## 15805 SOUTH TAMIAMI TRAIL

# ENVIRONMENTAL ASSESSMENT & PROTECTED SPECIES SURVEY REPORT

July 2017 Updated August 2017

#### Prepared For:

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#### Introduction

An environmental assessment and protected species survey was conducted on the 15805 S. Tamiami Trial project site on July 12, 2017. The 9.74± acre site is located in Section 36, Township 45S, and Range 24E, of Lee County, Florida. More specifically; the site is located immediately east of South Tamiami Trail (US 41), south of Briarcliff Road, and north of Youngquist Road in Fort Myers, Florida. Please see the attached Project Location Map (Exhibit A).

The purpose of this assessment was to identify the potential for U.S. Army Corps of Engineers (ACOE), Department of Environmental Protection (DEP), and/or South Florida Water Management District (SFWMD) jurisdictional wetlands. The site was also assessed to determine the potential of listed (endangered, threatened, etc.) species inhabiting the site that are regulated by the U.S. Fish & Wildlife Service (FWS) and the Florida Fish & Wildlife Conservation Commission (FWC). Specific attention was paid toward that of locating any gopher tortoise (*Gopherus polyphemus*) burrows, as well as locating any potential fox squirrel (*Sciurus niger*) nests, red-cockaded woodpecker (*Picoides borealis*) and Florida bonneted bat (*Eumops floridanus*) cavity trees, and/or red-shouldered hawk (*Buteo lineatus*) nests.

The site was previously developed and used to be a golf course driving range, over the past several years, the property has been abandoned and let sit in its natural state. The project's surrounding land uses are a mixture of commercial developments, residential developments, undeveloped vacant land, forested land, and roadways. The survey was conducted in the mid afternoon, the temperatures were in the low 80's, with a light breeze, and mostly cloudy skies with a light occasional rainfall.

#### **Background**

The ACOE and the SFWMD are the agencies that regulate development activities in wetlands. To be considered wetlands by the ACOE and/or SFWMD, the area should exhibit wetland hydrology, contain wetland vegetation, and have hydric soils. For an area to be considered wetlands, a site should have hydric soils, wetland hydrology, and wetland vegetation present. The property was reviewed for indicators of these parameters.

Hydric soils are identified by certain characteristics that are unique to wetland soils. Wetland hydrology is normally present if the soil is saturated or inundated for a period of time; typically from May through November; the rainy season in Southwest Florida. In the absence of visual signs of saturation or inundation, the regulatory agencies typically use hydrologic indicators such as adventitious rooting, lichen lines, or algal matting as method of guidance. If the majority of the shrubs/plants that are present are those that are adapted to saturated soil conditions, it's likely wetland vegetation.

The FWS and FWC are the primary agencies that review potential impacts to listed species. The FWS reviews potential impacts and provides comments to the ACOE during the permitting process, while the FWC provides comments to the SFWMD. In general, the wildlife agency concerns need to be addressed in order for the permits to be authorized by the ACOE and the SFWMD.

#### Methodology

The species survey was conducted utilizing combined methodologies from Lee County's Land Development Code (LDC, Chapter 10, Article III, Division 8 - Protection of Habitat) and also encompassed the Lee County Endangered Species Ordinance No. 89-34. Surveys for Lee County protected species are based on the presence of specific vegetation associations and habitat types noted on-site, as outlined in the LDC. The frequency of transects performed in these habitats, unless otherwise discussed, were designed to meet the minimum updated coverage requirement. Following the Lee County Endangered Species Ordinance No. 89-34, the specific methodology included pedestrian surveys of parallel transects. The survey was conducted according to the previously approved Lee County methodology, submitted by Kevin L. Erwin Consulting Ecologist, Inc.

These methods are comprised of a several step process. The vegetation communities or land-uses on the study area are delineated on an aerial photograph using the Florida Land Use, Cover and Forms Classification System (FLUCFCS). Next, these FLUCFCS codes are cross-referenced with the Lee County Protected Species List. With a list of the potential listed plants and animals, each FLUCFCS community is searched in the field for these species. An intensive pedestrian survey is conducted using parallel belt transects as a means of searching for protected plants and animals. Signs or sightings of these species are then recorded.

#### **Existing Site Conditions**

*Boundary* – An updated project boundary was obtained from Land Quest on August 3, 2017; based upon this boundary, it is assumed that the site occupies 9.74± acres.

Soils - The soils on the property have been mapped by the National Resource Conservation Service (NRCS, formerly the Soil Conservation Service). These mappings are general in nature, but can provide a certain level of information about the site as to the possible extent of wetland area. The agencies commonly use these mappings as justification for certain wetland/upland determinations. According to these mappings, the parcel is underlain by Hallandale fine sand (NRCS #6; non-hydric), Boca fine sand (NRCS #13; non-hydric). Both Hallandale fine sand and Boca fine sand soils are considered non-hydric. Please see the attached NRCS Soils Map (Exhibit C).

Vegetation Descriptions – Vegetation is one parameter used in determining the presence of uplands or wetlands; these community mappings will generally reflect what a specific area could be considered by the regulatory agencies. During this initial site assessment, we identified approximately 0.94± acres of potential wetlands.

While on-site, generalized community delineations are hand-drawn on an aerial defining the different vegetation associations on-site. These general delineations were based on the nomenclature of the Florida Land Use, Cover and Forms Classification System (FLUCFCS), Level III and IV (FDOT 1999). Please see the attached FLUCFCS Map with Aerial (Exhibit B) and FLUCFCS Map without Aerial (Exhibit C). Listed below are the vegetation communities and land-uses identified on the site.

#### **FLUCFCS Codes and Community Descriptions**

**Uplands** 

The following community areas have been designated as upland habitats. Uplands are any area that does not qualify as a wetland because the associated hydrologic regime is not sufficiently wet enough to elicit development of vegetation, soils, and/or hydrologic characteristics associated with wetlands.

#### Commercial (Vacant) – 1.33± Ac. FLUCFCS 150

This community contains the old roadway and entrance road to the golf driving range and occupies 1.33± acres of the property along South Tamiami Trail. This community should be considered uplands by the regulatory agencies.

#### Golf Driving Range (Abandoned) – 4.17± Ac. FLUCFCS 1895

This habitat is comprised of the old Southwest Florida Driving Range. There's a few vacant/abandoned buildings as well as remnants form the old facility. This area occupies 4.17± acres of the property along South Tamiami Trail. This community should be considered uplands by the regulatory agencies.

#### FLUCFCS 420 Upland Hardwood Forest – 0.60± Ac.

This upland habitat type occupies  $0.60\pm$  acres of the property. The canopy contains slash pine (*Pinus elliottii*), laurel oak (Quercus laurifolia), live oak (Quercus virginiana), and ear-leaf acacia (Acacia auriculiformis). The sub-canopy contains strangler fig (Ficus aurea), and cabbage palm (Sabal palmetto). The ground cover is mostly open with false buttonweed (Spermacoce verticillata), caesar weed (Urena lobata), creeping ox-eye (Wedelia chinensis), and other opportunistic weedy species. Commonly observed vines include grapevine (Vitis munsoniana), greenbriar (Smilax spp.), and poison ivy (Toxicodendron radicans). This community should be considered uplands by the regulatory agencies.

#### FLUCFCS 438 Mixed Upland Hardwoods – 1.76± Ac.

This upland community type occupies approximately 1.76± acres of the property. The canopy contains slash pine (Pinus elliottii), melaleuca (Melaleuca quinquenervia), laurel oak (Quercus laurifolia), live oak (Quercus virginiana), Cuban laurel (Ficus retusa), java plum (Syzygium cumini), and ear-leaf acacia (Acacia auriculiformis). The sub-canopy contains scattered cabbage palm (Sabal palmetto), with carrotwood (Cupaniopsis anacardioides), and ear-leaf acacia (Acacia auriculiformis). The ground cover includes cesar weed (Urena lobata), ragweed (Ambrosia trifida), Boston fern (Nephrolepis exaltata), creeping ox-eye (Wedelia chinensis), hairy beggar-ticks (Bidens alba), broomsedge (Andropogon virginicus), bahia grass (Paspalum notatum), St. Augustine grass (Stenotaphrum secundatum), and other various opportunistic weedy species. Commonly observed vines include air potato (Dioscorea bulbifera), grapevine (Vitis rotundifolia), Virginia creeper (Parthenocissus quinquefolia), peppervine (Ampelopsis arborea), and poison ivy (Toxicodendron radicans). This community would be considered uplands by the regulatory agencies.

#### Disturbed Lands – 0.94± Ac.

This upland area occupies approximately 0.94± acres of the property. The canopy and sub-canopy is mostly open with widely scattered slash pine (Pinus elliottii). The sub-canopy contains widely scattered Brazilian pepper (Schinus terebinthifolius) and lantana (Lantana camara). The ground cover includes widely scattered saw palmetto (Serenoa repens), with broomsedge (Andropogon virginicus), Spanish needle (Bidens pilosa), dog fennel (Eupatorium capillifolium), ragweed (Ambrosia trifida), caesar weed (Urena lobata), hairy beggar-ticks (Bidens alba), bahia grass (Paspalum notatum), and other various opportunistic weedy species. Commonly observed vines include balsam apple (Momordica charantia), air potato (Dioscorea bulbifera), greenbriar (Smilax sp.), grapevine (Vitis rotundifolia), Virginia creeper (Parthenocissus quinquefolia), and poison ivy (Toxicodendron radicans). This community would be considered uplands by the regulatory agencies.

#### Wetlands

The following community areas have been designated as wetland habitats. Wetlands are any areas that under normal circumstances have hydrophytic vegetation, hydric soils, and wetland hydrology.

#### FLUCFCS 422H Brazilian Pepper (Hydric) – 0.43± Ac.

This disturbed wetland habitat type is a low area found adjacent to the mixed wetland forest and occupies  $0.43\pm$  acres of the property. The canopy and sub-canopy was dominated by Brazilian pepper (*Schinus terebinthifolius*), with scattered cabbage palm (*Sabal palmetto*). The groundcover was mostly open with scattered swamp fern (*Blechnum serrulatum*). This community does contain wetland vegetation, advantageous rooting, water line staining, and algal matting, as well as other signs in this community that would be classified as wetlands. This community would be considered wetlands by the regulatory agencies.

#### FLUCFCS 630 Mixed Wetland Forest – 0.51± Ac.

This wetland community type occupies approximately 0.51± acres of the property. The canopy scattered contains slash pine (Pinus elliottii), laurel oak (Quercus laurifolia), cypress (Taxodium distichum), and melaleuca (Melaleuca quinquenervia). The sub-canopy vegetation includes Brazilian pepper (Schinus terebinthifolius), cabbage palm (Sabal palmetto), saltbush (Baccharis halimifolia), wax myrtle (Myrica cerifera), Carolina willow (Salix caroliniana), climbing cassia (Senna pendula), and primrose willow (Ludwigia peruviana). The ground cover species include swamp fern (Blechnum serrulatum), flatsedge (Cyperus ligularis), cat-tail (Typha latifolia), maidencane (Panicum hemitomon), torpedo grass (Panicum repens), yellow-eyed grass (Xyris floridana), arrowhead (Sagittaria latifolia), white-top sedge (Rhynchospora colorata), water lily (Nymphaea sp.), and water hyssop (Bacopa monnieri), with other various grasses and sedges. Commonly observed vines include climbing hempvine (Mikania scandens) and greenbriar (Smilax spp.). This community does contain some transitional wetland vegetation, advantageous rooting, water line staining, and algal matting, as well as other signs in this community that would be classified as wetlands. This community would be considered wetlands by the regulatory agencies.

**Table 1. FLUCFCS Community Table** 

FLUCFCS Legend				
FLUCFCS Code	Community Description	Туре	Acreage	
140	Commercial (Vacant)	Upland	1.33± Ac.	
1895	Golf Driving Range (Abandoned)  Upland 4.1		4.14± Ac.	
420	Upland Hardwood Forest Upland		0.60± Ac.	
422H	H Brazilian Pepper (Hydric) Wetland		0.43± Ac.	
438	438 Mixed Upland Hardwoods Upland		1.76± Ac.	
630	Mixed Wetland Forest	Wetland	0.51± Ac.	
740 Disturbed Lands Upland (		0.94± Ac.		
Total 9.74± Ac.				

#### **Results & Discussion**

A protected species survey was conducted on the 15805 South Tamiami Trail project site to identify any potential listed species that could inhabit the site. We did identify several gopher tortoise (*Gopherus polyphemus*) burrows. In total, during the species survey, we identified one (1) active burrow, as well as two (2) in-active burrows. We estimate there would be a burrow occupancy rate of 0.50 for all active and inactive burrows. Applying this factor to the current burrow numbers, we estimate that two (2) tortoise could reside on the property (1 active burrows + 2 in-active burrow X 0.50 = 1.5 - rounded to 2). The potential occupied habitat encompassed the extreme back portion of the site; about  $0.94\pm$  acres of disturbed lands.

An off-site relocation permit will be sought after and obtained from Florida Fish and Wildlife for the safe relocation of the gopher tortoises. All burrows will be excavated and any gopher tortoise (*Gopherus polyphemus*) captured from the burrow will relocated off-site, to an approved recipient site.

We also identified several burrows believed to belong to that of the eastern nine-banded armadillo (*Dasypus novemcinctus*), that were identified, but not flagged in the field. There were also several small nest-like structures identified in some of the trees during the listed species survey. These stick nests were not flagged, nor were they included on the map, as they were too small for day-beds, and believed to have been utilized by the numerous eastern grey squirrels (*Sciurus carolinensis*) identified on-site.

There were several non-listed species identified while conducting the protected species survey, among those were mourning doves (*Zenaida macroura*), boat-tailed grackles (*Quiscalus major*), red-shouldered hawk (*Buteo lineatus*), grey squirrels (*Sciurus carolinensis*), eastern cottontail rabbits (*Sylvilagus floridanus*), and a black racer (*Coluber constrictor*). The various listed species that may occur in the FLUCFCS communities on-site have been tabulated on the attached table below. Please see the attached Protected Species Map (Exhibit E).

#### **Mitigation Discussion**

Generally, the ACOE does not regulate isolated wetlands or excavation in wetlands where there is only incidental fall back of fill material. The recent U.S. Supreme Court decision in the Solid Water Agency of Northern Cook County v. U.S. Army Corps of Engineers (SWANCC) provides that the ACOE does not have jurisdiction over isolated wetlands. Since this ruling, there has been no guidance regarding how the ACOE should define an isolated wetland. In making the determination on whether the wetlands are isolated, the ACOE considers if water leaves the site, (i.e. ditches) or whether the wetlands are completely contained on-site or extend off-site. If the wetlands extend off-site, they will more than likely assert jurisdiction. Currently, the ACOE position on most all wetlands is that they have jurisdiction. The ACOE regulates navigable waters and adjacent wetlands. However, the agencies would not make this determination until a Joint Environmental Resource Permit (ERP) and Dredge & Fill Permit (D&F) application is received.

The SFWMD does not require mitigation for impacts to isolated wetlands not used by listed (protected) species that are less than  $0.50\pm$  acres in size. Impacts to wetlands greater than  $0.50\pm$  acres or those utilized by protected species would require mitigation. With the ACOE, impacts to wetlands that are less than  $0.50\pm$  acres, the activity can usually be processed as a Nationwide Permit application. For projects with greater than  $0.50\pm$  acres of impacts, the application will be processed as an Individual Permit application. This involves a public notice process and coordination with other federal agencies such as the EPA and the FWS.

There are three steps that are required to be addressed when requesting an ERP permit with the SFWMD and/or the ACOE for impacts to regulated wetlands:

- 1) Avoidance (i.e. can these wetland impacts be completely avoided)
- 2) Minimization (i.e. can the amount of wetland impact be reduced while maintaining a feasible project)
- 3) Mitigation (i.e. the loss of wetland function must be replaced)

It should be noted that avoidance and minimization must first be substantiated, before mitigation will be considered by the agencies. When wetlands are proposed to be impacted, the impacts cannot result in any loss of wetland function. In order to prevent net loss in wetland function, wetland mitigation must be provided. Mitigation is a way to off-set impacts to natural resources such as wetlands and may consist of wetland enhancement, wetland creation, wetland preservation, upland compensation, or off-site mitigation. Mitigation costs usually increase with the quantity of proposed impacts. The actual amount of mitigation required would be finalized during the Environmental Resource Permit review process with the SFWMD and ACOE.

There are two main categories of wetland mitigation, onsite or off-site. On-site mitigation would include preserving a portion of the on-site wetlands, treating and removing the exotics, potentially providing supplemental plantings, and placing the preserve areas under a Conservation Easement. Preserve areas are required to be maintained in perpetuity. Off-site mitigation requires the purchase of wetland credits at an approved mitigation bank within the service area of the site. A conservative estimate would result in a 1:1 ratio of wetland impacts to credits required. The parcel is located within the service area Big Cypress Mitigation Bank, Corkscrew Regional Mitigation Bank, and Panther Island Mitigation Bank. Off-site mitigation at Corkscrew Regional Mitigation Bank costs approximately \$60,000 per credit; and off-site mitigation at Panther Island Mitigation Bank costs approximately \$72,000 per credit; and off-site mitigation at Panther Island Mitigation Bank costs approximately \$72,000 per credit.

#### **Summary & Discussion**

Due to the disturbed nature of the site, the abundance of exotic plant species, the surrounding land uses and roadways, it is unlikely that this site supports or would provide habitat for protected species. Wetland locations were drawn using non-rectified aerial images with approximate property boundaries, hence their location, aerial extent, and acreage is approximate. Before any detailed site planning, it is recommended that the wetland lines are flagged and approved by the regulatory agencies, and that professional land surveyors survey the wetland lines.

The information contained and the work performed as part of this initial assessment, conforms to the standards and generally accepted practices in the environmental field, and was prepared substantially in accordance with then-current technical guidelines and criteria. The determination of ecological system classifications, functions, values, and boundaries, is an inexact science, and different individuals and agencies may reach different conclusions; therefore, the conclusions of this report are preliminary in nature and would require a full review by the appropriate regulatory agencies.

**Table 2: Listed Species by Habitat with Current Status** 

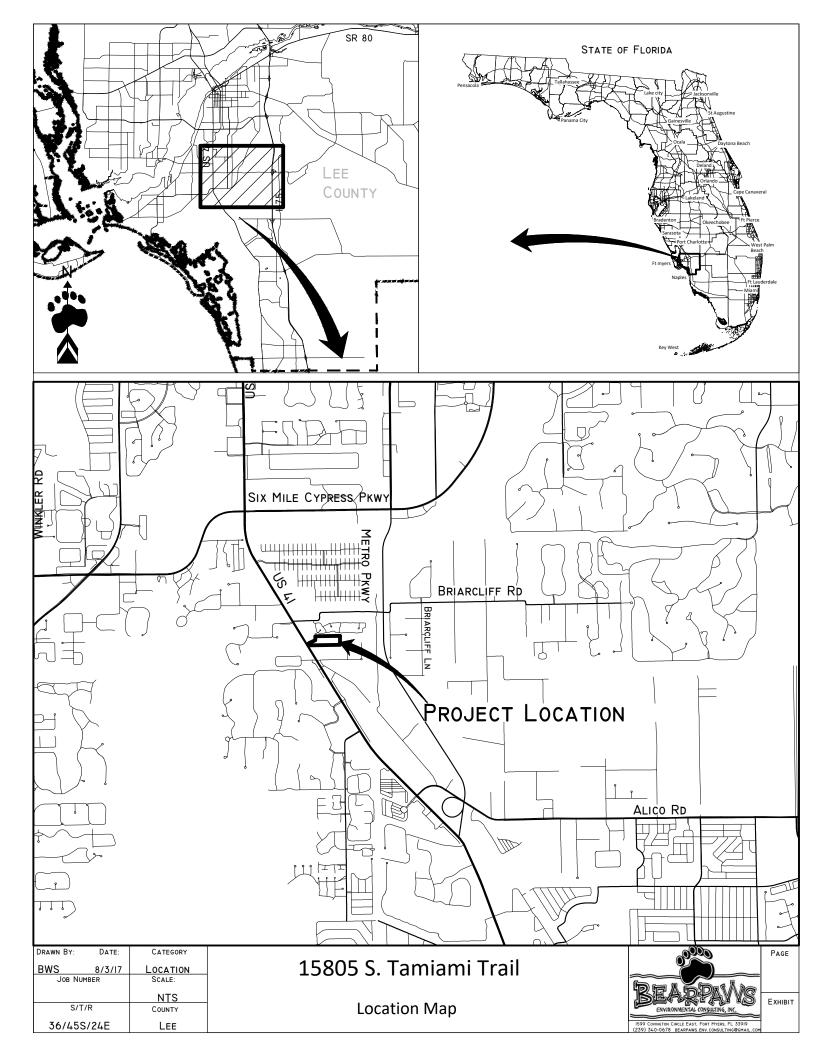
FLUCFCS Code	FLUCFCS Description	Common Name	Scientific Name	Percent Coverage	Observed	USDA	FDA&CS	FWS	FWC
140	Commercial	N/A	N/A	90					
189	Golf Driving Range	N/A	N/A	90					
		Eastern indigo snake	Drymarchon corais couperi	90				T	T
		Florida black bear	Ursus americanus floridanus	90				SAT	T
	ſ	Florida panther	Felis concolor coryi	90				Е	Е
420	Upland Hardwood Forest	Gopher tortoise	Gopherus polyphemus	90				T	T
	[	Hand adder's tongue fern	Ophioglossum palmatum	90			Е		
	ĺ	Simpson's stopper	Myrcianthes fragrans var. simpsonii	90			T		
	ĺ	Twisted air plant	Tillandsia flexuosa	90			T		
422H	Brazilian Pepper (Hydric)	N/A	N/A	90					
438 Mixed Upland Hardwood	Eastern indigo snake	Drymarchon corais couperi	90				T	T	
	ĺ	Florida black bear	Ursus americanus floridanus	90				SAT	T
	ĺ	Florida panther	Felis concolor coryi	90				Е	Е
	Gopher tortoise	Gopherus polyphemus	90				T	T	
		Hand adder's tongue fern	Ophioglossum palmatum	90			E		
	ĺ	Simpson's stopper	Myrcianthes fragrans var. simpsonii	90			T		
		Twisted air plant	Tillandsia flexuosa	90			T		
630 Mixed Wetland Fores		Everglades mink	Mustela vison evergladensis	90					T
	ſ	Florida black bear	Ursus americanus floridanus	90				SAT	T
	ſ	Gopher frog	Rana areolata	90					SSC
	Mi 1 W1 1 F	Limpkin	Aramus guarauna	90					SSC
	Mixed Welland Forest	Little blue heron	Egretta caerulea	90					SSC
	ĺ	Snowy egret	Egretta thula	90					SSC
	ĺ	Tricolored heron	Egretta tricolor	90					SSC
	ĺ	Wood stork	Mycteria americana	90				Е	Е
740	Disturbed Lands	Gopher tortoise	Gopherus polyphemus	90	X			T	T

C = Commercially Exploited, SAT = Similarity of Appearance Threatened, SSC = Species of Special Concern, T = Threatened, E = Endangered

Table designates listed species with potential to occur in each FLUCFCS community as listed in Appendix H of the Lee County Land Development Code.

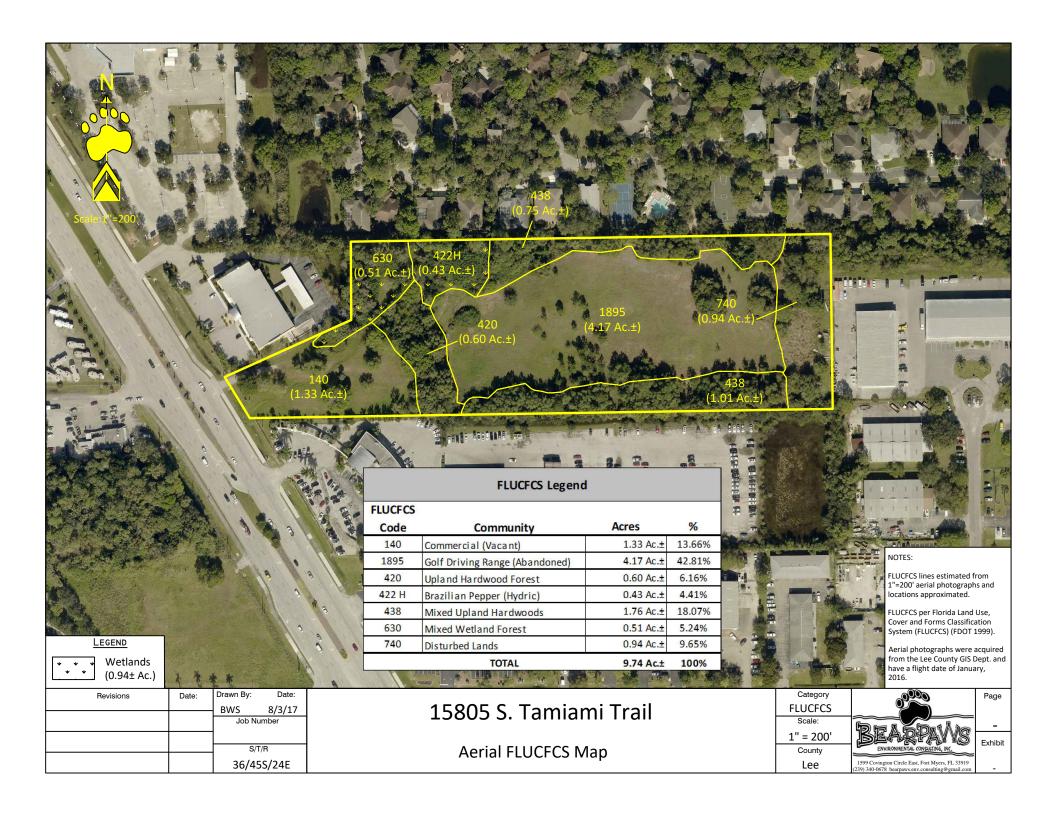
# Exhibit A

**Project Location Map** 



## Exhibit B

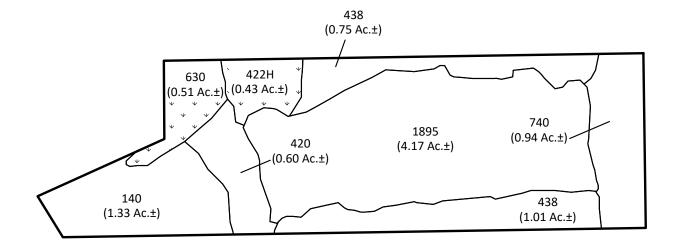
**FLUCFCS Map with Aerial** 



**Exhibit C** 

**FLUCFCS Map** 





FLUCFCS Legend				
FLUCFCS Code	Community	Acres	%	
140	Commercial (Vacant)	1.33 Ac.±	13.66%	
1895	Golf Driving Range (Abandoned)	4.17 Ac.±	42.81%	
420	Upland Hardwood Forest	0.60 Ac.±	6.16%	
422 H	Brazilian Pepper (Hydric)	0.43 Ac.±	4.41%	
438	Mixed Upland Hardwoods	1.76 Ac.±	18.07%	
630	Mixed Wetland Forest	0.51 Ac.±	5.24%	
740	Disturbed Lands	0.94 Ac.±	9.65%	
	TOTAL	9.74 Ac.±	100%	

#### LEGEND

Wetlands (0.94± Ac.)

Revisions	Date:	Drawn By:	Date:
		BWS	8/3/17
		Job Nu	mber
		S/T	/R
		36/45	S/24E

# 15805 S. Tamiami Trail **FLUCFCS Map**

Category	
FLUCFCS	
Scale:	
1" = 200'	
County	

Lee



NOTES:

FLUCFCS lines estimated from 1"=200' aerial photographs and locations approximated.

FLUCFCS per Florida Land Use, Cover and Forms Classification System (FLUCFCS) (FDOT 1999).

Page Exhibit

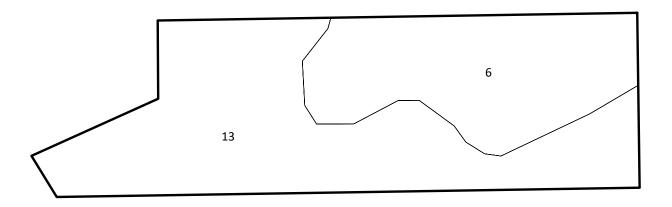
1599 Covington Circle East Fort Myers, FL 33919 (239) 340-0678 bearpaws.env.consulting@gmail.com

**Exhibit D** 

NRCS Soils Map



Scale:1"=200'



NRCS Soils Legend			
Soil No	Description	Status	
6	Hallandale Fine Sand	Non-Hydric	
13	Boca Fine Sand	Non-Hydric	

#### NOTES

Soils were acquired from LABINS and are from the NRCS.

Revisions	Date:	Drawn By:	Date:
		BWS	8/3/17
		Job Nu	mber
		S/T	/R
		36/45	S/24E

# 15805 S. Tamiami Trail

Soils Map

Category	9000
Soils	
Scale:	
1" = 200'	BEARPAYYS
County	ENVIRONMENTAL CONSULTING, INC.
Lee	1599 Covington Circle East, Fort Myers, FL 33919 (239) 340-0678 bearpaws.env.consulting@gmail.com

Page

Exhibit

# **Exhibit E**

**Protected Species Survey Map** 

