LITTLE EVERGLADES FARMS, LLC
(Alt Key 1063621 and 1300711)
Lake County, Florida

ENVIRONMENTAL CONTRAINSTS ANALYSIS

Prepared For:

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LITTLE EVERLGLADES FARMS, LLC
LAKE COUNTY, FLORIDA

ENVIRONMENTAL CONSTRAINTS ANALYSIS

1.0 INTRODUCTION

An environmental constraints analysis was conducted on the 75.8 acre property, consisting of two parcels (alt keys 1063621 and 1390711), located immediately north of the Florida's Turnpike and west of O'Brien Road in Lake County. Florida (Figure 1). The site review for this parcel (Section 16, Township 21 South, and Range 25 East) included a determination of any existing development constraints in the form of rare vegetative communities, critical habitats, listed species habitat, and wetlands that would be claimed jurisdictional by the U.S. Army Corps of Engineers (ACOE) and\or the St. Johns River Water Management District (SJRWMD).

Review of historical aerial photography and examination of existing site conditions reveal that both parcels are undeveloped. Historically the upland portion of the parcels was citrus grove and has been converted to improved pasture habitat. Wetlands surround the larger parcel (Jones parcel) upland habitat on the north, east and west sides. Both parcels are used for cattle grazing and are part of a much large cattle grazing operation.

For the Jones parcel, the adjacent property to the north is wet prairie, a combination of freshwater marshes and wet prairies form the east and west adjacent properties with Florida's Turnpike to the south.

For the smaller parcel, the adjacent property consists of former citrus grove to the north, improved pasture and wetlands to the south and east with O'Brien Road to the west.

A survey of the project site was conducted to determine if any flora and fauna, listed as threatened or endangered by the United States Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FWC), or the Florida Department of Agriculture (FDA), exist on the project site. The findings and conclusions of this survey are reported in this document.

2.0 METHODOLOGY

An ECS biologist conducted surveys of the site on July 6, 2016. Pedestrian transects were conducted randomly throughout the entire site during the day to ensure the potential of observing listed fauna as recommended by the FWC and the USFWS. Vehicular transects were conducted along the perimeter of the upland habitat. Observations of vegetation and any wildlife were recorded on an aerial photograph.

The following resources were used for supporting information during the site assessment and/or report preparation:

- Aerial photography, ArcGIS software, Lake County, Florida
- Soil Survey of Lake County, Florida, Soil Conservation Service
- Official Lists of Endangered and Potentially Endangered Fauna and Flora in Florida (FWC)
- Federal Listing of Endangered and Potentially Endangered Fauna and Flora in Lake County, Florida (USFWS)

3.0 NATURAL RESOURCE ANALYSIS

3.1 Topography

According to the U.S.G.S. 7.5 Minute Topographic Map, the elevations of the uplands is relatively flat with slight elevational changes noted (Figure 2). The high elevation occurs on the southern portion of the property with an elevation of 95 feet above sea level. Visual observation of the property confirms the topography. Wetlands are present on the north, east and west portions of the larger parcel (Jones property). According to the topography map, the site was a former citrus grove.

3.2 Soils

Soil composition information for the subject site was obtained from the *Soils Survey of Lake County, Florida,* United States Department of Agriculture; Soil Conservation Service (Figure 3). Six (6) soil type lies within the subject site and is briefly described below. These soil types are indicative of upland soil types.

5 – Apopka sand, 0 to 5 percent slopes

The soils in this map unit are nearly level to gently sloping and excessively drained and well drained. Astatula soil is excessively drained and Apopka soil is well drained. The slopes are smooth to convex. The soils in this map unit have a seasonal high water table of more than 80 inches. The permeability of Astatula soil is very rapid. The permeability of Apopka soil is rapid to a depth of 64 inches and is moderate between depths of 64 and 80 inches.

17 – Arents

This soil type is found along the Florida's Turnpike. It is found on the flats on marine terraces. Slopes are 0 to 5 percent. Depth to water table is 30 to 60

inches.

28 – Myakka-Myakka, wet sands, 0 to 2 percent slopes

The Myakka series consists of very deep, very poorly or poorly drained, moderately rapid or moderately permeable soils that occur primarily in mesic flatwoods of peninsular Florida. They formed in sandy marine deposits. Depth to water table is 6 to 18 inches.

40 – Placid and Myakka fine sands, depressional

This map unit consists of very poorly drained Placid and Myakka soils in depressions mostly on flatwoods. Typically, this Placid soil has a black fine sand surface layer about 18 inches thick. This Placid soil is ponded for at least 6 months during most years. Typically, this Myakka soil has a very dark gray fine sand surface about 3 inches thick. Typically, this Myakka soil has a seasonal high water table that is above the surface for about 6 months during most years.

48 – Wauchula sand

This poorly drained soil is in low, broad areas on flatwoods. Typically, this soil has a black fine sand surface layer about 7 inches thick. This Wauchula soil has a seasonal high water table within a depth of 12 inches for 1 to 4 months during most years.

99 - Water

This soil type is water and comprises 65.3 % of the subject property.

3.3 Habitat Characterization

Pedestrian and vehicular surveys of the property were conducted to qualitatively document the existing vegetation and to assess the present land use patterns according to the *Florida Land Use, Cover and Forms Classification System, Department of Transportation* (FLUCFCS; DOT 1999). Six (6) land-use types were determined for the project site (Figure 4). A brief description of each FLUCFCS community is provided below.

211 – Improved Pasture

This community comprises the vast majority of the upland portion of both parcels. This area is used for cattle grazing. Historically this area was a former citrus grove. The citrus trees were removed and the property was converted to improve pasture.

The vegetation is currently dominated by bahia grass (*Paspalum notatum*) with

broomsedge (*Andropogon virginicus*), dogfennel (*Eupatorium capillifolium*), sedge grass (*Cyperaceae spp*.), common beggarticks (*Bidens alba*), crabgrass (*Digitaria spp.*) and oldfield toadflax (*Linaria canadensis*).

414 Pine – Mesic Oak

This upland community is present on the northwest portion of the Jones parcel. Currently, the canopy is dominated by slash pine (*Pinus elliottii)* with longleaf pine (*Pinus palustris*). The sub-canopy contains a variety of woody species including loblolly bay (*Gordonia lasianthus*), red maple (*Acer rubrum*) and laurel oak. Groundcover includes stands of wiregrass (*Aristida beyrichiana*) with little bluestem (*Schizachyrium scoparium*), split beard bluestem (*Andropogon ternaries*), chalky bluestem (*Andropogon virginicus*), shiny blueberry (*Vaccinium myrsinites*), silk-grass (*Pityopsis graminifolia*), alicia (*Chapmannia floridana*), goldenrod (*Solidago odora*), muscadine vine (*Vitis rotundifolia),* natal grass (*Rhynchelytrum repens)* and saw palmetto (*Serenoa repens*).

625 – Hydric Pine Flatwoods

A portion of pine dominated wetlands is present on the Little Everglades parcel. This wetland extends offsite to the east and south. It is composed of slash pine in the canopy. Wax myrtle (*Myrica cerifera)* is present in the shrub layer. The groundcover contains wetland herbaceous species and has muck soils.

641 – Freshwater Marsh

Several freshwater marshes are present around the perimeter of the Jones parcel. Aquatic vegetation includes pickerelweed (*Pontederia cordata),* duck potato (*Sagittaria lancifolia)* and maidencane *(Panicum hemitomon).* Herbaceous plants along the water's edge include little blue maidencane (*Amphicarpum muehlenbergianum),* marsh pennywort (*Hyrdrocotyle umbellate),* sawgrass (*Cladium jamaicense)* and spikerush (*Eleocharis baldwinii).* These wetlands remain inundated with open water present throughout the year.

643 – Wet Prairie

A large wet prairie is present around the north, east and west portions of the Jones parcel. These wetlands are densely vegetated and have a fluctuating water table. Vegetation consists of smartweed (*Polygonum spp*.), pennywort (*Hydrocotyle spp*.) and maidencane (*Panicum hemitomon*). The wetland perimeter is surrounded by elderberry (*Sambucus canadensis),* Carolina willow (*Salix caroliana)* and wax myrtle.

8146 – Trials

Trails are present on the Jones parcel and provide access between several of the onsite wetlands to upland habitat to the north. These trails extend offsite to the north.

4.0 PROTECTED SPECIES

Pedestrian and vehicular transects were conducted throughout the site to assess the occurrence, or potential for occurrence, of flora and fauna listed as threatened, endangered, or as a species of special concern (SSC) by the Florida Fish and Wildlife Conservation Commission (FWC), United States Fish and Wildlife Service (USFWS), and Florida Department of Agriculture (FDA) per 50 CFR 17.11 "List of Endangered and Threatened Wildlife" and 50 CFR 17.12 "List of Endangered and Threatened Plants". Appendix A provides the USFWS Federally listed species for Lake County. Review of the USFWS and FWC websites for listed species indicated the probability of occurrence on the project site was low (Tables 1 & 2).

4.1 Critical Habitats

ECS biologists searched the USFWS database at http://endangered.fws.gov for the presence of critical habitats within the proposed project site. There are no critical habitats within the project boundaries. According to the USFWS federally listed species for Lake County, nine (9) animal species and nine (9) plants species are found within Lake County. No protected species were observed onsite.

Based on the lack of native upland habitat, none of the federally or state listed species occur within the upland portion of the project boundaries. The onsite wetlands are in good condition and provide wading bird habitat. According to the USFWS critical habitat mapper, there is no critical habitat within or adjacent to the proposed project site.

Specific information of surveys for listed wildlife and plant species, conducted on the project site, are presented below.

4.2 Fauna

As previously stated, the USFWS lists nine (9) federally protected animal species for Lake County. The FWC provides a State-wide listing and is not county specific. Approximately 146 species are listed by the FWC and include different levels of classification including federally-designated endangered (FE), federally-designated threatened (FT), federally-designated threatened due to similarity of appearance [FT(S/A)], federal non-essential experimental population (FXN), State-designated threatened (ST), or State species of special concern (SSC).

Birds

Florida scrub jays (*Aphelocoma c. coerulescens)* were not observed on the project site. This species is listed as threatened at the state and federal levels. The property does not contain scrub habitat. Surveys were conducted for this species per the guidelines outlined in the *Ecology & Development-Related Habitat Requirements of the Florida Scrub Jay (April 1991).* No scrub jays were observed or vocalizations heard.

Red-cockaded woodpeckers (*Picoides borealis*) are listed as endangered (USFWS) and endangered (FWC). No red-cockaded woodpeckers were observed and the upland habitat type is not suitable. There were no open pine flatwoods with old-growth pines that characterize RCW nesting and foraging habitat.

Listed wading birds such as limpkin (*Aramus guarauna),* little blue heron (*Egretta caerulea),* snowy egret (*Egretta thula),* tricolored heron (*Egretta tricolor),* white ibis (*Eudocimus albus)* and wood stork *(Mycteria americana)* were not observed. The onsite wetlands do provide habitat for wading birds.

Bald eagles (*Haliaeetus leucocephalus*) or their nests were not observed on the site. Bald eagles are protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The USFWS has established a 660 foot protection zone around a bald eagle nest.

ECS biologists searched the FWC website to determine if any documented bald eagle nests are within 660 feet of the project site. There are no known bald eagle nests onsite or within 660 feet of the property boundaries.

No other listed raptors such as Southeastern American kestrels (*Falco sparverius paulus*) or Arctic peregrine falcons (*Falco peregrinus tundrius*) were observed on or around the site. There is limited foraging habitat for kestrels. No birds were observed on or offsite at the time of the survey.

Burrowing owls (*Athene cunicularia)* are not listed by the USFWS but are considered a species of special concern by the FWC. No burrowing owls or their nests were observed within the property boundaries.

No Florida sandhill cranes (*Grus canadensis pratensis*), a Threatened Species, were observed within the project boundaries.

Amphibians and Reptiles

About thirty (30) species of Florida's amphibians and reptiles are protected. For Lake County, the USFWS federally lists three (3) reptiles and one (1) amphibian species. No listed reptile or amphibian species were observed within the project boundaries.

Gopher Tortoise

A cursory survey was conducted throughout the property for gopher tortoises (*Gopherus polyphemus),* a species listed by the FWC as a Threatened. No gopher tortoises or their burrows were observed.

Several commensal species associated with gopher tortoise burrows, including the gopher frog (*Rana capito)* and eastern indigo snake (*Drymarchon corais couperi)* also receive protection, but were not observed.

Sand Skink

The sand skink (*Neoseps reynoldsi*) is listed as threatened by both FWS and FWC. The sand skink is primarily found in rosemary scrub, sand pine and oak scrub. Sand skinks require loose sand with large area of no groundcover or canopy cover.

On April 4, 2011, the U.S. Fish and Wildlife Service published a revised sand and bluetail mole skink survey protocol, which impacts owners of properties in interior Central Florida. The known range of the sand skink now includes Highlands, **Lake**, Marion, Orange, Osceola, Polk, and Putnam Counties with principal populations along the Lake Wales Ridge, the Winter Haven Ridge, and the Mount Dora Ridge. The habitat of the sand skink and bluetail mole skinks is affected by the conversion of citrus groves to pasture lands as well as to residential land uses.

According to the revised protocol, if a property lies within the sand skink consultation area, has an elevation of 80 feet above sea level and contains sandy soils, the presence of sand skinks is presumed. The burden is on the property owner to document the absence of sand skinks. Mitigation costs for sand skinks approach $60,000.00 to $70,000.00 per impacted acre.

ECS surveyed for the presence of sand skink tracts. No tracks were observed. The property uplands do not provide suitable habitat for sand skinks. The uplands have been converted to improved pasture and there are no open sandy areas for sand skinks.

Eastern Indigo Snake

Concerning the eastern indigo snake, ECS biologists conducted survey transects to identify potential above-ground and underground refugia which eastern indigo snakes may inhabit. Underground refugia includes active or inactive gopher tortoise burrows, mammal burrows, hollows at the base of trees and other similar formations.

Above ground refugia includes thick shrub formations, stumps, the base of thick palmetto, ground litter, brush piles, trash piles, and abandoned structures, and crevices of rock-lined ditch walls and other similar refugia. Surveys for eastern indigo snakes are recommended by the USFWS during the time period of October 01st through April 30th. There were little suitable refugia for the eastern indigo snake onsite. No eastern indigo snakes were observed.

The USFWS requires the developer to notify the local field office via email at least **30 days prior** to any clearing/land alteration activities. The notification has to include an eastern indigo snake protection/education plan. As long as the signatory of the e-mail certifies compliance with the protection/education plan (including use of the USFWS informational poster and brochure), no further written confirmation or "approval" from the USFWS is needed and the applicant may move forward with the project.

Mammals

Thirty-three (33) mammals are currently protected in Florida. For Lake County, there are no USFWS federally listed mammal species. An estimated two (2) State listed mammal species occur within Lake County.

ECS biologists searched for the presence of fox squirrels (*Sciurus niger shermani*) and the Florida mouse (*Podomys floridanus)* and their possible den or nest sites. The absence of gopher tortoise burrows decreases the likelihood for the Florida mouse.

No mammal species were observed.

4.2 Flora

There were no protected plant species found on the project site. The USFWS does identify nine (9) listed plant species for Lake County. Currently, there are no technical reports available by the state or federal agencies, mentioned in this report, for the survey of protected plant species. None of the agencies require relocation or mitigation for protected plant species.

The Department of Agriculture and Consumer Services (DACS) designates and regulates plants listed as "endangered", "commercially exploited" and "threatened". There is no statutory prohibition against a landowner from harvesting an endangered or threatened plant from his property. However, it is unlawful for an individual to harvest an endangered or threatened species from the private land of another or any public land without first obtaining written permission of that landowner and a permit from DACS. Additionally, harvesting three or more commercially exploited plants from the private land of another or any public land will also require a DACS permit.

5.0 WETLANDS

Since there are wetland habitats within both parcel boundaries, wetland determinations with the state and federal agencies will be necessary. Any proposed impacts to the onsite wetlands will require a permit from the St. Johns River Water Management District (SJRWMD) and the U.S. Army Corps of Engineers (ACOE).

The onsite wetlands are in good condition. There are some nuisance and exotic species around the wetland perimeters. This is expected due to the former citrus grove operation.

6.0 ARCHAEOLOGICAL SURVEY

ECS contacted the Florida Department of State and requested a search of their files for any known cultural resources including a determination of the presence/ absence of historic sites and or Native American artifacts occurring within the property. The results of the Florida Department of State Master File search is attached (Appendix B).

A single site is documented on the larger parcel, adjacent to the Florida's Turnpike. The site is described as a single "previously recorded archaeological site and no standing structures". No other information is provided. Before any develop can occur within this area, more information is needed from the Division of Historical Resources. Additional archaeological investigation may be required from the State.

7.0 SUMMARY

On July 6, 2016, the subject property was surveyed for development constraints as they pertain to existing environmental concerns, including wetland habitats, critical habitat and protected flora and fauna listed by the federal and state governments. Wetlands are present within the property boundary. Therefore, both the SJRWMD and the ACOE will have jurisdiction over this project. Any wetland impacts will require permitting from both agencies.

There were no critical habitats or listed animal or plant species located within the project boundaries.

A single archaeological site is documented onsite according to the Florida Department of State Master File. More information is needed on this site and if further archaeological surveys will be needed.

FIGURES

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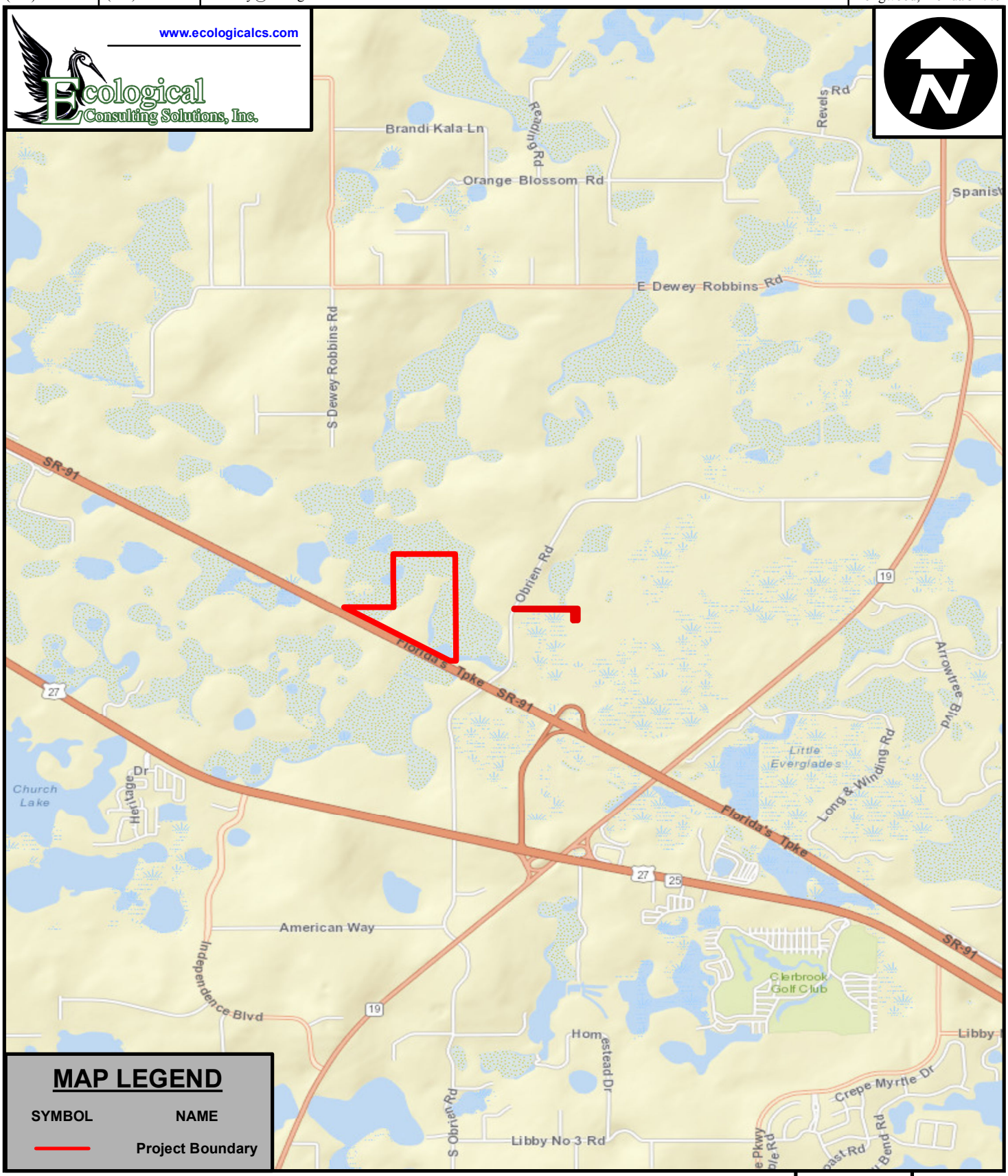

MAP LEGEND

SYMBOL	NAME
	Project Boundary

0 1,000 2,000 4,000 6,000 8,000 10,000 Feet

PROJECT #: 527.02.16 | DATE: 07/06/16 | FIGURE #: 1

LITTLE EVERGLADES FARM
LAKE COUNTY, FLORIDA
LOCATION MAP

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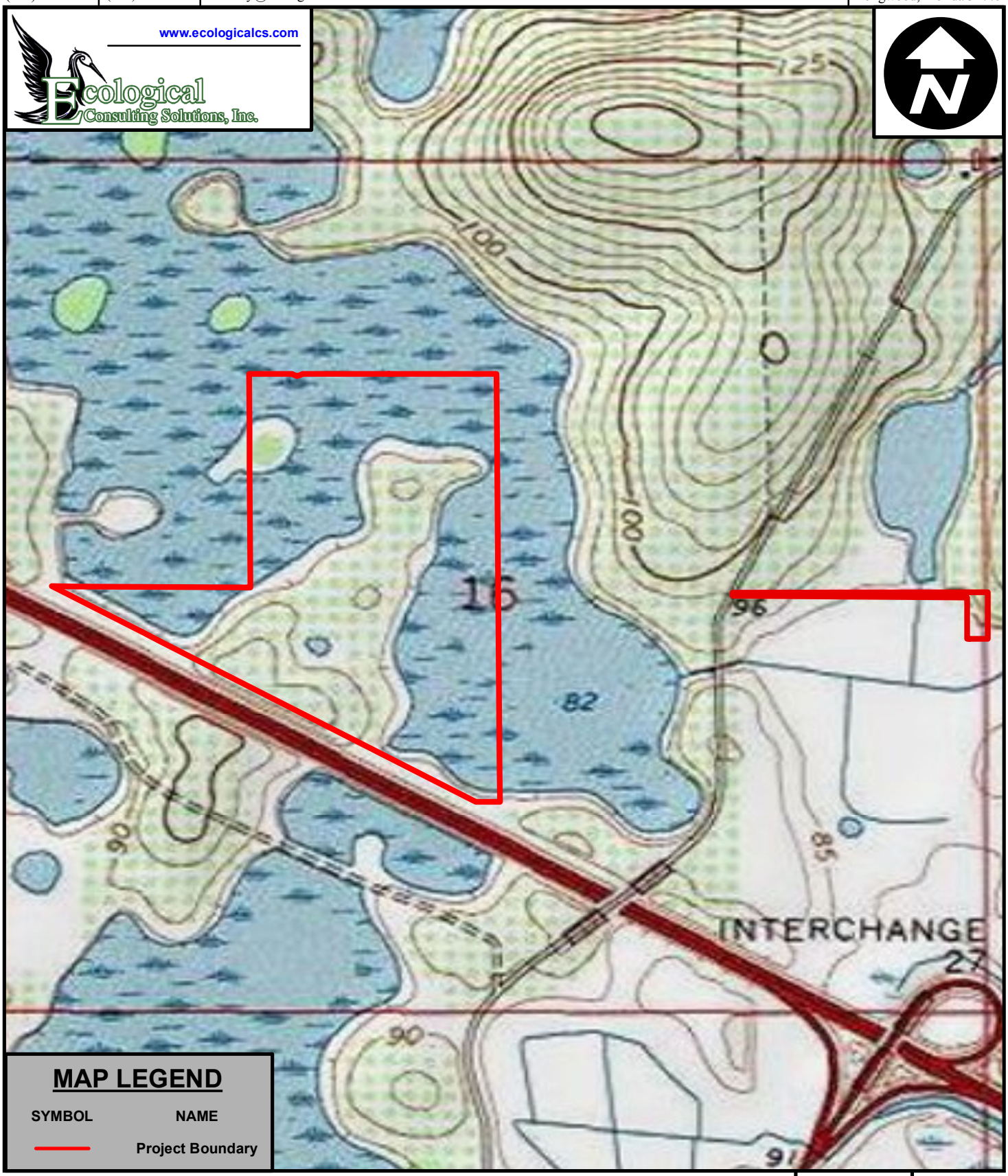

MAP LEGEND

SYMBOL	NAME
———	Project Boundary

PROJECT #: 527.02.16 | DATE: 07/06/16 | FIGURE #: 2

0 250 500 1,000 1,500 2,000 2,500 Feet

LITTLE EVERGLADES FARM
LAKE COUNTY, FLORIDA
USGS TOPOGRAPHIC MAP

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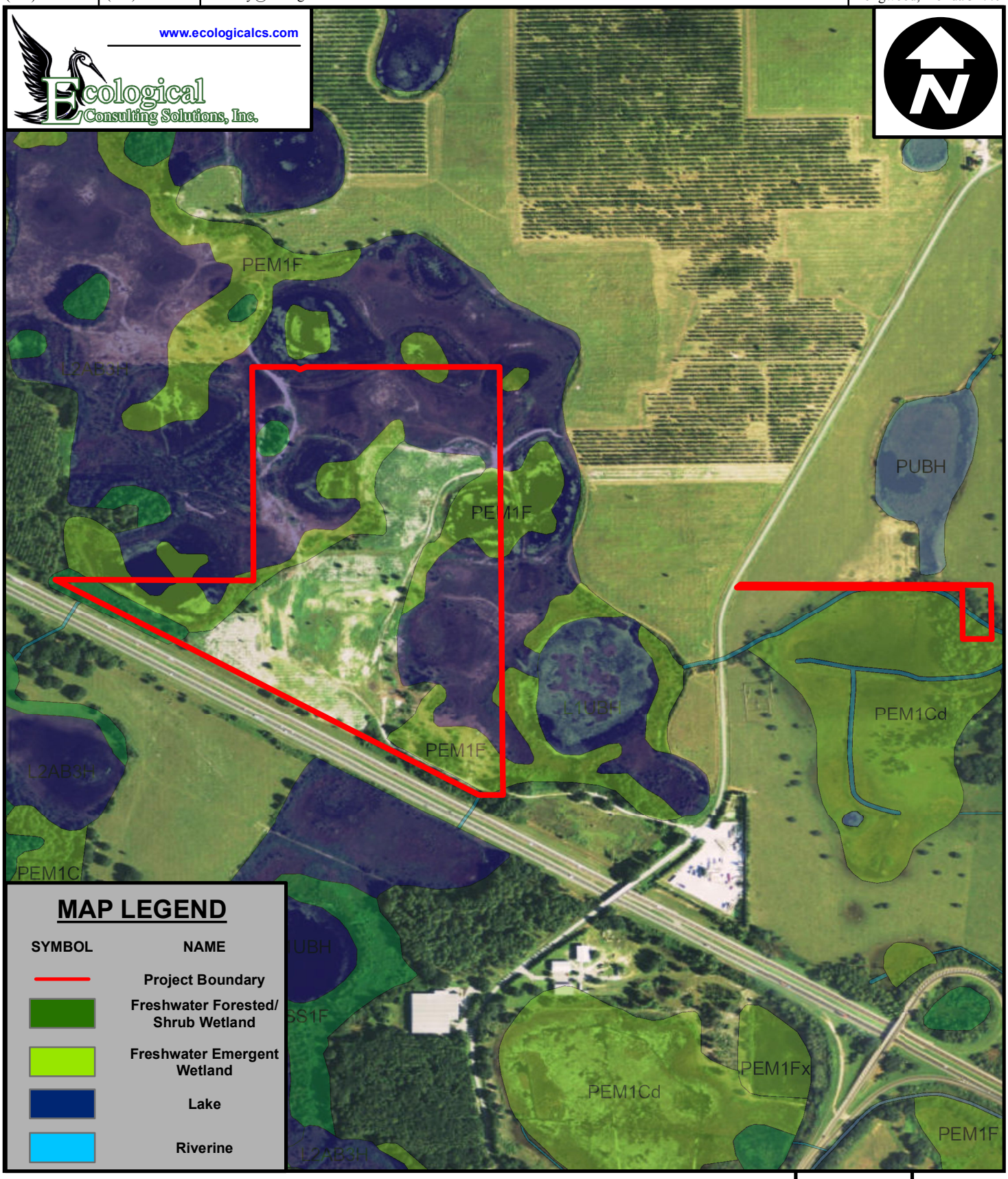

MAP LEGEND

SYMBOL	NAME
	Project Boundary
	Freshwater Forested/ Shrub Wetland
	Freshwater Emergent Wetland
	Lake
	Riverine

PROJECT #: 527.02.16 | DATE: 07/06/16 | FIGURE #: 3

0 1,000 2,000 Feet

LITTLE EVERGLADES FARM
LAKE COUNTY, FLORIDA
NATIONAL WETLANDS INVENTORY MAP

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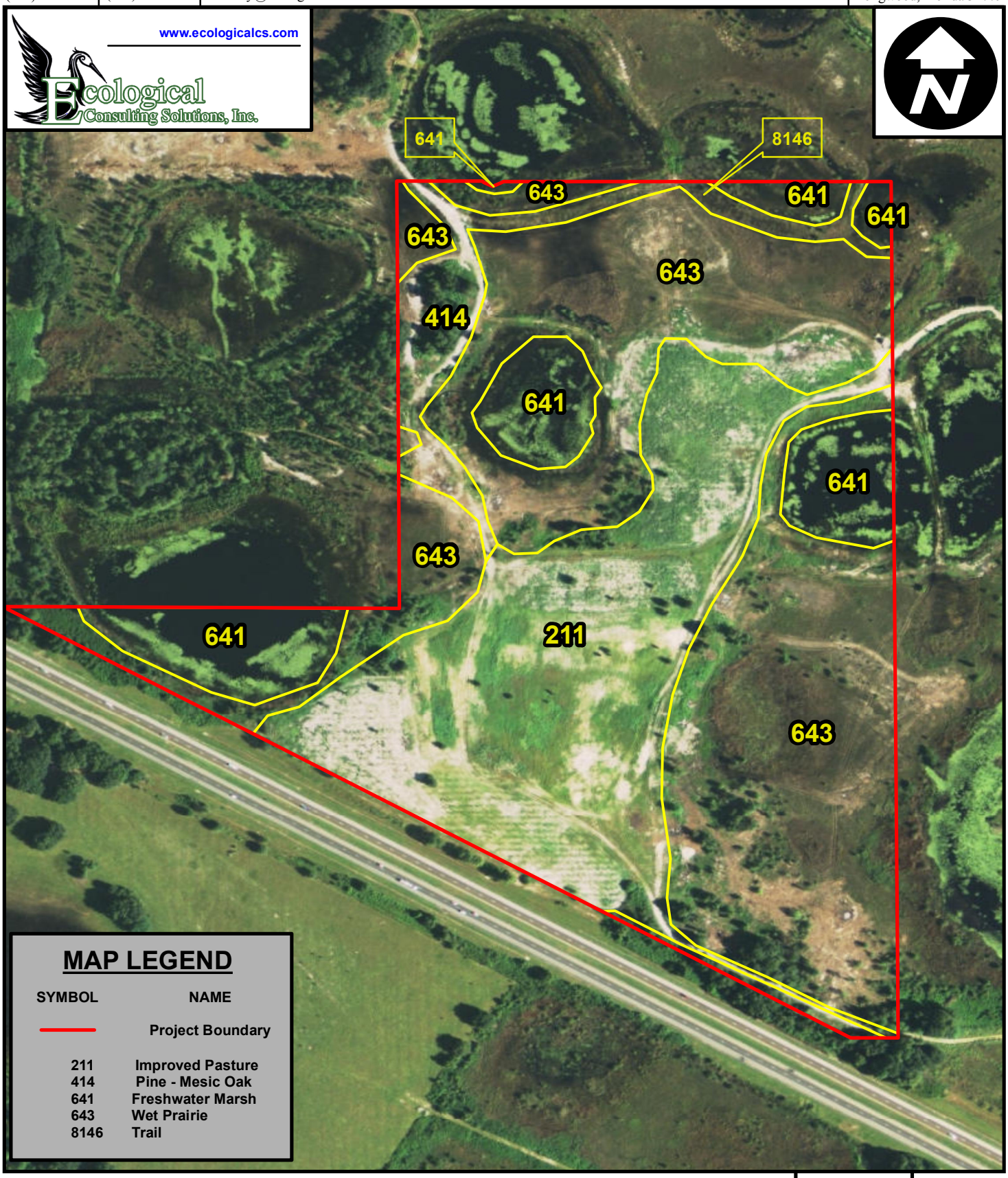

MAP LEGEND

SYMBOL	NAME
	Project Boundary
211	Improved Pasture
414	Pine - Mesic Oak
641	Freshwater Marsh
643	Wet Prairie
8146	Trail

PROJECT #: 527.02.16 | DATE: 07/06/16 | FIGURE #: 4a

0 200 400 800 1,200 Feet

LITTLE EVERGLADES FARM (JONES PARCEL)
LAKE COUNTY, FLORIDA
FLUCFCS MAP

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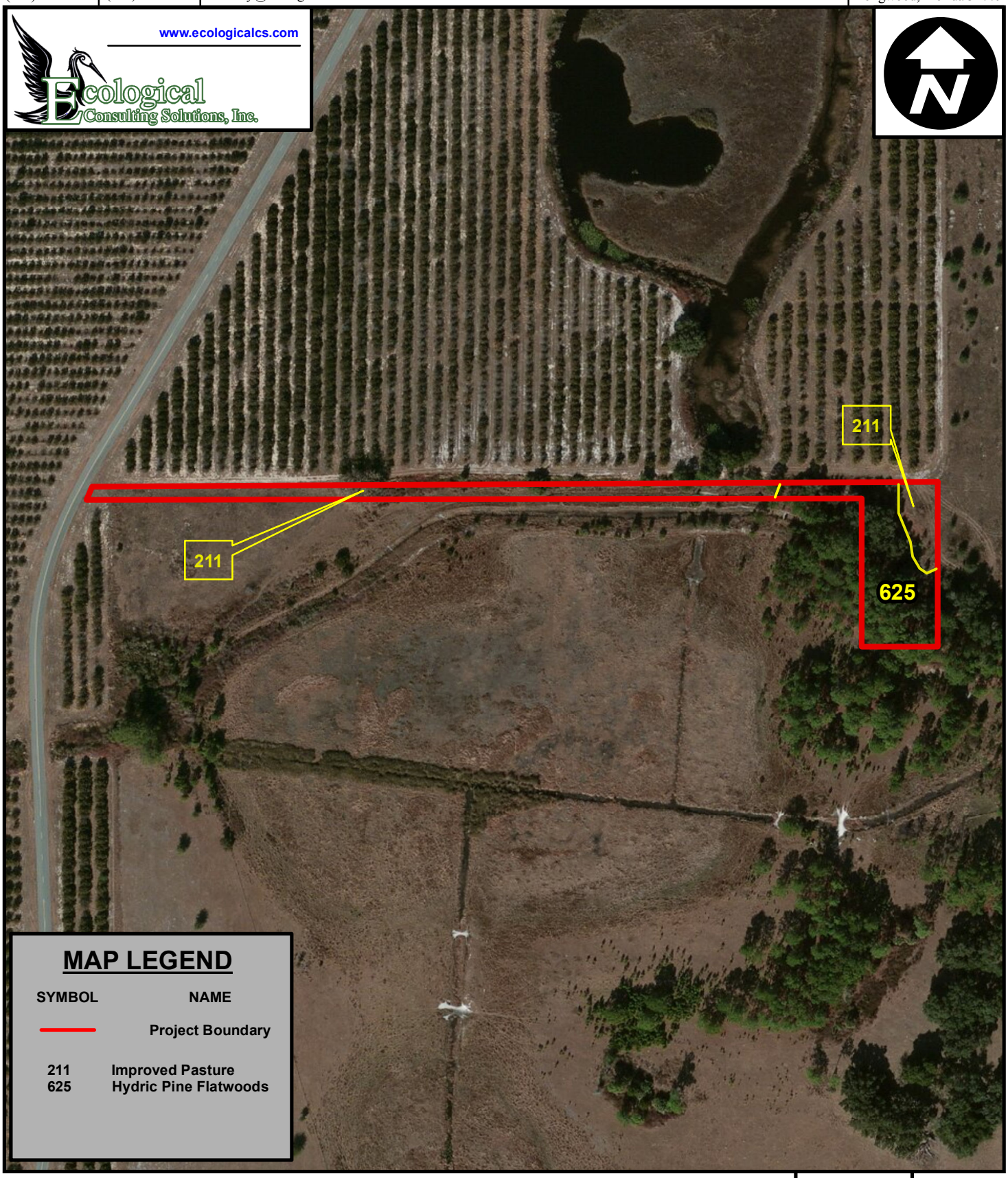


MAP LEGEND

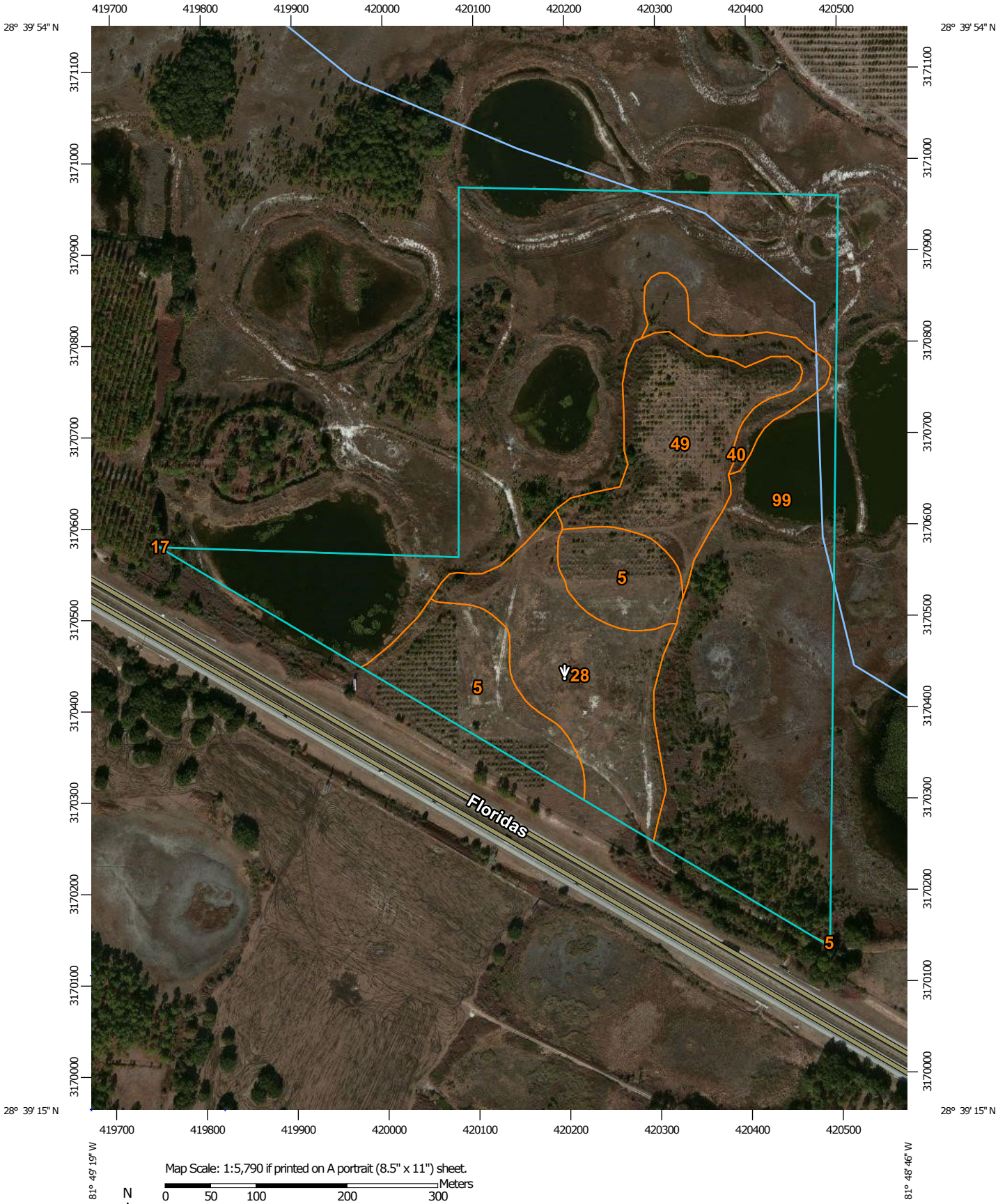
SYMBOL	NAME
	Project Boundary
211	Improved Pasture
625	Hydric Pine Flatwoods

PROJECT #: 527.02.16 | DATE: 07/06/16 | FIGURE #: 4b

0 50 100 200 300 400 500 600 700 Feet

LITTLE EVERGLADES FARM
LAKE COUNTY, FLORIDA
FLUCFCS MAP

Soil Map—Lake County Area, Florida
(little everglades)



Map Scale: 1:5,790 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lake County Area, Florida
Survey Area Data: Version 14, Nov 19, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 21, 2010—Feb 28, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Lake County Area, Florida (FL607)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
5	Apopka sand, 0 to 5 percent slopes	8.3	10.4%
17	Arents	0.0	0.0%
28	Myakka-Myakka, wet, sands, 0 to 2 percent slopes	9.0	11.3%
40	Placid and Myakka sands, depressional	2.5	3.1%
49	Wauchula sand	7.9	9.9%
99	Water	52.3	65.3%
Totals for Area of Interest		**80.0**	**100.0%**

TABLES

TABLE 1: PROTECTED FAUNA FOUND IN LAKE COUNTY, FLORIDA AND THEIR EXPECTED OCCURRENCE ON THE LITTLE EVERGLADES FARM PROPERTY.

SPECIES	FWC STATUS (1)	USFWS STATUS (2)	PREFERRED HABITAT (3)	PROBABILITY OF OCCURRENCE (4)
REPTILES				
Drymarchon corais couperi Eastern indigo snake	T	T	Dry habitats bordered by water; often occupy *G. polyphemus* burrows	Low: habitat available, gopher tortoise burrow not observed
Gopherus polyphemus Gopher tortoise	SSC	_	Well drained soil; xeric pine-oak hammocks and scrub; pine flatwoods	Low: habitat available, no burrows observed
Neoseps reynoldsii Sand Skink	T	T	Well drained sandy soil, open areas, sand pine-rosemary scrub	Low: habitat altered, none sighted, outside of range
Pituophis melanoleucus mugitus Florida pine snake	SSC	_	Dry, sandy barrens in xeric oak and pine-wooded sandhills	Low: no habitat available, none observed
Stilosoma extenuatum Short-tailed snake	T	_	Sandy upland ridges; xeric oak pine woods; xeric oak hammocks	Low: habitat not present, none sighted
AMPHIBIANS				
Rana areolata aesopus Florida gopher frog	SSC	-	Dry, xeric habitats with wetlands such as isolated permanent ponds and cypress domes	Low: no habitat available, gopher tortoise burrow not observed
BIRDS				
Aphelocoma coerulescens Florida scrub jay	T	T	Level, sterile, white sand with low, xeric oak scrub	Low: habitat not present, none sighted
Aramus guarauna Limpkin	SSC	_	Densely vegetated swamps, lakeshores and slow streams	Low: habitat not available on site, none sighted
Egretta caerulea Little blue heron	SSC	_	Lake littorus; shallow ponds and marshes	Medium: open water available, no birds sighted
Egretta thula Snowy egret	SSC	_	Lake littorus; shallow ponds and marshes	Medium: open water available, no birds sighted

TABLE 1: PROTECTED FAUNA FOUND IN LAKE COUNTY, FLORIDA AND THEIR EXPECTED OCCURRENCE ON THE LITTLE EVERGLADES FARM PROPERTY.

SPECIES	FWC STATUS (1)	USFWS STATUS (2)	PREFERRED HABITAT (3)	PROBABILITY OF OCCURRENCE (4)
BIRDS (cont..)				
Egretta tricolor Tricolored heron	SSC	_	Lake littorus; shallow ponds and marshes	Medium: open water available, none sighted
Eudocimus albus White ibis	SSC	-	Beaches, mudflats, wet fields and prairies, forested wetlands and marshes	Medium: habitat not available, none sighted
Falco peregrinus tundrius Peregrine falcon	E	_	Coastal beaches, prairies, and marshes	Low: habitat available, none sighted.
Falco sparverius paulus Southeastern American kestrel	T	_	Forest edges, and clearings; nests in mature pines	Low: habitat limited, none sighted
Grus canadensis pratensis Florida sandhill crane	T	_	Marshes, wet prairies, pastures, and open herbaceous rangeland	Low: habitat available, no birds sighted
Haliaeetus leucocephalus Bald eagle	T	T	Open (<60% canopy cover), mature pine forests < 2 km from expansive open waters	Low: habitat not available, no nests or birds sighted
Mycteria americana Wood stork	E	E	Nests is cypress swamps; forage sites range from shallow marshes to roadway borrow pits	Low: habitat available, none sighted
Picoides borealis Red-cockaded Woodpecker	E	E	Old-growth pine flatwoods with regular fire occurrence are required for nesting	Low: habitat not available, none sighted
MAMMALS				
Podomys floridanus Florida mouse	SSC	_	Sand pine scrub; xeric oak-pine flatwoods; often associated with *G. polyphemus* burrows	Low: no habitat / gopher tortoise burrow present, none sighted
Sciurus niger shermani Sherman's fox squirrel	SSC	_	Mature flatwoods of sandhills; occasional in tall cypress-bay forests	Low: habitat not available, none sighted
Ursus americanus floridanus Florida black bear	T	_	Nearly-impenetrable wooded thickets and swamps	Low: habitat not available, none sighted

Footnotes to Table 1

1 FWC - Florida Fish and Wildlife Conservation Commission, formerly the Florida Game and Fresh Water Fish Commission; Official Lists of Florida's Endangered Species, Threatened Species and Species of Special Concern, published August 1997.

2 USFWS – United States Fish and Wildlife Service; List obtained from FWC's Florida's Endangered Species, Threatened Species and Species of Special Concern, published August 1997.

(E-endangered, T-threatened, SSC-species of special concern, CE-commercially exploited). C1 (candidate for federal listing, with enough substantial information on biological vulnerability and threats to support proposals for listing) and C2 (candidate for listing, with some evidence of vulnerability, but for which not enough data exists to support listing) are no longer official categories.

3 Habitats described by:

Ashton, R.E. and P.S. Ashton. 1985 Handbook of Reptiles and Amphibians of Florida (3 vols.). Windward Publ. Inc. Miami.
Conant, R. 1975 A Field Guide to Reptiles and Amphibians of Eastern/Central North America (2nd ed.). Houghton Mifflin Co. Boston 430 pp.
Kale, H.W. 1978. Volume Two; Birds. In P.C.H. Pritchard (ed.), Rare and Endangered Biota of Florida. University Presses of Florida. Gainesville. 121 pp.
Kale, H.W. and D.S. Maehr. 1990. Florida's Birds: A Handbook and Reference. Pineapple Press. Sarasota. 288 pp.
Layne, L.N. 1978 Volume One: Mammals. In P.C.H. Pritchard (ed.), Rare and Endangered Biota of Florida. University Presses of Florida. Gainesville, 52 pp.
McLane, W.M. 1985. The Fishes of the St. Johns River, Florida. Ph.D. diss. University of Florida, Gainesville. 361 pp.
Peterson, R.T. 1980. A Field Guide to the Birds of East of the Rockies (4th ed.). Houghton Mifflin Co. Boston. 384 pp.

4 Likelihood of occurrence: Low, Moderate or High, based on the best available data and selective field observations.

TABLE 2: PROTECTED FLORA FOUND IN LAKE COUNTY, FLORIDA AND THEIR EXPECTED OCCURRENCE ON THE LITTLE EVERGLADES FARM PROPERTY.

SPECIES	FDA STATUS (1)	USFWS STATUS (2)	PREFERRED HABITAT (3)	PROBABILITY OF OCCURRENCE (4)
Calopogon barbatus Bearded grass pink	T	_	Damp pinelands	Low: habitat not available, none found
Calopogon multiflorus Many-flowed grass pink	E	_	Open, damp, occasionally recently burned pinelands and meadows	Low: habitat not available, none found
Deerinfothamnus rugelii Rugel's pawpaw	E	E	Mesic flatwoods	Low: habitat not available, none found
Encyclia tampensis Butterfly orchid	CE	_	Cypress swamps, hardwood swamps and hammocks	Low: habitat not available, none found
Epidendrum conopseum Greenfly orchid	CE	_	Cypress swamps, hardwood swamps and hammocks	Low: habitat not available, none found
Hartwrightia floridiana Florida Hartwrightia	T	_	Wet, open areas, moist grasslands, and sphagnum bogs	Low: no habitat available, none found
Lilium catesbaei Southern red lily	T	_	Mesic flatwoods, wet prairies, usually in graminoid systems	Low: habitat available, none found
Listera australis Southern tway blade	T	_	Hammocks, low moist woods in deep humus, ravines, shady stream banks, sphagnum	Low: habitat not available, none found
Nemastylis floridana Fall-flowering ixia	E	_	Marshes; grassy openings of wet hammocks moist flatwoods	Low: habitat available, none found
Platanthera blephariglottis Large white fringed orchid	T	_	Inhabits sphagnum bogs, meadows, damp fields and woods	Low: habitat not available, none found
Platanthera cristata Golden fringed orchid	T	_	Low moist meadows and damp pine woods	Low: habitat available, none found
Platanthera flava Southern tubercled orchid	T	_	Very wet habitats such as swamps, bogs and wet forests with thick, black mud	Low: no habitat available, none found

TABLE 2: PROTECTED FLORA FOUND IN LAKE COUNTY, FLORIDA AND THEIR EXPECTED OCCURRENCE ON THE LITTLE EVERGLADES FARM PROPERTY.

SPECIES	FDA STATUS (1)	USFWS STATUS (2)	PREFERRED HABITAT (3)	PROBABILITY OF OCCURRENCE (4)
Platanthera integra Southern yellow fringeless orchid	E		Marshes and wet pine flatwoods	Low: habitat available, none found
Platanthera nivea Snowy orchid	T	_	Open bogs and sunny, wet meadows	Low: habitat not available, none found
Pogonia ophioglossoides Rose pogonia	T	_	Open, wet meadows and sphagnum bogs, poorly drained roadside ditches	Low: habitat not available, none found
Polygala lewtonii Scrub (Lewton's) milkwort	E	E	Dry oak woodlands and scrub	Low: habitat not available, none found.
Rhapidophyluum hystrix Needle palm	CE	_	Wet to mesic woods and hammocks; spring fed stream bottoms	Low: habitat not available, none found
Spiranthes brevilabris floridana Florida Ladies' tresses	E	_	Open meadows and damp pinelands, road shoulders, ditches	Low: habitat available, none found
Spiranthes laciniata Lace-tip ladies' tresses	T	_	Marshes and cypress swamps; road banks and ditches	Low: habitat available, none found
Spiranthes longilabris Long-tip ladies' tresses	T	_	Marshes and wet prairies	Low: habitat available, none found
Stenorrhynchos lanceolatus var. lanceolatus Leafless beaked orchid	T	_	Vacant lots, open pastures, pine flatwoods and mowed roadsides	Low: habitat available, none found
Tillandsia fasciculata Common wild pine	E	_	Cypress swamps and hammocks	Low: habitat not available, none found
Tillandsia utriculata Giant wild pine	E	_	Hammocks and cypress swamps	Low: habitat not available, none found
Zephyranthes simpsonii Simpson zephyr lily	T	_	Dome swamps, wet flatwoods, ditches, wet pastures, often burned-over areas	Low: habitat not available, none found

Table 2 Footnotes

1 FDA – Florida Department of Agriculture and Consumer Services; List obtained from FWC's Florida's Endangered Species, Threatened Species and Species of Special Concern, published August 1997. Supporting information from FNAI - Florida Natural Inventory; Matrix of habitats and distribution by county of rare/endangered fauna and flora in Florida, published April 1990.

2 USFWS – United States Fish and Wildlife Service; List obtained from FWC's Florida's Endangered Species, Threatened Species and Species of Special Concern, published August 1997.

[E-endangered, T-threatened, SSC- species of special concern, CE-commercially exploited.] C1 (candidate for federal listing, with enough substantial information on biological vulnerability and threats to support for listing) and C2 (candidate for listing with some evidence of vulnerability, but for which not enough data exist to support listing) are no longer official categories.

3 Habitats described by:

Bell, C.R. and B.J. Taylor. 1982. Florida Wild Flowers and Roadside Plants. Laurel Hill Press, Chapel Hill, NC 308pp.
FNAI - Florida Natural Inventory; Matrix of Habitats and Distribution by County of Rare/Endangered Species in Florida, published April 1990.
Godfrey, R.K. 1988. Trees, Shrubs, and Woody Vines of Northern Florida, and Adjacent Georgia and Alabama. University Georgia Press. Athens, GA 734 pp.
Ward, D.B. (publ. date not listed). Volume Five,. Plants, in P.C.H. Pritchard (ed.), Rare and Endangered Biota of Florida. University Presses of Florida, Gainesville. 175 pp.
Wunderlin, R.P. 1982. Guide to Vascular Plants of Florida. University Presses of Florida, Gainesville, FL. 472 pp.

4 Likelihood of occurrence: Low, Moderate, or High, based on the best available data and selective field observations.

APPENDIX A

Welcome
Our Strategic Plan
Area of Responsibility
Our Office Location
Contact Us
Current News Releases
News Archives
Landowner Tools
Programs and Resources
Partners for Fish and Wildlife
Coastal Program
Habitat Conservation Plans
Federally-listed Species in Florida
Students & Teachers
Related Sites of Interest

Key North Florida Species

Bald Eagle
Florida Manatee
Eastern Indigo Snake
Florida Scrub-Jay
Sand Skinks
Sea Turtles
Whooping Crane
Wood Stork

General Information

Hunting Fishing Licenses &

Federally Listed Species in Lake County, Florida

This information is provided as a guide to project planning, and is not a substitute for site-specific surveys. Such surveys may be needed to assess species' presence or absence, as well as the extent of project effects on listed species and/or designated critical habitat.

The following table lists those federally-listed species known to be present in the county.
Code Key: E = Endangered, T = Threatened, CH = Critical Habitat Designated, C = Candidate Note 1

Category	Species Common Name	Species Scientific Name	Code
Mammals	West Indian (Florida) Manatee	*Trichechus manatus latirostris*	E/CH
Birds	Everglade Snail Kite	*Rostrhamus sociabilis plumbeus*	E
	Florida Scrub-jay	*Aphelocoma coerulescens*	T
	Wood Stork	*Mycteria americana*	E
	Red-cockaded Woodpecker	*Picoides borealis*	E
Fish	None		
Reptiles	Gopher Tortoise	*Gopherus polyphemus*	C
	Sand Skink	*Neoseps reynoldsi*	T
	Eastern Indigo Snake	*Dymarchon corais couperi*	T
Amphibians	Striped Newt	*Notophthalmus perstriatus*	C
Mollusks	None		
Crustaceans	None		
Plants	Britton's Beargrass	*Nolina brittoniana*	E
	Florida Bonamia	*Bonamia grandiflora*	T
	Pygmy Fringetree	*Chionanthus pygmaeus*	E
	Scrub Plum	*Prunus geniculata*	E
	Lewton's Polygala	*Polygala lewtonii*	E
	Wide-leaf Warea	*Warea Amplexifolia*	E
	Papery Whitlow-wort	*Paronychia chartacea (= Nyachia) pulvinata*	T
	Scrub Wild Buckwheat	*Eriogonum longifolium* var. *gnaphalifolium*	T
	Pigeon Wings	*Clitoria fragrans*	T

▶ Home ▶ Species: North Florida County ▶ Species: South Florida County ▶ Species: Panhandle County

For a list of State species by county use the Florida Natural Areas Inventory's Tracking Lists at http://www.fnai.org/trackinglist.cfm

For State listed species details, please go to http://myfwc.com/imperiledspecies//

Note 1. Candidate species receive no statutory protection under the ESA. The FWS encourages cooperative conservation efforts for these species because they are, by definition, species that may warrant future protection under the ESA.

NOTE: Bald eagles were removed from the endangered species list in June 2007 because their populations recovered sufficiently. However, the protections under the Bald and Golden Eagle Act (Eagle Act) continue to apply. Please see the eagle information on our Landowner Tools page or our national website at http://www.fws.gov/migratorybirds/baldeagle.htm for information regarding new permit requirements under the Eagle Act.

APPENDIX B

This record search is for informational purposes only and does NOT constitute a project review. This search only identifies resources recorded at the Florida Master Site File and does NOT provide project approval from the Division of Historical Resources. Contact the Compliance and Review Section of the Division of Historical Resources at 850-245-6333 for project review information.

July 18, 2016

Florida Master Site File

Bill Griffy
President
Ecological Consulting Solutions, Inc.
235 Hunt Club Blvd., Suite 202
Longwood, FL 32779
Phone: 407.869.9434
Email: bgriffy@ecsfl.cc

In response to your inquiry of July 8, 2016, the Florida Master Site File lists one previously recorded archaeological site and no standing structures found in the following parcels of Lake County:

The portions of T21S R25E Section 16, shown within the outlined area on the corresponding map.

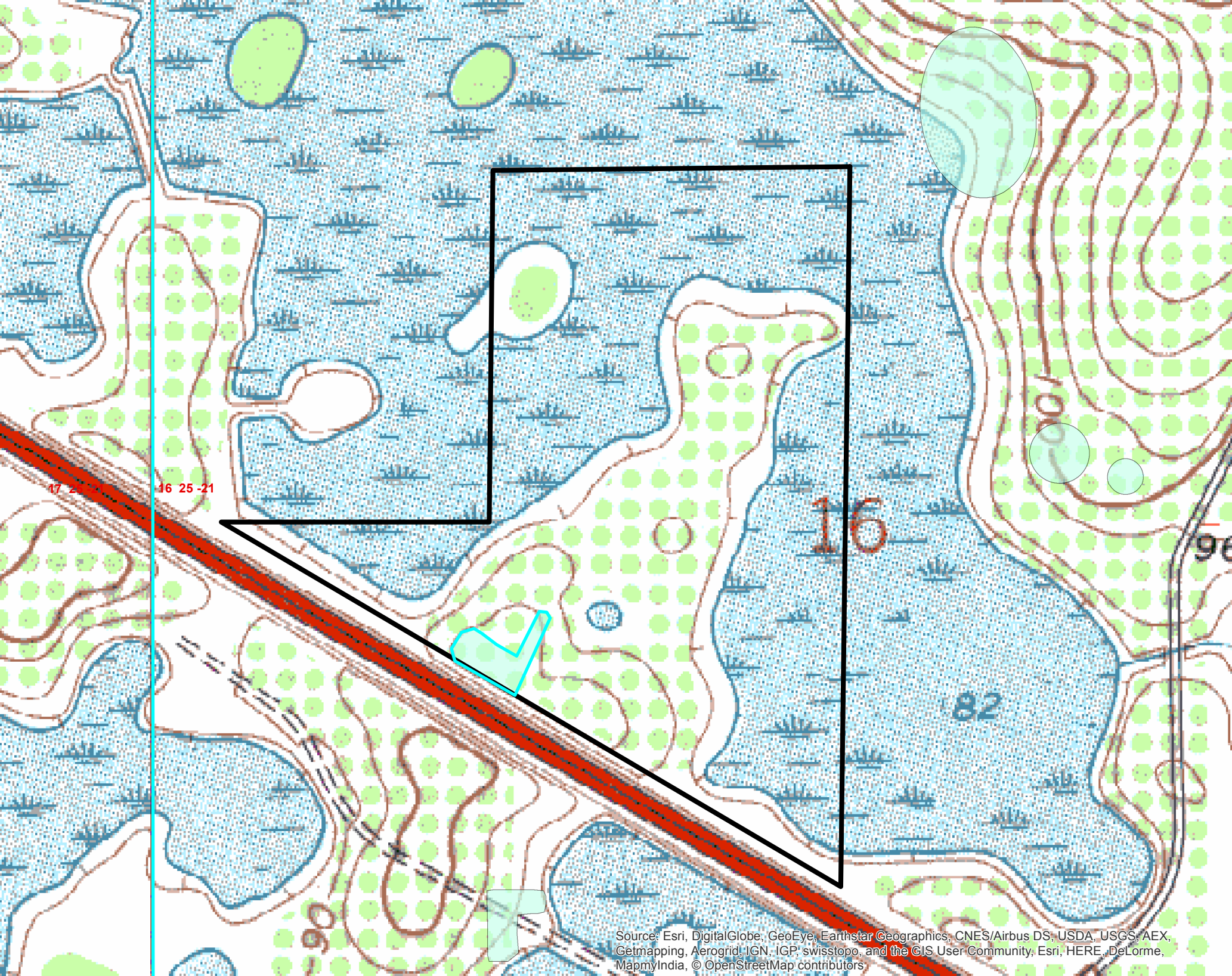
When interpreting the results of our search, please consider the following information:

- **This search area may contain *unrecorded* archaeological sites, historical structures or other resources even if previously surveyed for cultural resources.**
- **Because vandalism and looting are common at Florida sites, we ask that you limit the distribution of location information on archaeological sites.**
- **While many of our records document historically significant resources, the documentation of a resource at the Florida Master Site File does not necessarily mean the resource is historically significant.**
- **Federal, state and local laws require formal environmental review for most projects. This search DOES NOT constitute such a review. If your project falls under these laws, you should contact the Compliance and Review Section of the Division of Historical Resources at 850-245-6333.**

Please do not hesitate to contact us if you have any questions regarding the results of this search.

Sincerely,

Alannah Willis
Archaeological Data Analyst
Florida Master Site File
Alannah.Willis@dos.myflorida.com


16 25 -21
16
82
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors

AR=1
SS=0
CM=0
RG=0
BR=0
Total=1

Cultural Resource Roster

SiteID	Type	Site Name	Address	Additional Info	SHPO Eval	NR Status
LA02538	AR	O'BRIEN	ORANGE BLOSSOM		Insufficient Info	