

## **3.08.00 Environmental Data**

### **1) Purpose**

As per requirements in LDC Sections 3.08.00 and questions in the CU Checklist

### **2) Preparation Of Environmental Data**

Qualifications of Environmental Consultant

Environmental Data. The following shall be submitted where applicable to evaluate projects.

Collier Environmental Consultants Inc.  
3880 Estey Ave  
Naples, Florida 34104

Marco A. Espinar- Biologist

#### **A) Wetlands**

##### **i) Identify on Current Aerial / the location of all Collier County / SFWMD Jurisdictional wetlands according to the Florida Land Use Cover and Forms Classification System FLUCFCS**

A FLUCFCS map and vegetation inventory has been included. The dominant forest type on this project site consists of (411) Slash Pine Upland and (624) Slash pine, cypress, cabbage palm. The site primarily has a canopy of Slash pine, ear leaf acacia, and Melaleuca. The midstory is scattered with some cypress, cabbage palms and myrsine. The parcel is approximately half upland and half wetlands. Approximately, half of this parcel may be Jurisdictional wetlands.

#### **B) Listed Species and Bald Eagle Nests and Nest Protection Zones**

##### **i) Provide Survey**

**Wildlife Listed Species Study**  
(LDC10.02.3.A.2.m)

A brief examination of the parcel found no listed vertebrates on site. The parcel is located in the urban area and bordered by Rattlesnake Hammock road to the north. The site does provided some functional habitat for wildlife. A listed species study was conducted and attached.

##### **ii) Provide Listed Plants identified in LDC Section 3.04.03**

See Attached Vegetation List / FLUCCS Code Map

**iii) Wildlife Management Plans in accordance with LDC Section 3.04.00**

See Attached Listed Species Study, Black bear and fox squirrel wildlife management plans may be required.

**C) Native Vegetation Preservation**

**i) For Sites or Portions of Sites Cleared of Native Vegetation or in Agricultural Use:**

Not Applicable

**ii) Identify on a current aerial the acreage, location and community types of all upland and wetland habitats on the project site....**

**Location Maps / Aerials**

(LDC10.02.3.A.2.m)

Aerials and location maps have been provided.

The entire parcel consists of approximately 11.48 acres. However, a small portion of this parcel was used as access to the neighboring bus facility. The site now consists of approximately 10.66 acres. This project is for an expansion of the current School Bus Facility. The neighboring parcel to the west is an existing School Bus Facility. County growth requires an expansion of this current facility.

The parcel is on Rattlesnake Hammock Road in Section 22, Township 50, Range 26; in Collier County, Florida. The dominant forest type on this project site consists of (411) Pine Upland and (624) Slash pine, cypress, cabbage palm. The site primarily has a canopy of Slash pin, ear leaf acacia, and Melaleuca. The midstory is scattered with some cypress, cabbage palms and myrsine. The parcel is approximately half upland and half wetlands.

**See Attached** Location Maps, Vegetation Maps / FLUCCS Maps

**Native Vegetation Calculation**

(LDC3.05.07.A.)

**3.05.07 Preservation Standards**

The entire site consists of approximately 11.48 acres. The site had a small portion already developed as part of the existing terminals access road. The balance is approximately 10.66 acres. The parcel is required to preserve 15 % and /or approximately 1.60 acres 1.72 acres has been proposed. This preserve has been placed towards the south end

adding to adjacent preserves.

**Clearly identify the location of all preserves:**

The preserve area has been identified on the CU plan.

**Soil Ground Water Sampling**

Natural Site

## **LOCATION**



MapWise 2017

Copyright 2017 MapWise, Inc. All rights reserved. www.mapwise.com. This map is informational only. No representation is made or warranty given as to its content. User assumes all risk of use. MapWise and its suppliers assume no responsibility for any losses resulting from such use.

## LOCATION

- Selected Custom Parcels
- Streets MapWise
- County Boundaries
- Parcel Outlines



0 680 1360 2040 ft



## LOCATION

- Selected Custom Parcels
- Streets Mapwise
- County Boundaries
- Parcel Outlines



0 170 340 510 ft



Copyright 2017 Mapwise, Inc. All rights reserved. www.mapwise.com. This map is informational only. No representation is made or warranty given as to its content. User assumes all risk of use. Mapwise and its suppliers assume no responsibility for any losses resulting from such use.

**FLUCCS MAP  
VEGETATION INVENTORY**

## FLUCCS CODE AND VEGETATION INVENTORY

<b>FLUCCS CODE</b>	<b>(Description)</b>		
<b>Common Name</b>		<b>Scientific Name</b>	<b>Indicator Status</b>

**411                      Slash pine                      Upland**

This habitat would be considered upland. This area does have similar species as the wetland area however; the difference is the density of Slash pine and the presence of palmetto as ground cover. Both will have similar species such as cabbage palms, sawgrass, ear leaf acacia and Melaleuca.

Slash Pine	<i>Pinus elliotti</i>	FACW	Cp,D
Cypress	<i>Taxodium spp.</i>	OBL	Cp,M,C
Cabbage Palm	<i>Sabal palmetto</i>	FAC	M,C
Laurel oak	<i>Quercus laurifolia</i>	FACW	Cp,M,O
Palmetto	<i>Serona repens</i>	FACU	G,C
Melaleuca	<i>Melaleuca quinquenervia</i>	Exotic	M,C
Java plum	<i>Syzygium cumini</i>	Exotic	Cp,O
ear leaf acacia	<i>Acacia auriculiformis</i>	Exotic	Cp,C
carrotwood	<i>Cupaniopsis anacardioides</i>	Exotic	M,C
American Beautybush	<i>Callicarpa americana</i>	FACU-	G,O
Myrsine	<i>Myrsine floridana</i>	FAC	M,O
Broom sedge	<i>Andropogon virginicus</i>	FAC-	G,C
Blue Maidencane	<i>Amphicarpum muhlenbergianum</i>	FACW	G,C
Beak rush	<i>Rhynchospora microcarpa</i>	FACW+	G,C
Knotgrass	<i>Setaria geniculata</i>	FAC	G,C
Brazilian pepper	<i>Schinus terebinthifolius</i>	Exotic	M,O
Wax myrtle	<i>Myrcia cerifera</i>	FAC+	M,O
Caesar weed	<i>Urena lobata</i>	FACU	G,C
Poison ivy	<i>Toxicodendron radicans</i>	FAC	G,O
Smilax	<i>Smilax spp.</i>	FAC	G,C
Whitehead broom	<i>Spermacoce verticillata</i>	UPL	G,C
mat lippa	<i>Phyla nodiflora</i>	FACW	G,O
Chocolate weed	<i>Melochia corchorifolia</i>	FAC	G,O
Guineagrass	<i>Panicum maximum</i>	FAC-	C,O
umbrella sedge	<i>Cyperus ligularis</i>	FACW	G,O
snowberry	<i>Chiococca parvifolia</i>	UPL	G,O
Love vine	<i>Cassytha filiformis</i>	FAC-	G,O

**624                      Cypress / Pine/ Cabbage palm                      Wetland**

This area may be considered jurisdictional wetlands. This area is vegetated with Slash pines, cypress and cabbage palms. The area is also vegetated with Melaleuca. The entire

site has Melaleuca in varying densities. The average is approximately 50 % or greater. Some areas are in the 75 –90 % range of Melaleuca densities. In addition, the area also has ear leaf acacia as another dominant exotic species. The ground cover consists of sawgrass, gulfdune paspalum and swamp fern.

Cypress	<i>Taxodium spp.</i>	OBL	Cp,C
Cabbage Palm	<i>Sabal palmetto</i>	FAC	M,C
Melaleuca	<i>Melaleuca quinquenervia</i>	Exotic	M,C
Ear leaf acacia	<i>Acacia auriculiformis</i>	Exotic	M,C
Brazilian pepper	<i>Schinus terebinthifolius</i>	Exotic	M,O
sawgrass	<i>Cladium jamaicense</i>	OBL	G,C
Swamp fern	<i>Blechnum serrulatum</i>	FACW+	G,C
Grape vine	<i>Vitis rotundifolia</i>	FAC	G,O
Poison ivy	<i>Toxicodendron radicans</i>	FAC	G,O
Smilax	<i>Smilax spp.</i>	FAC	G,O
pennywort	<i>Hydrocotyle spp.</i>	FACW	G,C
beakrush	<i>Rhynchospora microcarpa</i>	FACW+	G,C
Yellow-eyed grass	<i>Xyris elliottii</i>	OBL	G,C
laurel oak	<i>Quercus laurifolia</i>	FACW	M,C
wax myrtle	<i>Myrica cerifera</i>	FAC+	M,C
salt bush	<i>Baccharis glomerulifolia</i>	FAC	M,O
Broom sedge	<i>Andropogon virginicus</i>	FAC-	G,C
Gulfdune paspalum	<i>Paspalum monostachyum</i>	OBL	G,C

#### Wild Pines

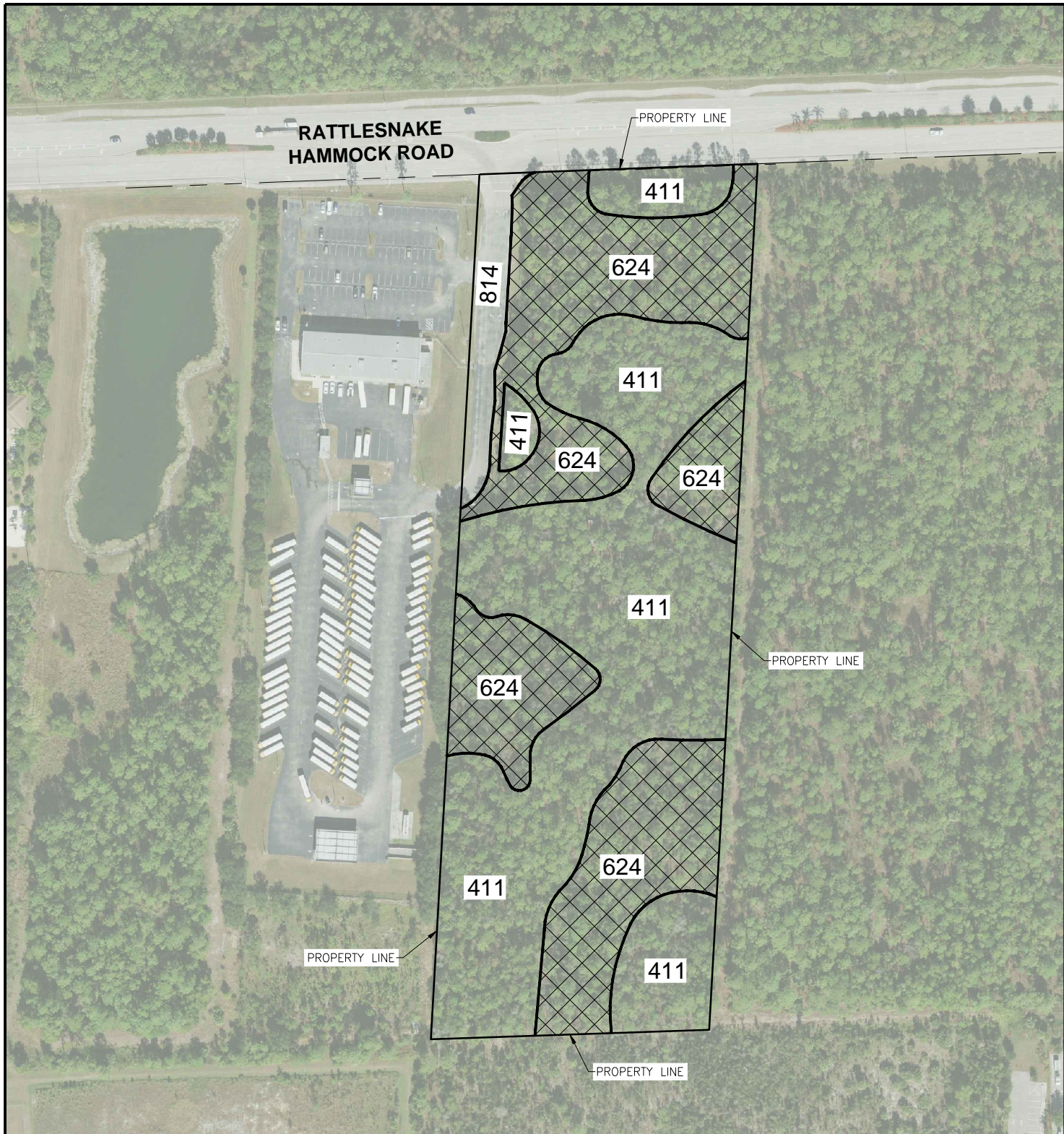
Stiff - leaved	<i>Tillandsia fasciculata</i>	FDA/C
Recurved	<i>T. balbisiana</i>	FDA/T
wired-leaved	<i>T. setacea</i>	FDA/T

**ABBREVIATIONS –** Canopy (Cp), Midstory (M), Ground Cover (G)  
Dominant (D), Common (C), Occasional (O)

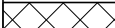
**INDICATOR STATUS -** Obligate (OBL), Facultative wet plants (FACW),  
Facultative plants (FAC), Upland (UPL)

#### EXOTICS PEST PLANT LEVELS

E1 = exotic plant levels 0 – 25 % coverage  
E2 = exotic plant levels 25 – 50 % coverage  
E3 = exotic plant levels 50 – 75 % coverage  
E4 = exotic plant levels 75 – 90 % coverage



#### FLUCFCS LEGEND

CODE	DESCRIPTION	ACRES
411 (UPLAND)	PINE FLATWOODS	6.13
624	PINE, CYPRESS, CABBAGE PALM E3 (50-70% EXOTICS)	4.86
814	ROAD (ACCESS)	0.49
	WETLANDS	



0 20' 40'  
SCALE: 1" = 40'

#### RATTLESNAKE HAMMOCK ROAD BUS DEPOT FLUCFCS EXHIBIT



Civil Engineers • Land Surveyors  
Planners • Landscape Architects  
[www.GradyMinor.com](http://www.GradyMinor.com)

# SOILS

**COLLIER COUNTY SOIL LEGEND**  
**REVISED 1/90 H. YAMATAKI**

**HYDRIC**

H	2	HOLOPAW FS, LIMESTONE SUBSTRATUM
H	3	MALABAR FS.
H	4	CHOBEE, LIMESTONE SUBSTRATUM AND DANIA MUCKS DEPRESSIONAL
H	6	RIVIERA, LIMESTONE SUBSTRATUM-COPELAND FS
	7	IMMOKALEE FS
	8	MYAKKA FS
	10	OLDSMAR FS, LIMESTONE SUBSTRATUM
	11	HALLANDALE FS
H	14	PINEDA FS, LIMESTONE SUBSTRATUM
	15	POMELLO FS
	16	OLDSMAR FS
H	17	BASINGER FS
H	18	RIVIERA FS, LIMESTONE SUBSTRATUM
	20	FT. DRUM AND MALABAR HIGH FS
	21	BOCA FS
H	22	CHOBEE, WINDER AND GATOR SOILS, DEPRESSIONAL
H	23	HOLOPAW AND OKEELANTA SOILS DEPRESSIONAL
H	25	BOCA, RIVIERA, LIMESTONE SUBSTRATUM AND COPELAND FS DEPRESSIONAL
H	27	HOLOPAW FS
H	28	PINEDA AND RIVIERA FS
	29	WABASSO FS
H	31	HILOLO LIMESTONE SUBSTRATUM, JUPITER AND MARGATE SOILS
	32	URBAN LAND
	33	URBAN LAND HOLOPAW BASINGER COMPLEX
	34	URBAN LAND IMMOKALEE OLDSMAR LIMESTONE SUBSTRATUM COMPLEX
	35	URBAN LAND AQUENTS COMPLEX ORGANIC SUBSTRATUM
	36	UDORTHENTS SHAPED
	37	TUSCAWILLA FS
	38	URBAN LAND MATLACHA LIMESTONE SUBSTRATUM BOCA COMPLEX
	39	SATELLITE FS
H	40	DURBIN AND WULFERT MUCKS
	41	URBAN LAND SATELLITE COMPLEX
	42	CANAVERAL BEACHES ASSOCIATION
H	43	WINDER, RIVIERA, LIMESTONE SUBSTRATUM AND CHOBEE SOILS DEPRESSIONAL
	45	PAOLA FS (1-8 percent slopes)
H	48	PENNSUCCO SOIL (marl prairie)
H	49	HALLANDALE AND BOCA FS (slough)
H	50	OCHOPEE FSL, PRAIRIE (marl)
H	51	OCHOPEE FSL
H	52	KESSON MUCK FREQUENTLY FLOODED
H	53	ESTERO AND PECKISH SOILS FREQUENTLY FLOODED
H	54	JUPITER BOCA COMPLEX
H	56	BASINGER FS, OCCASIONALLY FLOODED

# SOILS

- Selected Custom Parcels
- Streets MapWise
- County Boundaries
- Parcel Outlines
- Soils Boundaries



MapWise 2017

Copyright 2017 MapWise, Inc. All rights reserved. www.mapwise.com. This map is informational only. No representation is made or warranty given as to its content. User assumes all risk of use. MapWise and its suppliers assume no responsibility for any losses resulting from such use.



0 170 340 510 ft

# **SITE PLAN**



# **LISTED SPECIES SURVEY**

## **I**      **Introduction / Purpose**

This report is an account of a brief Listed Species survey recently performed on a tract of land called the Collier County School Bus Depot. The total site is approximately 10.66 acres in size. This survey and report is based on fieldwork performed during April 2018. Required to meet county review requirements, its purpose is to identify and describe key habitats and report any listed species using the site that would be at risk due to possible future development actions on the site.

## **II**      **Site Description**

The site consists of approximately 10.66 acres. This examination is for an expansion of the current Bus Depot. The neighboring parcel to the west is an existing School Bus Terminal. County growth necessitates an expansion of the current facility. This parcel is on Rattlesnake Hammock Road in Section 22, Township 50, Range 26; in Collier County, Florida.

The dominant forest types on this project site consist of a canopy of Slash pine, ear leaf acacia, and Melaleuca. The midstory is scattered with some cypress, cabbage palms and myrsine.

This project site consists of approximately 10.66 acres. The following is how the acreage figures breakdown. The total acreage was approximately 11.48 acres. A previously permitted access roadway impacted approximately 0.82 acres.

411 - Slash pine	6.13 acres
624 - Slash pine, cypress, Cabbage palm and Melaleuca	5.35 acres (includes roadway)

## **III**      **Listed Species Survey**

The required survey for a Listed Species Survey calls for a survey covering 100 % of the site, at prescribed transect distances per site acreage. Such a survey was attempted in April 20, 2018. Established transects were oriented north - south and east - west and superimposed on an aerial map of the site. These transects were ground - located and walked by compass bearing. Early morning (0730 - 1000), mid-day (1100 - 1500) and late-day (1500 - 1800) time periods were chosen to survey these transects. All possible species of plants and animals listed by state and federal agencies were noted. Concurrently, notes for FLUCCS mapping purposes were kept. Dense exotics at times prevent complete transects. Stationary observations were also utilized.

## **IV**      **Results & Discussions**

### **Listed Flora**

A few listed plant species have been found. A few different Tillandsia spp. were found. None are considered rare. They are listed by the state of Florida primarily due to their commercial value.

**See FLUCCS Plant List**

### **Listed Fauna**

**See Wildlife Species Observed**

### **Key Species Discussion**

#### **Big Cypress Fox Squirrels**

Big Cypress Fox Squirrels are known to use similar habitat found onsite. Observations were keyed to searching for signs or calls of these animals, such as leaf nests in canopy trees or the distinctive chattering of territorial squirrels and /or chewed pine cones. No individuals were observed during this study.

#### **Florida Black Bear**

One individual was observed during this survey. Black bears are known to inhabit the general area. This mammal does have a large home range and is known to inhabit Golden Gate Estates and the surrounding areas. A Bear Management Plan will be provided.

### **Conclusions**

Focused searches were conducted over four days. Transects were walked on straight compass bearings along a grid spaced at approximately 20 yards apart for the entire parcel. Other transects were primarily meandering transects through areas of prime habitat. All transects were walked at varying times from post-dawn & mid-day to pre-sunset hours.

Southern Biomes, Inc conducted two previous surveys on 12/20/2005 and again on 6/16/2006. None were found during both these surveys.

This parcel is bordered by Rattlesnake Hammock road along its northern border. To the west is the current Collier county School Bus Depot. The site does have suitable habitat for numerous vertebrates.

This brief assessment was conducted on April 2018. During this survey there was a lot of high noise and human disturbance at times. To the west is the existing school bus terminal. As such buses started moving very early. The main vertebrates encountered were birds traversing the subject parcel. One black bear was spotted towards the very

south end on the neighboring property.

Our survey also found a few *Tillandsia*'s on site.

**Threatened, Endangered and Species of Special Concern**

<b><u>Species</u></b>	<b><u>Present</u></b>	<b><u>Absent</u></b>
Black bear	x	
Florida panther		x
Everglades mink		x
Big Cypress Fox squirrel	suspected	x
Indigo snake		x
American alligator		x
Gopher tortoise		x
Gopher Frog		x
Southeastern American kestrel		x
Red-Cockaded woodpecker		x
Florida Scrub Jay		x
Wood stork		x
Snail kite		x
Bald eagle		x
Limpkin		x
osprey		x
White ibis		x
Tricolored heron		x
snowy egret		x
Reddish egret		x
Little blue heron		x





MapWise 2017

Copyright 2017 MapWise, Inc. All rights reserved. www.mapwise.com. This map is informational only. No representation is made or warranty given as to its content. User assumes all risk of use. MapWise and its suppliers assume no responsibility for any losses resulting from such use.

# LOCATION

- Selected Custom Parcels
- Streets MapWise
- County Boundaries
- Parcel Outlines



## FLUCCS CODE AND VEGETATION INVENTORY

FLUCCS CODE	(Description)		
Common Name	Scientific Name	Indicator	Status

<b>411</b>	<b>Slash pine</b>	<b>Upland</b>	
------------	-------------------	---------------	--

This habitat would be considered upland. This area does have similar species as the wetland area however; the difference is the density of Slash pine and the presence of palmetto as ground cover. Both will have similar species such as cabbage palms, sawgrass, ear leaf acacia and Melaleuca.

Slash Pine	<i>Pinus elliotti</i>	FACW	Cp,D
Cypress	<i>Taxodium spp.</i>	OBL	Cp,M,C
Cabbage Palm	<i>Sabal palmetto</i>	FAC	M,C
Laurel oak	<i>Quercus laurifolia</i>	FACW	Cp,M,O
Palmetto	<i>Serona repens</i>	FACU	G,C
Melaleuca	<i>Melaleuca quinquenervia</i>	Exotic	M,C
Java plum	<i>Syzygium cumini</i>	Exotic	Cp,O
ear leaf acacia	<i>Acacia auriculiformis</i>	Exotic	Cp,C
carrotwood	<i>Cupaniopsis anacardioides</i>	Exotic	M,C
American Beautybush	<i>Callicarpa americana</i>	FACU-	G,O
Myrsine	<i>Myrsine floridana</i>	FAC	M,O
Broom sedge	<i>Andropogon virginicus</i>	FAC-	G,C
Blue Maidencane	<i>Amphicarpum muhlenbergianum</i>	FACW	G,C
Beak rush	<i>Rhynchospora microcarpa</i>	FACW+	G,C
Knotgrass	<i>Setaria geniculata</i>	FAC	G,C
Brazilian pepper	<i>Schinus terebinthifolius</i>	Exotic	M,O
Wax myrtle	<i>Myrcia cerifera</i>	FAC+	M,O
Caesar weed	<i>Urena lobata</i>	FACU	G,C
Poison ivy	<i>Toxicodendron radians</i>	FAC	G,O
Smilax	<i>Smilax spp.</i>	FAC	G,C
Whitehead broom	<i>Spermacoce verticillata</i>	UPL	G,C
mat lippa	<i>Phyla nodiflora</i>	FACW	G,O
Chocolate weed	<i>Melochia corchorifolia</i>	FAC	G,O
Guineagrass	<i>Panicum maximum</i>	FAC-	C,O
umbrella sedge	<i>Cyperus ligularis</i>	FACW	G,O
snowberry	<i>Chiococca parvifolia</i>	UPL	G,O
Love vine	<i>Cassytha filiformis</i>	FAC-	G,O

<b>624</b>	<b>Cypress / Pine/ Cabbage palm</b>	<b>Wetland</b>
------------	-------------------------------------	----------------

This area may be considered jurisdictional wetlands. This area is vegetated with Slash pines, cypress and cabbage palms. The area is also vegetated with Melaleuca. The entire

site has Melaleuca in varying densities. The average is approximately 50 % or greater. Some areas are in the 75 –90 % range of Melaleuca densities. In addition, the area also has ear leaf acacia as another dominant exotic species. The ground cover consists of sawgrass, gulfdune paspalum and swamp fern.

Cypress	<i>Taxodium spp.</i>	OBL	Cp,C
Cabbage Palm	<i>Sabal palmetto</i>	FAC	M,C
Melaleuca	<i>Melaleuca quinquenervia</i>	Exotic	M,C
Ear leaf acacia	<i>Acacia auriculiformis</i>	Exotic	M,C
Brazilian pepper	<i>Schinus terebinthifolius</i>	Exotic	M,O
sawgrass	<i>Cladium jamaicense</i>	OBL	G,C
Swamp fern	<i>Blechnum serrulatum</i>	FACW+	G,C
Grape vine	<i>Vitis rotundifolia</i>	FAC	G,O
Poison ivy	<i>Toxicodendron radicans</i>	FAC	G,O
Smilax	<i>Smilax spp.</i>	FAC	G,O
pennywort	<i>Hydrocotyle spp.</i>	FACW	G,C
beakrush	<i>Rhynchospora microcarpa</i>	FACW+	G,C
Yellow-eyed grass	<i>Xyris elliottii</i>	OBL	G,C
laurel oak	<i>Quercus laurifolia</i>	FACW	M,C
wax myrtle	<i>Myrica cerifera</i>	FAC+	M,C
salt bush	<i>Baccharis glomerulifolia</i>	FAC	M,O
Broom sedge	<i>Andropogon virginicus</i>	FAC-	G,C
Gulfdune paspalum	<i>Paspalum monostachyum</i>	OBL	G,C

#### Wild Pines

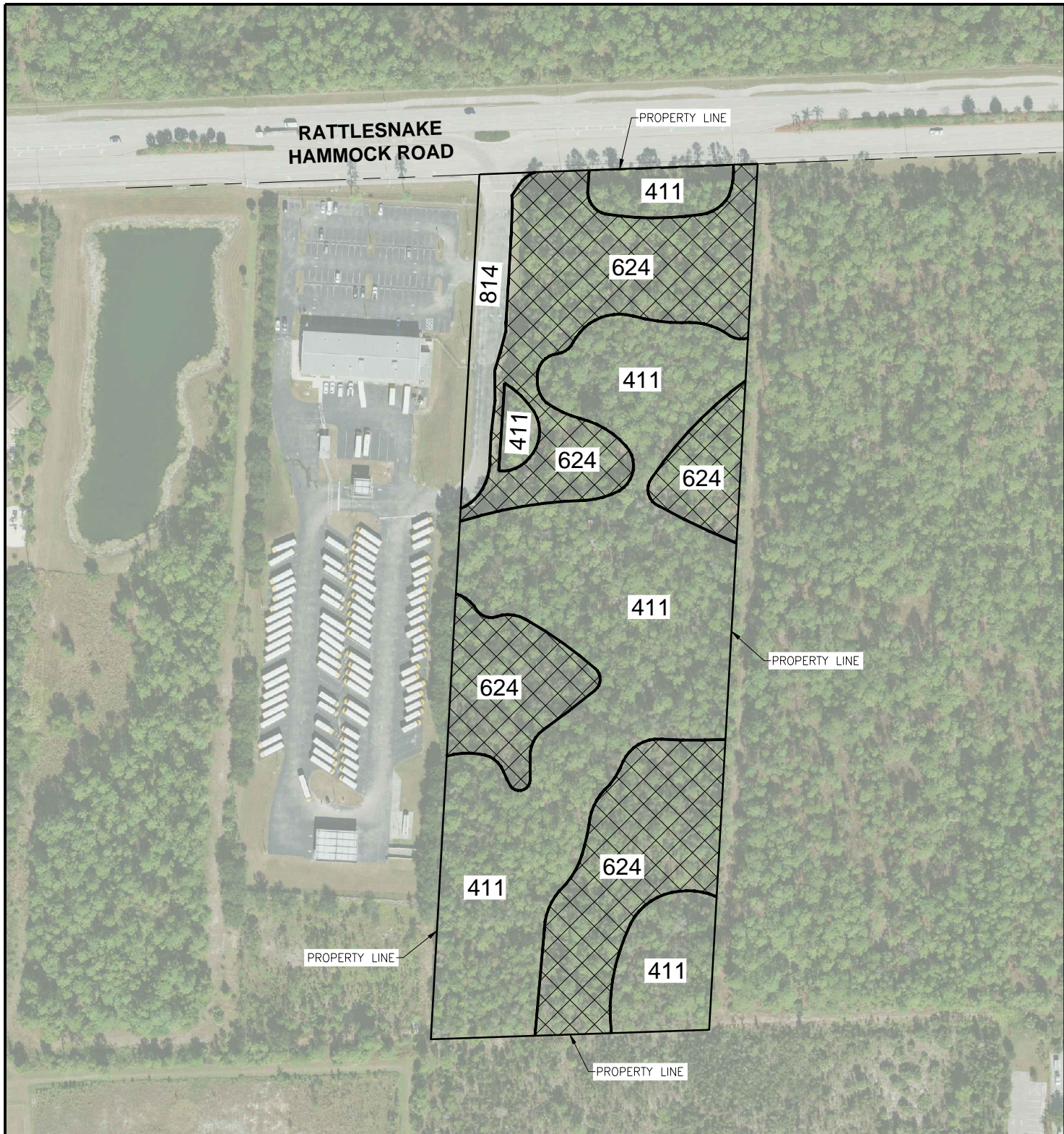
Stiff - leaved	<i>Tillandsia fasciculata</i>	FDA/C
Recurved	<i>T. balbisiana</i>	FDA/T
wired-leaved	<i>T. setacea</i>	FDA/T

**ABBREVIATIONS –** Canopy (Cp), Midstory (M), Ground Cover (G)  
Dominant (D), Common (C), Occasional (O)


**INDICATOR STATUS -** Obligate (OBL), Facultative wet plants (FACW),  
Facultative plants (FAC), Upland (UPL)

#### EXOTICS PEST PLANT LEVELS

E1 = exotic plant levels 0 – 25 % coverage  
E2 = exotic plant levels 25 – 50 % coverage  
E3 = exotic plant levels 50 – 75 % coverage  
E4 = exotic plant levels 75 – 90 % coverage



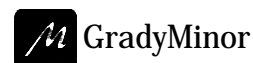
#### FLUCFCS LEGEND

CODE	DESCRIPTION	ACRES
411 (UPLAND)	PINE FLATWOODS	6.13
624	PINE, CYPRESS, CABBAGE PALM E3 (50-70% EXOTICS)	4.86
814	ROAD (ACCESS)	0.49
	WETLANDS	



0 20' 40'  
SCALE: 1" = 40'

#### RATTLESNAKE HAMMOCK ROAD BUS DEPOT FLUCFCS EXHIBIT



Civil Engineers • Land Surveyors  
Planners • Landscape Architects  
[www.GradyMinor.com](http://www.GradyMinor.com)

## WILDLIFE SPECIES OBSERVED

<u>Common Name</u>	<u>Species</u>	<u>Status</u>
<b>Amphibian &amp; Reptiles:</b>		
Brown anole	<u>Anolis sagrei</u>	
Black racer	<u>Columber constrictor</u>	
<b>Birds:</b>		
Dove- mourning	<u>Zenaida macroura</u>	
mockingbird	<u>Mimus polyglottos</u>	
Vulture, turkey	<u>Cathartes aura</u>	
Vulture, Black	<u>Coragyps atratus</u>	
Pileated woodpecker	<u>Dryocopus pileatus</u>	
Northern flicker	<u>Colaptes auratus</u>	
Flycatcher, great crested	<u>Myiarchus crinitus</u>	
Pine warbler	<u>Dendroica pinus</u>	
Crow, american	<u>Corvus brachyrhynchos</u>	
Common grackle	<u>Quiscalus quiscula</u>	
Bluejay	<u>Cyanocitta cristata</u>	
Carolina wren	<u>Thryothorus ludovicianus</u>	
Gray catbird	<u>Dumetella carolinensis</u>	
Cardinal	<u>Richmondia cardinalis</u>	
<b>Mammals:</b>		
Virginia opossum	<u>Didelphis virginiana</u>	
Raccoon	<u>Procyon lotor</u>	
Nine-banded armadillo	<u>Dasypus novemcinctu</u>	
Bobcat	<u>Felis rufus</u>	
Black bear	<u>Ursus americanus</u>	

## RESUME

Marco A. Espinar  
3880 Estey Avenue  
Naples, Fl 34104

Bilingual: English & Spanish  
Office: 239-263-2687  
Home 239-263-2747

### EDUCATION

Cardinal Mooney High School Sarasota, Florida	Diploma	1980
--	---------	------

Manatee Junior College Bradenton, Florida	AA Degree Biology	1982
--	----------------------	------

University of South Florida Tampa, Florida	BS Degree Biology	1990
---	----------------------	------

Completed USF Cooperative Education Program    April 1988

#### USF Undergraduate Research

- USF 1985 Apalachicola Archaeological Expedition & Research
- Lab Coordinator of Fauna Identification from Archeological Sites
- Studies of Seagrass Beds (*Thalassia testudinum*) in Upper Tampa Bay, Florida
- Growth Rates of Marine Algae ( *Gracilaria tikvahiae*, *G. verrucosa*, *G. debilis* )  
Port Manatee, Florida

### EMPLOYMENT HISTORY & EXPERIENCE

**Collier Environmental Consultants Inc.**  
Naples, Florida      2/96 - Present

Owner & Environmental Planning /  
Biologist

Environmental Permitting, Planning  
Vegetation Inventory  
Mitigation & Monitoring Plans  
Threatened and Endangered Species Survey  
Licensed Agent Gopher Tortoise Permitting,  
Testing, Relocation

Exotic Plant Removal / Poisoning  
Mitigation Plantings  
Jurisdictional Determination  
Environmental Impact Statements  
Red Cockaded Woodpecker Survey  
UMAM Analysis

#### **BP- Natural Resource Advisor -**

Deepwater Horizon MS Canyon 252 Oil Spill  
Gulfport, Mississippi - Dauphin Island, Alabama - Pensacola, Florida

**Turrell & Associates, Inc.**

Naples, Florida 2/94 - 12/95

Senior Environmental Planner

Environmental Permitting, Planning  
Threatened and Endangered Species Survey  
Environmental Impact Statements

Supervision of Staff  
Review Staff Reports

**South Florida Water Management District**

Fort Myers, Florida 2/93 - 8/93

Environmental Analyst

Dredge & Fill Permit Review  
Surface Water Permit Review

**Collier County Government, Development Services**

Naples, Florida 10/90 - 2/93

Environmental Specialist II

Site Development Plan Compliance  
Planned Unit Development Compliance  
Site Drainage Inspections

Landscape Inspections  
Environmental Enforcement

**Southwest Florida Water Management District**

Tampa, Florida 9/87 - 10/90

Field Services Technician

As-Built Inspections of Storm Water System - Engineering, Survey  
Surface and Ground Water Permit Compliance  
Well Construction & Abandonment Inspections

**Southwest Florida Water Management District**

Brooksville, Florida 1/86 - 9/87

(CO-OP) Environmental Scientists 1

Wetland Vegetation Studies At Major Well Fields  
Water Quality Sampling & Testing

**PROFESSIONAL ASSOCIATIONS**

Southwest Florida Association of Environmental Professionals, Member  
Elected to very First Governing Board and served 2 terms, served on founding  
association - Bylaws Committee

Appointed by the Board of County Commissioners and Served on the Collier County  
Environmental Advisory Board

Appointed by the Board of County Commissioners and Currently Serving on the  
Development Services Advisory Committee

Currently Serving on the Land Development Code Sub-Committee

Appointed by the Board of County Commissioners and Served on Conservation Collier Land Acquisition Advisory Committee 6 years

Served as Chairman of the Conservation Collier Lands Evaluation and Management Sub-Committee,

Award for Ten (10) years of my Voluntary Service to Collier County By the Board of County Commissioners - January 2010

Awarded Outstanding Advisory Member Award - February 2009 by Collier County Board of County Commissioners

Gopher Tortoise Management and Mitigation Professional Training Program  
Successful Completion 9/01

#### **REFERENCES UPON REQUEST**