

## 4. Impacts

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This section summarizes the potential effects on the social, cultural, natural, and physical environment that may result from the construction and operation of the proposed improvements included in the Proposed Build Alternative, as documented in *Sections 1 and 3* of this *Environmental Assessment*. The potential impacts are based on the PD&E Study planning efforts conducted to date and currently available information. The existing and future conditions are summarized in the following sections to provide pertinent information related to the discussion of potential impacts. They are documented in detail in the *Preliminary Engineering Report* and the referenced supporting environmental and engineering documents. Detailed information on the assessment of project impacts included in this section was provided in handouts and was addressed in the presentation at the Public Hearing sessions on the Proposed Build Alternative.

### 4.1 Social and Economic Impacts

#### 4.1.1 Community Services

Several community service facilities were identified in the project study area, including those within approximately ½-mile of the project study area. **Table 4-1** summarizes the number and type of community facilities located within the project study area.

TABLE 4-1  
Summary of Community Service Facilities in the Study Area

Community Facility	Number of Facilities
Schools (K-12)	3
Emergency Shelters (School)	1
Churches / Religious Centers	14
Cemeteries	3
Social Service Organizations / Community Centers	2
Child Day Care Center	2
Adult Care Facilities	1
Government Facilities	1
Medical Facilities	0
Police/Sheriff	0
Fire / Rescue	1
Parks and Recreational Facilities	7
Total	35

The various community facilities within the study area include one public elementary school, a private K-12 school, several churches, private daycare centers, three cemeteries, Easter Seals Camp Challenge, a retirement center, and Seminole County Fire Station #34. There are no direct, physical impacts to any structures identified as community facilities due to the Proposed Build Alternative. However, there are property impacts to three parcels upon which community facilities are located, including the Easter Seals Camp Challenge, Lakeside Fellowship United Methodist Church, and the Academy of Learning.



Easter Seals Camp Challenge is located in east Lake County south of the Seminole State Forest and east of Mt. Plymouth. The property is bordered by the Neighborhood Lakes conservation land on the east and SR 46 on the north. The facility is accessed from SR 46 via Camp Challenge Road. Camp Challenge serves as a respite and summer camp for children and adults with cognitive and/or physical disabilities. The 63-acre facility includes cabins, dormitories, meeting rooms, dining and kitchen facilities and recreational facilities. The Proposed Build Alternative results in minimal property impacts, comprising approximately 4.2 acres, to the northern boundary of the property along existing SR 46. These anticipated property impacts will not result in any impacts to existing structures or on-site recreational facilities. The intersection at Camp Challenge Road and SR 46 will be modified to accommodate the proposed SR 46 reconstruction included in the Proposed Build Alternative. This modification will not affect the existing alignment of Camp Challenge Road. The proposed improvements will not impact access to, or the existing operations of, the Easter Seals Camp Challenge.

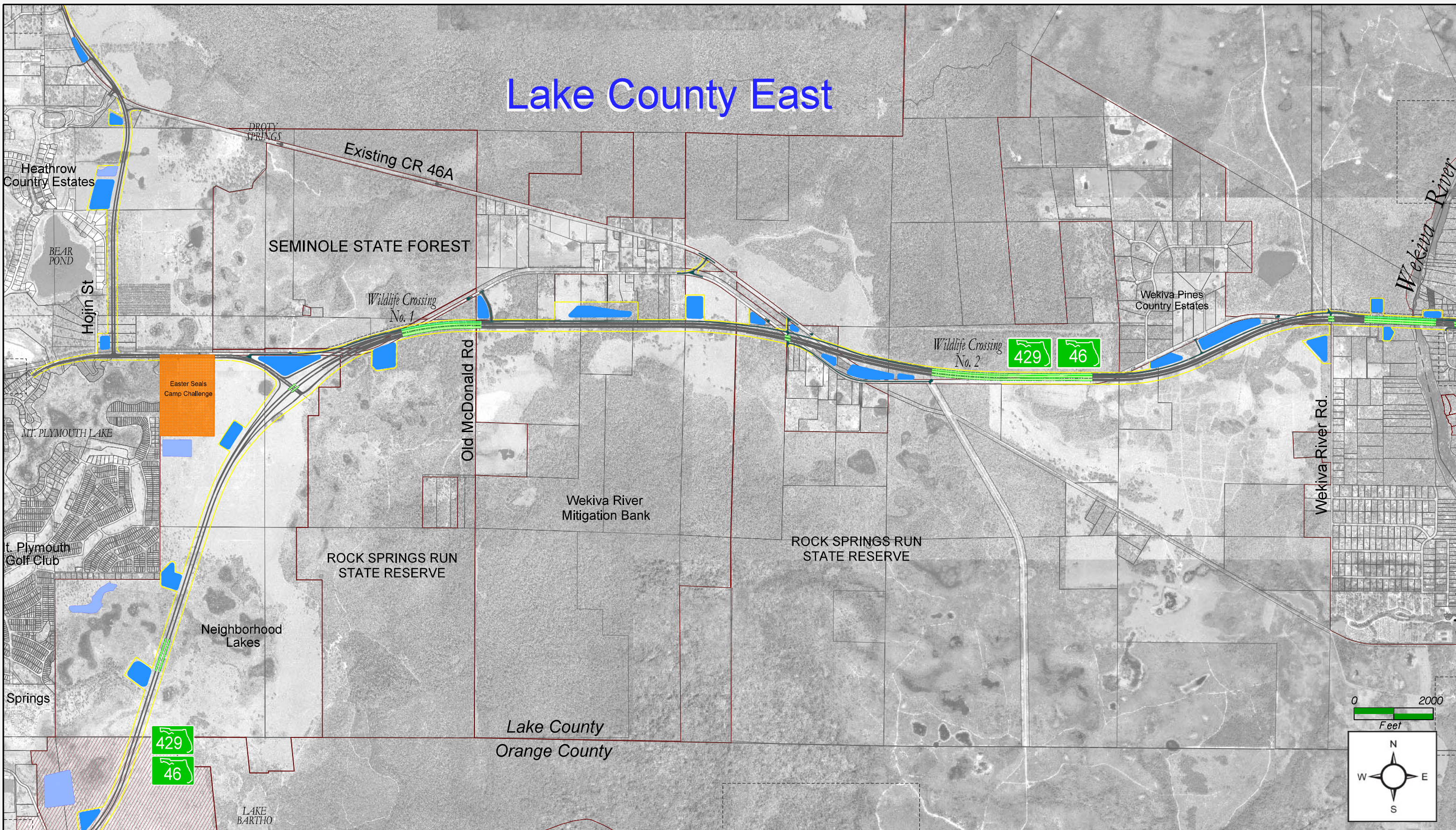
The Lakeside Fellowship United Methodist Church is located in Seminole County on the southeast corner of South Orange Boulevard (CR 431) and Wayside Drive. Several viable alternatives were analyzed to minimize impacts to church property. The Proposed Build Alternative is anticipated to impact approximately 4.7 acres of the church's property, including proposed ball fields south of the church building; however, no existing structures will be impacted due to the proposed improvements and access to the church will be maintained.

The Academy of Learning is a private K-12 school located at 445 South Orange Boulevard in Seminole County. Approximately 0.13 acre of the school's property is anticipated to be impacted by the Proposed Build Alternative; however, no existing structures will be impacted and existing access to the school will not be affected by the Proposed Build Alternative.

The community facilities property impacts due to the Proposed Build Alternative are depicted in **Exhibit 4-1, Sheets 1 - 4**. The general location of Camp Challenge, within the Lake County East portion of the study area, is depicted on Sheet 1. Sheet 2 is the roadway plan sheet at that location, which provides more detail of the impact due to the widening of SR 46. Sheet 3 shows the general location of the Lakeside Fellowship United Methodist Church and the Academy of Learning within the Seminole County project portion of the study area. Sheet 4 is the corresponding roadway plan sheet which provides a more detailed view of the impacted areas of those facilities. The potential property impacts to Camp Challenge, the Lakeside Methodist Church, and the Academy of Learning are not anticipated to affect the ability of these community facilities to continue serving their intended purpose.



# Lake County East



**LEGEND**

Impacted Community Facilities

Stormwater Ponds

Floodplain Compensation Ponds

Municipal Boundaries

Proposed Build Alternative R/W

Existing R/W

Proposed Bridge



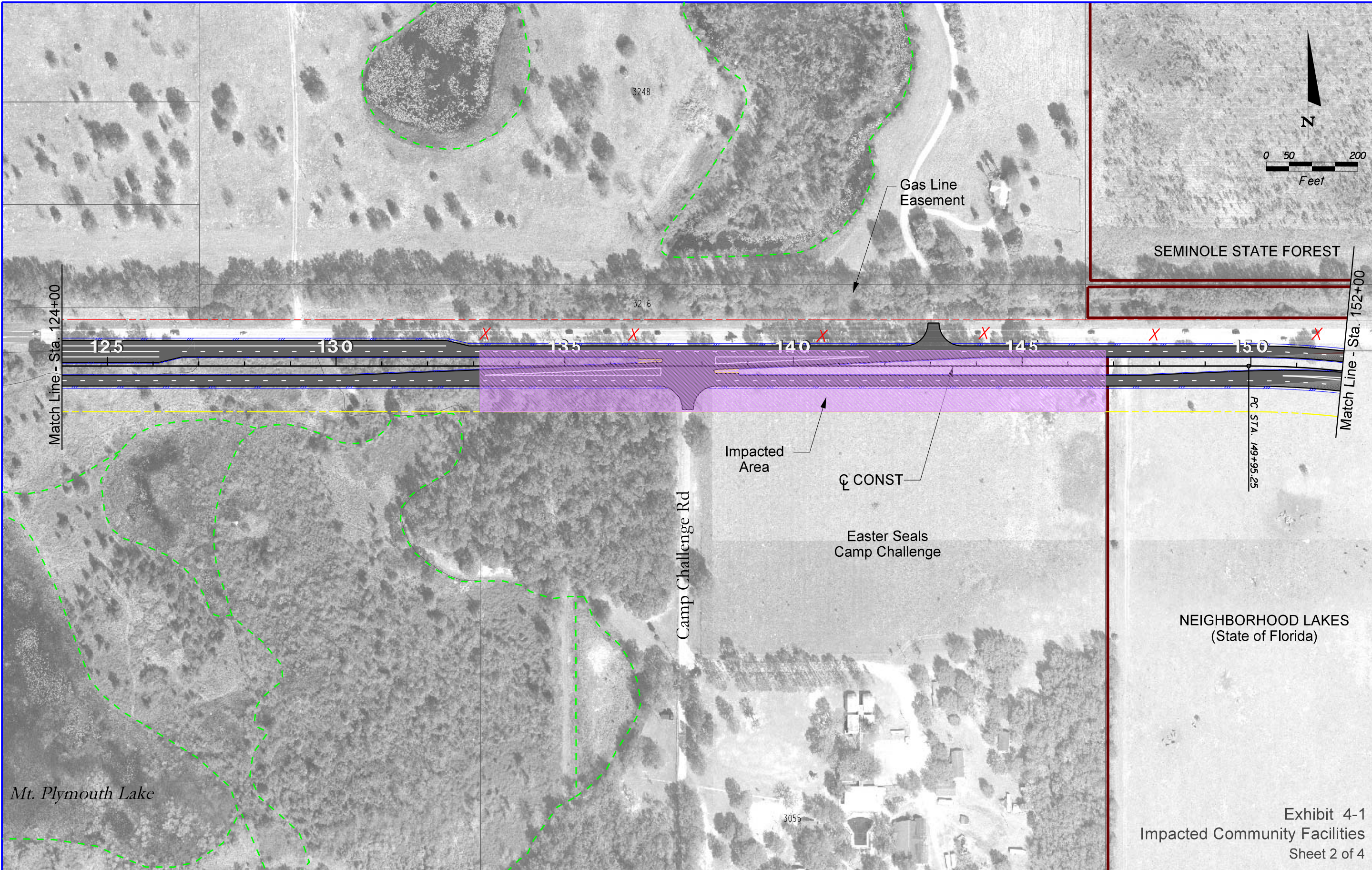













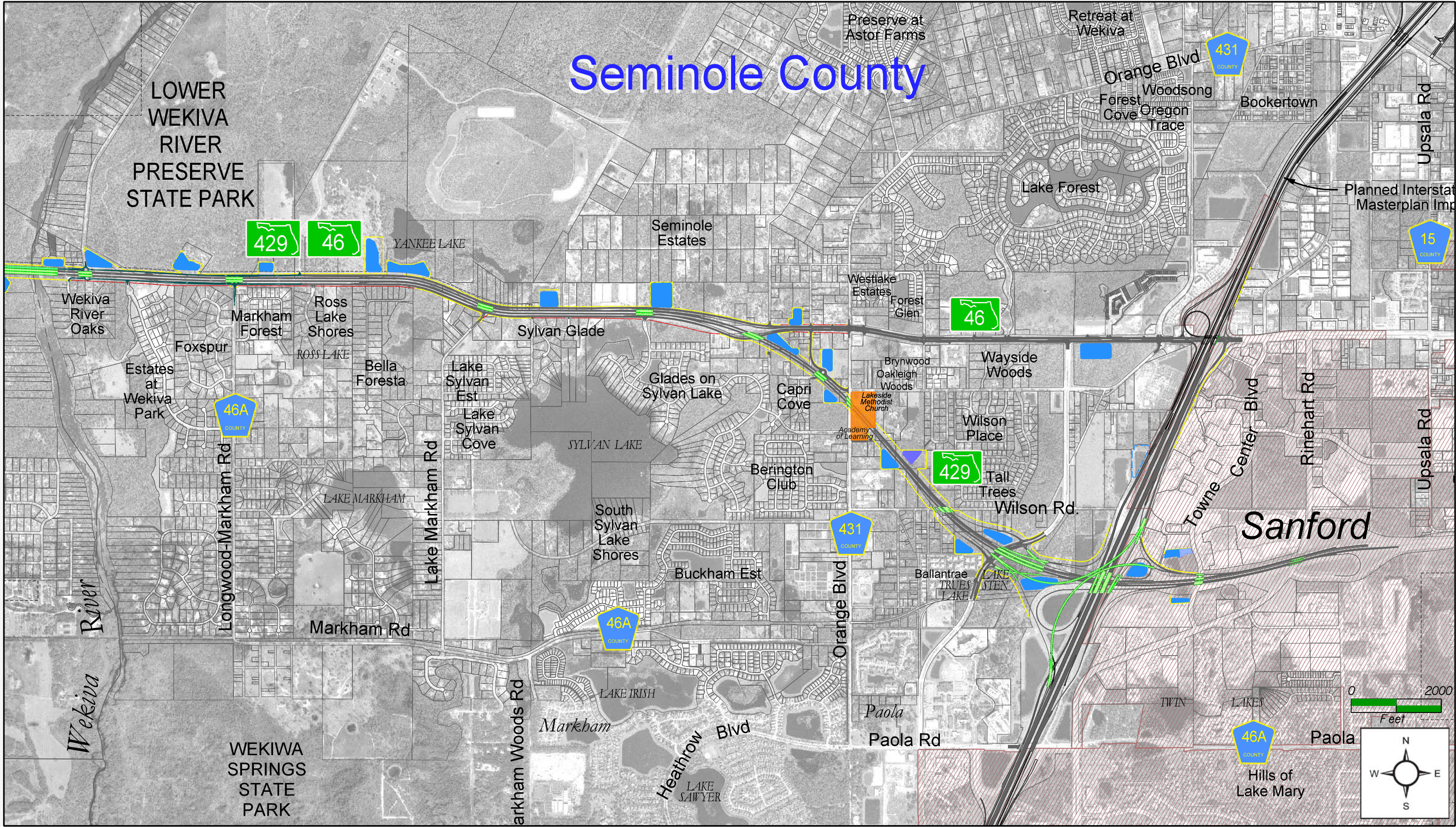


Exhibit 4-1  
Impacted Community Facilities  
Sheet 2 of 4

<b>LEGEND</b>		<b>KEY MAP</b>				CR 46A REALIGNMENT/SR 46			SHEET NO.
 PARCEL LINES  PROPOSED L/A RIGHT OF WAY  PROPOSED RIGHT OF WAY  CITY LIMITS  POTENTIAL POND  WETLAND BOUNDARY  NEW/RECONSTRUCTED PAVEMENT  NEW BRIDGE OR REPLACEMENT/WIDENING  PUBLIC LANDS PARCEL CODES  L/A RIGHT OF WAY/EXISTING RIGHT OF WAY LIMIT 255						PROPOSED BUILD ALTERNATIVE			
PLAN SHEET									
STA. 124+00 - STA. 152+00									

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LEGEND

Impacted Community Facilities

Stormwater Ponds

Floodplain Compensation Ponds

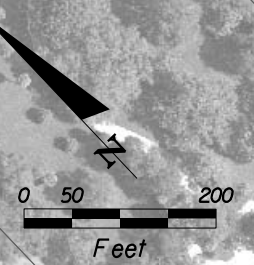
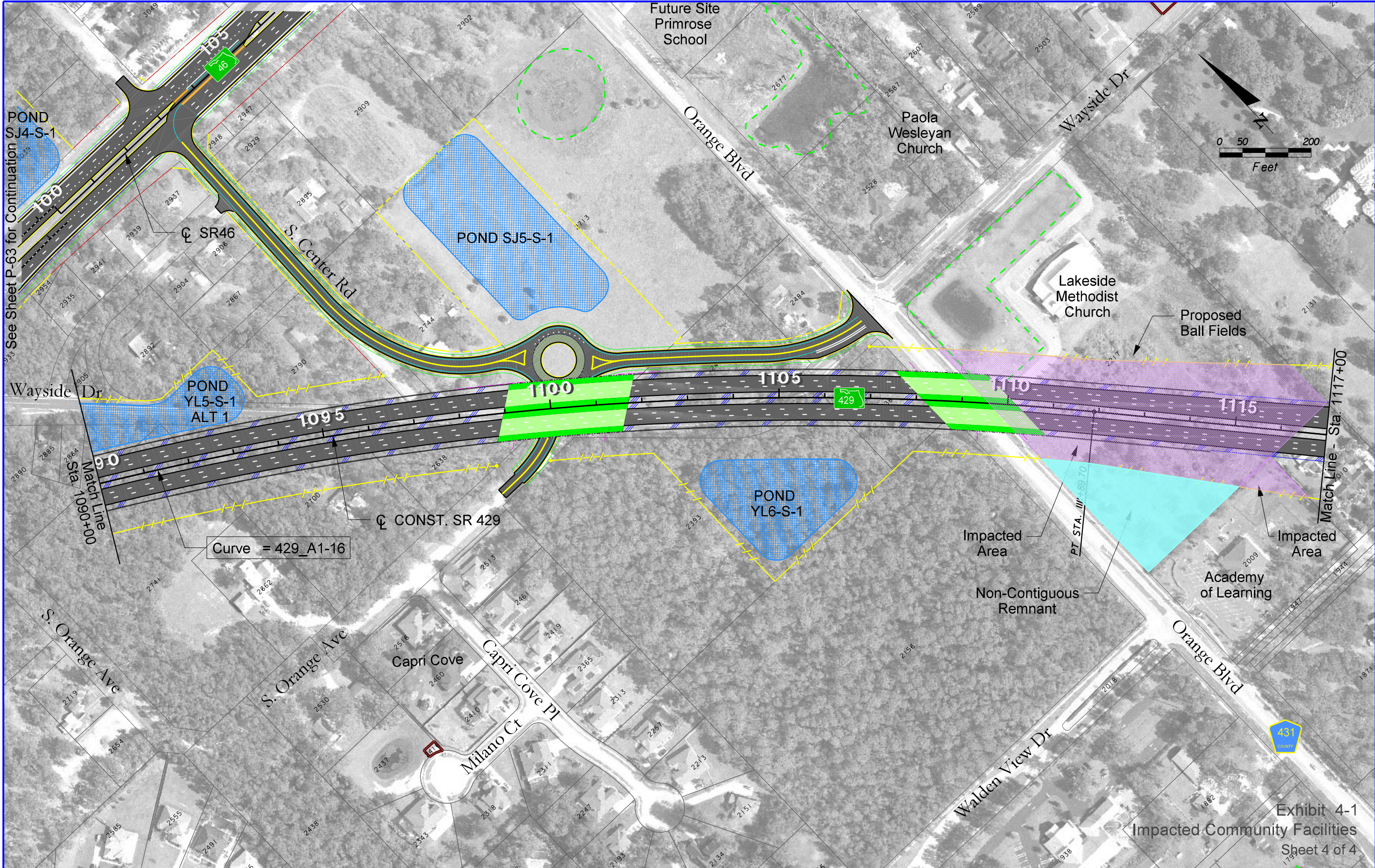
Municipal Boundaries

Proposed Build Alternative R/W

Existing R/W

Proposed Bridge





<p><b>LEGEND</b></p> <table border="0"><tr><td>PARCEL LINES</td><td>NEW/RECONSTRUCTED PAVEMENT</td></tr><tr><td>PROPOSED L/A RIGHT OF WAY</td><td>NEW BRIDGE OR REPLACEMENT/WIDENING PUBLIC LANDS</td></tr><tr><td>PROPOSED RIGHT OF WAY</td><td>PARCEL CODES</td></tr><tr><td>CITY LIMITS</td><td>L/A RIGHT OF WAY/EXISTING RIGHT OF WAY LIMIT</td></tr><tr><td>POTENTIAL POND</td><td></td></tr><tr><td>WETLAND BOUNDARY</td><td></td></tr></table>	PARCEL LINES	NEW/RECONSTRUCTED PAVEMENT	PROPOSED L/A RIGHT OF WAY	NEW BRIDGE OR REPLACEMENT/WIDENING PUBLIC LANDS	PROPOSED RIGHT OF WAY	PARCEL CODES	CITY LIMITS	L/A RIGHT OF WAY/EXISTING RIGHT OF WAY LIMIT	POTENTIAL POND		WETLAND BOUNDARY		<p><b>KEY MAP</b></p>		<p><b>WEKIVA PARKWAY</b> Project Development and Environment Study Orange, Lake &amp; Seminole Counties</p>	<p>WEKIVA PARKWAY (SR 429) PROPOSED BUILD ALTERNATIVE PLAN SHEET STA. 1090+00 - STA. 1117+00</p>	<p>SHEET NO. P-39</p>
PARCEL LINES	NEW/RECONSTRUCTED PAVEMENT																
PROPOSED L/A RIGHT OF WAY	NEW BRIDGE OR REPLACEMENT/WIDENING PUBLIC LANDS																
PROPOSED RIGHT OF WAY	PARCEL CODES																
CITY LIMITS	L/A RIGHT OF WAY/EXISTING RIGHT OF WAY LIMIT																
POTENTIAL POND																	
WETLAND BOUNDARY																	

\$USERS\$ \$DATE\$ \$TIME\$ \$FILES\$

Exhibit 4-1  
Impacted Community Facilities  
Sheet 4 of 4



### 4.1.2 Community Cohesion

In general, potential impacts to community cohesion may occur as a result of bisecting neighborhoods, social isolation of a portion of an ethnic group or neighborhood, facilitation of new development, urban renewal, decreased neighborhood size, joint land use, changes in property values, changes in neighborhood or community access, changes in quality of life, changes in neighborhood identification, and/or separation of residences from community facilities. Such impacts may be beneficial or detrimental to the affected community.

The Proposed Build Alternative does not divide or isolate any existing communities or established, defined neighborhoods, and there is no separation of residences from community facilities. Minimization of social impacts was one of the primary issues evaluated during the initial alternatives evaluation phase of the project. As a result, the portions of the project on a new alignment within the study area generally follow a path through some of the least developed areas within Apopka and unincorporated Orange, Lake, and Seminole Counties, thereby reducing the potential for impacts to community cohesion. The alignment alternatives evaluated within this study area further sought to minimize potential impacts to neighborhoods and individual parcels. Extensive coordination with homeowner's associations and individual property owners, as well as local government officials, has occurred throughout the course of the PD&E study. The Proposed Build Alternative was selected, in part, based on the results of the evaluation of community and property impacts.

Efforts to avoid and minimize potential impacts to communities included the consideration of proposed developments. The existing and planned communities are shown on **Exhibit 4-2**. One proposed subdivision in Orange County, Plymouth Harbor PD, would be impacted by the Proposed Build Alternative. Coordination meetings were held during the PD&E Study to discuss measures to minimize potential impacts to this proposed subdivision.

The communities adjacent to the portions of the proposed alignment that follow the existing SR 46 alignment will experience increased safety and mobility as a result of the widening and reconstruction improvements which will enhance the quality of life for existing residents. However, some neighborhoods will have altered access to the improved facilities. The modified access will not affect existing community facilities. In some cases, the proposed access management measures will likely improve neighborhood entrances and result in increased neighborhood identification.

During development of the conceptual alternatives, and especially during analysis of the Proposed Build Alternative, maintenance of access was a key evaluation measure. Access maintenance alternatives were developed for some specific areas in Orange, Lake and Seminole Counties. However, maintenance of access will need to be addressed in greater detail during final design. Those areas or parcels where access is proposed to be maintained by bridging, realigned roads, or other measures are identified in the *Preliminary Concept Plans* for the Proposed Build Alternative. The concept plans are part of the *Preliminary Engineering Report* prepared for the PD&E Study.

FDOT and the Expressway Authority are committed to working with affected property owners during the final design and right-of-way acquisition phases of the project to maintain or optimize, to the extent feasible, access to impacted parcels. Access management in specific areas of each county was addressed as a part of the Public Hearing sessions.







Based on the results of the evaluation of potential social impacts, no community cohesion issues are anticipated as a result of the Proposed Build Alternative. This project has been developed in accordance with the Civil Rights Act of 1964, as amended by Title VIII of the Civil Rights Act of 1968 and related statutes. Title VI of the Civil Rights Act of 1964 provides that no person shall on the grounds of race, color, national origin, age sex, religion, disability, or family status be excluded from participation in, be denied the benefits of, or be otherwise subject to discrimination under any program of the Federal, State or local government. Title VIII guarantees each person equal opportunity in housing.

#### 4.1.3 Environmental Justice

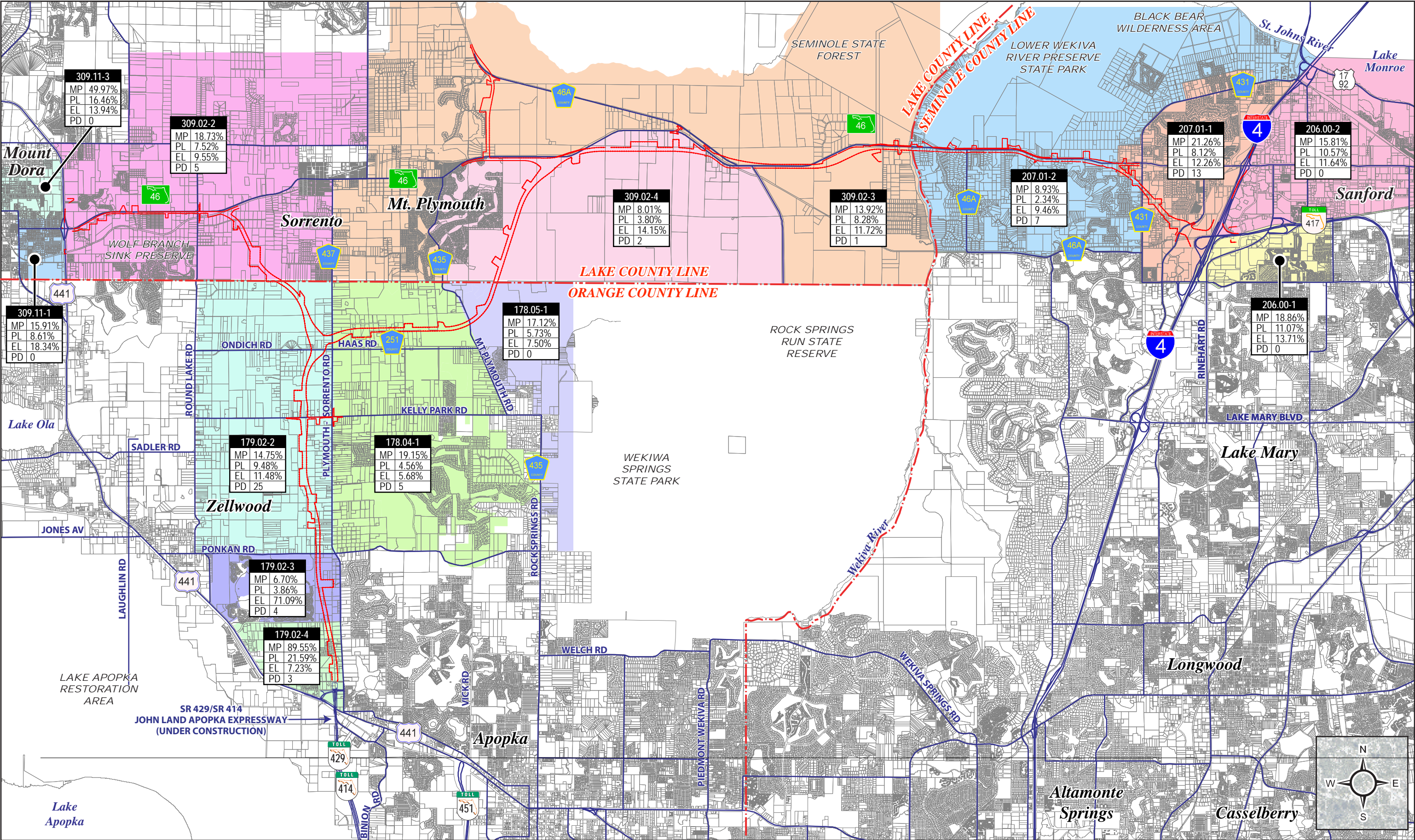
In addition to the requirements of the Civil Rights Act of 1964, as amended by the Civil Rights Act of 1968 and related statutes as referenced above, this project has been developed in accordance with *Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 1994*. Executive Order 12898 is meant to ensure that minority and/or low-income households are not adversely impacted by major transportation projects in a disproportionate manner.

To determine the specific demographics of the study area, census tract block group data from the U.S. Census Bureau, Census 2000 Demographic Profile and Orange, Lake and Seminole Counties Property Appraisers' data were used. **Exhibit 4-3** shows the geographic locations of the census block groups within the study area and the overall alignment of the Proposed Build Alternative. The percentages of minority, below poverty level, and elderly populations, as well as the number of potential displacements, are provided for each census block group on Exhibit 4-3.

A census block group in Orange County (census tract 179.02, block group 4) exhibits the highest percentage of minority population (89.55%) and the highest percentage with income below poverty level (21.59%) in the study area. Most of those households are within the Plymouth area north of US 441 which is not impacted by the Proposed Build Alternative. A census block group in Lake County (census tract 309.11, block group 3) exhibits the second highest percentage of minority population (49.97%) and the second highest percentage with income below poverty level (16.46%) in the study area. That area of Mount Dora west of US 441 is not impacted by the Proposed Build Alternative. A census block group in Seminole County (census tract 207.01, block group 1) exhibits the third highest percentage of minority population (21.26%) and the sixth highest percentage with income below poverty level (8.12%). Many of those households are within the Bookertown area north of US 46 which is not impacted by the Proposed Build Alternative. A census block group in Orange County (census tract 179.02, block group 3) exhibits a 71.09% elderly population. Most of those households are in the Zellwood Station retirement community which is not impacted by the Proposed Build Alternative. The highest number of potential impacts by the Proposed Build Alternative is in census tract 179.02, block group 2 in Orange County with 25 displacements; that census block group exhibits a 92.29% white population and 90.52% of the population above poverty level. Based upon this information, the proposed Wekiva Parkway project is not expected to have a disproportionately adverse impact on minority or low-income households.

Another consideration under Environmental Justice for minority and/or low-income households is the potential impact on travel opportunities if the entire Wekiva Parkway (SR





**LEGEND**

Proposed Build  
Alternative Alignment

Tract Number  
Block Group

000.00-0 = Census Block Group  
MP = Percent Minority Population  
PL = Percent Below Poverty Level Population  
EL = Percent Elderly Population  
PD = Number of Potential Displacements

**Exhibit 4-3**  
**Census Block Groups with Population Data**



429) mainline is a toll facility. If the entire 20.94 mile alignment of the Wekiva Parkway is tolled, there will be adequate and accessible alternate roadway facilities available for those who do not wish to pay a toll. For north-south trips in Orange County, available alternate roadways would include US 441, Plymouth Sorrento Road (CR 437) and Mount Plymouth Road (CR 435). For east-west trips in Lake County, available alternative roadways would include a widened SR 46 east of Mount Dora, existing SR 46, and the non-tolled service road parallel to the Wekiva Parkway. For east-west trips in Seminole County, available alternate roadways would include the non-tolled frontage roads parallel to the Wekiva Parkway, a widened SR 46 west of the I-4/SR 46 interchange, and other local roads. For some trips these alternate routes may be incrementally less direct which may result in nominal increases in travel time, nevertheless, they would be accessible and available as non-tolled travel options for those do not wish to pay tolls.

A general principle of Environmental Justice is to ensure full and fair participation by all potentially affected communities in the transportation decision-making process. The Public Involvement Program for this project has been on-going since commencement of the PD&E Study. Advance notification of all public workshops and the Public Hearing sessions was provided by direct mail to all property owners, residents and tenants within and adjacent to the study area to augment multiple media advertisements. Also, periodic project update newsletters have been provided by direct mail.

#### 4.1.4 Land Uses

The following sections describe the existing land use within the study area, proposed future land use, consistency with state and local government comprehensive plans and policies, and joint land use development.

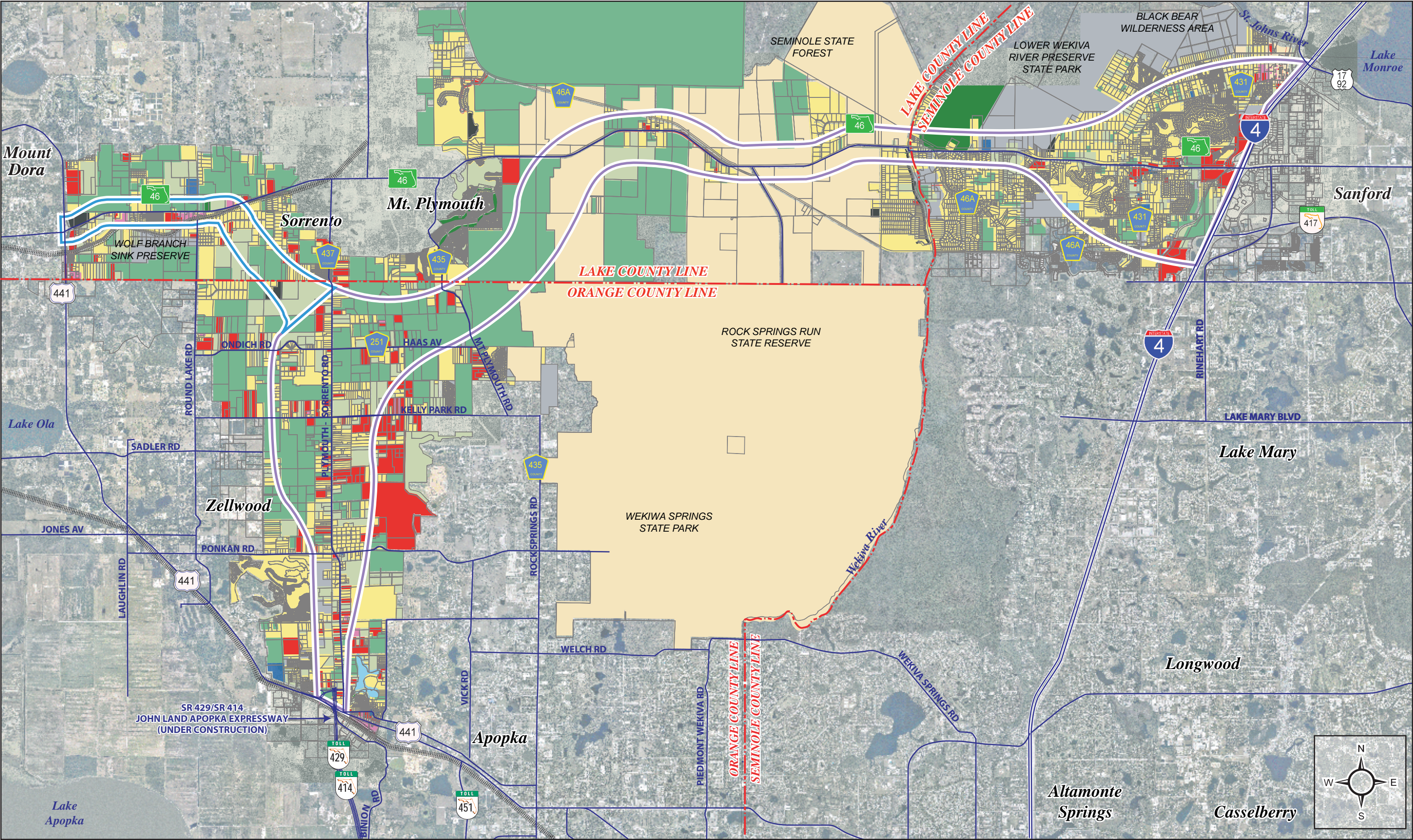
##### 4.1.4.1 Existing Land Use

The generalized existing land uses within the study area are shown in **Exhibit 4-4**. Existing land use within the project study area varies from county and state-owned conservation lands to High Intensity Planning (HIP) areas. Development within the study area is more concentrated at the project boundaries in Apopka and unincorporated Orange County, at the southern limits of the corridor; in Mount Dora, at the western limits of the corridor in Lake County West; and in Seminole County from Orange Boulevard to I-4. The remainder of the corridor consists of low density residential, agricultural, and State owned conservation lands, including Rock Springs Run State Reserve, Seminole State Forest, Neighborhood Lakes, and Lower Wekiva River Preserve State Park. The boundaries of the Wekiva River Protection Area extend from CR 435 in Orange County to Orange Boulevard in Seminole County. The 1988 *Wekiva River Protection Act* ensures that the rural density and character of the lands within the Wekiva River Protection Area (WRPA) is preserved.

##### Orange County

The Orange County portion of the study area is characterized by low to medium density residential, agricultural, and commercial land uses. Apopka is known as the “indoor foliage capital of the world” and there are numerous plant nurseries and backyard greenhouses in the study area. The project study area encompasses lands within unincorporated Orange County and the City of Apopka. This area has seen considerable growth in recent years, and several new developments in various stages of completion are located within and adjacent to the project study corridor. Development in this area is denser in the vicinity of US 441





**LEGEND**

Wekiva Parkway Study Corridor

SR 46 Realignment Study Corridor

Agricultural

Commercial

Conservation

County

Industrial

Institutional

No Data

Public Land

Recreational

Residential

Vacant

**Exhibit 4-4**  
**Generalized Existing Land Use**



and Plymouth Sorrento Road. Subdivisions within the study area include Plymouth Harbor, Palmetto Ridge, Arbor Ridge, Wekiva Run, Benton Plymouth Oaks, Ponkan Pines, Oak Ridge, Walmar, Smith Emery, and Chaudoin Hills.

West of Plymouth Sorrento Road and north of Ondich Road, there is an upland scrub area which was described in the Wekiva River Basin Coordinating Committee's *Final Report* in 2004 as a desired addition to the Wekiva-Ocala Greenway for conservation purposes. In February 2006, well before identification of the Wekiva Parkway Proposed Build Alternative alignment, the Expressway Authority acquired a portion of that upland scrub area (the former Silvestri parcels) as an opportunity purchase for conservation. The Expressway Authority may designate all of the 203-acre property, except for approximately 35 acres needed for roadway/stormwater pond right-of-way, as conservation land if an appropriate local or state agency commits to proper management of it.

The area identified in the *Wekiva Parkway and Protection Act* as Pine Plantation consists of approximately 628 acres, located north and south of Haas Road (CR 251). The property was identified for acquisition in the Wekiva-Ocala Greenway Florida Forever project. On September 30, 2008, the Governor and the Florida Cabinet approved a purchase agreement to acquire 384.71 acres (south of Haas Road) in partnership with the Orlando-Orange County Expressway Authority and Florida Department of Transportation. The 384.71-acre portion of Pine Plantation acquired under the purchase is not needed for right-of-way for the Wekiva Parkway, but will serve as a buffer to protect the surface water and groundwater resources within the Wekiva Study Area, including recharge within the Wekiva River spring-shed and will protect it from future development. The Expressway Authority received title to a 40-acre portion of the acquired property, which will be conveyed to Orange County for a county park. The remaining portion of Pine Plantation north of Haas Road consists of one parcel through which the Wekiva Parkway will traverse.

#### Lake County West

The portion of the study area from the Orange/Lake County line, north to SR 46 in Lake County West is characterized by rural low density residential and agricultural land uses. Land uses along the SR 46 corridor from US 441 to east of Round Lake Road consist of industrial, commercial, low to medium density residential, and a high density residential apartment complex within the Mount Dora city limits near the US 441/SR 46 interchange. Currently, the majority of the development along SR 46 is on the south side of the roadway. Subdivisions along the south side of SR 46 include Sunset Pond, Hacienda Hill, Top of the Hill, Hilltop Park, and Sunset Hills. Summerbrooke at Mount Dora, on the north side of SR 46, just east of US 441 began construction during the course of the PD&E Study.

#### Lake County East

The portion of the study area in Lake County East is within the WSPA and includes lands within Neighborhood Lakes, Rock Springs Run State Reserve, Seminole State Forest, and Wekiva River Mitigation Bank (formerly New Garden Coal). Both the Neighborhood Lakes property and the Wekiva River Mitigation Bank were identified for acquisition in the *Wekiva Parkway and Protection Act*. In July 2005, the state acquired a perpetual conservation easement over the 1553-acre mitigation bank, with the exception of the required right-of-way for the Wekiva Parkway. In December 2006, the Governor and the Florida Cabinet approved the purchase of the 1,584-acre Neighborhood Lakes property in concert with the Expressway Authority, FDEP and other agencies. More information on these conservation acquisitions is provided in *Section 4.2.2.1*. Existing development through this part of the

study corridor is adjacent to SR 46 and CR 46A, and consists of low density residential land uses and two plant/foliage nurseries.

### Seminole County

The area of Seminole County from Wekiva River to Orange Boulevard is within the WRPA. Land uses primarily consist of recreational, conservation, and suburban estates. The recreational land use designation represents the Lower Wekiva River Preserve State Park, adjacent to Wekiva River on the north side of SR 46. Seminole County owns large tracts of conservation land adjacent to Lower Wekiva River Preserve State Park which includes Yankee Lake and the associated wetlands and floodplains, the Yankee Lake Regional Wastewater Treatment Facility, and Black Bear Wilderness Area north of the corridor. Other land uses along the north side of SR 46 within the WRPA include low to medium density residential, Florida Fancy Nursery, Vaughan's Nursery, and Twelve Oaks RV Resort.

Seminole County also owns a tract of land south of the SR 46 corridor that includes wetlands associated with Wekiva River, and the Wekiva Canoe Launch. Existing subdivisions along the south side of SR 46 within the WRPA include Wekiva River Oaks, Foxspur, Markham Forest, Ross Lake Shores, Bella Foresta, Grass Lake Estates (future), Sylvan Glade, and Sylvan Glade Estates. Other land uses include Rock Church, Designing Women Landscaping & Nursery, mobile homes, and Handyway Gas Station. Development between SR 46 and the I-4/SR 417 interchange includes Lakeside Fellowship United Methodist Church, Paola Wesleyan Church, Wilson Elementary School, Academy of Learning, Live Oak Animal Hospital, Ballantrae (formerly Cobblestone Crossing) Apartments, and several subdivisions including Capri Cove, Tall Trees, and Sylvan Lake.

East of Orange Boulevard to I-4, land uses include low to medium density residential, commercial, plant nurseries, and a High Intensity Planning (HIP) area located adjacent to I-4. The Seminole County HIP land use designation is a mixed use category intended to promote high density development, particularly target industry and high density residential developments along the North I-4/Lake Mary corridor to make the most efficient use of the infrastructure and services in place, to minimize urban sprawl, to promote target business in close proximity to the regional roadway network, and to support future mass transit systems.

#### 4.1.4.2 Future Land Use

Future land use data were collected from Orange, Lake, and Seminole Counties, the City of Apopka, and the City of Mount Dora. As presented in **Exhibit 4-5**, the study area is projected to be characterized by various patterns, which include conservation, residential, industrial, institutional, commercial, rural, and agricultural land use types.

Future land uses within the Wekiva Parkway study area are governed by the legislation of the *Wekiva Parkway and Protection Act*, Chapter 369, Part III, F.S. The act allows for building the Wekiva Parkway while protecting the natural resources of the Wekiva River Basin. Chapter 369.321 (1) requires that "local governments within which the Wekiva Parkway is planned shall amend their local government comprehensive plan to include the Wekiva Parkway." In addition, local governments hosting an interchange on the Wekiva Parkway must adopt an interchange land use plan to address appropriate land uses and compatible







development. All effected local governments have amended their comprehensive plans to include the Wekiva Parkway (SR 429)/SR 46 Realignment project. The legislation also directs local governments to amend their comprehensive plans to optimize open space and promote development patterns that protect the Most Effective Recharge Areas, karst features, and sensitive natural habitats. The *Wekiva Parkway and Protection Act* requires local and state comprehensive and growth management policies to maintain consistency with the proposed improvements. Joint land use acquisition for conservation purposes was initiated through the *Wekiva Parkway and Protection Act*. The Act requires acquisition of the parcels known as Neighborhood Lakes, Pine Plantation, Seminole Woods, and New Garden Coal (now the Wekiva River Mitigation Bank). Further information regarding those conservation acquisitions is provided in *Section 4.2.2.1*.

As shown on Exhibit 4-5, future land use data designations within Lake County include Urban Compact Node (UCN) Wekiva and UCN Non-Wekiva. The descriptor indicates whether or not the UCN is located within the Wekiva River Protection Area. Additionally, a Sending Area is located within an environmentally sensitive area. Owners may sell development rights to receiving areas to increase the density within the receiving area.

## 4.1.5 Utilities and Railroads

### 4.1.5.1 Utilities

A preliminary utility coordination and investigation effort was conducted with the existing utility owners in the study area. A list of existing utility owners was obtained from the Florida Sunshine One-Call Center. Initially, written correspondence outlining the investigation effort was sent, along with a project location map, to the identified utility owners, and then follow-up phone calls and e-mail correspondence were conducted. Based on the utility data collection effort, the general location of the existing utilities was mapped in a single CADD file. Follow-up communication was established with utility companies after the selection of the Proposed Build Alternative. Updated utility location information was obtained in the vicinity of the Proposed Build Alternative along with estimates of utility impacts and relocation costs. The City of Mount Dora has indicated that future utilities will need to be placed in the SR 46 right-of-way east of US 441, and Seminole County is planning future water lines along the SR 46 right-of-way from their facility near Yankee Lake westward into Lake County. Those planned utilities will be coordinated with the City of Mount Dora and Seminole County during final design.

This section summarizes the preliminary utility impacts based on a review of the utilities mapping in the vicinity of the Proposed Build Alternative. The potential utility impacts associated with the Proposed Build Alternative within Orange County, Lake County, and Seminole County are outlined below. More information is provided in the updated final *Utilities and Railroads Impact Summary Report* (KAI, June 2010) prepared for the PD&E Study. The following information was excerpted from that report.

#### Orange County

Utilities potentially impacted by the Proposed Build Alternative in the Orange County project area are listed below.

- Lake Apopka Natural Gas District: Impacts are anticipated to a 2" gas line running along Southfork Drive.

- **Progress Energy:** Impacts are anticipated to 69 kilovolt power lines at the intersection of the Proposed Build Alternative with Yothers Road, at the intersection of the Proposed Build Alternative with Ponkan Road, at the Kelly Park Road interchange, and the intersection of the Proposed Build Alternative with Ondich Road. Impacts are also anticipated to 69 kilovolt power lines at the intersection of the project alignment and Plymouth Sorrento Road just north of the Plymouth Sorrento Road/Ondich Road intersection, and to 230 kilovolt power lines about 1,900 feet west of the intersection of the project alignment with Mount Plymouth Road.
- **Apopka Utilities:** Impacts are anticipated to 16" water pipes at the intersection of the Proposed Build Alternative with Schopke Road. Impacts are anticipated to 12" water pipes at the intersection of the Proposed Build Alternative with Yothers Road, Appy Lane, and Kelly Park Road. Impacts are also anticipated to 12" reclaimed water pipes at the intersection of the Proposed Build Alternative with Ponkan Road.
- **Sprint:** Impacts are anticipated to buried telephone lines at the intersection of the Proposed Build Alternative with Schopke Road and south of Schopke Road for approximately 2000 feet. Impacts are anticipated at the intersection of the Proposed Build Alternative with Yothers Road, at the intersection of the Proposed Build Alternative with Ponkan Road, at the intersection of the Proposed Build Alternative with Kelly Park Road, and at the intersection of the Proposed Build Alternative systems interchange with Ondich Road. Impacts are also anticipated to buried telephone lines at the intersection of the Proposed Build Alternative and Plymouth Sorrento Road just north of the Plymouth Sorrento Road/Ondich Road intersection, and at the intersection of the Proposed Build Alternative with Mount Plymouth Road. **TECO People's Gas:** Impacts are anticipated to 6" gas lines at the Kelly Park interchange, and to 6" gas lines at the intersection of the Proposed Build Alternative and Plymouth Sorrento Road just north of the Plymouth Sorrento Road/Ondich Road intersection within the Systems interchange.
- **TECO People's Gas:** Impacts are anticipated to 6" gas lines at the Kelly Park interchange, and to 6" gas lines at the intersection of the Proposed Build Alternative and Plymouth Sorrento Road just north of the Plymouth Sorrento Road/Ondich Road intersection within the Systems interchange.
- **Florida Gas Transmission Company:** Impacts are anticipated to 24" and 26" gas lines running within an easement located approximately 1,800 feet west of the intersection of the Proposed Build Alternative with Mount Plymouth Road.
- **Brighthouse Networks:** Impacts are anticipated to underground television cables in the residential development approximately 700 feet west of Plymouth Sorrento Road, south of North Schopke Road and North of Southfork Drive.

Estimated utility relocation costs (by provider) in the Orange County project area are shown in **Table 4-2**. Not all utility companies provided relocation cost estimates for the potential impacts. Apopka Natural Gas did not provide a relocation cost estimate despite multiple requests. FPL/ Progress Energy stated that they will not give an estimate until they receive an approved set of plans. Utility relocation cost estimates for these utility companies are based on rates provided by other similar utility companies.



TABLE 4-2  
Estimated Utilities Relocation Costs in Orange County Project Area

Company Name	Service	Estimated Relocation Cost
Apopka, City of <sup>3</sup>	Reclaimed Water	\$22,000
	Sewer	\$151,000
	Water	\$422,000
Apopka Natural Gas <sup>1</sup>	Gas	\$36,000
Florida Gas Transmission <sup>2</sup>	Gas	\$1,146,000
FPL/Progress Energy <sup>1</sup>	Electricity	\$459,000
Sprint <sup>3</sup>	Buried Fiber Optic	\$659,000
Brighthouse Networks <sup>2</sup>	Underground Cable TV	\$14,000
TECO Peoples Gas <sup>3</sup>	Gas	\$341,000
	<b>Total</b>	<b>\$3,250,000</b>

<sup>1</sup>Probable relocation cost based on rates of other utility companies.

<sup>2</sup>Probable relocation cost based on distributed lump-sum estimate provided by utility company.

<sup>3</sup>Probable relocation cost based on linear-foot cost estimates provided by utility company.

<sup>4</sup>All costs include a 20% contingency.

### Lake County

Utilities potentially impacted by the Proposed Build Alternative in the Lake County West project area are listed below.

- Progress Energy: Impacts are anticipated to 230 kilovolt power lines at the intersection of SR 46 and US 441, and along SR 46 from Vista View Road in the west to the beginning of the limited access portion of the Proposed Build Alternative in the east.
- Sprint: Impacts are anticipated to buried telephone lines at the intersection of SR 46 and US 441, and along SR 46 from US 441 to the beginning of the limited access portion (approximately 3,300 feet east of Round Lake Road) of the Proposed Build Alternative in the east.
- TECO People's Gas: Impacts are anticipated to a 4" gas line at the intersection of SR 46 and Round Lake Road, a pressure regulation station on the northwest quadrant of this intersection, and 4" gas lines along SR 46 from just west of Round Lake Road to the beginning of the limited access portion of the Proposed Build Alternative in the east. Impacts are also anticipated to 4" gas lines at the intersection of SR 46 and US 441.
- City of Mount Dora: Impacts are anticipated to 16" water, 12", 16", and 20" reclaimed water, and 10" and 16" sewer pipes at the intersection of US 441 and SR 46.
- Comcast Fiber Optics: Impacts are anticipated to buried fiber optic lines in the vicinity of the intersection of SR 46 and Round Lake Road and for approximately 800 feet east of Round Lake Road.

Utilities potentially impacted by the Proposed Build Alternative in the Lake County East project area are listed below.

- Comcast Fiber Optics: Impacts are anticipated to portions of buried fiber optic lines along SR 46 for approximately two miles east of Atlantic Avenue, and for approximately four miles along SR 46 west of the Seminole County line.
- Florida Gas Transmission Company: Impacts are anticipated to 12" and 26" gas lines running along SR 46 for approximately two miles east of Atlantic Avenue. Impacts are anticipated along SR 46 for approximately one mile west of the Seminole County line. Impacts are also anticipated at the new connecting roadway between SR 46 and CR 46A.
- Sprint: Impacts are anticipated to buried telephone lines along portions of SR 46 for approximately one and one-half miles east of Camp Challenge Road, and for approximately four miles along SR 46 west of the Seminole County line.
- Seminole County Environmental Services: Impacts are anticipated to 12" water and sewer lines just west of the Lake/Seminole County line.

Estimated utility relocation costs (by provider) in the Lake County West and the Lake County East project areas are shown in **Table 4-3**. Not all utility companies provided relocation cost estimates for the potential impacts. As previously stated, FPL/ Progress Energy stated that they will not give an estimate until they receive an approved set of plans. Utility relocation cost estimates for FPL/Progress Energy are based on rates provided by other similar utility companies.

**TABLE 4-3**  
Estimated Utilities Relocation Costs in Lake County East and West Project Areas

<b>Company Name</b>	<b>Service</b>	<b>Estimated Relocation Cost</b>
Comcast <sup>2</sup>	Buried Fiber Optic	\$360,000
Eustis, City of <sup>4</sup>	Water	\$0
Florida Gas Transmission <sup>2</sup>	Gas	\$6,393,000
FPL/Progress Energy <sup>1</sup>	Electricity	\$96,000
Mount Dora, City of <sup>3</sup>	Reclaimed Water	\$10,000
	Sewer	\$33,000
	Water	\$87,000
Seminole County Environmental Services <sup>2</sup>	Sewer	\$350,000
	Water	\$350,000
Sprint <sup>2</sup>	Buried Fiber Optic	\$2,600,000
TECO Peoples Gas <sup>3</sup>	Gas	\$796,000 <sup>5</sup>
	<b>Total</b>	<b>\$11,075,000<sup>6</sup></b>

<sup>1</sup>Probable relocation cost based on rates of other utility companies.

<sup>2</sup>Probable relocation cost based on distributed lump-sum estimate provided by utility company.

<sup>3</sup>Probable relocation cost based on per linear-foot cost estimates provided by utility company.

<sup>4</sup>Probable relocation cost based on expectation of utility facilities being avoided.

### Seminole County

Utilities potentially impacted by the Proposed Build Alternative in the Seminole County project area are listed below.

- Brighthouse Networks: Impacts are anticipated to overhead and underground cable television lines along SR 46 from the Lake County line to Rinehart Road (East of I-4). Additional impacts are anticipated at the Proposed Build Alternative intersection with South Orange Boulevard, Wilson Road, International Parkway, and Wayside Drive in the area south of SR 46 and west of I-4.

- Comcast Fiber Optics: Impacts are anticipated to buried fiberoptic lines along SR 46 from the Lake County line to I-4.
- Florida Gas Transmission Company: Impacts are anticipated to 12" and 26" gas lines running along SR 46 from the Lake County line (the pipelines are under the Wekiva River) to Wayside Drive, and to a 12" gas line running along Wayside Drive west of Orange Boulevard. Impacts are also anticipated to 12" gas lines at the intersection of SR 46 and Oregon Avenue in the vicinity of the SR 46 and I-4 interchange.
- Seminole County Environmental Services: Impacts are anticipated to 12" water, 16" water reclaim, and 12" sewer pipes along SR 46 from the Lake County line to I-4, a 20" water, 16" water reclaim, and 15" sewer pipe along International Parkway around the intersection with the Central Florida GreeneWay, a 12" water line and a 16" reclaimed water line at the intersection of the Proposed Build Alternative with South Orange Boulevard, and an 8" water line at the intersection of the Proposed Build Alternative with Wilson Road.
- Seminole County Traffic Engineering: Impacts are anticipated to buried fiber optic lines along SR 46 from Longwood Markham Road to I-4.
- Florida Public Utilities: Impacts are anticipated to 4" and 6" gas lines along SR 46 from about 1,500 feet east of Painted Post Point to I-4, and to a 6" gas line at the intersection of the project alignment with South Orange Boulevard.
- AT&T Fiber Optic Cable: Impacts are anticipated to fiber optic lines at the Proposed Build Alternative intersection with Orange Boulevard.

Estimated utility relocation costs (by provider) in the Seminole County project area are shown in **Table 4-4**. Not all utility companies provided relocation cost estimates for the potential impacts. As previously stated, FPL/ Progress Energy stated that they will not give an estimate until they receive an approved set of plans. Utility relocation cost estimates for FPL/Progress Energy are based on rates provided by other similar utility companies.

The exact locations of existing utilities and the extent of impacts will be reviewed during the final design phase for this project. Coordination with the known utility companies during the final design phase will assist in minimizing relocation adjustments and disruptions of service to the public. Therefore, no unusually substantial impacts to existing utilities are anticipated due to the Proposed Build Alternative.

TABLE 4-4  
Estimated Utilities Relocation Costs in Seminole County Project Area

Company Name	Service	Estimated Relocation Cost
AT&T <sup>4</sup>	Buried Fiber Optic	\$0
Brighthouse Networks <sup>2</sup>	Underground Cable TV	\$77,000
Comcast <sup>2</sup>	Buried Fiber Optic	\$267,000
Florida Gas Transmission <sup>2</sup>	Gas	\$13,815,000
FPL/Progress Energy <sup>1</sup>	Electricity	\$312,000
Florida Public Utilities <sup>3</sup>	Gas	\$796,000
Seminole County Environmental Services <sup>2</sup>	Reclaimed Water	\$5,532,000
	Sewer	\$5,115,000
	Water	\$6,081,000
Seminole County Traffic Engineering <sup>3</sup>	Buried Fiber Optic	\$401,000
Verizon <sup>4</sup>	Buried Fiber Optic	\$0
	<b>Total</b>	<b>\$32,396,000</b>

<sup>1</sup>Probable relocation cost based on rates of other utility companies.

<sup>2</sup>Probable relocation cost based on distributed lump-sum estimate provided by utility company.

<sup>3</sup>Probable relocation cost based on per linear-foot cost estimates provided by utility company.

<sup>4</sup>Probable relocation cost based on expectation of utility facilities being avoided.

<sup>5</sup>All costs include a 20% contingency

#### 4.1.5.2 Railroads

An existing railroad line is located near the western limits of the project study area in Lake County. The railroad right-of-way is owned by CSX Transportation (CSX) and is leased for operations by Florida Central Railroad (FCEN). This inactive rail line is the only railroad facility in the study area that would potentially be affected by the Proposed Build Alternative. The potential impact is the proposed crossing of the inactive rail line by the SR 46 Realignment over a distance of a several hundred feet just west of the area where the rail line crosses existing SR 46.

The tracks run south of SR 46 from US 441 in Mount Dora and cross SR 46 approximately 500 feet west of CR 437, terminating at CR 437 just north of SR 46. To the east of that point the rail line has been abandoned and some portions of the right-of-way have been sold to contiguous landowners by CSX. The inactive railroad tracks east of US 441 and south of SR 46 are sometimes used for storage of surplus railcars according to FCEN. Lake County and Lake-Sumter MPO representatives have been in on-going discussions with FCEN about track removal and will be negotiating with CSX about acquisition of the rail right-of-way east of US 441 for a "Rails to Trails" conversion project. Lake County Parks and Trails staff have indicated the discussions and negotiations are continuing. A final determination will need to be reached on the future use of the rail right-of-way, but no impacts to any rail operations are anticipated as a result of the Proposed Build Alternative.

#### 4.1.6 Relocations/Displacements

The Proposed Build Alternative improvements in Orange, Lake and Seminole Counties could potentially displace a total of nine (9) businesses and fifty-seven (57) residences. **Table 4-5** shows the anticipated number of displacements by project segment in each of the three counties.

TABLE 4-5

Estimated Displacements and Property Impacts of the Proposed Build Alternative

<b>Proposed Build Alternative</b>	<b>Parcel Impacts</b>	<b>Total ROW (ac)</b>	<b>Residential Displacements</b>	<b>Businesses/ Other Displaced</b>
Kelly Park Road Interchange Alignment with Orange County Alternative 1	114	418	26	2
Systems Interchange Alternative 1 with Lake County West Alternative 1	33	189	10	2
SR 46 Widen to North	20	24	2	0
US441/SR 46 Interchange Alternative 2	22	22	0	0
Neighborhood Lakes Alternative 1 – Western Alignment	8	157	0	0
CR 46A Realignment Alternative 1A with South Widening Existing SR 46	57	86	0	0
Lake County East Alternative 1 – South (Red) Alignment 1 with Parallel Service Road	54	278	1	2
Wekiva Pkwy to SR 417/I-4 Interchange – Alternative B, with North Widening	122	191	18	3
<b>Totals</b>	<b>430</b>	<b>1365</b>	<b>57</b>	<b>9</b>

### Expressway Authority Right-of-Way Acquisition Process

Pursuant to the authority granted in Chapter 348, Part V of the Florida Statutes, in Orange County the Expressway Authority shall obtain all rights of way and other property interests needed for construction, operation, maintenance, and repair of the Wekiva Parkway (SR 429)/SR 46 Realignment project and any associated local road improvements, in accordance with all applicable state laws. To the extent possible, the Expressway Authority shall attempt to negotiate agreements with landowners for voluntary acquisition of such property interests. Where necessary, the Expressway Authority shall acquire property interests needed through eminent domain in accordance with Chapters 73 and 74, Florida Statutes.

### FDOT Right-of-Way Acquisition Process

Any required relocations in Lake and Seminole Counties as a result of the Wekiva Parkway (SR 429)/SR 46 Realignment project are subject to the FDOT right-of-way acquisition process. In order to minimize the unavoidable effects of right-of-way acquisition, FDOT will carry out a right-of-way and relocation program in accordance with Florida Statute 339.09 and the Uniform Relocation Assistance and Real Property Acquisition Act of 1970 (Public Law 91-646 as amended by Public Law 100-17). A *Conceptual Stage Relocation Plan* (CSRP) has been prepared by FDOT in accordance with 23 CFR 771. The CSRP documents any relocation impacts resulting from the Proposed Build Alternative.

FDOT provides advance notification of impending right-of-way acquisition. Before acquiring right-of-way, all properties are appraised on the basis of comparable sales and land use values in the area. Owners of property to be acquired will be offered and paid fair market value for their property rights.

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

All tenants and owner-occupant displacees will receive an explanation regarding all options available to them, such as (1) varying methods of claiming reimbursement for moving expenses; (2) rental replacement housing, either private or publicly subsidized; (3) purchase of replacement housing; and (4) moving owner-occupied housing to another location.

Financial assistance is available to the eligible relocatee to:

1. Reimburse the relocatee for the actual reasonable costs of moving from homes, businesses, and farm operations acquired for a highway project;
2. Make up the difference, if any, between the amount paid for the acquired dwelling and the cost of a comparable decent, safe and sanitary dwelling available on the private market;
3. Provide reimbursement of expenses, incidental to the purchase of a replacement dwelling;
4. Make payment for eligible increased interest cost resulting from having to get another mortgage at a higher interest rate. Replacement housing payments, increased interest payments, and closing costs are limited to \$22,500 combined total.

A displaced tenant may be eligible to receive a payment, not to exceed \$5,250, to rent a replacement dwelling or room, or to use as down payment, including closing costs, on the purchase of a replacement dwelling.

Brochures that describe in detail FDOT's relocation assistance program and right-of-way acquisition program were distributed at the Public Hearing sessions and made available upon request to any interested person. Right-of-way staff attended the Public Hearing sessions and answered questions from the public.

## 4.2 Cultural and Historical Resources

### 4.2.1 Archaeological and Historical

In accordance with the provisions of the National Historic Preservation Act of 1966, as implemented by 36 CFR, Part 800 and related federal and state regulations, a Cultural Resource Assessment, including background research and a field survey coordinated with the State Historic Preservation Office (SHPO), was prepared for the proposed project. A *Cultural Resource Assessment Survey (CRAS)* and a *CRAS Addendum* were performed for this PD&E Study to locate, identify, and assess any archaeological or historical resources identified within the Area of Potential Effect (APE) and to assess the significance and eligibility of those resources for potential listing in the *National Register of Historic Places (NRHP)* according to the criteria set forth in 36 CFR, Section 60.4.

Based on the results of the *CRAS* and *CRAS Addendum*, two historic resources within the project APE were identified and were subsequently determined by FHWA to be eligible for listing in the *NRHP*. Those two resources are:

- Paul Bock House (8OR7946)/2626 Boch Road, Apopka, FL (8OR7946), individually eligible for listing in the *NRHP*, and
- Strite House (8OR9844)/6229 Plymouth-Sorrento Road (8OR9844), Apopka, FL, individually eligible for listing in the *NRHP*.

**Exhibit 4-6** shows the locations of these two *NRHP* eligible historic resources in relation to the project study area. Additionally, two historic sites initially considered perhaps potentially eligible for *NRHP* listing included a short segment of the former Seaboard Coast Line Railway corridor (8LA3414) located east of Mount Dora and a historic resource located at 43 Rainey Road (8OR6232). These resources were discussed in the *CRAS* and *CRAS Addendum* and were subsequently determined by the SHPO to be outside of the project APE (8OR6232) or ineligible for listing in the *NRHP* (8LA3414). The proposed improvements for the Proposed Build Alternative are not expected to impact any archaeological sites or historic districts which are listed, determined eligible, or considered potentially eligible for listing in the *NRHP*. A coordination letter from the SHPO dated March 6, 2008 indicated that a potentially historic railroad trestle over US 441 may be located within the project APE. Upon investigation, it was determined that the railroad trestle is not historic. This information was provided to the SHPO in March 2008. Copies of the coordination letters from the SHPO are included in **Appendix F**.

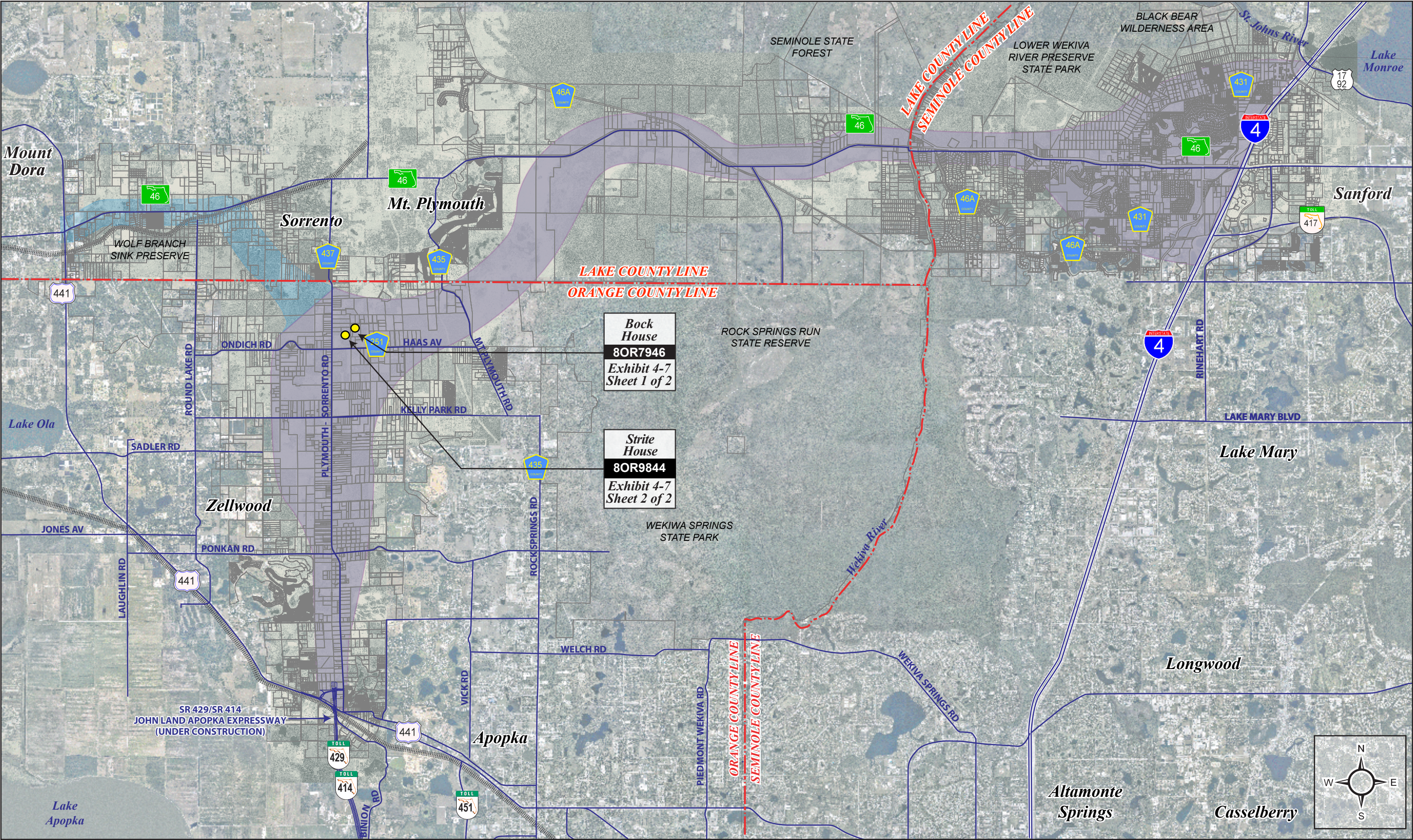
For the two *NRHP* eligible resources (Bock House and Strite House) within the project APE, a Section 106 Consultation meeting was held on April 21, 2008 with the affected landowners, the SHPO, FDOT, the Expressway Authority, and local historical societies to apply the Criteria of Effect for those historic resources. That meeting focused on the range and types of proposed effects to the two historic resources in northwest Orange County and potential mitigation measures. Based on that Section 106 Consultation, FHWA and the SHPO concluded that the project would likely have an adverse effect on both the Bock House and Strite House. A draft *Section 106 Documentation and Determination of Effects Case Study Report* was prepared to document the potential effects of the proposed improvements on the two *NRHP* eligible resources.

The draft *Section 106 Documentation and Determination of Effects Case Study Report* (June 2010) was transmitted to the SHPO by FHWA for review and concurrence. The SHPO comment letter to FHWA dated July 6, 2010 concurred with the finding of adverse effects; the letter is included in **Appendix F**. A second Section 106 Consultation meeting was then held on August 16, 2010 with all stakeholders, including SHPO, FHWA and the affected property owners. Following concurrence with the application of the Criteria of Effect, the agencies proceeded to the next phase of the Section 106 process and initiated development of a *Memorandum of Agreement* (MOA) to document mitigation measures to minimize impacts to the two *NRHP* eligible historic resources. The MOA dated June 2011 was signed by FHWA and the SHPO; it is included in the revised final *Section 106 Documentation and Determination of Effects Case Study Report* (November 2011). The sufficiency/concurrence form signed by the SHPO on October 18, 2011 is provided in **Appendix F**.

The Bock House and Strite House historic resources are protected under Section 4(f) of the U.S. Department of Transportation Act (USDOT) of 1966 [Title 49, USC, Section 303] and [Title 23, USC, Section 138], as amended. An *Individual Section 4(f) Evaluation* (March 2012) has been prepared. FHWA coordinated with the U.S. Department of the Interior (DOI) on the Section 4(f) evaluation. On February 22, 2012, the DOI Office of Environmental Policy and Compliance sent a concurrence letter to FHWA stating that there is no feasible and prudent alternative to the use of the Section 4(f) properties and that all possible planning has been done to minimize harm to those properties. A copy of that DOI concurrence letter is provided in **Appendix F**.

The potential effects to the *NRHP* eligible historic resources are described in detail in the above referenced revised final *Section 106 Documentation and Determination of Effects Case Study Report* and are summarized in the following sections.





**LEGEND**

- Wekiva Parkway Study Corridor
- SR 46 Realignment Study Corridor

**Exhibit 4-6**  
**NRHP Eligible Historic Resources**



#### 4.2.1.1 Bock House

The Bock House is considered eligible for *NRHP* listing on an individual basis under Criteria A and C in the areas of Local Exploration/Settlement and Architecture. The SHPO concurred with the eligibility of this resource in a coordination letter dated June 27, 2007 (provided in **Appendix F**). This circa 1900 Frame Vernacular style residence is one of the oldest surviving houses associated with the pioneer settlement of the area and maintains good integrity.

The Proposed Build Alternative for the proposed Wekiva Parkway alignment would traverse south of the Bock House. The Bock House would not be directly impacted by the Proposed Build Alternative, but the property on which the house is located would be directly impacted by the right-of-way needed for the Wekiva Parkway. The historic structure would be approximately 300 feet from the edge of travelway and approximately 218 feet from the right-of-way fence. The total size of the parcel upon which the house is located is approximately 14 acres. Approximately 10 acres of the southern portion of the parcel would be needed to accommodate construction of the Wekiva Parkway and a proposed stormwater pond. This would leave approximately 4 acres of the parcel with the house. The existing direct access to Boch Road would be maintained in the Proposed Build Alternative. Based on the proposed improvements, the potential impacts to the Bock House property are identified on **Exhibit 4-7 (Sheet 1)**.

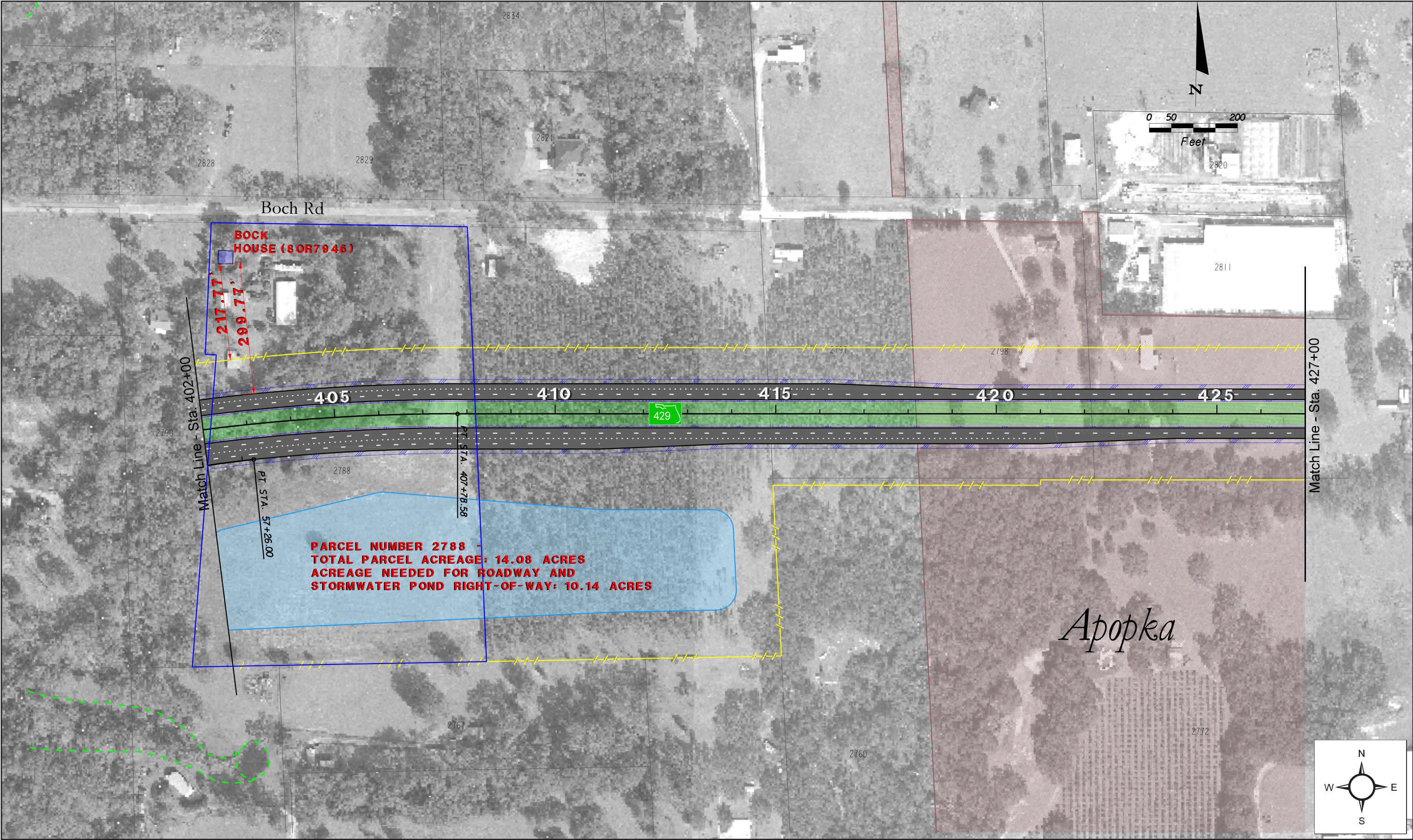
The property has been owned and occupied by the same family since 1951, and there have been very few alterations to the house. The house exhibits the deterioration of some elements, but the only visible modifications to the exterior of the house are the enclosed front and back porches. The Paul Bock House, therefore, conveys its original historic appearance and maintains much historic physical integrity.

Citrus was the staple crop on the property throughout the historic period of significance, and thus the former citrus groves are an integral part of the Paul Bock House's property and significance. The rural/agricultural land that surrounds the Paul Bock House and property, as well as the isolation derived from its surroundings, are important parts of the setting, and contribute to the significance of the resource. The portion of the property to be acquired for pond right-of-way consists of open field that historically was an open field. However, the portion of the property needed for roadway construction would acquire land on which the former citrus groves were sited. Although the land is no longer harvested for citrus and other trees and vegetation have intermixed with them, some citrus trees are still present.

The traffic noise level with the Proposed Build Alternative is predicted to increase from the projected existing level of 42.7 dB(A) to an estimated 61.2 dB(A) in 2032 (the project design year) at the Bock House location. This projected increase would not exceed either the FHWA noise abatement criteria of 67 dB(A) for residential areas/Section 4(f) sites or the FDOT approach criteria of 66 dB(A), but it would exceed the FDOT substantial increase criteria of 15 dB(A) above existing levels, resulting in an impact. As stated in the FDOT noise analysis guidance, for a noise barrier to be feasible it must achieve a 5 dB(A) reduction at a minimum of two impacted receptors. As the Bock House is a single residence located in a sparsely populated rural area, a noise barrier at this location would not meet the FDOT feasibility criteria. As a result, no further analysis is warranted.

Based on the property that will be acquired as part of the improvements and the proximity of the improvements to the historic house, the proposed Wekiva Parkway improvements will have an **adverse effect** on the Bock House. The historic connection and setting of the Bock House and surrounding property will be affected by the proposed improvements.





**LEGEND**

- Parcel Lines
- Proposed Right of Way
- Potential Pond
- New/Reconstructed Pavement
- Parcel Codes
- Proposed L/A Right of Way
- City Limits
- Wetland Boundary
- Bridge Replacement or Widening



#### 4.2.1.2 Strite House

The Strite House is considered eligible for *NRHP* listing on an individual basis under Criteria C in the area of Architecture. The SHPO concurred with the eligibility of this resource in a coordination letter dated May 19, 2008 (provided in Appendix F). The Strite House, constructed circa 1910, is known as a Florida “Cracker” house, exhibiting an interpretation of the Georgian Form. The Strite House is a rare surviving example of Cracker architecture in what was formerly known as the Bay Ridge area of northern Orange County. The house exhibits the deterioration of some elements, but nearly all of the historic, character-defining features are retained. The overall property still reflects its historic use and appearance, and conveys the character of a historic farm. Due to these factors, the Strite House is considered significant in the area of Architecture as an excellent example of a turn-of-the-century Cracker farmstead. The historic garage, water tower, pool, and agricultural fields are considered contributing features to the property.

The Strite House would be directly impacted, but could potentially be relocated to the south end of the property as part of the project. It cannot be avoided due to environmental concerns about impacts to public conservation lands owned by Orange County. The alignment for Wekiva Parkway in this vicinity was specifically directed away from county-owned conservation parcels north and south of the Proposed Build Alternative. Avoidance of the Strite House would also impact habitat of the Florida Scrub Jay, a threatened and declining species. The U.S. Fish and Wildlife Service specifically requested that the habitat area not be impacted.

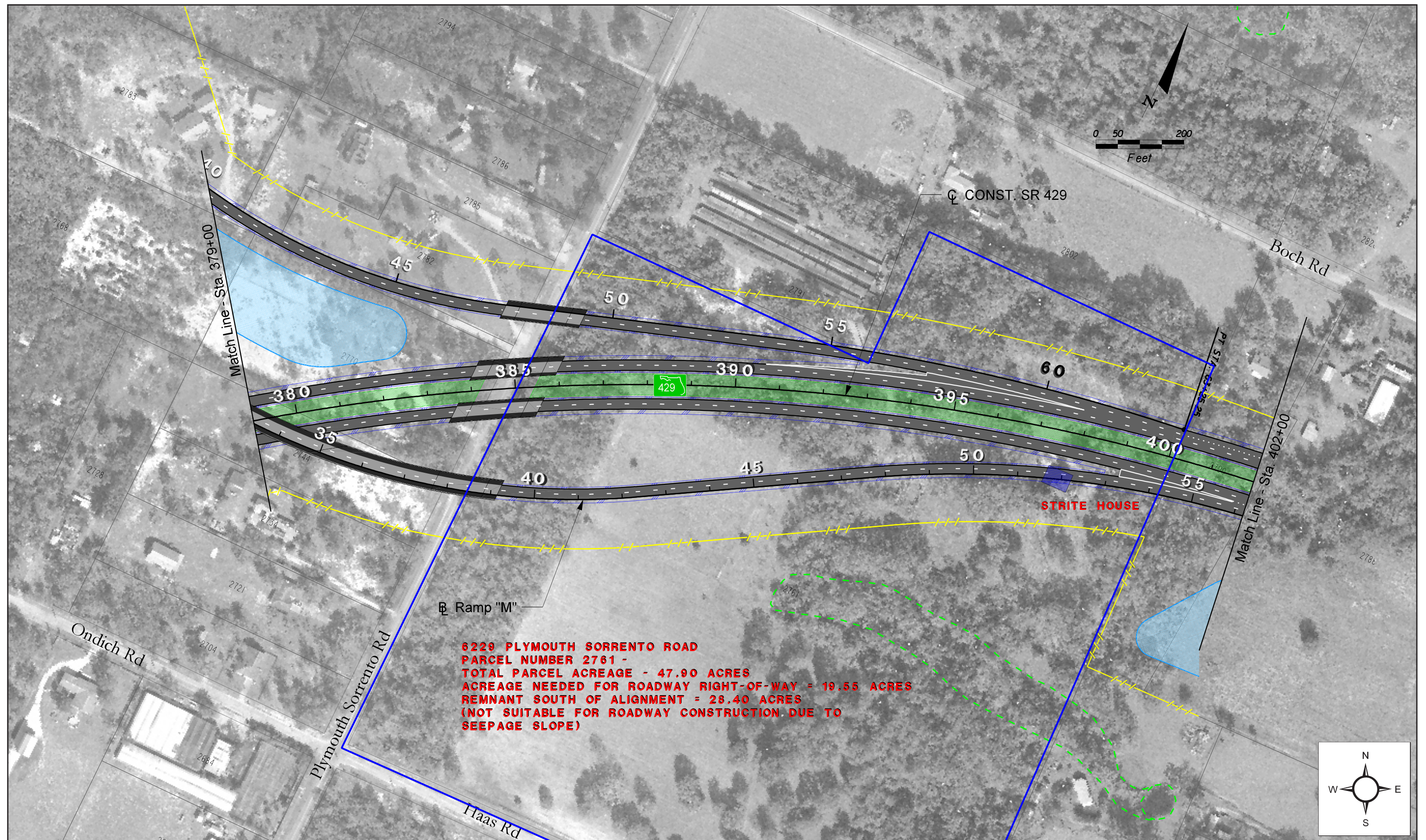
The total size of the parcel upon which the house is located is approximately 48 acres. Approximately 20 acres from the northern portion of the parcel would be needed for roadway right-of-way for the Wekiva Parkway. The remaining 28 acres would maintain existing direct access to both Haas Road and Plymouth Sorrento Road; however, the existing driveway from Plymouth Sorrento Road will need to be relocated to the southern portion of the property due to the right-of-way acquisition. The potential impacts to the Strite House and property are identified on **Exhibit 4-7 (Sheet 2)**.

In addition to the impact to the Strite House, the portion of the property to be acquired for right-of-way contains the historic garage and historic water tower. The acquisition would also take the original driveway, historically designed front lawn, and land on which associated citrus groves were sited; however, citrus trees are no longer present. The historic swimming pool is located outside of the right-of-way acquisition area.

Substantial noise impacts are not anticipated with the Proposed Build Alternative as the potential relocation of the Strite House would involve on-site relocation of the house on the remaining 28 acres allowing sufficient room to relocate the residence a minimum of 500 feet from the proposed improvements to avoid substantial noise impacts.

All of the features listed above as included in the acquisition area are considered contributing to the significance of the Strite House. The rural/agricultural land that surrounds the Strite House and property, and the isolation derived from its surroundings, are important aspects of the setting and, therefore, contribute to the significance of the resource. The historic integrity of the Strite House and surrounding property will be compromised by direct effects from the project improvements. Based on the acquisition of the house, ancillary structures, landscape features, and the property that will be required for project right-of-way, the proposed Wekiva Parkway improvements will have an **adverse effect** on the Strite House.





# LEGEND

Parcel Lines	Proposed Right of Way	Potential Pond	New/Reconstructed Pavement	Parcel Codes
Proposed L/A Right of Way	City Limits	Wetland Boundary	Bridge Replacement or Widening	



More detailed information on analysis of alignment alternatives and avoidance is provided in the previously referenced *Individual Section 4(f) Evaluation* and the *Section 106 Case Study Report*.

## 4.2.2 Recreational/Park Lands

Public park and recreational lands of local, state or national significance are considered significant resources and are protected under Section 4(f) of the U.S. Department of Transportation Act (USDOT) of 1966 [Title 49, USC, Section 303] and [Title 23, USC, Section 138], as amended. Additionally, Section 4(f) applies to publicly owned properties formally designated as significant to park, recreational or waterfowl and wildlife refuge purposes. This section describes the identified parks and recreational facilities, public lands and potential Section 4(f) resources within the study area.

Data collection efforts identified twelve parks and recreational facilities in the project study area, including those within approximately ½ mile of the project corridor. **Table 4-6** provides a summary list of the identified facilities.

**TABLE 4-6**  
Parks and Recreation Facilities in the Project Study Area

Parks & Recreation Facilities		
1	Roosevelt Nichols Park	Hermit Smith Road, Orlando
2	Northwest Recreation Complex Park	3200 Jason Dwelley Parkway, Apopka
3	Kelly Park	400 E. Kelly Park Road, Apopka
4	Rock Springs Run State Reserve	Orange and Lake Counties
5	Zellwood Station Golf Course	N. US 441, Apopka
6	Seminole State Forest	Lake County
7	Lower Wekiva River Preserve State Park	Lake and Seminole Counties
8	Sylvan Lake Park	845 Lake Markham Road, Sanford
9	Wisons Landing Park	387 Malekean Trail, Sanford
10	Bookertown Park	4640 Richard Allen Street, Sanford
11	Lake Monroe Wayside Park	4150 Northwest US Hwy 17/92, Sanford
12	Wekiva River Recreational Segment	Lake/Seminole County Line

Rock Springs Run State Reserve, Lower Wekiva River Preserve State Park, and Seminole State Forest are partially located within the project study corridor, and are adjacent to existing SR 46. These state recreational facilities all offer wilderness orientated recreational facilities such as hiking, bicycling, primitive camping, canoeing, and horseback riding. The Proposed Build Alternative will result in minor impacts to the Rock Springs Run State Reserve, Lower Wekiva River Preserve State Park, and Seminole State Forest which are Section 4(f) resources as discussed in *Section 4.2.2.2*. The remaining parks and recreational facilities noted in Table 4-6 above are not impacted by the Proposed Build Alternative.

The Wekiva River is a designated National Wild & Scenic River. The segment within the study area (at the existing/proposed bridge location) is a recreational segment; however, there are no public access points within the project study area. Recreational users (canoeists, kayakers) may access the river north of the study area at the former Katie's Landing in Lower Wekiva River Preserve State Park or south of the study area at Wekiva Marina or Wekiwa Springs State Park. The recreational use of the Wekiva River will not be impacted

by the Proposed Build Alternative. *Section 4.3.10* provides more information on the Wekiva Wild & Scenic River.

#### 4.2.2.1 Public Lands

Information on existing public lands within the Wekiva Parkway study corridor was obtained from FDEP, the Florida Natural Areas Inventory (FNAI), SJRWMD, coordination with local government officials, and the Property Appraiser's databases for Orange, Lake, and Seminole Counties. **Exhibit 4-8** shows the location of publicly owned conservation and recreation lands as well as parcels identified for acquisition by the State of Florida within the study area. The following sections describe the state-owned and county-owned public lands, including potential acquisition parcels, within or adjacent to the study area.

##### State-Owned Public Lands

State-owned public lands within the Wekiva Parkway study area include Rock Springs Run State Reserve, Seminole State Forest, and Lower Wekiva River Preserve State Park. As previously discussed in *Section 4.1.4*, these lands are part of the Wekiva-Ocala Greenway *Florida Forever* project. Impacts to state-owned public lands are discussed in *Section 4.2.2.2*.

In addition to the state-owned public lands listed above, the lands lying beneath the mean high water line of the Wekiva River are considered sovereign submerged lands of the State of Florida. A sovereign submerged land easement is required for construction on, over, or under submerged lands owned by the state.

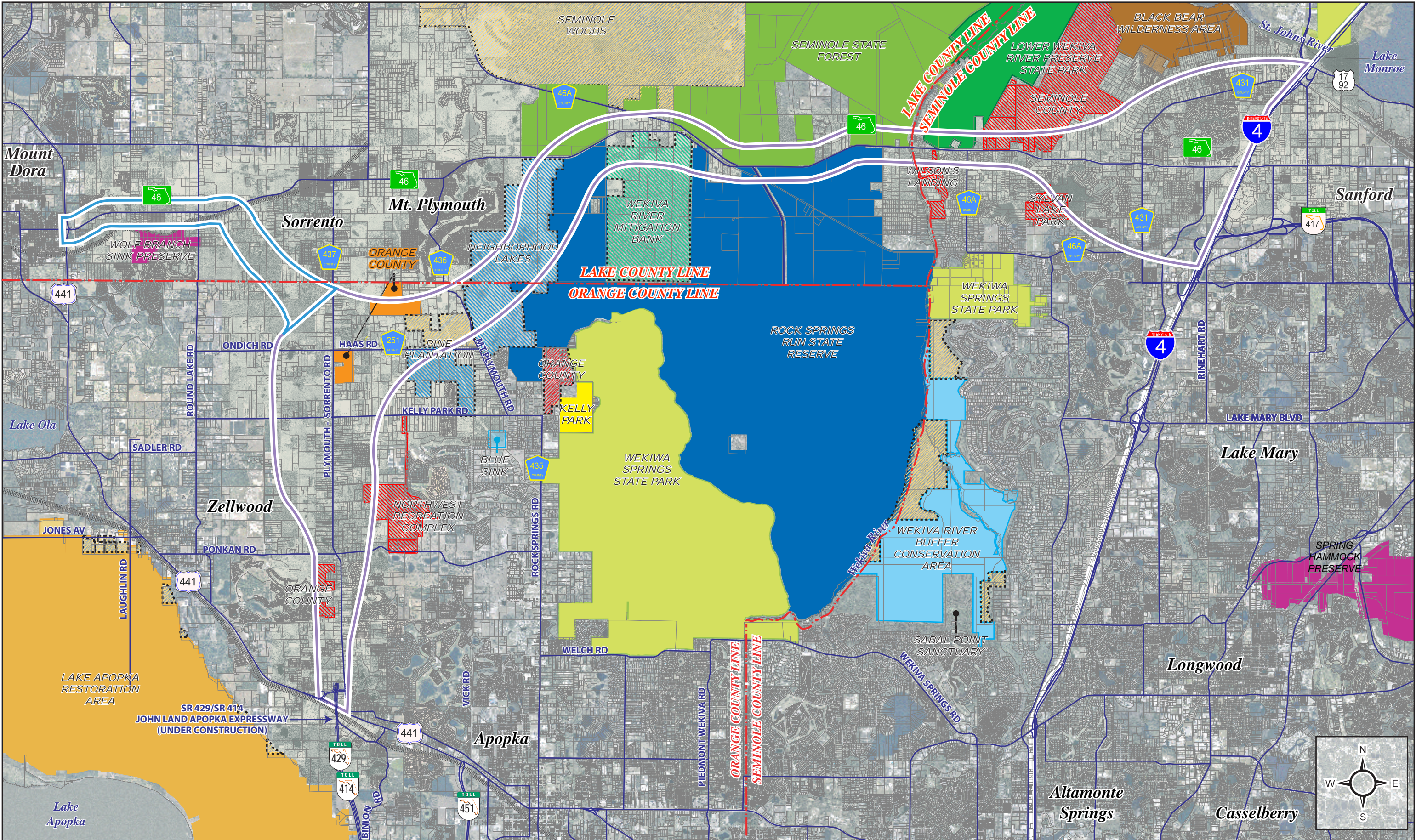
##### Acquisition Parcels for Conservation

Other lands within the project study area identified for inclusion in the Wekiva-Ocala Greenway are the 1584-acre Neighborhood Lakes parcel, the 1553-acre Wekiva River Mitigation Bank (formerly New Garden Coal), and the 628-acre tract known as Pine Plantation, as previously discussed in *Section 4.1.4.1*.

The *Wekiva Parkway and Protection Act* identified the Expressway Authority as a third-party acquisition agent on behalf of the Board of Trustees of the Internal Improvement Trust Fund (TIITF) or SJRWMD to acquire four properties known as Neighborhood Lakes, Seminole Woods/Swamp, New Garden Coal (now Wekiva River Mitigation Bank), and Pine Plantation. Pursuant to the Act, acquisition of Neighborhood Lakes, Wekiva River Mitigation Bank, and Pine Plantation was required to be completed no later than December 31, 2010. The funds expended by the FDOT and Expressway Authority for an interest in those lands for right-of-way for Wekiva Parkway are eligible as environmental mitigation for road construction related impacts. The following paragraphs discuss the status of the acquisitions to date.

A perpetual conservation easement and purchase rights for land needed for roadway and stormwater right-of-way for Wekiva Parkway was secured over the Wekiva River Mitigation Bank property in May 2005. Ownership of the land not purchased for right-of-way will be retained by Wekiva River Mitigation Bank, LLC. The conservation easement and transfer of development rights under the agreement assure that the land will be preserved in its natural state, thereby meeting the goals of the Wekiva-Ocala Greenway *Florida Forever* project.





LEGEND

- Solid Color = State or County Owned Conservation/Park Lands
- Potential Acquisition
- Public Land - Not Conservation
- Wekiva Parkway Study Area
- SR 46 Realignment Study Area
- Recently Acquired
- Perpetual Conservation Easement

**Exhibit 4-8**  
**Public Lands and Potential Acquisition Parcels**



On December 19, 2006, the Governor and the Florida Cabinet approved the purchase of the Neighborhood Lakes parcels in Orange and Lake Counties in partnership with the Expressway Authority and other agencies. The acquisition was completed in March 2007. As stated in the *Wekiva Parkway and Protection Act*, lands needed for transportation facilities shall be determined not necessary for conservation and will be transferred or retained by the Expressway Authority or FDOT upon reimbursement of the purchase price and acquisition costs. The remainder of the properties will be public conservation lands.

On September 30, 2008, the Governor and the Florida Cabinet approved an agreement to purchase 385 acres of Pine Plantation in partnership with FDOT and the Expressway Authority. The land to be acquired is not needed for right-of-way for the Wekiva Parkway, but will serve as a buffer to protect the surface water and groundwater resources within the Wekiva Study Area, including recharge within the Wekiva River spring-shed and will protect it from future development. The remainder of Pine Plantation, yet to be acquired, consists of one parcel through which the Wekiva Parkway will traverse.

#### County-Owned Public Lands

Orange County Board of County Commissioners owns two parcels adjacent to Zellwood Station, west of Plymouth Sorrento Road. Both sites have been identified as having a potential contamination risk due to former landfill activities. Orange County also owns the Plymouth Water Treatment Plant south of Yothers Road. The Orange County owned parcels adjacent to Zellwood Station will be impacted by the Proposed Build Alternative. Approximately 34 acres of the former landfill will need to be acquired for right-of-way to construct the proposed improvements.

Orange County owns two conservation properties known as the former “Fazio” and “Strite” properties that were purchased as part of the Green PLACE (Park Land Acquisition for Conservation and Environmental Protection) program. Green PLACE properties are acquired by Orange County for the purposes of preserving environmentally sensitive lands, protecting wetland and wildlife habitat and providing future recreational opportunities. Based on available information, Orange County intends to maintain these parcels as passive conservation areas.

The first property purchased was the former Fazio parcels adjacent to the Orange/Lake County line, which includes part of Lake Lucie. The second acquisition was the former Strite property adjacent to Plymouth Sorrento and Haas Roads. Both parcels are located within the Wekiva River Protection Area and contribute recharge to the Floridan aquifer. The Proposed Build Alternative avoids impacts to these locally significant conservation lands. Also within Orange County are the publicly owned Kelly Park and the Apopka Northwest Recreation Complex, listed previously in **Table 4-6**. These parks are not impacted by the Proposed Build Alternative.

In Lake County West, publicly owned lands in the vicinity of the project study area include the Mount Dora Water Treatment Plant and Wolf Branch Sink Preserve. The preserve is located south of the project corridor and is managed by the Lake County Water Authority. Approximately 0.29 acres of the Mount Dora Water Treatment Plant land will be impacted by the Proposed Build Alternative but will not impact operations. The Wolf Branch Sink Preserve will not be impacted by the Proposed Build Alternative.

Seminole County publicly owned lands within or adjacent to the study corridor include Wilsons Landing Park, Sylvan Park, Lake Monroe Wayside Park, the Yankee Lake Regional



Wastewater Treatment Facility, and Black Bear Wilderness Area. Approximately 21 acres of county-owned public lands in Seminole County will be impacted by the Proposed Build Alternative.

#### 4.2.2.2 Section 4(f) Lands

Potential Section 4(f) resources are defined as parklands, public recreation areas, waterfowl/wildlife refuges, and historic/archaeological sites of significance. A Section 4(f) use occurs when one of the following conditions is met:

- A protected resource is permanently acquired for a transportation project;
- A temporary use of the protected resource is considered adverse (i.e., preservation of the resource would be impeded); or
- There is constructive use of the protected resource.

Portions of Seminole State Forest and Rock Springs Run State Reserve are adjacent to the existing SR 46 right-of-way (to the north and south, respectively) through east Lake County. Lower Wekiva River Preserve State Park is adjacent to the northern right-of-way of existing SR 46 in Seminole County, east of the Wekiva River. All of these state conservation lands offer recreational amenities to the public. Statement of Significance letters from the public land managers are provided in **Appendix F**.

Efforts to minimize environmental impacts and to balance impacts to private property and publicly owned land through this section of the project study corridor have been the primary focus in selecting viable alignment options. The Proposed Build Alternative for Wekiva Parkway closely follows the existing SR 46 alignment through the easternmost portion of Lake County and on to the east of the Wekiva River in Seminole County. Some impacts to the above mentioned state lands along the existing SR 46 alignment are unavoidable due to right-of-way requirements needed to meet existing and future travel demand, as well as to improve safety.

Minimal impacts to Rock Springs Run State Reserve, Lower Wekiva River Preserve State Park, and Seminole State Forest are anticipated due to the improvements associated with the Proposed Build Alternative; however, no adverse effects are anticipated.

Direct use impacts to Rock Springs Run State Reserve are expected to occur as a result of the Proposed Build Alternative. The proposed alignment generally impacts the northern portions of the Reserve that are contiguous with existing SR 46. Right-of-way acquisition for roadway and stormwater ponds is estimated at approximately 97 acres of the Reserve. The existing public recreational areas (hiking, biking, and canoe trails) will not be impacted by the proposed improvements. The proposed right-of-way requirement of 97 acres is less than 0.7 percent of the total existing acreage of the Reserve (14,011 acres).

Direct use impacts to Lower Wekiva River Preserve State Park are expected to occur as a result of the proposed Wekiva Parkway alignment. Right-of-way acquisition for the proposed roadway improvement is approximately 4 acres. The proposed right-of-way acquisition of 4 acres is less than 0.1 percent of the total existing acreage (17,405 acres) of the Preserve. An additional 3 acres will be required temporarily for the relocation of the existing 50-foot Florida Gas Transmission easement adjacent to the existing north right-of-way line for SR 46. Temporary impacts will occur within the 50-foot easement as a result of relocating the gas pipeline. No impacts to the existing trails, including the portion of the Florida Scenic Trail at the southern entrance, are anticipated due to the Proposed Build Alternative.

Additionally, a potential stormwater pond location on the Preserve was removed from consideration in response to FDEP's request to minimize impacts to the Preserve.

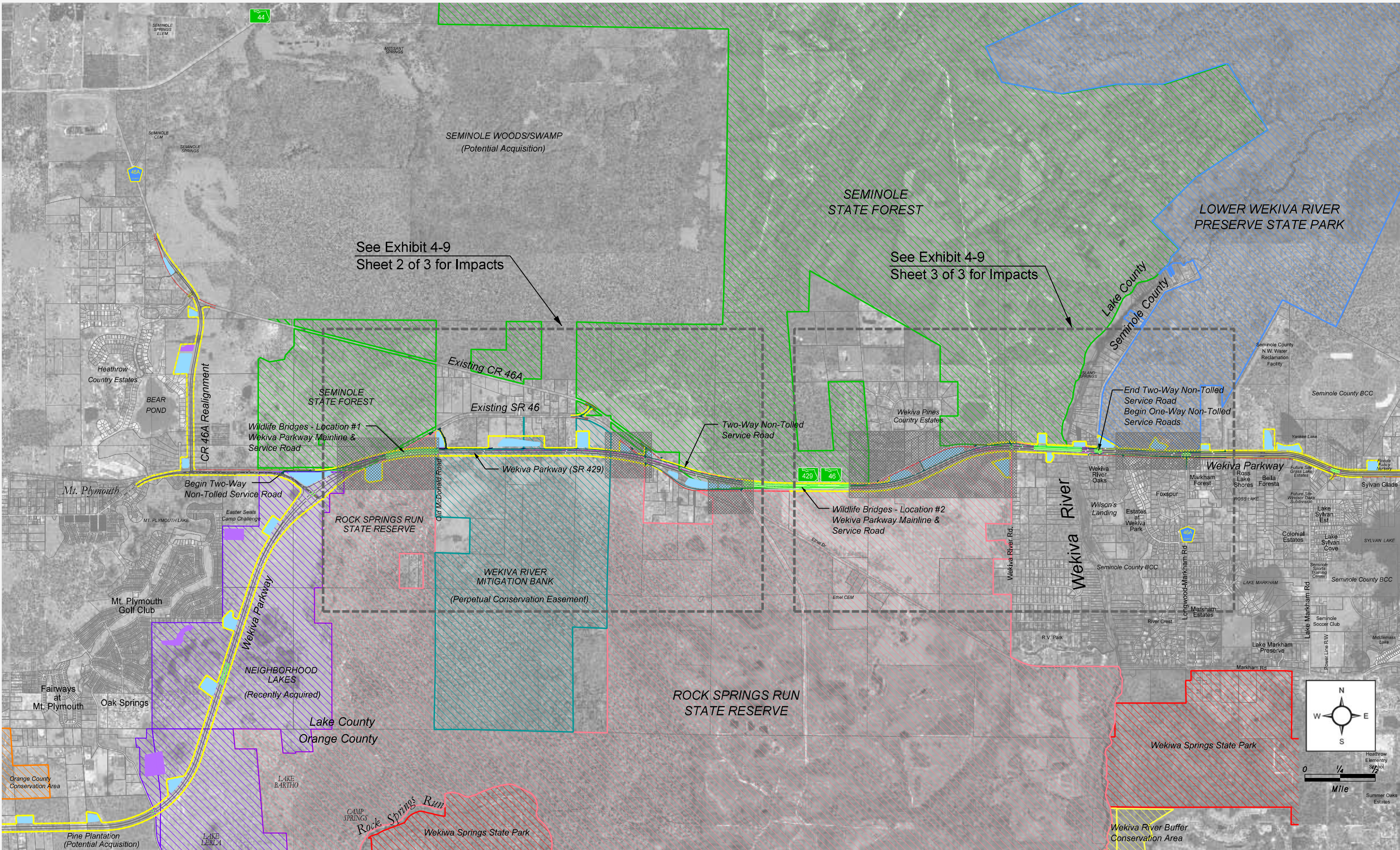
Approximately 58 acres of Seminole State Forest will incur direct use impacts due to right-of-way requirements for roadway and stormwater ponds, which is about 0.2 percent of the existing 27,063 acres. However, a section of existing CR 46A from the northern limits of the CR 46A realignment to just northwest of the properties in the vicinity of the "hump" in SR 46 will be removed. As a result, approximately 13 acres of the existing CR 46A right-of-way will be added to Seminole State Forest due to the proposed improvements. Therefore, the net impact would be about 42 acres. Approximately 4 acres will be required temporarily for the relocation of the existing 50-foot Florida Gas Transmission easement adjacent to the existing north right-of-way line of SR 46. Temporary impacts will occur within a 50-foot easement as a result of relocating the gas pipeline.

As previously discussed in *Section 3.5.4.2*, FDEP and FDACS, Division of Forestry requested that the Proposed Build Alternative for local access in Lake County East include two full local access interchanges so that the section of SR 46 between the interchanges could be removed to facilitate wildlife movement. The Wekiva River Basin Commission and the Lake County Board of County Commissioners concurred with the position of FDEP and the FDACS, Division of Forestry. However, the concept in Lake County East was later revised to incorporate a non-tolled Service Road for local trips as discussed previously in *Section 3.6.3*. As a result, the two full interchanges for local access are no longer needed. Introduction of the Service Road resulted in overall reduction of impacts to the Section 4(f) lands. The direct use acreage impacts to Section 4(f) lands discussed above are for the Proposed Build Alternative with the Service Road in Lake County East.

A *Determination of Applicability* (October 2007) was prepared to document the applicability of Section 4(f) to the public lands (Rock Springs Run State Reserve, Seminole State Forest, and Lower Wekiva River Preserve State Park) impacted by the Proposed Build Alternative. After consultation with FHWA, a *Programmatic Section 4(f) Evaluation* (March 2012) was prepared to document minimization of Section 4(f) impacts to Seminole State Forest, Rock Springs Run State Reserve, and Lower Wekiva River Preserve State Park. Included within that document are letters from the public land managers for Rock Springs Run State Reserve and Lower Wekiva River Preserve State Park (FDEP, Division of Recreation and Parks) and Seminole State Forest (FDACS, Division of Forestry). Those letters (included in **Appendix F**) indicate that during the PD&E Study extensive coordination has occurred to minimize the project impacts on Section 4(f) public lands. Ultimately, full Section 4(f) concurrence was provided for the proposed Wekiva Parkway project by both FDEP and the Division of Forestry in letters dated March 30, 2010 and April 9, 2010, respectively. Those concurrence letters are included in **Appendix F**. The Section 4(f) impacts to the Wekiva River Basin State Parks (Rock Springs Run State Reserve and Lower Wekiva River Preserve State Park) and the Seminole State Forest are shown in **Exhibits 4-9 and 4-10**, respectively.

The Wekiva River is a designated National Wild and Scenic River and a portion is protected as a Section 4(f) resource due to recreation usage. *Section 4.3.10* discusses how potential impacts to the Wekiva Wild and Scenic River within the project area were addressed.



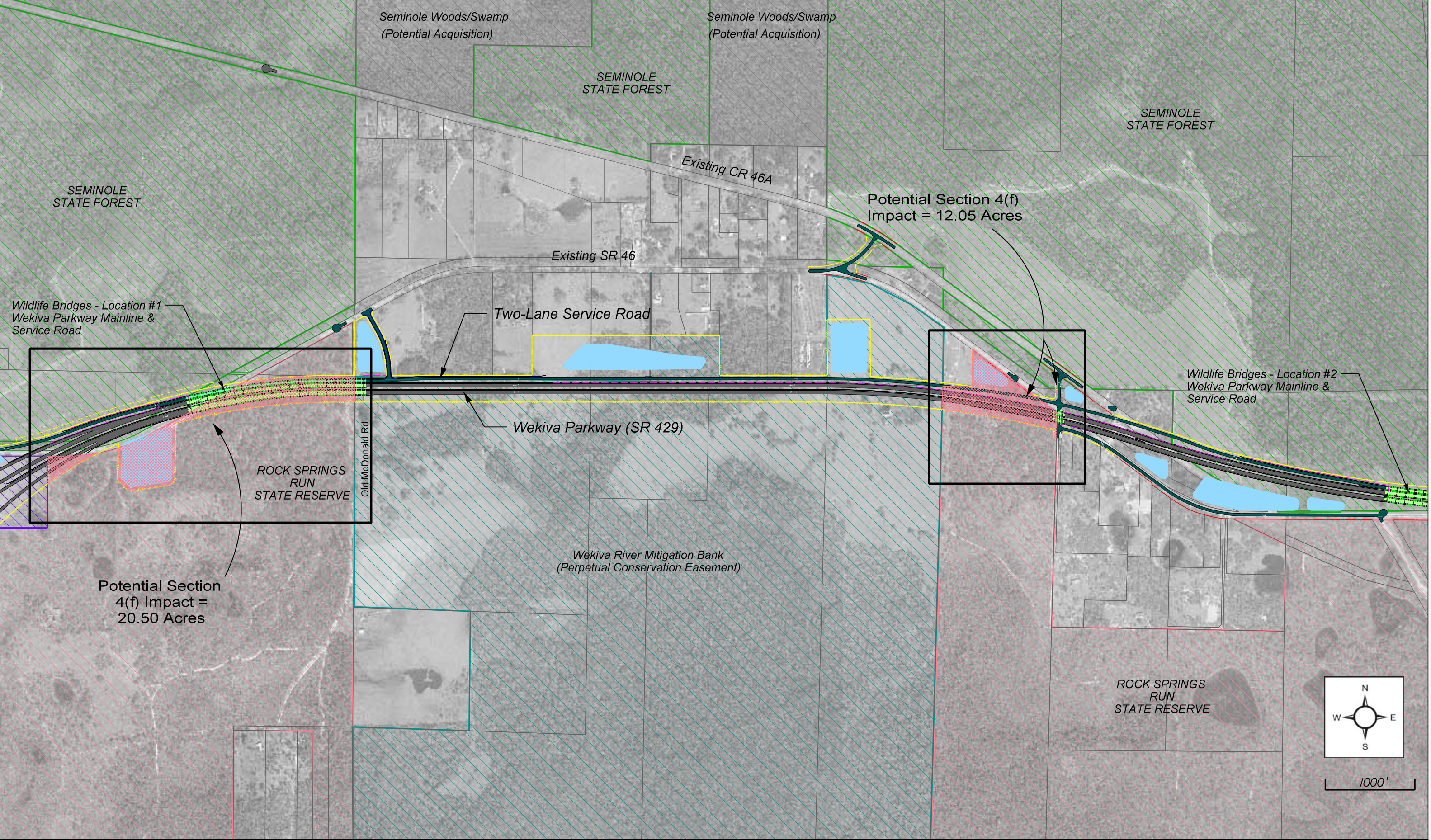


LEGEND

- |                               |  |                                |   |                                |
|-------------------------------|--|--------------------------------|---|--------------------------------|
| Stormwater Ponds              | Seminole State Forest                  | Rock Springs Run State Reserve | Wekiva River Mitigation Bank                            | Proposed Build Alternative R/W |
| Floodplain Compensation Ponds | Lower Wekiva River Preserve State Park | Neighborhood Lakes             | Other Public and/or Conservation Lands (Various Colors) | Existing R/W                   |
|                               |  |                                |   | Proposed Bridge                |

**Exhibit 4-9**  
**Section 4(f) Impacts to Wekiva River Basin State Parks**  
Sheet 1 of 3





LEGEND

- |                               |                                |                    |                                |
|-------------------------------|--------------------------------|--------------------|--------------------------------|
| Stormwater Ponds              | Seminole State Forest          | Neighborhood Lakes | Proposed Build Alternative R/W |
| Floodplain Compensation Ponds | Rock Springs Run State Reserve | Proposed Bridge    | Existing R/W                   |



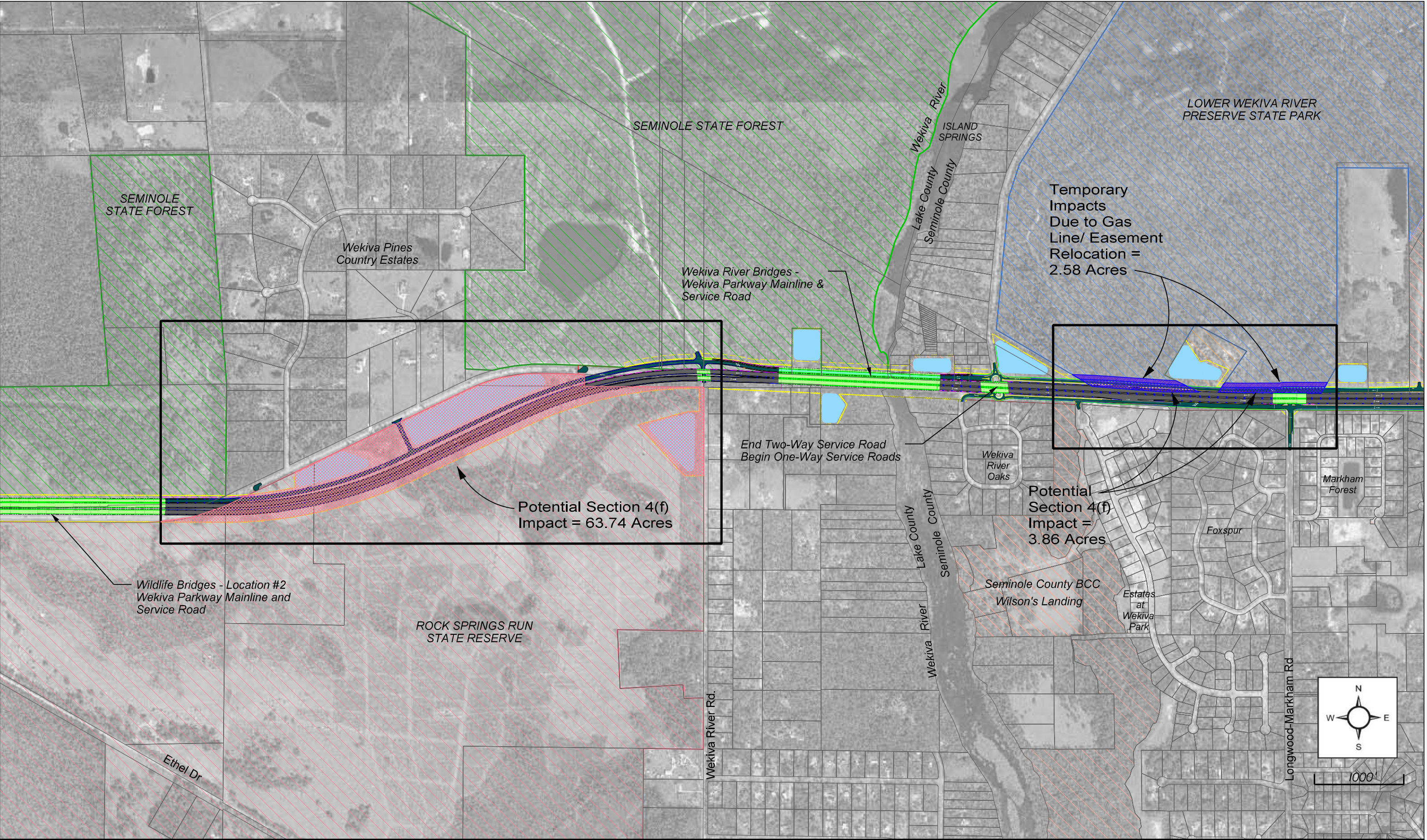
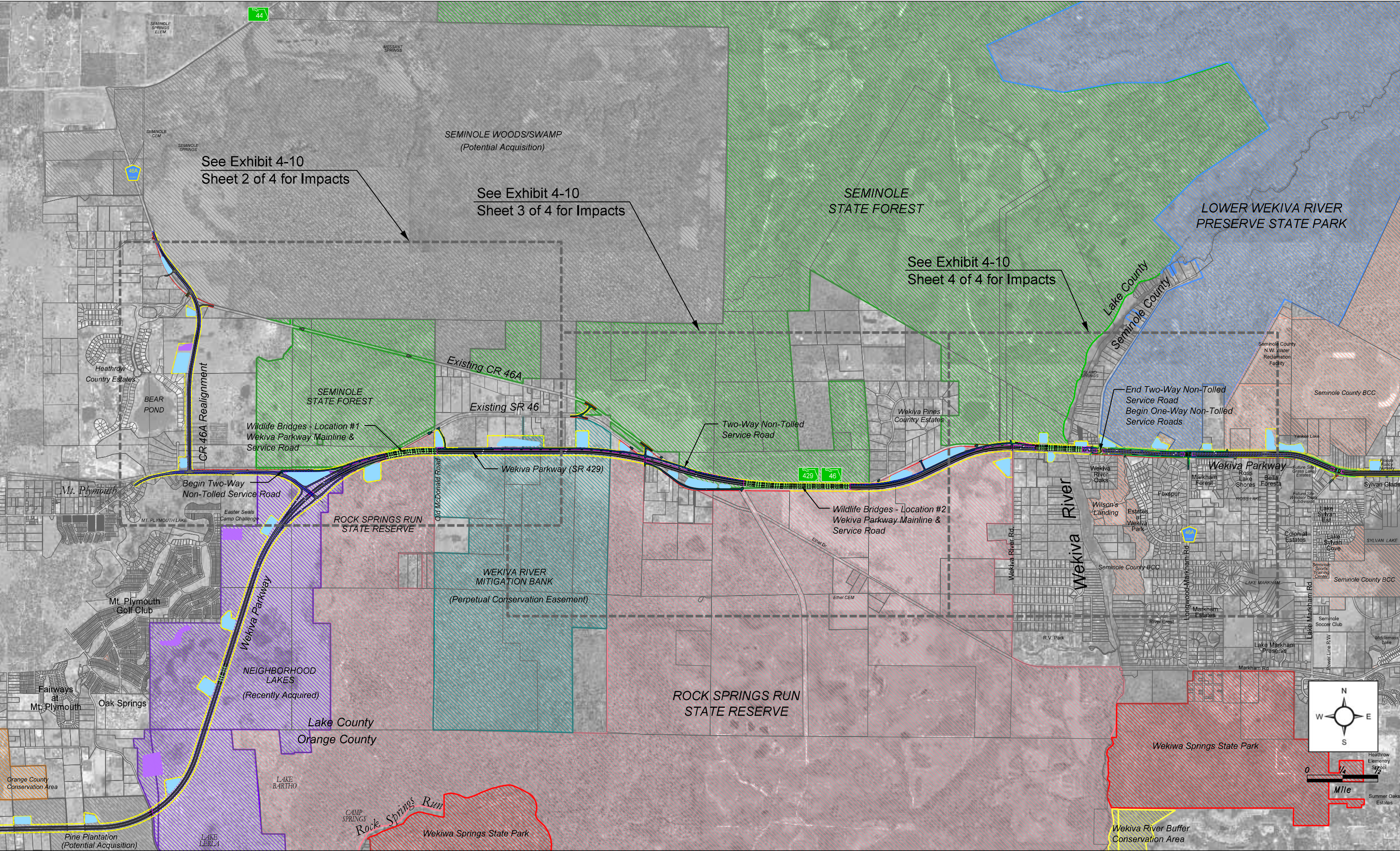


Exhibit 4-9  
Section 4(f) Impacts To Wekiva River Basin State Parks  
Sheet 3 of 3





**LEGEND**

Stormwater Ponds	Seminole State Forest	Rock Springs Run State Reserve	Wekiva River Mitigation Bank	Proposed Build Alternative R/W
Floodplain Compensation Ponds	Lower Wekiva River Preserve State Park	Neighborhood Lakes	Other Public and/or Conservation Lands (Various Colors)	Existing R/W
				Proposed Bridge

**Section 4(f) Impacts To Seminole State Forest**

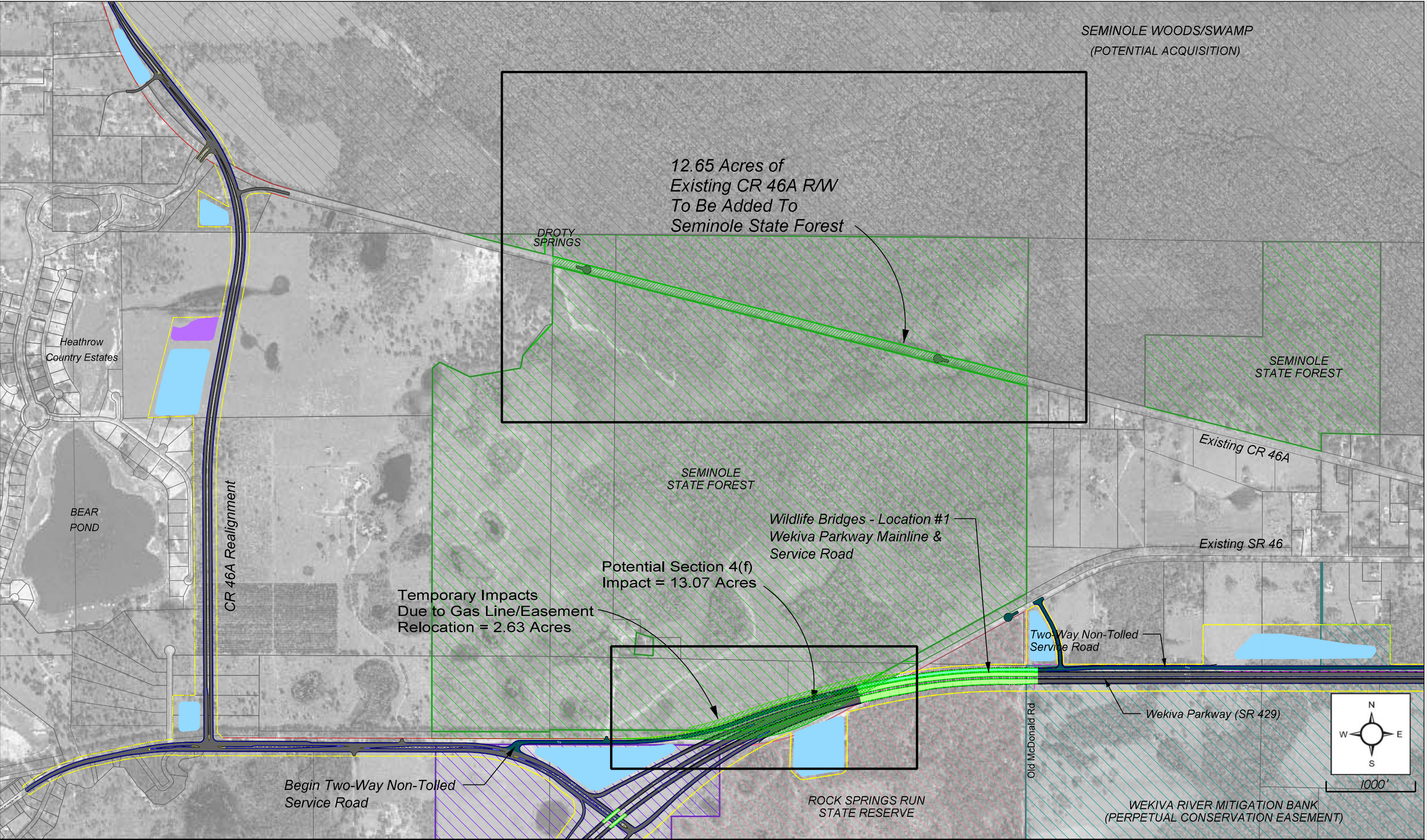
**Exhibit 4-10**

Sheet 1 of 4

**WEKIVA PARKWAY**

Project Development and Environment Study





LEGEND

- Stormwater Ponds

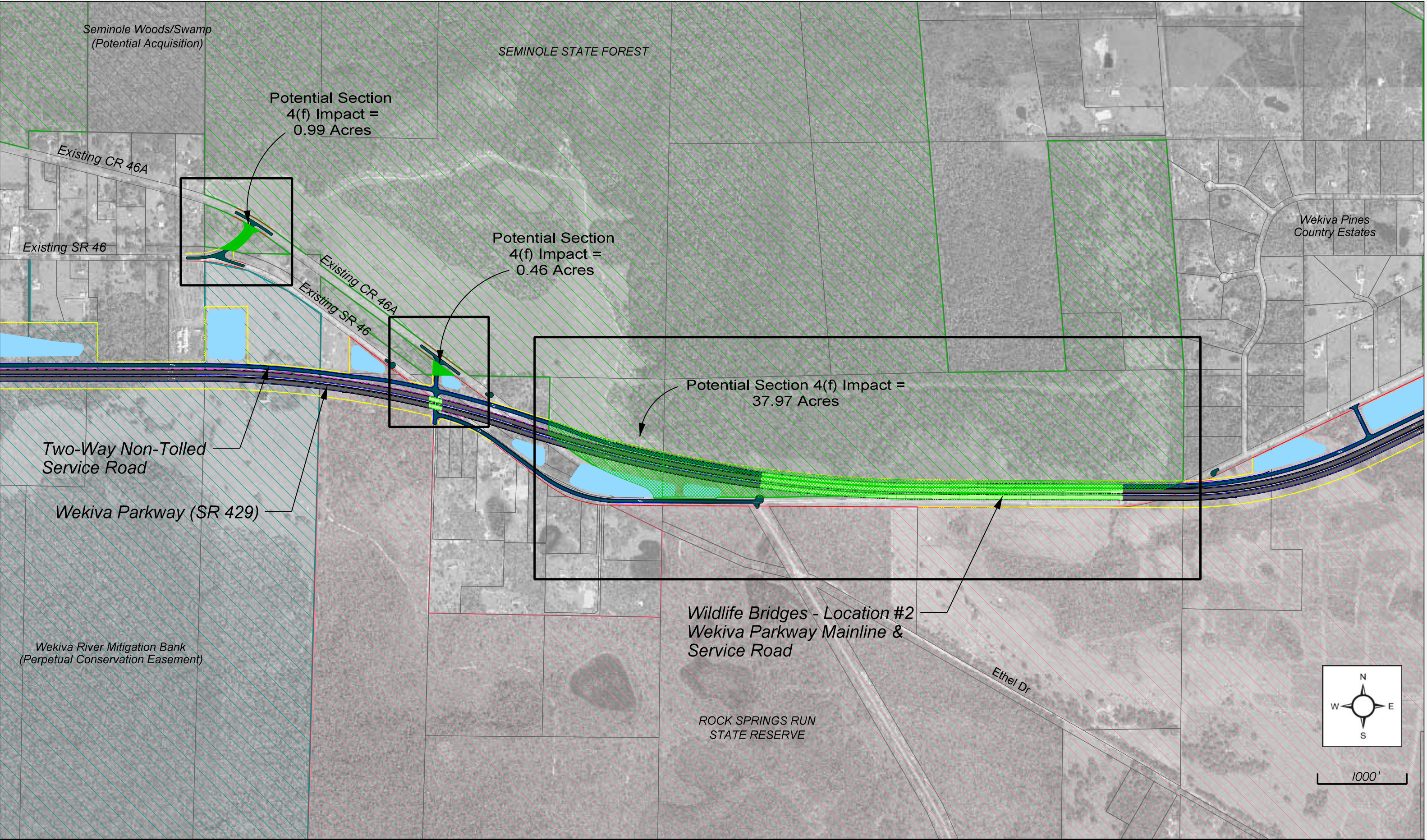
Floodplain Compensation Ponds
- Seminole State Forest

Rock Springs Run State Reserve
- Neighborhood Lakes

Proposed Bridge
- Proposed Build Alternative R/W

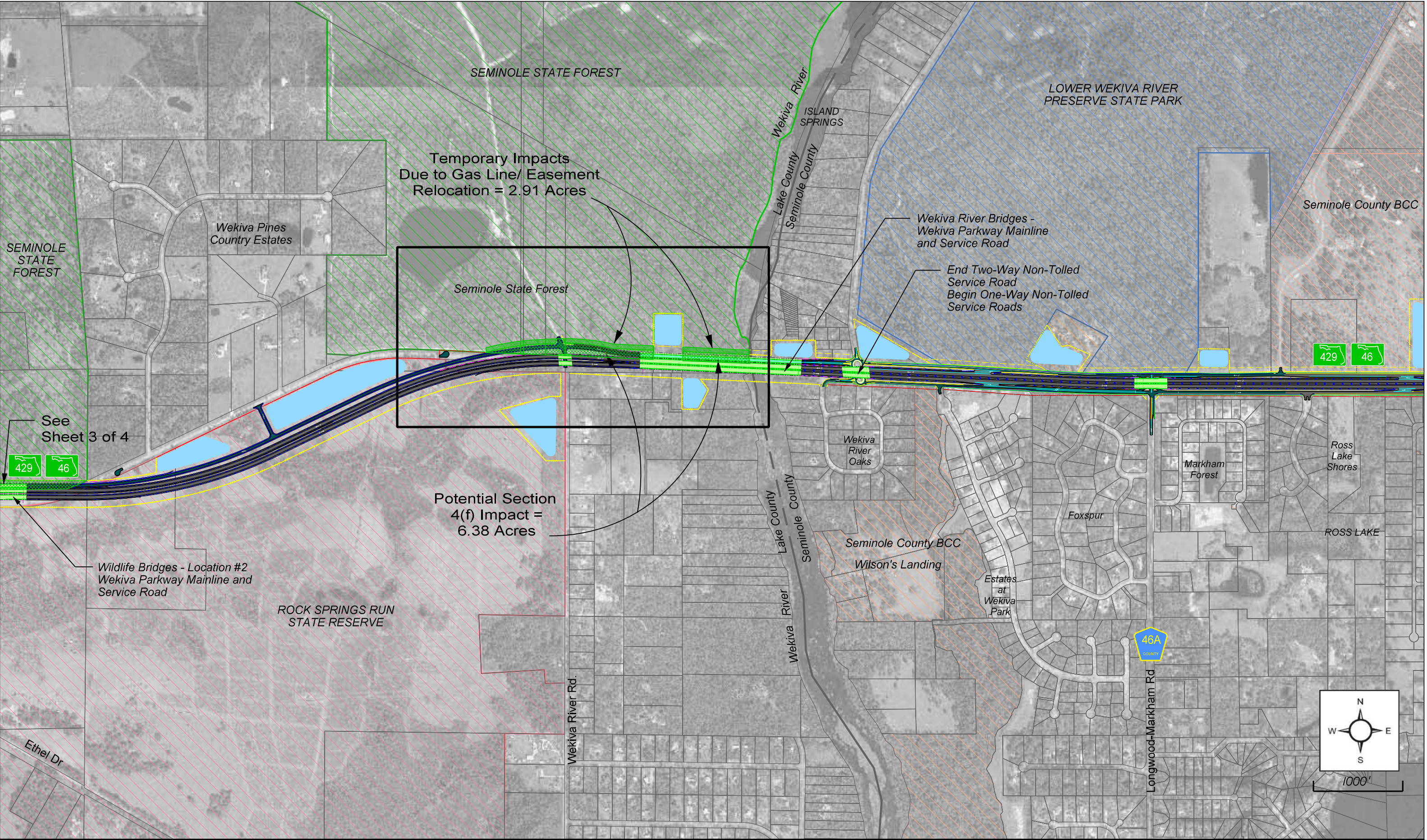
Existing R/W





LEGEND			
	Stormwater Ponds		Seminole State Forest
	Floodplain Compensation Ponds		Rock Springs Run State Reserve
			Neighborhood Lakes
			Proposed Bridge
			Proposed Build Alternative R/W
			Existing R/W







## 4.3 Natural and Physical Impacts

### 4.3.1 Pedestrian/Bicycle Facilities

The following is a discussion of existing and proposed pedestrian/bicycle facilities (i.e., sidewalks, bikeways, trails and greenways) within the project study area. These facilities are categorized by use. Bikeway facilities include bike lanes, bike routes, and/or paved shoulders. Trail facilities include paved and unpaved multi-use trails. Greenway facilities are corridors of protected open space that are managed for conservation and/or recreation.

The Wekiva Parkway is proposed as a limited access facility. Florida Statutes (Section 316.091 (2)) prohibit pedestrians and bicycles on limited access facilities. As interpreted by FDOT's Deputy General Counsel, the construction of bicycle and pedestrian paths and trails are not prohibited along limited access highways as long as the pedestrians and bicyclists (and other users) do not use or enter upon the ramps or roadway surfaces. FDOT, District Five has indicated trails will not be allowed within the limited access right-of-way unless there are no other alternatives.

The urban typical sections for the SR 46 Reconstruction in Lake County West and the frontage roads along the Wekiva Parkway (SR 429) in Seminole County will include paved shoulders and sidewalks as discussed below.

#### Sidewalks and Bikeways

The majority of the roadways within the study area were constructed prior to current design standards and do not include pedestrian and/or sidewalk facilities. Newer subdivisions, built since changes in land development codes requiring sidewalks were enacted, have sidewalks on both sides of the streets.

Sidewalks within the study area are located in Seminole County along the south side of SR 46 in front of Estates at Wekiva Park, along Longwood Markham Road, along the entrance road to Lake Forest subdivision and along the north side of SR 46 in front of the Lake Forest Village Shops. Seminole County will use \$350,000 in grants through FY 2011/2012 to pay for design and construction of a sidewalk from Wilson Elementary School to International Parkway (FM No. 425823). Any existing sidewalks impacted by the Proposed Build Alternative will be reconstructed as part of the proposed improvements.

According to METROPLAN ORLANDO's Existing, Funded & Prioritized Bicycle & Pedestrian Projects, the paved shoulders along SR 46 in Seminole County constitute bicycle and pedestrian facilities. The proposed project will impact the existing paved shoulder along portions of SR 46 in Seminole County. In compliance with Section 109(m) of 23 USC, the proposed project along SR 46 will provide bicyclists a reasonable alternative to the existing facility. Sidewalks and undesignated bicycle lanes are included in the SR 46 urban controlled access typical section proposed for the project. Four-foot paved shoulders that can be utilized by bicyclists are provided on the urban typical section for SR 46 in Lake and Seminole Counties. Sidewalks for pedestrians are also provided in the SR 46 proposed typical section. In Lake County West, the proposed sidewalks are five feet wide. In Seminole County, the frontage roads will have five-foot sidewalks on the north side of the Wekiva Parkway and ten-foot sidewalks on the south side. The proposed CR 46A Realignment rural controlled access typical section includes five feet of shoulder pavement within the 12-



foot outside shoulders that will accommodate bicyclists. No sidewalks are proposed for this rural roadway.

### Existing Trails

Numerous hiking, bicycling, horseback riding, and canoe trails are located within the state-owned public lands adjacent to the Wekiva Parkway study corridor. These lands include Wekiwa Springs State Park, Rock Springs Run State Reserve, Seminole State Forest, and Lower Wekiva Preserve State Park. These trails are included in the Florida National Trail system. The Florida National Scenic Trail generally follows the paths of other existing and planned trails. The Cassia section of the trail extends from Longwood to the Ocala National Forest. Within Seminole County, the trail runs west along the Seminole-Wekiva bicycle path from Markham Road, north along Lake Markham Road to SR 46. The trail crosses to the north side of SR 46, loops into the Lower Wekiva Preserve State Park and then crosses into Lake County at the Wekiva River bridge. From there the trail enters the Seminole State Forest to SR 44. Loops and side trails of the Florida National Scenic Trail are located in Wekiwa Springs State Park and Rock Springs Run State Reserve. No impacts to the Florida National Scenic Trail are anticipated as a result of this project. In the area of the Wekiva River, where the proposed project interfaces with the route of the trail, continuity will be provided along the proposed service and frontage road sidewalks. The proposed service road bridge over Wekiva River will accommodate a 10-foot barrier-separated trail crossing.

### Wekiva Parkway (SR 429)/SR 46 Realignment PD&E Study Trail Assessment

As part of the Wekiva Parkway (SR 429)/SR 46 Realignment PD&E Study, an assessment of whether the proposed project could accommodate a multi-use trail was undertaken and completed. The purpose of the assessment was to identify and coordinate existing, planned, and proposed trails within the general study area of the Wekiva Parkway, and to develop concepts to indicate how trail continuity may be accomplished with the introduction of the Wekiva Parkway.

The trail is not to be located within the limited access areas of the Wekiva Parkway (SR 429); however, certain areas of reconstructed SR 46 in Lake County West and Seminole County offer provisions for sidewalks and a potential trail. Those areas include SR 46 from east of US 441 to east of Round Lake Road in Lake County, and from east of the Wekiva River to Lake Markham Road in Seminole County. Also, remnant portions of SR 46 in Lake County East may be usable for a trail.

Orange, Lake, and Seminole Counties have had long-range plans to interconnect their showcase multi-use trails within the project study area. The Wekiva Parkway trail assessment provided a forum for the counties and other stakeholders to meet and discuss future trail alignments. Subsequent to the initial coordination meeting, the counties reviewed the Proposed Build Alternative alignment concepts and developed trail alternatives. Those trail alternatives were overlaid with the proposed Wekiva Parkway alignment. From the maps, it was determined that there are four key locations along the Wekiva Parkway corridor where trail connectivity and continuity needs to be considered.

Those locations, as depicted on **Exhibit 4-11**, are as follows:

- US 441 near SR 46 – Lake County/Mount Dora
- SR 46 Bypass east of Round Lake Road – Lake County
- East of Mount Plymouth – Lake County
- Wekiva River Crossing – Lake and Seminole Counties







Basic concepts to establish the ability to provide connectivity at these key points where the proposed trails would interface with the Proposed Build Alternative alignment were developed in coordination with representatives of the affected local governments and other stakeholders. The results of the trail assessment indicate that the Proposed Build Alternative for the Wekiva Parkway (SR 429)/SR 46 Realignment can accommodate a multi-use trail, as documented in a final report entitled *Assessment of Multi-Use Trail Accommodation* (October 2008); however, it was the consensus opinion of the counties and other stakeholders at a second coordination meeting that a detailed trail study should be funded and undertaken to consider different types of trails to accommodate a range of users. Thereafter, FDOT undertook a separate Feasibility Study for evaluation of trail alternatives. Assessments of the potential trail locations and other design parameters were developed and coordinated with the respective local governments and other stakeholders. This included coordination with land owners and public land managers as appropriate. Costs for trail construction are not included in the Wekiva Parkway project cost estimate. However, the design concept for the Service Road bridge over the Wekiva River does provide additional width and a traffic separator to accommodate a trail.

### **Planned Trails**

As a result of the Wekiva Parkway trail assessment, Orange, Lake, and Seminole Counties have coordinated regarding plans for a regional trail system. The Lake County Trails Master Plan (July 15, 2008) includes a preliminary alignment for the planned Lake-Wekiva Trail, along with potential connection points to the West Orange Trail and the Seminole-Wekiva Trail.

There are currently no existing multi-use trails within or adjacent to the Lake County portion of the study corridor. The planned 15-mile Lake-Wekiva Trail will connect with the Tav-Dora Trail in Mount Dora, the West Orange Trail in Orange County, and the Seminole-Wekiva Trail in Seminole County. The trail will utilize historic railroad grades, remnant sections of SR 46, roadway right-of-way, and other public lands.

Orange County's West Orange Trail currently terminates at Welch Road, approximately 3 miles east of the proposed Wekiva Parkway alignment. Phase I of the existing trail extends 5 miles from the Lake County line to Winter Garden; Phase II extends 14 miles to US 441 in Apopka; Phase III extends 2.7 miles to Welch Road. Phase IV of the trail will extend north to Kelly Park and east to Wekiwa Springs State Park. This phase of the project is currently unfunded. An extension of the planned trail, from Kelly Park north to SR 46 is shown in the Lake County Trails Master Plan.

The Seminole-Wekiva Trail in Seminole County is considered one of the County's four major trails, which also include the Cross Seminole Trail, the Flagler Trail, and the Florida National Scenic Trail, discussed above. The Seminole-Wekiva Trail currently extends from SR 436 in Altamonte Springs to the Markham Trailhead located on Markham Road, just west of Lake Markham Road. Plans to extend the trail south to connect with the West Orange Trail, and northwest along Lake Markham Road and SR 46 to the Wekiva River, are currently unfunded.

There are no programmed trails within the project study corridor at this time.

### **Wekiva-Ocala Greenway**

Efforts to conserve a continuous natural corridor spanning from Wekiwa Springs State Park to the Ocala National Forest began in the 1960's. The State of Florida, as part of the Florida Forever project, has acquired approximately 65% of the tracts needed to complete the



Wekiva-Ocala Greenway. Public conservation lands currently included in the Wekiva-Ocala Greenway include Wekiva River Buffer Conservation Area, Wekiwa Springs State Park, Rock Springs Run State Reserve, Lower Wekiva River Preserve State Park, Black Bear Wilderness Area, Hontoon Island State Recreation Area, and Blue Spring State Park.

The 2008 Florida Forever Five-Year Plan lists the essential tracts within the study area yet to be acquired as Seminole Springs/Woods, and a portion of Pine Plantation. The Wekiva Parkway (SR 429) study corridor crosses through portions of Pine Plantation, Neighborhood Lakes, Rock Springs Run State Reserve, Seminole State Forest, and Lower Wekiva River Preserve State Park. The acquisition of conservation property as previously referenced in *Section 4.2.2.1* further enhanced the Wekiva-Ocala Greenway.

### 4.3.2 Visual/Aesthetic

The Wekiva River Basin Area Task Force envisioned the Wekiva Parkway as similar to well known scenic highways, and included promoting “a ‘Parkway’ look with appropriate natural buffers between the roadway and the adjacent areas” in the “Guiding Principles”. FDOT and the Expressway Authority are committed to developing a landscape plan during the final design phase that will accentuate the natural environment. Consistent with the recommendations of the “Guiding Principles” to support the conservation of dark skies in the Wekiva River Protection Area, FDOT and the Expressway Authority will incorporate non-intrusive and minimal roadway and bridge lighting in the final design plans in appropriate areas for Wekiva Parkway.

### 4.3.3 Air

National Ambient Air Quality Standards (NAAQS) established for air pollutants have also been adopted as the ambient air quality standards for the State of Florida. An area may be designated as attainment/unclassifiable if monitored air quality data show that the area has not violated the standards over a 3-year period or if there is not enough information to determine air quality in the area. The proposed project is in the Central Florida Intrastate Air Quality Control Region, an area which has been designated as attainment for all the air quality standards under the criteria provided in the Clean Air Act Amendments of 1990; therefore, State Implementation Plan (SIP) conformity does not apply.

As required by the FDOT *PD&E Manual* for attainment areas, carbon monoxide (CO) screening tests were performed for the Proposed Build Alternative and the No Build scenario. As documented in the updated final *Air Quality Analysis Report* (CH2M HILL, June 2010), modeling was conducted for the Opening Year (2012) and Design Year (2032) No Build and Build Alternatives. The screening model, *CO Florida 2004*, uses the latest EPA-approved software (MOBILE 6 and CAL3QHC) to produce estimates of 1-hour and 8-hour vehicular CO emissions at default receptor locations. The model was utilized to perform screening tests for worst-case traffic locations to estimate the effects of the proposed improvements on local air quality conditions. The results of the *CO Florida 2004* screening test were compared to the NAAQS to determine if there was any potential for violation of the standards established for CO. The results of the analysis, as shown in **Table 4-7**, indicate the proposed improvements will not cause CO concentrations at or above the maximum 1-hour and 8-hour NAAQS. In fact, the comparative 1-hour and 8-hour CO concentrations are lower for the Build Alternative than for the No Build Alternative.



TABLE 4-7  
Carbon Monoxide (CO) Screening Test Results

Intersection	Max 1-hour Concentration (ppm)	Max 8-hour Concentration (ppm)	1-hour CO NAAQS (ppm)	8-hour CO NAAQS (ppm)
2012 No-Build				
CR 46A and International Parkway	11.1	6.7	35	9
CR 46A and Rinehart Road	12.6	7.6	35	9
2032 No-Build				
CR 46A and International Parkway	11.1	6.7	35	9
CR 46A and Rinehart Road	11.8	7.1	35	9
2012 Build				
CR 46A and Rinehart Road	12.0	7.2	35	9
2032 Build				
CR 46A and International Parkway	10.4	6.2	35	9
CR 46A and Rinehart Road	11.2	6.7	35	9

#### 4.3.4 Noise

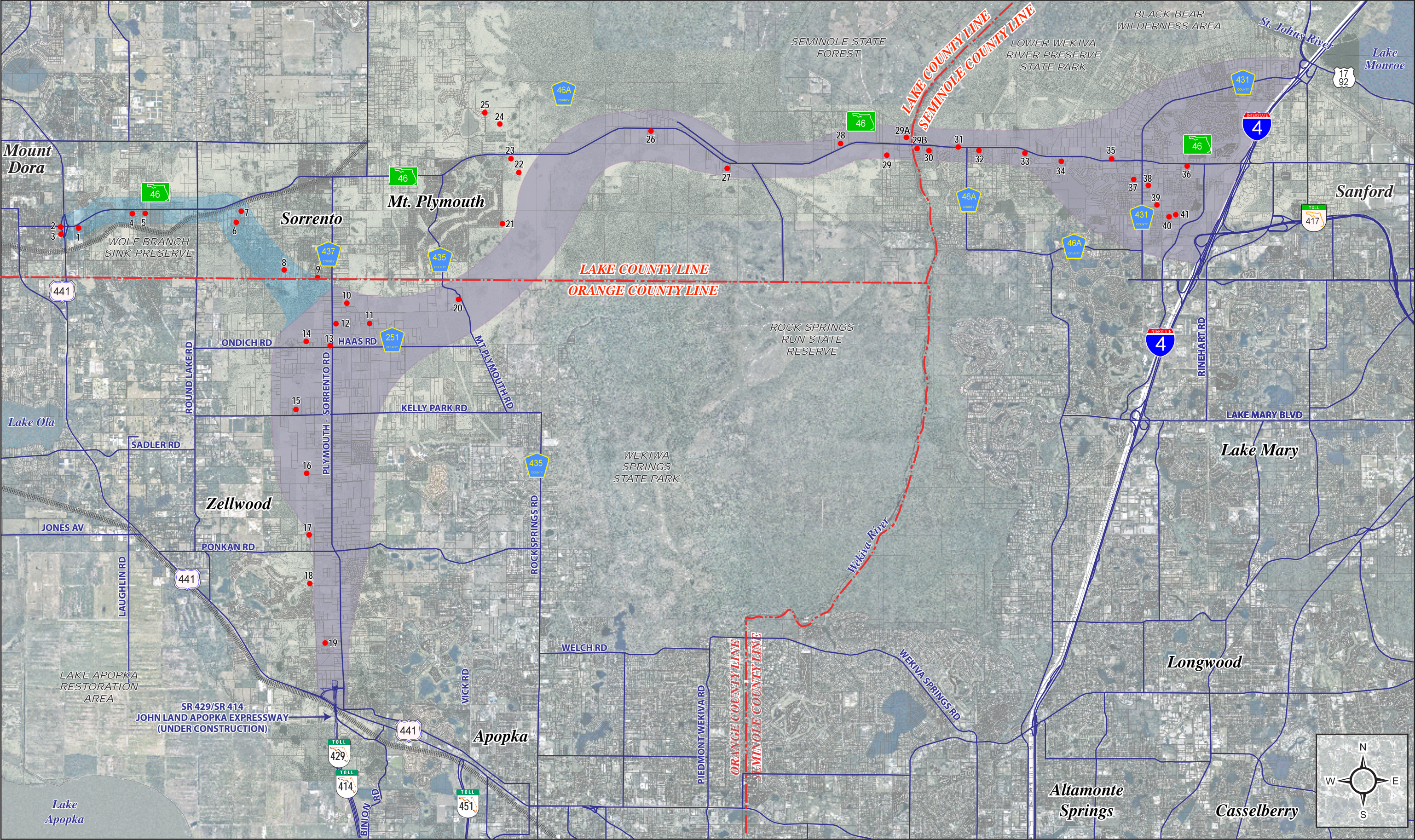
A noise study report was prepared for the Wekiva Parkway (SR 429)/SR 46 Realignment PD&E Study in accordance with the requirements of amended 23 Code of Federal Regulations (CFR), Part 772 – *Procedures for Abatement of Highway Traffic Noise and Construction Noise* (effective date July 13, 2011) and updated Chapter 17 in Part 2 of the FDOT *PD&E Manual*. The updated final *Noise Study Report* (CH2MHILL, March 2012) documents the results of the existing conditions ambient noise monitoring and the predicted future noise levels for the project study area. This section summarizes the methodology and results of the noise impact analysis performed for the Proposed Build Alternative.

Existing noise conditions throughout the project study area are generally driven by local vehicular traffic and, at some locations, distant traffic. Traffic along key arterials is the dominant source of noise for areas located along those roadways. SR 46 is a major source of noise due to its high traffic volume within the project study area. Other environmental noise sources contributing to the ambient noise environment include occasional distant aviation and commercial aircraft operations. Aircraft flights are not frequent enough to substantially contribute to background noise exposure.

Noise sensitive sites within the project corridor consist mostly of residential communities and several residential clusters. Noise level measurements were conducted at 43 locations within the project study area. Those monitoring locations are representative of noise sensitive sites adjacent to the proposed facility. The ambient noise monitoring locations are shown on **Exhibit 4-12**.

Future traffic noise levels for the No-Build and Build Alternatives were predicted using the FHWA TNM, Version 2.5, computerized highway noise prediction model. The noise levels for the design year (2032) Build Alternatives were calculated and compared to the existing and No-Build condition noise levels at 43 noise sensitive sites along the project corridor. Those locations provided representative data to evaluate noise levels and potential noise impacts throughout the study area. To predict traffic noise levels using TNM, certain input





**LEGEND**

Wekiiva Parkway Study Area

SR 46 Realignment Study Area

Noise Monitoring Locations

**Exhibit 4-12**  
**Noise Monitoring Locations**



parameters are needed. These include detailed roadway geometry, receiver locations, propagation characteristics, topography, and traffic data.

Tables presenting the comparison of the noise levels for the existing (2007), future No-Build (2032), and future Build (2032) conditions within the four general project areas are included in the updated final *Noise Study Report*. Predicted noise levels determined for the Proposed Build Alternative indicate that noise impacts will occur in several areas. The updated final *Noise Study Report* has further information and graphics depicting the locations of the potentially impacted sites.

Potential traffic noise mitigation measures that may be considered for the project include the following:

- Construction of noise barriers within the proposed right-of-way;
- Modifying the proposed horizontal and/or vertical alignment of the roadway;
- Acquisition of property to serve as buffer zones to preempt development that would be adversely impacted by traffic noise;
- Modifying speed limits, and;
- Restricting truck traffic.

Of the above mitigation measures, the noise barrier option is the most practical and effective choice. Modification of roadway horizontal or vertical alignments for the purpose of noise reduction is too costly and is not practical in terms of engineering design considerations. Substantial changes to the roadway alignment or profile are neither necessary nor compatible with project constraints. Acquisition of private property adjacent to the proposed right-of-way to act as buffer zone would not be practical. Lowering speed limits or restricting truck traffic would be inconsistent with the project need and purpose.

A noise barrier is considered feasible and reasonable if it meets the following criteria:

#### Feasibility

Feasibility is based on the minimum required noise reduction and constructability.

- It must provide a minimum insertion loss (noise reduction) of 5 dB(A) for at least two *impacted* receptors.
- The barrier must be compatible with safety, drainage, utility considerations, etc.

#### Reasonableness

The reasonableness evaluation is based on the noise reduction design goal, cost-effectiveness, and the viewpoints of the benefited receptors.

- The noise barrier must provide a minimum insertion loss of 7 dB(A) for at least one *benefited* receptor.
- The cost of the noise barrier should not exceed \$42,000 per benefited noise sensitive site. This is the reasonable cost limit established by FDOT. A benefited noise sensitive site is defined as a site that would experience at least a 5 dB(A) reduction as a result of providing a noise barrier. The current unit cost used to evaluate economic reasonableness is \$30 per square foot, which covers barrier materials and labor.
- If the barrier is determined to meet the design goal and be cost-effective, the viewpoints of benefited receptors must be solicited to determine the desire for building the noise



barrier. A detailed process to establish and document public support for or opposition to a noise barrier determined to be feasible and cost reasonable will be performed during the final design phase of the project.

The TNM model was used to analyze the acoustical effectiveness of a noise barrier at each of the noise sensitive sites with a predicted future noise level that approaches or exceeds the Noise Abatement Criteria (based on Table 1 in 23 CFR Part 772), or that would result in a substantial increase per FDOT criteria. The noise abatement analysis indicates that there are 99 benefited receivers which met the criteria for a noise barrier. A summary of the noise impacts for the Proposed Build Alternative, listed by county, is presented in **Table 4-8**.

TABLE 4-8  
Summary of Proposed Build Alternative Noise Impacts

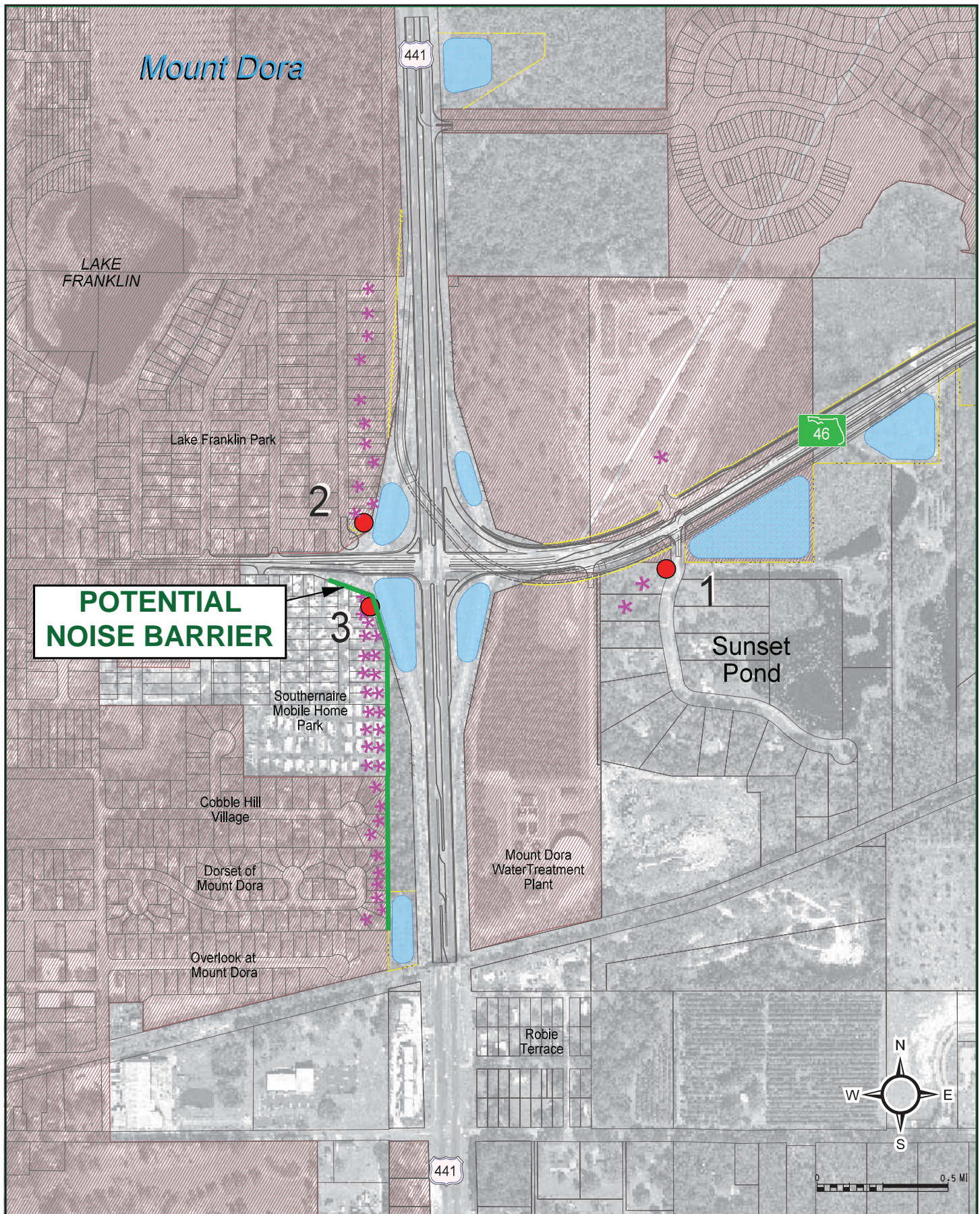
	Existing Residences	Planned/ Permitted Residences	Non-Residential (Churches, Schools)	Total	Benefited Receivers*
<b>ORANGE COUNTY</b>					
Kelly Park Road Interchange Alignment with Systems Interchange Alternative 1 and Orange County Alternative 1	66	0	0	66	0
<b>LAKE COUNTY WEST</b>					
US 441/SR 46 Interchange Alternative 2 with SR 46 North Widening and Lake County West Alternative 1	63	2	0	65	29
<b>LAKE COUNTY EAST</b>					
Neighborhood Lakes Alternative 1	12	0	0	12	0
CR 46A Alternative 1A	5	0	0	5	0
Southern (Red) Alignment with Parallel Service Road	5	0	0	5	0
<b>SEMINOLE COUNTY</b>					
Wekiva Parkway with Frontage Roads North Widening of SR 46 corridor	100	0	0	100	50
Alternative B Connection to SR 417/I-4 Interchange	31	0	2	33	20

\* Number of receivers that may benefit from a noise barrier determined to be potentially feasible and cost reasonable.

The results of the noise abatement evaluation indicate:

- A 16 foot high noise barrier was determined to be potentially cost reasonable for the Southernaire Mobile Home Park, Cobble Hill Village, and Dorset of Mount Dora subdivisions in the Lake County West project area. This is noise monitoring location #3 on previously referenced Exhibit 4-12, near the US 441/SR 46 interchange. **Exhibit 4-13 Sheet 1** shows the general location of the proposed noise barrier.
- A 22 foot high noise barrier was determined to be potentially cost reasonable for the Twelve Oaks RV Resort in the Seminole County project area. This is noise monitoring location #35 on previously referenced Exhibit 4-12, on the north side of SR 46. **Exhibit 4-13 Sheet 2** shows the general location of the proposed noise barrier.
- A 16 foot high noise barrier was determined to be potentially cost reasonable for the Ballantrae Apartments (formerly Cobblestone Apartments) in the Seminole County project area. This location is southeast of noise monitoring location #40 on previously referenced Exhibit 4-12, on the west side of International Parkway. **Exhibit 4-13 Sheet 3** shows the general location of the proposed noise barrier.
- Noise barriers were determined to not be a feasible and/or cost reasonable abatement measure at 187 noise sensitive sites identified as impacted by the proposed project.





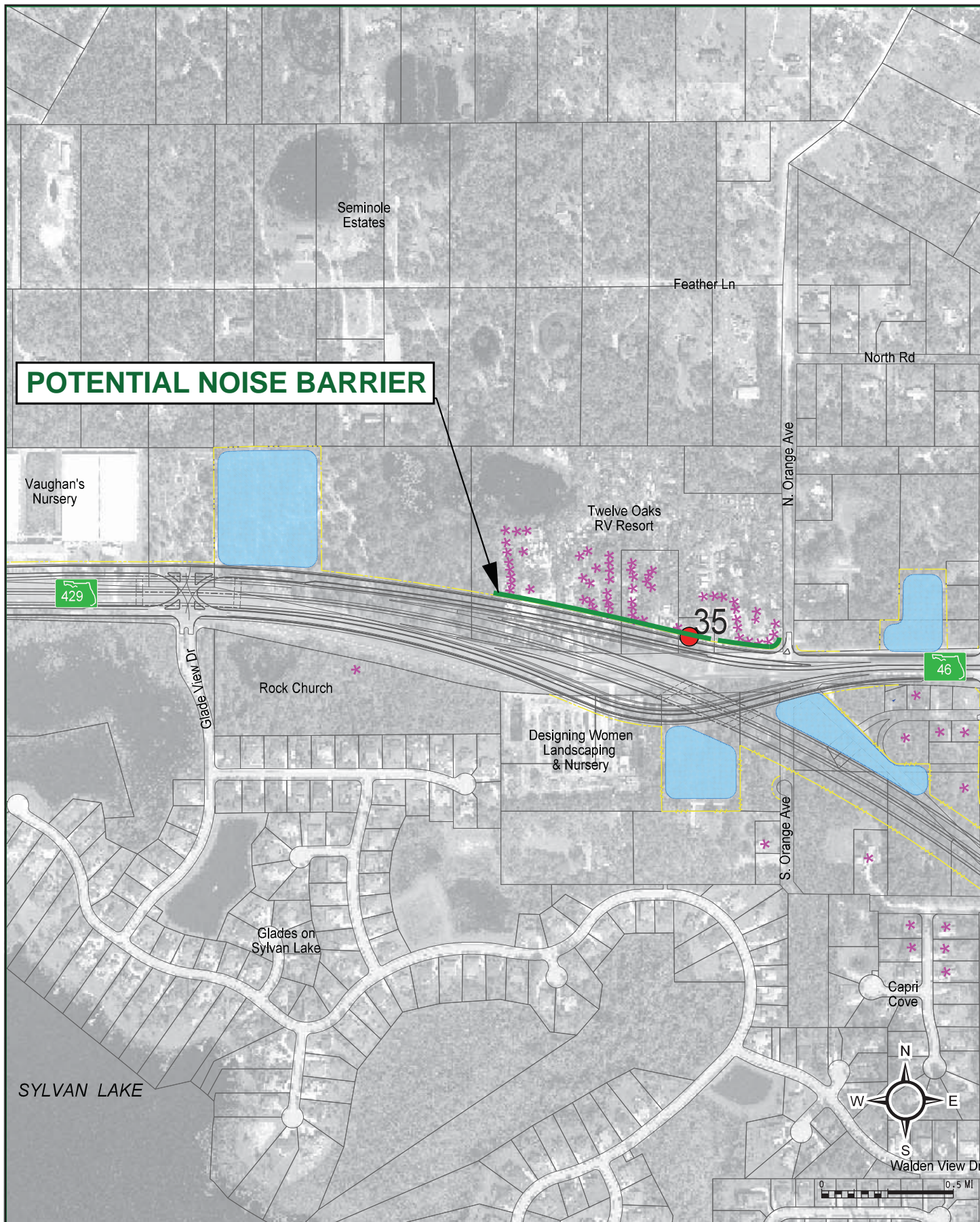
# LEGEND

- Noise Monitoring Location
- ✱ Noise Impact Receptor
- Noise Barrier

## Exhibit 4-13 Potential Noise Barrier Location

Sheet 1 of 3





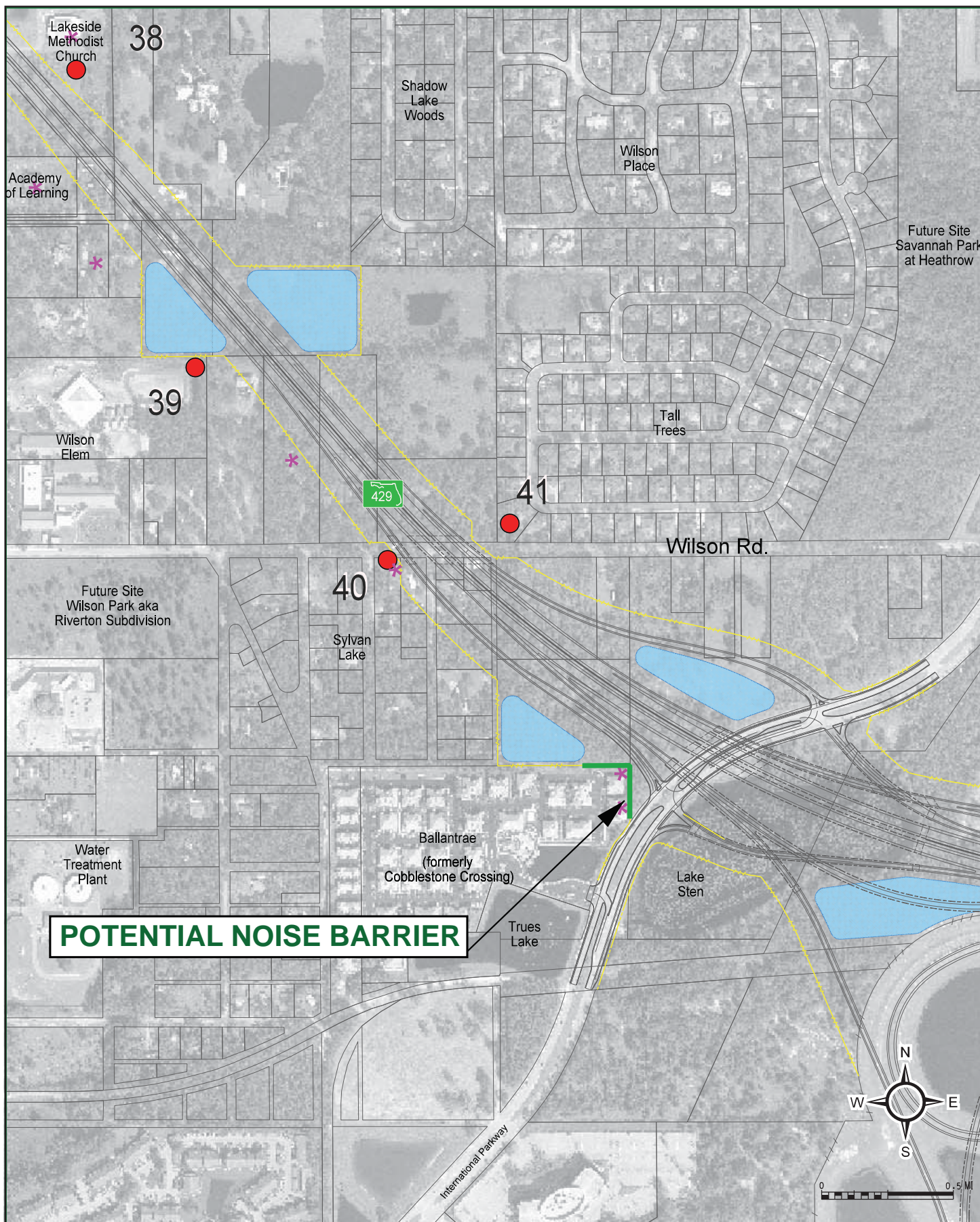
#### LEGEND

- Noise Monitoring Location
- Noise Barrier
- ✱ Noise Impact Receptor

#### Exhibit 4-13 Potential Noise Barrier Location

Sheet 2 of 3





#### LEGEND

- Noise Monitoring Location
- Noise Barrier
- ✱ Noise Impact Receptor

#### Exhibit 4-13 Potential Noise Barrier Location

Sheet Hof 3



Photographs of typical 16-foot and 22-foot noise barriers are shown in **Exhibit 4-14**.

**Table 4-9** provides a summary of noise barriers that will be evaluated further in the final design phase.

TABLE 4-9  
Summary of Noise Barrier Analysis

Height/ Length (ft)	Insertion Loss of dB(A)	Number of Benefited Receivers	Total Estimated Cost	Cost per Benefited Receiver	Cost Reasonable Yes/No
<b>Southern Mobile Home Park, Cobble Hill Village, Dorset of Mount Dora</b>					
16 <sup>1</sup> /1,979	5-15	29	\$949,980	\$32,757	Yes
<b>Twelve Oaks RV Resort</b>					
22 <sup>1</sup> /1,437	5-9	50	\$948,900	\$18,978	Yes
<b>Ballantrae Apartments (formerly Cobblestone Apartments)</b>					
16-18 <sup>1</sup> /1,043	5-7	20	\$546,600	\$27,330	Yes

<sup>1</sup>Noise Barrier Wall located at right of way line.

In this analysis, noise abatement is proposed based on the alignment of the Proposed Build Alternative. If pertinent parameters change substantially for any reason, the noise barriers may be altered or eliminated from the final project design. A final decision on construction of noise barriers will be made upon public input and completion of the project design. Where determined to be needed based on the results of the noise analysis, FDOT and the Expressway Authority are committed to the construction of noise barriers where reasonable and feasible, contingent upon the following conditions:

- Detailed noise analysis during the final design phase supports the need for abatement.
- Reasonable cost analysis indicates that the economic cost of the barrier(s) will not exceed acceptable guidelines as determined by FDOT and the Expressway Authority.
- Community input regarding the barrier(s), solicited by FDOT and the Expressway Authority during the final design phase, is positive.
- Safety and engineering aspects as related to the roadway user and the adjacent property owner(s) are acceptable.
- Any other mitigating circumstances have been resolved.

FDOT and/or the Expressway Authority have committed to conduct a more detailed noise analysis during the final design phase. If, during the final design phase of the project, any of the contingency conditions listed above cause abatement to no longer be considered reasonable or feasible for a given location or locations, such determination will be made prior to requesting approval for construction advertisement. In addition, during final design and prior to construction, those sites that may be affected through any final design alignment changes, including those sites now considered borderline, will be revisited with regard to noise abatement analysis.





Typical 16 foot high noise barrier (complete)

Source: FDOT, District Five EMO



Typical 22 foot high noise barrier (under construction)

Source: FDOT, District Five EMO

## Exhibit 4-14 Typical Noise Barriers



There may be potential for construction noise and/or vibration impacts during construction of the proposed roadway improvements. It is anticipated that the application of the *FDOT Standard Specifications for Road and Bridge Construction* will minimize or eliminate most of the potential construction noise and vibration impacts. For construction noise and vibration sensitive receptors, avoidance and/or mitigation options will be developed during the final design phase. For example, places of worship are considered to be noise-sensitive receivers; particularly noisy construction activities should be limited or avoided during scheduled worship services. These types of avoidance and/or mitigation options will be placed in the construction plans and applied during the construction of the project. However, should unanticipated noise or vibration issues arise during the construction process, FDOT/OOCEA will investigate additional methods of controlling such impacts.

#### 4.3.5 Wetlands

In compliance with Presidential Executive Order 11990, and the Federal Highway Administration's (FHWA) Technical Advisory T6640.8A, Title 23, Code of Federal Regulations (CFR), Part 777, and in accordance with guidelines presented in Part Two, Chapter 18 of FDOT's *PD&E Manual*, assessments of wetland and other natural resources within the project study corridor were conducted.

Project biologists identified and evaluated wetlands within the study area which was defined as roughly an 800-foot wide corridor centered on the alternative alignments and immediate vicinity, in addition to potential stormwater pond locations. Wetlands were classified, described and quantified using limited field verification of readily available information such as the National Wetlands Inventory (NWI) mapping, SJRWMD GIS database of land use mapping, and soil surveys for Lake, Orange, and Seminole Counties.

The Uniform Mitigation Assessment Method (UMAM), per Chapter 62-345 F.A.C., was used to evaluate the function and condition of ten representative wetlands that may be impacted by the proposed improvements. Three main parameters are assessed under the UMAM protocol. They are 1) location and landscape, 2) water environment, and 3) vegetation and benthic community. Each parameter is given a score between 1 and 10. The final score is a weighted average.

The UMAM analysis scores for the existing conditions of representative wetlands in 2006 are presented in **Table 4-10**. These representative wetlands are typical of wetlands throughout the project study area and were selected for analysis out of the total set of wetlands identified as potentially being impacted by the project. An approximate delineation of each wetland in the study area and the corresponding wetland identification numbers are shown on project aerials in the updated final *Wetland Evaluation Report* (CH2MHILL, June 2010).

Wetlands identified within the proposed project corridor are of high to moderate quality. Most of the representative wetlands scored above average to average for wetland assessment functions. The Wekiva River, one of the most notable and unique features in the regional landscape, scored the highest due to its near pristine condition and preserved adjacent uplands for wildlife habitat. Wetlands located within or near State Parks, Preserves, and State Forests scored high due to their location in the landscape and the high quality of their water environment. These wetlands were typically identified in east Lake County and Seminole County. In areas of Orange County and west Lake County where development pressures are higher in the adjacent uplands and habitats are more fragmented, wetlands scored lower. The UMAM assessment and scoring worksheets,



PART I – Qualitative Description (per Section 62-345.400, F.A.C.) and PART II – Quantification of Assessment Area (per Sections 62-345.500 and .600, F.A.C.) are presented in the Final Wetland Evaluation Report.

#### 4.3.5.1 Avoidance and Minimization

Avoidance and minimization of wetland impacts is an important objective during the project planning process. Wetland impact avoidance was balanced with impact avoidance of historic structures, valuable upland habitats, natural resources, and public conservation property.

The larger picture of conservation at the landscape level was a major factor in the Proposed Build Alternative selection. Enhancing the connectivity of a meaningful wildlife corridor and maintaining contiguous wildlife habitat was a primary objective throughout the alternative alignment analysis process. Long bridges are proposed in locations that should improve wildlife movement corridor connectivity and effectiveness.

Further impact minimization efforts shall be considered during the final design phase following the PD&E study. Where avoiding wetlands is not possible, proposed impacts to wetlands will be minimized to the maximum extent practicable, based on safe and sound engineering practices and construction constraints.

The use of floating turbidity barriers, silt screens, upland setbacks, and other discharge prevention measures during construction will minimize impacts to remaining wetlands within the vicinity of the project. The proper erosion and turbidity control will be identified during final design, including that needed to meet the Wekiva River Basin special protection requirements, per *Applicant's Handbook* subsections 11.3.3 (SJRWMD, 2006).

The Proposed Build Alternative and related pond sites evaluated during the PD&E Study phase will be reexamined during the final design phase of the project using more detailed surveying and geotechnical information that will be available at that time. Any modifications that are warranted, such as the use of steeper front slopes with or without guard rails through wetland areas, will be considered during the final design phase to further reduce wetland impacts.

#### 4.3.5.2 Impact Assessment

Estimates of wetland impacts for the Proposed Build Alternative are provided in **Table 4-11**. An approximate delineation of each wetland impacted by the Proposed Build Alternative and the corresponding wetland identification numbers are shown in **Exhibit 4-15, Sheets 1 – 4**.

Potential wetland impact acreage was estimated based on the proposed roadway typical sections and preliminary plans for the Proposed Build Alternative. All wetland acreage within the planned right-of-way of the Proposed Build Alternative and within pond locations, comprise the estimated impacts for the purpose of this PD&E study. Actual impact acres may be reduced from this conservative estimate in the final design, permitting, and construction phases.

Cumulative impacts are considered unacceptable when the proposed project, considered in conjunction with past, present, and future activities, would then result in a violation of state water quality standards or substantial adverse impacts to functions of wetlands or other surface waters within the same drainage basin, when considering the basin as a whole. When mitigation of a project's adverse impacts occurs within the same basin as the project, cumulative impacts are presumed to be adequately addressed (SJRWMD, 2006).



TABLE 4-10

## UMAM Parameters and Scores for Existing Conditions

Wekiva Parkway/SR 46 Realignment PD&amp;E Study in Lake, Orange, and Seminole Counties

Wetland ID #	Wetland Type / FLUCFCS	Location and Landscape	Water Environment	Vegetation or Benthic Community	Final UMAM
W33-37	Wekiva River – 510, 630, 644	9	10	9	0.93
W24-27 and contiguous swamp outside of ROW	Mixed habitat of marsh, shrub, and swamp – 617, 630, 631, 641	8	10	9	0.90
# N/A - outside of Proposed Build Alternative	Yankee Lake, mixed forested swamp, marsh – 523, 611, 630, 641, 644	7	10	9	0.87
W16	Marsh – 641	8	8	10	0.87
# N/A - outside of Proposed Build Alternative	Minor spring run, wet prairie – 510, 643	7	10	4	0.70
W48-51	Shrub wetland, marsh – 631, 630, 534, 641, 644	5	7	9	0.70
W55-56	Wet prairie, deep marsh – 643, 644	8	7	4	0.63
# N/A - outside of Proposed Build Alternative	Marsh – 641	5	7	7	0.63
W42	Lake Sten, marsh – 641	4	7	7	0.60
W2	Shrub wetland – 631	3	7	4	0.47
Total			Average score:		0.73

Wetland ID#: W = wetland, O = Orange County, S = Seminole County, LW = Lake Co. West, LE = Lake Co. East

Numbered consecutively from south to north and from west to east within each county.

Possible scores for each parameter range from 1 to 10 (highest = best quality).

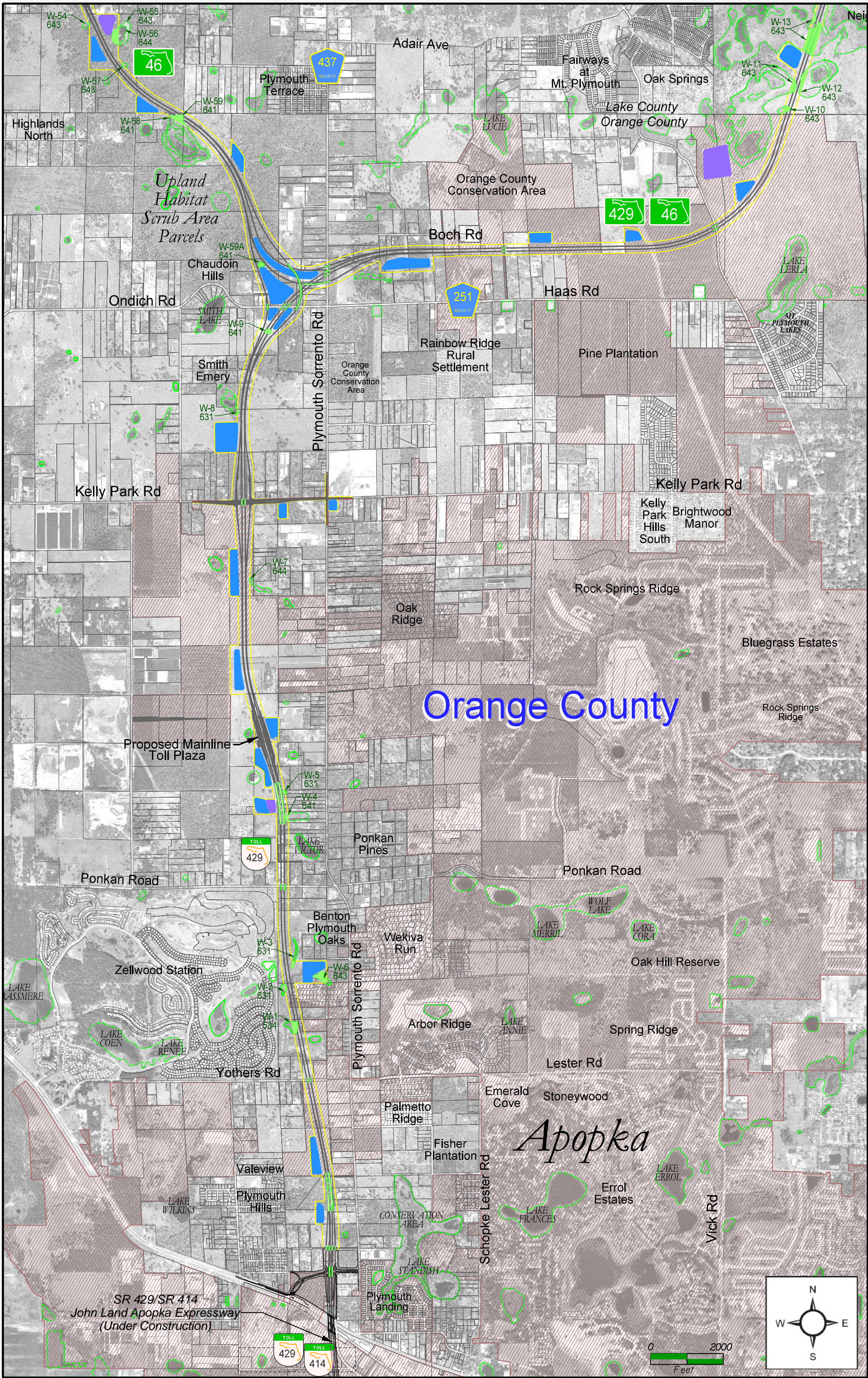
Total Scores range from 0.0 to 1.0 (highest = best quality).

TABLE 4-11

## Summary of Potential Direct Impacts to Wetlands and Natural Surface Waters within the Proposed Build Alternative Right-of-Way, Wekiva Parkway (SR 429)/SR 46 Realignment PD&amp;E Study in Lake, Orange, and Seminole Counties

County	Section	Proposed Build Alternative Segments	Wetland ID #	Direct Impact (acres)
Orange	Wekiva Parkway	Kelly Park Rd Interchange Alternative & Alignment	W1 – W8	2.94
Orange	Wekiva Parkway	Orange County Alternative 1 Alignment (east of Plymouth Sorrento Rd)	-	0.00
Orange	Wekiva Parkway	Systems Interchange Alternative 1	W9	0.34
Orange	SR 46 Realignment	Lake County West Alternative 1 (northwest to Lake County line)	W58 – W59A	1.68
			<b>Orange Co. Total</b>	<b>4.96</b>
Lake West	SR 46 Reconstruction	US 441/SR 46 Interchange Modification Alt. 2 (at-grade intersection of SR 46 and US 441)	-	0.00
Lake West	SR 46 Reconstruction	SR 46 North Widening Alternative	W48 – W53	10.66
Lake West	SR 46 Realignment	Lake County West Alternative 1 (southeast to Orange County line)	W54 – W57	1.52
Lake East	Wekiva Parkway	Neighborhood Lakes Alignment Alt. 1 (western alignment)	W10 – W15	13.17
Lake East	Wekiva Parkway	South (Red) Alignment Alternative 2 with Parallel Service Road	W16 – W34	18.10
Lake East	CR 46A Realignment	Alternative 1A, with SR 46 widening to the south	W60 – W61	1.87
Seminole	Wekiva Parkway	SR 46 Corridor North Widening Alt. from Wekiva River east to near Orange Avenue	W35 – W40A	5.16
Seminole	Wekiva Parkway	SR 417/I-4 Interchange Modification Alternative, with Connection Alignment Alt. B	W41 – W47	34.39
Seminole	SR 46 Reconstruction	Widen to Six Lanes from Wekiva Parkway to the I-4/SR 46 Interchange	W62 – W64	7.73
			<b>Lake/Seminole Co. Total</b>	<b>92.60</b>
			<b>GRAND TOTAL</b>	<b>97.56</b>



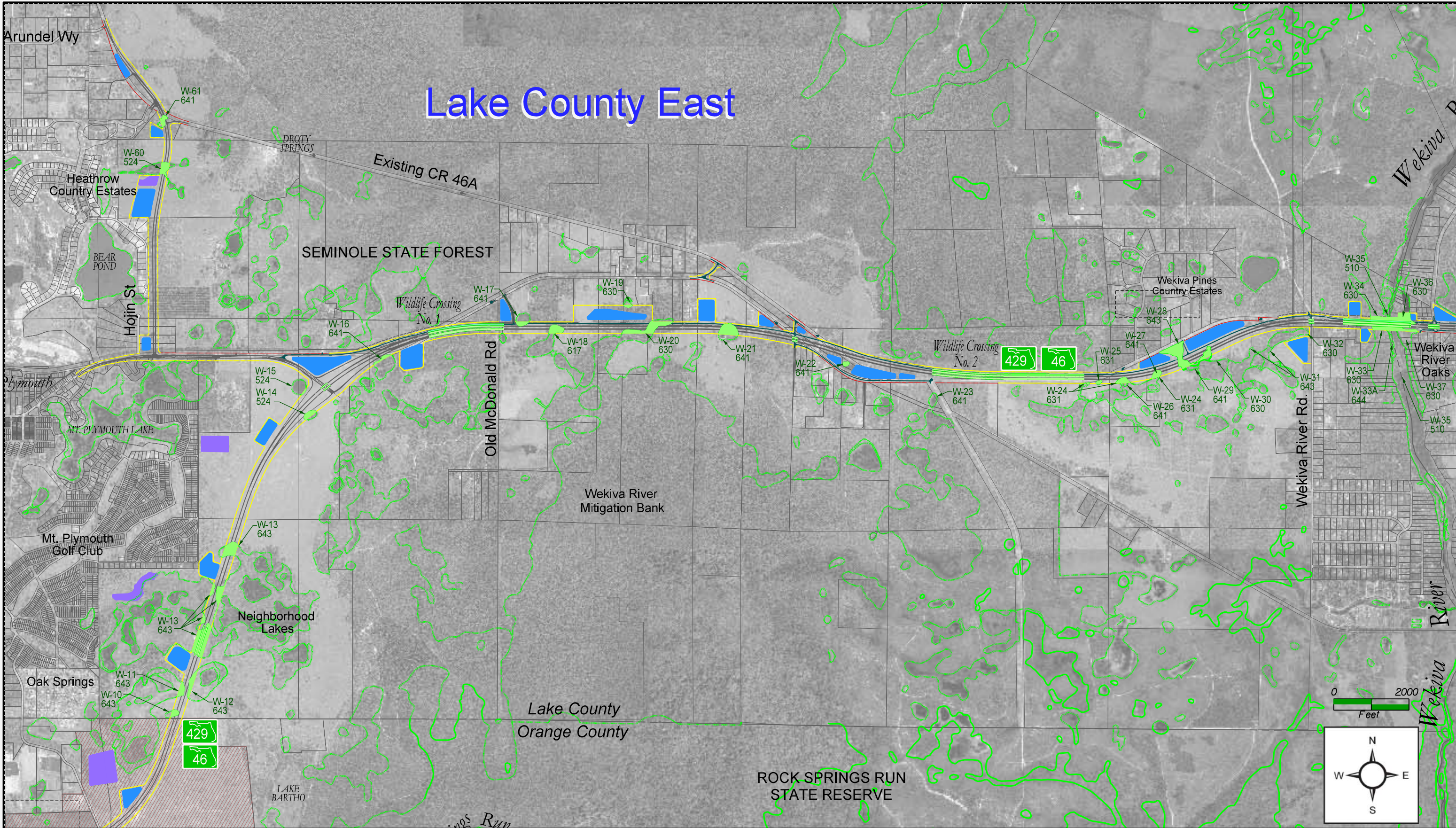






**Exhibit 4-15**  
**Wetland Impacts**  
**Lake County West Proposed Build Alternative**  
Sheet 2 of 4

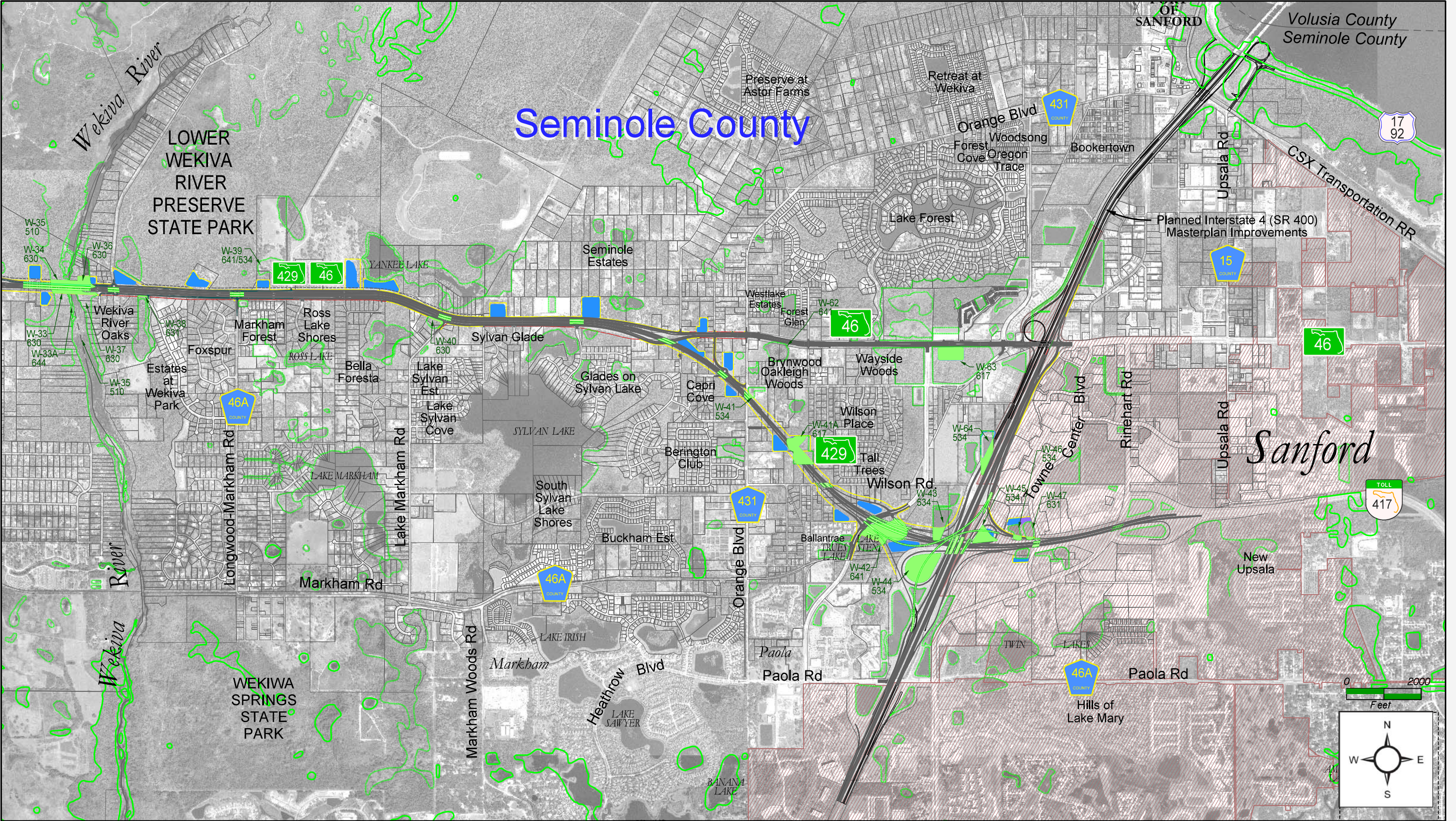




LEGEND

- Stormwater Ponds
- Floodplain Compensation Ponds
- Wetland Boundaries
- Potential Impacts to Wetlands
- W-6 Wetland ID
- Proposed Build Alternative R/W
- Existing R/W
- Proposed Bridge





LEGEND

- |                               |                               |                                |
|-------------------------------|-------------------------------|--------------------------------|
| Stormwater Ponds              | Potential Impacts to Wetlands | Proposed Build Alternative R/W |
| Floodplain Compensation Ponds | Wetland ID                    | Existing R/W                   |
| Wetland Boundaries            |                               | Proposed Bridge                |

**Exhibit 4-15**  
**Wetland Impacts**  
**Seminole County Proposed Build Alternative**

Sheet 4 of 4



## Direct Impacts

All wetlands and natural surface waters (i.e., river, lakes, spring runs) that are within the Proposed Build Alternative proposed right-of-way are estimated to cover 77.11 acres. Man-made surface waters (excavated ponds - 534 FLUCFCS) cover 20.45 acres of the Proposed Build Alternative proposed right-of-way. Mitigation for excavated ponds typically is not required, unless they are used by listed wildlife species.

A summary of the potential direct impacts to wetlands and surface waters is provided in the previously referenced Table 4-11. A detailed list of the estimated impacts for each wetland, general habitat type (forested, shrub, herbaceous, and surface water) within the Proposed Build Alternative is provided in the *Wetland Evaluation Report*.

## Secondary Impacts

Secondary impacts refer to indirect effects on wetland functions resulting from project activities. Examples of secondary impacts that may occur because of the project include shading of wetlands due to bridging, an increase in sunlight reaching a wetland resulting from the removal of adjacent tree canopy, or road noise and debris causing habitat disruption in adjacent wetlands.

Secondary impacts to water quality are not expected with this project because the stormwater treatment system will be designed to satisfy current stormwater management criteria, including special basin criteria. Rather, water quality treatment will be improved over the existing conditions along some portions of the project in Lake and Seminole Counties which follow the existing SR 46 alignment and were constructed primarily before drainage criteria were developed.

Shading from bridge spans may be expected with this project at the marsh wetland on the Neighborhood Lakes property and at the Wekiva River. The Wekiva River expressway and service road bridges will be constructed at the existing bridge crossing, so the impacts from this project will be from the increased width of the proposed bridges. However, the effects of shading from the wider bridge crossing will be reduced by the increased height of the proposed bridges, which will allow more light to reach the vegetation within the river channel.

Secondary impacts to forested wetlands from removal of existing tree canopy will result in a change of sunlight for adjacent wetlands. These types of impacts will occur where forested wetlands are immediately adjacent to the existing SR 46 right-of-way and to the proposed alternatives. Forested wetlands that have the potential to be impacted from the Wekiva Parkway/SR 46 realignment were identified in areas of Seminole and Lake Counties.

In some locations secondary impacts will be avoided. Wherever possible, a setback will be provided between a proposed stormwater treatment pond and a wetland, per the provision in the *SJRWMD Applicant's Handbook 12.2.7(a)* that states: "Secondary impacts to the habitat functions of wetlands associated with adjacent upland activities will not be considered adverse if buffers, with a minimum width of 15 feet and an average of 25 feet, are provided abutting those wetlands."

However, setbacks may not always be possible along the proposed roadway, such as where insufficient right-of-way is available. When setbacks are not practicable, additional mitigation acreage may be required to offset secondary impacts. The amount of mitigation acreage required for the secondary impact is determined during the permitting process.



## Cumulative Impacts

As per the SJRWMD *Applicant's Handbook* subsections 12.1.1(c), 12.1.1(g), 12.2.2, and 12.2.8(b), an applicant must provide reasonable assurances that the project will not cause unacceptable cumulative impacts on wetlands within the same drainage basin by identifying "reasonably expected future applications with like impacts." Cumulative impacts are considered unacceptable when the proposed project, considered in conjunction with past, present, and future activities, would then result in a violation of state water quality standards or substantial adverse impacts to functions of wetlands or other surface waters within the same drainage basin, when considering the basin as a whole. Mitigation for cumulative impacts is determined during the permitting process.

History has shown that transportation improvement projects usually have cumulative effects in terms of new residential and commercial development occurring near the new roadway. Some of the changes in land use patterns, population density, and growth rate are projected to occur in the study area irrespective of this roadway project. As stated in the *Wekiva Parkway and Protection Act*, the intent of this project is to complete the western beltway around the greater Orlando metropolitan area in an environmentally compatible manner while limiting local access interchanges so as not to encourage development of adjacent areas.

The Orange County portion of the Wekiva Parkway will be a limited access expressway on new alignment. The new roadway will cross rural residential and agricultural land uses that are steadily being developed today. It is expected that the new local access interchange at Kelly Park Road may contribute to the local area commercial and/or residential development. However, the *Wekiva Parkway and Protection Act* requires local governments to prepare plans for the interchanges areas to control development. Very few wetlands would be impacted by the project in Orange County.

In Lake County West, SR 46 east of US 441 is proposed to be reconstructed and widened, with a realignment connecting to the Wekiva Parkway. In Lake County east, most of the improvements will be a limited access expressway partially on new alignment and partially following the existing SR 46 corridor near conservation lands under state ownership. There will be a parallel Service Road for local access that will be inside the right-of-way needed for the expressway. The cumulative effects of this Wekiva Parkway project will be greatly minimized by removing the option of future development from parcels along the roadway, as is the case with the recently acquired Neighborhood Lakes property. That land was planned to be developed as a residential community and, with a parkway interchange at the north end of the parcel, it surely would have been developed. Now it will be conservation land directly contiguous to the state reserve land.

The majority of the Seminole County portion of this project will be a widening of the existing SR 46 corridor for a limited access expressway with frontage roads. This section of existing SR 46 particularly on the south side has been almost fully developed in urban and residential lane uses; therefore, little opportunity for increased cumulative impacts is anticipated. A portion of the roadway through Seminole County will be on new alignment from SR 46 southeast to the existing SR 417/I-4 interchange. However, most of that area has already been developed in urban and residential land uses, except for some small parcels of pasture and remnant citrus groves. It is likely that parcels which are currently undeveloped in this section of Seminole County will be developed by the time Wekiva Parkway construction activities begin.



The Wekiva Parkway will be a major transportation facility and the proposed improvements are consistent with the regional plans of the affected communities. Regional development is expected to continue in most of the study area regardless of the Wekiva Parkway being built. However, the proposed roadway improvements will allow safer east-west travel and lessen the traffic pressure on local roads.

This project will result in an improvement to the existing water quality treatment conditions in some areas where the original state and county road construction occurred prior to SJRWMD jurisdiction over water quality, water quantity, and flood protection. Best management practices will be implemented within the project limits to offer treatment and attenuation that replace the existing no-treatment or attenuation conditions. No future direct wetland impacts or water quality impacts are foreseeable for this project.

#### 4.3.5.3 Mitigation

Impacts to wetlands that are unavoidable in the construction of this project will be mitigated in accordance with state and federal laws. The project sponsors are considering using funding mechanisms established by the state legislature, and in part through the purchase of mitigation bank credits from permitted banks.

Discussions on the mitigation details for this project will be coordinated between the project sponsors and the permitting agencies. Also, how the environmental mitigation credits available to FDOT and the Expressway Authority (as provided for in the *Wekiva Parkway and Protection Act*) are determined and applied will be discussed and agreed upon.

Coordination with regulatory agencies will continue throughout the permitting phases of the project to further define the impact minimization efforts. The amount of mitigation acreage required for the secondary impact will be determined during the permitting process. Wetland mitigation concepts for impacts along the corridor will be discussed through pre-application meetings with the U.S. Army Corps of Engineers (USACE), FDEP and SJRWMD. Application for the permits will occur during the final design phase of the project.

Coordination with regulatory agencies will continue throughout the permitting phases of the project to further define the impact minimization efforts. The amount of mitigation acreage required for the secondary impact will be determined during the permitting process. Wetland mitigation concepts for impacts along the corridor will be discussed through pre-application meetings with the U.S. Army Corps of Engineers (USACE), FDEP and SJRWMD. Application for the permits will occur during the final design phase of the project.



#### 4.3.5.4 Essential Fish Habitat

This project is not located within, and will not adversely affect, areas identified as Essential Fish Habitat (EFH); therefore, an EFH consultation is not required.

No EFH occurs within the project study area. The immediate project study area is not considered to be a breeding or nursery area for marine fish species, nor are the project wetlands and ditches directly connected to tidal-influenced waters; however, at certain times of the year, some marine species such as blue crab, Atlantic stingray, and Atlantic needlefish can be found downstream of the project area at the confluence of the Wekiva River with the St. Johns River.

A field visit and site review was conducted on April 8, 2005 by the study team biologist with a representative of the National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS). The NMFS representative stated that NMFS does not have any more stringent water quality treatment criteria than FDEP and the state Water Management Districts, and that meeting the Outstanding Florida Waters quality treatment criteria for the Wekiva River Basin will meet the requirements for NMFS.

FDEP will be the permitting agency for the Environmental Resource Permit. The project will be designed to meet Outstanding Florida Waters quality treatment criteria and no changes to floodplain storage or the downstream hydrologic regime will occur; therefore, the project will not have any direct or indirect negative impacts on EFH. A concurrence letter from NMFS, stating that the project will have no impact on EFH, is included in **Appendix F**.

#### 4.3.6 Aquatic Preserves

The Wekiva Parkway (SR 429) will traverse the Wekiva River Aquatic Preserve. Aquatic Preserves are considered the vested interest of the State of Florida, Board of Trustees through the Florida Aquatic Preserve Act of 1975 (Sections 258.35-258.394 and 258.40-258.46, F.S.). Aquatic preserves are submerged lands that are to be preserved in their natural or existing condition based on their aesthetic, biological, and scientific value to the public and future generations.

The Wekiva River Aquatic Preserve generally includes all state-owned sovereignty lands lying waterward of the ordinary high-water mark of the Wekiva River and the Little Wekiva River and their tributaries in Orange, Lake, and Seminole Counties. The study area for the Wekiva Parkway (SR 429) is approximately one-half mile wide through the Preserve, at the boundary of Lake and Seminole Counties, with the existing SR 46 Wekiva River Bridge centered within the study area.

The Proposed Build Alternative for the Wekiva Parkway (SR 429) will utilize the existing Wekiva River crossing location within that study area. Use of the existing crossing location will avoid additional impacts associated with construction of a new expressway through the remaining undeveloped, natural environment of the Wekiva River Aquatic Preserve.



The Proposed Build Alternative will bridge the entire width of the Wekiva River Aquatic Preserve and its adjacent forested wetland. The proposed 1,750-foot long bridges are an expressway structure capable of carrying six lanes of traffic (three lanes in each direction) and a two lane Service Road structure within a 300-foot limited access right-of-way. The bridges will replace the existing 561-foot long Wekiva River Bridge located within the existing FDOT SR 46 right-of-way, which varies in width from 180 feet on the Lake County side of the river to 200 feet on the Seminole County side.

The Proposed Build Alternative will hold the existing south SR 46 right-of-way line, widening to the north through the Aquatic Preserve. Lands adjacent to the existing FDOT SR 46 right-of-way through the Aquatic Preserve include Seminole State Forest adjacent to the north right-of-way line of SR 46 west of the Wekiva River, a parcel owned by Seminole County adjacent to the north right-of-way line of SR 46 east of the river, and four privately owned vacant parcels.

The additional right-of-way width required for the proposed project will necessitate relocation of an existing Sovereign Submerged Lands (SSL) easement adjacent to the existing north SR 46 right-of-way line. The SSL easement was granted to Florida Gas Transmission for a 26" gas pipeline located 48.6 feet below the bottom of the Wekiva River. Both the directionally drilled pipeline and the encompassing easement will be relocated as a result of this project; however, the directional drilling send and receive locations will be located outside of the limits of the Aquatic Preserve and adjacent Riparian Habitat Protection Zone. In addition, the depth of the pipeline relative to the river bottom will be at least the depth of the existing pipeline. For these reasons, relocation of the pipeline will not impact the Wekiva River Aquatic Preserve.

Aquatic Preserves are also considered Outstanding Florida Waters, which have been given additional protection against pollutant discharges that may lower the existing high water quality standards in their current natural state. The Wekiva River is most stringently protected by its own legislation under the *Wekiva River Protection Act* and the *Wekiva Parkway and Protection Act*, Florida Statutes, Chapter 369, Parts II and III, respectively. The Wekiva Parkway (SR 429)/SR 46 Realignment PD&E Study recommendations have been developed to adhere to the design criteria and recommendations prescribed by the above legislation. The proposed project is consistent with the 1987 *Wekiva River Aquatic Preserve Management Plan*, which identified concerns for stormwater quality and protection through preservation of habitats and living conditions in the most natural condition possible.

No adverse impacts to water quality are expected as a result of this project. The stormwater treatment system will be designed to satisfy current stormwater management criteria, including special basin criteria developed for the Wekiva River hydrologic basin. Water quality treatment will be improved over the existing conditions through the Aquatic Preserve and adjacent wetlands, where the Proposed Build Alternative follows the existing SR 46 alignment. SR 46 was constructed before stringent drainage criteria were developed. Consequently, there is currently no treatment of the pollutant runoff from the roadway and bridge. This project will provide stormwater treatment ponds located outside the Preserve boundaries that will provide filtration of the pollutant runoff prior to discharge to the abutting wetlands of the Wekiva River. The possibility of creating wood stork feeding areas at the pond sites near the Wekiva River has been discussed by the PD&E Study team and representatives of FDEP. This option may be further explored during the final design phase of the project.



There is no practical alternative to the proposed bridge construction in the Wekiva River Aquatic Preserve. Any alternative alignment would necessitate filling and/or new bridges across a wider wetland reach which could have far greater impacts. Temporary impacts due to construction will be assessed during the final design phase of the project. The proposed project includes all practical measures to minimize harm to the Wekiva River Aquatic Preserve such as a lengthened and heightened channel span over the river and a lengthened bridge span over the floodplain. The existing bridge does not span the entire length of the Aquatic Preserve or the wetlands abutting the Wekiva River, whereas the proposed bridges would span both. In addition, the filled land supporting the existing bridge abutment located within the Preserve boundaries can be removed, which will restore the wildlife corridor adjacent to the river.

FDEP will be the permitting agency for the Environmental Resource Permit (ERP) which will be completed during the final design phase of the project. In addition to the ERP, a Federal Dredge and Fill Permit, a National Pollution Discharge Prevention and Elimination System Permit, and a Sovereign Submerged State Lands Public Easement will be required during the final design phase.

Coordination concerning the Aquatic Preserve and the proposed Wekiva Parkway project has occurred with provision of the above information to the FDEP Office of Coastal and Aquatic Managed Areas by FDOT.

#### 4.3.7 Water Quality

The proposed project was evaluated for potential impacts to surface water and groundwater resources within the project study area. As part of the assessment, a *Water Quality Impact Evaluation* (WQIE) report was completed for the existing basins within the study area. Checklists from the updated final WQIE (CH2M HILL, June 2010) are included in **Appendix E**.

The proposed stormwater facility design will include, at a minimum, the water quantity requirements for water quality impacts as required by SJRWMD under Chapters 40C-4, 40C-41, and 40C-42 F.A.C. and the Wekiva River Protection Act, Chapter 369, Part II F.S.

The proposed improvements for the Wekiva Parkway (SR 429)/SR 46 Realignment will require permits from federal and state regulatory agencies for wetland impacts, stormwater discharge, treatment and attenuation, and crossing of sovereign submerged state lands. Potentially required permits needed prior to construction include:

- Environmental Resource Permit (ERP), issued by FDEP;
- Sovereign Submerged State Lands Public Easement over the Wekiva River, issued by FDEP;
- National Pollution Discharge Prevention and Elimination System (NPDES), issued by FDEP; and
- Federal Dredge and Fill Permit filed jointly with the ERP, issued by USACE.

The project will be permitted by FDEP with coordination on wetland mitigation plans with the SJRWMD.

#### Potable Water

This project is not within the streamflow and recharge source zone of an officially designated sole source aquifer. The Wekiva Parkway (SR 429)/SR 46 Realignment study



area lies between the boundaries of the Biscayne Sole Source Aquifer streamflow and recharge zone and the Volusia-Floridan Sole Source Aquifer. Therefore, no mitigation for water quality impacts related to drinking water sources will be required. A letter from the United States Environmental Protection Agency (USEPA) dated September 5, 2008, states that the project does not lie within the boundaries of a sole source aquifer. The September 5, 2008 letter corrects the April 6, 2005 USEPA letter sent in reply to the Advance Notification stating that the project lies within the Volusia Floridan Regional Aquifer. Both USEPA letters are included in **Appendix F**.

#### **Non-potable Water**

Stormwater pond sizes have been developed for the purpose of estimating right-of-way requirements only. The actual physical size, location and configuration of all required water management facilities will be determined during the final design phase of the project. All stormwater facility design will be in accordance with the regulations of the various permitting agencies, including FDEP, SJRWMD, and Orange County. Special water quality criteria associated with the Wekiva River and Lake Apopka Hydrologic Basins will be incorporated, as appropriate.

The Florida Department of Agriculture and Consumer Services, Division of Forestry (DOF) has requested that on/near Seminole State Forest land, and on/near adjacent state park and conservation lands, flowage easements be considered instead of stormwater ponds. FDOT and/or the Expressway Authority have committed to DOF to address their request with the appropriate permitting agencies during the drainage design and permitting phase of the project.

Also, some wildlife advocacy stakeholders have expressed concern over the location of proposed stormwater ponds near the Wekiva River bridges as they perceive it may impact wildlife movement and habitat connectivity. The study team has previously discussed alternatives to stormwater ponds in the Wekiva River Basin with the appropriate permitting agencies, however, those agencies cannot provide formal comment until final drainage design is prepared for their review. The study team has shown the stormwater ponds in the preliminary plans as placeholders to meet stormwater attenuation and treatment requirements. FDOT and/or the Expressway Authority have committed to assess alternatives to stormwater ponds in the final design phase if those drainage alternatives can demonstrate compliance with all applicable stormwater permitting requirements, including prevention of runoff into the Wekiva River.

The water quality impacts in relation to groundwater and surface waters will be temporary and associated with construction. Best Management Practices (BMPs) will be maintained in accordance with F.A.C., Rules 40C-4, 40C-40, and 40C-42. BMPs will be used to minimize water quality impacts during construction and achieve a no-net effect on water quality in the system. A stormwater management plan will be established and implemented during construction in accordance with the USEPA *National Pollution Discharge Prevention Elimination System (NPDES) General Permit* for construction projects greater than five acres of land disturbance. As required by local and state agencies, the stormwater management systems, such as stormwater ponds, are required to be constructed initially, and may serve as sedimentation basins during construction if necessary.

#### **4.3.8 Outstanding Florida Waters**

Outstanding Florida Waters are waters that have been given additional protection against both direct and indirect pollutant discharges that may lower the existing high water quality



standards in their current natural state, and include those waters designated as State Aquatic Preserves and waters within State Reserves and Preserves. The Wekiva River and its tributaries, including Rock Springs Run, Black Water Creek, and Seminole Creek are designated Outstanding Florida Waters and State Aquatic Preserves. The Wekiva River is a major tributary of the St. Johns River, and merges into the St. Johns River just north of the study corridor along the Seminole/Volusia County Line. Approximately 20 miles of the St. Johns River, from the St. Johns River Bridge (I-4) north to SR 44 west of Deland, is also designated an Outstanding Florida Water and a State Aquatic Preserve.

The majority of the surface waters within the project study area are designated as Class III receiving waters, in accordance with Section 62-302.400, FAC. FDEP classifies existing surface waters according to designated use. Class III is defined as surface waters that are primarily used for recreation, propagation, and maintenance of a healthy, well-balanced population of fish and wildlife.

In addition to the baseline level of stormwater treatment required for Class III receiving waters, an additional level of stormwater treatment is required for systems which discharge to Outstanding Florida Waters. The Wekiva River Protection Act, codified in Chapter 369, Part II F.S. established the Wekiva River Protection Area to protect the natural resources of the area by enacting standards for water quality, water quantity, and protection of riparian habitat. Chapter 40C-41, F.A.C. establishes additional standards for erosion and sediment control, water quantity, and water quality required for projects constructed within the WRPA. The proposed stormwater management systems within the WRPA have been designed to meet the additional standards for water quality; therefore, water quality is not expected to be degraded or substantially impacted due to stormwater discharge.

The existing bridge over the Wekiva River will be replaced by longer, more elevated spans at the existing crossing location. Measures for erosion and pollution control will be implemented in strict adherence to Chapter 40C-41, F.A.C. and the FDOT's "Standard Specifications for Road and Bridge Construction". Water quality is not expected to be degraded or substantially impacted due to bridge construction.

#### 4.3.9 Contamination

A contamination screening evaluation was conducted for the Wekiva Parkway (SR 429)/SR 46 Realignment PD&E Study in accordance with Chapter 22 of the FDOT *PD&E Manual*. The following section summarizes the results of the screening evaluation documented in the updated final *Contamination Screening Evaluation Report* (GEC, June 2010).

Data pertaining to potential sources of contamination was obtained from FDEP, USEPA and various local agencies in Orange, Lake, and Seminole Counties to identify known or potential contamination sites within the study area. In addition to the literature review, historical aerial photographs were reviewed and site reconnaissance was conducted on multiple occasions in March 2005, June through August 2006, December 2006, and January 2007.

The potential contamination sites identified in the study area were rated as having a "Low, Medium, or High Contamination Risk Potential Rating" or "No Risk" in accordance with the definitions in Chapter 22 of the FDOT PD&E Guidelines. The results of the contamination screening evaluation indicate there are 79 sites with no, low, medium, or high potential for hazardous material or petroleum contamination to the soil and/or groundwater within or near the defined study area. **Table 4-12** lists those potential contamination sites with a risk ranking. The site numbers in the following table correspond



to the site numbers assigned to those locations in the *Contamination Screening Evaluation Report*. In that report, the listed sites were evaluated and ranked for potential risk to the Viable Alternatives and the Proposed Build Alternative.

Of the 80 sites with a potential for environmental contamination in the immediate vicinity of the Wekiva Parkway/ SR 46 Realignment study area, 33 were assigned a risk rating of Low, 32 were assigned a risk rating of Medium, and 11 were assigned a risk rating of High. The remaining four sites were assigned a No Risk rating due to the fact that they were outside of the study area.

TABLE 4-12  
Potential Contamination Sites in the Study Area

Site No.	Site Name and Address	Risk Ranking
1	Mount Dora Water Treatment Plant, SR 46 and US 441, Mount Dora	Low
2	Grantham Pit C&D Facility, SR 46, Mount Dora	Low
3	Superior Asphalt Company, 444 South Rossiter St., Mount Dora	Medium
4	Florida Natural Stone, 3102 SR 46, Mount Dora	Low
5	Mount Dora Disposal and Fill, 3300 SR 46, Mount Dora	Medium
6	Helena Chemical Company, 21244 SR 46, Mount Dora	Medium
7	Komatsu Equipment Company, SR 46, Mount Dora	Low
8	Peeler Truck Service, 21628 SR 46, Mount Dora	Medium
9	Protech Auto Repair, 30940 Suneagle Dr., Mount Dora	Low
10	Smitty's Auto Repair, 30940 Suneagle Dr., Mount Dora	Low
11	Theophilus, 31747 Round Lake Rd., Mount Dora	Low
12	Arirang, 6614 Plymouth Sorrento Rd., Apopka	Low
13	Premium Plants, 6707 Plymouth Sorrento Rd., Apopka	Low
14	Ponderosa Nursery, 6441-6447 Plymouth Sorrento Rd., Apopka	Low
15	King's Plants, 6431 Plymouth Sorrento Rd., Apopka	Low
16	World Wide Orchids, 6500 Plymouth Sorrento Rd., Apopka	Low
17	Peckett's, Inc., 6448 Plymouth Sorrento Rd., Apopka	Medium
18	Possible borrow pit, N of Ondich Rd./ W of Plymouth Sorrento Rd., Apopka	Medium
19	Dover's Foliage, 3317 Ondich Rd., Apopka	Medium
20	Tropical Cuttings Plant Ranch, 6014 Ondich Rd., Apopka	Medium
21	Plant Marketing, 3119 W. Kelly Park Rd., Apopka	Low
22	CMC Nursery, 3239 W. Kelly Park Rd., Apopka	Medium
23	Chapman's Orchids and Exotic Plants, 3321 W. Kelly Park Rd., Apopka	Medium
24	JDC Plants/Green Mansion Foliage, 3366 W. Kelly Park Rd., Apopka	Medium
25	William L. Calhoun, 3509 W. Kelly Park Rd., Apopka	Low
26	Apopka Nursery, 4068 Plymouth Sorrento Rd., Apopka	Low
27	H&D Foliage, 4046 Plymouth Sorrento Rd., Apopka	Low
28	Plant Connection, Inc., 3960 Plymouth Sorrento Rd., Apopka	Low
29	Dream House Nursery, 3746 Plymouth Sorrento Rd., Apopka	Low
30	Select Foliage and Flowers, 3600 Plymouth Sorrento Rd., Apopka	Medium
31	S&L Nursery, 3229 W. Ponkan Rd., Apopka	Medium
32	Orange Co. Excavation Pit, E of Zellwood Sta/ W of Plym Sorr Rd., Apopka	High
33	Fields Robinson/ACME Recycling, E of Zellwd Sta/ W of Plym Sorr Rd, Apopka	High
34	Plymouth Landfill, E of Zellwood Station/W of Plymouth Sorrento Rd., Apopka	High
35	BLB Foliage and Cactus, 3092 Yothers Rd., Apopka	Medium
36	Blooming Fields/US Lawns, 1808 Plymouth Sorrento Rd., Apopka	Medium
37	Korus Orchids, 1650 Plymouth Sorrento Rd., Apopka	Medium



TABLE 4-12  
Potential Contamination Sites in the Study Area

Site No.	Site Name and Address	Risk Ranking
38	Father and Son Nursery, 1568 Plymouth Sorrento Rd., Apopka	Medium
39	Stephen H. Griffith, 1362 Plymouth Sorrento Rd., Apopka	Medium
40	Earl Wilson's, 3162 and 3076 Plymouth Sorrento Rd., Apopka	Medium
41	HW Miller, 952 Plymouth Sorrento Rd., Apopka	Low
42	Paul Koptick, Plymouth Sorrento Rd. near Post Office	Medium
43	Kim Vegetables, 2403 Boch Rd., Apopka	Low
44	Top Nursery, 2402 Boch Rd., Apopka	Medium
45	Unnamed Nursery, 2089 Haas Rd., Apopka	Low
46	Penang Nursery, 1909 Haas Rd., Apopka	Medium
47	Tropical Outdoors, 6510 Plymouth Sorrento Rd., Apopka	No
48	Black Bear Nursery, 29240 SR 46, Sorrento	Medium
49	Garden Rebel Nursery/Sims Landscape, SR 46/CR 46A, Sorrento	Medium
50	Paola Tree Farm, SR 46/Lake Markham Rd., Sanford	Medium
51	Florida Fancy Nursery, 6850 SR 46, Sanford	Medium
52	Vaughan's Nursery, 6700 SR 46, Sanford	Medium
53	Twelve Oaks RV Resort, 6300 SR 46, Sanford	Low
54	Designing Women Landscaping and Nursery, 6275 SR 46, Sanford	Medium
55	Fair Field Farms Landscaping and Design, 5650 Orange Blvd., Sanford	Medium
56	Citgo/Handyway Food Store, 5690 SR 46, Sanford	Low
57	Exxon/Mobil, 5689 SR 46, Sanford	Low
58	7-Eleven Store #33347, 4900 SR 46, Sanford	Low
59	BP/Amoco, 4800 SR 46, Sanford	High
60	Bill Heard Chevrolet, 127-135 N. Oregon St., Sanford	Low
61	Seminole County Fire Station #34, 4905 Wayside Dr., Sanford	Low
62	Courtesy Ford, 4911 Wayside Dr., Sanford	Low
63	Transmission fluid spill location, 80 Dunbar Ave., Sanford	No
64	AB Graphics, 686 Hickman Circle, Sanford	No
65	Omega Medical Imaging, 671 Hickman Circle, Sanford	No
66	Initial Marine Corps, 650 Hickman Circle, Sanford	Low
67	Harley Davidson, 620 Hickman Circle, Sanford	Low
68	Sunoco, 4730 SR 46, Sanford	High
69	Days Inn, 4650 SR 46, Sanford	Medium
70	Chevron, 4700 SR 46, Sanford	High
71	Former site Cathy's Fruit Stand, I-4 and SR 46, Sanford	High
72	Mobil Lube Express/Car Wash, 101/125 S. Oregon St., Sanford	High
73	David Maus Toyota, 1160 Rinehart Rd., Sanford	Low
74	CarMax, 901 Towne Center Blvd., Sanford	Low
75	Courtesy Honda, 100 Rinehart Rd., Sanford	Low
76	Unnamed Auto Repair Shop, N of Wilson Rd./E of Wilson Elem., Sanford	High
77	Lake Mary Post Office, 800 Rinehart Rd., Sanford	High
78	Barn, LLP Property, 6577 Mt. Plymouth Road, Apopka	High
79	Potential Borrow Pit, I-4 and SR 417, Sanford	Medium
80	CSX Railroad Line, S of SR 46 and E of Round Lake Road, Sorrento	Medium

For the Proposed Build Alternative, few of the identified potential contamination sites are within the proposed right-of-way needed for roadways and stormwater ponds. In Orange



County, there are three former landfills between Yothers Road and Ponkan Road, several plant nurseries within or adjacent to the proposed alignment, and a solid waste dumping area on the Neighborhood Lakes property. In Lake County West, there are several industrial or business sites and a landfill adjacent to existing SR 46, as well as the CSX railbed. In Lake County East, there are two plant nurseries, one inside and one adjacent to proposed right-of-way, and two above-ground storage tanks with unknown contents within the alignment. In Seminole County, there are four plant nurseries within or adjacent to the proposed right-of-way, as well as an auto repair facility within the alignment.

The findings of the contamination screening and evaluation are based on preliminary information only and are not intended to replace more detailed studies including individual site assessments and subsurface soil and groundwater investigations. Information regarding potential petroleum and/or hazardous waste contamination sites will be updated, including site evaluations and organic vapor analysis screening/groundwater monitoring if necessary, during the final design phase and prior to right-of-way acquisition or construction. Estimated areas of contamination will be marked prior to construction. Actual clean-up will take place prior to or during construction, if deemed feasible. Special provisions for handling expected and unexpected contamination during construction will be included in the construction plans package.

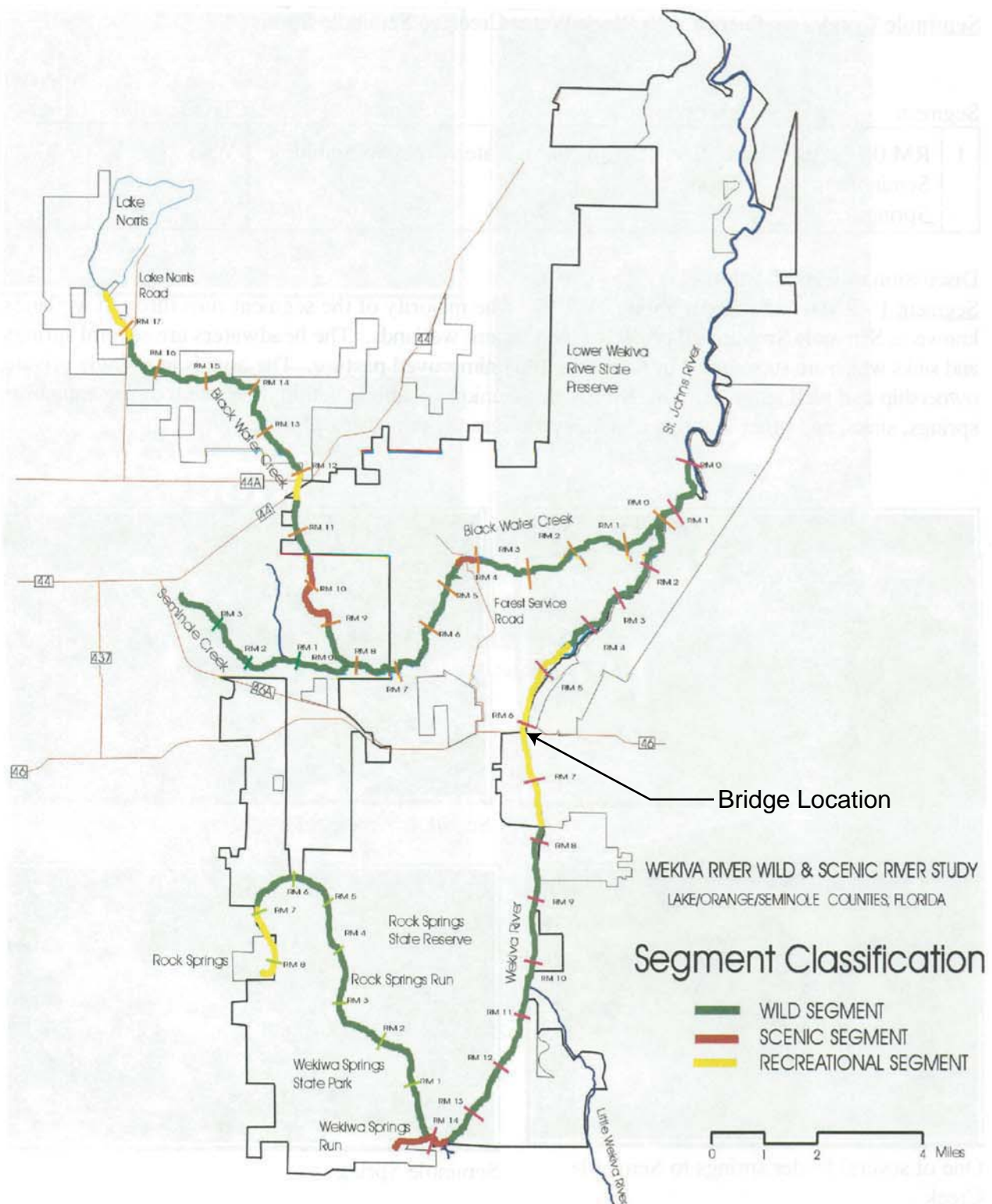
#### 4.3.10 Wild and Scenic Rivers

The *Wild and Scenic Rivers Act*, 16 USC 1274 et seq., establishes requirements applicable to water resource projects affecting wild, scenic, or recreational rivers within the National Wild and Scenic Rivers system as well as rivers designated on the National Rivers Inventory to be studied for inclusion in the national system. Under Section 7 (a) of the Act, a federal agency may not assist, through grant, loan, license or otherwise, the construction of a water resources project that would have a direct and adverse effect on the values for which a river in the National System or study river on the National Rivers Inventory was established, as determined by the Secretary of the Interior for rivers under the jurisdiction of the Department of the Interior and by the Secretary of Agriculture for rivers under the jurisdiction of the Department of Agriculture.

On October 13, 2000, 41.6 miles of the Wekiva River and its tributaries were included in the National Wild and Scenic Rivers System. The Wekiva River is listed in the U.S. Department of the Interior, National Park Service (NPS) Southeastern Rivers Inventory for Wild and Scenic Rivers. The Wekiva River is sovereign submerged land owned by the State of Florida, under the proprietary management overview of the Board of Trustees of the Internal Improvement Trust Fund. NPS is the managing agency for the protection of the designated reaches of the Wekiva River which include the Wekiva River from its confluence with the St. Johns River to Wekiwa Springs, Rock Springs Run from its headwaters at Rock Springs to its confluence with the Wekiwa Springs Run, and Black Water Creek from the outflow from Lake Norris to the confluence with the Wekiva River. Of the 41.6 miles, 31.4 miles are classified as “wild”, 2.1 miles are classified as “scenic”, and 8.1 miles are classified as “recreational”. **Exhibit 4-16** shows the locations of the wild, scenic, and recreational segments of the Wekiva River and its tributaries.

The Wekiva River constitutes approximately 14 miles of the total 41.6 miles. Of that total, approximately 11 miles are classified as “wild” and three miles as “recreational”. The draft





Source: National Park Service

**Exhibit 4-16**  
**Wild & Scenic River Segment Classifications**



*Wekiva National Wild and Scenic River Comprehensive Management Plan* defines the segment classifications as follows:

- The “wild” designation is given to rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted.
- The “scenic” designation is given to rivers or sections of rivers that are free of impoundments, with watersheds or shorelines still largely primitive and shorelines largely undeveloped, but accessible in places by roads.
- The “recreational” designation is given to rivers or sections of rivers accessible by road or railroad that may have some development along the shorelines, and may have undergone some impoundment or diversion in the past.

As shown in Exhibit 4-16, SR 46 is centered within the recreational segment of the Wekiva River, which extends approximately one and one-half miles both north and south of the SR 46 Wekiva River Bridge. This three mile stretch of the river encompasses considerable shoreline development along the Wekiva River, particularly in Seminole County.

#### **Project Consistency with River Management Plan**

The study area for the Wekiva Parkway was recommended by the Wekiva Basin Area Task Force based on the “Guiding Principles for Corridor Location”, documented in the *Final Report, Recommendations for Planning and Locating the Wekiva Parkway while Preserving the Wekiva River Basin Ecosystem*, January 15, 2003. The study area in the vicinity of the Wekiva River addresses principles to:

- minimize impacts to habitat and species;
- minimize impacts on springshed and ground water recharge areas;
- minimize direct impact to wetlands;
- avoid, or mitigate if required, impacts on conservation lands, and their proper management;
- minimize impacts on existing neighborhoods and residential communities;
- follow, where feasible, existing road alignments through environmentally sensitive areas; and
- improve the connectivity of existing wildlife corridors.

The proposed Wekiva Parkway (SR 429) will be included in the *Wekiva National Wild and Scenic River Comprehensive Management Plan* currently being prepared by the consultant to the Wekiva River System Advisory Management Committee (WRSAMC). NPS provides the designated federal official for that plan. The PD&E Study team has coordinated with the WRSAMC consultant for the management plan, providing information on and maps of the proposed project for inclusion in the management plan.

The *Goals and Objectives for the Wekiva National Wild and Scenic River Comprehensive Management Plan* are consistent with the “Guiding Principles for the Wekiva Parkway Design Features and Construction” recommended by the Wekiva Basin Area Task Force, endorsed by the Wekiva River Basin Coordinating Committee, and required by the *Wekiva Parkway and Protection Act*. These management plan goals and objectives include:

- aggressively pursuing conservation easements and land purchases within the Wekiva Basin with priority on those parcels outlined by the *Wekiva Parkway and Protection Act*;



- ensuring that wildlife underpasses suitable for bears are constructed as planned and include fencing to encourage bear use; and
- ensuring that the new bridge constructed for the Wekiva Parkway be designed to limit visual and auditory intrusion on the Wekiva River.

The following paragraphs describe the components of the proposed project that meet the goals and objectives of the management plan.

#### Conservation Easements and Land Purchases

The portion of the study corridor in east Lake County is within the Wekiva River Protection Area and includes lands within Neighborhood Lakes, Rock Springs Run State Reserve, Seminole State Forest, and Wekiva River Mitigation Bank (formerly New Garden Coal). Both Neighborhood Lakes and the Wekiva River Mitigation Bank were identified for acquisition in the *Wekiva Parkway and Protection Act*. In July 2005, the state acquired a perpetual conservation easement over the mitigation bank to protect the land from future development. The agreement also addresses the required right-of-way for the Wekiva Parkway. In December 2006, the Governor and the Florida Cabinet approved the purchase of Neighborhood Lakes. The acquisition was completed in March 2007. This purchase secures right-of-way for Wekiva Parkway and protects against future development. The land not needed for right-of-way has been secured as conservation lands of the State of Florida.

#### Wildlife Underpasses

As a part of the Proposed Build Alternative, FDOT proposes to replace the existing western 52-foot wide opening and eastern 26-foot wide opening wildlife underpasses along SR 46 with longer wildlife bridges of approximately 1,960 feet (western bridges) and 4,000 feet (eastern bridges). The existing 561-foot bridge over the Wekiva River will be replaced with longer, higher bridges of approximately 1,750 feet in length. The bridges will clear span the waters of the Wekiva River. These longer bridges will open up the wildlife corridor between the Rock Springs Run State Reserve and the Seminole State Forest, and will enhance habitat connectivity. Many more species of wildlife will be able to safely move between the two public conservation areas. All of these bridge spans will function as wildlife crossings and will greatly improve the wildlife habitat continuity and movement corridors in the surrounding area, following construction of the Wekiva Parkway.

In addition to the above bridges, an 800-foot bridge will span a large floodplain within the recently acquired Neighborhood Lakes parcels. This bridge will also serve to maintain wildlife connectivity. Barriers or fencing to direct wildlife to these safe crossing points will be addressed during the final design phase of the project. For more information on the proposed wildlife structures, refer to *Section 4.3.13.3*.

#### Visual and Auditory Intrusion on the Wekiva River

FDOT and the Expressway Authority have committed to work with NPS to avoid or minimize visual and auditory intrusion on the river. That process will be undertaken prior to final design. During the conceptual bridge design charrette process with FHWA and NPS (described later in this section), a noise assessment was prepared; the findings indicated predicted traffic noise would not rise to the level of a constructive impact. The Wekiva River Basin Area Task Force envisioned the Wekiva Parkway as similar to well known scenic highways, and included promoting “a ‘Parkway’ look with appropriate natural buffers between the roadway and the adjacent areas” in the “Guiding Principles”. FDOT and the Expressway Authority are committed to developing a landscape plan during the



final design phase that will accentuate the natural environment. Consistent with the recommendations of the “Guiding Principles” to support the conservation of dark skies in the Wekiva River Protection Area, FDOT and the Expressway Authority will incorporate non-intrusive and minimal roadway and bridge lighting in the final design plans in appropriate areas for Wekiva Parkway.

There is no practical alternative to the proposed construction over the Wekiva National Wild and Scenic River and State Aquatic Preserve. The existing crossing is located at the narrowest point in the river. Any alternative alignment would necessitate filling and/or new bridges across a wider wetland reach which could have far greater impacts. The proposed project includes all practical measures to minimize harm to the river and adjacent lands such as a lengthened and heightened channel span over the river and a lengthened bridge span over the floodplain. In addition, the filled land supporting the existing bridge abutment can be removed, which will restore the wildlife corridor adjacent to the river. The Wekiva River supports nature-based recreational activities including boating (small motorized and non-motorized boats, canoes, and kayaks), and personal watercraft use. The river can be accessed from public lands, private homes, and private marinas, and from the St. Johns River. There are no private marinas or public access locations within the study corridor. No impacts to recreational activities on the Wekiva River are anticipated as a result of this project.

#### Coordination and Consultation with the National Park Service

In October of 2008, FHWA determined that Section 4(f) is applicable to the recreation section of the Wekiva River where the proposed Wekiva Parkway replacement bridges for the existing SR 46 bridge would be located. FHWA agreed that a Programmatic Section 4(f) Evaluation could be prepared to document coordination and consultation with NPS and any potential Section 4(f) impacts.

After providing project information to NPS in 2008, FDOT requested written Section 4(f) concurrence from NPS. In early 2009, NPS provided a preliminary, non-binding review of the proposed project under Section 7(a) of the *Wild and Scenic Rivers Act*. The review was based on project information provided during consultation between FDOT and NPS, and on a site review conducted on February 5, 2009. In a letter dated February 24, 2009 (copy of letter provided in **Appendix F**), NPS stated that “it appears that the project will offer many advantages to the river compared to the existing structure” and that “the results of the preliminary review indicate that any potential direct and adverse impacts associated with the project will likely be limited to construction related activities and the specific design of the bridge over Wekiva River”. NPS also indicated that a formal Section 7(a) determination cannot be conducted until after evaluation of the *Environmental Assessment*, bridge design plans, and mitigation commitments. However, Section 4(f) concurrence from NPS is needed by FHWA during the environmental assessment phase of the proposed project well before final bridge plans can be prepared.

On May 5, 2009, FDOT sent correspondence to the NPS again requesting a Section 4(f) concurrence letter. NPS responded in a letter dated June 9, 2009 (copy of letter is in **Appendix F**) which provided concurrence that the proposed project would not impair the use of the remaining Section 4(f) resource; however, NPS indicated that concurrence on impacts and mitigation would require more extensive evaluation of potential visual and auditory intrusion under their Section 7(a) requirements. FDOT sent a reply letter to NPS on June 15, 2009 with a commitment that specific bridge design features to address minimization of visual and noise intrusion would be coordinated with NPS in final design.



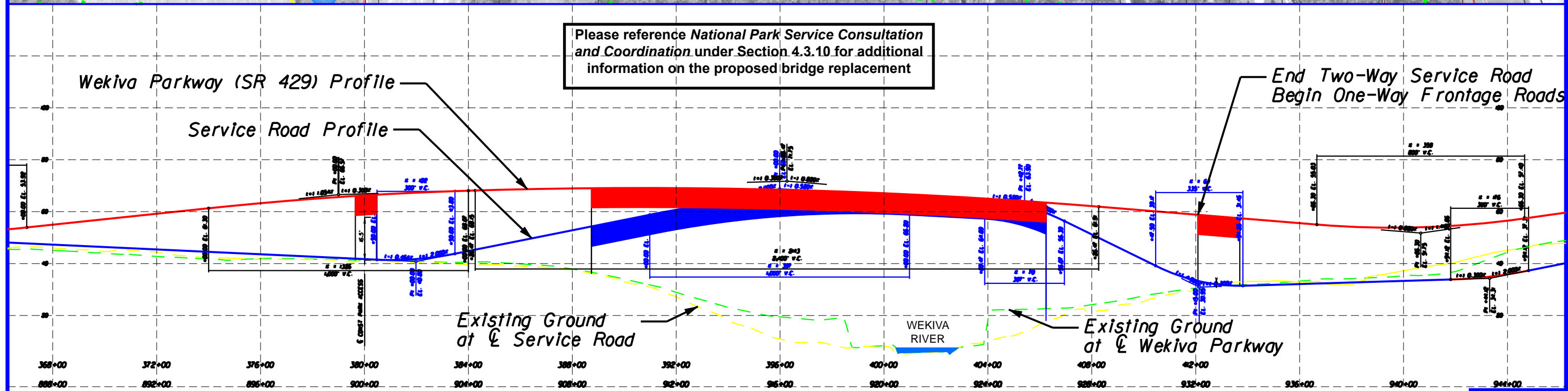
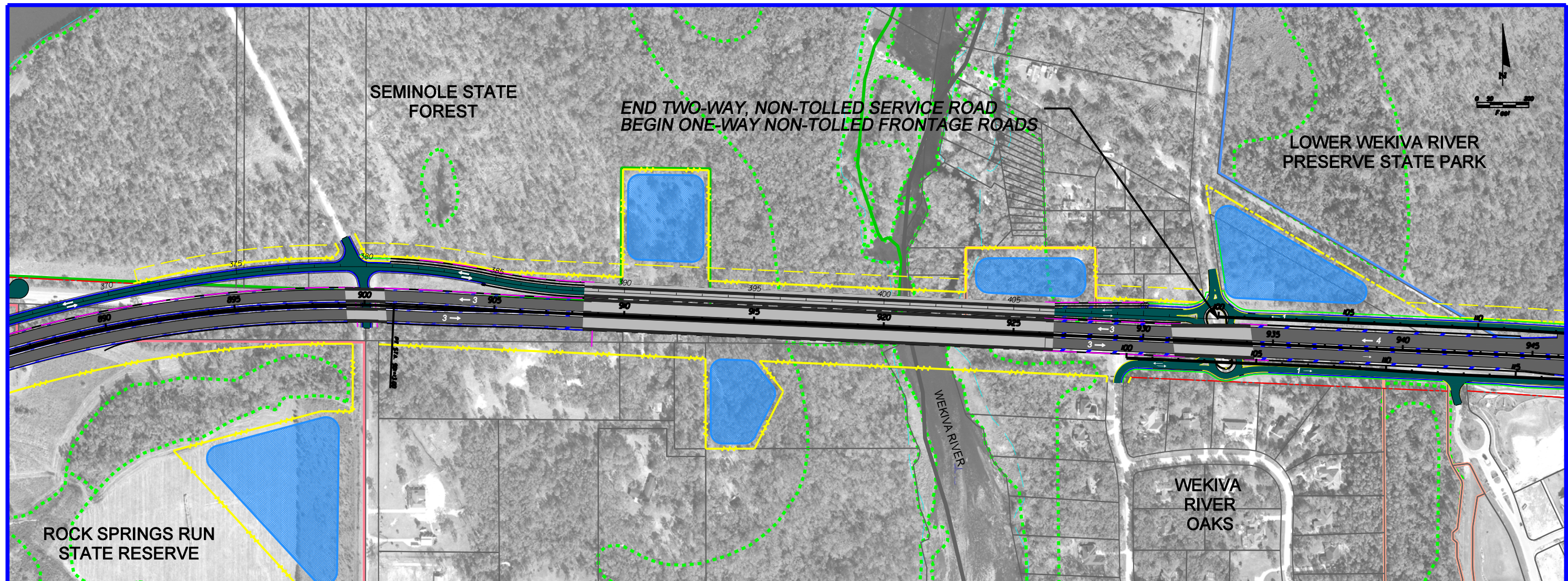
All of this correspondence with NPS was included in a draft *Programmatic Section 4(f) Evaluation* for the Wekiva Wild & Scenic River which was submitted to FHWA by FDOT in 2009. FHWA determined that NPS had not provided full Section 4(f) concurrence.

Thereafter, FHWA, FDOT and the Expressway Authority coordinated extensively with NPS to identify an approach to meet both Section 4(f) and Section 7(a) requirements in order to complete the *Programmatic Section 4(f) Evaluation* for the Wekiva Wild & Scenic River. During a conference call with FHWA and the project sponsors in March of 2010, NPS said they had come to the conclusion after discussions with FHWA that there are procedural difficulties between the FHWA requirements under Section 4(f) of the *USDOT Act of 1966* and the NPS requirements under Section 7(a) of the *Wild & Scenic Rivers Act of 1968*. At a meeting with FHWA and NPS in April 2010, FDOT and the Expressway Authority suggested a conceptual bridge design charrette could be held with FHWA, NPS, the WRSAMC and other stakeholders. The purpose of the charrette would be to provide NPS with more detailed information and allow the *Programmatic Section 4(f) Evaluation* to be completed. FDOT and the Expressway Authority also committed to seek a Section 7(a) determination from NPS during the final design phase. On June 28, 2010, FDOT and the Expressway Authority provided a signed commitment letter to FHWA for inclusion in a package of materials FHWA sent to NPS on July 16, 2010 (copies of both letters are provided in **Appendix F**).

The Proposed Build Alternative presented at the Public Hearing in October 2010 (shown in plan and profile view in **Exhibit 4-17**) would bridge the Wekiva River and its adjacent forested wetland at the location of the existing SR 46 bridge over the Wekiva River. The proposed 1,750 foot long bridges would replace the existing 561-foot long bridge. The replacement bridge over the Wekiva River is proposed to be 125'-1" in width and the service road bridge is proposed to be 54'-6.5". The total width of the two bridges, including the 2'-11" spacing between them is 182'-6.5". Since the river width from bank to bank at that location varies between 200 feet and 250 feet, the average river width under the proposed bridges is estimated at 225 feet. Therefore, the area of the river from bank to bank that would be under the bridges is estimated at 42,412 square feet or approximately 0.96 acre. Since the recreational segment of the Wekiva Wild and Scenic River is approximately 8.1 miles in length, having less than one acre of the river under the bridge would not impair the use of the remaining Section 4(f) resource, in whole or in part, for its intended purpose. Furthermore, the area under the existing SR 46 bridge over the Wekiva River is 0.24 acre. The additional river area that would be under the new bridges is, therefore, 0.73 acre. Also, the wider spans of the proposed bridges would reduce flow impedance and enhance the river users' experience. In addition to spanning the forested wetlands adjacent to the river, the filled land supporting the existing bridge abutment can be removed, which will restore the wildlife corridor adjacent to the river.

The clear span bridges committed to by the project sponsors (see information in following paragraphs of this section) will have essentially the same width dimensions as shown above with perhaps more separation between the bridges for light penetration. However, the river area under the new bridges should remain at less than 1 acre. For planning purposes in the charrettes, 300 feet was assumed to be more than adequate for clear spanning the waters of the river, and clear span bridges will entirely eliminate the flow impedance that results from the piers at the existing bridge. There will be no impairment to the use of the river at the bridge site and, in fact, use conditions will be improved with the new bridges.





<b>LEGEND</b> PROPOSED L/A RIGHT OF WAY PROPOSED RIGHT OF WAY POTENTIAL POND WETLAND BOUNDARY PARCEL LINES PARCEL CODES 255		<b>KEY MAP</b> 	  DISTRICT FIVE	<b>WEKIVA PARKWAY</b> Project Development and Environment Study Orange, Lake & Seminole Counties	WEKIVA PARKWAY (SR 429) / SR 46 REALIGNMENT PROPOSED BUILD ALTERNATIVE PRESENTED AT PUBLIC HEARING PLAN AND PROFILE	SHEET NO. Exhibit 4-17
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Project sponsor coordination with FHWA and NPS on development of the conceptual bridge design charrette process began in November 2010 and continued through January 2011. Thereafter, conceptual design charrette meetings 1 through 3 were held in March, April and July, 2011 with NPS, FHWA, the WRSAMC, residents and other stakeholders. Alternative bridge types and concepts were developed and analyzed. Site viewshed graphics, noise analyses, and color bridge renderings in the river location setting were prepared for review by the stakeholders. A traffic noise assessment was completed for the existing SR 46 bridge, the Proposed Build Alternative bridges presented at the Public Hearing, and two of the alternative bridge concepts developed during the charrettes. The FHWA TNM Version 2.5 noise model was validated to field measurements. Model inputs included worst-case noise traffic conditions (Level of Service C conditions) and the river was coded as water (hard surface).

Predicted noise levels were modeled north and south of the existing bridge at distances of 100 feet out to 1,600 feet. The model results indicated: 1) close to the bridge, the existing SR 46 bridge will have higher noise levels than the three alternatives; 2) noise levels on the three alternative bridge profiles are similar to the existing noise level out to approximately 400 feet, and 3) noise levels on the three alternative profiles generally exceed the existing noise level at 400 feet and out, with increased levels of 2 dB(A) up to 8 dB(A). None of the predicted noise levels for any of the three bridge alternatives approached or exceeded the FHWA and FDOT noise abatement criteria levels of 67 dB(A) and 66 dB(A), respectively, for recreation areas and Section 4(f) sites, and none of the predicted noise levels for any of the three bridge alternatives is considered a substantial increase under FDOT criteria.

Therefore, the noise assessment findings indicated predicted traffic noise would not rise to the level of a constructive impact.

An “advisory” bridge type and profile for the Wekiva River bridges was identified by a majority of the stakeholders. However, NPS representatives said they had no opinion yet on a preferred bridge type. NPS suggested that the advisory bridge type preference (Segmental Concrete Box Girder) could be noted, but the other bridge type alternatives should not be dismissed yet given that several variables remained dynamic and more evaluations were needed before a decision was possible. It was agreed among all parties that the venue for continued coordination with NPS on the Wekiva River bridges would be at regularly scheduled WRSAMC meetings.

Therefore, in the *Wekiva Wild & Scenic River Addendum* (March 2012) to the previously prepared *Programmatic Section 4(f) Evaluation*, the bridge concept shown is the Proposed Build Alternative presented at the Public Hearing, since no alternative was accepted by NPS at the conclusion of the charrette process. FDOT and the Expressway Authority have committed to NPS to clear span the waters of the Wekiva River with the proposed bridges and to obtain the Section 7(a) determination from NPS prior to approving the final design documents for the Wekiva Parkway mainline and service road bridges. On August 26, 2011, FHWA sent a letter to NPS requesting full Section 4(f) concurrence along with certain commitments from the project sponsors. In a reply letter dated October 7, 2011, NPS provided full Section 4(f) concurrence, subject to an ultimate Section 7(a) Evaluation and Determination by NPS. Copies of both letters are provided in **Appendix F**. As stated in the *Wild & Scenic River Addendum* to the *Programmatic Section 4(f) Evaluation*, FHWA made a determination of Section 4(f) impacts to the recreational use of the Wekiva Wild and Scenic River in 2008 under the assumption that the supporting members of the bridge would touch down in the river. Consultation between FHWA, NPS, FDOT and OCEA, as described in earlier portions of this section, has resulted in the conceptual design of a bridge that avoids



direct Section 4(f) impacts to recreational use of the river by clear spanning the river. Minimization of noise and visual intrusion from the proposed bridge has resulted from the coordination and conceptual design activities of the charettes and will be revisited in the final design process, preventing both from rising to the level of constructive impacts. No impacts to recreational activities on the Wekiva River are anticipated as a result of this project.

#### 4.3.11 Floodplains

The updated final *Location Hydraulic Report* (CH2M HILL, June 2010) indicates that the Proposed Build Alternative crosses 37 mapped floodplains within the study area. The floodplains present within the corridor are associated with rivers, lakes, historic tributaries, and isolated depressional areas. The largest floodplain systems within the corridor include:

- Wolf Branch (also known as Sunset Valley) in Lake County West;
- Neighborhood Lakes and the Wekiva River in Lake County East; and
- Wekiva River, Yankee Lake, and Lake Sylvan in Seminole County.

The mouth of the Wolf Branch regulatory floodway is located north of the project study corridor in Lake County West. No involvement with the floodway is anticipated.

The FEMA Flood Insurance Rate Maps (FIRM) for Orange, Lake, and Seminole Counties were used for this determination. The FEMA FIRM maps indicate that two floodplain zones are present within the project study area. These zones are defined as follows:

- Zone A – No base flood elevations determined; and
- Zone AE – Base flood elevations determined.

The majority of the floodplains located within the study area are Zone A. Floodplain elevations for these areas were estimated based on USGS Quadrangle Maps. Measures were taken to avoid and minimize impact to the 100-year floodplain; specifically, bridges span the majority of eight floodplains including the Wekiva River. A total of 60.79 acre-feet of impacts are expected as a result of this project. **Table 4-13** shows the potential floodplain impact volumes for each Proposed Build Alternative alignment segment.

**TABLE 4-13**  
Potential Floodplain Impact Volume by Proposed Build Alternative Segment

<b>Proposed Build Alternative Alignment Segments</b>	<b>Floodplain Impacts (acre ft)</b>
Kelly Park Road Interchange Alignment with Orange County Alternative 1	6.29
Systems Interchange Alternative 1 with Lake County West Alternative 1	0
SR 46 Widen to North	11.26
US441/SR 46 Interchange Alternative 2	0
Neighborhood Lakes Alternative 1 - Western Alignment	0.94
CR 46A Realignment Alternative 1A, South Widening	33.90
Lake County East Alternative 2 - South (Red) Alignment with Parallel Service Road	3.16
Wekiva Pkwy to SR 417/I-4 Interchange - Alternative B with North Widening	5.24
<b>Total Potential Floodplain Impact Volume</b>	<b>60.79</b>

Avoidance of potential floodplain impacts has played a key role in the development and selection of the Initial, Viable, and Proposed Build Alternative alignment locations, along with minimization of potential social, economic and other environmental impacts.



**Exhibit 4-18, Sheets 1 – 4** show the floodplains and potential impact areas within the Proposed Build Alternative roadway and stormwater pond right-of-way, as well as the proposed compensation ponds. Numbered floodplains, shown with hatching, indicate floodplains that are currently impacted by the Proposed Build Alternative, or were previously impacted by alignment alternatives evaluated during the course of the PD&E Study.

Floodplain impacts and compensation approaches are described in the updated final *Location Hydraulic Report*. The conclusions from the floodplain impact analysis are as follows:

1. Detailed floodplain calculations during final design are recommended for the Zone A mappings to more accurately reflect the flood conditions. The calculations may further reduce the extent of the floodplain, thereby reducing the impact/compensation required.
2. For areas in which the floodplain is wholly within Rock Spring Run State Reserve (including the former Neighborhood Lakes parcels) consideration for allowing a nominal floodplain increase, rather than impacting habitat to provide compensation, should be evaluated at final design.
3. Just east of the US 441 interchange, the SR 46 profile is currently below the 50-year flood elevation. This area is just south of the Wolf Branch Floodway and is a modeled Zone AE floodplain. According to the Lake County Flood Insurance Study, the 100-year elevation is 82.0, the 50-year elevation is approximately 81.5, and the 10-year elevation is approximately elevation 81.0. The existing profile varies between elevation 78 and 82 according to survey performed for this study. FDOT District 5 Leesburg Maintenance Office has indicated that there has not been flooding and roadway overtopping in this area; however, the FDOT Drainage Manual requires a 50-year design for essential/high use roadways. SR 46 is also an evacuation route, so a profile above the 100-year floodplain elevation is desirable.

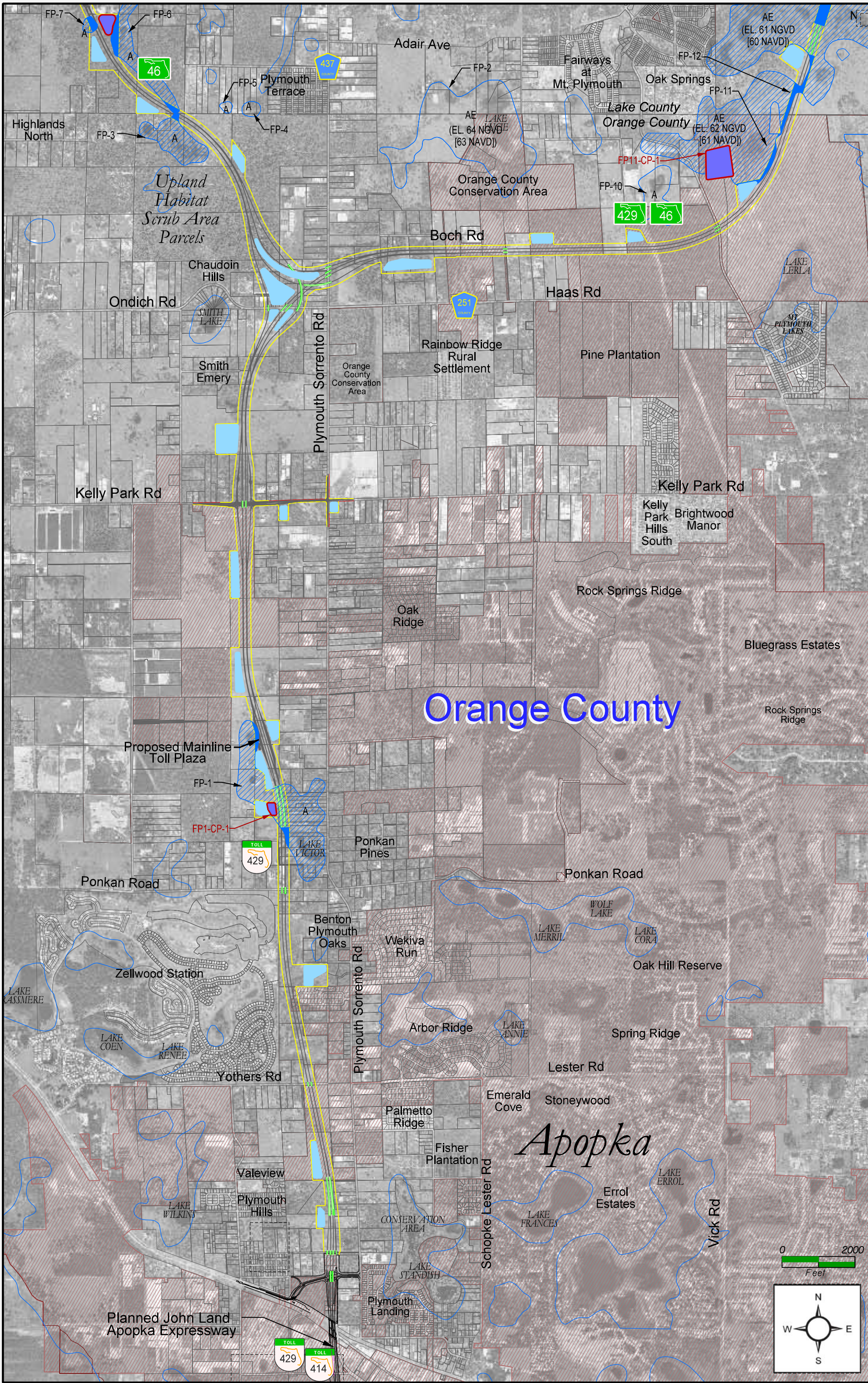
**Table 4-14** compares the impact of the three profile options to be evaluated in the final design phase. Raising the profile above the 100-year floodplain elevation will require additional right-of-way width, will slightly increase wetland impacts, and present challenges to maintaining access to several parcels on the south side of SR 46 due to the topography. This area should receive specific attention during final design.




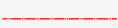

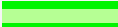
**TABLE 4-14**  
Summary of Wolf Branch Floodplain/SR 46 Profile Comparison

Profile Option	Description	10-year Flood Elevation 82.0 NGVD / 81.0 NAVD		50-year Flood Elevation 82.5 NGVD / 81.5 NAVD		100-year Flood Elevation 83.0 NGVD / 82.0 NAVD	
		Impact Area (ac)	Impact Volume (ac-ft)	Impact Area (ac)	Impact Volume (ac-ft)	Impact Area (ac)	Impact Volume (ac-ft)
A <sup>1, 2, 4</sup>	Widening with Existing Profile	5.63	11.26	5.63	11.26	5.63	11.26
B <sup>3, 4</sup>	Profile above 50-year Elevation	13.99	41.97	13.99	48.96	13.99	48.96
C <sup>3, 4</sup>	Profile above 100-year Elevation	13.99	41.97	13.99	48.96	13.99	55.95

1. An average elevation of 79.5 NGVD / 78.5 NAVD was used for the widening w/ existing profile option.
2. An average elevation of 77.5 NGVD / 76.5 NGVD was used for the widening to represent the lower ground adjacent to the fill placed to construct the current two-lane road.
3. An existing ground average elevation of 79.0 NGVD / 78.0 NAVD was used for the raised profile options to represent the fill previously placed to construct the existing two-lane road and the lower areas adjacent to the existing road fill.
4. Seasonal high groundwater elevation estimated at 75.0 NGVD / 74.0 NAVD based on wetland lines in this area as well as geotechnical investigations.



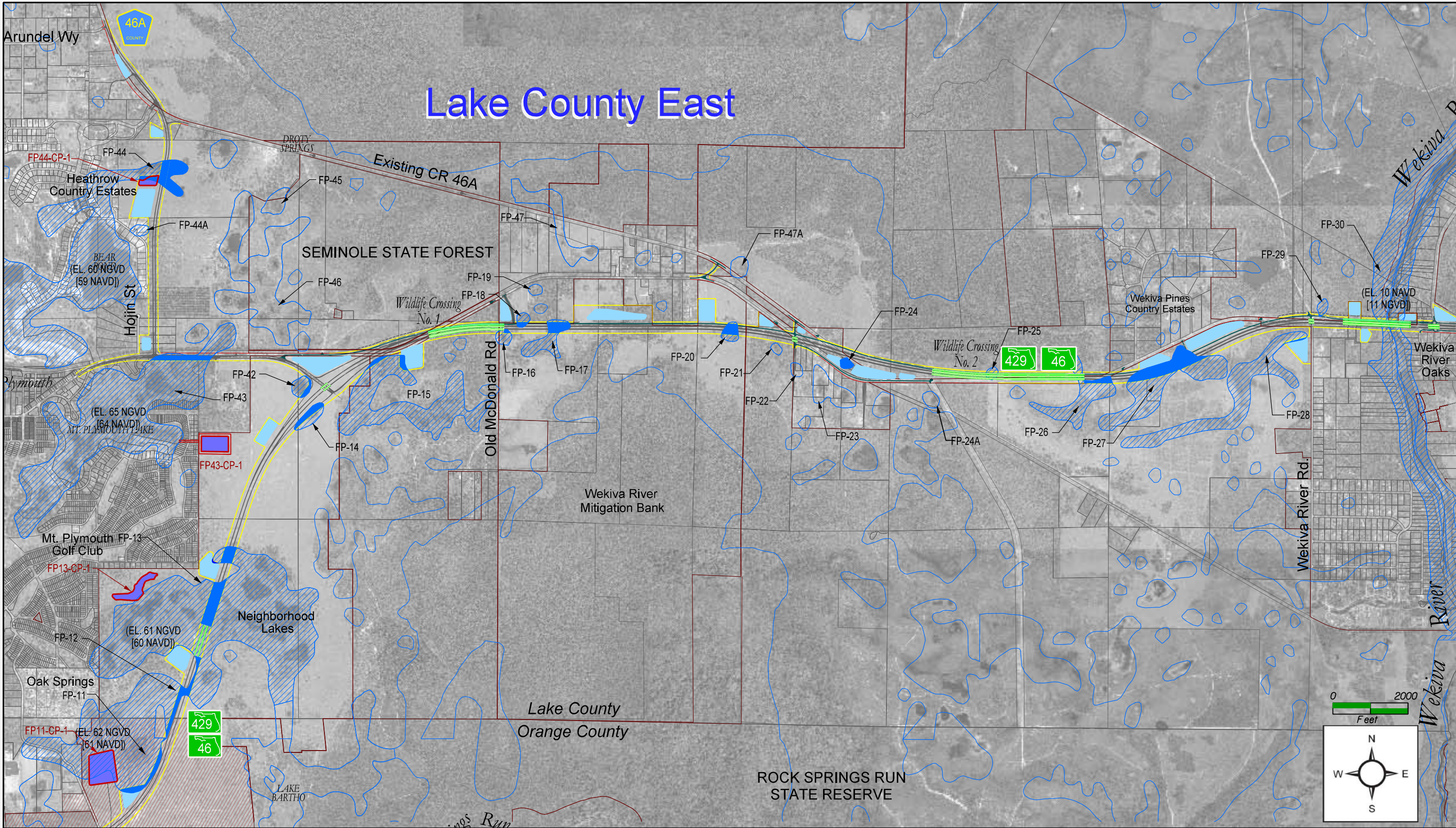


- |   |  |
|---|--|
|  Stormwater Ponds                                  |  Proposed Build Alternative R/W |
|  Floodplain Compensation Ponds                     |  Existing R/W                   |
|  Areas within the FEMA 100-year Floodplain Mapping |  Proposed Bridge                |





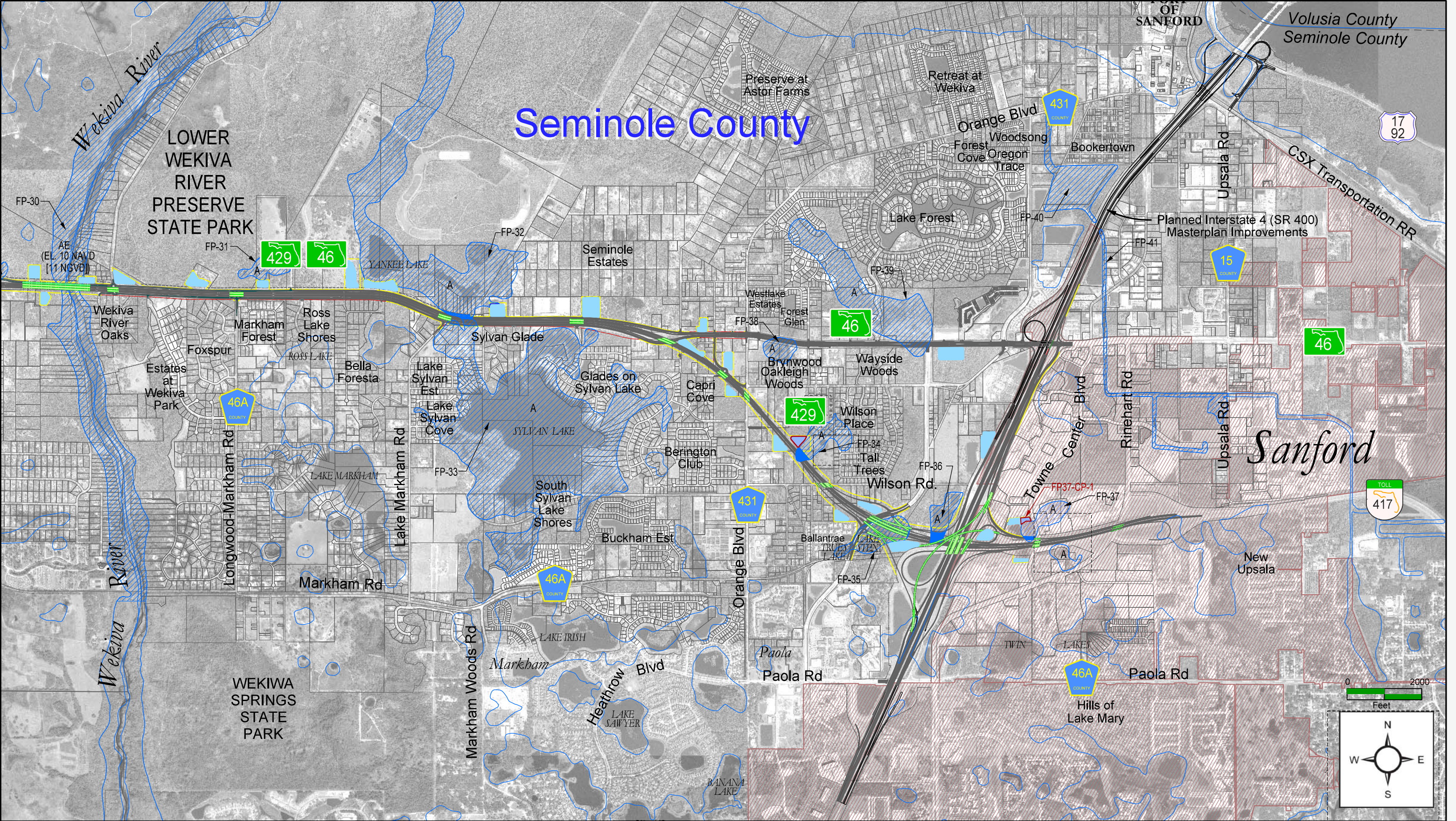




**Exhibit 4-18**  
**Floodplain Impacts**  
**Lake County East Proposed Build Alternative**  
Sheet 3 of 4







- Stormwater Ponds
- Floodplain Compensation Ponds
- Areas within the FEMA 100-year Floodplain Mapping
- Proposed Build Alternative R/W
- Existing R/W
- Proposed Bridge

**Exhibit 4-18**  
**Floodplain Impacts**  
**Seminole County Proposed Build Alternative**  
Sheet 4 of 4



#### 4.3.12 Coastal Zone Consistency

The Florida State Clearinghouse, pursuant to Presidential Executive Order 12372, Gubernatorial Executive Order 95-359, the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended, and the National Environmental Policy Act, 42 U.S.C. §§ 4321, 4331-4335, 4341-4347, as amended, coordinated a review of the proposed project during the Advance Notification phase as discussed in *Section 5.1* of this document. Based on the information provided in the Advance Notification Package and the state agency comments, the Florida State Clearinghouse determined that the allocation of federal funds for the project is consistent with the Florida Coastal Management Program (FCMP); however, the state's final concurrence of the project's consistency with the FCMP will be determined during the final environmental permitting stage.

The Department of Community Affairs has determined that this project is consistent with the Florida Coastal Zone Management Plan (see **Appendix F**).

#### 4.3.13 Wildlife and Habitat

A threatened and endangered species survey was conducted to qualitatively assess the potential for wildlife usage, or rare plant occurrence, within the project study area. The general survey activities consisted of characterizing land uses and vegetative communities within the study area, and conducting wildlife use assessments and protected species habitat assessments. The methodology and results of the survey are documented in the updated final *Endangered Species Biological Assessment* (CH2M HILL, June 2010) prepared for this study and summarized in this section.

Research of available information on recorded occurrences, and potential occurrences, of protected species in the project study area was conducted. Information sources included Florida Natural Areas Inventory (FNAI), staff at the Wekiva River Basin State Parks, as well as the U.S. Fish and Wildlife Service (USFWS) and the Florida Fish and Wildlife Conservation Commission (FWC) on-line database. Information pertaining to protected species occurrence was reviewed. The FNAI, with funds from the FDEP, maintains a database of information on federal and state listed plant and animal species and their habitats.

Field activities consisted of vehicular and pedestrian surveys within and adjacent to the project study area conducted by study team biologists in:

- 2007 - January
- 2006 - March, May, and August
- 2005 - March, April, May, and June
- 2004 - April and May
- 2002 - January, February, April, and June

Field observations and signs of wildlife were noted, such as tracks, burrows, dens, scat, nests, and calls. The wildlife observed during the field investigations of the wetlands and natural uplands along the study corridor included the following listed and non-listed species: Florida black bear, deer, feral pig, armadillo, eastern cottontail, raccoon, gray squirrel, Sherman's fox squirrel, bald eagle, burrowing owl, sandhill crane, little blue heron, great blue heron, great egret, red-shouldered hawk, wild turkey, Florida scrub jay, blue jay, white ibis, American crow, northern mockingbird, cardinal, turkey vulture, kingfisher, osprey, red-winged



blackbird, catbird, green anole, brown anole, six-lined racerunner, black racer, rough green snake, coral snake, and alligator.

Other protected species have the potential to also occur within the study corridor, based on historical records, presence of suitable habitat, and known ranges. A project area-specific list of threatened and endangered wildlife and plant species identified as potentially present within the study corridor is provided in the updated final *Endangered Species Biological Assessment*. The results presented are a compilation of the literature review and of the field investigations. The approximate locations of the listed species occurrences within and near the project study area are presented in **Exhibit 4-19**. The bear roadkill data, obtained from FWC, are for the years 1980 to 2005.

Jurisdiction over listed species is shared among several federal and state agencies. Most federal listed wildlife species are protected under the auspices of the USFWS. The FWC maintains jurisdiction over most state-listed fish and wildlife species. Florida plants that are classified as threatened, endangered, or commercially exploited are listed by the Florida Department of Agricultural and Consumer Services (FDACS). The following information documents the potential impacts to identified threatened, endangered or species of special concern associated with the Proposed Build Alternative based on the information documented in the updated final *Endangered Species Biological Assessment*.

It should be noted that the conceptual design of the Proposed Build Alternative for Wekiva Parkway in Lake County East includes two long bridges between Seminole State Forest and Rock Springs Run State Reserve, and a longer, higher bridge over the Wekiva River to enhance wildlife habitat connectivity and greatly reduce the number of vehicle-wildlife conflicts. Species-specific surveys will be conducted during the final design and permitting phase of the project, and permits will be obtained from the appropriate agencies should impacts to federally and/or state listed species be unavoidable.

#### 4.3.13.1 Federal Listed Species

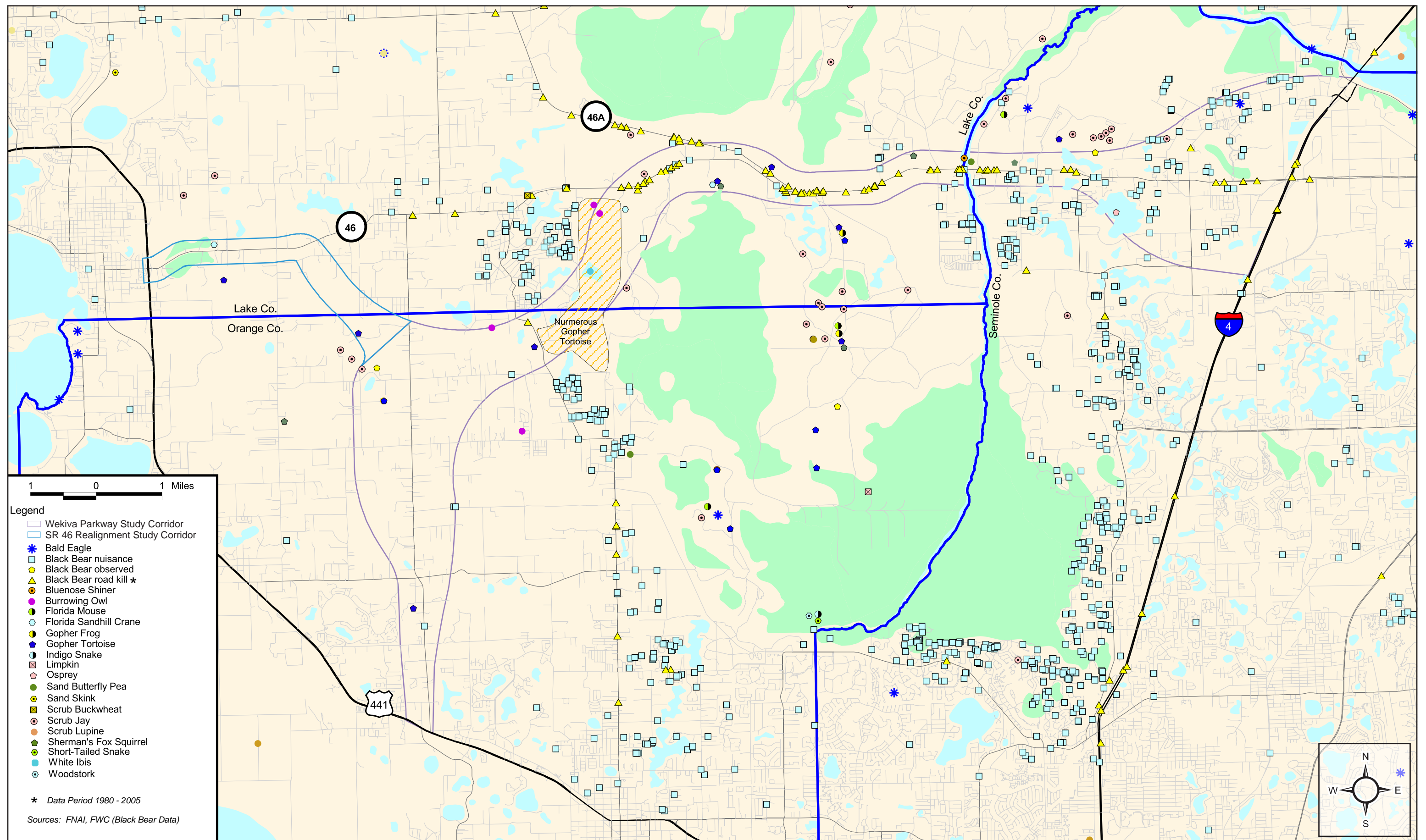
Results of observations or occurrence records of federally listed endangered (E) or threatened (T) species within the project area are briefly reviewed below. This has been coordinated with the USFWS staff. Two project site visits have been conducted with USFWS staff. Based on the findings of database searches, field surveys, and regulatory agency coordination, the following project effects have been determined for the Proposed Build Alternative.

No direct adverse impacts to individuals or to regional populations of federally listed species or their habitat are anticipated as a result of the proposed roadway improvements.

- This project will not adversely affect the Florida Manatee (E), the Bald Eagle (T), the Crested Caracara (T), Osprey (not listed, but protected by Federal Migratory Bird Treaty Act), the Red-cockaded Woodpecker (E), or the Snail Kite (E).
- The project may affect, but is not likely to adversely affect, the Florida Scrub Jay (T), the Wood Stork (E), the Burrowing Owl (not listed, but protected by Federal Migratory Bird Treaty Act), the American Alligator (T), the Eastern Indigo Snake (T), or the Sand Skink (T).

On November 19, 2007, FDOT requested a USFWS letter of concurrence on the potential effects of the proposed project on federally listed species. In response, the USFWS provided a letter of concurrence dated January 15, 2008. Copies of the FDOT and USFWS letters are





**Exhibit 4-19**  
**Locations of Listed Wildlife and Plant Species**  
**Observed and /or Documented in the Project Study Area**



included in **Appendix F**. After review of information on the new Service Road concept in east Lake County, the USFWS indicated on May 10, 2010 that the revision was not a substantial modification with new effects, and reinitiation of consultation is not necessary. A copy of that communication is provided in **Appendix F**.

#### 4.3.13.2 State Listed Species

Potential impacts to State-only listed species, including species of special concern (SSC), and their habitat have been coordinated with the FWC staff. This project will not adversely affect the Least Tern (T), Peregrine Falcon (E), Southeastern American Kestrel (T), Little Blue Heron (SSC), Tricolored Heron (SSC), Snowy Egret (SSC), White Ibis (SSC), or the Limpkin (SSC).

The project may affect, but is not likely to adversely affect, the Florida Black Bear (T), Sherman's Fox Squirrel (SSC), Florida Mouse (SSC), Burrowing Owl (SSC), Florida Sandhill Crane (T), Gopher Tortoise (T), Gopher Frog (SSC), Florida Pine Snake (SSC), or the Short-tailed Snake (T). In fact, the previously mentioned long bridges in the conservation areas should substantially reduce wildlife-vehicle conflicts, particularly for the Black Bear.

On March 4, 2008, FDOT requested a FWC letter of agreement on the potential effects of the proposed project on state listed species. In response, the FWC provided a letter of agreement dated May 5, 2008. FWC recommended a survey be conducted in the Wekiva River for a species of special concern, the bluenose shiner, to determine if it is present. Copies of the FDOT and FWC letters are included in **Appendix F**. The same information on the new Service Road concept in Lake County East that was sent to USFWS was also provided to the FWC staff in May 2010. In a letter dated July 1, 2010, FWC stated that they do not foresee any new impacts to fish and wildlife resources, including listed species, from the modification involving the Service Road. FWC again mentioned concern over the possible presence of the bluenose shiner and requested that sampling be conducted. A copy of that letter is provided in **Appendix F**. As stated previously under *Section 4.3.13*, species-specific surveys will be conducted during the final design and permitting phase of the project, and permits will be obtained from the appropriate agencies should impacts to federally and/or state listed species be unavoidable.

Where federally listed and state listed threatened or endangered species and species of special concern are or may be located within the project area, considerable efforts have been made to cause no adverse affect on them. The ongoing coordination activities with the USFWS and the FWC will continue into the final design phase. Where protected species are determined to be present, the timing and location of construction activities, and specific mitigation measures, will be in accordance with regulatory guidelines established with the appropriate agencies during the permitting process.

#### 4.3.13.3 Wildlife Corridors

In keeping with the recommendations of the "Guiding Principles", the Proposed Build Alternative includes approximately 7,710 feet of bridging in east Lake County from west of Old McDonald Road to east of the Wekiva River to provide enhanced wildlife habitat connectivity at two important wildlife crossing locations, as well the habitat adjacent to the river.

Currently there are two structures under SR 46 in east Lake County that serve as large animal underpasses. The first underpass structure, built in 1994, is a rectangular concrete bottomless culvert that provides a 26-foot wide opening for wildlife to pass under the roadway. It is located east of the SR 46/CR 46A intersection. The second, an AASHTO beam



bridge built in 2004, is twice as wide and provides a 52-foot wide opening for wildlife. This bridge is located west of Old McDonald Road. The current roadway width, which is the distance that wildlife has to travel through the underpass, is approximately 46 feet. Chain link fence and vegetation are used to funnel wildlife to the crossings.

At least 12 species, including bears, were recorded using the 1994 culvert and at least 55 bears used it in the 2 years following installation (Roof and Wooding 1996; USDA 2005). Roof and Wooding (1996) studied bear movements near the wildlife underpass on SR 46 south of Ocala National Forest and estimated a density of 0.28 bears per square mile. A camera with motion sensor was installed in the culvert. During a 3-year period, from late 1996 to late 1999, the Florida Park Service reported over 400 wild animals, representing 5 species that crossed through the culvert (Defenders of Wildlife circa 2001). Ninety-eight percent (98%) of the wildlife species reported to use the culvert during those 3 years included deer (38%), bobcat (*Lynx rufus*) (29%), coyote (*Canis latrans*) (19%), and bear (12%).

Records of bearkills obtained from FWC, indicate that while the crossings are used, there are still incidences of bearkills along SR 46 in the vicinity of the crossings as evidenced by remarks made by investigators suggesting that the bear should have used the underpass.

As a part of the Proposed Build Alternative, FDOT proposes to replace the existing western 52-foot wide opening and eastern 26-foot wide opening wildlife underpasses with longer wildlife bridges of approximately 1,960 feet (western bridges) and 4,000 feet (eastern bridges). The existing 561-foot bridge over the Wekiva River will be replaced with longer, higher bridges of approximately 1,750 feet in length. These longer bridges will open up the wildlife corridor between the Rock Springs Run State Reserve and the Seminole State Forest, and will enhance habitat connectivity. Many more species of wildlife will be able to safely move between the two public conservation areas.

If the Wekiva Parkway were to be constructed at-grade through the Neighborhood Lakes property, it would be a substantial hazard/barrier to bears and other wildlife that attempt to move west from Rock Springs Run State Reserve. However, as a part of the Proposed Build Alternative, a bridge of approximately 800 feet in length will be constructed over the marsh habitat in the center of the Neighborhood Lakes property. This will serve as a large and small animal underpass, as well as provide access for state park management staff.

Barriers or fencing to direct wildlife to these safe crossing points will be addressed during the final design phase of the project. The locations and approximate lengths of the proposed wildlife structures are illustrated in **Exhibit 4-20**.

#### 4.3.14 Farmlands

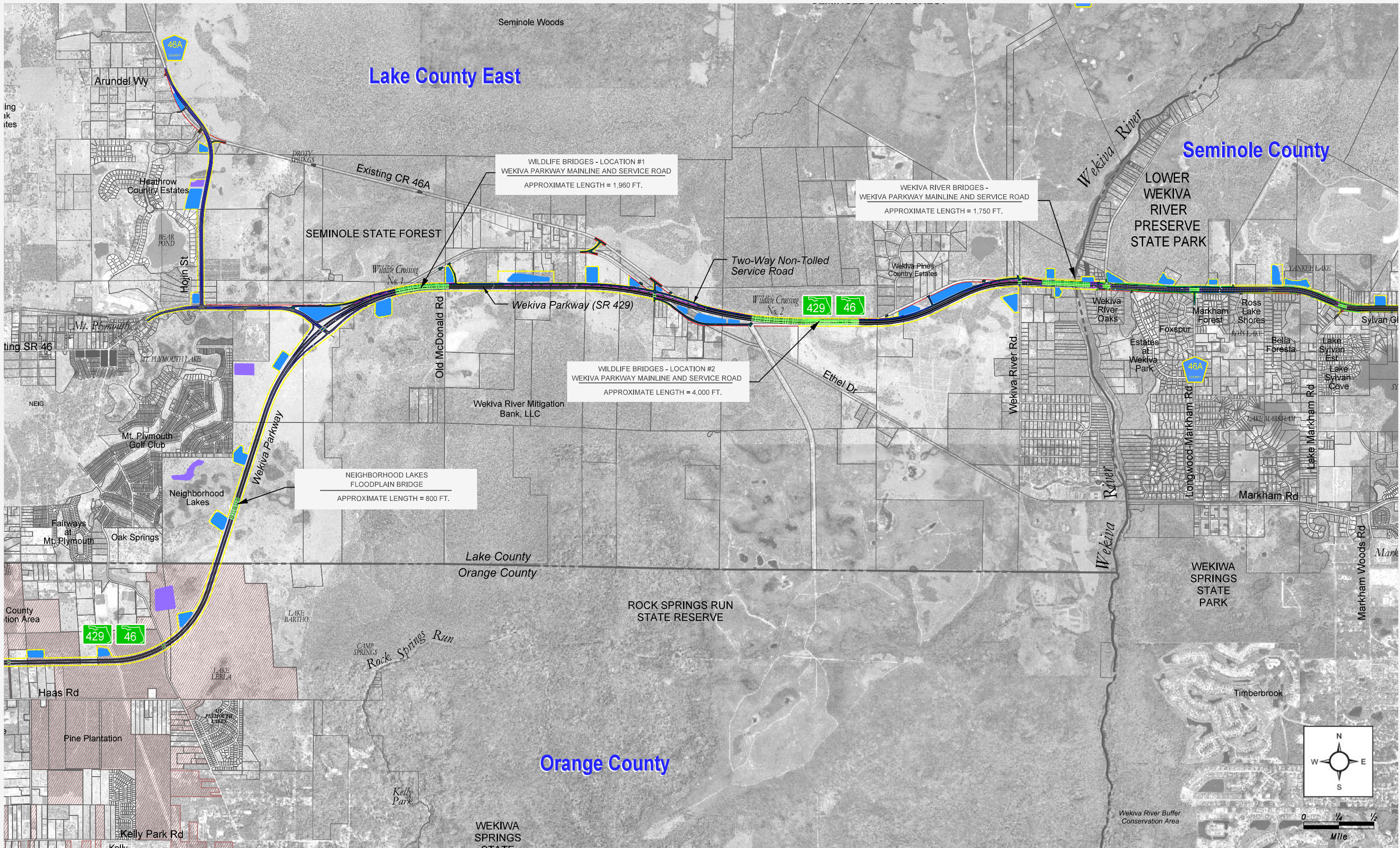
Through coordination with the Natural Resources Conservation Service, it has been determined that no prime or unique farmlands, as defined by 7 CFR 658, are located in the project vicinity.

#### 4.3.15 Construction

Construction activities will produce temporary air, noise, water quality, traffic flow, and visual impacts on the residences, businesses, and motorists within the immediate vicinity of the project. All construction impacts will be minimized or controlled by adherence to measures set forth in the FDOT's *Standard Specification for Road and Bridge Construction*.

The air quality impact will be temporary and will primarily be in the form of emissions from diesel-powered construction equipment and dust from embankment and haul road





- LEGEND**
- |                               |                      |                          |
|-------------------------------|----------------------|--------------------------|
| Stormwater Ponds              | Municipal Boundaries | Proposed Alternative R/W |
| Floodplain Compensation Ponds | Bridges              | Existing R/W             |

**Exhibit 4-20**  
**Locations and Approximate Lengths**  
**of Proposed Wildlife Structures**



areas. Air pollution associated with the creation of airborne particles will be effectively controlled through the use of watering or the application of other controlled materials in accordance with FDOT's *Standard Specifications for Road and Bridge Construction* as directed by the FDOT and Expressway Authority Project Engineers.

Noise and vibrations impacts will be from the heavy equipment movement and construction activities such as pile driving and vibratory compaction of embankments. Noise control measures will include those contained in FDOT's *Standard Specifications for Road and Bridge Construction*. Adherence to local construction noise and/or construction vibration ordinances by the contractor will also be required where applicable.

Water quality impacts resulting from erosion and sedimentation will be controlled in accordance with FDOT's *Standard Specifications for Road and Bridge Construction* and through the use of Best Management Practices. Construction activities within the Wekiva River Hydrologic Basin must also meet the standards for erosion and sediment control and water quality pursuant to Chapter 40C-41, F.A.C. A Water Quality Protection Zone extends one half mile from the Wekiva River and tributaries, and within one quarter mile from any wetland abutting an Outstanding Florida Water.

Maintenance of traffic and sequence of construction will be planned and scheduled so as to minimize traffic delays throughout the project. Signs will be used as appropriate to provide notice of road closures and other pertinent information to the traveling public. The local news media will be notified in advance of road closings and other construction-related activities which could excessively inconvenience the community so that motorists, residents, and business persons can plan travel routes in advance. A sign providing the name, address, and telephone number of the appropriate FDOT or Expressway Authority contact person will be displayed on-site to assist the public in obtaining immediate answers to questions and logging complaints about project activity.

Access to all business and residences will be maintained to the extent practical through the controlled construction scheduling. Along the existing SR 46 corridor, the present traffic congestion may become worse during stages of construction where narrow lanes may be necessary. Traffic delays will be controlled to the extent possible where many construction operations are in progress at the same time. The contractor will be required to maintain the existing number of lanes at all times and to comply with the Best Management Practices of FDOT and the Expressway Authority. Also, present interchange movements will be maintained through the use of detour ramps. No other locations will require temporary roads or bridges.

For the residents living along SR 46 or any roadway that will be bridged or have an interchange with the proposed project, some of the materials stored for the project may be displeasing visually; however, this is a temporary condition and should pose no substantial problem in the short term.

Construction of the roadway and bridges requires excavation of unsuitable material (muck), placement of embankments, and use of materials, such as limerock, asphaltic concrete, and Portland cement concrete. Demucking is anticipated at most of the wetland sites and will be controlled by Section 120 of the FDOT Standard Specifications. Disposal will be on-site in detention areas or off-site. The removal of structures and debris will be in accordance with local and State regulation agencies permitting this operation. The contractor is responsible for his/her methods of controlling pollution on haul roads, in borrow pits, other materials pits, and areas used for disposal of waste materials from the project. Temporary erosion



control features as specified in the FDOT's Standard Specifications, Section 104, will consist of temporary grassing, sodding, mulching, sandbagging, slope drains, sediment basins, sediment checks, artificial coverings, and berms.

## 4.4 Secondary and Cumulative Effects

The potential effects or impacts of a proposed action can be direct, indirect (secondary) and cumulative. According to 40 CFR 1508.7 and 1508.08:

- direct effects are caused by the action and occur at the same time and place;
- secondary effects are caused by the action and are later in time or farther removed in distance, but are reasonably foreseeable;
- cumulative effects result from the incremental consequences of the action when added to other past and reasonably foreseeable future actions regardless of who undertakes such other actions.

The potential direct effects of the proposed Wekiva Parkway project have been evaluated in the preceding portions of *Section 4* in this document. With regard to secondary and cumulative effects, the proposed project is one component of a comprehensive plan developed through Executive Orders, subsequent task force and committee findings of diverse stakeholders, and the resultant *Wekiva Parkway and Protection Act* legislation as discussed in *Sections 1* and *2*. The strategic priorities address growth management and a sustainable environment, including master stormwater management, water supply protection, land use strategies, and land acquisition for conservation. The potential for negative secondary and cumulative effects of the Wekiva Parkway project was realized early in the process, analyzed and addressed in those comprehensive actions. The Wekiva Parkway (SR 429)/SR 46 Realignment PD&E Study has followed that guidance in planning to protect the rural character of the study area and the unique resources of the Wekiva River Basin. The following is a brief assessment of the potential secondary and cumulative effects of the proposed project.

### 4.4.1 Secondary Effects

Generally, secondary or indirect impacts are induced by the initial action. They may be comprised of a variety of effects such as changes in land use, development patterns, water quality, wildlife habitat, and other natural systems. Transportation projects may influence development in localized areas and have environmental impacts resulting from land use changes. However, those types of potential consequences were analyzed and addressed in the comprehensive stakeholder findings and the resultant legislation completed prior to the start of the PD&E Study. Many secondary effects of the proposed project are anticipated to be positive, as discussed below.

#### 4.4.1.1 Land Use and Development

The *Wekiva Parkway and Protection Act* specifically recommended limiting the number and location of local access interchanges in order to control induced growth and unforeseen changes in land use. Over the 20.94 mile length of the proposed Wekiva Parkway, there are only three local access interchanges in the Proposed Build Alternative -- one in Orange County at Kelly Park Road, one in Lake County East in the Neighborhood Lakes area, and one in Seminole County at International Parkway near I-4. The *Act* requires local governments to develop specific land use plans for those interchange areas to address



appropriate uses and compatible development. Also, the acquisition of conservation lands in Lake County East and Orange County was undertaken, in part, to preserve those lands along the proposed roadway alignment for conservation and preclude future development.

In the more developed portions of the study area, there may be some “out migration” from owner-occupied existing residential units located directly adjacent to the proposed right-of-way limits due to associated noise and/or visual effects of the project. However, these types of land use impacts are anticipated to be fairly isolated.

#### 4.4.1.2 Natural Environment

A major focus of the Executive Orders, stakeholder task force and committee findings, and the *Act* was to protect and enhance the unique natural resources of the Wekiva River Basin area. This includes master stormwater management, water supply protection, wildlife habitat protection and connectivity, and other ecosystem protections. The recognition of the importance of the Wekiva River Basin, its habitat, wildlife, conservation and recreation values, the associated spring systems, and the connection to the Ocala National Forest elevated the protection of this resource to a primary component of the purpose and need for the Wekiva Parkway. The following address the potential for secondary effects:

- Secondary impacts to water quality are not expected with this project because the treatment system for stormwater will be designed to satisfy current management criteria, including special basin criteria. Rather, water quality treatment will be improved over the existing conditions along portions of the project in Lake and Seminole Counties which follow the existing SR 46 alignment and were constructed primarily before drainage criteria were developed. This will also benefit the Wekiva River through control of untreated runoff.
- The estimated total direct wetlands impact of 97.56 acres will be mitigated with wetland creation through an expected combination of the Central Florida Beltway Mitigation Trust Fund, Florida Senate Bill 1986, and the Multi-Party Agreement with the Wekiva River Mitigation Bank.
- There have historically been many conflicts between vehicles and wildlife on SR 46 in the Lake County East portion of the study area; habitat connectivity between state park/conservation lands will be enhanced by the project implementing several long wildlife bridges totaling approximately 7,710 feet in length.
- In developing the alignment of the Proposed Build Alternative, special considerations were given to the high recharge areas primarily in northwest Orange County recognizing the recharge areas are an integral component of the area springshed and the ultimate continued function of the spring systems.
- With regard to air quality, the comparative 1-hour and 8-hour carbon monoxide concentrations are lower for the Proposed Build Alternative than for the No Build Alternative, with no projected exceedance of National Ambient Air Quality Standards.
- Extensive analysis and evaluation has been undertaken to avoid or minimize impacts to the Outstandingly Remarkable Values of the Wekiva Wild & Scenic River.

#### 4.4.1.3 Conservation Lands

Although there will be some unavoidable impacts to Section 4(f) public lands, State parks and conservation lands in Lake County East and Orange County have been enhanced by the



proposed project because of the following acquisitions which meet the goals of the Wekiva-Ocala Greenway *Florida Forever* project:

- Wekiva River Mitigation Bank (1,553 acres) – the perpetual conservation easement and transfer of development rights assure that the land will be preserved in its natural state augmented by created wetlands;
- Neighborhood Lakes (1,584 acres) – the property is immediately adjacent to the Rock Springs Run State Reserve; the acquisition included transfer of development rights so the land will be preserved for public conservation purposes and may become a part of the Reserve;
- Pine Plantation (385 acres) – the land acquired is not needed for right-of-way for the Wekiva Parkway, but will serve as a buffer to protect surface water and groundwater resources, including recharge within the Wekiva River spring-shed; the acquisition included transfer of development rights so the property will be conservation land protected from future development.

#### 4.4.1.4 Economic Vitality

The economic vitality of the study area and the region will be enhanced by completion of the Western Beltway around metropolitan Orlando. The Wekiva Parkway is a planned addition to Florida's Strategic Intermodal System (SIS), an integrated transportation network consisting of statewide and regionally significant transportation facilities, services, modes of transportation and linkages. The SIS was established to focus limited state resources on transportation facilities that are critical to Florida's economy and quality of life.

It is not expected that the displacement/relocation of the nine small businesses (some are backyard greenhouses) that are estimated to be impacted by the proposed project over the three county area will have a substantial effect on the economic vitality of the study area or the region.

#### 4.4.2 Cumulative Effects

Cumulative impacts can result from individually minor, but collectively significant, actions which take place over a period of time. Such effects include the total of all impacts to a particular resource that have occurred, are occurring, and will likely occur as a result of any action or influence, including the direct and reasonably foreseeable indirect impacts of the proposed action.

Cumulative impacts within the Wekiva River Basin portion of the study area, beyond past actions and with the expected direct and secondary effects of the proposed project, may be positive or benign. The environmental protections and enhancements recommended or provided by the previously referenced stakeholder findings, requirements of the *Wekiva Parkway and Protection Act*, conservation land acquisitions, components of the proposed project, and other state/local government actions pursuant to the *Act* should ensure no future habitat loss, ecosystem degradation, or development pressure.

There are no other major roadways planned within the study area, and the proposed Wekiva Parkway project is meant to replace an existing roadway (SR 46) through the most environmentally sensitive area. Those actions that can be most reasonably foreseen are the projects included in the TIP and LRTP as documented in *Section 2.5.2*. There is very limited data available to allow for quantification of the potential effects associated with those planned and programmed projects. Consideration of the planned and programmed projects was included in the deliberations which resulted in the *Wekiva Parkway and Protection Act*.



Through those discussions it was noted that the cumulative effects of those actions, along with the proposed Wekiva Parkway project, would not result in significant impacts. In fact, the actions pursuant to the *Wekiva Parkway and Protection Act* are widely viewed as providing positive benefits that outweigh the potential effects of all planned and programmed actions in the study area.