

**Round Lake  
Road  
Project  
Development  
and  
Environment  
(PD&E)  
Study**



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**Natural  
Resource  
Evaluation  
(NRE)  
Report**

May 7, 2019



## EXECUTIVE SUMMARY

This Natural Resource Evaluation (NRE) report was prepared as part of the PD&E study for Round Lake Road from Meadowland Drive in Orange County to North of State Road 44 (Chautauqua Street) in Lake County. In this area the Round Lake Road corridor is a discontinuous north-south two-lane undivided rural collector roadway. The proposed improvements will include the existing portion of Round Lake Road (Meadowland Drive to Wolf Branch Road) as well as continuing the proposed improvements on a new alignment north of Wolf Branch Road to north of State Road (SR) 44 in Lake County. The PD&E study area is in the northeast portion of Lake County to the east of Mount Dora and to the west of Sorrento.

The need for proposed improvements was originally evaluated based on an area-wide traffic analysis of future projected traffic volumes along the Round Lake Road corridor, as well as evaluation of other factors including population growth, traffic on other roadways in the study area and completion of the local roadway system. With the extension of the Wekiva Parkway and completion of the interchanges, access to the surrounding communities is an important factor in the improvement and development of roadways within the study area. The Round Lake Road extension is anticipated to serve as a major north/south connection for this area.

The purpose of the NRE is to document and analyze existing natural features such as land use, soils, wetlands, wildlife, and habitat with the selected area of study. The analysis of the identified environmental features included the evaluation for potential impacts proposed by the five proposed Build Alternatives, and the Transportation Systems Management and Operations (TSM&O) Alternative. The potential impacts identified from the Build and TSM&O Alternatives were compared to the No-Build Alternative.

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## PROJECT OVERVIEW

### 1.0 PROJECT SUMMARY

Lake County is conducting a Project Development and Environment (PD&E) study to evaluate the proposed widening of Round Lake Road from Meadowland Drive to Wolf Branch Road and continuing the proposed improvements on a new alignment north of Wolf Branch Road to north of State Road (SR) 44, a length of approximately five miles. The Round Lake Road PD&E study area is in the northeast portion of Lake County bound by the Lake/Orange County Line to the south, US 441 to the west, CR 44A to the north and CR 437 to the east. In the PD&E study area, Round Lake Road is a discontinuous north-south two-lane undivided rural collector roadway with portions of the roadway facility abutting the City of Mount Dora and unincorporated Lake County.

#### 1.1 Project Description

The PD&E study evaluates alternatives to develop a recommendation for a preferred alignment and improvements for Round Lake Road that include widening the existing segments and constructing new segments, resulting in a continuous four-lane divided urban section from Sullivan Ranch Boulevard to SR 44 and an improved two-lane urban section from the County line to Sullivan Ranch Boulevard, for a total length of approximately five miles. The proposed typical section consists of four through lanes separated by a grass median with bicycle lanes and a buffered sidewalk or multi-use trail on each side of the roadway (**Figure 1- Typical Section**). In addition, the study includes evaluation of short-term improvements to address traffic operations, multi-modal travel, and school access route needs in the study area. The project study area, as depicted in **Figure 2- Location Map**, includes the following study intersections:

- Round Lake Road at Sullivan Ranch Boulevard
- Round Lake Road at SR 46
- Round Lake Road at Wolf Branch Road
- County Road (CR) 439/Riordan Road @ SR 44
- CR 439 at CR 44A

The intersection at Round Lake Road at Sullivan Ranch Boulevard will be designed as a roundabout to transition from 2 lanes to 4 lanes. The configuration of the other intersections will be evaluated and determined during project design with roundabouts being considered at additional areas.

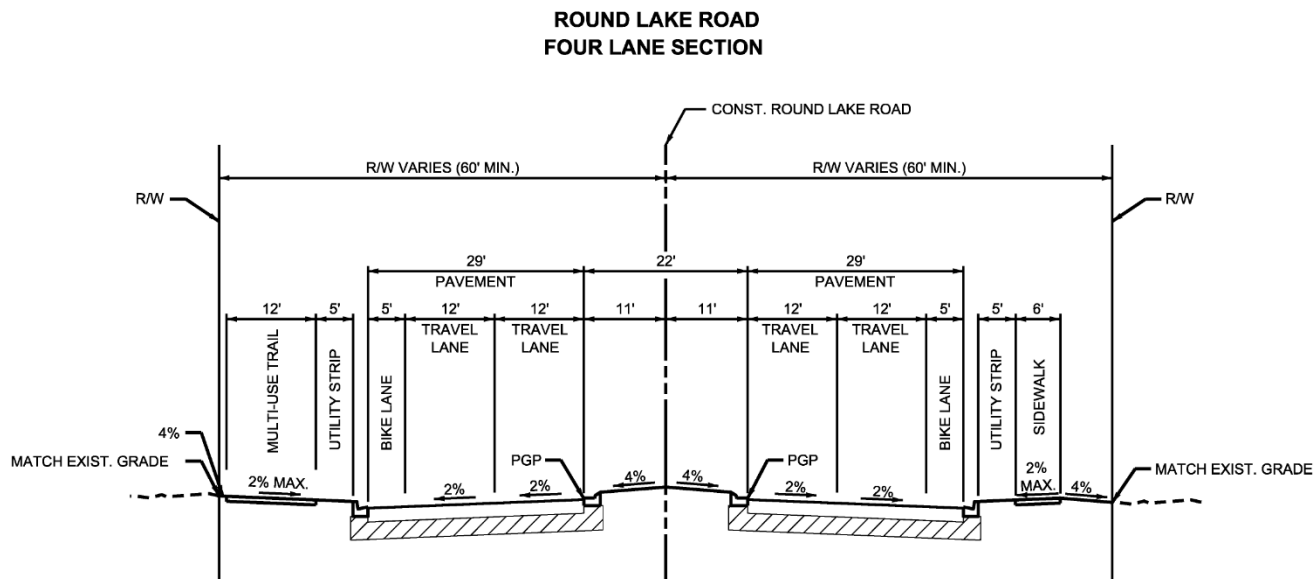
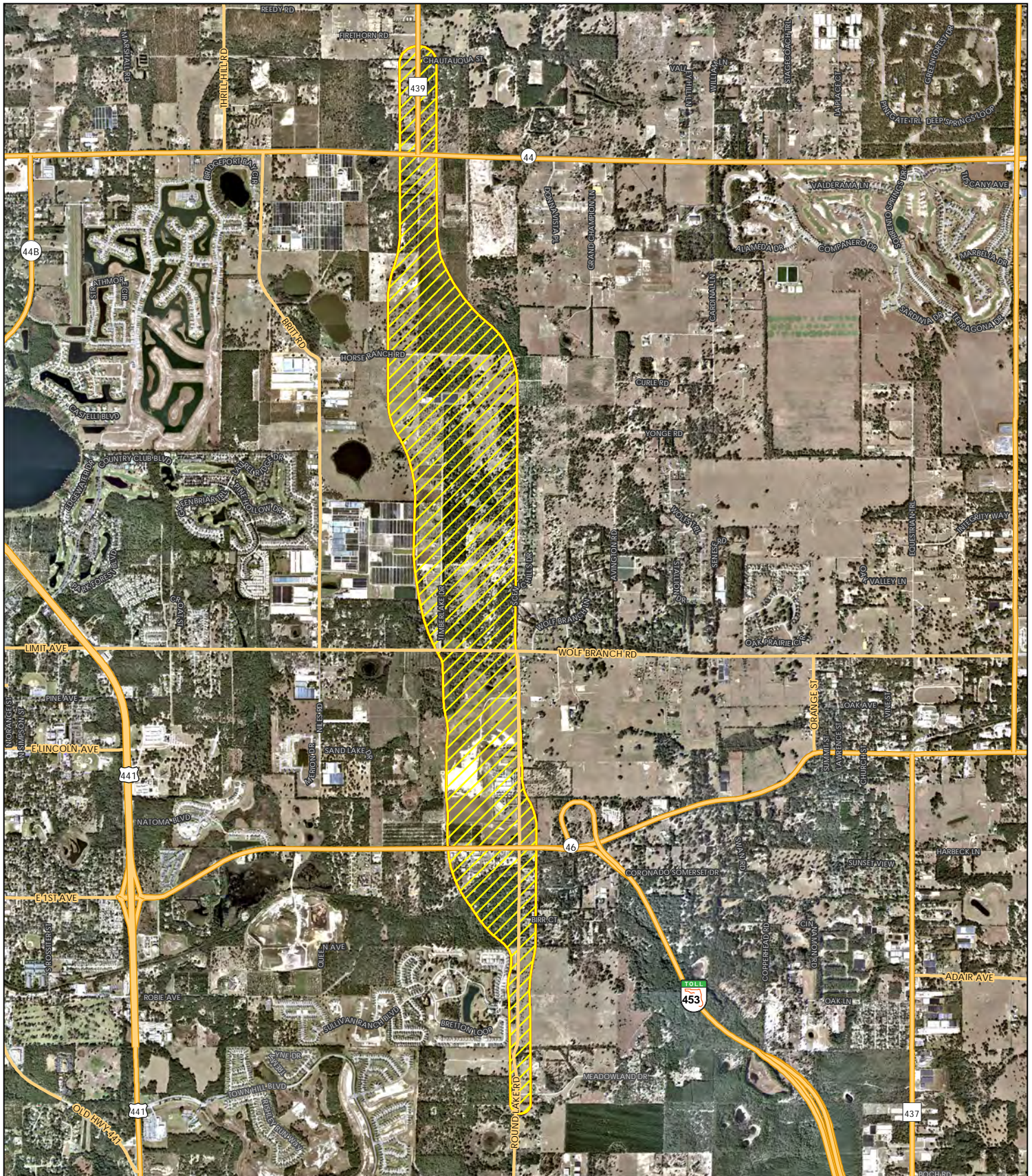


Figure 1: Typical Section

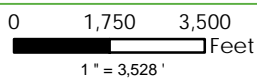
## 1.2 Purpose and Need

The Round Lake Road PD&E study area is located in the northeastern portion of Lake County, with the Orange County line immediately to the south and the Seminole County line about 10 miles to the east. The study corridor is in an area of Lake County that is experiencing and is anticipated to continue experiencing substantial growth in the future. Economic, land development and transportation projects of significance in this region include the 1,300-acre Wolf Branch Innovation District with industrial, office, retail, residential and institutional land uses, the \$1.6 billion, 25-mile Wekiva Parkway (SR 429) construction project, the 15-mile regional multi-use Lake Wekiva Trail and the 2,112-acre Mt. Plymouth-Sorrento Community Redevelopment Area (CRA). With the anticipated completion of the Wekiva Parkway project by 2021, the enhanced infrastructure affords the opportunity to increase the economic vitality of this region.





Round Lake Round PD&E Study Area



# PROJECT LOCATION MAP

# FIGURE 2





## 1.3 Alternatives

An alternatives analysis is completed as part of this PD&E study to develop, evaluate and eliminate potential alternatives based on the purpose and need for the project. Detailed analysis of engineering and environmental aspects along with public and stakeholder input are key elements in the development and evaluation of potential alternatives. Five Build Alternatives (**Figure 3- Build Alternatives**), the No-Build Alternative, and a Transportation System Management and Operations (TSM&O) Alternative were considered.

### 1.3.1 *No-Build Alternative:*

The No-Build Alternative keeps the existing roadway as it is, with no traffic capacity, operational or safety improvements. The No-Build Alternative assumes that travel demand will increase significantly over the next 20 years due to areawide growth resulting in increased traffic volumes and congested conditions in the study area. The No-Build Alternative serves as the baseline against which the Build Alternatives are evaluated.

### 1.3.2 *Transportation System Management and Operations (TSM&O) Alternative:*

The Transportation System Management and Operations (TSM&O) Alternative includes short-term, low-cost strategies or improvements that optimize the performance and utilization of the existing facility. The TSM&O alternative involves solutions other than building new capacity such as implementation of or enhancements to Intelligent Transportation Systems (ITS), signal re-timings, work zone management, incident management, emergency vehicle routing, bicycle and pedestrian facilities, road diets and access modifications. The additional capacity required to meet the projected future traffic demand volumes and the need for connectivity and mobility cannot be provided solely through implementation of TSM&O strategies. However; enhancement to bicycle and pedestrian facilities can be included as part of the Build Alternatives.

### 1.3.3 *Build Alternatives:*

The potential build alternative concepts for Round Lake Road were developed with consideration to the physical and natural characteristics of the study area including environmental constraints. Factors considered included: vehicle and road user characteristics, traffic requirements and transportation network, safety, economics, topography, public input and meetings with Lake County and other stakeholders. In addition, previous efforts as documented in the East Lake County Transportation Network Assessment, Network Management Plan (September 2013) were reviewed which identified three preliminary alignment concepts.

#### 1.3.3.1 Build Alternative (Yellow Alignment)

The Build Alternative Yellow Alignment follows the existing Round Lake Road alignment in the southern portion of the corridor for approximately 2.2 miles, from the begin project limits to just north of Dudeck Road. Here, the alignment shifts slightly to align with Scenic Hills Drive to the north of Wolf Branch Road. The alignment continues north, parallel to existing Scenic Hills Drive for approximately 0.75 mile where a reverse curve then shifts the alignment northwest for about one mile before connecting to a tangent section that runs along the existing CR 439/ Riordan Road alignment and terminating near Chautauqua Street. This alignment is to the northeast of the low-lying, depression area in the central region of the northern portion of the study corridor. Sixteen



pond alternatives have been designed for this alignment, typically with one pond on each side of the alignment for each of the eight basins.

#### 1.3.3.2 Build Alternative (Red Alignment)

The Build Alternative Red Alignment follows the existing Round Lake Road alignment in the southern portion of the corridor for approximately 2.2 miles, from the begin project limits to just north of Dudeck Road. Here, the alignment shifts slightly to align with Scenic Hills Drive to the north of Wolf Branch Road. Approximately 0.1 mile north of Wolf Branch Road, the alignment shifts to a northwest path for approximately 0.75 mile, southwest of the low-lying, depressional area in the central region of the study corridor. The alignment then turns straight to the north for 0.1 mile before a reverse curve crosses Timberlake Drive and connects to a tangent section just south of Horse Ranch Road that ultimately connects to the existing CR 439/ Riordan Road alignment. Sixteen pond alternatives have been designed for this alignment, typically with one pond on each side of the alignment for each of the eight basins.

#### 1.3.3.3 Build Alternative (Blue Alignment)

The Build Alternative Red Alignment follows the existing Round Lake Road alignment in the southern portion of the corridor for approximately 2.2 miles, from the begin project limits to just north of Dudeck Road. Here, the alignment shifts slightly to align with Scenic Hills Drive to the north of Wolf Branch Road. Approximately 0.1 mile north of Wolf Branch Road, the alignment shifts to a northwest path for approximately 0.75 mile, southwest of the low-lying, depressional area in the central region of the study corridor. The alignment then turns straight to the north for 0.1 mile before a reverse curve crosses Timberlake Drive and connects to a tangent section just south of Horse Ranch Road that ultimately connects to the existing CR 439/ Riordan Road alignment. Sixteen pond alternatives have been designed for this alignment, typically with one pond on each side of the alignment for each of the eight basins.

#### 1.3.3.4 Build Alternative (Green Alignment)

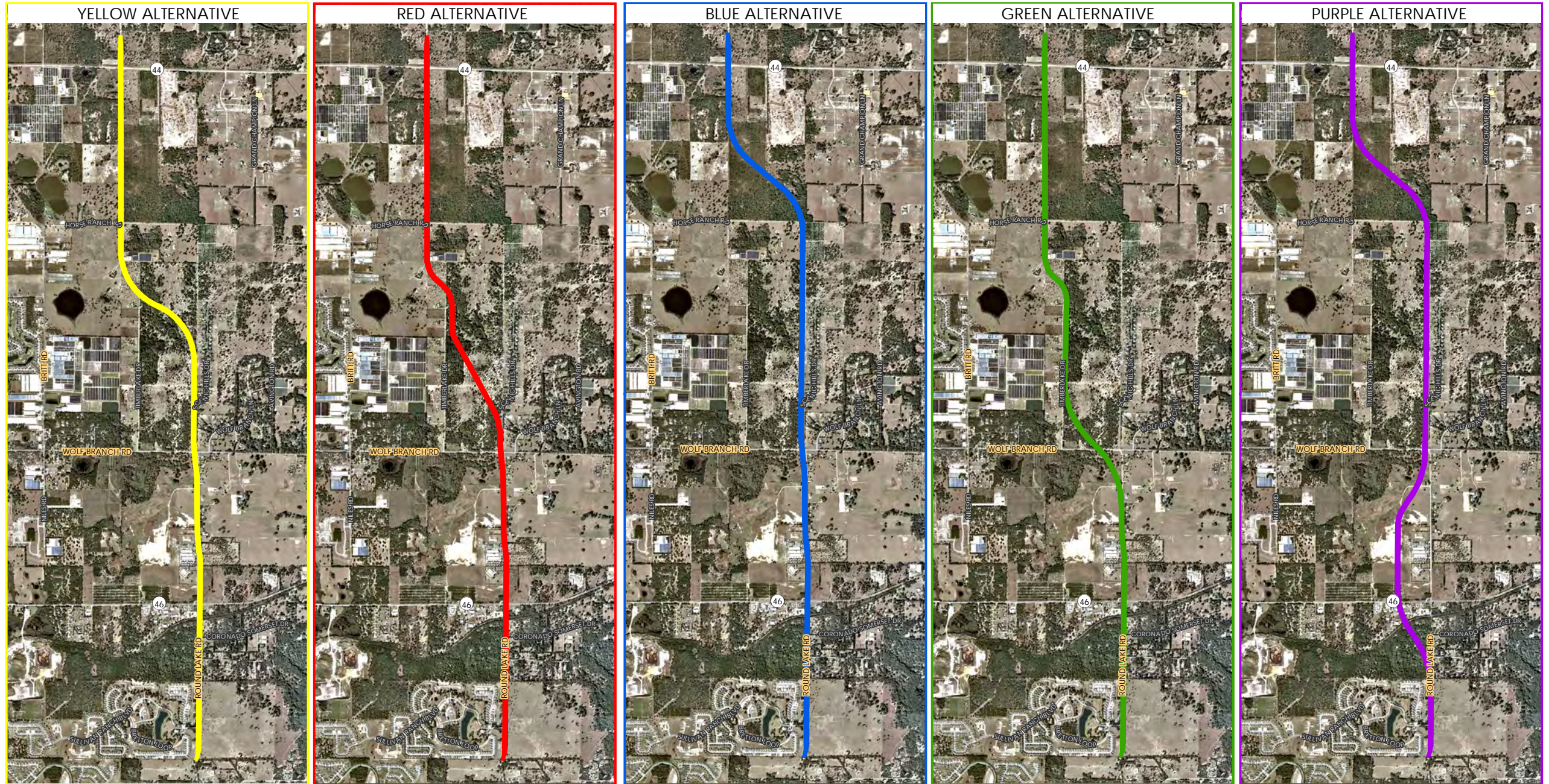
The Build Alternative Green Alignment follows the existing Round Lake Road alignment in the southern portion of the corridor for approximately 1.7 miles, from the begin project limits to just south of Dudeck Road. Here, a reverse curve is introduced taking the alignment in a northwest direction for about 0.9 mile. The alignment then connects to a 0.5 mile tangent that runs north along Timberlake Drive for 0.5 mile before a reverse curve is introduced shifting the alignment west just south of Horse Ranch Road and continuing straight to the north following the existing CR 439/ Riordan Road alignment. Sixteen pond alternatives have been designed for this alignment, typically with one pond on each side of the alignment for each of the eight basins.

#### 1.3.3.5 Build Alternative (Purple Alignment)

The Build Alternative Purple Alignment follows the existing Round Lake Road alignment in the very beginning portion of the corridor for approximately 0.5 mile, from the begin project limits to the northern boundary of the Sullivan Ranch community (just south of Birr Court). Here, a reverse curve begins taking the roadway in a northwest direction and connecting to a tangent section just north of SR 46. The alignment continues north along the western edge of the Round Lake Elementary property for 0.5 mile before turning northeast, crossing Dudeck Road and aligning with

Scenic Hills Drive at Wolf Branch Road. North of Wolf Branch Road, the alignment continues straight north for approximately 1.4 miles before a reverse curve is introduced taking the alignment in a northwest direction beginning near Horse Branch Road. The alignment then connects to a tangent at Riordan Road and continues north along the existing CR 439/ Riordan Road alignment. Sixteen pond alternatives have been designed for this alignment; four of the basins have ponds only on the west side of the alignment and the remaining four basins have one pond on each side of the alignment.





0 1,750 3,500  
Feet  
1" = 4,000'



BUILD ALTERNATIVES MAP

FIGURE 3





## 2.0 Existing Environmental Conditions

The assessment of the existing environmental conditions was initially based on the available environmental data available through Geographic Information Systems (GIS) databases, generally provided by federal, state or local agencies. Desktop analysis of the data allowed for resource specific field investigations that related to the project, such as wetland delineations or specific species surveys.

### 2.1 Existing Land Use and Habitat Cover

The existing land use and habitat cover was developed using the St. Johns River Water Management Districts (SJRWMD) GIS land use data layer. The data layer was modified to match the existing conditions within the project study area, including the reclassification for roads or right-of-way areas, ponds and wetlands. (Figure 4)

#### 1100: Residential, Low Density – Less than 2 dwelling Units / Acre

This range of land use codes, for this project area, consists of areas containing low density and medium density residential housing. Vegetation within this land use consists primarily of grasses and ornamental trees and shrubs. This land use has a low likelihood for wildlife occurrence.

#### 1180: Residential Rural – One Unit on 2 or more Acres

This land use code consists of low and medium density rural residential housing. Vegetation within this land use consists primarily of grasses and ornamental trees and shrubs. This land use has a low likelihood for wildlife occurrence.

#### 1200: Residential Medium Density – 2 – 5 dwelling Units / Acre

Rural and residential types of subdivisions will be included in the Residential category since this land is almost entirely committed to residential use even though forested or open areas may also be present. All residential areas were observed primarily in the eastern portion of the study area. This land use has a low likelihood for wildlife occurrence.

#### 1400: Commercial and Services

Commercial areas are predominantly associated with the distribution of products and services. This category is composed of a large number of individual types of commercial land uses which often occur in complex mixtures. This land use has a low likelihood for wildlife occurrence.

#### 1550: Other Light Industrial

Primarily fabrication industries that use the products from other processing and manufacturing industries to make parts and finished products. This land use has a low likelihood for wildlife occurrence.

#### 1611: Clays

Strip mining is a method that accesses the material by stripping it off the surface. If the product is covered, all overburden is removed to gain access to the product. Two broad categories of strip mining are: Area strip mining, which is practiced on relatively level terrain; and contour strip mining, which is done in hilly terrain. This land use has a low likelihood for wildlife occurrence.



### 1700: Institutional

Educational, religious, health and military facilities are typical components of this category. Included within an institutional unit are all buildings, grounds and parking lots that compose the facility. Those areas not specifically related to the purposes of the institution should be excluded. This land use has a low likelihood for wildlife occurrence.

### 2110: Improved Pastures (Monoculture, Planted Forage Crops)

This category of land use consists of land which has been cleared, tilled, and reseeded with specific grass types and periodically improved with brush control and fertilizer application. This land use has a moderate likelihood for wildlife occurrence.

### 2120: Unimproved Pasture

Cleared land with major stands of trees and brush where native grasses have been allowed to develop. Normally, this land will not be managed with brush control and/or fertilizer application. This land use has a moderate likelihood for wildlife occurrence.

### 2130: Woodland Pastures

Pasturelands that have from 25% to 100% forest canopy are included in this class. It does not include open pasturelands and unimproved with patches of tree canopy large enough to qualify as upland forest. This land use has a moderate likelihood for wildlife occurrence.

### 2150: Field Crops

Sod and grasses are the primary types identified as field crops. This land use has a low likelihood for wildlife occurrence.

### 2200: Tree Crops

Active tree cropping operations that produce fruit, nuts, or other resources not including wood products. This land use has a low likelihood for wildlife occurrence.

### 2210: Citrus Groves

Some citrus groves are located along Round Lake Road. This land use has a moderate likelihood for wildlife occurrence.

### 2430: Ornamentals

Facilities that raise ornamental plants for off-site use. It does not include ornamental trees, which are classed in Tree nurseries. This land use has a low likelihood for wildlife occurrence.

### 2431: Shade Ferns

Commercial facilities that raise ornamental ferns under shade cloth. This land use has a low likelihood for wildlife occurrence.

### 2510: Horse Farms

Farms which stable, breed and train horses for a variety of purposes. The purposes may include private use, commercial stables, or for sporting uses such as hunting, exhibition, racing, riding and harness racing. This land use has a low likelihood for wildlife occurrence.

### 3100: Herbaceous Upland Non forested

These areas that have over 67% herbaceous cover, not counting any forested inclusions, which may be up to 25% of the area. This land use has a moderate likelihood for wildlife occurrence.

### 3300: Mixed Upland Non forested

These areas where tree species are regenerating naturally after clear cutting or fire but are less than 20 feet tall. These include native hardwood and coniferous species but does not apply to plantations. This land use has a moderate likelihood for wildlife occurrence.

### 4200: Upland Hardwood Forest

Upland with sand/clay and/or calcareous substrate; mesic; Panhandle to central peninsula; rare or no fire; closed deciduous or mixed deciduous/evergreen canopy; American beech, southern magnolia, hackberry, swamp chestnut oak, white oak, horse sugar, flowering dogwood, and mixed hardwoods. This land use has a moderate likelihood for wildlife occurrence.

### 4340: Upland Mixed Coniferous/Hardwood

A mix of hardwood and coniferous trees where neither is dominant. This land use has a low likelihood for wildlife occurrence.

### 4410: Pine Plantation

Pine plantations that are artificially generated by planting seedling stock or seeds; areas altered by silvicultural activities. These include lands where either 1) planted pines are having or will have an ongoing detrimental effect on native groundcover, 2) the history of planted pines has damaged ground cover to the point where further restoration beyond thinning and burning is required, and/or 3) the method of planting (e.g. bedding) has severely impacted groundcover. This land use has a moderate likelihood for wildlife occurrence.

### 5300: Reservoirs – Pits, Retention Ponds, Dams

This land use designates all retention ponds and other artificial impoundments used for irrigation and flood control along the project corridor and within residential developments. This land use has a moderate likelihood for wildlife occurrence.

### 6300: Wetland Forested Mixed

This land use is defined as mixed wetlands forest communities which neither hardwoods or conifers achieve a 66 percent dominance of the crown canopy composition. This land use has a moderate likelihood for wildlife occurrence.

### 6410: Freshwater Marshes

This land use designates vegetated non-forested wetlands usually defined as low-lying areas or depressions in the landscape. These marshes are in isolated places within the project boundaries. This land use has a high likelihood for wildlife occurrence.

### 6430: Wet Prairies

Flatland or slope with sand or clayey sand substrate; usually saturated but only occasionally inundated; statewide excluding extreme southern peninsula; frequent fire (2-3 years); treeless, dense herbaceous community with few shrubs; wiregrass, flattened pipewort, pitcher plants, coastal plain yellow-eyed grass. This land use has a moderate likelihood for wildlife occurrence.

### 6440: Emergent Aquatic Vegetation

This land is defined as being wetland areas where floating vegetation and vegetation which is found either partially or completely above the surface. These areas are in isolated places within the project boundaries. This land use has a moderate likelihood for wildlife occurrence.

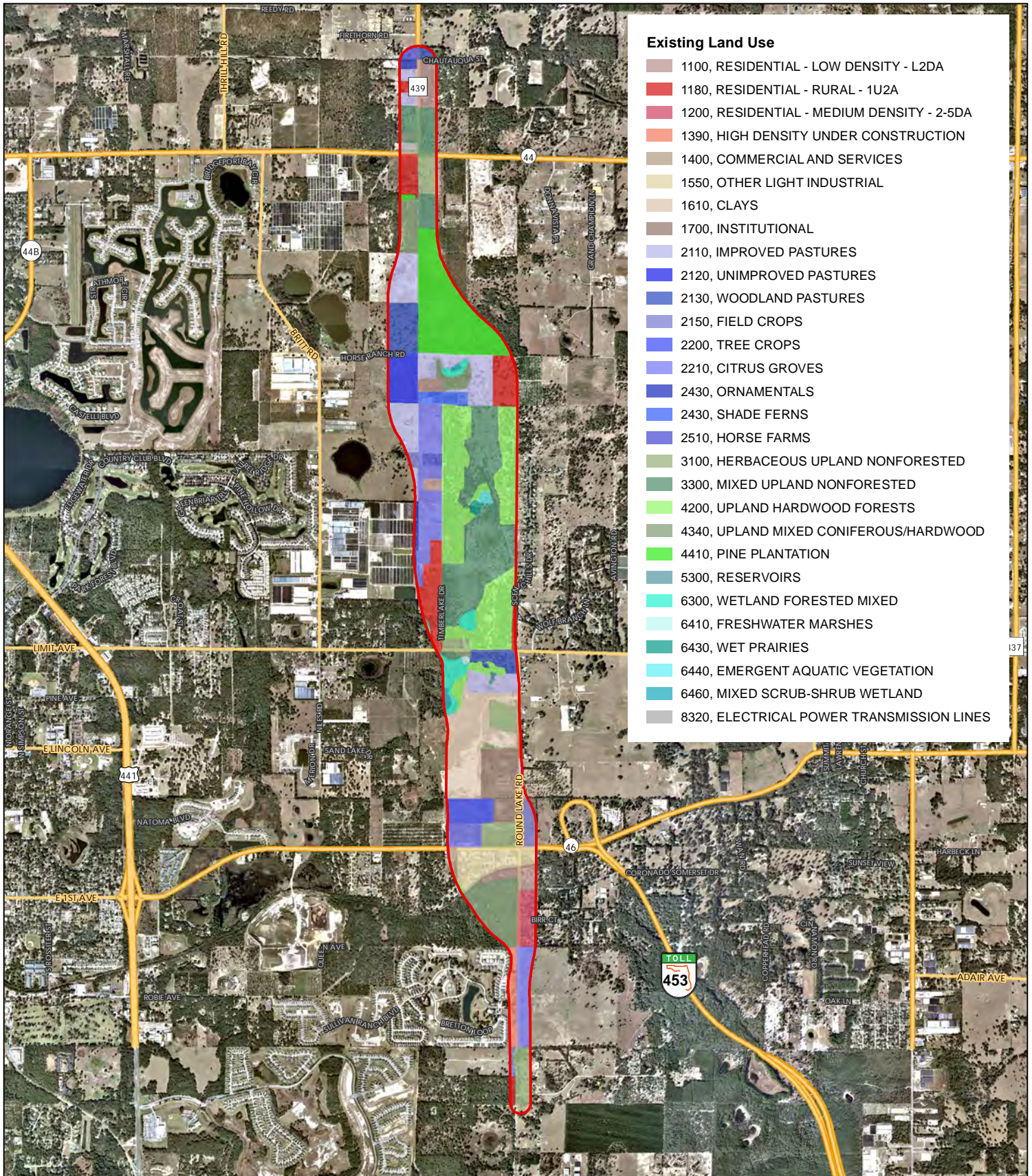
### 6460: Mixed Scrub – Shrub Wetland

Wetlands areas that are dominated by woody vegetation less than 20 feet in height. This can occur in many situations, but in most cases involves transitional or disturbed communities on drier sites. Persistent examples of shrub wetlands include shrub bogs and willow swamps. This land use has a moderate likelihood for wildlife occurrence.

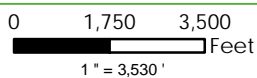
### 8320: Electrical Power Transmission Lines

This land use is reserved for utilities and their related facilities, specifically electrical transmission lines. This land use has a low likelihood for wildlife occurrence.





PD&E Project Study Area



EXISTING LAND USE MAP

FIGURE 4





## 2.2 Existing NRCS Soil Survey Units

The Natural Resources Conservation Service (NRCS) identifies a total of twelve soil types in the study area (**Figure 5 - NRCS Soil Map**). The soil types identified include Sparr sand, 0 to 5 percent slopes (1), Apopka sand, 0 to 5 percent slopes (5), Apopka sand, 5 to 12 percent slopes (6), Candler sand, 0 to 5 percent slopes (8), Candler sand, 5 to 12 percent slopes (9), Candler sand, 12 to 40 percent slopes (10), Arents (17), Myakka and Placid sand, 2 to 8 percent slopes (29), Placid sand, frequently ponded, 0 to 2 percent slopes (38), Seffner sand (39), Tavares sand, 0 to 5 percent slopes (45), and Borrow pits (50). The only soils that are classified as hydric are Myakka and Placid sand, 2 to 8 percent slopes and Placid sand, frequently ponded, 0 to 2 percent slopes. Candler sand, 0 to 5 percent slopes (8) constitutes the majority of the soil types within the study area. The soil types characteristics and coverages are provided in the descriptions below.

### Sparr Sand- 0 to 5 % slopes (1)

The Sparr sand consists of very deep, somewhat poorly drained, moderately slowly to slowly permeable soils on uplands of the coastal plain. They formed in thick beds of sandy and loamy marine sediments. Slopes range from 0 to 8 percent. Somewhat poorly drained; slow to moderately slow permeability in the subsoil. The water table is at depths of 20 to 40 inches for periods of 1 to 4 months. The water table is usually perched on the surface of the loamy layers but the loamy layers can also be saturated. Most areas of Sparr soils are used for corn, citrus, peanuts, watermelons, truck crops, and tame pasture. Native vegetation consists of longleaf pine, slash pine, loblolly pine, magnolia, dogwood, hickory, and live oak, laurel oak, and water oak.

### Apopka Sand- 0 to 5 % slopes (5) & 5 to 12 % slopes (6)

The Apopka Sands consists of very deep, well drained, moderately permeable soils on upland ridges, side slopes and knolls of the North Central Florida Ridge, the South Central Florida Ridge, and the Florida Flatwoods. They formed in thick beds of sandy and loamy marine or eolian deposits. Slopes range from 0 to 25 percent. Well drained; rapid permeability in the A and E horizons and moderate in the Bt horizons. The water table is at a depth of more than 84 inches. Large areas are cleared and used for citrus and tame pasture. Natural vegetation consists of turkey oak, live oak, and longleaf pine. The understory vegetation consists of bluestem, dogfennel, paspalum, pineland threeawn, and other native grasses and weeds.

### Candler Sand- 0 to 5 % slopes (8), 5 to 12 % slopes (9) & 12 to 40 % slopes (10)

The Candler Sands consists of very deep, excessively drained, very rapidly permeable soils on uplands of Southern Florida Flatwoods, South Central Florida Ridge, Eastern Gulf Coast Flatwoods, and the Atlantic Coast Flatwoods. They formed in thick beds of eolian or sandy marine deposits. Slopes are primarily 0 -12 percent but range up to 40 percent in the more dissected areas. The water table is at depths greater than 80 inches. Many areas are used for citrus crops and tame pasture. Native vegetation consists of bluejack oak, turkey oak, sand post oak and longleaf pine, sand pine, sand live oak, chapman oak and myrtle oak with a sparse understory of lopsided indiagrass, gopher apple, pineland threeawn, hairy panicum, and other annual forbs.

### Arents (17)

Arents consists of loamy soil material that has been mixed, reworked, and leveled or shaped by earth moving equipment. It is most likely 12 to 60 inches thick. There is no orderly sequence of layers. The material is

highly variable within short distances. The dominant texture is sandy loam to sandy clay loam. The water table is at a depth of about 30 to 60 inches except in the low-lying areas, where it is at a depth of 10 to 30 inches, and in a few dry areas, where it is at a depth of more than 60 inches.

#### Myakka and Placid Sand- 2 to 8 % slopes (29)

The Myakka and Placid Sand complex consists of deep and very deep, poorly to very poorly drained soils formed in sandy marine deposits. These soils are on flatwoods, high tidal areas, flood plains, depressions, and gently sloping to sloping barrier islands. They have rapid permeability in the A horizon and moderate or moderately rapid permeability in the Bh horizon. Slopes range from 0 to 8 percent. Myakka soils are poorly to very poorly drained. They have slow internal drainage and slow to ponded runoff. Depressional areas are covered with standing water for periods of 6 to 9 months or more in most years. Most areas are used for commercial forest production or native range. Large areas with adequate water control measures are used for citrus, improved pasture, and truck crops. Native vegetation includes longleaf and slash pines with an undergrowth of saw palmetto, wax myrtle, huckleberry, and scattered fetterbush.

#### Placid Sand, Frequently Ponded- 0 to 2 % slopes (38)

The Placid series consists of very deep, very poorly drained, rapidly permeable soils on low flats, depressions, poorly defined drainageways on uplands, and flood plains on the Lower Coastal Plain. They formed in sandy marine sediments. Slopes range from 0 to 2 percent. Placid soils are used mainly for range and forest, though small areas have been drained and are used for truck crops, citrus, and pasture. Natural vegetation consists of pond pine, bay, cypress, gum, pickerel weed, and coarse grasses. Depth to the water table ranges from 0 to 6 inches for more than 2 months in most years.

#### Seffner Sand (39)

The Seffner sand consists of very deep, somewhat poorly drained, rapidly permeable soils on the rims of depressions and on lower lying flats and knolls in the Lower Coastal Plain of south Florida. They formed in sandy marine sediments. Slopes range from 0 to 2 percent. Somewhat poorly drained; rapid permeability. Most areas of Seffner soils are cultivated. Corn, citrus, melons, strawberries, and tomatoes are the principal crops. Some areas are in improved pasture. The natural vegetation consists of longleaf pine, laurel oak, and water oak with an understory of saw palmetto, pineland threeawn, Indian grass, bluestem grasses, and several low panicums. The water table is within depths of 18 to 42 inches for 2 to 4 months during most years.

#### Tavares Sand- 0 to 5 % slopes (45)

The Tavares sand consists of very deep, moderately well drained soils that formed in sandy marine or eolian deposits. Tavares soils are on hills, ridges and knolls of the lower Coastal Plain. Slopes range from 0 to 8 percent. Some areas of Tavares soils are used for citrus. A few areas are used for corn, vegetable crops, watermelons, and improved pasture. In most places the natural vegetation consists of slash pine, longleaf pine, a few scattered blackjack oak, turkey oak, and post oak with an undercover of pineland threeawn. The water table is between depths of 42 to 72 inches for more than 6 to 10 months during most years.

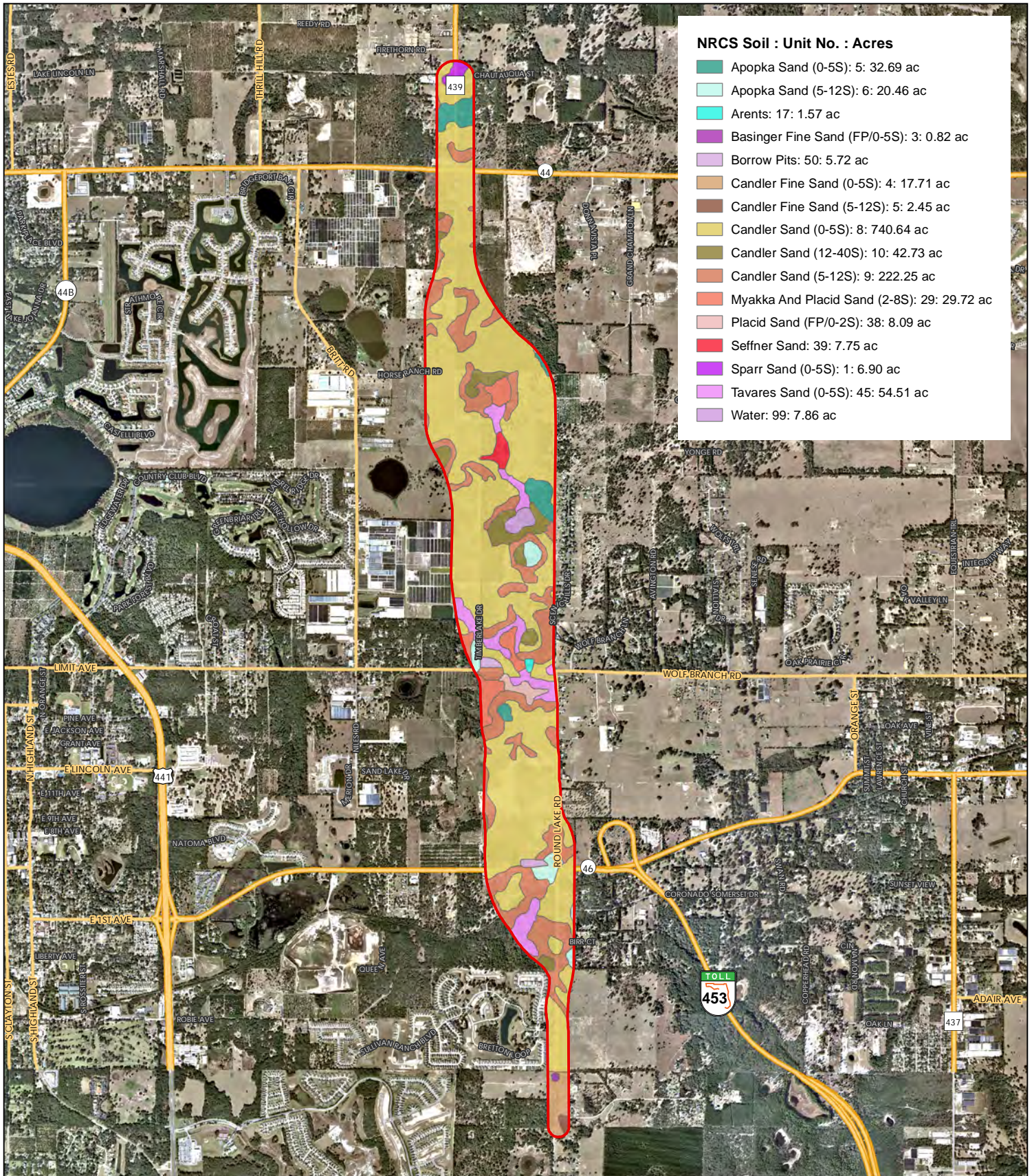
## Borrow Pits (50)

These areas consist of excavated unconsolidated or heterogeneous soil and geologic materials which have been removed primarily for use in road construction or as fill material for low areas and for building foundations. Areas of this map unit consist of a pit or depressed area, which is surrounded by sidewalls of variable steepness. These areas can range from 5 to 40 feet deep, with some of the pit bottoms being seasonally ponded.

**Table 1: NRCS Soil Units**

Soil unit Code	Series Name	Map Unit Name	Hydric Soil Rating	Drain Classification	Hydrological Group	Farmland Association	Area (ac)
1	Sparr	Sparr Sand, 0 To 5 % Slopes	No	Somewhat Poorly Drained	A/D	Farmland of Unique Importance	6.90
5	Apopka	Apopka Sand, 0 To 5 % Slopes	No	Well Drained	A	Farmland of Unique Importance	35.14
6	Apopka	Apopka Sand, 5 To 12 % Slopes	No	Well Drained	A	Farmland of Unique Importance	20.46
8	Candler	Candler Sand, 0 To 5 % Slopes	No	Excessively Drained	A	Farmland of Unique Importance	740.64
9	Candler	Candler Sand, 5 To 12 % Slopes	No	Excessively Drained	A	Farmland of Unique Importance	222.25
10	Candler	Candler Sand, 12 To 40 % Slopes	No	Excessively Drained	A	Not Prime Farmland	42.73
17	Arents	Arents	No	Somewhat Poorly Drained	B	Not Prime Farmland	1.57
29	Myakka	Myakka And Placid Sand, 2 To 8 % Slopes	Yes	Poorly Drained	A/D	Not Prime Farmland	29.72
38	Placid	Placid Sand, Frequently Ponded, 0 To 2 % Slopes	Yes	Very Poorly Drained	A/D	Not Prime Farmland	8.09
39	Seffner	Seffner Sand	No	Somewhat Poorly Drained	A/D	Not Prime Farmland	7.75
45	Tavares	Tavares Sand, 0 To 5 % Slopes	No	Moderately Well Drained	A	Farmland of Unique Importance	54.51
50	Borrow Pits	Borrow Pits	Unranked			Not Prime Farmland	5.72

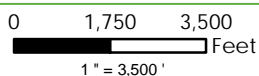




NRCS Soil : Unit No. : Acres	
Apopka Sand (0-5S): 5:	32.69 ac
Apopka Sand (5-12S): 6:	20.46 ac
Arents: 17:	1.57 ac
Basinger Fine Sand (FP/0-5S): 3:	0.82 ac
Borrow Pits: 50:	5.72 ac
Candler Fine Sand (0-5S): 4:	17.71 ac
Candler Fine Sand (5-12S): 5:	2.45 ac
Candler Sand (0-5S): 8:	740.64 ac
Candler Sand (12-40S): 10:	42.73 ac
Candler Sand (5-12S): 9:	222.25 ac
Myakka And Placid Sand (2-8S): 29:	29.72 ac
Placid Sand (FP/0-2S): 38:	8.09 ac
Seffner Sand: 39:	7.75 ac
Sparr Sand (0-5S): 1:	6.90 ac
Tavares Sand (0-5S): 45:	54.51 ac
Water: 99:	7.86 ac

PD&E Project Study Area

Legend Notes:  
 FP = Frequently Pondered  
 X-X%S = % Slope



NRCS SOILS MAP

FIGURE 5





### 3.0 WILDLIFE AND HABITAT

In order for this project to proceed, potential environmental impacts must be identified, including impacts to wildlife and natural habitat. This report has been prepared following guidelines presented in the Project Development and Environment (PD&E) Manual, Part 2, Chapter 16 (FDOT, 01/14/2019) to identify wildlife species of known or potential occurrence and natural habitat types along the project corridor and to document potential project-related impacts. Particular attention has been given to species that have been provided regulatory protection such as federal or state listed endangered, threatened, or otherwise sensitive species, as well as suitable habitat for those species. **Figure 6** (Listed Species Map) depicts the habitat and species within the project study area.

The purpose of this evaluation is to present the findings of the studies conducted for this project, describe the results of the analysis and document the justification for the recommended improvements. This document describes the potential occurrence of natural habitats and wildlife within the proposed project corridor, and the likelihood of potential impacts from the project to listed species and their habitats.

**Table 2 and Table 3** provide a list of animal and plant species of known or potential occurrence within Lake County, and a summary of the habitat type(s) typically utilized by each. Twenty (20) species of animals and 40 species of plants have been identified as potentially occurring in the study area counties, though suitable habitat may not be available for all of them along the project corridor. Of these, 8 are federally listed animals, 11 are federally listed plants, 12 are state listed animals, and 29 are state listed plants.

#### 3.1 Agency Coordination

Information regarding the Round Lake Road PD&E project was provided to Zakia Williams of the US Fish and Wildlife Service (USFWS) North Florida Ecological Services Office and to the Florida Fish and Wildlife Conservation Commission (FWC) Office of Conservation Planning Services. Potentially impacted species and proposed wildlife survey methods were included within the information provided, and are included in **Appendix A**.

#### 3.2 Field Survey

The project study area includes approximately 1,200 acres between Meadowland Drive and Chautauqua Street. Ground-based biological surveys were conducted in April, May, and June of 2018 to identify natural habitat types, anthropogenic land use types and to investigate wildlife (including listed species) occurrence along the project corridor. Habitat and land use types were categorized according to the Florida Land Use, Cover, and Forms Classification System (FLUCFCS) (FDOT, 1999).

Wildlife surveys were conducted during daylight hours and followed species specific survey guidelines as outlined by FWC and USFWS. During the field visits, all observations of listed plant and wildlife species or indicators of their presence (i.e. remnants, tracks, burrows, calls, scat) within the study corridor were noted by staff biologists. General wildlife observations were also documented during the field visits.

In order to ensure a thorough assessment of potential impacts to state and federal listed plant species, project team scientists conducted the field surveys within all suitable habitats in the proposed project study area. Prior to onset of the surveys, typical habitat and other relevant life history information were gathered for each of the listed plant species of potential occurrence along the project corridor. Aerial photographic maps and ground-truthing were used to delineate the different habitat types present along the corridor. Site surveys consisted of meandering transects that covered areas within all cover types.

**Table 2: Protected Wildlife Species with the Potential to Occur in Lake County**

Species Name	Common Name	FFWCC	USFWS	FNAI	Likelihood of Occurrence	Habitat
<i>Alligator mississippiensis</i>	American alligator	T	T(S/A)	S4	moderate	Various aquatic habitats
<i>Aphelocoma coerulescens</i>	Florida scrub-jay	T	T	S3	low	Scrub and scrubby flatwoods
<i>Athene cuicularia floridana</i>	Florida burrowing owl	T		S3	moderate	Sandhills, dry prairies and ruderal habitats
<i>Caracara cheriway</i>	Crested caracara	T	T	S2	low	Open country, dry prairie, pasture lands
<i>Drymarchon corais couperi</i>	Eastern indigo snake	T	T	S3	moderate	Wide variety of habitats
<i>Egretta tricolor</i>	Tricolored heron	T		S4	low	Marshes, ponds and rivers
<i>Falco sparverius paulus</i>	Southeastern American kestrel	T		S3	low	Open, or partly open habitats with scattered trees
<i>Gopherus polyphemus</i>	Gopher tortoise	T		S3	observed	Sandhills, scrub, hammocks, dry prairies, flatwoods, mixed forests
<i>Grus canadensis pratensis</i>	Florida sandhill crane	T		S2S3	high	Shallow wetlands, freshwater marshes and wet prairies
<i>Haliaeetus leucocephalus leucocephalus</i>	Southern bald eagle			S2S3	high	Coasts, rivers and large lakes in open areas
<i>Mycteria americana</i>	Wood stork	T	T	S2	moderate	Marshes, swamps, streams and mangroves
<i>Neoseps reynoldsi</i>	Sand skink	T	T	S2	high	Scrub, sandhills, and scrubby flatwoods
<i>Picoides borealis</i>	Red-cockaded woodpecker	E	E	S2	low	Open, mature pine woodlands
<i>Pituophis melanoleucus mugitus</i>	Florida pine snake	T		S3	high	Sandhills, scrubby flatwoods, xeric hammocks and ruderal habitats
<i>Pteronotropis welaka</i>	Bluenose Shiner	T		S4	low	Riverine; quiet, weedy pools and holes
<i>Rostrhamus sociabilis plumbeus</i>	Florida snail kite	E	E	S2	low	Subtropical freshwater marshes
<i>Sterna antillarum</i>	Least tern	T		S3	low	Open, flat beaches, river and lake margins
<i>Stilosoma extenuatum</i>	Short-tailed snake	T		S3	moderate	Longleaf pine-turkey oak, sand pine scrub and xeric hammocks
<i>Trichechus manatus latirostris</i>	Florida manatee	T	T	S2?	low	Spring-runs, alluvial streams, and coastal estuaries
<i>Ursus americanus floridanus</i>	Florida black bear			S2	high	Variety of forested landscapes

FFWCC = Florida Fish and Wildlife Conservation Commission; E = Endangered; T = Threatened; SSC = Species of Special Concern

USFWS = US Fish and Wildlife Service; E = Endangered; T = Threatened; C = Candidate

FNAI = Florida Natural Areas Inventory; S1 = Critically Imperiled Due to Extreme Rarity; S2 = Imperiled Due to Rarity; S3 = Very Rare and Local; S4 = Apparently Secure; SH = Historical Occurrence

Likelihood of Occurrence: Low = Low Likelihood; Mod = Moderate Likelihood; High = High Likelihood; Obs = Observed by Stantec; Obs\* = Observed by Others.

**Table 3: Protected Plant Species with the Potential to Occur in Lake County**

Species Name	Common Name	FDA	USFWS	FNAI	Likelihood of Occurrence	Habitat
<i>Asclepias curtissii</i>	Curtiss' milkweed	E		S3	low	Sandhills and scrub
<i>Bonamia grandiflora</i>	Florida bonamia, Scrub morning glory	E	T	S3	low	Sand pine scrub
<i>Calamintha ashei</i>	Ashe's savory	T		S3	low	Dry pinelands and sand pine scrub
<i>Calopogon multiflorus</i>	Many-flowered grass pink	E			low	Pine flatwoods, esp. recently burned
<i>Chionanathus pygmaeus</i>	Pigmy fringe tree	E	E	S3	low	Sand pine scrub
<i>Clitoria fragrans</i>	Pigeon wings	E	T	S3	low	Dry sandhills and scrub
<i>Eriogonum longifolium</i> var. <i>gnaphalifolium</i>	Scrub wild buckwheat	E	T	S3	low	Sandhills and dry pinelands
<i>Garberia heterophylla</i>	Garberia	T			low	Sand pine and oak scrub
<i>Hartwrightia floridana</i>	Florida hartwrightia	T		S2	low	Acid, seepage areas
<i>Justicia cooleyi</i>	Cooley's water willow	E	E	S1S2	low	Rocky woods
<i>Listera australis</i>	Southern twayblade	T			low	Hammocks
<i>Lobelia cardinalis</i>	Cardinal flower	T			low	Streams, riverbanks and spring runs
<i>Lycopodiella cernua</i>	Nodding clubmoss	CE			low	Wet pinelands
<i>Matelea floridana</i>	Florida milkweed; panhandle anglepod	E		S2	low	Upland hardwood and mixed forests
<i>Monotropa hypopithys</i>	Pinesap	E		S1	low	Deciduous woods; parasitic on tree roots
<i>Najas filifolia</i>	Naiad	T			low	Ponds, lakes, streams, sloughs, springs and ditches
<i>Nemastylis floridana</i>	Fall-flowering pleat-leaf; celestial lily	E		S2	low	Swamps, marshes and wet pine flatwoods
<i>Nolina brittoniana</i>	Britton's beargrass	E	E	S2	low	Dry pinelands and sand pine scrub
<i>Osmunda cinnamomea</i>	Cinnamon fern	CE			moderate	Wet woods and swamps
<i>Osmunda regalis</i>	Royal fern	CE			moderate	Wet woods and swamps
<i>Paronychia chartacea</i>	Paper-like nailwort; papery whitlow-wort	E	T	S3	low	Sand pine scrub
<i>Pecluma plumula</i>	Polypody fern	T			low	Hammocks; epiphytic
<i>Pecluma ptilodon</i>	Polypody fern	T			low	Hammocks
<i>Pinguicula caerulea</i>	Blue butterwort	T			low	Wet, acid pinelands
<i>Pogonia ophioglossoides</i>	Rose pogonia	T			low	Marshes and wet, pine flatwoods
<i>Polygala lewtonii</i>	Scrub milkwort; Lewton's polygala	E	E	S2	low	Dry, oak woods
<i>Polygonella myriophylla</i>	Small's jointweed; woody wireweed; sandlace	E	E	S3	low	Sand pine scrub
<i>Prunus geniculata</i>	Scrub plum	E	E	S2S3	low	Sand pine scrub
<i>Rhododendron canescens</i>	Pink azalea	CE			low	Streambanks and swamp margins
<i>Sarracenia minor</i>	Hooded pitcherplant	T			low	Wet, open, acid pinelands and bogs
<i>Scaevola plumieri</i>	Inkberry	T			low	Coastal strands
<i>Spiranthes brevilabris</i> var. <i>floridana</i>	Florida ladies' tresses	E			low	Pine flatwoods
<i>Spiranthes tuberosa</i>	Little ladies' tresses; little pearl twist	T			low	Pine flatwoods
<i>Stylisma abdita</i>	Scrub stylisma	E		S2S3	low	Dry pinelands and scrub
<i>Tillandsia utriculata</i>	Giant wild pine	E			low	Hammocks and cypress swamps; epiphytic
<i>Triphora craigheadii</i>	Craighead's nodding-caps	E		S1	low	Deciduous woods

Species Name	Common Name	FDA	USFWS	FNAI	Likelihood of Occurrence	Habitat
<i>Vicia ocalensis</i>	Ocala vetch	E		S1	low	Margins of streams
<i>Warea amplexifolia</i>	Wide leafed warea	E	E	S1	low	Dry pinelands and sandhills
<i>Zamia pumila</i>	Florida coontie	CE			low	Hammocks, pinelands and Indian middens
<i>Zephyranthes atamasca</i>	Rain lily	T			low	Wet pine flatwoods and meadows

FDA = Florida Department of Agriculture; E = Endangered; T = Threatened; CE = Commercially Exploited

USFWS = US Fish and Wildlife Service; E = Endangered; T = Threatened; C = Candidate

FNAI = Florida Natural Areas Inventory; S1 = Critically Imperiled Due to Extreme Rarity; S2 = Imperiled Due to Rarity; S3 = Very Rare and Local; S4= Apparently Secure; SH = Historical Occurrence

Likelihood of Occurrence: Low = Low Likelihood; Mod = Moderate Likelihood; High = High Likelihood; Obs = Observed by Stantec; Obs\* = Observed by Others.

### 3.3 Federally Listed Species

#### 3.3.1 Reptiles

Eastern Indigo Snake (*Drymarchon corais couperi*) – The eastern indigo snake, listed by both the FWC and the USFWS as Threatened, is a habitat generalist, using a variety of habitats from mangrove swamps to xeric uplands. These snakes are cold-sensitive and require gopher tortoise burrows, other animal holes, or stumps for protection during winter months. These snakes require large tracts of natural, undisturbed habitat, and prefer to forage in and around wetlands for their preferred prey – other snakes. Numerous gopher tortoise burrows were located within the project study area and the potential for indigo snakes is moderate, though no indigo snakes were observed during field studies and the closest documented sighting is located approximately 9 miles to the southeast (2004 sighting near Wekiva Springs State Park). If an eastern indigo snake is observed during construction, the contractor will be required to cease any operation that might cause harm to the snake. If the eastern indigo snake does not move away from the construction area, both the FWC and USFWS will be contacted for further guidance. An effects determination was made by utilizing the USFWS Programmatic Key for the Eastern Indigo Snake (August 2013). In accordance with the key, the project will implement the Standard Protection Measures for the Eastern Indigo Snake (USFWS, 2013), but may impact more than 25 acres of xeric habitat (scrub, sandhill, or scrubby flatwoods) and likely has more than 25 active and inactive gopher tortoise burrows. Therefore, the project would receive a may affect determination under the key. Under the current state regulations Lake County will be required to excavate and relocated all active and inactive gopher tortoise burrows within the corridor prior to site manipulation, by this action the project would then qualify for a may affect, not likely to adversely affect determination.

Sand Skink (*Neoseps reynoldsi*) – The sand skink is listed as Threatened by the USFWS and FWC. The three most important factors in determining the presence of skinks are location, elevation, and suitable soils. Sand skinks occur on sandy ridges of interior Central Florida, including Lake and Orange Counties. They are found within these geographic areas typically at elevations of 82 feet above sea level and higher. They occur in excessively drained, well-drained, and moderately well-drained sandy soils, with suitable soil types including: Apopka, Arrendondo, Archbold, Astatula, Candler, Daytona, Duette, Florahome, Gainesville, Hague, Kendrick, Lake, Millhopper, Orsino, Paola, Pomello, Satellite, St. Lucie, Tavares, and Zuber. Approximately 1,000 acres within the project study area meet the elevation and soil conditions to be classified as potential sand skink habitat. These soil types typically support scrub, sandhill, or xeric



hammock natural communities, though these may be degraded by impacts to overgrown scrub, pine plantation, citrus grove, old field, or pasture. Skinks have been documented to occur in all these degraded conditions where soil types are suitable regardless of vegetative cover. This makes habitat condition of secondary importance in determining if skinks are present. If a site has suitable soils at the appropriate elevation within the counties where skinks are known to occur, there is a likelihood of presence, and potential effects to skinks should be considered. At the present time, only meandering pedestrian surveys have been conducted within the project study area. No positive identification of sand skinks has occurred during these field surveys. However, a portion of SR 46 that is being widened as part of the Wekiva Parkway Section 3A Project conducted a skink cover board survey with positive results. This area was along the north side of SR 46 west of the Round Lake Road Intersection. Consultation with USFWS to address impacts to the sand skink was re-initiated for that project in June 2016. Impacts to occupied sand skink habitat were proposed (4.34 acres) for the widening project. FDOT committed to provide mitigation at a 2:1 ratio (8.68 credits) at a Service-approved skink conservation bank to offset the impacts.

Coordination with USFWS should be initiated during the next phase of this project, at which time the appropriateness of a cover board survey to assess potential impacts to sand skinks for this project will be determined by USFWS. A desktop analysis has determined that mapped skink soils are present within the footprint of each of the proposed Build Alternatives. **Table 4** provides the potential impact acres for each build alternative:

**Table 4: Potential Sand Skink Habitat Impacts**

Build Alignment	Potential Sand Skink Habitat Impacts (Ac)
Yellow	68.74
Red	69.91
Blue	60.86
Green	70.93
Purple	63.62

### 3.3.2 Avian

Crested caracara (*Polyborus plancus audubonii* = *Caracara cheriway*) – The crested caracara is listed by both the USFWS and the FWC as threatened. This large raptor inhabits Florida’s prairies and rangelands. They forage on many kinds of insects, fish, reptiles, birds, and mammals. They will feed on live captured prey, but also on roadkill. Nests are usually constructed within cabbage palms. Sensitivity to human disturbance varies in this species with many tolerating human activities, especially when human influence is already present within their home range. If a caracara nest is found to be within the project area, management practices outlined within the Habitat Management Guidelines for Audubon’s Crested Caracara in Central and Southern Florida should be employed. The project occurs at the northernmost edge of the consultation area for this bird in Central Florida, though no birds or nests have been observed or have been documented within the project corridor either during the current study or during the previous studies submitted to USFWS. Previous communication with UFSWS (Zakia Williams) during the early stages of this PD&E Study indicated that there was no history of caracara in the project area. Though potential foraging areas occur within the project area (active grazing pastures for cattle), the lack of documented birds (FWC and Wildlife Research Institute Wildlife Occurrence Systems Database 1988 – 2014) and suitable nesting habitat make the potential for these birds extremely unlikely. Therefore, the project is not likely to adversely affect this species.

Snail kite (*Rostrhamus sociabilis plumbeus*) – The snail kite is listed as Endangered by both the USFWS and the FWC. This non-migratory, medium-sized raptor utilizes large open freshwater marsh habitats and lakes with shallow water. Nests are usually located in a low tree or shrub at the water's edge. The main staple of their diet is the apple snail, lending to their name. The project does occur within the USFWS consultation area for the snail kite though no observations have been documented within or near the project corridor. No adequate nesting and foraging habitat is located near to the project area, within the proposed right-of-way, or pond site areas. Therefore, this project will have no effect on the snail kite.

Florida Scrub-Jay (*Aphelocoma coerulescens*) – The Florida scrub-jay, listed as Threatened by both the FWC and USFWS, is an endemic species found in Florida scrub habitats. This gregarious jay is a habitat specialist and typically lives in scrub and scrubby flatwoods habitats. Suitable habitat includes xeric oak scrub, along with scrubby pine flatwoods, sand pine scrub, and any other type of habitat containing scrub oaks. No suitable habitat was identified within the project area, and the nearest sightings of any scrub-jays occurred several miles to the west of the project. Therefore, this project will have no effect on the Florida scrub-jay.

Red-Cockaded Woodpecker (*Picoides borealis*) – This species is listed as Endangered by the USFWS and Threatened by the FWC. The colonial red-cockaded woodpecker (RCW) is a habitat specialist, requiring stands of over-mature pine that have contracted the red-heart disease. RCW's require diseased trees for cavity building, which they use for nest and roost cavities. Preferred pine stands need to have a fairly open canopy, with a sparse subcanopy to allow easy flight. RCWs must also have ample foraging habitat consisting of younger pines surrounding the cavity trees. No suitable nesting habitat was observed in the impact area within the project limits. The project occurs within the designated USFWS consultation area, though is not documented as having any nesting birds recorded within the project vicinity. No suitable habitat for nesting or foraging was identified within the vicinity of the project during field surveys, and the nearest recorded occurrence is approximately 10 miles to the north near Paisley. Therefore, this project will have no effect on the red-cockaded woodpecker.

Wood Stork (*Mycteria americana*) – This species, now listed as Threatened by the USFWS, is the only true species of stork nesting in the United States. This reclassification does not change any conservation or protection measures for the wood stork under the Endangered Species Act (ESA), rather it recognizes the recovery and the positive impact that conservation efforts have had on breeding populations of storks. Feeding areas for wood storks include marshes, pools, or ditches in which fish congregate. This species typically nests in mixed woodlands comprised of such overstory species as cypress, gum, and southern willow; pond apple and mangrove swamps may also be utilized for nesting.

According to the USFWS data, the project is not located within the 15-mile Core Foraging Area (CFA) of any wood stork colony. Additionally, the project is not proposing impacts to any wetlands or surface waters. Therefore, the project will have no effect on the wood stork.

Southern Bald Eagle (*Haliaeetus leucocephalus*) – The southern bald eagle was delisted from both the US Endangered Species Act and FWC imperiled list, though it is still protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The USFWS issued the National Bald Eagle Management Guidelines in May 2007 while Florida adopted a Bald Eagle Management Plan (BEMP) in April 2008, written closely to follow the federal guidelines. The BEMP provides guidelines and recommendations to help people avoid violating state and federal eagle laws. The BEMP also outlines strategies to maintain the Florida population of bald eagles at or above current levels. The BEMP goal is

to, “maintain a stable or increasing population of eagles in Florida in perpetuity.” Bald eagles almost always nest in the tops of living or dead tall trees along or very near lakes and rivers; these water bodies provide fish, typically their preferred food. Bald eagles generally avoid areas with extensive human activity, so management guidelines must be considered before any construction can be initiated within 660 feet of an active southern bald eagle nest. No bald eagle nests are located within 660 feet of the project area, with the nearest occurrence (Nest LA 176) occurring west of the project north of SR 46 near US 441. For that reason, the project will have no effect on the southern bald eagle.

Osprey (*Pandion haliaetus*) – The osprey, also known as the fish hawk, are expert anglers that typically share the same habitat as bald eagles but are smaller in size. Ospreys build large stick nests located in the tops of large living or dead trees and on manmade structures such as utility poles, channel markers and nest platforms. They are no longer listed as a Species of Special Concern by FWC in Monroe County, but are still protected under the Migratory Bird Treaty Act. Permits are required throughout the state to remove a nest for these raptors, however, a replacement structure must be erected to mitigate the removal of the nest. No nests were identified within the project area. Therefore, this project will have no effect on the osprey.

### **3.3.3 Federally Listed Plant Species**

USFWS currently shows that eleven (11) federally listed species have been demonstrated to have the potential to occur within Lake County, Beautiful pawpaw (*Deeringothamnus pulchellus*), Britton’s beargrass (*Nolina brittoniana*), Florida bonamia (*Bonamia grandiflora*), Lewton’s polygala (*Polygala lewtonii*), Papery whitlow-wort (*Paronychia chartacea*), Pigeon Wings (*Clitoria fragrans*), Pygmy fringe tree (*Chionanthus pygmaeus*), Sandlace (*Polygonella myriophylla*), Scrub buckwheat (*Eriogonum longifolium* var. *gnaphalifolium*), Scrub plum (*Prunus geniculata*), and the Wide-leafed Warea (*Warea amplexifolia*). No federally listed plant species were identified within the project area or pond sites during the field investigations. Habitat for several of these species does exist within the project area though no recorded observations have been noted. No direct or indirect impacts to federally listed plant species are likely to occur and this project may affect but is not likely to adversely affect federally listed plant species.

## **3.4 State Listed Species**

### **3.4.1 Mammals**

Sherman’s Fox Squirrel (*Sciurus niger shermani*) – The Sherman’s fox squirrel, listed by the FWC as a Species of Special Concern, is the largest of the three fox squirrel subspecies that occur in Florida. They have large ranges that can span over 80 acres. Optimum habitat for this subspecies is predominantly longleaf pine-turkey oak sandhills, although they are also reported to occur in mesic forested areas, as well. Some potential habitat is present within the project area, although Sherman’s fox squirrels were not observed during the site investigations for this project. The amount of potential habitat for this species impacted by the project will be minimal. Therefore, the proposed project is not likely to adversely affect the Sherman’s fox squirrel.

Florida Black Bear (*Ursus americanus floridanus*) – The Florida black bear is a very wide-ranging species formerly listed as Threatened by the FWC. Preferred habitat of the black bear includes dense forest, both upland and wetland, but the bear is often encountered in other areas during its seasonal movements. The bear was removed from the list in August 2012 after the approval of the Florida Black Bear Management Plan. The plan was implemented to set a strategy in place to address challenges in bear management, to



manage for a sustainable bear population state-wide, and reduce human-bear conflicts. Going forward, FWC will continue to engage with landowners and regulating agencies to guide future land use to be compatible with the objectives of the Bear Management Plan. The plan divides the state into seven Bear Management Units (BMU's) which support the seven sub-populations of bear across the state. The project occurs within the Central BMU, which includes Alachua, Bradford, Brevard, Clay, Flagler, Lake, Marion, Orange, Putnam, Seminole, St. Johns, Sumter, and Volusia counties and contains the Ocala/St. Johns subpopulation, named after the Ocala National Forest and St. Johns River watershed. The Central BMU is the only BMU with a subpopulation estimated at 1,000 bears (the highest in the state), which is one of the criteria that determine a species risk for extinction. Black bears are common in Lake County where bear kills on SR 44 and SR 46 have been recorded. As no further fragmentation of bear habitat is proposed, the project is not likely to adversely affect the Florida black bear.

### 3.4.2 Reptiles

Florida Pine Snake (*Pituophis melanoleucus mugitus*) – This snake, listed as a Species of Special Concern by the FWC, is another tortoise burrow commensal organism, utilizing both tortoise burrows and the tunnels of pocket gophers (*Geomys pinetis*) for feeding and shelter. Preferred habitat of the pine snake is xeric uplands, and to a lesser extent, flatwoods and other mesic uplands. Some habitat is available within the project, especially where gopher tortoise burrows and pocket gopher mounds were observed. Both the pocket gophers and the pine snakes live nearly their whole lives underground and are very hard to observe directly. Earth work in suitable habitat may impact subterranean pine snakes. With the relocation of commensal organisms from gopher tortoise burrows if impacted, the project is not likely to adversely affect the Florida pine snake.

Gopher Tortoise (*Gopherus polyphemus*) – The occurrence of this species, listed as Threatened by the FWC and as a Candidate species by USFWS, is a key factor in the determination of habitat suitability for certain other listed species because of the large number of other animals that use tortoise burrows for one or more of their life requisites. While it is common to find gopher tortoise burrows in most types of upland communities, the preferred habitats include xeric uplands and disturbed, ruderal areas.

Numerous burrows were observed on each Alternative within the project area during the preliminary surveys. **Table 5** provides the number of estimated burrows within each of the Build Alternatives.

**Table 5: Potential Impact to Gopher Tortoises**

Build Alternatives	Potential Impacts to Gopher Tortoise Burrows (# of Burrows)
Yellow	32
Red	39
Blue	39
Green	23
Purple	34

At the time of this study, these results represent a preliminary survey of roughly 25 – 30 % of each build alternative. A future survey will be necessary for the recommended build alternative prior to permit submittal. The current state regulations require this species to be relocated if any activities (not listed as exempt) occur within 25-feet of an potentially occupied burrow. A conservation permit will need to be obtained for from the FWC, and the relocation of any burrows within the construction area should be

carried out within 30 days of commencement. Since all potentially occupied burrows will be relocated, the project is not likely to adversely affect the gopher tortoise.

Short-tailed snake (*Stilosoma extenuatum*) – The short-tailed snake, listed as Threatened by the FWC, belongs to a monotypic genus that is endemic to Florida. Rarely seen due to its earth-burrowing tendencies, it is restricted to xeric uplands, primarily longleaf pine-turkey oak sandhills and sand pine scrub, for its habitat requirements. Herpetologist Paul Moler (FWC-retired) reports short-tailed snakes occur in a wider range of ecosystems than indicated in the scant literature on the species and may be found where prey (small snakes) and loose soils occur in North-Central Florida. Suitable habitat (sand pine scrub) is not present on this project, nor was this snake observed during any field surveys. As some areas of xeric habitat exist, the project is not likely to adversely affect the short-tailed snake.

### **3.4.3 Avian**

Florida Burrowing Owl (*Speotyto cunicularia*) – The Florida burrowing owl is listed as a Species of Special Concern by the FWC. The breeding range of the Florida burrowing owl includes Lake County. Preferred habitats are treeless areas on well-drained soil where herbaceous ground cover is fairly short, such as dry prairies and edges of depressional marshes during the dry season. Florida burrowing owls have also been observed along canal banks, pastures, golf courses, mowed residential lawns, and airports (Rodgers, 1996). No Florida burrowing owls or their burrows were observed during the field surveys and no direct or indirect impacts are anticipated for this species. Documented sightings of these birds have been made, but none recorded since 1999 in the vicinity of the project area. Therefore, the project is not likely to adversely affect the Florida burrowing owl.

Florida Sandhill Crane (*Grus canadensis pratensis*) – This non-migratory subspecies, listed as Threatened by the FWC, can often be seen foraging in improved pastures, open fields and along the roadside. Sandhill cranes nest in freshwater marshes and feed in adjacent fields and pastures. No adequate nesting habitat is found within the project area though foraging habitat is found within the project limits. The proposed project is not likely to adversely affect the sandhill crane.

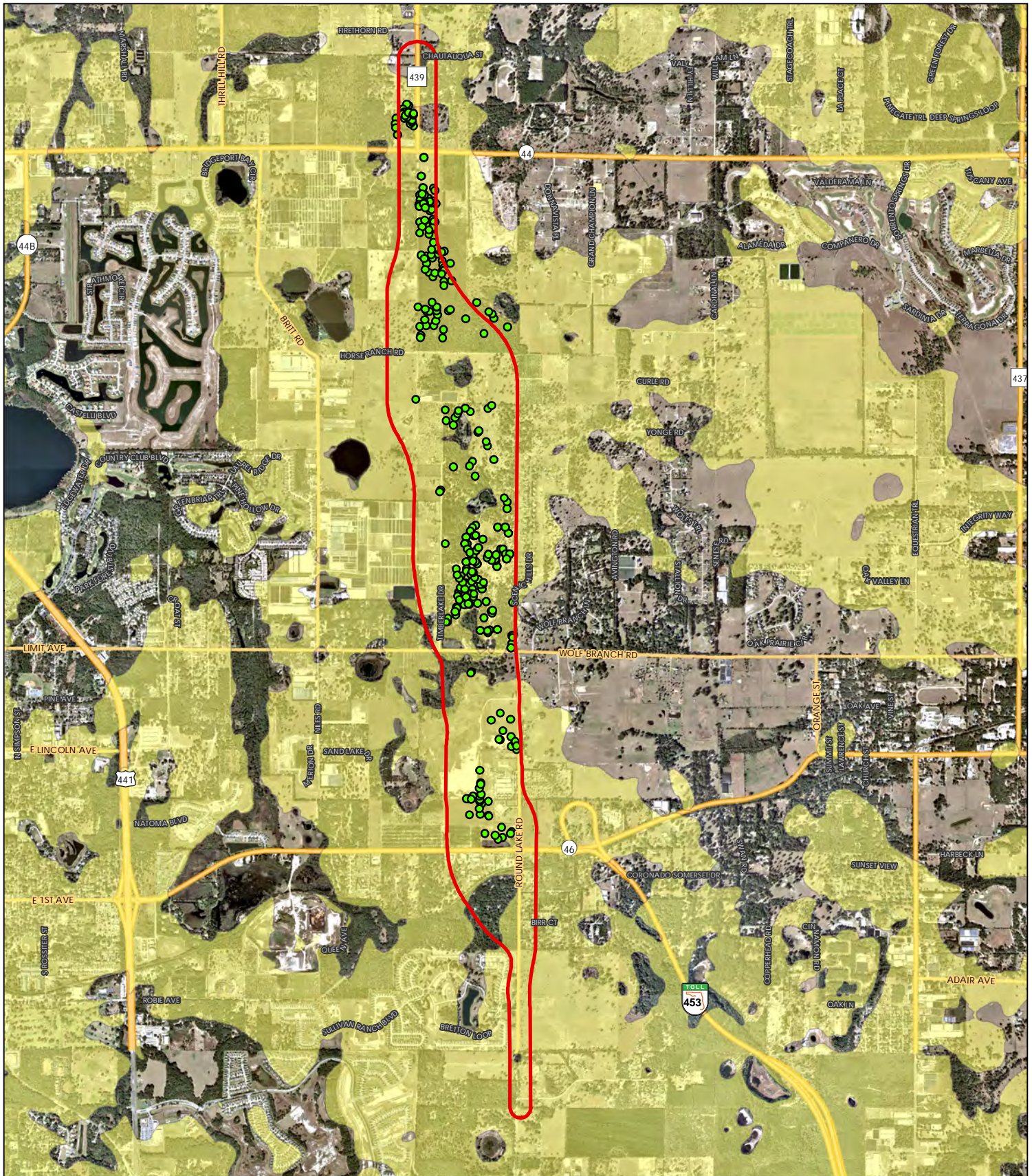
Southeastern American Kestrel (*Falco sparverius paulus*) – This resident subspecies of the kestrel, listed as Threatened by the FWC, can be distinguished from its cousin, *F. s. sparverius*, a winter migrant, by its smaller size. The Southeastern kestrel requires three components for optimal habitat: large, open fields for foraging, snags for nesting, and snags, fence lines or telephone poles as perching sites from which to hunt. No kestrels were observed along the project corridor, nor within any pond sites or along the portion of the project to be widened. No areas within the project corridor meet this definition for optimal habitat. Therefore, this project is not likely to adversely affect this species.

Wading Birds – Wading bird rookeries were not observed and are not known to occur within or adjacent to the study area. Potential foraging habitat for the little blue heron (*Egretta caerulea*), roseate spoonbill (*Ajaia ajaja*), and tri-colored heron (*Egretta tricolor*), all classified as Threatened by the FWC, occurs within the limits of the study area. No wetlands providing critical foraging or nesting habitat for these avian species will be impacted by the proposed project and indirect impacts to wading birds are not anticipated. Therefore, the proposed project is not likely to adversely affect the wading bird population in the region.

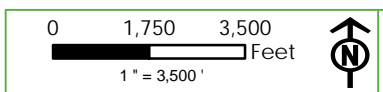
### **3.4.4 State Listed Plant Species**

A review of available information revealed that 29 state listed plant species have the potential to occur within the habitats located within the project area in Lake County. No state-listed species were identified during field surveys for this project. Therefore, the proposed project is not likely to adversely affect state listed plant species.





▭ PD&E Project Study Area    
  Potential Sand Skink Habitat (Suitable Soils & Elevation Above 82ft)    
 ● Gopher Tortoise Burrows (2018 Survey)



LISTED SPECIES MAP

FIGURE 6





## 4.0 WETLANDS AND SURFACE WATERS

The enactment of Executive Order 11990 (EO11990), entitled “Protection of Wetlands”, in furtherance of the National Environmental Policy Act of 1969, as amended (42 U.S.C 4321 et seq), established a national policy stating that federal agencies or actions authorized by federal agencies must attempt “to avoid to the extent possible the long and short term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative”. Similarly, the State of Florida, through Article II, Section 7 of the State Constitution states “It shall be the policy of the state to conserve and protect its natural resources and scenic beauty. Adequate provision shall be made by law for the abatement of air and water pollution and of excessive and unnecessary noise and for the conservation and protection of natural resources.” The Florida Water Resource Act, F.S. Ch 373 (Florida Water Resource Act of 1972) was implemented to carry out the policies of the State Constitution, providing the authority and responsibility of this act to the FDEP and Water Management Districts to be regulated by the environmental resource permit program. In accordance with EO11990 and state regulations the evaluation of the wetlands within the study area was conducted to identify, map, and enumerate the potential impacts to wetlands and surface waters that may be associated with the construction of this Project. This section provides a discussion of the initial data collection, methods used for demarcation of the wetlands and surface waters, and the identified resources within the project study area.

The field investigations evaluated the potential for classification as a wetland or surface water based on vegetative composition, presence of hydric soils, and hydrological indicators.

The landward extent of the wetlands and surface waters was established based on the Corps of Engineers Wetland Delineation Manual, 1987, and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plan Region, 2010, and Chapter 62-340 of the Florida Administrative Code (F.A.C), Delineation of the Landward Extent of Wetlands and Surface Waters.

Whenever practical, it is the intent of the rule(s), to use the definition of a wetland to determine the landward extent. The Florida Department of Transportation uses the following two definitions for identifying wetlands. (FDOT PD&E Manual, Chapter 9)

**Federal Definition:** as stated in 33 CFR 328.3(b) and as used by the USACE in administering Section 404 of the Clean Water Act, are defined as “areas that are inundated or saturated by surface or ground water at a frequency or duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.”

**State Definition:** as defined by Section 373.019(27) F.S., wetlands are “those areas that are inundated or saturated by surface water or ground water at a frequency and a duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils. Soils present in wetlands generally are classified as hydric or alluvial or possess characteristics that are associated with reducing soil conditions. The prevalent vegetation in wetlands generally consists of facultative or obligate hydrophytic macrophytes that are typically adapted to areas having soil conditions described above. These species, due to morphological, physiological, or reproductive adaptations, have the ability to grow, reproduce, or persist in aquatic environments or anaerobic soil conditions. Florida wetlands generally include swamps, marshes, bayheads, bogs, cypress domes and strands, sloughs, wet prairies, riverine swamps and marshes, hydric seepage slopes, tidal marshes, mangrove swamps and other similar areas. Florida wetlands generally do not include longleaf or slash pine flatwoods with an understory dominated by saw palmetto”.

In addition to the demarcation of the wetlands, any surface waters were delineated based on the definition provided by Section 373.019(21) F.S., “as waters on the surface of the earth, contained in bounds created naturally or artificially, including, the Atlantic Ocean, the Gulf of Mexico, bays, bayous, sounds, estuaries, lagoons, lakes, ponds, impoundments, rivers, streams, springs, creeks, branches, sloughs, tributaries, and other watercourses”. This also includes jurisdictional ditches, swales and drainage features.

Ecologists conducted the delineation and assessment of the wetlands and surface waters within the project study area during several field visits in April, June, and July of 2018. The identified wetlands and surface waters within the project study area were field delineated and recorded using a Trimble Geo7x™ handheld GPS. The final wetland survey data was used to determine the coverage of, as well as potential impacts to wetlands or surface waters within the project study area. All identified resources were classified according to FLUCFCS designations.

#### 5300: Reservoirs – Pits, Retention Ponds, Dams

This land use designates any ponds or artificial impoundments that could be used for irrigation and flood control within the project study area. These areas are man-made though may take on a natural appearance over time in some cases. This land use has a moderate likelihood for wildlife occurrence.

#### 6300: Wetland Forested Mixed

This land use is defined as mixed wetlands forest communities which neither hardwoods or conifers achieve a 66 percent dominance of the crown canopy composition. This land use has a moderate likelihood for wildlife occurrence.

#### 6410: Freshwater Marshes

This land use designates vegetated non-forested wetlands usually defined as low-lying areas or depressions in the landscape. These marshes are in isolated places within the project boundaries. This land use has a high likelihood for wildlife occurrence.

#### 6430: Wet Prairies

This land use consists predominantly grassy vegetation on hydric soils and is usually distinguished from marshes by having less water and shorter herbage. This land use has a moderate likelihood for wildlife occurrence.

#### 6440: Emergent Aquatic Vegetation

This land use is defined as being wetland areas where floating vegetation and vegetation which is found either partially or completely above the surface. These areas are in isolated places within the project boundaries. This land use has a moderate likelihood for wildlife occurrence.

#### 6460: Mixed Scrub – Shrub Wetland

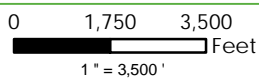
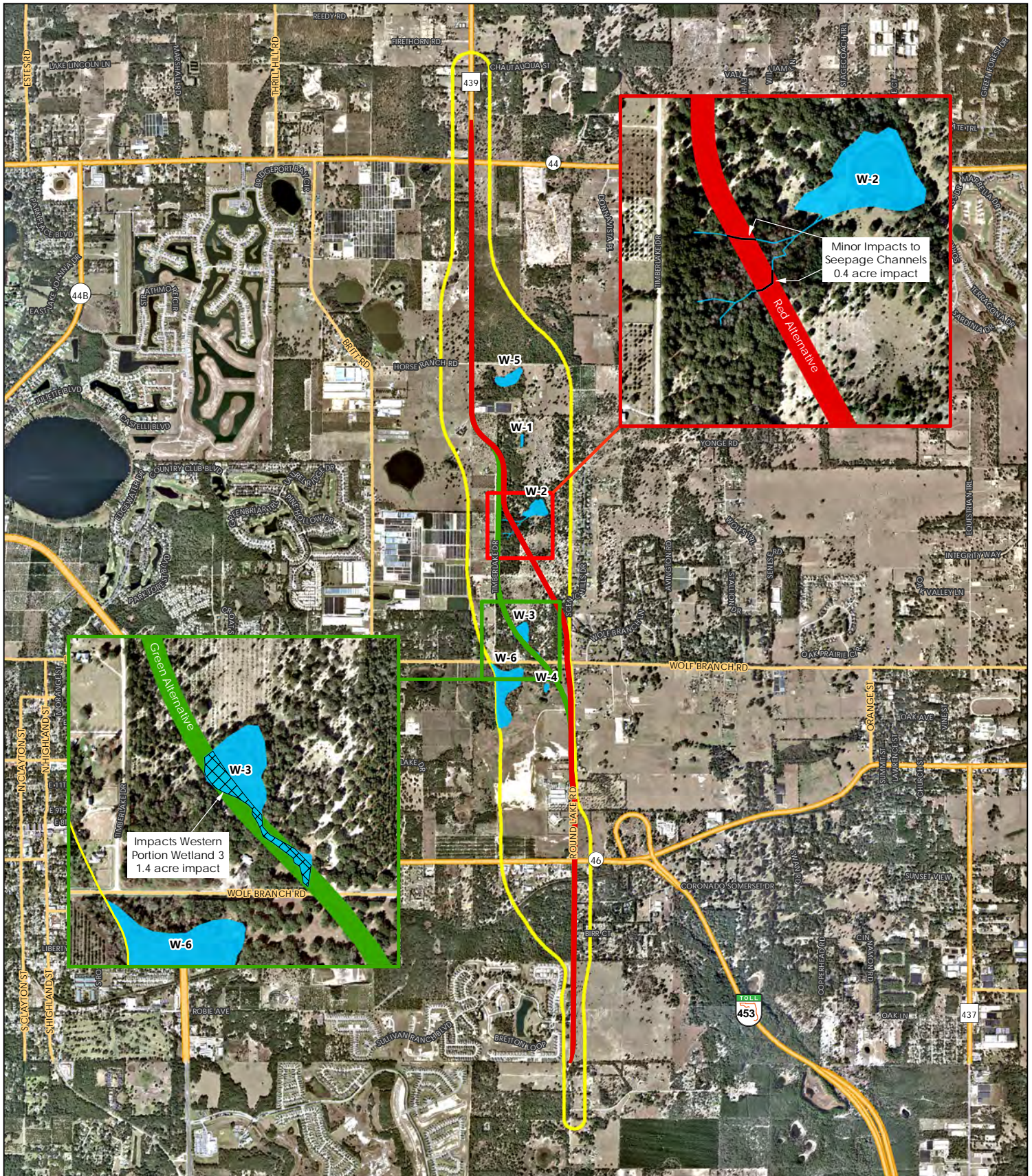
Wetlands areas that are dominated by woody vegetation less than 20 feet in height. This can occur in many situations, but in most cases involves transitional or disturbed communities on drier sites. Persistent examples of shrub wetlands include shrub bogs and willow swamps. This land use has a moderate likelihood for wildlife occurrence.



#### 4.1 Wetland Impact Analysis

There are only a few jurisdictional wetland areas located within the project study area. Only the Red Build Alternative (0.4 ac) and Green Build Alternative (1.4 ac) proposes any impacts to wetland features. No impacts are proposed to any surface water, lakes, rivers, streams, or other water bodies. The location and potential impact to the identified wetlands are depicted on **Figure 7**.





**WETLANDS AND WETLAND IMPACT MAP**

**FIGURE 7**





## 5.0 Anticipated Permits

The project will be subject to the jurisdictional regulations of the St. Johns River Water Management District under state permitting rules. This permit will govern the stormwater drainage system and any wetland impacts that are proposed. A separate permit to address impacts to gopher tortoise burrows will be required at the time of construction, should there be any within 25 feet of the proposed construction zone. This will be under the regulations of the FWC and will be handled by an FWC permitted Authorized Agent within approximately 90 days of construction.

If there are no proposed impacts to Waters of the U.S., a federal dredge and fill permit from the US Army Corps of Engineers will not be necessary. However, potential impacts to federally listed species may require formal authorization from the USFWS. Coordination with USFWS will be initiated during the permitting stage to appropriately address any potential listed species impacts.



## 6.0 Conclusion

Each of the Build Alternatives has been evaluated for potential involvement with the environmental resources identified for the project study area. Based on the evaluation of existing environmental and species data, field surveys and coordination with regulatory agencies it appears that minor involvement with environmental resources may result from the proposed project. Environmental resource involvement with one or more of the Build Alternatives includes, the gopher tortoise, sand skink and wetlands. Additional evaluation and/or surveys may be required once the preferred Build Alternative has been recommended and final designs are produced. In addition, further coordination with FWS will be necessary to determine the survey requirements for the sand skink.

# APPENDIX A

## AGENCY COORDINATION



March 6, 2019

## Florida Fish and Wildlife Conservation Commission

### Commissioners

**Robert A. Spottswood**  
Chairman  
Key West

**Michael W. Sole**  
Vice Chairman  
Tequesta

**Joshua Kellam**  
Palm Beach Gardens

**Gary Lester**  
Oxford

**Gary Nicklaus**  
Jupiter

**Sonya Rood**  
St. Augustine

Office of the  
Executive Director  
**Eric Sutton**  
Executive Director

**Thomas H. Eason, Ph.D.**  
Assistant Executive Director

**Jennifer Fitzwater**  
Chief of Staff

850-487-3796  
850-921-5786 FAX

*Managing fish and wildlife resources for their long-term well-being and the benefit of people.*

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Tallahassee, Florida  
32399-1600  
Voice: 850-488-4676

Hearing/speech-impaired:  
800-955-8771 (T)  
800 955-8770 (V)

MyFWC.com

Mike Drauer  
Senior Project Manager, Stantec  
300 Primera Boulevard, Suite 300  
Lake Mary, FL 32746-2129  
[mike.drauer@stantec.com](mailto:mike.drauer@stantec.com)

RE: Round Lake Road PD&E Study, Listed Species and Habitat Analysis, Lake County

Dear Mr. Drauer:

Florida Fish and Wildlife Conservation Commission (FWC) staff has reviewed the above-referenced permit application. We provide the following comments and recommendations as technical assistance as part of your Project Development and Environment (PD&E) Study and in accordance with FWC's authorities under Chapter 379, Florida Statutes.

### Project Description

Lake County Engineering has contracted to prepare a PD&E Study for the widening and expansion of Round Lake Road from the Lake County/Orange County Line to North of State Road 44 (Chautauqua Street) in Lake County. The Round Lake Road corridor is a discontinuous north-south two-lane undivided rural collector roadway. The proposed improvements will include the existing portion of Round Lake Road (Meadowland Drive to Wolf Branch Road) as well as continuing the proposed improvements on a new alignment north of Wolf Branch Road to north of State Road 44 in Lake County. Five alternatives are being investigated within the PD&E study area, which is located in the northeast portion of Lake County to the east of Mount Dora and to the west of Sorrento. The area supports a mixture of upland hardwood forest, pines, open pasture, citrus, and open land.

### Potentially Affected Resources

FWC staff has reviewed the report that was provided by Lake County and Stantec, Inc. which included a listed species and habitat analysis for the Round Lake Road widening and extension project. The analysis included an extensive list of species with the potential to occur in Lake County and stated that site assessments were conducted during April, May, and June of 2018. Species in the assessment included wood stork (*Mycteria americana*, Federally Threatened [FT]), Florida scrub-jay (*Aphelocoma coerulescens*, FT), Sand skink (*Neoseps reynoldsi*, FT), Everglade snail kite (*Rostrhamus sociabilis plumbeus*, Federally Endangered [FE]), Florida burrowing owl (*Athene cunicularia floridana*, State Threatened [ST]), Eastern indigo snake (*Drymarchon corais couperi*, FT), Southeastern American kestrel (*Falco sparverius paulus*, ST), and the Florida black bear (*Ursus americanus floridanus* – Central Bear Management Unit). The only listed species observed onsite was the gopher tortoise (*Gopherus polyphemus*, ST).

FWC staff conducted a geographic information system (GIS) analysis of the project area. Our analysis confirmed the information provided in the report. We provide the information below as further technical assistance should Lake County staff need additional information regarding the species identified in the report and any potential permitting needs.



## **Comments and Recommendations**

### Florida Burrowing Owl

Burrowing owls were historically common in this part of Lake County and suitable burrowing owl habitat still exists in the project area. We recommend that a thorough pre-construction survey for burrowing owls be conducted along the selected alignment alternative. Additional information and guidance for conducting burrowing owl surveys can be found in the Florida Burrowing Owl Species Conservation Measures and Permitting Guidelines <https://myfwc.com/media/2028/floridaburrowingowlguidelines-2018.pdf>.

### Gopher Tortoise

Due to the documented presence of gopher tortoises on site, we recommend that the applicant refer to the FWC's Gopher Tortoise Permitting Guidelines (Revised January 2017) (<http://www.myfwc.com/license/wildlife/gopher-tortoise-permits/>) for survey methodology and permitting guidance. Survey methodologies require a burrow survey covering a minimum of 15 percent of potential gopher tortoise habitat to be impacted by development activities including staging areas (refer to Appendix 4 in the Gopher Tortoise Permitting Guidelines for additional information). Specifically, the permitting guidelines include methods for avoiding impacts (such as preservation of occupied habitat) as well as options and state requirements for minimizing, mitigating, and permitting potential impacts of the proposed activities. Any commensal species observed during burrow excavation should be handled in accordance to Appendix 9 of the Gopher Tortoise Permitting Guidelines. Any questions regarding gopher tortoise permitting can be directed to Momoka Maeda at (561) 625-5122 or at [momoka.maeda@MyFWC.com](mailto:momoka.maeda@MyFWC.com).

### Florida Black Bear

FWC has received 1,966 reports of human-bear conflicts within roughly a 5-mile radius of the project site since 1985 and 118 bear roadkills within roughly a 5-mile radius of the project site since 1987. Florida black bears are abundant in this area which is within the Central Bear Management Unit identified in the 2012 Bear Management Plan. While black bears tend to shy away from people, they are adaptable and will take advantage of human-provided food sources, such as unsecured garbage, pet food, or bird seed. Once bears become accustomed to finding food around people, their natural wariness is reduced to the point that there can be an increased risk to public safety or private property. There are measures that can be taken to prevent or reduce conflicts with bears during planning and development activities, including:

- Requiring clean construction sites with wildlife-resistant containers for any wildlife-attractant refuse; and
- Requiring frequent trash removal and the use of proper food storage and removal on work sites.

### Federal Species

This site may contain habitat suitable for the federally listed species identified above. We recommend the applicant coordinate with USFWS North Florida Ecological Services Office (ESO) as necessary for information regarding potential impacts to these species. The USFWS North Florida ESO can be contacted at 904-731-3336.

We appreciate the opportunity to review the proposed project and look forward to working with the applicant throughout the permitting process. If you need any further assistance, please do not hesitate to contact our office by email at [FWCConservationPlanningServices@MyFWC.com](mailto:FWCConservationPlanningServices@MyFWC.com). If you have specific technical questions regarding the content of this letter, please contact Theodore Hoehn at (850) 488-8792 or by email at [ted.hoehn@MyFWC.com](mailto:ted.hoehn@MyFWC.com).

Sincerely,

A handwritten signature in blue ink that reads "Fritz Wettstein". The signature is written in a cursive, slightly slanted style.

Fritz Wettstein  
Land Use Planning Program Administrator  
Office of Conservation Planning Services

DRAFT\_ Round Lake Road Widening\_38188\_03062019

cc: George Gadiel, PE Lake County [ggadiel@lakecountyfl.gov](mailto:ggadiel@lakecountyfl.gov)  
Fred Schneider, PE Lake County [fschneider@lakecountyfl.gov](mailto:fschneider@lakecountyfl.gov)

**From:** [Williams, Zakia](#)  
**To:** [Drauer, Mike](#)  
**Subject:** Re: [EXTERNAL] Roadway PD&E project question  
**Date:** Thursday, June 21, 2018 10:58:33 AM

---

Hello Mike,

I have been digging for information, but have come up short. We have some reports for sand skinks on the east side of the project area and the and northwest of the project site that date back to 2013 and 2014. There have not been any other documentation of sand skinks directly in the vicinity of the project. There is also scrub jay data right at 44A and again east of the project. I tried to delineate these areas on the attached map. Please let me know if you have any further questions.

Thank you,  
Zakia

On Wed, Jun 13, 2018 at 9:51 AM, Drauer, Mike <[mike.drauer@stantec.com](mailto:mike.drauer@stantec.com)> wrote:

Here is a road map with the project area, and I also included the GIS file of the project area, if that helps.

Round Lake Road is an existing road up until it hits Wolf Branch, then it picks up again north of SR 44. The project is to connect the two pieces, and widen the southern portion from 2 to 4 lanes if traffic justifies it.

**Mike Drauer**

Senior Project Manager  
Stantec  
300 Primera Boulevard Suite 300 Lake Mary FL 32746-2129  
Phone: (407) 585-0157  
Cell: (407) 496-3175  
Fax: (407) 585-0158  
[mike.drauer@stantec.com](mailto:mike.drauer@stantec.com)

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**From:** Williams, Zakia [mailto:[zakia\\_williams@fws.gov](mailto:zakia_williams@fws.gov)]  
**Sent:** Wednesday, June 13, 2018 9:31 AM



**To:** Drauer, Mike <[mike.drauer@stantec.com](mailto:mike.drauer@stantec.com)>

**Subject:** Re: [EXTERNAL] Roadway PD&E project question

Mike,

Can you send me a map showing the full extent of the proposed area. I have located it on Google, but I am having a hard time determining where the project could potentially start and end. We have point data that is showing sand skinks and scrub-jays found up and down the ridge in this area, but this information maybe old, so I want to show the area to our GIS specialist to hopefully get you some updated information.

Thank you,

Zakia

On Mon, Jun 11, 2018 at 12:36 PM, Drauer, Mike <[mike.drauer@stantec.com](mailto:mike.drauer@stantec.com)> wrote:

Cool, thanks.

We are currently working towards 3 possible corridors to advance within the overall project area. In a nutshell, the vast majority of the project area is shown as mapped skink soils at elevation. There are some major topo changes in some places, and the field surveys have shown that many of the areas do not contain appropriate swimmable soils. Lake County is not yet in a position to merit conducting coverboard surveys – that would likely be done after a single alignment has been chosen for design. My primary question is: have you seen studies in the recent past for skinks anywhere out here? We have come across coverboards in 2 areas, but they were definitely older than 1 year, likely 2 or 3. I haven't seen any signs of tracks, and there is little open sand. Some of the areas that look like open sand on the aerials are not that way, and there is an older mine that was excavated down to the hardpan that looks sandy on the aerials. Do you have any other info that might be beneficial in us moving towards the selection of one corridor over others?

I made a couple of maps to help – the Topo has the S/T/R info, the land use has the mapped FLUCFS codes.

Anything else I can provide, let me know.

Mike Drauer

Senior Project Manager  
Stantec  
300 Primera Boulevard Suite 300 Lake Mary FL 32746-2129  
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**From:** Williams, Zakia [mailto:[zakia\\_williams@fws.gov](mailto:zakia_williams@fws.gov)]  
**Sent:** Wednesday, June 06, 2018 11:19 AM  
**To:** Drauer, Mike <[mike.drauer@stantec.com](mailto:mike.drauer@stantec.com)>  
**Subject:** Re: [EXTERNAL] Roadway PD&E project question

Mike,

You can send me the information and I will take a look at it.

Thank you,

Zakia

On Wed, Jun 6, 2018 at 9:51 AM, Drauer, Mike <[mike.drauer@stantec.com](mailto:mike.drauer@stantec.com)> wrote:

Zakia – Stantec is doing a PD&E study on a new corridor to extend an existing roadway in Lake County. This is not an FDOT project – it is sponsored by Lake County, though we are proceeding in the same manner as an FDOT PD&E study would. Mike Dinardo suggested I check with you first to see if you or someone else would be the better person to look for information.

Our primary concern other than the field work we are doing is finding out if there have been any recent studies that have been shared with USFWS for sand skinks within the project footprint. The project goal is to come up with the recommended corridor to advance to design, and since this is going to provide a new corridor to connect two existing pieces of roadway, we have some room to recommend one area over another if it is going to run into one or more constraints (Wetland/species/etc.).

If you would be the better person to ask – I can provide some details of the area and a map. If someone else, then I would do the same and not waste your time.

Thanks for the help -

**Mike Drauer**

Senior Scientist  
Stantec  
[300 Primera Boulevard Suite 300 Lake Mary FL 32746-2129](#)  
Phone: (407) 585-0157  
Cell: (407) 496-3175  
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[mike.drauer@stantec.com](mailto:mike.drauer@stantec.com)

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*Zakia Williams*

*Fish and Wildlife Biologist*

*US Fish and Wildlife Service*

*7915 Baymeadows Way Ste. 200*

*Jacksonville, FL 32256*

*(o) 904-731-3119*



(c)904-200-2678

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**NOTE: This email correspondence and any attachments to and from this sender is subject to the Freedom of Information Act (FOIA) and may be disclosed to third parties.**

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*Zakia Williams*  
*Fish and Wildlife Biologist*  
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