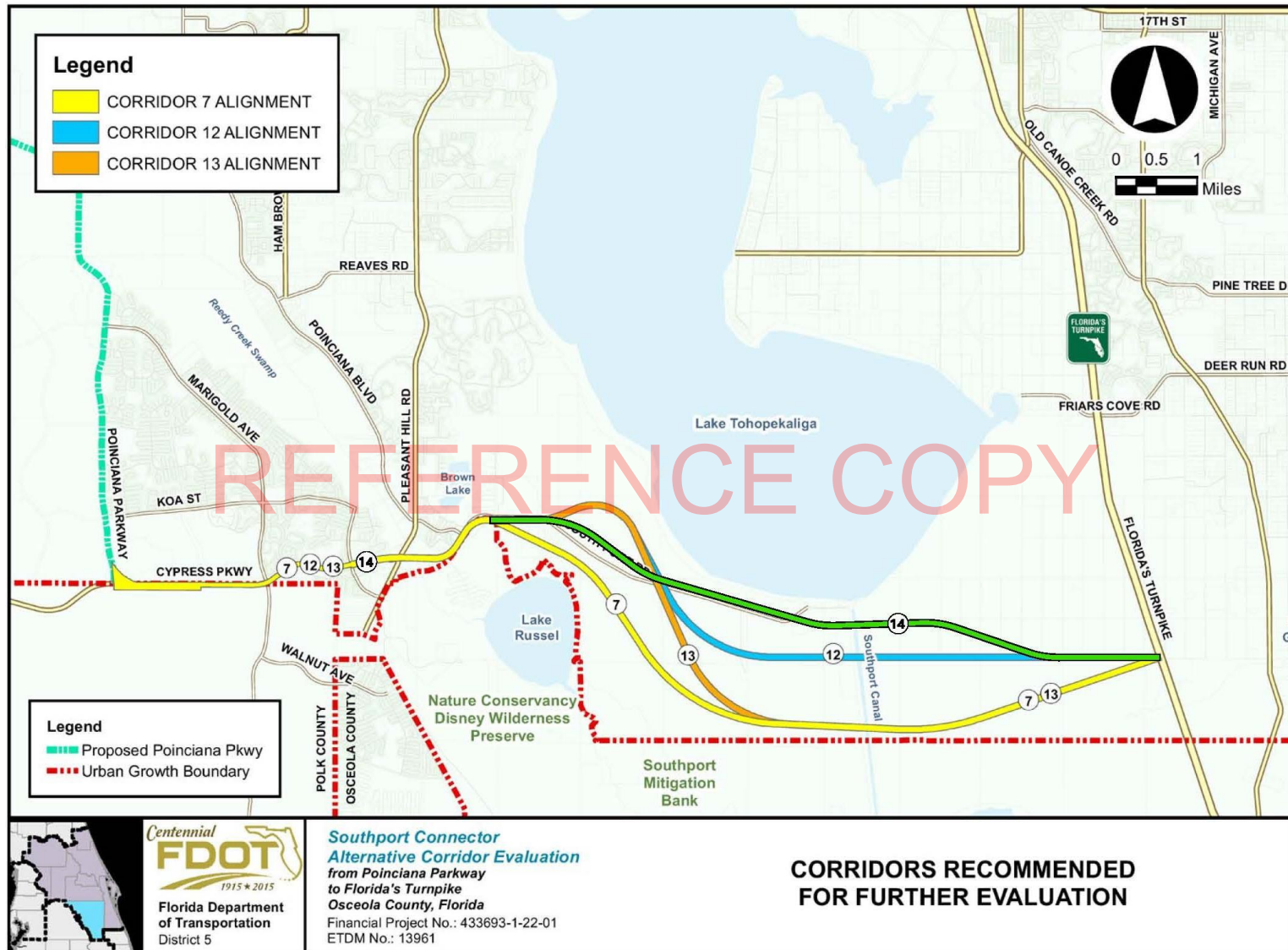
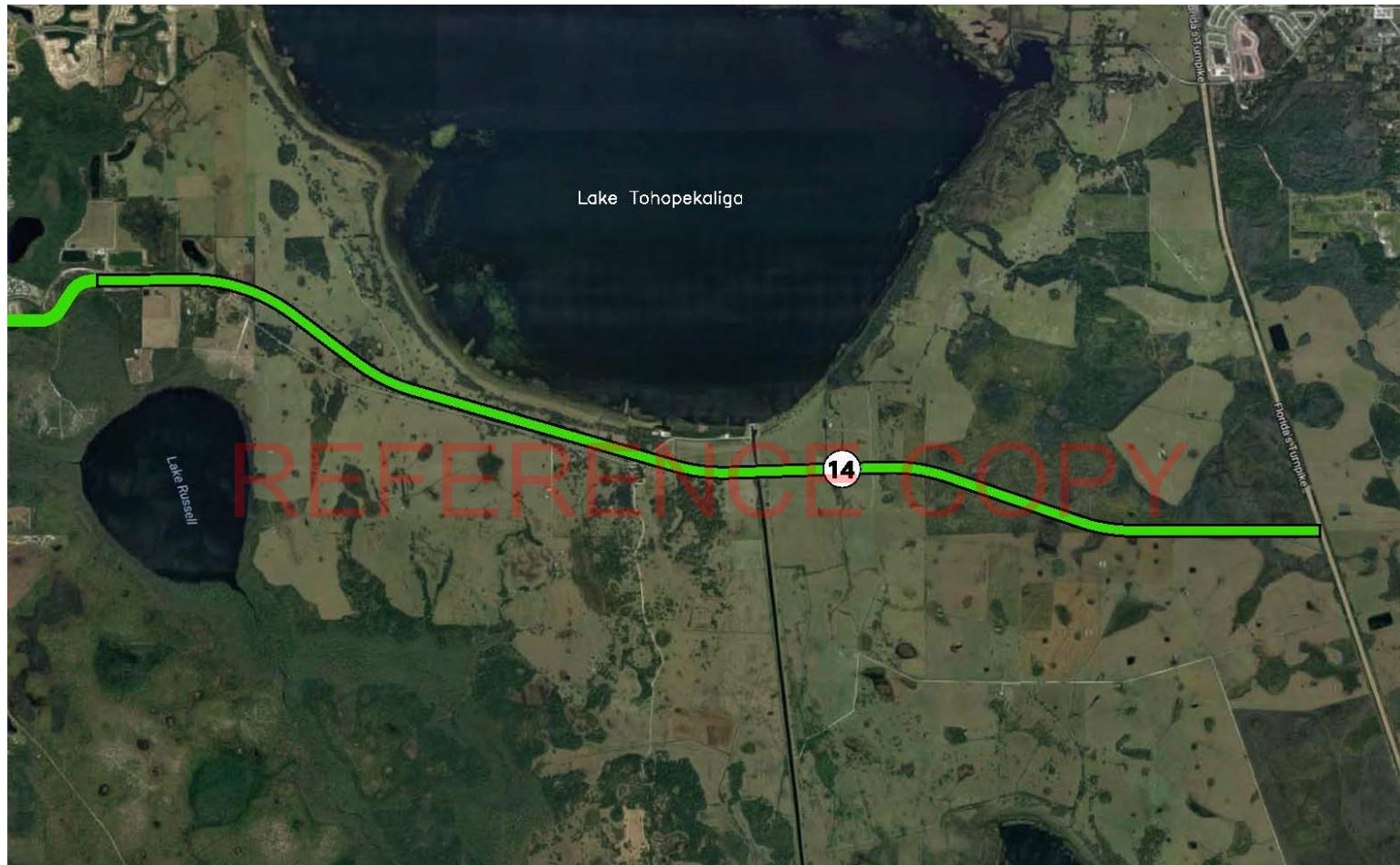


Figure 8.2.2: Southport Road Alignment – 2



Scale: 1" = 8,000 Feet

## **Kenansville Ranch**

On Thursday, June 15, 2017 a meeting was held with Mr. Gary and Mrs. Cheryl Kelley, Mr. J. Christy Wilson III, and Ms. B. Diane Smith, representing Kenansville Ranch. The following is a synopsis of the meeting discussion:

- The project team indicated the three recommended alternatives from the FDOT ACE Study appear to be logical, and other alignments in the corridor south of Lake Toho will be evaluated. All alignments that crossed Lake Toho have been dismissed.
- Mrs. Kelley inquired the reason for dismissing the alignments that cross Lake Toho, and the project team explained that the USFWS manages the water level in the lake due to snail kite nesting and forging habitat. Due to this endangered species, the USFWS did not favor alignments across the lake.
- The project team also noted Crested caracara and bald eagle are located south of Lake Toho and landowners will be contacted for access to their properties.
- In addition, the team explained the snail kite is the most protected of the species in the area as they have a narrow forging range and eat snails in shallow water. The Crested caracara followed by the bald eagle are the second and third listed species in terms of hierarchy.
- Mrs. Kelley expressed concern regarding traffic congestion on Cypress Parkway and Pleasant Hill Road, and how developers have not taken into consideration traffic when they develop housing communities in the past. Many commuters do not use the Poinciana Parkway, and the main roads in Poinciana continue to be overcrowded.
- Mr. Kelley described his property as a 1,400 acre ranchland and that they are 5<sup>th</sup> generation ranchers. He also indicated that his children who plan to take over the ranching duties, had not seen or been to any Osceola County meetings concerning the Lake Toho Master Plan, and are not planning on any development on their property.
- Mr. Kelley stated that he had previously written a position letter during the 2015 FDOT ACE Study. Mr. Wilson, attorney representing the Kelley's in this matter, indicated that this letter remains the Kelley position today. He further stated that control burn of acreage in the DWP is not a reason to move the Southport Expressway north into the Kelley property. Mr. Kelley pointed to his house on the map and noted that the ACE alignments 12 and 13 were very close to his house. He also noted that bisecting the property is problematic and contrary to a well-run cattle ranch operation. Mr. Wilson stated that Mr. Kelley was a very active rancher, knows each of his cows by name, and that his children and grandchildren are already assuming roles in the family cattle business. Mrs. Kelley stated that it will be a challenge to keep people off their land if a road bisects the property and that it will be more difficult to work the cows and operate the business. The Kelley's also stated their operation has coexisted with the natural environment for generations. They indicated that they



would not oppose an alignment that was located south of the existing Southport road away from their property.

- A potential schedule was discussed by the project team. The team indicated that this 12 month study will conclude with a report and that CFX is preparing a concurrent financial analysis to determine project viability. Depending on financial viability, a detailed, 24 month duration PD&E study could then begin. Once completed, design and construction would take approximately seven more years. Total duration for the new Southport Connector Expressway would be a minimum of 10 years after financial viability is determined.
- The project team indicated there would be a series of public meetings over the next nine to ten months and that the Kelley's involvement and comments are greatly appreciated. Mr. Wilson stated that all future correspondence should go thru him, as he will be the primary point of contact for the Kelley's.

## 8.2.5 Public Involvement and Meetings

### 8.2.5.1 Public Kickoff Meetings

The first Kickoff Public Meeting for the CFX CF&M Studies was conducted on Tuesday, September 19, 2017, from 5:30 p.m. to 7:30 p.m., at the Association of Poinciana Villages Community Center. The meeting was originally scheduled on Tuesday, September 14, 2017; it was subsequently rescheduled due to Hurricane Irma. Fifty-four attendees signed in, including Tawny Olore, Osceola County Department of Transportation and Transit; Joshua Devries, Osceola County Department of Transportation and Transit; Leigh Ann Wachter, City of St. Cloud; Christopher Mills, City of St. Cloud; Renzo Nastasi, Orange County Transportation Planning and Beth Jackson, Orange County Department of Environmental Protection.

The second Kickoff Public Meeting was conducted on Tuesday, September 26, 2017, from 5:30 p.m. to 7:30 p.m., at The First Baptist Church of St. Cloud. The meeting was originally scheduled on Tuesday, September 19, 2017; it was subsequently rescheduled due to Hurricane Irma. One hundred thirty-seven attendees signed in, including Fred Hawkins, Osceola County Commission; Tawny Olore, Osceola County Department of Transportation and Transit; Joshua Devries, Osceola County Department of Transportation and Transit; Josiah Banet, Florida's Turnpike Enterprise; Leigh Ann Wachter, City of St. Cloud; and Chris Mills, City of St. Cloud.

The third Kickoff Public Meeting was conducted on Thursday, October 5, 2017, from 5:30 p.m. to 7:30 p.m., at the Lake Nona High School Cafeteria. The meeting was originally scheduled on Tuesday, September 26, 2017; it was subsequently rescheduled due to

Hurricane Irma. This meeting was the last of three Kickoff Public meetings scheduled to take place throughout the 60-mile corridor. Two hundred nineteen attendees signed in, including Orange County Commissioner Jennifer Thompson and her aide Jason Russo, City of Orlando Commissioner Jim Gray, as well as Cedric Moffett, Orange County Planning, Josh DeVries of Osceola County Transportation Planning and Tawny Olore, Osceola County Executive Director for Transportation and Transit.

The three meetings were informal open house style and participants were welcome to come at any time between 5:30 p.m. and 7:30 p.m. The same information on all four corridors was presented at each Kickoff Meeting. CFX received 108 comment forms at the meeting and 70 comments were received by email after the meetings. The comments included a petition from Amy Stiling of Eagle Creek with more than 300 signatures.

Display maps illustrating the project study area, the four individual corridors, the project schedule, and other information was available for public review and comment. A looping audiovisual presentation was available throughout the meeting that provided an overview of the study process, history and details. Project representatives were available to discuss the studies, receive input and answer questions.

The following display boards were available for public review and comment:

- Study Area Map;
- Project Schedule;
- Title VI Board;
- Poinciana Parkway Extension / I-4 Connector Corridor Alternatives Board;
- Poinciana Parkway Extension / I-4 Connector Environmental Constraints Board;
- Southport Connector Corridor Alternatives Board;
- Southport Connector Environmental Constraints Board;
- Northeast Connector Corridor Alternatives Board;
- Northeast Connector Environmental Constraints Board;
- Osceola Parkway Extension Corridor Alternatives Board; and
- Osceola Parkway Extension Environmental Constraints Board.

Input from the Kick-off Public Meetings and other community engagement, as well as continued engineering analysis, was used to refine some alternatives and develop new ones. The latest alternatives were displayed at a second round of public meetings. The second set of public meetings occurred on February 13, 2018, February 15, 2018 and February 21, 2018. Appendix D contains detailed information about the stakeholder meetings held throughout the course of the feasibility study.

### 8.2.5.2 Public Meeting

The first meeting of the second round of public meetings for the CFX Concept, Feasibility and Mobility Studies was held on Tuesday, February 13, 2018, from 5:30 p.m. to 7:30 p.m., at the St. Cloud High School Cafeteria, 2000 Bulldog Lane, St. Cloud, FL 34769. This meeting was the first of three opportunities scheduled to take place throughout the 60-mile corridor to allow the community to view the latest alignment alternatives and other draft report materials. A total of 360 attendees signed in, including Tawny Olore, Osceola County Department of Transportation and Transit; Joshua Devries, Osceola County Department of Transportation and Transit; Nathan Blackwell, City of St. Cloud; and Nick Lepp, MetroPlan Orlando Manager of Long Range Planning. A total of 77 written comments were received during the public meeting.

The second meeting of the second round of public meetings was held on Thursday, February 15, 2018, from 5:30 p.m. to 7:30 p.m., at the Lake Nona Middle School Cafeteria, 13700 Narcoossee Road, Orlando, FL 32832. At the meeting, 423 attendees signed in, including Pete Clarke, Orange County Commissioner; Tawny Olore, Osceola County Department of Transportation and Transit; Joshua Devries, Osceola County Department of Transportation and Transit; Bill Burchfield, Osceola County Property Appraiser's Office; Nathan Blackwell, City of St. Cloud; Renzo Nastasi, Orange County Transportation Planning; and Nick Lepp, MetroPlan Orlando Manager of Long Range Planning. A total of 231 comment forms were received at the meeting.

The third meeting of the second round of public meetings was held on Wednesday, February 21, 2018, from 5:30 p.m. to 7:30 p.m., at the Association of Poinciana Villages Community Center, 445 Marigold Avenue, Poinciana, FL 34759. A total of 141 attendees signed in, including David Washington, Aide for Orange County Commissioner Maribel Cordero; and Joshua Devries, Osceola County Department of Transportation and Transit. A total of 42 comment forms were received at the meeting.

The three meetings were informal open house style and participants were welcome to come at any time between 5:30 p.m. and 7:30 p.m. The same information on all four corridors was presented at each Public Meeting.

Display maps illustrating the project study area, the four individual corridors, and other information was available for public review and comment. Project representatives were available to discuss the studies, receive input and answer questions.

The following Southport Connector Expressway display boards were available for public review and comment:



- Southport Connector Corridor Alternatives Board – East Segment;
- Southport Connector Corridor Alternatives Board – Cypress Parkway Segment;
- Southport Connector Environmental Constraints Board;
- Southport Connector Typical Sections Board; and
- Southport Connector Evaluation Matrix.

### 8.2.6 Summary of Public Comments

A total of 630 comment forms received at the six public meetings touched on an array of topics, with concerns about impacts to the environment and conservation lands, as well as potential impacts to residential properties, being the most common themes. The following is a summary of the feedback received from those meetings relevant to the Southport Connector Expressway project only:

- **February 13, 2018: Comments – Second Round Public Meeting #1:**

Southport Connector Comments:

- For the Southport Connector alternatives 200 and 300 are the best. They are close to the lake and are farthest from the TNC / DWP smoke shed.

General Comments:

- Consider alternatives that don't displace animals or humans. (5)
- Upset with presentation, meeting style. (2)
- Ensure land purchase for wildlife conservation.
- No toll roads; work on local roads first.
- We don't need all these roads and development. (2)

- **February 15, 2018: Comments – Second Round Public Meeting #2:**

Southport Connector Comments:

- Southport Connector – ALT 300 to place road as far as possible away from Disney Wild Preserve and Southport Ranch. (5)

General Comments:

- No more development / opposed to expressway. (33)
- Please consider the highway's impact on the area schools and neighborhoods that would be impacted by the increase in traffic and pollution.

- **February 21, 2018: Comments – Second Round Public Meeting #3:**

Southport Connector Comments:

- Noise on Cypress Parkway is unbearable now. (2)

- Create flyover ramp from Marigold (south) going east on the expressway and from the expressway going north onto Pleasant Hill Road to alleviate congestion on Marigold. (2)
- Southport Connector to Turnpike needs to be built. (4)
- Building along Cypress Parkway will be damaging to businesses; look elsewhere. (2)
- Protect Disney Wilderness and Southport Ranches.

General Comments:

- Oppose project. (2)
- Must put in sound walls.

Additionally, 384 emailed comments were received through March 7, following the Public Meetings held February 13, 15, and 21, 2018. The information below reflects the general nature of comments received for the Southport Connector Expressway project only.

Southport Connector Comments:

- Strongly support Southport Connector as long as Cypress Parkway expanded.

General Comments:

- Lack of notification. (2)
- Road will actually expand urban sprawl and add to congestion. (3)
- At what point do you say enough is enough? Stop marketing the area and driving more people here.
- The quick sprawl of development in this area is leaving no room for our native wildlife, and no areas of open space that is important to people's well-being. (2)

### 8.3 Project Web Site

An informational website was established for the four feasibility studies and can be found at the following link:

<https://www.CFXway.com/agency-information/plans-studies/project-studies/public-involvement/>

The address above hosts the main website for the four studies and includes background information, schedule, and meeting dates and material. On the site, there are links to the four specific project websites. The Southport Connector Expressway website includes additional background information, a description of the study area, an alternatives map, PAG and public meeting information. Contact information is also available on both sites.

An electronic comment form was available on the public involvement page, as well as a form to request to receive email updates. All told, the webpages received more than 5,000 visits

during the 12-month studies. Additionally, a study Facebook page provided meeting notices and summaries, exhibits, photos, links to information available on the website and more.

## 8.4 Media Coverage

The Corridor-wide Public Involvement Program included the strategy of using the media to help share information and meeting notices about the four concept studies throughout the 60-mile corridor. A kick-off media release was sent on May 24, 2017. News releases also were sent to the media in advance of each round of public meetings in September, October and February.

Additionally, several Letters to the Editor were submitted to Osceola County media outlets on behalf of the CFX Board Chairman regarding public participation in the studies, and particularly the public meetings. CFX and public involvement staff accommodated numerous media interview requests pertaining to the studies.

A news release was sent, and multiple news agencies ran stories on the March 8 CFX Board meeting, where the Board advanced the Poinciana Parkway Extension and Osceola Parkway Extension to the Project Development and Environment (PD&E) Study phase. The Board decided to revisit the Southport Connector Expressway and Northeast Connector Expressway corridors periodically as community conditions changed.

Stories appeared in the *Orlando Sentinel*, *Orlando Business Journal*, *Osceola News Gazette*, *El Osceola Star*, and the *Orlando Weekly*. Television coverage included stories on Spectrum News 13 (formerly CFNews 13) and WFTV Ch. 9 (ABC). Online media coverage included on the *Florida Politics* website and *Growth Spotter* (*Orlando Sentinel Online Development* publication). *Positively Osceola* also posted interviews from several of the public meetings on their Facebook page. All told, at least 25 stories were published about the concept studies.

The following table provides detail on the media coverage for the concept studies:

**Table 8.4.1: CFX Concept, Feasibility & Mobility Studies' Media Coverage**

Date	Media Outlet	Medium	Type of Report	Headline	Summary
03/05/17	<i>Orlando Sentinel</i>	Print	News	Revered Split Oak Parkland Faces Road Threat	History of Split Oak. Describes road and development plans.
03/07/17	Spectrum News 13	TV	News	Osceola Parkway Plan Calls for Splitting Split Oak Reserve	Report on opposition at Orange County Board Meeting.



Date	Media Outlet	Medium	Type of Report	Headline	Summary
03/09/17	Florida Politics	Online	News	Central Florida Expressway Authority to look closely at Split Oak Park highway proposal	Report on opposition at Orange County Board Meeting.
03/09/17	<i>Orlando Sentinel</i>	Print	News	Agency wants comment on road slated to cross Split Oak forest	Report on launch of study.
09/14/17	<i>Orlando Business Journal</i>	Online	News	CFX Evaluates New Connections for I-4, Poinciana Parkway, More	Report on four studies and focus on future I-4 connection.
09/26/17	<i>Growth Spotter (Orlando Sentinel)</i>	Online	News	Feasibility Studies for Four New Osceola Toll Roads at Midway Point	Update on the Osceola Parkway Extension and fall public meetings.
10/02/17	<i>El Osceola Star</i>	Print	Letter	To My Osceola County Neighbors	County Commissioner invites residents to public meeting.
10/04/17	<i>Orlando Sentinel</i>	Print	News	Expressway Authority to Hold Public Meeting for Road Across Split Oak Forest	Scene setter for public meeting.
11/04/17	<i>Orlando Sentinel</i>	Print	Editorial	Don't Cut Wildlife Preserve in Two with Osceola Parkway Extension	Cited habitat and public desire to protect environment.
11/24/17	<i>Osceola News Gazette</i>	Print	News	Residents to Commission: Protect Split Oak	Report on opposition to project.
12/11/17	<i>Orlando Sentinel</i>	Print	News	Central Florida's Toll Road Agency Presents Proposal to Build Road in Park Land	Report on offer to conserve other acreage in return for Split Oak land.
12/14/17	<i>Orlando Sentinel</i>	Print	News	Wekiva Parkway interchange is nixed as proposal advances for road through Split Oak	Report on CFX Board Meeting.
01/12/18	<i>Orlando Sentinel</i>	Print	News	Florida National Scenic Trail to Move Away from Roads	Article on trail mentions opposition to Osceola Parkway Extension.

Date	Media Outlet	Medium	Type of Report	Headline	Summary
01/23/18	<i>Osceola News-Gazette</i>	Print	News	OSWCD Urging CFX to Avoid Split Oak in Road Expansion	Report that Osceola Soil and Water Conservation District urges CFX to avoid Split Oak Forest.
01/24/18	<i>Osceola News-Gazette</i>	Print	News	Residents still fighting to save Split Oak	Quotes Larry Schneck of Osceola Soil and Water Conservation District urging avoidance of Split Oak. Mentions land swap.
02/02/18	<i>Growth Spotter (Orlando Sentinel)</i>	Online	News	Feasibility Studies Nearly Complete for Four New Osceola & CFX Toll Roads	Promoted the second round of public meetings and recapped study progress.
02/07/18	<i>Orlando Weekly</i>	Print	News	Environmental activists rally to save Split Oak Forest from expanding toll road	Noted concerns about potential alternative impacts to Split Oak.
02/08/18	WFTV Ch. 9	TV	News	Future Osceola Parkway Extension Might Develop Through Neighborhood	Describes concerns of Lake Ajay residents.
02/09/18	<i>Orlando Business Journal</i>	Print	News	Here's two Spots Where New Road Might be Built – Both Controversial	Noted various alternative impacts to SOFWEA and Lake Ajay development.
02/09/18	<i>Orlando Sentinel</i>	Print	News	Split Oak Forest Fight Pits Preservationists Against Neighborhood	Quotes Lake Ajay residents and preservationist on Osceola Parkway Extension routes.
02/12/18	<i>Osceola News-Gazette</i>	Print	News	Three more meetings before officials decide on the fate of Split Oak Forest	Describes opportunities for public to comment on Osceola Parkway extension options.
02/15/18	<i>Orlando Sentinel</i>	Print	Opinion	Toll Road Motives	Real reason for Osceola Parkway Extension is to support development.
02/21/18	<i>Osceola News-Gazette</i>	Print	News	County moves forward with controversial parkway extension	Osceola County Commission on Monday accepts \$37 million in private funds to extend Osceola Parkway amid growing debate.
02/28/18	<i>Osceola News-Gazette</i>	Print	News	Transportation officials tour Split Oak ahead of toll road meeting	Officials go onsite to get a closer look at the publicly owned conservation land.

Date	Media Outlet	Medium	Type of Report	Headline	Summary
03/05/18	<i>Orlando Sentinel</i>	Print	Letter	My Word: Don't imperil fragile wildlife to extend the Osceola Parkway	Opposed alternatives with potential impacts to Split Oak even if other land is preserved.
03/05/18	<i>Growth Spotter (Orlando Sentinel)</i>	Online	News	CFX Study: New Toll Road Would Minimize Impacts to Split Oak Forest	Noted latest alternatives and which study corridors CFX Board approved to move forward.
03/07/18	<i>Florida Politics</i>	Online	News	Planned Osceola Parkway extension through park draws fire in Orange meeting	CFX may conduct an entirely new study for the Osceola Parkway project.
03/08/18	<i>Osceola News-Gazette</i>	Print	News	Why isn't the Osceola County Commission standing up for Split Oak?	Details various officials' current stance on project options.
03/08/18	<i>Orlando Sentinel</i>	Print	News	Expressway authority advances toll road at Split Oak Forest and Lake Ajay Village	CFX will spend the next year evaluating engineering and design for extending the Osceola Parkway.
03/08/18	<i>Orlando Rising</i>	Online	News	Central Florida Expressway Authority moves ahead with study of Split Oak road	CFX moves ahead with study of options for new road through or around Split Oak Forest.
03/09/18	<i>Orlando Business Journal</i>	Online	News	Controversial Osceola Parkway Extension gets OK to move forward, may cost \$1B	Recapped CFX Board advancing two studies to PD&E.
03/14/18	<i>Spectrum News 13</i>	TV	News	Osceola Parkway Expansion Worries Residents	Lake Ajay resident concerns, Osceola Parkway Extension moves forward to PD&E Study.
04/20/18	<i>Osceola News-Gazette</i>	Print	News	Commission to help Tavistock with Split Oak road	Detailed proposal by Tavistock Development regarding Osceola Parkway through Split Oak Forest.



## 9.0 Feasibility & Viability of the Proposed Project

---

### 9.1 Benefits of the Proposed Project

The benefits of the Southport Connector are primarily two-fold:

- In the near term, provide traffic relief for the Poinciana community by connecting Poinciana Parkway with the Turnpike; and
- As part of a larger network, provide the Poinciana Parkway-to-Turnpike connection to facilitate a continuous, limited-access tollway between I-4 and Osceola Parkway Extension.

As described in Section 2.1.1, System Linkage, Poinciana is a community comprised of 53,200 people, according to the 2010 Census data. However, this population is increasing, as the master planned community of Solivita continues to expand. A high percentage of Poinciana residents work in Orlando, 25 miles to the north, while other residents work in the Walt Disney World Resort. With just two routes in and out of Poinciana - Pleasant Hill Road and Poinciana Parkway - the Southport Connector will provide direct, limited-access connectivity with the Turnpike, thereby allowing commuters direct freeway access into Orlando.

If the Southport Connector is advanced as a stand-alone project, the co-location of a freeway with Cypress Parkway will facilitate commuter traffic in and out of the Poinciana area while reducing congestion along the local frontage roads. If the recently constructed Poinciana Parkway is expanded to a four-lane freeway and extended to I-4, residents along the Cypress Parkway corridor will have the option of traveling to I-4 or the Florida's Turnpike, thereby avoiding the chronically congested local roadway system, as seen with Pleasant Hill Road.

The Southport Connector is also consistent with the roadway network contained in the South Lake Toho Master Plan.

### 9.2 Controversy of the Proposed Project

The Southport Connector is a major public works project and its construction will be disruptive to the environment, existing agricultural land uses, and the Poinciana community. The previous chapter described the public and stakeholder involvement throughout this study. Below is a summary of the primary controversial elements of this project. These elements are expected to be analyzed in more detail should this project proceed to the next phase.

### **Cypress Parkway**

- Disruption to existing median openings and access management; and
- Congestion, inconvenience, and noise during construction.

### **Reedy Creek to Turnpike**

- Wetland and habitat impacts;
- Fragmentation of existing ranch land and habitat;
- Disruption to existing cattle operations;
- Impacts to caracara and bald eagle nests; and
- Proximity to smoke shed for Disney Wilderness Preserve.

## **9.3 Support for the Proposed Project**

The public and stakeholder meetings described in Chapter 8 have afforded an opportunity for residents and elected and appointed officials to provide comments on the proposed project. Support for the Southport Connector has been observed by:

- Poinciana residents;
- Osceola County commissioners;
- Polk County commissioners;
- Osceola County Planning Department; and
- MetroPlan Orlando (MPO).

As described in Section 2.1.1, System Linkage, the Southport Connector Expressway and the ultimate 60-mile outer beltway system is consistent with the East Central Florida Corridor Task Force Summary Report submitted to Governor Rick Scott on December 1, 2014.

## **9.4 Projected Project Costs**

Table 9.4.1 displays the total estimated cost for the project alternatives including a partial connection to Florida's Turnpike.

**Table 9.4.1: Summary of Projected Costs**

Evaluation Criteria	Unit of Measure	Alternatives						
		Cypress Pkwy	200	300	400	500	600	700
Estimated Costs (in \$ millions)								
Roadway Construction	\$ million	\$221.5	\$248.7	\$242.5	\$240.5	\$260.0	\$252.4	\$270.4
Bridges Construction	\$ million	\$120.5	\$21.3	\$21.8	\$21.4	\$21.3	\$22.1	\$21.2
Interchanges Construction	\$ million	\$32.8	\$25.2	\$25.2	\$25.2	\$25.2	\$25.2	\$25.2
Toll Collection Equipment	\$ million	\$6.3	\$5.0	\$5.0	\$5.0	\$5.0	\$5.0	\$5.0
Half Interchange at Florida's Turnpike	\$ million	\$0	\$216.5	\$216.5	\$216.5	\$216.5	\$216.5	\$216.5
Right-of-Way Areas (including proposed ponds)	\$ million	\$0	\$168.4	\$207.8	\$187.9	\$178.0	\$180.1	\$176.3
Mitigation, Wetlands, & Wildlife	\$ million	\$5.0	\$5.7	\$4.6	\$4.7	\$4.5	\$6.0	\$4.9
Total Estimated Alternative Costs	\$ million	\$386.1	\$690.8	\$723.4	\$701.2	\$710.5	\$707.3	\$719.5
Grand Total Estimated Alternative Costs (Includes Cypress Pkwy)	\$ million		\$1,076.9	\$1,109.5	\$1,087.3	\$1,096.6	\$1,093.4	\$1,105.6



## 9.5 Projected Traffic and Revenue

### 9.5.1 Projected Traffic

As stated in Section 4.4 and shown in Table 9.5.1 the alternatives generate similar future traffic AADTs.

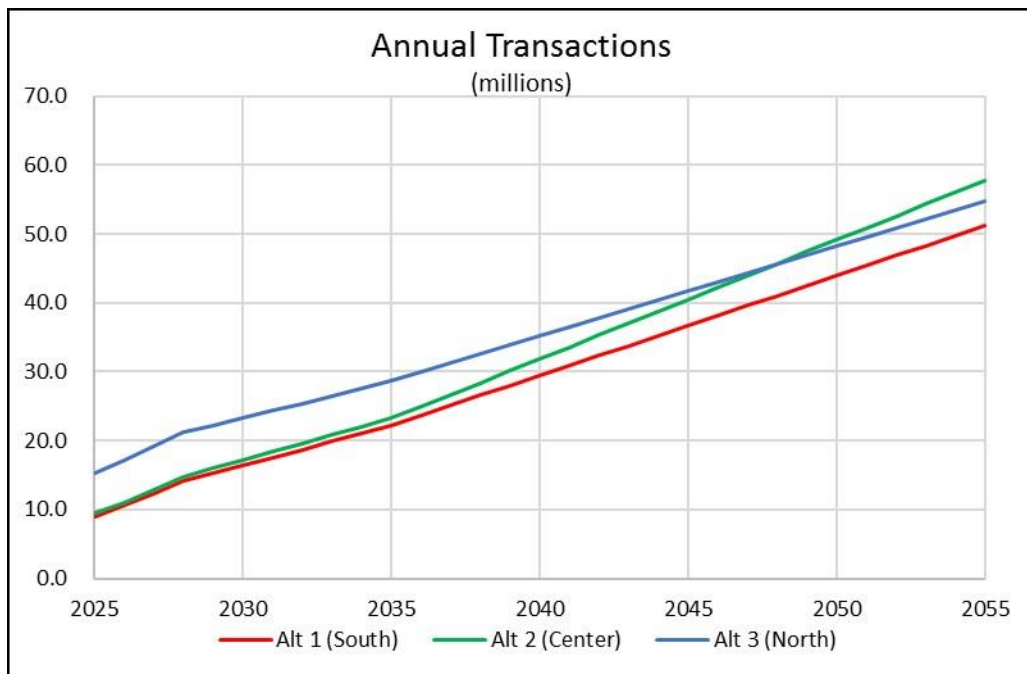
**Table 9.5.1: Projected Traffic**

	<b>Southern Alignment (Alts 500 &amp; 700)</b>	<b>Center Alignment (Alts 200, 400, &amp; 600)</b>	<b>Northern Alignment (Alt 300)</b>
<b>Design Traffic AADT (2045)</b>			
Southport Connector Expressway without Canoe Creek Road Connection	31,100	32,000	33,800
Southport Connector Expressway with Canoe Creek Road Connection	31,300	32,300	34,300

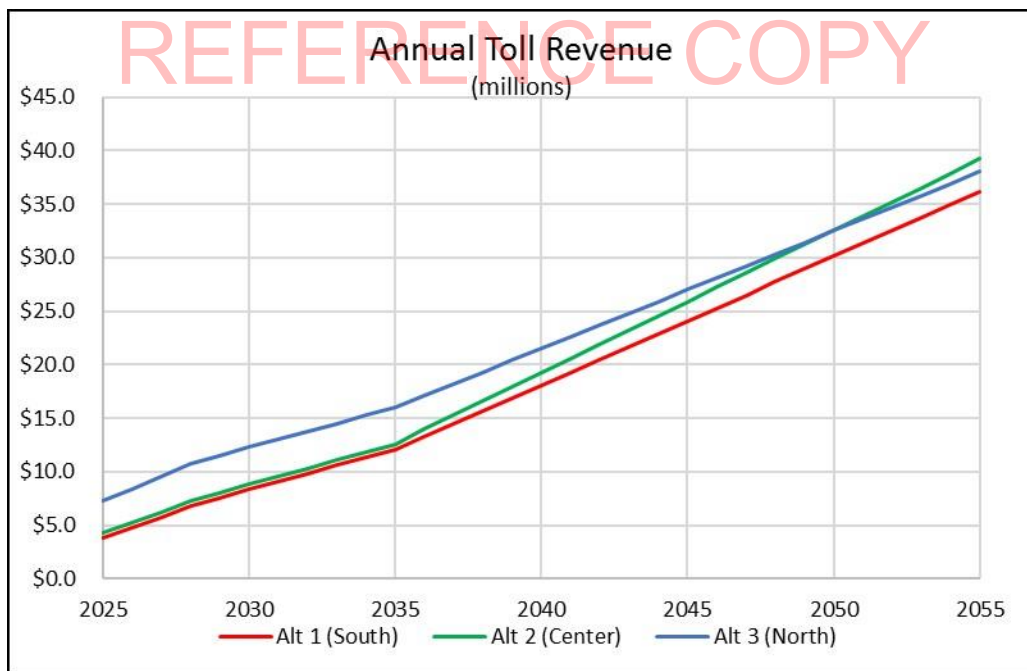
### 9.5.2 Projected Revenue

Using the CFX 3.0 travel demand model, CDM Smith prepared planning-level estimates of annual transaction and toll revenue attributable to the proposed Southport Connector Expressway project. Traffic and revenue estimates were prepared for each of the alternatives based on the physical alignments and connection points to the local street system. Toll collection was assumed to be all-electronic with one toll collection location per segment (between interchanges). Toll rates were set on a per-mile basis, with a base toll rate of \$0.18/mile in FY 2018 dollars, escalated at 1.5% per year, consistent with the CFX Customer First Toll Policy. Toll sensitivity analysis was completed for each of the project alternatives with a No-build, Build No Toll, and a range of toll rates between \$0.13/mile to \$0.28/mile. These estimates contain a Traffic and Revenue (T&R) Analysis from new toll collection locations on the Southport Connector Expressway. The Medium SE data set used for the traffic and revenue estimates, with sensitivity testing completed using the low-side and high-side SE data sets. A summary of the annual transactions and annual toll revenue of each alternative over the thirty-year study period are depicted on Figures 9.5.1 and 9.5.2.

**Figure 9.5.1: Annual Toll Revenue - 1**



**Figure 9.5.2: Annual Toll Revenue - 2**



### 9.5.3 Present Value

To determine the general viability of the Southport Connector Expressway, the Present Value (PV) of the 30-year toll revenue stream was calculated. A summary of this analysis by

alternative is shown in Table 9.5.1. The Net Present Value (NPV) for the 30-year revenue stream with a discount rate of 4.0% starting on July 1, 2018 ranges between \$207.4 million and \$254.2 million for the revenues collected on the Southport Connector Expressway. Given the conceptual nature of the study, CDM Smith cautions that the PV of the alternatives can range between -10% on the low side to +25% on the high side. All of the alternatives have a positive impact on Poinciana Parkway traffic and revenue and also include the segment from Florida's Turnpike to Canoe Creek Road. The projected toll revenue of the Southport Connector compared to the estimated cost ranges from 17% to 29% depending on the alternative and revenue stream.

## 9.6 Alternative Comparison Matrix

A brief overview of the key benefits and challenges of each alternative are summarized below:

### Alternative 700 (ACE 7)

#### *Benefits:*

- Consistent with the freeway alignment shown in the South Lake Toho Master Plan.

#### *Challenges:*

- Closer proximity to smoke shed for Disney Wilderness Preserve;
- Potentially higher disruption to Southport Ranch and Bronson Ranch; and
- Closest to Lake Russell (1/4 mile).

### Alternative 200 (ACE 12)

#### *Benefits:*

- Less invasive to Southport Ranch and Bronson Ranch;
- One of the farthest alternatives from the Disney Wilderness Preserve smoke shed; and
- Eastern section follows a portion of the Green Island / Bronson Ranch property line.

#### *Challenges:*

- Close (800 feet) to homestead of Kenansville Ranch;
- Increased disruption to Kenansville Ranch;
- Impacts (but likely no relocations) to residences along Southport Road.



**Table 9.5.1: Projected Toll Revenue**

Alternative	Total Cost	PV Revenue Stream	Range on Low Side	Range on High Side	Projected Low Revenue	Percent of Total Cost	Projected High Revenue	Percent of Total Cost
Alt 200	\$1,076,900,000	\$224,000,000	-10%	25%	\$201,600,000	19%	\$280,000,000	26%
Alt 300	\$1,109,500,000	\$254,200,000	-10%	25%	\$228,800,000	21%	\$317,800,000	29%
Alt 400	\$1,087,300,000	\$224,000,000	-10%	25%	\$201,600,000	19%	\$280,000,000	26%
Alt 500	\$1,096,600,000	\$207,400,000	-10%	25%	\$186,700,000	17%	\$259,300,000	24%
Alt 600	\$1,093,400,000	\$224,000,000	-10%	25%	\$201,600,000	18%	\$280,000,000	26%
Alt 700	\$1,105,600,000	\$207,400,000	-10%	25%	\$186,700,000	17%	\$259,300,000	23%

REFERENCE COPY

### **Alternative 500 (ACE 13)**

#### *Benefits:*

- The eastern half of Alternative 500 is consistent with the Osceola County South Lake Toho Master Plan; and
- One of the farthest alternatives from the Disney Wilderness Preserve smoke shed.

#### *Challenges:*

- Close (800 feet) to homestead of Kenansville Ranch;
- Increased disruption to Kenansville Ranch;
- Impacts (but likely no relocations) to residences along Southport Road.

### **Alternative 300 (Southport Road)**

#### *Benefits:*

- Minimizes fragmentation of Kenansville, Southport, and Bronson ranches; and
- Farther from Disney Wilderness Preserve smoke shed.

#### *Challenges:*

- Within a quarter mile from the shoreline of South Lake Toho;
- Within the core 400-foot diameter buffer zone of one documented caracara nest and within the secondary 1,970-foot diameter buffer zone of a second nest.
- Within close proximity to the buffer zone of three documented bald eagle nests;
- Impacts residences and large residential lots along Southport Road;
- Impacts the most potential historic resources and contamination sites;
- Direct impacts to Southport Park and Boat Ramp; and
- Alignment location is the most different from South Lake Toho Master Plan.

### **Alternative 400**

#### *Benefits:*

- Located south of the large residential lots along Southport Road;
- Avoids outer buffer zones of documented bald eagle and caracara nests;
- Third farthest alignment from Disney Wilderness Preserve smoke shed;
- Follows the Green Island / Bronson property line; and
- Located roughly halfway between the Urban Growth Boundary and the southern shoreline of South Lake Toho.

#### *Challenges:*

- Except for the far western portion of the alternative, does not follow the alignment favored by the South Lake Toho Master Plan (Alternative 400 is approximately 4,200 to 4,500 feet north of the Alternative 700 centerline).

## Alternative 600

### *Benefits:*

- Located south of the large residential lots along Southport Road;
- Avoids outer buffer zones of documented bald eagle and caracara nests;
- Follows the Green Island / Bronson property line; and
- Located roughly halfway between the urban growth boundary and the southern shoreline of South Lake Toho.

### *Challenges:*

- Except for the far western portion of the alternative, does not follow the alignment favored by the South Lake Toho Master Plan (Alternative 400 is approximately 4,200 to 4,500 feet north of the Alternative 700 centerline); and
- Similar to Alternative 700 regarding proximity to Disney Wilderness Preserve smoke shed.

Table 9.7.1 displays the alternative comparison matrix for the tolled limited-access alternatives.

## 9.7 CFX Financial Viability Criteria

The CFX 2040 Master Plan has the following viability criteria for system expansions:

*“Fund new toll roads that will generate toll revenues in excess of the cost of the project. For those projects where toll revenue is insufficient to cover project cost, we may consider entering into partnerships with other public or private entities, whereby we could pledge to cover up to 50 percent of project costs from system revenues. The remaining 50 percent of the project could be covered by a combination of toll revenues from the project and partner contributions.”*

In 2016 Osceola County, OCX, and CFX entered into an interlocal agreement regarding the OCX Master Plan corridors. This agreement put additional viability criteria in place specific to each of these corridors. The interlocal agreement defined viability as the following:



**Table 9.7.1: Summary Matrix – Anticipated Effects**

Evaluation Criteria	Unit of Measure	Alternatives						
		Cypress Pkwy	200	300	400	500	600	700
Physical								
Major Utility Conflicts - Existing	No. of Conflicts	14	5	6	1	4	1	0
Major Utility Conflicts - Planned	No. of Conflicts	0	0	0	0	0	0	0
Contamination Sites & Facilities	No. of Conflicts	0	1	4	0	1	0	0
Railroad Involvement	No. of Conflicts	0	0	0	0	0	0	0
Cultural Environment Effects								
Public Lands	acres	0	12	22	13	13	13	14
Section 4(f) Coordination Required (Public Recreation Lands, Wildlife Refuges, etc.)	Y/N	Y	N	Y	N	N	N	N
Potential Historic Resources	No. of Conflicts	0	0	4	0	0	0	0
Potential Historic Linear Resources (Canals)	No. of Resources	0	1	1	1	1	1	1
Potential Archaeological Resources	No. of Resources	0	1	1	1	1	1	1
Natural Environment								
Water Features								
Ponds / Lakes	acres	1	2	0	0	2	0	0
Canals / Regulated Floodways	No. of Conflicts	2	1	1	1	1	1	1
Flood Hazard Areas - 100 Year Floodplain	acres	13	120	101	94	117	122	156

Evaluation Criteria	Unit of Measure	Alternatives						
		Cypress Pkwy	200	300	400	500	600	700
Wetlands (non-forested and forested)	acres	42	46	35	36	34	49	38
Potential Habitat - Federal Listed Species	acres	53	378	351	379	448	369	443
Potential Habitat - State Listed Species	acres	7	59	67	66	24	68	33
Potential Bald Eagle Nest	Y/N	N	Y	Y	Y	Y	Y	Y
Potential Species Impacts (composite rating)	Rating	Low	Medium	Medium	Medium	Medium	Medium	Medium
Mitigation Banks								
None	acres	0	0	0	0	0	0	0
Conservation Easement								
Solivita HOA	acres	0	0	0	0	0	0	0
SFWMD Lands (Upper Lakes Basin Watershed / KCOLA)	acres	0	12	12	13	13	13	14
Southport Regional Park	acres	0	0	10	0	0	0	0
Social								
Right-of-Way Area (including proposed ponds)	acres	25	565	514	549	593	552	585
Potential Residential Impacts (Includes partially impacted parcels)	Total Parcels	0	3	5	0	4	0	0
<i>Existing</i>	<i>Parcels</i>	0	3	5	0	4	0	0
<i>Planned</i>	<i>Parcels</i>	0	0	0	0	0	0	0

Evaluation Criteria	Unit of Measure	Alternatives						
		Cypress Pkwy	200	300	400	500	600	700
Potential Non-Residential Impacts (Includes partially impacted parcels)	Total Parcels	5	35	37	26	27	27	20
<i>Existing</i>	<i>Parcels</i>	5	35	37	26	27	27	20
<i>Planned</i>	<i>Parcels</i>	0	0	0	0	0	0	0
Community Facilities	No. of Conflicts	0	1	1	1	1	1	1
Parks and Recreational Facilities (public and private)	No. of Conflicts	0	0	1	0	0	0	0
Trails	No. of Conflicts	0	0	0	0	0	0	0
Community Cohesion Effects	Ranking	Med	High	High	Med	High	Med	Med
Socioeconomic Impacts to Special Populations	Ranking	Med	Med	Med	Med	Med	Med	Med
Proposed Development (PD) / Development of Regional Impact (DRI)	acres	0	50	42	39	0	39	0
Estimated Costs (in \$ millions)								
Roadway Construction	\$ million	\$221.5	\$248.7	\$242.5	\$240.5	\$260.0	\$252.4	\$270.4
Bridges Construction	\$ million	\$120.5	\$21.3	\$21.8	\$21.4	\$21.3	\$22.1	\$21.2
Interchanges Construction	\$ million	\$32.8	\$25.2	\$25.2	\$25.2	\$25.2	\$25.2	\$25.2
Toll Collection Equipment	\$ million	\$6.3	\$5.0	\$5.0	\$5.0	\$5.0	\$5.0	\$5.0
Half Interchange at Florida's Turnpike	\$ million	\$0	\$216.5	\$216.5	\$216.5	\$216.5	\$216.5	\$216.5
Right-of-Way Areas (including proposed ponds)	\$ million	\$0	\$168.4	\$207.8	\$187.9	\$178.0	\$180.1	\$176.3



Evaluation Criteria	Unit of Measure	Alternatives						
		Cypress Pkwy	200	300	400	500	600	700
Mitigation, Wetlands, & Wildlife	\$ million	\$5.0	\$5.7	\$4.6	\$4.7	\$4.5	\$6.0	\$4.9
<b>Total Estimated Alternative Costs</b>	\$ million	<b>\$386.1</b>	<b>\$690.8</b>	<b>\$723.4</b>	<b>\$701.2</b>	<b>\$710.5</b>	<b>\$707.3</b>	<b>\$719.5</b>
<b>Grand Total Estimated Alternative Costs (Includes Cypress Pkwy)</b>	\$ million		<b>\$1,076.9</b>	<b>\$1,109.5</b>	<b>\$1,087.3</b>	<b>\$1,096.6</b>	<b>\$1,093.4</b>	<b>\$1,105.6</b>
<b>Projected Traffic Revenue (2045)</b>	\$ million		<b>\$224.0</b>	<b>\$254.2</b>	<b>\$224.0</b>	<b>\$207.4</b>	<b>\$224.0</b>	<b>\$207.4</b>

REFERENCE COPY

*“Viability shall mean an OCX Segment or any portion thereof that is projected in writing by CFX’s traffic and revenue consultant to generate toll revenues over a period of thirty years equal to at least fifty percent (50%) of the cost of such OCX Segment or applicable portion thereof; provided however, that with respect to an interchange portion of an OCX Segment or a portion of any OCX Segment located outside of the County, such interchange or portion of an OCX Segment outside the County is projected in writing by CFX’s traffic and revenue consultant to generate new CFX System Pledged Revenues over a period of thirty years in excess of the cost to build such interchange or portion of such OCX Segment. The cost of an OCX Segment or portion thereof shall be determined by CFX, exercising reasonable judgement, as part of its CF&M Study and the components of such cost shall be consistent with CFX’s past practices for such a determination and shall take into consideration any right-of-way donations and other public or private partnership contributions.”*

## 9.8 Findings of the Concept, Feasibility, and Mobility Study Report

The purpose of this CF&M Report is to determine if the identified alternatives are feasible from an engineering and environmental standpoint and viable from a financial standpoint. Regarding engineering and environmental issues, no “fatal flaws” have been observed, and the six alternatives identified in this study are hereby presented to the CFX Board for consideration and further study in a future Project Development and Environment (PD&E) phase. However, at this time, the Southport Connector does not meet the viability requirements to move forward to the PD&E phase. A project is considered viable if the toll revenue over 30 years covers at least 50% of the project costs. The Southport Connector projected toll revenue compared to the estimated cost ranges from 17% to 29%, depending on the alternative and revenue stream. Therefore, the Southport Connector is considered feasible but not viable at this time.

# CONCEPT FEASIBILITY AND MOBILITY STUDY APPENDICES

Southport Connector Expressway  
Poinciana Parkway to Florida's Turnpike


Concept, Feasibility, & Mobility Study Report

FINAL

Central Florida Expressway Authority

REFERENCE COPY  
Contract No.: 001250

May 2018

The logo for the Central Florida Expressway Authority. It features the words "CENTRAL", "FLORIDA", "EXPRESSWAY", and "AUTHORITY" stacked vertically in a bold, sans-serif font. "EXPRESSWAY" is highlighted in orange, while the other words are in dark blue. The text is centered between two horizontal orange bars.

**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**