Estero Marsh Preserve

Land Management Plan

Second Edition

6244 Park Road
Fort Myers, FL 33908

Prepared by the Conservation 20/20 Land Management Section
Lee County's Department of Parks and Recreation

Approved by the Lee County Board of County Commissioners: 06/19/2018

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From the Authors

This plan was prepared by Hanna Joergens and Hank Forehand, Land Stewardship Coordinators with the Conservation 20/20 program. Constructive edits and suggestions were made by other Conservation Lands staff toward the development of this document, and members of the Management Sub-Committee of Conservation Lands Acquisition and Stewardship Advisory Committee helped to review the plan. The Lee County Bird Patrol volunteers helped to contribute to the list of observed bird species for the preserve.

Hanna Joergens

Hank Forehand

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List of Acronyms

BoCC	Board of County Commissioners
CLASAC	Conservation Land Acquisition and Stewardship Advisory Committee
C20/20	Conservation 20/20
DHR	Division of Historical Resources
EBPSP	Estero Bay Preserve State Park
EMP	Estero Marsh Preserve
FDACS	Florida Department of Agriculture and Consumer Services
FDEP	Florida Department of Environmental Protection
FFS	Florida Forest Service
FLEPPC	Florida Exotic Pest Plant Council
FNAI	Florida Natural Areas Inventory
FPL	Florida Power and Light Company
FWC	Florida Fish and Wildlife Conservation Commission
IDD	Iona Drainage District
IPRM	Island Park Regional Mitigation
IRC	Institute for Regional Conservation
LCDCD	Lee County Department of Community Development
LCDNR	Lee County Division of Natural Resources
LCPR	Lee County Department of Parks and Recreation
LiDAR	Light Detection and Ranging
LSOM	Land Stewardship Operations Manual
MU	Management Units
NOAA	National Oceanic and Atmospheric Administration
NWI	National Wetlands Inventory
ORV	Off Road Vehicle
PARI	Piper Archaeological Research, Inc.
SFWMD	South Florida Water Management District
STRAP	Section-Township-Range and Parcel
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service

Vision Statement

It is the vision of the Conservation 20/20 program to manage Estero Marsh Preserve as a productive, functional and viable ecosystem with restored hydrologic features for improved wildlife habitat and water quality. The preserve will serve as refuge and foraging habitat for various species of birds, gopher tortoises, and other wildlife species, while also providing the treatment of storm water runoff and pollutants that would otherwise enter the Estero Bay estuary. Estero Marsh Preserve will provide a valuable buffer between encroaching development and the natural estuarine ecosystem, and will continue to provide upland properties with a level of protection from the effects of severe weather events.

I. Executive Summary

Estero Marsh Preserve consists of 243.97 acres (rounded to 244 acres throughout the following sections of this plan) acquired through the Conservation 20/20 program and located within the Estero Bay watershed of southwestern Lee County. The total purchase cost for the preserve was $3,822,970 and consists of three nomination parcels: #66 acquired in 1999, #128 acquired in 2001, and #506 acquired in 2014. Many of the changes to the preserve can be attributed to a restoration project completed in 2007 and conducted within parcels #66 and #128.

The restoration project, named the Island Park Regional Mitigation project, was funded as county mitigation in exchange for mitigation credits to be used for capital improvement projects. Invasive exotic plant removal, native plantings, creation of filter marshes, and restoration of wetlands occurred through the project and annual contracted invasive exotic plant treatments have kept the preserve at maintenance level for exotics. A conservation easement and future land use category of “Conservation Land Upland/Wetland” assigned during the restoration to the parcels involved will continue to protect the conservation goals at the property, and a zoning code of “Environmentally Critical” to parcel #128 will protect the property from future development.

Additional work completed at the preserve includes installation of firebreaks, pedestrian walk-through gates, fenceline, vehicle access gates, boundary signs, and informational sign panels about the restoration completed at the site and preserve details. Recreational opportunities are limited to resource-based recreation such as hiking, nature watching, and nature photography or study. There are no plans to install marked trail systems, parking areas, or other recreational developments at the preserve due to the severe limitations of the soils and use of the site for mitigation.

The seclusion of the preserve has provided critical refuge for state and federally-protected species from the surrounding urban expansion. Ten wildlife species and six plant species listed for protection due to declining populations have been documented at Estero Marsh Preserve using habitat provided by the estuarine and freshwater natural communities. The largest majority of plant community types found at the preserve include salt marsh, wet flatwoods, and mangrove swamp. Together, the wetland communities function as a filter for the storm water runoff that flows into the preserve from surrounding drainage flow ways and residential developments, improving the water quality before it flows into the Estero Bay and Gulf of Mexico.

Threats to these natural communities have historically been caused by human activities and include encroachment, vehicle trespass, poaching, and dumping. Land managers continue to work with law enforcement and Lee County ordinance code enforcement officers to patrol the preserve and monitor illegal or unauthorized activities. Staff has conducted public outreach to raise awareness about the approved recreational opportunities at the preserve, posted boundary signs to identify property lines, and distributed letters and flyers to surrounding neighbors to provide information about management activities.

Invasive exotic and non-native species have also been documented at the preserve. Invasive exotic plants that displace native species and disrupt natural communities were

introduced through historical land use activities, and continue to heavily impact the neighboring state-managed Estero Bay Preserve State Park west of the preserve. The restoration project and on-going invasive exotic plant treatments have reduced these plants to a low maintenance level at Estero Marsh Preserve. A smaller diversity of invasive or non-native wildlife has been documented at the preserve, but the species that have been observed have the potential to impact natural communities and displace or out-compete native wildlife; land managers are currently working with local contractors to control some non-native wildlife at the preserve.

Restrictions to management activities at the preserve include the various easements, constructed infrastructure, neighboring residential developments, fluctuations of wet/dry seasons and associated hydrology, and funding. General management of Estero Marsh Preserve will continue to be funded through the Lee County Parks and Recreation general budget fund with contracted invasive exotic treatments funded through county mitigation of capital improvement projects, and staff will seek supplemental funding opportunities when possible. Future goals and strategies for activities at the preserve will be dependent on changes in staff, extreme weather conditions, or a change in priorities on properties managed by Lee County. Management work at the preserve to date has been summarized in Table 1, and discussed in further detail throughout this plan.

Table 1: Management Work to Date Summary (2007-2017)

Natural Resource Management
✓ Initial treatment of invasive exotic plants throughout the preserve, which is now at maintenance level.
✓ Wetland restoration within nominations #66 and #128 was funded in exchange for mitigation credits for county capital improvement projects.
✓ Exotic feral hog trapping initiated at the preserve, and some hogs removed.
Overall Protection
✓ Small debris has been removed from the preserve, mostly consisting of landscaping and household waste on property adjacent to private residential development.
✓ Hazard trees along boundaries with residential development have been removed.
✓ The Future Land Use for nominations #66 and #128 was changed to "Conservation Lands Wetland/Upland," and the parcels were placed under a conservation easement.
✓ The Zoning code for nomination #128 was changed to "Environmentally Critical."
✓ The STRAP numbers for all nomination parcels were merged into one number.
✓ External firebreaks installed adjacent to private residential development.
✓ External fencing and maintenance gates installed along portions of boundary.
✓ Perimeter boundary signs have been installed and replaced as needed.
✓ Tri-annual site inspections have been conducted.
Public Use
✓ Pedestrian walk-through gates were installed at two locations to provide public access to the preserve.
✓ A preserve identification sign, identifying the approved recreational opportunities, was installed adjacent to a pedestrian walk-through gate.
✓ An information sign about the preserve restoration was installed along an upland portion of the preserve adjacent to Island Park Road.
✓ Letters and flyers have been distributed to neighbors to raise awareness about on-going issues and various management activities.
✓ Public outreach meetings, site tours, and presentations about the preserve have been held to educate neighbors and interested public.
Volunteers
✓ Lee County volunteer group, Bird Patrol, has conducted bird count surveys.

II. Introduction

Located within the Estero Bay watershed of Lee County, Estero Marsh Preserve (EMP) consists of both estuarine and freshwater natural plant communities that provide habitat for protected species and filtration for sheetflow draining toward the bay. The 243.97-acre preserve (rounded to 244-acres throughout the following sections of this plan) also features communities that do not occur naturally, including a powerline with an associated maintenance road and two flow way ditches that are remnants of the Iona Drainage District (IDD). The western and southwestern edges of the preserve border state-managed conservation land, the Estero Bay Preserve State Park (EBPSP), while residential development surrounds the remaining boundaries.

EMP was acquired through the Conservation 20/20 (C20/20) program in three separate parcels that were each nominated and approved by the Conservation Lands Acquisition and Stewardship Advisory Committee (CLASAC), and then approved for purchase by the Lee County Board of County Commissioners (BoCC). The preserve is managed through C20/20 as part of the Lee County Department of Parks and Recreation (LCPR). Parcel #66 was nominated in November 1997 and acquired for $1,425,970 in December 1999. Parcel #128 was nominated in September 1999 and acquired for $2,392,000 in July 2001. Most recently, parcel #506 was nominated in October 2012 and acquired for $5,000 in March 2014.

Since acquisition, the identification codes for the Section-Township-Range-and Parcel (STRAP) location of all nomination parcels have been merged into one number: 12-46-24-00-00005.4000. The future land use categories of nominations #66 and #128 have been merged as “Conservation Lands Wetland/Upland,” but nomination #506 is still categorized as “Suburban” future land use. The zoning code for parcel #128 was changed to “Environmentally Critical” to better protect the conservation goals of the property, but parcels #66 and #506 have not yet been changed from “Multi-Family” zoning codes.

In 2006, a conservation easement was placed over parcels #66 and #128 to further protect the conservation goals of the property and as a requirement for permits through the South Florida Water Management District (SFWMD) and United States Army Corps of Engineers (USACE) to restore natural communities at the preserve. Funded through county mitigation for capital improvement projects in exchange for mitigation credits, the restoration became known as the Island Park Regional Mitigation (IPRM) project. Restoration of wetlands, native plantings, creation of filter marshes, and removal of invasive exotic plants began in 2006 and was completed in 2007.

Additional work completed at the preserve includes installation of firebreaks, pedestrian walk-through gates, fenceline, vehicle access gates, boundary signs, and informational signs that explain the restoration completed at the site and details about the preserve, such as approved recreational opportunities. There is no public parking area or designated trails, but public access is possible through two pedestrian gates and visitors can walk throughout the preserve or along the firebreaks. There are currently no plans to develop trail systems, parking areas, or other recreational facilities at the preserve; this is largely due to the use of the preserve as a mitigation site and to the severe limitations of the soils found at the site to support recreational development.

Limitations to recreation can also be caused by the presence of state or federally-protected plant and wildlife species, for which the preserve provides habitat. EMP has documented eight species of birds, two species of reptiles, and six species of plants that are state or federally-listed for protection due to declining populations. Much of this decline has been attributed to overall loss of habitat, draining of wetlands, and decline in water quality. The restoration and continued management of the preserve provides critical habitat for these species along the Estero Bay watershed, where encroaching residential development has destroyed historic population ranges.

Invasive exotic and non-native species have also been documented at the preserve. Invasive exotic plants that displace native species and disrupt natural communities were introduced through clear-cutting activities for the IDD flow way canals or agriculture, and continue to be introduced through landscaping that has escaped neighboring residential developments and through storm water runoff that flows into the preserve through the IDD canals. The preserve has a smaller diversity of invasive or non-native wildlife, but the species that have been observed at the site have the potential to inflict severe and negative impacts to natural communities and displace or out-compete native wildlife. Land managers have worked, and will continue to work with local contractors to control both invasive exotic plants and non-native wildlife at the preserve.

Threats to the natural communities are also caused by human activities and include encroachment, trespass, poaching, and dumping. Staff continue to work with law enforcement and Lee County ordinance code enforcement officers to patrol the preserve and monitor illegal or unauthorized activities. Staff has conducted public outreach to raise awareness about the approved recreational opportunities at the preserve, posted boundary signs to identify property lines, and distributed letters and flyers to surrounding neighbors to provide information about management activities.

Restrictions to management activities at the preserve include the various easements, constructed infrastructure, neighboring residential developments, fluctuations of wet/dry seasons and associated seasonal flooding, and funding. Management of EMP will continue to be funded through the LCPR general management fund with contracted invasive exotic treatments funded through county mitigation for capital improvement projects, and staff will seek supplemental funding opportunities when possible. Future goals and strategies for activities at the preserve will be dependent on changes in staff, extreme weather conditions, or a change in priorities on properties manage by Lee County.

III. Location and Site Description

EMP is a 244-acre preserve located along Island Park Road in southern Lee County approximately one mile southwest of U.S. 41 and half a mile east of Hendry Creek (Figure 1). The public access gate in the southeast corner of the preserve is located at 6244 Park Road, and a legal description of each nomination parcel location can be found in Appendix A of this management plan. The STRAP number is 12-46-24-00-00005.4000 for all of the nomination parcels; documentation to merge the STRAP numbers in 2008 and 2018 can be found in Appendix B. All three locations are within Section 12, Township 46S, and Range 24E of southern coastal Lee County.

In Figure 2, the preserve is noticeably surrounded by residential communities to the north, east, and south. Two drainage canals, part of the IDD, run east to west along portions of the preserve and drain into Hendry Creek. The South Forest/IDD “T” Canal runs along the northern boundary, while the South Forest/IDD “U” Canal runs along the utility corridor that bisects nomination #128. Neither of the IDD canals has been well maintained since they were created, and both have become largely overgrown. Smaller drainage ditches run along Island Park Road on the eastern boundary of nomination #66, draining the rainwater runoff into canals to the south.

The entire western boundary of the preserve joins the EBPSP that is owned by the state Trustees of the Internal Improvement Trust Fund and managed by the Florida Department of Environmental Protection (FDEP), Division of Recreation and Parks. The state park encompasses the drainage watershed for Mullock Creek and Hendry Creek, and transitions into the Estero Bay Aquatic Preserve (managed by the FDEP Florida Coastal Office) as the tributaries drain into the Estero Bay. These two state properties join EMP to create a larger conservation area that will provide protection for the plants, wildlife, and water quality within the Estero Bay.

Other parks and conservation areas close to EMP include additional preserves and LCPR parks. Mullock Creek Preserve, Six Mile Cypress Slough Preserve, John Yarbrough Linear Park, and Lakes Regional Park are county-maintained properties within a short distance of EMP. While some of the properties have been developed with structures and hard surfaces, natural space is incorporated within each park and preserve that contains a variety of natural plant communities to create habitat, provide recreational opportunities, and protect areas of the Estero Bay watershed.

Similar to the state-managed EBPSP to the west, EMP contains natural plant communities that are largely influenced by brackish or salt water. Salt marsh, wet flatwoods, salt flats, mangrove swamp, spoil areas, a utility corridor, and the canal/ditch flow ways are communities that can be found at the preserve. Some of these communities were heavily disturbed with invasive exotic plant species prior to restoration efforts that occurred as part of the IPRM project, which is discussed further in later sections of this plan.

Figure 1: Preserve Location

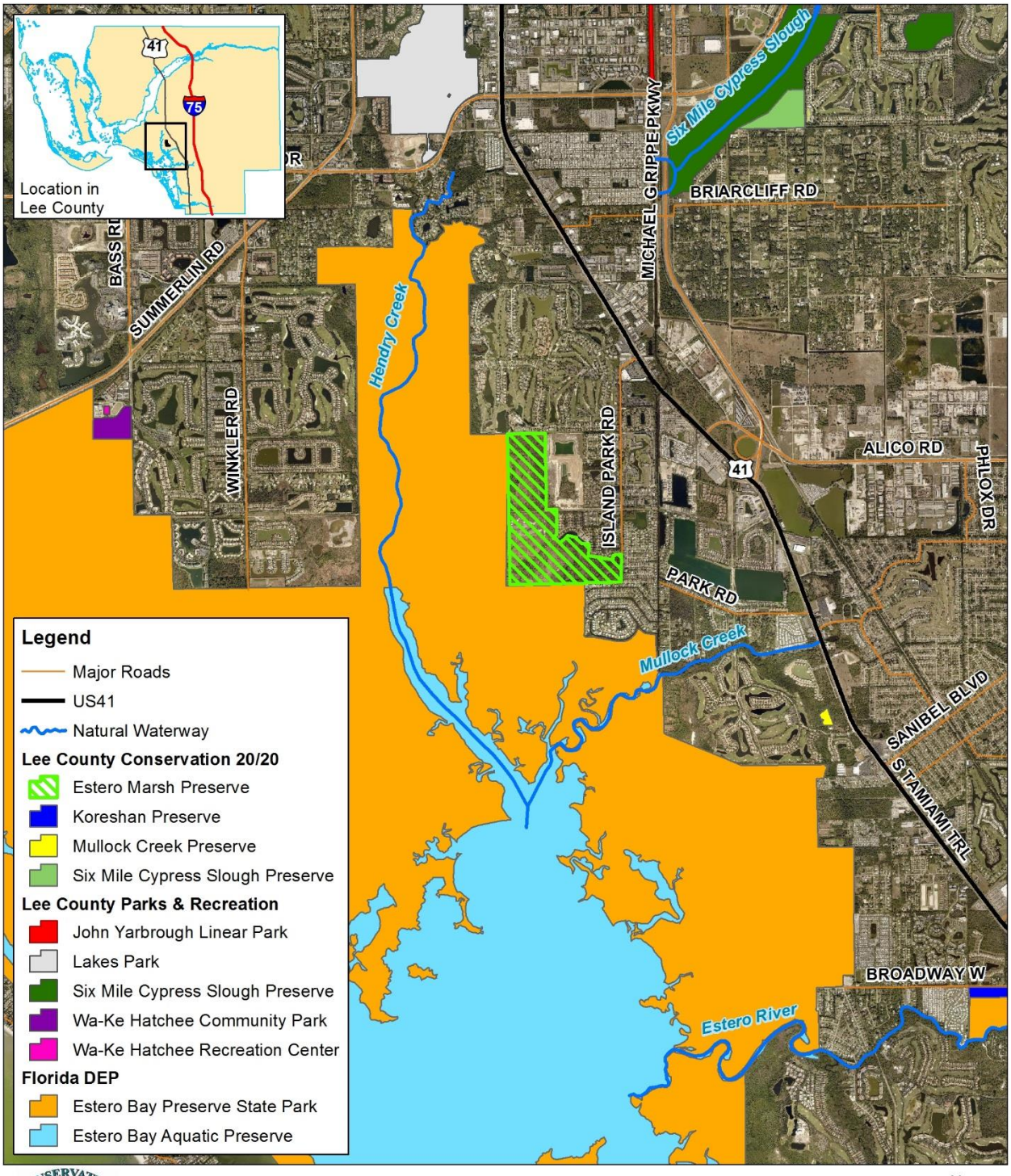
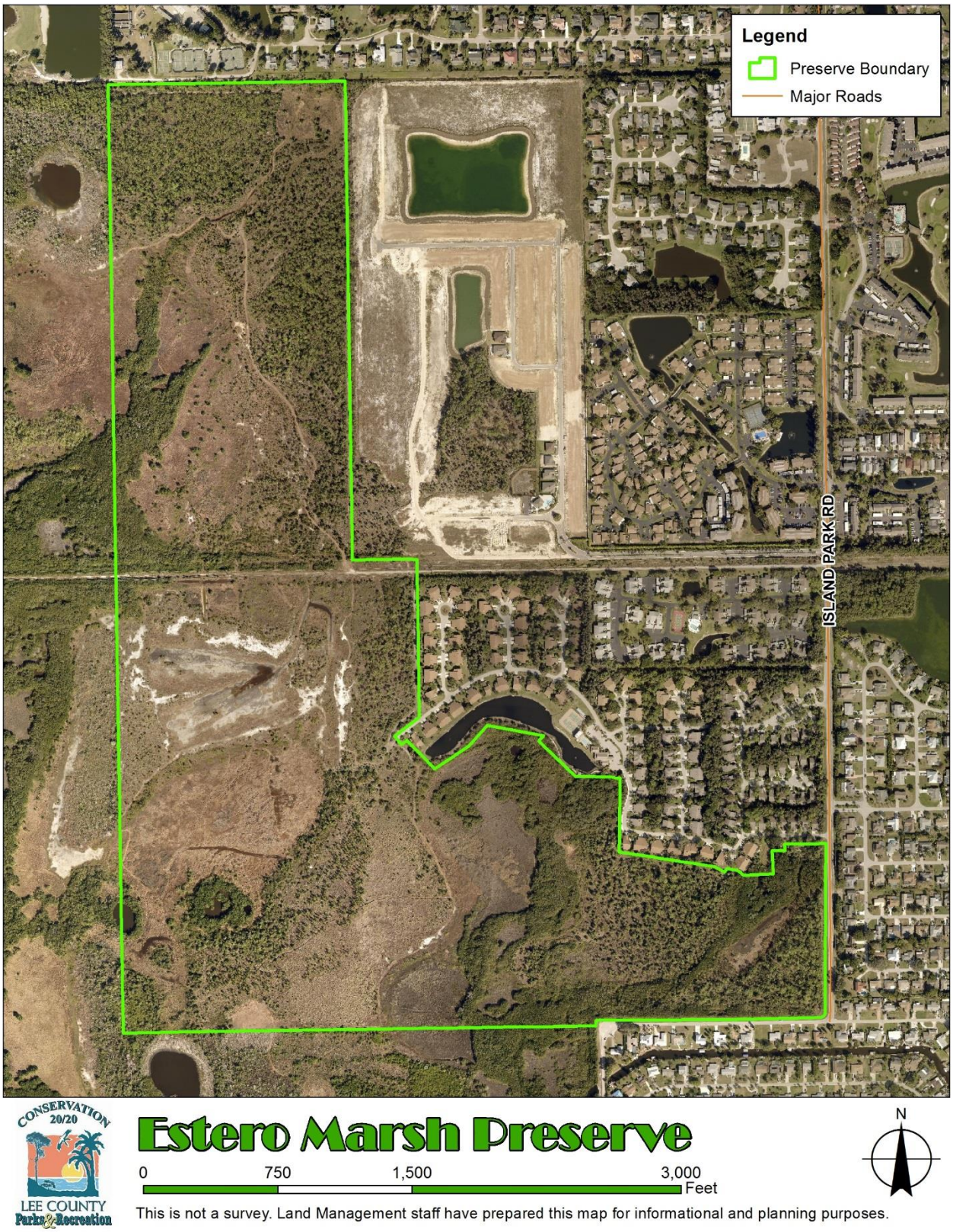


Figure 2: Aerial Image (2017)



IV. Natural Resources Description

A. Physical Resources

i. Climate

General information on the climate of southwest Florida is located in the Land Stewardship Plan Development and Supplemental Information section of the 2012 edition Land Stewardship Operations Manual (LSOM).

ii. Geology

Specific information on the geologic features such as physiographic regions, formations, and maps can be found in the LSOM Land Stewardship Plan Development and Supplemental Information section.

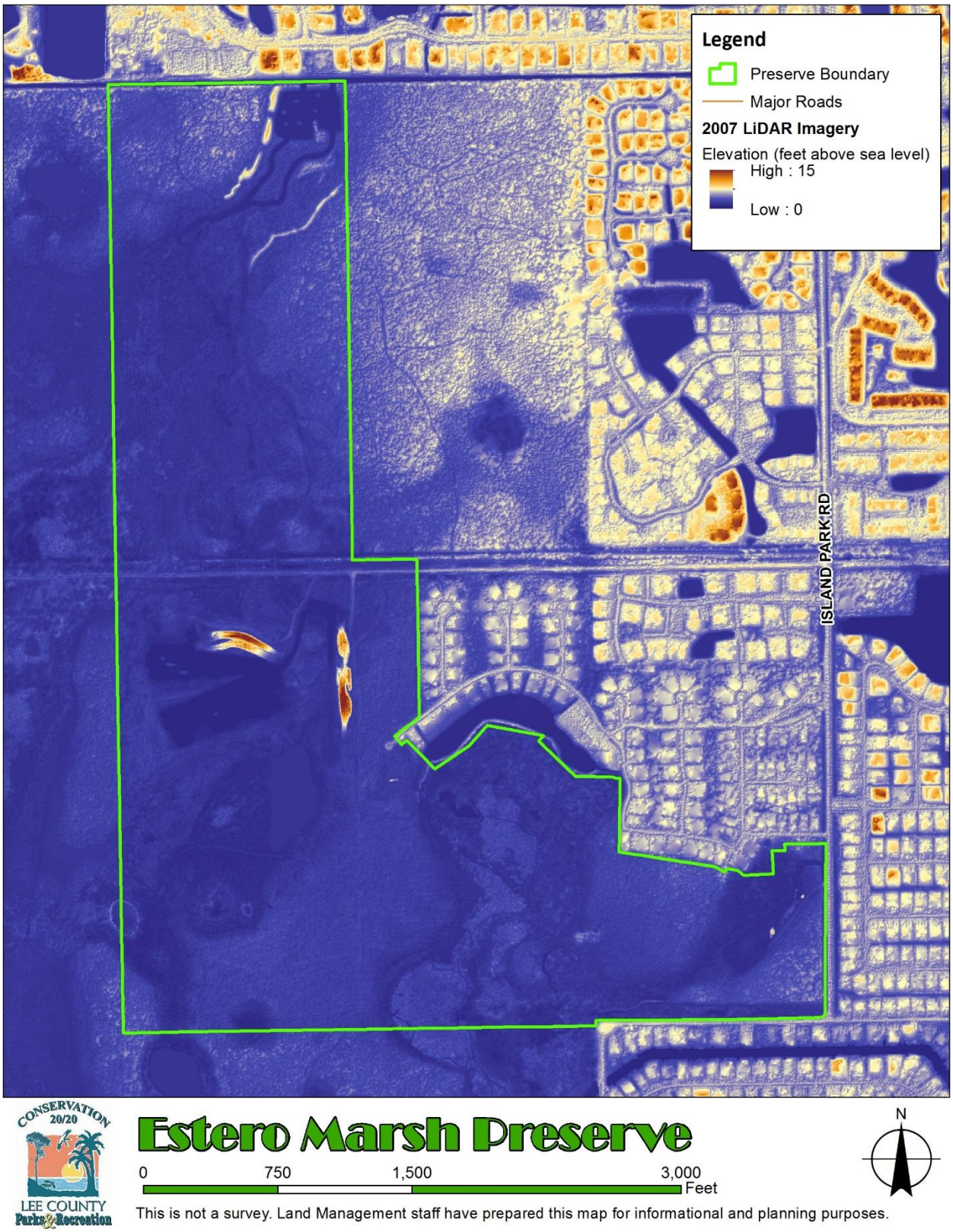
iii. Topography

Due to the location of EMP along the Estero Bay watershed, the site does not feature naturally high elevations above sea level. The preserve is mostly flat overall, with a slope of 0-2% and an elevation range that reaches a maximum of approximately three feet above sea level in the flatwoods communities and slopes downhill to sea level in the mangrove swamps/unconsolidated substrate communities. However, the preserve has areas of heavy human-caused disturbances that have created unnatural elevations. Berms and spoil piles from the creation of the IDD canals along the northern boundary and through the center of nomination #128 create topographic high spots, and the northern boundary berm reaches nearly four and a half feet above sea level.

These slight changes in elevation are nearly indistinguishable on a topographic map, but can be seen by using Light Detection and Ranging technology (LiDAR). This optical remote sensing technology is similar to sonar, and measures properties of scattered light to identify information about a distant target. The LiDAR data used in Figure 3 were collected in 2007 and represent the published five-foot digital elevation model.

This technology can have difficulty distinguishing between the light reflected from high elevations and exposed soils such as sand, and some of the salt flats of the preserve have been recorded as elevations up to 15 feet above sea level. Also, the preserve restoration had begun when the data were collected in 2007, but continued into later years and may cause some of the data to be outdated. Despite these errors, this technology provides land managers with an useful view of the general elevations found at the preserve that can be used to plan management activities.

Figure 3: Topography



iv. Soils

The 1984 “Soil Survey of Lee County, Florida” (Henderson 1984) was designed to identify soil behavior, physical and chemical properties, land use limitations, potential impacts, and environmental protection qualities of the local soils. This information was created by gathering hundreds of soil samples to study the soil profile. A predictive model of soil formations throughout the county was created by applying geology, land forms, relief, climate, and vegetation.

According to this survey, there are eight different soil types found at EMP (Figure 4). All of these soil types have moderate to rapid surface permeability and slopes that range 0-2%, which means that they are fundamentally level. The soils also share characteristics that create severe limitations for recreational development at the preserve. “Costly soil reclamation, special design, intensive maintenance, limited use, or a combination of these measures” are identified by the soil survey as the only methods that can offset the severe limitations of the soils to develop recreational opportunities.

These soil limitations, combined with restoration of the preserve through a mitigation project (discussed in later sections of this plan), prevent recreational development of the preserve and restrict recreational opportunities available. A brief description about each of the soil types found at the preserve, based on the 1984 survey, have been included in Table 2. For additional information about soil types and characteristics, refer to the LSOM Land Stewardship Plan Development and Supplemental Information section.

Figure 4: Soil Types

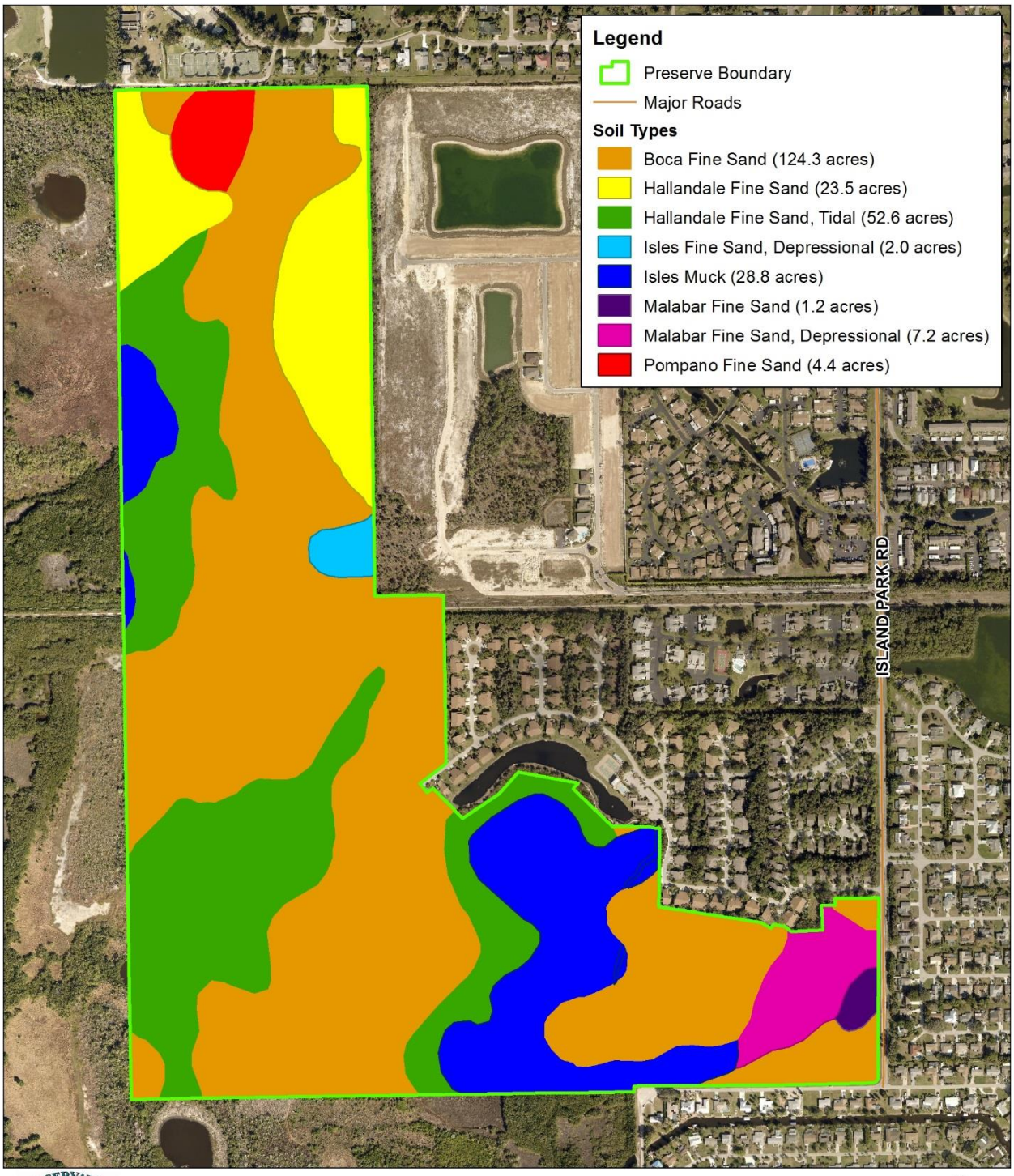


Table 2: Soils Attributes

				Physical Attributes							*Biological Attributes*					
Soil Types	**Map Symbol**	**Total Acres**	**% of Preserve**	**Habitats (Range Site)**	**Wetland Class**	**Hydrologic Group**	**Surface Permeability**	**Subsurface Permeability**	**Water Table within 10" of surface**	**Water Table below 10-40" of surface**	**% Organic Matter**	**Potential as habitat for wildlife in—**				**Limitations for Recreation**
												Openland	**Woodland**	**Wetland**	**Rangeland**	
Bocca Fine Sand	13	124.3	50.9	South FL Flatwoods		B/D	Rapid	Rapid	2-4 Months	6 Months	3-Jan	Fair	Poor	Fair	Good	Severe; wetness, too sandy
Hallandale Fine Sand	6	23.5	9.6	South FL Flatwoods		B/D	Moderate/ Rapid		1-3 Months	7 Months	5-Feb	Poor	Poor	Fair	Poor	Severe; too sandy
Hallandale Fine Sand (Tidal)	8	52.6	21.6	Saltwater Marsh	F	D	Moderate/ Rapid		Tidal		3-Jan	Very Poor	Very Poor	Poor	--	Severe; wetness, too sandy
Isles Fine Sand (Depressional)	39	2	0.8	Freshwater Marshes/Ponds	P	D*	Rapid	Rapid	3-6 Months	2-4 Months	2-Jan	Very Poor	Very Poor	Good	--	Severe; ponding, too sandy
Isles Muck	56	28.8	11.8	Saltwater Marsh	F	D	Rapid	Rapid	Tidal		20-30	Very Poor	Very Poor	Fair	Poor	Severe; wetness, excess humus
Malabar Fine Sand	34	1.2	0.5	Slough	S	B/D	Rapid	Rapid	2-4 Months	>6 Months	2-Jan	Poor	Poor	Fair	--	Severe; wetness, too sandy
Malabar Fine Sand (Depressional)	44	7.2	3	Freshwater Marshes/Ponds	P	B/D*	Rapid	Rapid	4-6+ Months (Ponded)	4-6 Months	2-Jan	Very Poor	Very Poor	Good	--	Severe; wetness, too sandy
Pompano Fine Sand	10	4.4	1.8	Slough	S	B/D	Rapid		2-4 Months	6 Months	5-Jan	Poor	Poor	Fair	--	Severe; wetness, too sandy

Color Key

Dry
Wet
Wetter
Wettest
Saturated

Wetland Class Key

S – Slough (sheetflow): A broad, nearly level, poorly defined drainage way that is subject to sheetflow during the rainy season.

F – Flooding: The temporary inundation of an area caused by overflowing streams, runoff from adjacent slopes, or tides.

P – Ponding: Standing water on soils in closed depressions; the water can only be removed by percolation or evapotranspiration.

Hydrologic Group Key

B – Soils having moderate infiltration rate (low to moderate runoff potential) when thoroughly wet.

D – Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet.

* – Water table is above the surface of the soil

v. Hydrological Components and Watershed

EMP is located within the western portion of the Lower West Coast Region, as identified by the SFWMD, and is part of the Hendry Creek drainage sub basin. This basin is formed by the Hendry Creek tributary that begins north of EMP and flows south to join Mullock Creek at the mouth of Estero Bay. The Lee County Division of Natural Resources (LCDNR) further identified local watersheds within the Lee County portion of the Lower West Coast Region, placing EMP within the Estero Bay watershed. This watershed extends around the tributaries of the bay, including the SFWMD sub basins around EMP (Cow Creek, Hendry Creek, Mullock Creek, Six Mile Cypress Slough, and Ten Mile Canal). Both the LCDNR watersheds and SFWMD drainage basins are illustrated in Figure 5.

Historically, the Estero Bay basin would have featured freshwater sheetflow from the north that would slowly percolate through the wetlands and increase in salinity as it reached tidal creeks where it would become brackish. Close proximity to the saltwater of the Estero Bay allows both Hendry Creek and Mullock Creek to be tidally influenced with brackish water. The natural fluctuations of saltwater and freshwater in both creeks has been impacted by the construction of several drainage flow way canals throughout the surrounding sub basins that drain surface water directly into the bay.

Early aerial photography shows the drainage ditches of the IDD were already constructed, and two of these canals have continued to impact the communities at the preserve. The South Forest/IDD “T” Canal runs along the northern boundary while the South Forest/IDD “U” Canal runs along the utility corridor that bisects nomination #128. Neither of the IDD canals has been maintained, and both have become largely overgrown. Smaller drainage ditches run along Island Park Road on the eastern boundary of nomination #66, draining the rainwater runoff into non-county maintained canals to the south.

The saltwater-dependent communities at EBPSP and EMP are hydrated by tidal water pushed up Hendry Creek, which flows less than a mile west of the preserve. These same tides can flow into the canals during dry seasons, severe storms, or extreme tides and create areas of brackish water within the canal system. During heavy rain events, the freshwater flowing through these canal systems flushes the saltwater and dilutes the salinity, affecting the salinity of Estero Bay and stressing the salt-dependent communities.

In an effort to slow the freshwater flow flushing from the IDD canals and to rehydrate the preserve, several cuts were made in the berms of these canals during the IPRM restoration to allow water to flow into the wetlands of EMP. A cut in the berm of “T” Canal flows from the northeastern corner of the preserve toward the southwest through a filter marsh and into interior ditches that empty into central salt marshes. The berm of “U” Canal had four cuts with culverts installed under the powerline easement, allowing the water to flow southward into a large salt marsh. A third cut was made to the drainage flow way ditch parallel to Island Park Road, allowing the runoff to flow into a filter marsh in the northeastern corner of nomination #66 before it flows into the nearby mangrove swamp.

The runoff water can now flow from each canal into the preserve wetlands where it is transitioned back into sheetflow. This sheetflow hydrates the wetlands at EMP before flowing into the wetlands of EBPSP, slowly moving into Hendry Creek and toward the bay. Slowing the water flow allows for natural filtration of pollutants and allows the freshwater to be slowly introduced into the drainage basin, improving the water quality and re-creating the slower natural salinity fluctuations in the estuaries of Estero Bay.

The canal berm cuts can be seen in Figure 6, as well as hydrological elements of the preserve that were classified by a wetland inventory conducted by the Office of Biological Services of the United States Fish and Wildlife Service (USFWS) in 1974. Titled the National Wetlands Inventory (NWI), the data have been further detailed utilizing the “Classification of Wetlands and Deep Water Habitats of the United States” (Cowardin et al. 2013) to provide wetland classifications according to the type of dominated vegetative cover. Visible vegetation, hydrological, and geographical attributes on aerial photography has also allowed the NWI to be mapped.

The types of wetland classifications identified at EMP include estuarine and marine, freshwater emergent, and freshwater forested/shrub. The mixture of both freshwater and brackish water systems is because of the preserve’s location near Hendry Creek, surrounding freshwater drainage canals, and historical land uses; the blockage of natural sheetflow by surrounding development has caused the natural communities to transition into rain-fed freshwater systems. All of the identified wetland systems have low-energy wave action, meaning that the water is generally slow moving. The water chemistry is influenced by tides, precipitation, freshwater runoff, and evaporation.

The combination of both saltwater and freshwater communities creates unique challenges for land managers. The preserve is susceptible to a larger variety of invasive exotic plants from both coastal and inland influences, and the drainage canals create large movement corridors for seeds and plant material to enter. The preserve is also habitat for a variety of wildlife from the coast and inland.

Figure 5: Watersheds and Drainage Basins

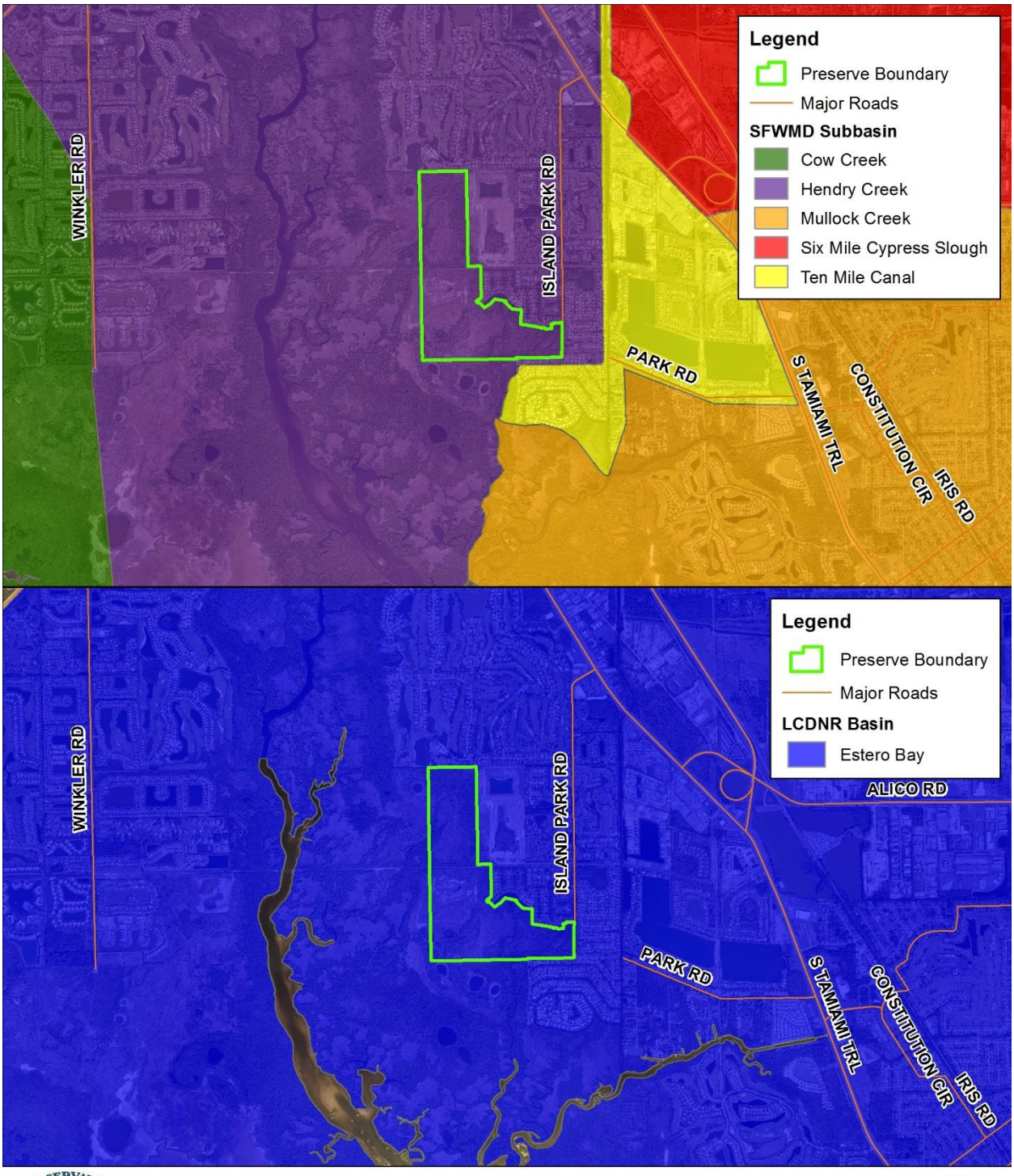
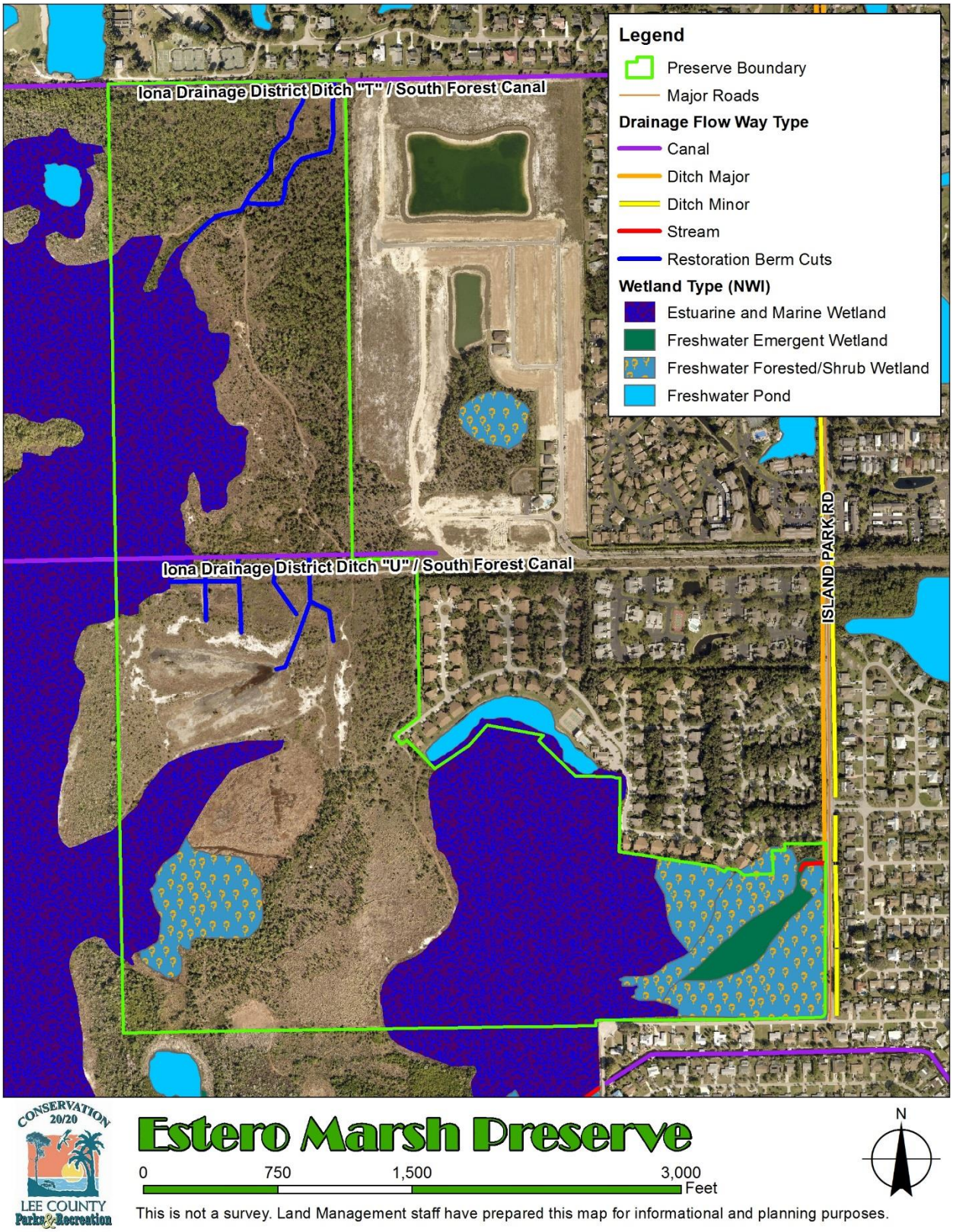


Figure 6: Hydrological Components



B. Biological Resources

i. Ecosystem Function

Lee County's preserves contain a diversity of plant communities that provide habitat for numerous plant and animal species. Individual preserves are not islands of habitat, but are pieces of a larger conservation effort striving to create and maintain a healthy and viable ecosystem. Ecosystem function information is located in the LSOM Land Stewardship Plan Development and Supplemental Information section.

ii. Natural Plant Communities

EMP contains eight plant communities (Figure 7) that have been identified and defined using the 2010 edition of the "Guide to the Natural Communities of Florida" prepared by the Florida Natural Areas Inventory (FNAI) and the FDEP. The following section includes a brief description of the dominant plants, characteristic wildlife, and physical attributes for each plant community found at the preserve.

The greatest impacts to these plant communities have been caused by the construction of drainage canals and surrounding residential developments, the suppression of wildfire, and the restoration methods used to restore communities and water flow ways. The canals and residential development have eliminated the natural sheetflow of the area, causing the natural estuarine communities to transition into rain-fed freshwater communities. The development also created a method of transportation for invasive exotic plants to enter the preserve, as landscaping plants escaped gardens and seeds washed up on the canal banks.

To repair the hydrologic damage and invasive exotic plant infestation, a restoration project was designed and funded through county mitigation for capital improvement projects. The resulting IPRM project was a multi-phase restoration effort that removed invasive exotic plants, created cuts in the IDD canal berms to re-direct water flow into the preserve, constructed new flow ways for the canal water to rehydrate preserve wetlands, planted native species to re-create natural communities, and conducted seasonal invasive exotic plant treatments to maintain the natural communities. This restoration occurred throughout nomination #128 and #66. While the most impactful work has been completed, some communities are still considered to be in early successional stages and invasive exotic treatments are on-going.

<u>Canal/Ditch</u>
1.3 acres with 0.5% total preserve coverage

Once part of the IDD flow way system, the canal that runs east to west along the utility corridor is no longer continuous and currently only holds water in the western portion as identified on the map (Figure 7). This artificial drainage way once extended from Island Park Road to the west, where it drained into Hendry Creek. It runs along the north and south sides of the utility corridor within nomination #128, and is mostly filled in with sediment and overgrown with native and exotic grass species, and mangrove species. Due to the thin, linear quality of the canal, most wildlife found in the area is traveling through it from a neighboring community.

Mangrove Swamp
40.2 acres with 16.5% total preserve coverage

This community is characterized by dense forests with canopies of mangrove species and naturally occurs along shorelines with low-energy wave action throughout south Florida. The dominant species of mangrove found within the swamp is dependent on abiotic factors, such as tidal flushing and salinity. The understory is mostly sparse, but occasionally contains giant leather ferns and mangrove vine (*Rhabdadenia biflora*) where the canopy is thinner along the edges or shoreline.

This community exists along the flat, low-energy estuarine and marine wetlands of nomination #66 and the northern portion of nomination #128. These areas were relatively unaltered by the IPRM restoration efforts that occurred at the preserve because they did not require intensive invasive exotic plant removal or earthwork. Natural recruitment of mangrove species has been occurring within the neighboring salt flat and salt marsh.

The dominant plant species at the preserve are red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*), and buttonwood (*Conocarpus erectus*). A variety of wildlife species can be found in the mangrove swamp including yellow-crowned night heron (*Nyctanassa violacea*), pileated woodpecker (*Dryocopus pileatus*), prairie warbler (*Dendroica discolor*), and mourning dove (*Zenaida macroura*).

Salt Flat
11.5 acres with 4.7% total preserve coverage

A variation of a salt marsh community, the salt flat features areas of exposed soil at a slightly higher elevation than a marsh. The high salinity and drier conditions limit the types of vegetation capable of growing in this community, often resulting in stunted patches of succulent salt-tolerant plants. These areas appear on aerial images as white patches within marshes due to the exposed sandy soils, and are in an early successional stage due to the melaleuca (*Melaleuca quinquenervia*) removal and restoration activities. The harsh conditions and nutrient-poor soils prevent this community from recovering quickly to disturbances, and can be visibly affected for years afterward. Wildlife found in the salt flats include the feral hog (*Sus scrofa*), killdeer (*Charadrius vociferous*), and fiddler crab (*Uca stylifera*).

Salt Marsh
97.2 acres with 39.8% total preserve coverage

Characterized as having soils with high salinity and regular tidal inundation, the salt marsh is the largest natural plant community found at EMP. The majority of the historical disturbances to the community were a result of the melaleuca removal and restoration activities, although some disturbances have occurred as a result of feral hog rooting and vehicle trespass. Overall, the salt marsh has recovered from the historical disturbances and can be found in an early successional stage.

Consisting of low shrubs and no canopy, with the majority of the vegetation that makes up the marsh includes species of saltwater rushes and sedges. The dominant plant species found in this community at the preserve is needle rush (*Juncus roemerianus*).

Wildlife found in this community includes the marsh rabbit (*Sylvilagus palustris*), white ibis (*Eudocimus albus*), and raccoon (*Procyon lotor*).

Spoil Area
2.6 acres with 1.1% total preserve coverage

Composed of deposited dredge or spoil material, this community is a result of canal, utility corridor, and neighboring residential development construction. The linear spoil area along the northern boundary of nomination #128 is a result of the IDD "T" canal and has largely been re-colonized with live oak (*Quercus virginiana*), cabbage palms (*Sabal palmetto*), and various herbaceous species. A smaller linear spoil area adjacent to the drainage canal and utility corridor is a result of the creation of these developed areas. This spoil has been re-colonized with a mix of native and invasive exotic grasses, such as torpedograss (*Panicum repens*). Invasive exotic control treatments are on-going to control the spread of infestation to neighboring communities.

The smallest spoil area is located adjacent to a residential development, and is the result of the construction of the neighborhood roadway and storm water pond levee. The developed roadway dead-ends on the spoil pile, and C20/20 staff placed a gate at the preserve boundary to prevent unauthorized motorized vehicle access. Portions of this spoil area have re-colonized with cabbage palms and saw palmetto (*Serenoa repens*). Due to the small sizes of the spoil areas, the wildlife found in each area matches those species found in neighboring communities.

Unconsolidated Substrate
0.8 acres with 0.3% total preserve coverage

Also known as a mud or tidal flat, this community features relatively open tidal waters that lacks large plant populations. It is associated with the mangrove swamps at EMP, and often appears as the center of ringed swamps. Visible in the historical aerials included in the Land Use History section of this plan, these rings have slowly closed in over time and the unconsolidated substrate area has reduced. This community is tidally influenced by the Hendry Creek watershed.

Wildlife includes a variety of crabs, saltwater fish, invertebrates, and larger animals foraging in the open water of the community. White ibis and green heron (*Butorides virescens*) have been found foraging in the transitional grade between the mangrove swamp and unconsolidated substrate.

Utility Corridor
2.8 acres with 1.2% total preserve coverage

Defined as "electric, gas, or telephone right-of-ways" (LCPR 2012), the east to west corridor that runs along the northern boundary of nomination #66 and bisects #128 is largely dedicated to the powerline of the Florida Power and Light company. This utility line extends across the preserve to Island Park Road to the east, and extends toward the west to the residential developments along Winkler Road across Hendry Creek. The corridor corresponds to a utility/electric easement and has raised elevation, but has not been largely re-colonized due to a top layer of gravel. C20/20 staff mow the easement seasonally to maintain access, and treatment of invasive exotics is on-going. Wildlife in the corridor is typically traveling through it from a neighboring community. Reptiles, such

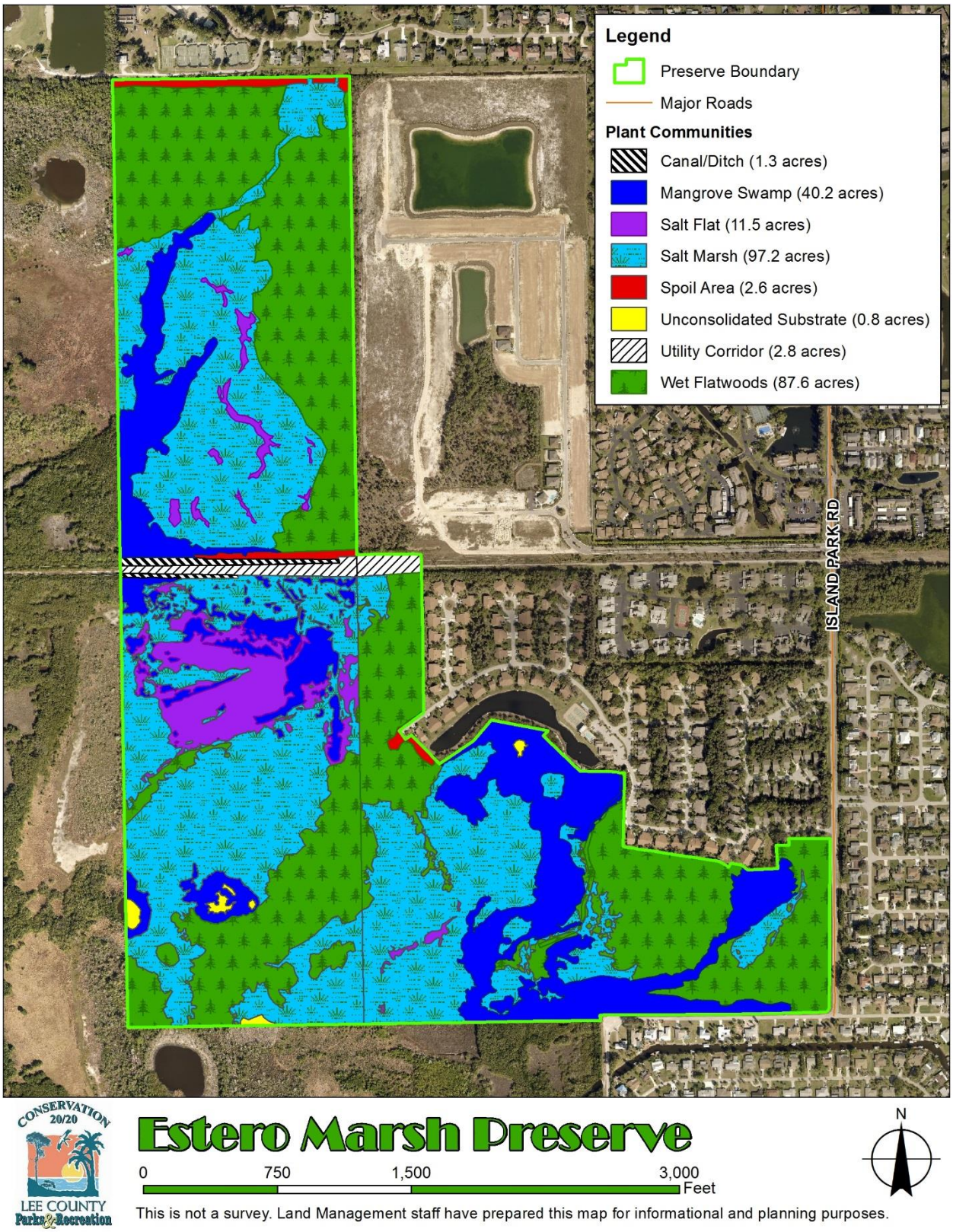
as the southern black racer (*Coluber constrictor priapus*), have been seen using the bank of the easement to sun themselves and common ground-doves (*Columbina passerina*) have been seen foraging along the corridor.

Wet Flatwoods
87.6 acres with 35.9% total preserve coverage

Wet flatwoods are generally characterized as occurring on flat, poorly drained soils with open canopy forests of scattered pine trees and cabbage palms. The understory should be sparse with dense ground cover vegetation. All of the vegetation found within this community must endure stresses caused by water saturation in the wet season and dehydration during the dry season.

The invasive exotic plants that once dominated the community have been reduced to a maintenance level. The area is still in an early successional stage due to the continued recovery from restoration activities, but has quickly become shrub-dominated due to a lack of fire. Without application of prescribed fire or mechanical brush reduction, the understory will continue to fill in with tall saw palmetto, cabbage palms, and live oak. The canopy of the wet flatwoods at EMP is currently dominated by scattered south Florida slash pines (*Pinus elliottii var. densa*). Wildlife found in this community includes white-tailed deer (*Odocoileus virginianus*), bald eagle (*Haliaeetus leucocephalus*), bobcat (*Lynx rufus*), and dusky pygmy rattlesnake (*Sistrurus miliarius barbouri*).

Figure 7: Plant Communities



iii. Fauna

The size and location of EMP adjacent to a large state park provides habitat for a variety of wildlife. The types of wetlands and plant communities also create a unique transitional area for wildlife found in both saltwater and freshwater communities. A small number of designed wildlife species classified as threatened or endangered, as well as species designated as exotic or invasive have been recorded at the preserve.

A majority of wildlife observations occur during tri-annual site inspections that are conducted by C20/20 staff to monitor wildlife species, plant species, trespass or encroachment issues, restoration projects, or other management activities. These inspections are conducted at all C20/20 preserves, beginning once the parcel has been acquired, and the data collected are used by land managers to design and plan management activities. EMP is also a site surveyed for bird species by the Lee County Bird Patrol, a subgroup of the Lee County Volunteer Services. These volunteers patrol various C20/20 preserves and collect data on the types and numbers of bird species observed. These data are entered into the online database at eBird.com and made available for land managers to add to species lists, and to use for planning and designing management activities.

The species lists created by these surveys will continue to be added upon or modified as future observations occur. Appendix C contains the complete list of wildlife documented at EMP, and the Designated Species section of this plan will discuss any listed species observed. Exotic wildlife species observed at the preserve are also included in the species list and have been compiled into Table 3. Additional information about wildlife on all C20/20 preserves can be found in the LSOM Land Stewardship Plan Development and Supplemental Information section.

Table 3: Exotic Wildlife Observed at EMP

	Common Name	Scientific Name
Mammals	nine-banded armadillo	*Dasypus novemcinctus*
	feral hog	*Sus scrofa*
Birds	Eurasian collared-dove	*Streptopelia decaocto*
	European starling	*Sturnus vulgaris*
	common myna	*Acridotheres tristis*
Reptiles	brown anole	*Anolis sagrei*
Amphibians	Cuban treefrog	*Osteopilus septentrionalis*
Insects	melaleuca psyllid	*Boreioglycaspis melaleucae*
	melaleuca weevil	*Oxyops vitiosa*

Wildlife management at the preserve will focus on providing optimal habitat for native species by continuing to improve hydrology, treating and controlling invasive exotic plants species, and application of prescribed fire. The tri-annual site inspections conducted at EMP will allow staff to monitor any impacts or changes to the preserve,

and any new species observed during one of these inspections will be added to the species list. Land managers will take proper management measures to protect and promote native species populations and control populations of species of high concern.

One species of particular concern at EMP is the feral hog. This species was established in the United States by early explorers and can now be found in at least 35 states, including Florida (Giuliano 2010). These animals prefer large hammock communities with dense understories for cover while foraging and resting. They are omnivores with opportunistic feeding tendencies that typically consume plant material, but have been known to eat small birds, fish and dead animals. Hog rooting, the foraging method that uses the snout to dig into soils, causes extensive damage to natural communities and disrupts hydrological flow. Lee County has taken steps to control feral hog populations by utilizing contracted wildlife trappers to remove the animals from select C20/20 preserves. EMP does not have a large population of hogs, but signs of the animals appear in the marshes and wet flatwoods during the fall and winter seasons when freshwater and desirable plant material is abundant for foraging. Land managers coordinate with the contracted trappers when the preserve begins to show negative impacts of feral hogs, and the animals are captured with live traps and removed from the site.

Another species that poses a large threat to the natural communities and has received a county-wide methodology for population control is the feral cat (*Felis silvestris*). While not observed or established at EMP, C20/20 preserves will follow the Florida Fish and Wildlife Conservation Commission (FWC) Feral and Free Ranging Cats policy: “To protect native wildlife from predation, disease, and other impacts presented by feral and free-ranging cats” (FWC 2003). C20/20 preserves will not contain nor will they support feral cat colonies, and feral cats will be trapped and taken to Lee County Domestic Animal Services. C20/20 staff will continue to work with the Animal Services staff to prevent the establishment of feral cat colonies on or adjacent to the preserve.

Not all exotic wildlife species pose threats to the natural communities. Some are intentionally introduced as biological control for invasive exotic plant species. Two of the species included in Table 3 and Appendix C, the melaleuca psyllid and melaleuca weevil, were introduced to help control the invasive exotic melaleuca tree. These two insects were studied extensively by the United States Department of Agriculture and the University of Florida to determine the positive and negative impacts the species would have on natural communities before both species were released in Florida. Both the weevil and psyllid have been successful at suppressing the rapid growth and spread of melaleuca. Combined with mechanical removals and chemical treatments, these biological control insects help land managers control the melaleuca infestation. These insects have been documented at EMP.

iv. Designated Species

There are a variety of designated animal and plant species found at EMP. Although all native plant and animal species found on the preserve have some protection due to the preservation of the property, certain species require additional protection. Imperiled species have been primarily classified under a federal listing created by the USFWS, and additional species have been listed by state environmental agencies when

classified as being locally imperiled species. For management purposes, all plant and animals listed by the USFWS, FWC, Florida Department of Agriculture and Consumer Service (FDACS), the Institute for Regional Conservation (IRC), and the FNAI will be given special consideration when planning recreation and restoration projects. If additional animals or plant species are documented at the preserve in the future, they will be added to the lists.

Wildlife

The following are brief summaries of select federally designated and state listed wildlife species, and reasons for their decline. Unless otherwise stated, causes for decline and management recommendations (if available) were obtained from “Field Guide to the Rare Animals of Florida” (Hipes et al. 2001).

Bald Eagle (State and Federally Protected)

In August 2007, the bald eagle was removed from the federal list of threatened and endangered species classified by the Endangered Species Act of 1973. The species continues to be federally protected through the Bald and Golden Eagle Protection Act enacted in 1940, the Migratory Bird Treaty Act enacted of 1918, and the Lacey Act of 1900 as amended. Additional protections were provided in the Post-delisting Monitoring Plan published by the USFWS in 2009.

State protections include the federal laws and local state rule 68A-16.002 presented in Florida Administrative Code. A newly published Species Action Plan (FWC 2017) written by the FWC updated and replaced the 2008 Plan and serves as a non-regulatory strategy to manage the species populations throughout Florida. Monitoring of statewide bald eagle nesting activity is conducted by the FWC Fish and Wildlife Research Institute, and the Audubon Society Eagle Watch. Nesting activity within Lee County is also monitored by the Eagle Technical Advisory Committee, created in 1986 by county ordinance number 86-15 (modified by ordinance 96-06) and populated by district representatives appointed by the BoCC.

EMP currently has one bald eagle nest in the northern section of the preserve, and a second nest is located on the EBPSP property adjacent to the southwestern corner of the preserve. Both juvenile and adult birds have been seen at the preserve perched in pine trees or soaring overhead. The birds nest and forage near coastal areas and bodies of water that provide concentrated food sources and tall, isolated nesting or perching trees with unobstructed views. Environmental pollutants and loss of habitat due to wetland draining, urban expansion, and timber clearing are major threats to bald eagle populations. Management recommendations for the protection of this species will be continued control of invasive exotic plant species, improve water quality, and adhere to active nest buffers to reduce disturbances during the breeding season.

Wood Stork (Federally Threatened)

Easily identified by the large size, white body feathers and iconic head with dark-gray coloration and scaly texture, the wood stork (*Mycteria americana*) is found in select coastal wetlands of peninsular Florida. Small flocks of the bird can be found foraging in the freshwater and brackish water wetlands at EMP. The bird forages in shallow freshwater areas where falling water levels concentrate fish and invertebrates.

Unnaturally high water levels during nesting seasons, loss of habitat due to wetland draining and urban expansion, and extended droughts are threats to the wood stork. Management recommendations for the protection of this species will be to improve water quality, continue controlling invasive exotic plant species, and to protect wetland water levels. The restoration of sheetflow at the preserve is one of the methods that land managers believe will provide more consistent water levels within the wetlands and create more foraging area for this designated species.

Herons and Egrets (State Threatened)

The loss of freshwater wetland and alteration of natural hydroperiods have affected the little blue heron (*Egretta caerulea*), tricolored heron (*Egretta tricolor*), and reddish egret (*Egretta rufescens*). There is also some indication that pesticides and heavy metal contamination may affect these species. Historically, these birds experienced a dramatic population decline due to plume hunting, but are now facing reduction of foraging and nesting habitat as a result of urban development and draining of wetlands. All of these species of wading birds may be seen at EMP. Management recommendations for the protection of these species will be to protect wetland habitat, improve water quality, and to continue controlling invasive exotic plant species within wetland areas.

Roseate Spoonbill (State Threatened)

Similar to the herons and egrets listed above, the roseate spoonbill (*Platalea ajaja*) populations are declining throughout their range due to the reduction and degradation of wetlands, and human disturbances to their rookeries. The unique pink feather coloration also led to the near-extinction of the bird due to plume hunting, and populations have slowly recovered with conservation efforts. This coloration of the feathers and skin is attributed to a diet consisting of organisms with high levels of naturally occurring carotenoid pigment. The specialized spoonbill that gives the bird its name is used to forage in shallow water of freshwater, saltwater, and brackish wetlands. The species can be found foraging throughout the wetlands of Lee County, including EMP, but does not nest locally. Management recommendations for the protection of this species will be to protect wetland habitat, improve water quality, and to continue controlling invasive exotic plant species within wetland areas.

Florida Sandhill Crane (State Threatened)

Visually identical to the migratory sandhill crane, the sub-species (*Grus canadensis pratensis*) is a year-round resident of peninsular Florida within appropriate habitat. The birds forage in freshwater wetlands, pastures and prairies, but nesting activities are limited to the shallow edges of freshwater wetlands. It is widely believed that population numbers for the species have not changed since first being estimated around 4,000 birds in the 1970s. Both foraging and nesting habitat for the species has been lost due to the draining and destruction of wetlands and natural prairies for development. Limited numbers of Florida sandhill cranes have been observed at EMP. Management recommendations for the protection of this species include improving water quality, protecting wetland water levels, continuing to control invasive exotic plant species within wetland areas, and implementing prescribed fire to maintain open canopy plant communities.

Southeast American Kestrel (State Threatened)

This sub-species of the American kestrel, the southeastern American kestrel (*Falco sparverius paulus*), can be found in open pine communities, woodland edges, prairies, and pastures throughout Florida. This species is visually non-distinguishable from the American kestrel (*Falco sparverius*), and both species can be found in Lee County. The American kestrel is migratory and does not nest in Florida, only appearing during the winter and spring seasons. The southeastern American kestrel is non-migratory and can be found year-round in many open canopy habitats of the southeastern United States, and has been listed as threatened by the FWC due to habitat loss from conversion of natural communities into citrus groves.

This species requires open canopy communities for foraging, and nests in cavities of tall snags or utility poles with unobstructed views of the surrounding area. Breeding has been documented in pasture communities, but these areas lack the snags necessary for nesting cavities. Management recommendations for the protection of this species include continued control of invasive exotic plants, implementation of prescribed fire to maintain open canopy plant communities, and leaving standing snags to increase nesting opportunities.

American Alligator (Federally Threatened for Similar Appearance)

Habitat loss and overhunting once brought the *Alligator mississippiensis* population to extremely low numbers in the 1950s. Through federal protection and conservation efforts, this species has made a healthy recovery and can now be found in freshwater and brackish wetlands throughout the southeastern United States. Alligators can be found in the salt marsh and drainage canals at EMP.

While the species is no longer federally designated for the protection of the population, it has remained a designated species as “Threatened for Similar Appearance” because of the similarities to other members of the family Crocodylia that are population-protected. Alligator populations in some areas of Florida are stable enough that the FWC allows heavily regulated harvest, but there is no hunting or trapping of alligators permitted on any of the C20/20 preserves.

Gopher Tortoise (State Threatened)

One of only two native land tortoise species in Florida, the gopher tortoise (*Gopherus polyphemus*) is dependent on dry upland plant communities for burrows and foraging. Habitat lost to development, agriculture and mining operations has reduced the species population numbers and foraging range. Additional threats include a highly contagious respiratory disease and human consumption. Loss of this species can impact the health of an ecosystem, because the gopher tortoise burrows create smaller habitats for hundreds of species; if the tortoise disappears, the burrows disappear. The unique relationship within the ecosystem makes the tortoise a keystone species, a term that land managers use to designate a species of importance whose presence can control the health and success of a natural community.

This species has taken advantage of the spoil, berms, and higher elevations of the wet flatwoods at EMP. A few gopher tortoises have been observed at the preserve since it was acquired. Continued control and removal of invasive exotic plants, and

implementation of prescribed fire to maintain open canopy plant communities will benefit this species. Due to the large percentage of wetland coverage at the preserve, land managers do not expect the population of tortoises to expand, but will continue to protect the available burrowing habitat for tortoises at the preserve and provide foraging habitat for tortoises in the surrounding area.

Plants

In addition to designated wildlife, EMP provides habitat for several listed plant species. The IRC, which is not a regulatory agency, maintains a separate listing of threatened plant species. The scientists working for this institute have documented plants occurring in conservation areas in the ten southernmost counties of Florida. This initial floristic inventory allowed the IRC to rank plant species to indicate how rare or common these plants are in protected areas. For information on the parameters used to rank these species, refer to the IRC publication "Rare Plants of South Florida: Their History, Conservation, and Restoration" (Gann 2002).

In the IRC publication, the authors provide recommendations to restore south Florida's rare plant diversity. Several of these recommendations, particularly those that protect plants on the preserve and relate to management practices will be followed. More information on the specific restoration and preservation techniques used will be discussed in the Management Action Plan section of this management plan. The following list highlights those recommendations by the IRC that will be incorporated into the management of EMP.

- Ensure preserve improvements and management activities do not needlessly threaten or destroy rare plant populations.
- Prevent illegal poaching of rare plants and prosecute poachers to the fullest extent of the law.
- Continue to implement an exotic pest plant control program.
- Educate exotic plant control crews about rare plants to ensure they avoid non-target damage.
- Trap feral hogs, if recorded at the preserve, to prevent destruction of vegetation and disturbance of soil due to rooting (foraging).

The following include a brief summary of state listed plant species classified by the FDACS, including reasons for their decline and the typical plant communities in which they can be found. A complete list of plant species observed at EMP, including designated and invasive exotic species, can be found in Appendix D. Additional designated plant species will be added to the list as they are documented on the preserve.

<u>Cardinal Airplant, Giant Airplant, Reflexed Wild Pine, and Twisted Airplant</u>

These airplant species can typically be found growing on various types of trees in flatwoods, wetlands, and swamps around Lee County. They have been documented in several scattered areas of EMP, and are considered to have been quite common in Florida before the arrival of the Mexican bromeliad weevil (*Metamasius callizana*). Additional threats to these species include illegal collecting and habitat destruction (Larson et al. 2016).

The FDACS has designated statuses to each of these airplant species. The reflexed wild pine (*Tillandsia balbisiana*), also known as a northern needle leaf, and the twisted airplant (*Tillandsia flexuosa*) are state-threatened; the twisted airplant has also been classified as rare by the IRC. The cardinal airplant (*Tillandsia fasciculate var. densispica*) and giant airplant (*Tillandsia utriculata*) are state-endangered. Management for these species will include protection of habitat, enforcement of poaching laws, and continued control of exotic vegetation.

Florida Butterfly Orchid (FDACS Commercially Exploited Status)

Although locally abundant in Lee County (Brown 2002), the Florida butterfly orchid (*Encyclia tampensis*) is threatened by orchid poaching and habitat destruction. This species can be found growing on various types of trees throughout the wetland communities of the preserve. Management for this species will include habitat protection, enforcement of poaching laws, and continued control of exotic vegetation.

West Indian Mahogany (State Threatened)

Destruction of natural lands for development and timber harvesting have made naturally occurring mahogany stands increasingly rare. A small population of West Indian mahogany (*Swietenia mahagoni*) has been documented in the shrubby wet flatwoods of EMP, and management for this species will be habitat protection and continued control of exotic vegetation.

v. Biological Diversity

General information on biological diversity and measures used to promote biological diversity can be found in the LSOM Land Management Plan Development and Supplemental Information section. The integrity and diversity of EMP must be protected when and where possible. Land management staff will perform the following actions in this regard.

- Control of invasive exotic vegetation followed by regular maintenance to provide more suitable habitat for native aquatic and terrestrial species.
- Maintain boundaries with signs to eliminate illegal access to the preserve and protect fragile ecosystems.
- Install and maintain “No Berry Picking” signs to inform visitors and vegetation poachers it is illegal to harvest on the preserve.
- Prevent and prosecute poaching and illegal removal activities (palmetto berry harvesting, illegal hunting, orchid collection, etc.)
- Remove any debris and prevent future dumping within the boundary line.
- Conduct on-going species surveys to catalog and monitor plant and wildlife diversity.
- Reduce canopy cover in appropriate habitats to promote herbaceous plant diversity.
- Use adaptive management if monitoring of current techniques indicates a change may be necessary.

C. Cultural Resources

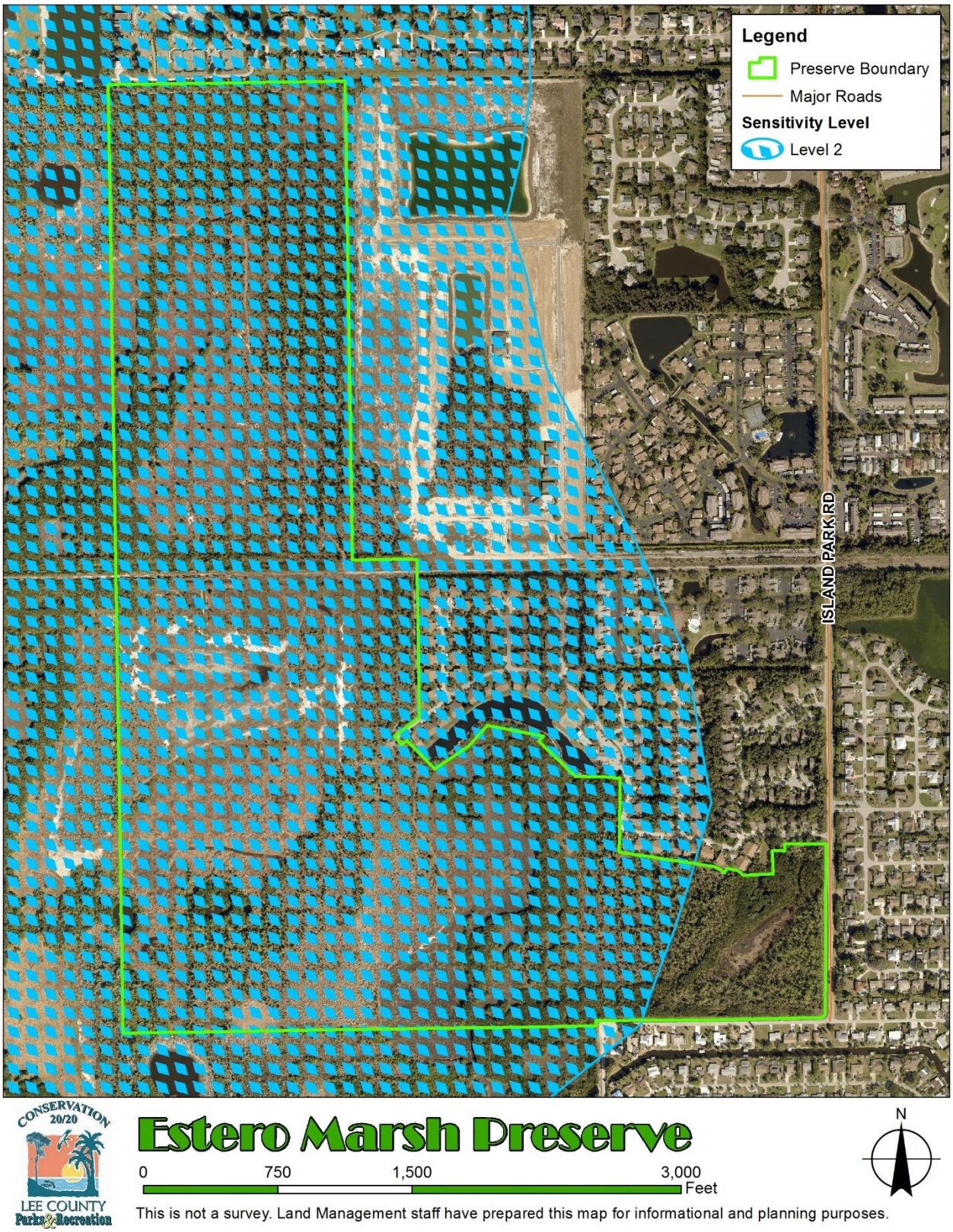
i. Archaeological Features

In 1987, Piper Archaeological Research, Inc. (PARI) conducted an archaeological site inventory of Lee County. They were able to identify 53 additional archaeological sites, increasing the total number of known sites in Lee County to 204. Using the data collected, PARI created a site predictive model and archaeological sensitivity map for the county that highlighted potential area likely to contain additional archaeological sites. EMP is located in a portion of the coastal area identified by PARI as a sensitivity level 2 (Figure 8), which they defined as:

> "Areas that contain known archaeological sites that have not been assessed for significance and/or conform to the site predictive model in such a way that there is a high likelihood that unrecorded sites of potential significance are present. If these areas are to be impacted, then they should be subjected to a cultural resource assessment survey by a qualified professional archaeologist in order to 1) determine the presence of any archaeological sites in the impact area and/or 2) assess the significance of these sites" (Austin 1987).

While there is a recorded historic site a little over a mile from EMP, there are no known historic or archaeological resources documented at the preserve to date. An archaeological survey was not required by the Florida Division of Historical Resources (DHR) prior to the IPRM restoration project, because the project was limited to mitigation activities and no evidence of shell middens or artifacts had been observed in the area. If archaeological resources are ever identified at the preserve, the site will be managed in coordination with recommendations from the DHR with periodic monitoring for impacts. If any significant archaeological resources are found and confidentiality is not found to be necessary, they will be incorporated into the public education program. General information on archaeological features in Lee County can be found in the LSOM.

Figure 8: Archaeological Sensitivity



ii. Land Use History

The majority of impacts to EMP and the surrounding area have resulted from infrastructure development and urban expansion. After construction of the Tamiami Trail, now known as U.S. Highway 41, southwest Florida became more accessible for urban development and industrial production. Agricultural farming and cattle ranching, timber logging, and residential community development began dominating the Lee County landscape. The infrastructure needed to support these land uses also began appearing, and the area soon featured a network of drainage flowways, roads, railroads, airports, and electrical utility powerlines.

In Figure 9, the 1953 aerial imagery shows the early impacts of urban development to the Estero Bay watershed in the form of drainage canals and clear-cutting. The two canals are the IDD flowways that are still evident in present day. The clear-cutting was done on property adjacent to the preserve for agricultural farming, but the area appears to have been abandoned and has become overgrown. By 1975 (Figure 10), these once-cleared areas have become completely overgrown as well as the northern IDD canal. However, the central IDD canal has been cleared out and Island Park Road has been constructed along the eastern boundary of EMP. A residential community with additional drainage canals has been constructed over the tidal marshes that once existed at the southeastern corner of the preserve.

Urban development around EMP expanded drastically by 1986, and the aerial image (Figure 11) shows residential community construction encroaching on the preserve from the north, east, and southeast. The neighboring EBPSP began land acquisition in 1987, preserving the Estero Bay watershed and the western boundary of EMP. The plant communities within EMP begin to show noticeable signs of change where the open salt marsh and salt flats have begun to fill in with dense vegetation, likely a result of invasive exotic plant introduction and altered hydrology. Trails have also been cut into the preserve area along the western boundary of nomination #66, and the entirety of nomination #506 was cleared where a boardwalk was constructed by the Island Park Village residential community.

These cleared trails, and most of the previously open natural plant communities, have become overgrown with dense vegetation by 1996 (Figure 12). Construction of residential communities in the area around the preserve has been completed and EMP is bordered on the north, east, and southeast by multi-family and single family housing with storm water retention ponds and additional drainage flowways. The Conservation 20/20 program was established during 1996, but the first parcel of EMP wouldn’t be nominated for acquisition by the program for another year.

The property owner decided to sell the parcel instead of developing it, and an interest in land conservation had prompted them to nominate the parcel to C20/20 in November 1997 despite purchase offers from other land developers. The aerial image for 1998 (Figure 13) does not show a significant amount of external influence changes, but shows that portions of the upland communities within nomination #66 had been thinned. The parcel was finally acquired in December 1999, and was joined by nomination #128 in 2001.

The parcels acquired to this point had minimal development, but the disturbances caused by vegetation thinning and creation of trails and drainage canals allowed the introduction of invasive exotic plant species and altered the hydrologic flow within the preserve wetlands. A restoration project designed to restore water flow and remove the invasive exotic plants, known as the IPRM project, began construction in 2006 and is easily seen in Figure 14. Monoculture stands of melaleuca and Brazilian pepper were removed, and cuts were made into the berms of the drainage canals to bring water back into the wetlands of the preserve. By 2010 (Figure 15), native plantings and natural recruitment have covered the restoration area with a healthy growth of native vegetation. The restored marshes and flowways can be seen holding water, providing natural filtration and habitat. Treatments to control invasive exotic plant species continued annually through the IPRM program to maintain the native plant communities and permit compliance.

In 2014 (Figure 16), nomination #506 was acquired through the C20/20 program and joined EMP. This parcel had been excluded from nomination #66 in 1997 because of a boardwalk that was owned and maintained by the Island Park Village residential community, who decided to remove the feature during the IPRM restoration project. The impact of a 2013 wildfire can be seen along the southern boundary line of the preserve; approximately 17 acres of preserve property and 17 acres of EBPSP property were burned. To control the wildfire, the Florida Forest Service (FFS) created 3,430 feet of plowed trails to act as firebreaks and prevent the fire from spreading. The majority of vegetation had recovered when the aerial image was taken, but the lines from the plowed trails are still evident in the salt marsh and mangrove communities.

The last parcel of undeveloped privately-owned land adjacent to EMP was cleared for construction of a residential community by 2016 (Figure 17). The entrance road, some structures, and utility infrastructure can be seen on the aerial image. The proximity to the coastline is desirable for residential communities, and full development of this community is expected. Impacts from urban development will continue to be controlled within the boundaries of the preserve.

Figure 9: Historical Aerial (1953)

Figure 10: Historical Aerial (1975)

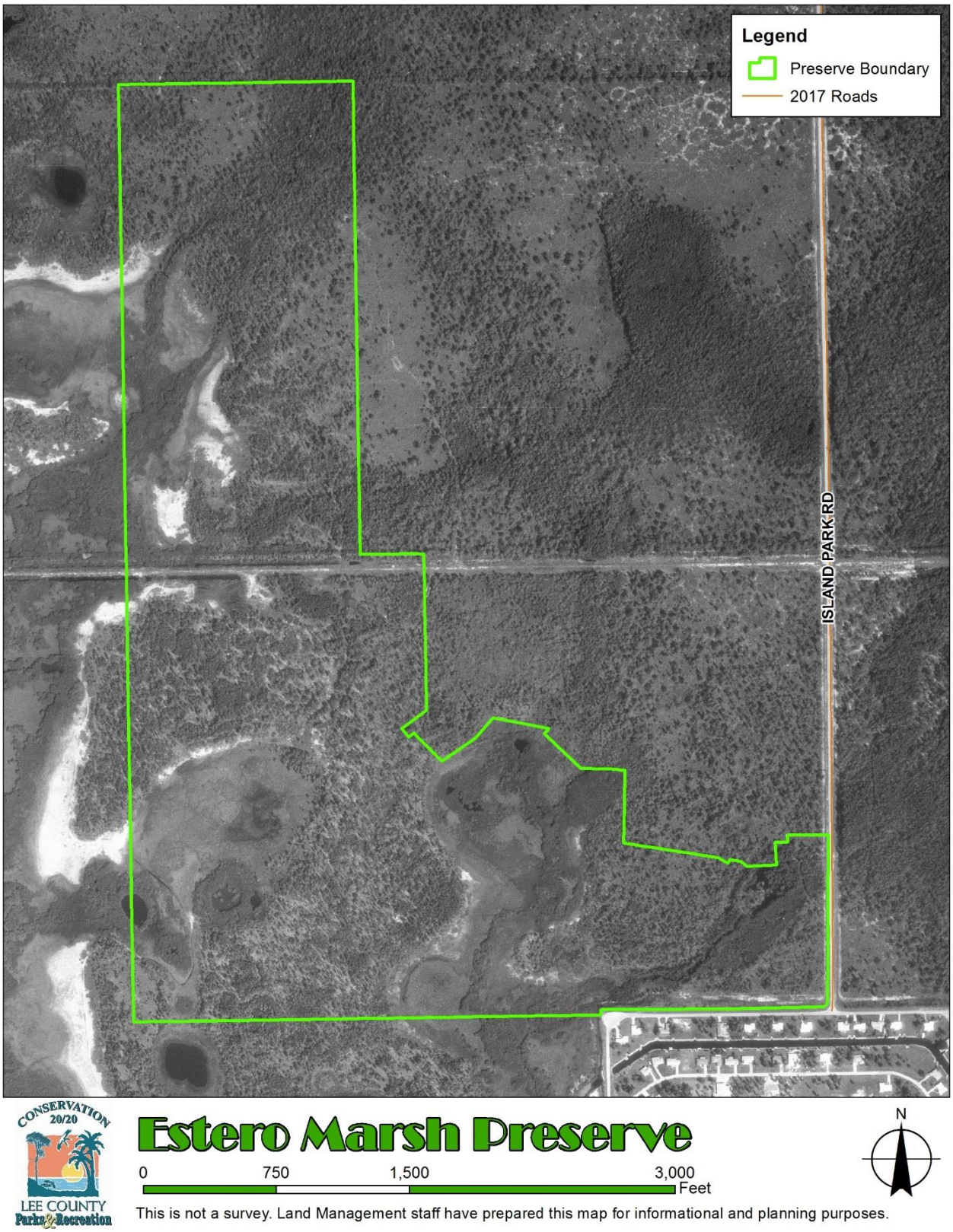


Figure 11: Historical Aerial (1986)

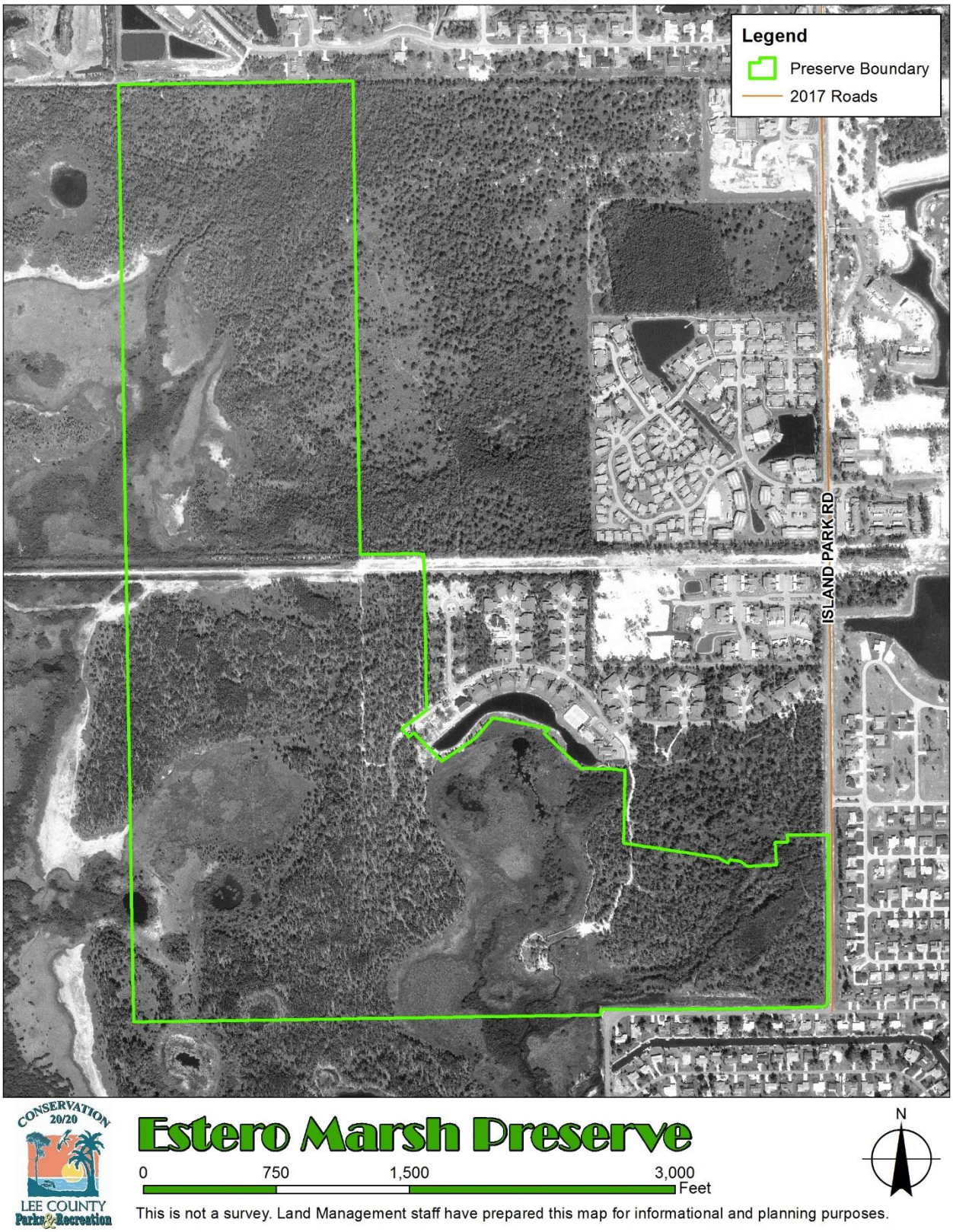


Figure 12: Historical Aerial (1996)

Figure 13: Historical Aerial (1998)

Figure 14: Historical Aerial (2008)

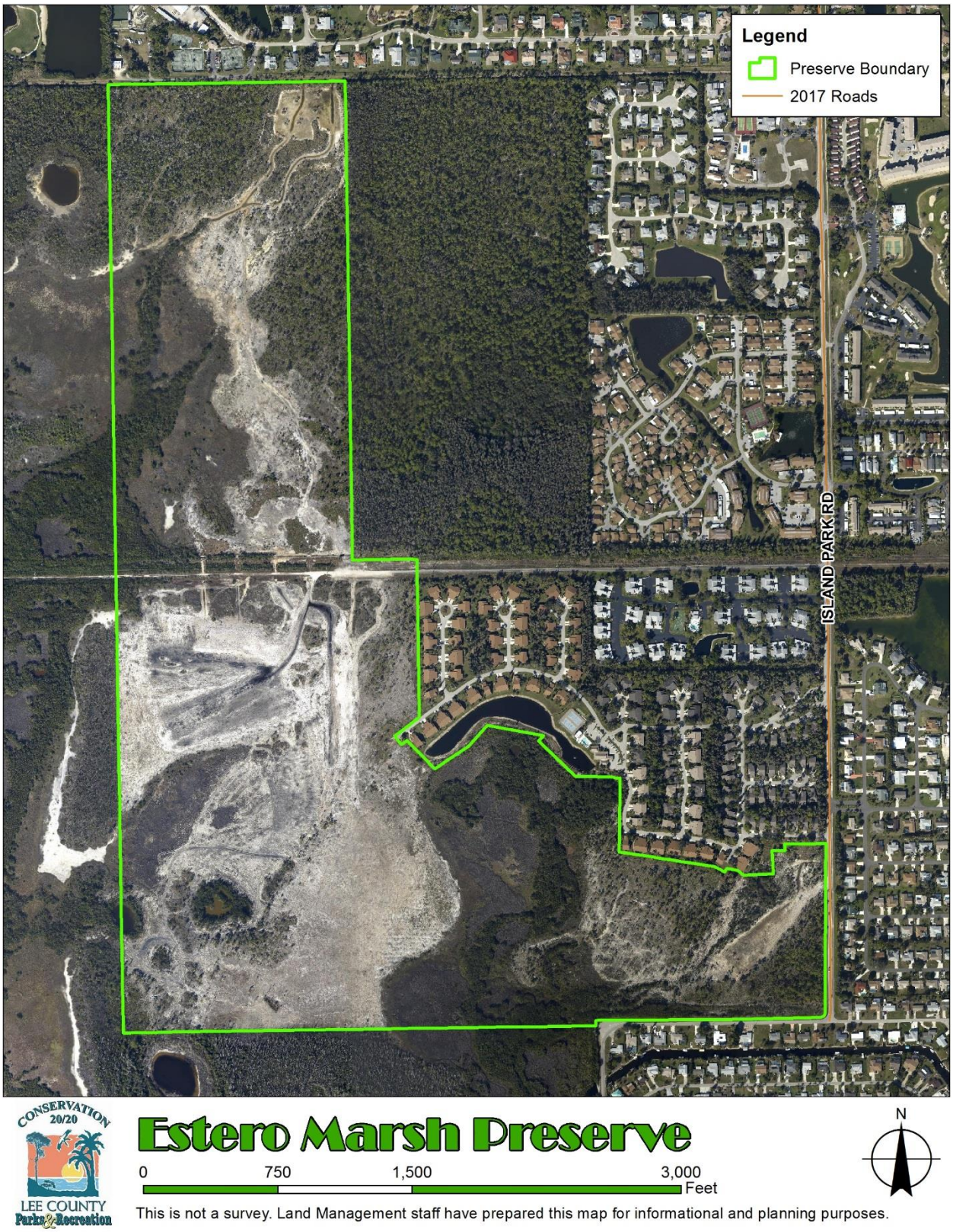


Figure 15: Historical Aerial (2010)

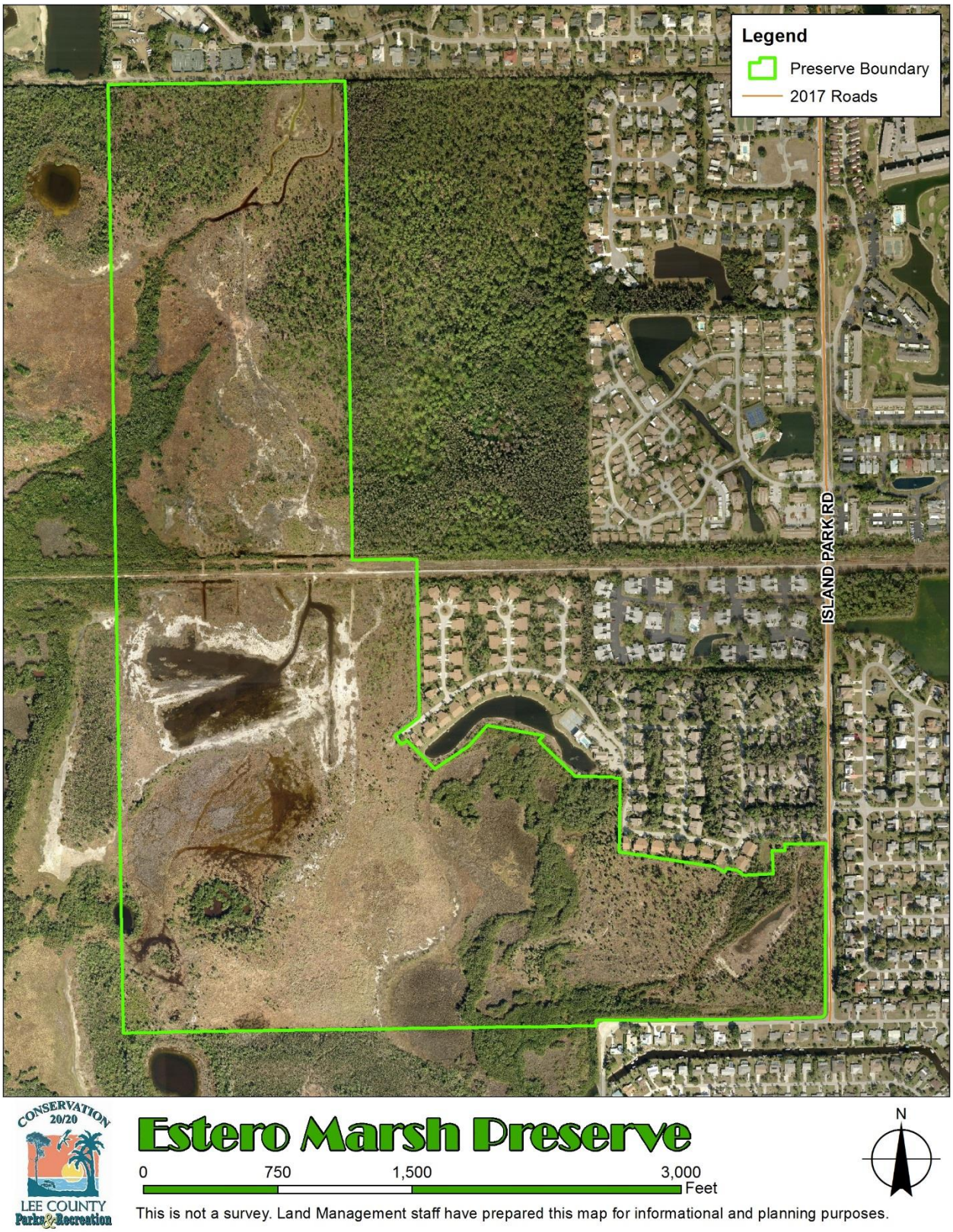


Figure 16: Historical Aerial (2014)

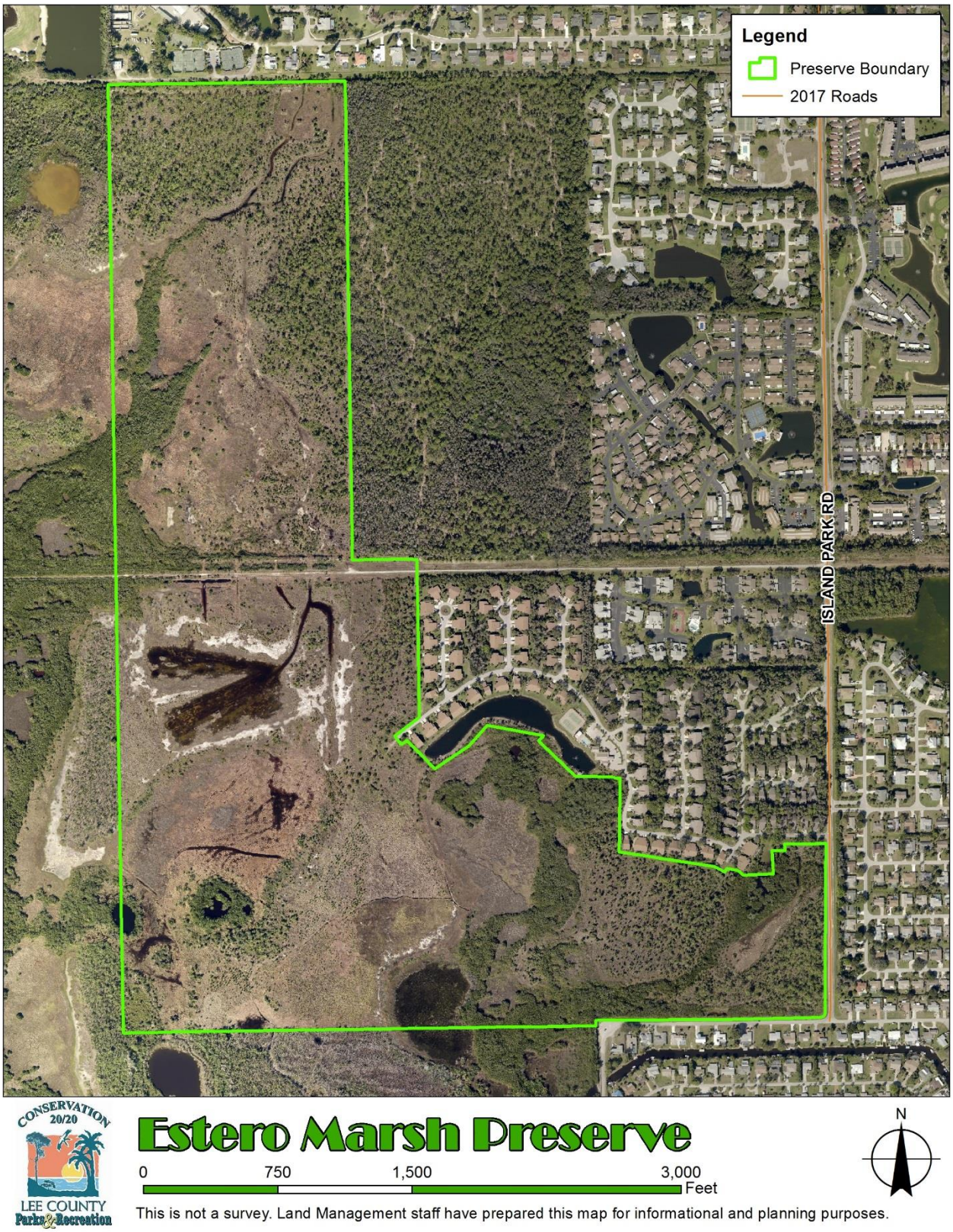
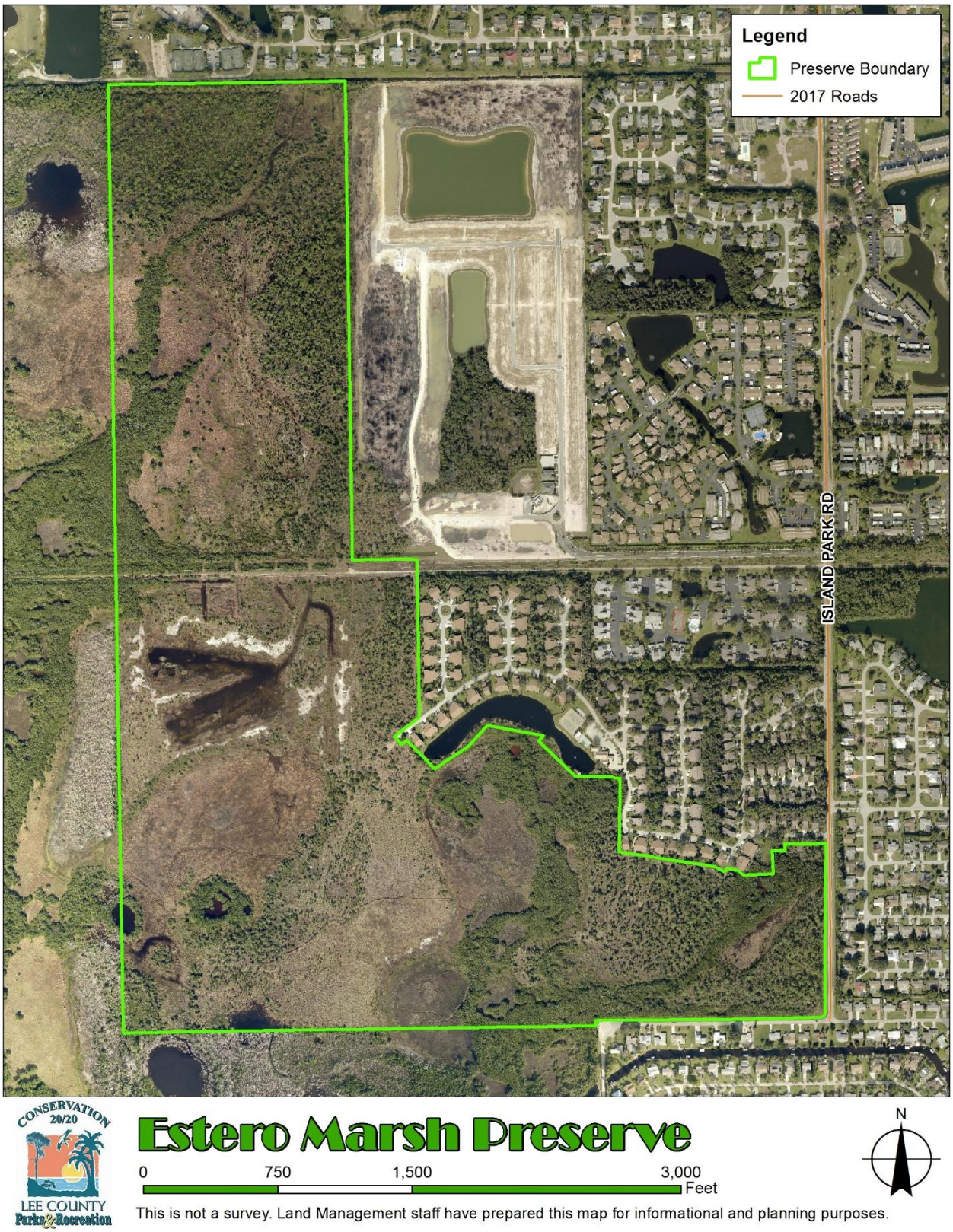


Figure 17: Historical Aerial (2016)



iii. Public Interest

EMP was purchased for the preservation of environmentally sensitive lands, flood protection, potential to provide water quality enhancements, and to provide protection of the Estero Bay and Hendry Creek drainage basins. The preserve, with neighboring EBPSP, contributes to contiguous wetland habitat that allows potential contaminants in runoff water to filter out before flowing in a southerly direction to the Estero Bay. The tidal wetlands and mangrove swamps also provide some protection to the coastline from extreme weather events, and the purchase of the preserve for conservation land prevented this area from becoming developed.

The preserve features two pedestrian access gates, but does not have a designated hiking trail system or public parking area. The majority of visitors to the preserve are residents of neighboring residential communities. While there is currently no method to count the number of visitors to EMP, the signs of use at the preserve show that the firebreaks and powerline easement receive light use.

The preserve has a history of, and continues to have an issue with vehicular trespass. Signs of off road utility equipment and larger all-wheel drive vehicles are present in the tire tracks found in portions of the salt marsh and salt flat communities. Management staff continue to monitor and repair breaks in perimeter fence line that may be the method of access for this trespass, but are unable to secure the access gates on the powerline easement that bisects the preserve. C20/20 staff continue to work with local and state law enforcement agencies and LCPR rangers to patrol and secure the preserve.

Public outreach presentations and walking tours have been held, and neighbor letters and flyers have been mailed to residential communities with the goal of educating neighboring residents about approved recreational opportunities and conservation. These outreach efforts have provided staff contact information to neighboring residents, who have been able to report vehicle trespass incidents more quickly to LCPR rangers. C20/20 staff will continue to educate and inform the public about the preserve through various methods with the goal of reducing or eliminating unauthorized use and illegal vehicle trespass.

V. Factors Influencing Management

A. Natural Trends and Disturbances

Natural trends and disturbances influencing native communities and management at EMP include hurricanes, wildfire, occasional freezes, and the pattern of wet and dry seasons. Implementation of the Management Action Plan will take all of these factors into consideration, including their influence on projects at the preserve. For example, a tropical storm or hurricane could damage large amounts of vegetation that would need to be removed or mulched if the debris caused negative impacts to wildlife habitat or public safety from a wildfire.

The preserve has had one wildfire and two severe storm events since the last management plan edition: Hurricane Irma, tropical disturbance “Invest 92L,” and a May 2013 wildfire. The storms caused flooding to the preserve and residential development along Island Park Road, and C20/20 staff responded to remove damaged or hazard

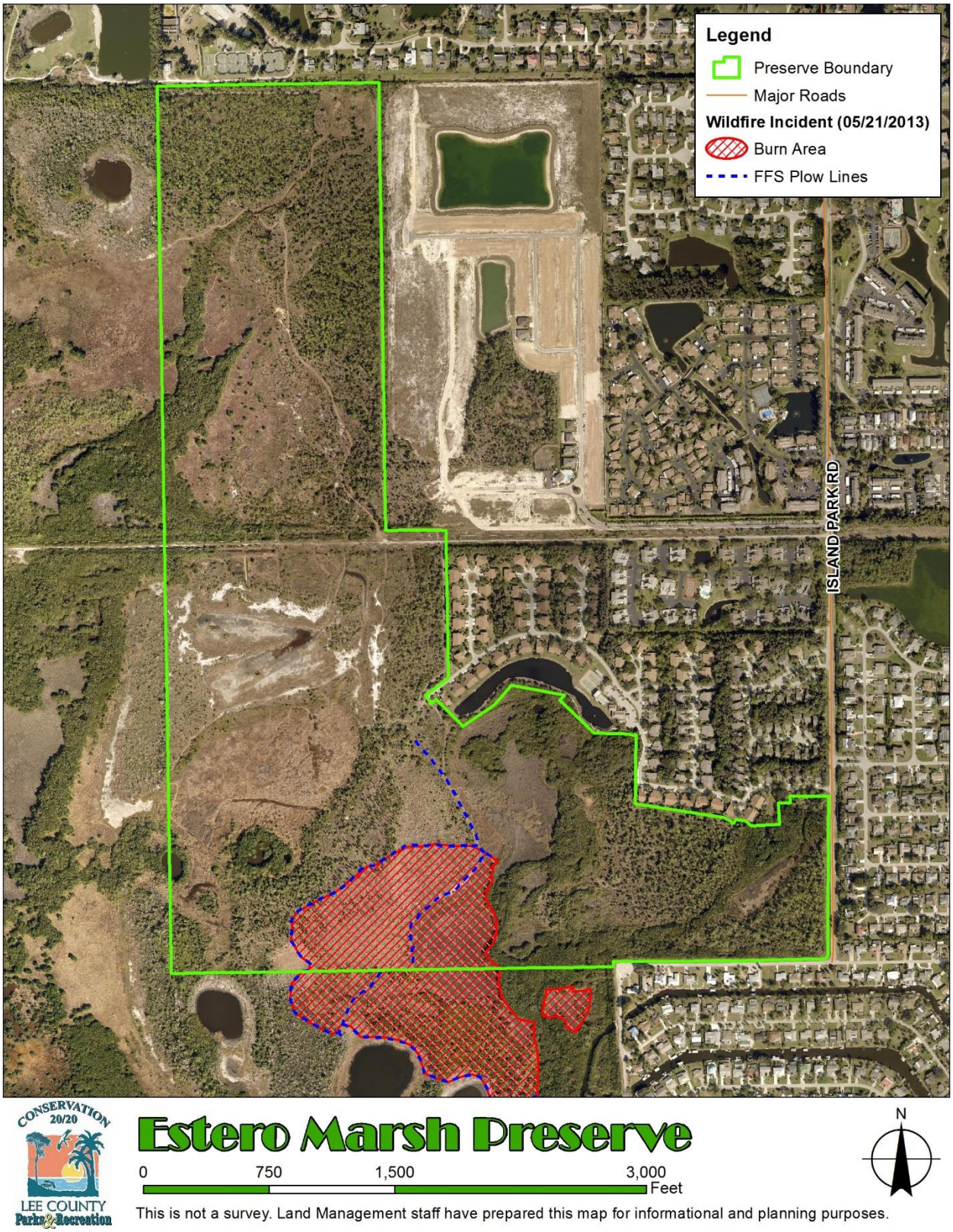
trees from boundary lines. The May 2013 wildfire was ignited by a lightning strike in a salt marsh south of the preserve in the EBPSP property where it burned 17 acres before crossing into EMP and burned another 17 acres before being contained by the FFS (Figure 18). Wildfire caused by lightning strikes is one of the most frequent natural occurrences in Florida, but fires close to residential development are contained and suppressed to protect the public and private property.

C20/20 staff work with FFS staff to reduce the threat of wildfire to neighboring residents. Prescribed burning could be used by land managers in the future as a management tactic at EMP to reduce fuels and decrease the risk of wildfires. This tactic would be focused on the fire-dependent communities that require fire to maintain canopy densities and for native plant recruitment, such as the wet flatwoods and salt marshes. Firebreaks are also used to reduce the threat of wildfire to structures adjacent to the preserve, and are seasonally maintained by heavy equipment as site conditions allow.

Other management activities at the preserve will include continued invasive exotic plant treatments, debris removal, and fence repair. These activities will be most influenced by seasonal hydroperiods, tides, weather, and the presence of designated species. The use of heavy equipment will be limited to the cooler dry season to reduce negative impacts to the plant communities, hydrology, and gopher tortoise population. Management activities in the southwestern corner and northern portion of the preserve will be planned around the nesting season of the bald eagle in these areas; one nest has been documented on the EBPSP with a buffer that extends into EMP, and another has been documented on the preserve.

Land management staff will conduct periodic site visits and tri-annual preserve inspections to monitor the condition of the fences and firebreaks, and will schedule mowing and disking of the firebreaks as site conditions allow. General information on natural trends and disturbances influencing native communities and management is included in the LSOM Land Stewardship Plan Development and Supplemental Information section.

Figure 18: Wildfire History



B. Internal Influences

Several human-caused influences have impacted the natural communities and management at EMP, and those that are visible on the landscape can be seen on Figure 19 after the External Influences section. Infrastructure development including powerlines and drainage ditches, residential development, historic logging activities, exotic plant removal efforts, and hydrologic alterations have all influenced the preserve. Not all of the influences have been negative, but have still caused a change to the existing state of the preserve.

Some of the positive influences to EMP are the restored communities, removed exotics, and constructed flow ways that resulted from the IPRM project. Melaleuca stands and isolated patches of other category 1 and 2 exotic plants classified by the Florida Exotic Pest Plant Council (FLEPPC) were treated to restore natural plant communities. Water flow, essential to these natural communities, was restored to the preserve by cutting into the IDD ditches (Canal T and Canal U) and redirecting the water into the marshes of EMP with interior ditches that transitioned into sheetflow. It was also during this restoration that a conservation easement was designated over the project area of nomination #128 and #66, which was later edited to exclude the powerline and other easements.

The restored habitat has already provided positive impacts to wildlife at EMP, including the bald eagle. A nest located on the EBPSP near the southwest corner of the preserve has been documented since 2007, and a second nest located in the northern portion of nomination #128 has been documented since 2013. The presence of nesting bald eagles influences the timing of some management activities at EMP due to a nest protection buffer established to reduce disturbances to the species during the sensitive nesting season. These buffers are designated and monitored by the FWC and Lee County Eagle Technical Advisory Committee, and are supported by the Lee County Land Development Code (BoCC 2000) and the Lee Plan (LCDCD 2016).

Other beneficial influences include gates, fenceline, signs, and firebreaks at various points along the preserve perimeter. These features were installed and continue to be maintained by C20/20. The fences and boundary signs protect the preserve from vehicle trespass, and the firebreaks reduce the risk of wildfires to neighboring properties. Two information signs have been added to EMP that educate visitors about the preserve, including the permitted recreational opportunities, and to explain the restoration project that occurred. Visitors can access the preserve through two pedestrian access gates, but there are no parking areas or designated hiking trails.

Less positive influences to EMP include the construction of the IDD canals, designation of a utility/electric easement that bisects the preserve, construction of a powerline and associated maintenance road along the utility easement, and historic land use disturbances. These disturbances allow invasive exotic plant species to be introduced and become established, and disrupt natural sheetflow. Land managers are occasionally able to repair these disturbances, such as the removal of a boardwalk from nomination #506 that allowed the natural community to recover. Some disturbances, such as the IDD canals and powerline, are unlikely to ever be removed and C20/20 staff manage these features to have minimal impacts on the natural communities.

C. External Influences

Influences outside the boundaries of EMP that have impacted the preserve are largely human-caused and associated with residential development, and can be seen on Figure 19. Along the north, east, and a portion of the south boundaries of the preserve, the naturally occurring wetlands have been cleared and developed into residential communities. Many of these communities have man-made features including artificially raised topography, non-native landscaping, storm water retention ponds, recreation facilities such as in ground pools and tennis courts, and a large golf course. These features can result in fertilizer runoff, leached chemicals into the water table, invasive non-native plant seed sources, dumped landscaping debris, and higher volumes of water runoff due to non-permeable surfaces such as concrete.

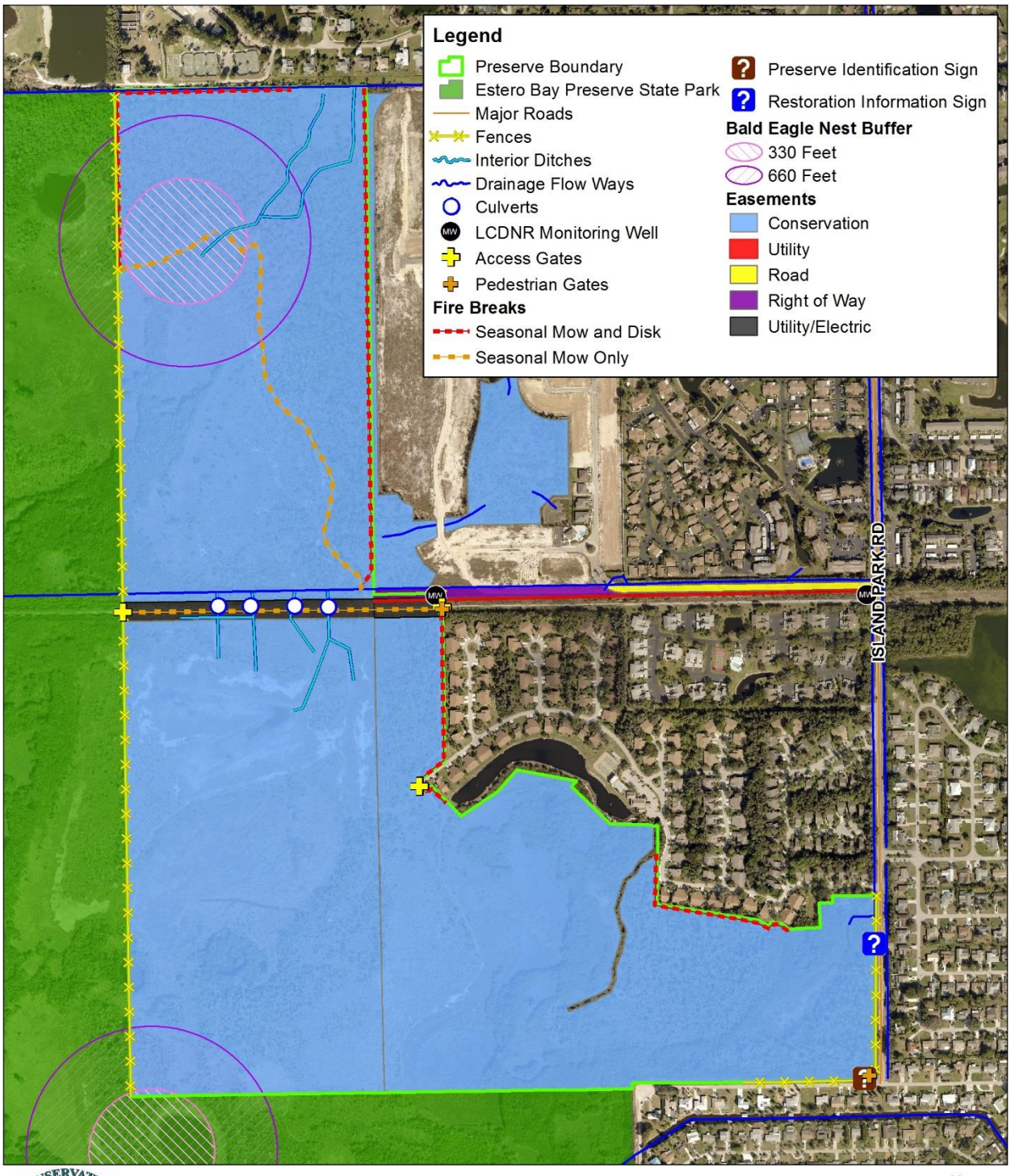
EMP is affected by these negative impacts when the two IDD canals or roadside drainage flow ways flush pollutants (non-native plant seeds, chemicals, fertilizers, or litter) into the restored wetlands. This is most easily seen throughout the northern boundary of the preserve where golf balls and litter that washed in from the IDD canal has been found. Some debris is also dumped by hand, such as landscaping debris thrown into the preserve along shared boundaries with neighboring residential communities. The non-permeable surfaces and raised topography of neighboring developments create higher volumes of freshwater runoff during rain events that can also transport pollutants further into EMP as the wetlands are flooded, simultaneously damaging saltwater marshes by diluting salinity.

Water from the Estero Bay and Hendry Creek can also influence the preserve during extremely high tide or storm surge events when saltwater floods through the wetlands of the EBPSP or backflows through the IDD canals. The saltwater is less detrimental to the preserve wetlands, but can impact woody vegetation of the inundated wet flatwoods if floodwaters do not recede quickly. Minor tidal influences from Hendry Creek occur within the wetlands and IDD canals during regular tide fluctuations, but these are short-term and natural occurrences within the wetlands.

This natural tidal movement is possible at the preserve because the area surrounding Hendry Creek and adjacent to EMP is part of EBPSP, a conservation property owned and managed by the FDEP. Together, these conservation properties create larger areas of habitat for native plant and wildlife species. Conservation easements placed over private property to the east also contribute to the larger habitat area.

Continued development of the Estero Bay basin will likely increase the freshwater runoff and pollutant impacts to the preserve that land managers are unable to control. The introduction of exotic and landscaping plants, dumping of yard waste, and illegal vehicle access are negative influences that can be prevented. C20/20 staff will work to educate the public and neighboring communities about native landscaping, permitted recreational uses of the preserve, and enforceable encroachment or trespass codes. If necessary, C20/20 staff will install additional fences or gates along sections of the preserve boundary to prevent negative impacts.

Figure 19: Internal and External Influences



D. Legal Obligations and Constraints

i. Permitting

Land management activities at EMP may involve obtaining permits from several regulatory agencies. Any proposed hydrologic improvements to the site may require obtaining permits from the FDEP, USACE, and SFWMD. Exotic plant species removal within the mangrove swamp may require obtaining a permit from the FDEP due to the possibility of injury to mangroves. Hydrological and habitat restoration projects requiring tree removal may require notification to the Lee County Department of Community Development (LCDCD). Restoration or management activities that cause soil disturbance within the Archaeological Sensitivity Zone will require a “Certificate to Dig” permit from LCDCD and notification to Florida’s DHR. The use of prescribed fire will require obtaining a burn permit from the FFS.

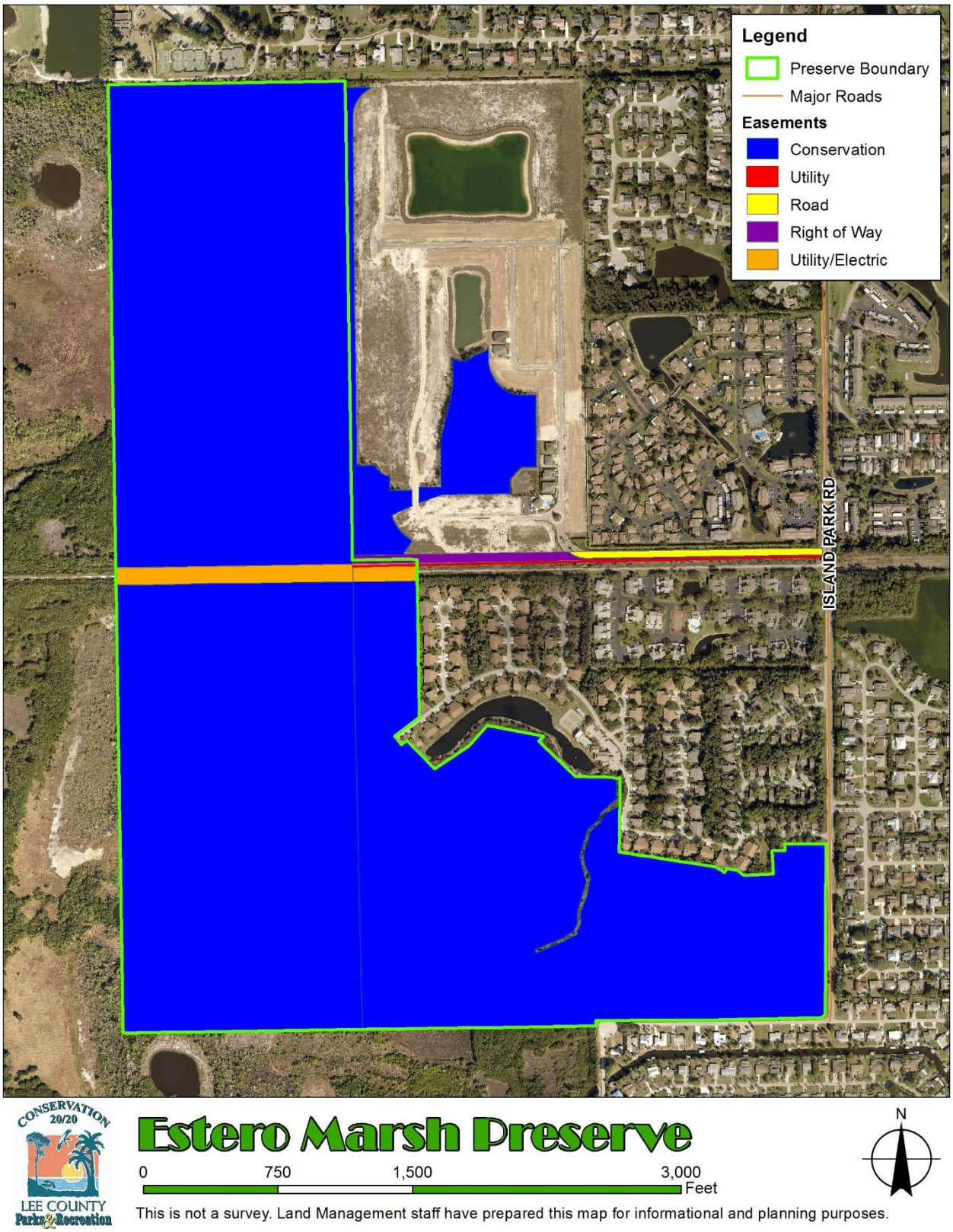
As part of the IPRM project, permits from SFWMD and USACE were required. An archaeological survey was not required because the planned restoration activities did not include excavations. Invasive exotic plant treatments funded as part of the IPRM are on-going to maintain compliance with the SFWMD and USACE permits.

ii. Other Legal Constraints

Restrictions to management activities at the preserve result from a variety of easements, access agreements, and permitting. The entire preserve has been included in a SFWMD conservation easement as a result of the IPRM (Appendix E). Access to the northern preserve units is limited to portions of the utility/electric easement maintenance road located perpendicular to Island Park Road and along the north boundary of nomination #66, also bisecting nomination #128. A pedestrian and vehicle gate are located at the eastern preserve boundary of this easement road, although the vehicle access is limited to authorized use only and there is no public parking area. Fencing and land management adjacent to the powerline easement is permitted through a right-of-way consent agreement between Lee County and the Florida Power and Light Company (FPL), found in Appendix F.

Adjacent to the vehicle gate is a 50-foot wide right-of-way access easement located along the northern boundary of a six-foot wide waterline utility easement. A portion of the right-of-way easement was combined with a road easement for the entrance drive of the Coves of Estero residential community in 2006. Each of these easements are parallel to the utility/electric easement, which features a FPL powerline. This powerline cuts horizontally through the preserve and continues to the east across Island Park Road, and to the west through the EBPSP. This utility/electric easement guarantees access through the preserve for FPL or hired contractors to conduct maintenance on the powerlines, access which is provided through vehicle gates installed on the easement and secured with locks. Figure 20 illustrates the location of these easements, and Figure 19 illustrates the location of access gates along the easement.

Figure 20: Easements



iii. Relationship to Other Plans

The Lee Plan, Lee County's comprehensive plan, is written to depict Lee County as it will appear in the year 2030. Several themes have been identified as having "great importance as Lee County approaches the planning horizon" (LCDCD 2016), and include:

- The growth patterns of the county will continue to be dictated by the Future Land Use map.
- The continued protection of the county's traditional economic base.
- The expansion of cultural, educational, and recreational opportunities.
- A significant expansion in the county's physical and social infrastructure.

The entire Lee Plan is available online at: http://www.leegov.com/dcd/Documents/Planning/LeePlan/Leeplan.pdf. The sections of the Lee Plan that may pertain to C20/20 preserves have been identified in the LSOM.

E. Management Constraints

One of the larger constraints for C20/20 preserves is limited funding, which restricts management activities such as invasive exotic plant treatments and prescribed fire application. EMP is fortunate in that it was chosen to be used for county mitigation as the IPRM project, thereby securing funding for hydrological restoration and invasive exotic plant treatments for the duration of the mitigation project. General LCPR funds are used for maintenance of fences, firebreaks, boundary signs, and gates.

Other constraints include the fluctuation of wet and dry season for conducting management activities, limited vehicular access, and increasing urbanization pressures adjacent to the preserve. During the rainy season, firebreaks and management trails become inundated with water from surrounding areas and tidally influenced plant communities are naturally flooded. Management activities requiring use of the firebreaks or management trails are delayed until the soils are dry enough that equipment can access the preserve without rutting soils or damaging the hydrologic flow. C20/20 staff also schedule management activities to be conducted during the months that these communities are driest, and reduce impacts by utilizing off-road vehicles (ORV) or traveling on foot when possible.

Management activities at the preserve will also be timed to avoid disturbances to nesting bald eagles. Two nests have been documented on or near the preserve, with proximity buffers of 660 feet that restrict the timing of management activities to reduce disturbances to nesting birds. These buffers are designated and monitored by the FWC and Lee County Eagle Technical Advisory Committee. Chapter 14, Division 3, of the Lee County Land Development Code (BoCC 2000) and Goal 107, Objective 107.6, of the Lee Plan (LCDCD 2016) are measures passed by the BoCC that authorize and support these measures for the protection of bald eagles throughout Lee County. Management activities that require the use of heavy equipment and can only be conducted during the dry season, such as firebreak mowing or disking, may be impacted by the coinciding nesting season from October to May.

The proximity of EMP to the neighboring residential communities and the FPL powerline increasingly impact the preserve boundary security and management activities.

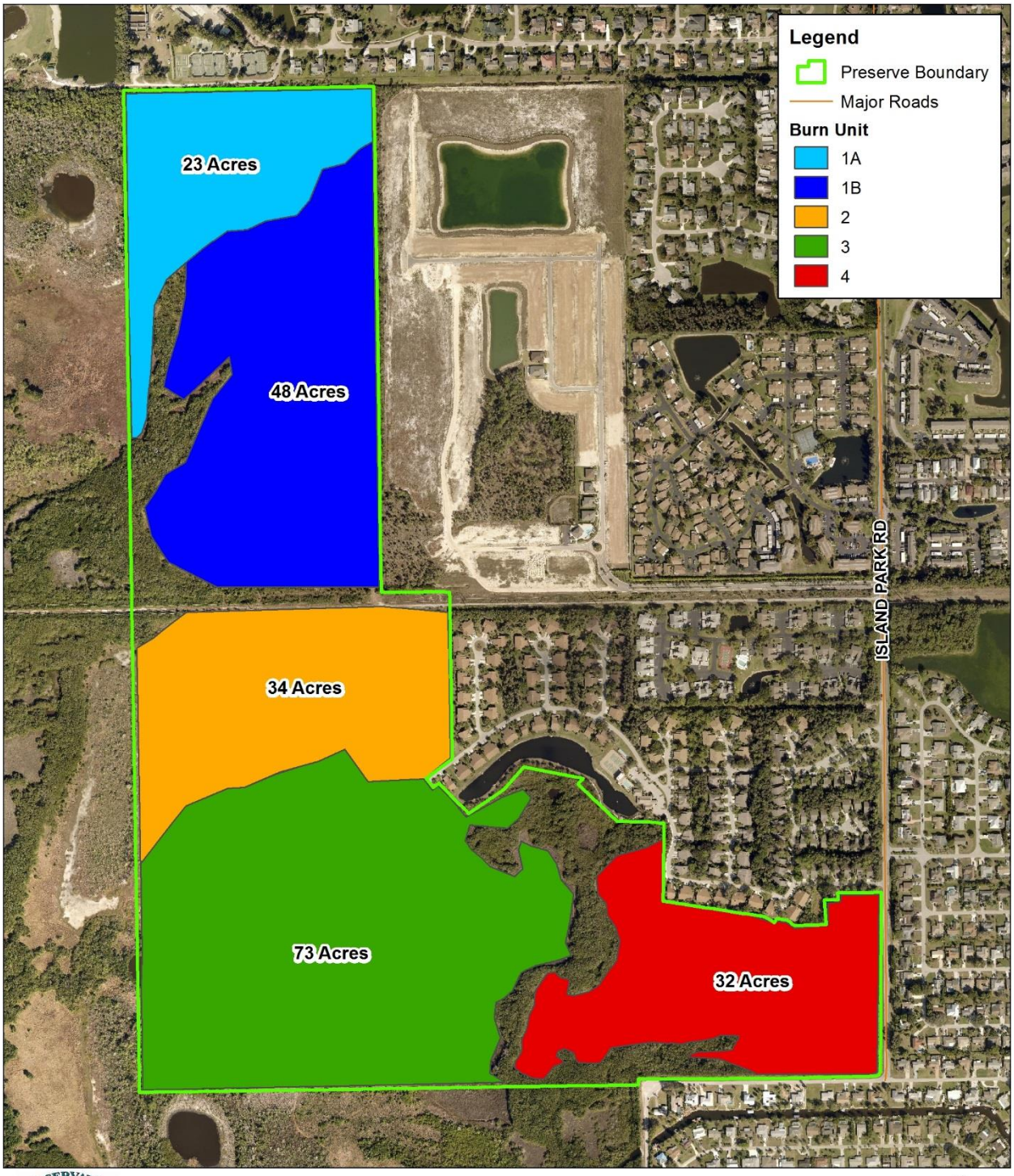
Vehicular access to get into the preserve is restricted to specific points and is only permitted for staff or contractor use. Although there are currently two vehicle gates, only the gate located on the FPL powerline easement road perpendicular to Island Park Road provides access to the management trails. This access point has been difficult to secure from trespassers since there are other property owners with access to the easement, and because land managers have tried to avoid installing fences along the entire perimeter to prevent restricting wildlife. C20/20 staff also have an agreement with Island Park Village to utilize the community roads to access preserve boundaries, but this access is not available for use by contractors.

The preserve boundary has also been impacted by neighboring residential communities through encroachment and un-authorized use. Adjacent property owners have extended landscaping, mowed, and dumped household garbage and landscaping waste onto the preserve. Signs have also been found on the firebreaks adjacent to residential properties that visitors have brought bicycles and pets onto the preserve. The sensitivity of the restored wetlands restricts recreational opportunities to pedestrian access, and the protection of the wildlife using these habitats prevents pets from being allowed at the preserve. C20/20 staff continue to try educating neighboring communities about these issues and will take measures to secure the preserve boundaries, such as installing additional fences, if necessary.

One of the management activities that is constrained by the proximity of the powerline and urban development is the use of prescribed fire. Fire as a management tool is used to keep fuel loads down, improve biological diversity, and to maintain functional habitat for wildlife such as gopher tortoises and shorebirds. Smoke management is one of the largest factors in planning prescribed fires, because increased residential and commercial development creates more restrictions on prescribed fire parameters. Powerlines also pose a challenge to prescribed fire and smoke management. These constraints will be taken into consideration if a prescribed burn is planned to be conducted at the preserve.

Fire-dependent plant communities are also factors used to plan prescribed fires. EMP has approximately 210 acres of plant communities that need fire to prevent succession, including the wet flatwoods and salt marsh. These communities have been grouped into units based on similar characteristics and fuel loads, known as burn units, which C20/20 staff will use when planning prescribed fires (Figure 21).

Figure 21: Burn Units



F. Public Access and Resource-Based Recreation

The majority of recreation that has occurred historically at EMP has been from unlawful trespassers. Evidence of wildlife poaching, saw palmetto berry picking, pet-walking, camping, and ORV use are some of the unauthorized activities of which management staff have found signs. Pedestrian access is permitted through two pedestrian walk-through gates, located at the FPL powerline easement and at the southeast corner adjacent to the intersection of Park Road and Island Park Road. There are no parking areas provided, which limits access to the preserve to neighboring residential communities or visitors who choose to park vehicles in the road right-of-way. There are also no marked hiking trails, but visitors may hike without trails or on the seasonally maintained fire breaks. Figure 22 illustrates the pedestrian access gates and fire breaks available to visitors.

The wetland soils, plant communities, and mitigation status of the preserve restrict the suitability for resource-based recreational opportunities. No public recreational amenities or expanded public access are proposed and EMP will remain a Limited Use Preserve as classified in the LSOM (LCPR 2012). There are recreational opportunities available to the public at other nearby parks and preserves, including: Six Mile Cypress Slough Preserve, John Yarbrough Linear Park, Lakes Regional Park, Wa-Ke Hatchee Community Park, Koreshan State Historic Site, and EBPSP; all of these properties are within three to six miles of EMP.

Figure 22: Public Access

G. Acquisition

EMP consists of three separate nominations acquired through the C20/20 program that total 243.97 acres. Parcel #66 encompasses 82.93 acres and was nominated to the program in November 1997 before being acquired for $1,425,970 in December 1999. A portion of this nomination runs along the west side of Island Park Road, the north side of Park Road, and borders the Island Park Village residential community at the northeast boundary. Parcel #128 includes 160.42 acres with a bisecting FPL powerline and IDD canal ("U" Canal), and was nominated to the program in September 1999 before being acquired for $2,392,000 in July 2001. This nomination borders the state-owned EBPSP to the west and south, nomination #66 to the east, and another IDD canal ("T" Canal) to the north. The third parcel to be added to EMP was nominated in October 2012 as 0.62-acre parcel #506, and was acquired for $5,000 in March 2014. This parcel had been separated from nomination #66 because the Island Park Village residential community had constructed a boardwalk and watercraft launch that they decided to keep and maintain. These recreation features became dilapidated and were eventually removed in 2007, and the community decided to sell the parcel so it could be merged and managed as part of EMP.

The STRAP location identification codes of these parcels have been merged into a single number. Nomination #66 and #128 were merged in 2008 to STRAP 12-46-24-00-00005.4000, and #506 was merged under the same STRAP number in 2018 (Figure 23). Zoning codes for the preserve currently include "Environmentally Critical" (nomination #128) and "Multi-Family" (nominations #66 and #506), as illustrated in Figure 24. Future land uses include "Conservation Lands Upland/Wetland" (nominations #66 and #128) and "Suburban" (nomination #506), as illustrated in Figure 25. C20/20 and LCDCD staff are in the process of changing the zoning and future land uses for all nominations to "Environmentally Critical" and "Conservation Lands Upland/Wetland" to better align with the management goals of the C20/20 program.

There have been various nominations near EMP to the C20/20 program since it began in 1996, but they were either not selected by the Conservation Land Acquisition and Stewardship Advisory Committee (CLASAC) or withdrawn from the program (Figure 26). Two of the parcels bordering the preserve, 50-acre parcel #17 and 426-acre parcel #5, were initially nominated to C20/20 in 1997, but were not selected by CLASAC so that the parcels could be acquired through the state's Conservation and Recreational Lands acquisition program that is now known as the Florida Forever program. These parcels joined other state-acquired property, including withdrawn and non-selected C20/20 nominations not adjacent to EMP (40-acre #159 and 80-acre #160 nominated in 2000; 21.6-acre #429 nominated in 2008; and part of 22.3-acre #203 nominated in 2001) to form the EBPSP.

Nomination #303, located southeast of the preserve, is a 4.3-acre parcel nominated in April 2006 that was acquired for $100,000 in July 2007 and is now known as Mullock Creek Preserve; this is the only parcel within two miles of EMP that has been acquired through C20/20 to date. The remainder of nominated parcels in the surrounding area of EMP were not selected by CLASAC or were withdrawn from the program, and continue to be privately owned. Located north of the preserve are 9.9-acre parcel #430 nominated in 2008 and 11.8-acre #553 nominated in 2016 that were both withdrawn.

Located to the west are 50-acre parcel #117 nominated in 1999 and 40-acre parcel #145 nominated in 2000 that were not selected, and 35-acre parcel #537 nominated in 2015 that was withdrawn. Nominations east of the preserve that were not selected include 12.3-acre parcel #56 nominated in 1997 and 22.3-acre parcel #203 nominated in 2001. The nominations east of the preserve that were withdrawn include 1.5-acre parcel #251 nominated in 2003, 30.4-acre parcel #398 and 23-acre parcel #395 nominated in 2007, and 2.6-acre parcel #505 nominated in 2012. The last nomination adjacent to EMP was 80-acre parcel #364 located along the eastern boundary of acquired parcel #128 that had been nominated in 2007 and 2009, but was withdrawn both times due to an impasse on price negotiations.

Figure 23: STRAP Numbers

Figure 24: Zoning Codes

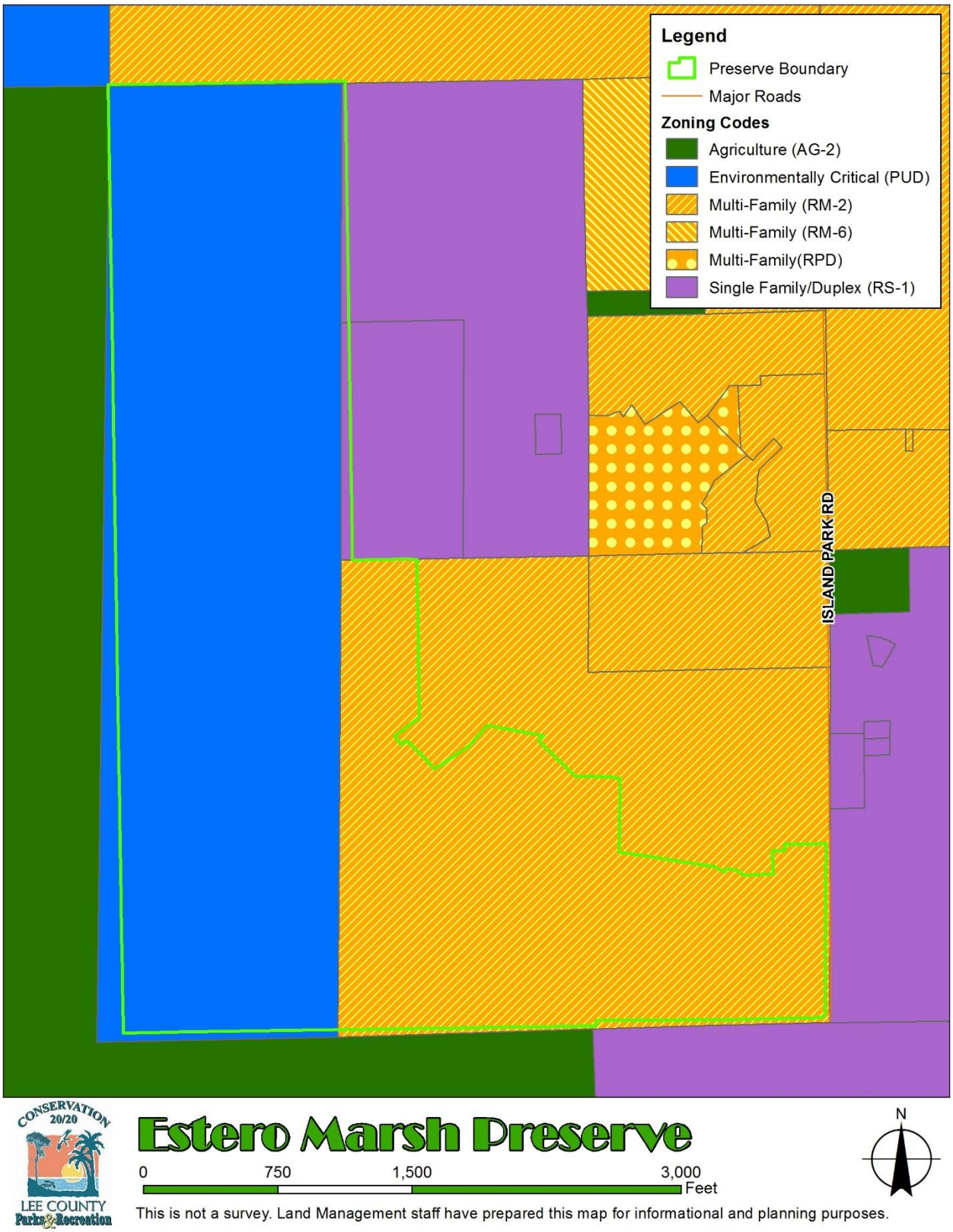


Figure 25: Future Land Use

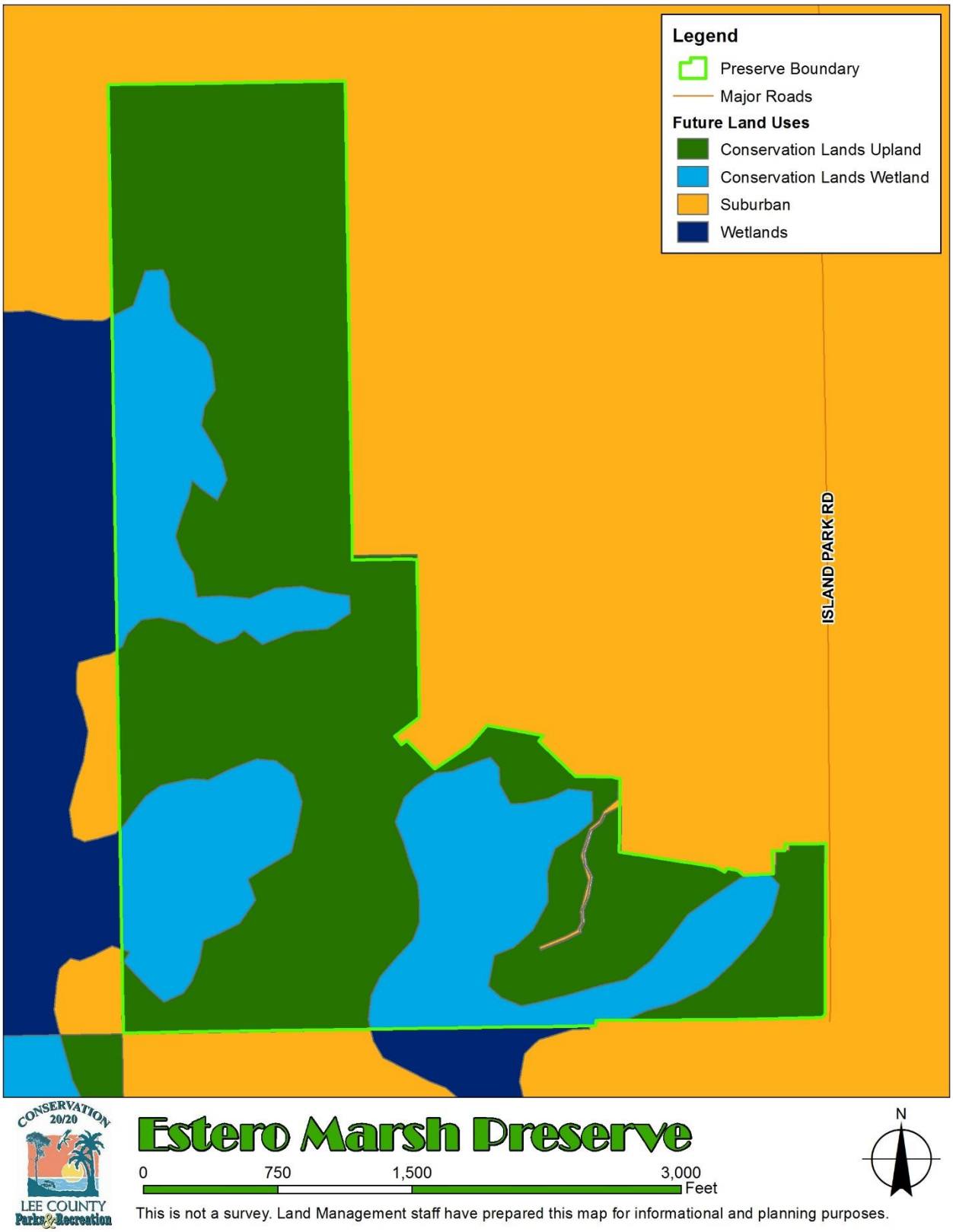
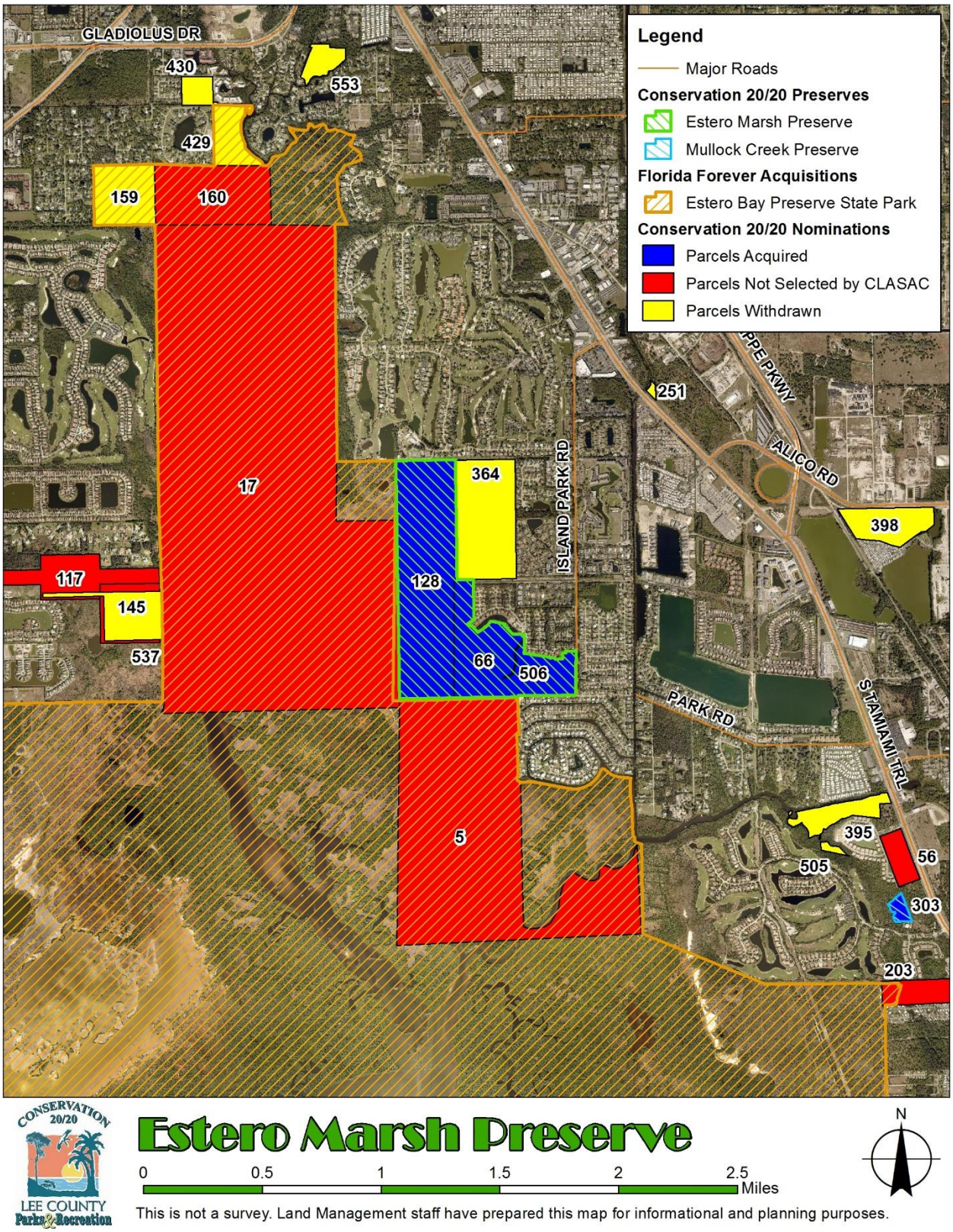


Figure 26: Conservation 20/20 Nominations



VI. Management Action Plan

A. Management Unit Descriptions

EMP has been divided into three management units (MU) to better organize and achieve management goals. Figure 27 illustrates the management units that were created based primarily upon plant communities after the IPRM restoration project.

Management Unit 1 – 84 acres

Encompassing the preserve property located north of the FPL powerline easement, this MU is dominated by wet flatwoods, salt marsh and mangrove swamp plant communities. The unit boundaries are the IDD “T” Canal to the north, residential development to the east, FPL easement and IDD “U” Canal to the south, and EBPSP to the west. Previously, this unit had heavy infestations of melaleuca and Brazilian pepper. Initial invasive exotic plant control and the construction of the filter marsh were completed in 2006, and have been followed with replanting efforts and follow-up invasive exotic plant control. One of the public access pedestrian gates is located at the southeastern corner of this unit. Management activities here will focus on invasive exotic plant maintenance, boundary protection, prescribed burning, and hydrologic enhancement.

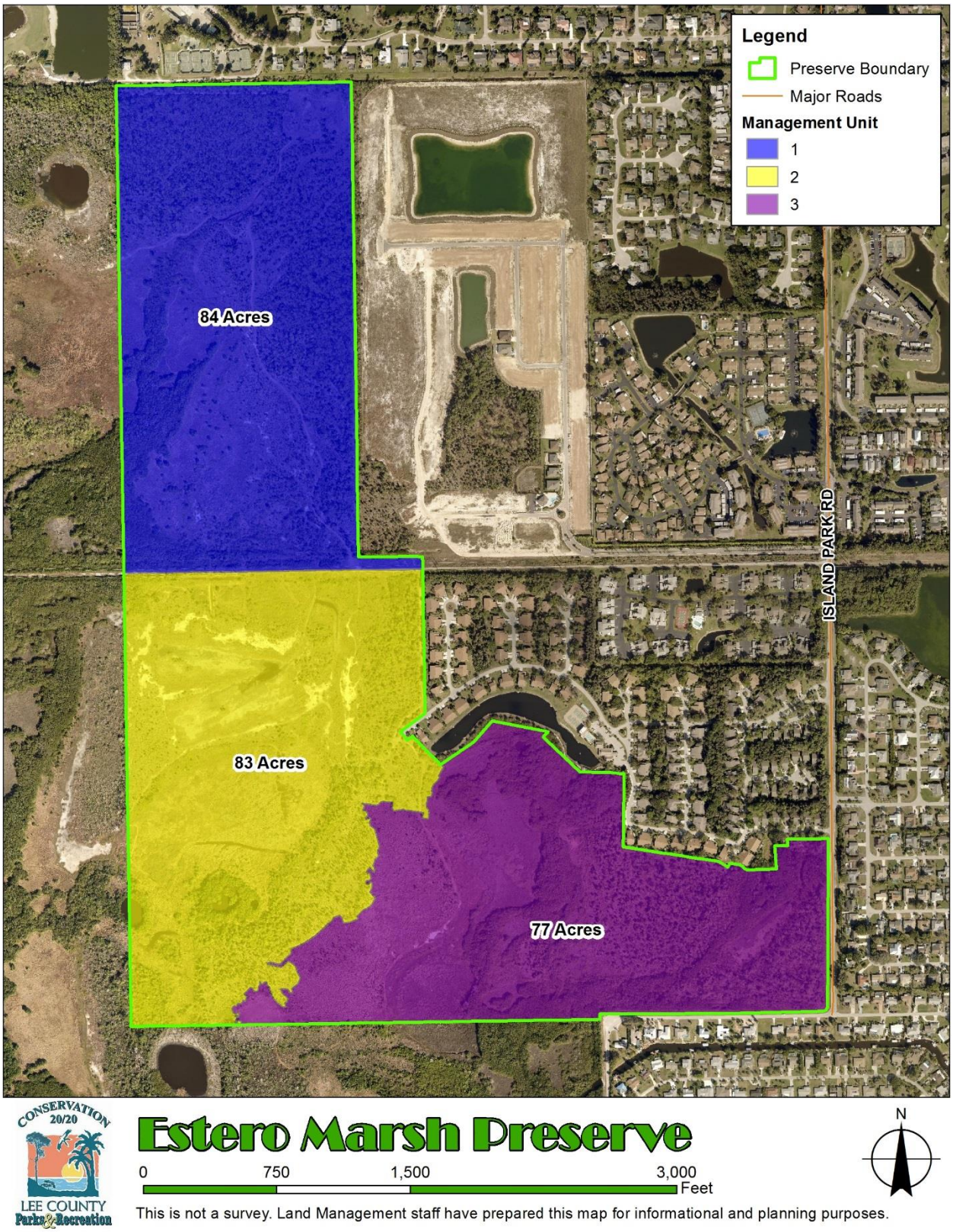
Management Unit 2 – 83 acres

Located south of the FPL powerline easement and covering portions of nomination #66 and #128, this MU is dominated by salt marsh, wet flatwoods, mangrove swamp, and salt flat plant communities. The unit boundaries are the FPL easement to the north, residential development to the east, EBPSP to the west/southwest, and MU 3 to the south/southeast as defined by the natural edge of a salt marsh. Restoration work, including invasive exotic plant removal and construction of filter marshes, was completed in this unit in 2007 and has been followed with replanting efforts and follow-up invasive exotic plant control. This unit had previously featured heavy infestations of melaleuca and some Brazilian pepper. The MU has also historically had issues with vehicle trespassing, dumping, and boundary encroachment. Management activities will focus on invasive exotic plant maintenance, boundary protection, firebreak maintenance, prescribed burning, and hydrologic enhancement.

Management Unit 3 – 77 acres

Located in the southeast portion of the preserve, this MU is dominated by wet flatwoods, mangrove swamp and salt marsh plant communities. The unit boundaries are residential development to the north, Island Park Road to the east, Park Road and EBPSP to the south, and MU 2 to the west as defined by the natural edge of wet flatwoods. Restoration work, including invasive exotic plant removal and hydrologic enhancement, was completed in this unit in 2007 and has been followed with replanting efforts and continued invasive exotic plant control. This unit had previously featured infestations of Brazilian pepper and has historically had issues with vehicle trespassing, wildfire, dumping, and boundary encroachment. One of the public access pedestrian gates is located at the southeastern corner of this unit. Management activities in this unit will focus on invasive exotic plant maintenance, boundary protection, hydrologic enhancement, firebreak maintenance, and prescribed burning.

Figure 27: Management Units



B. Management Work to Date

The projects that have been completed at EMP since the first acquisition include natural resource management, debris clean-up, enhancing overall protection, and establishing primitive public access. With the exception of an FPL powerline easement road, IDD canals, and a boardwalk the preserve parcels had not been developed or heavily altered by historical land uses. The disturbances that did occur, and the lack of land management, provided an opportunity for invasive exotic plants to become introduced to the preserve. Residential development around the preserve also created an opportunity for trespassing, dumping, and encroachment.

To restore hydrologic flow, remove invasive exotic plants, and restore natural plant communities, a restoration project was designed for nomination parcels #66 and #128. Funding for the restoration was provided through the use of the preserve for mitigation credits to compensate for development occurring elsewhere in Lee County; the mitigation credits would only be available for Lee County government projects. A Mitigation Credit Analysis report, habitat mapping, listed wildlife species assessment, and wetland mitigation analysis were completed to determine the value of the preserve and create a baseline of data prior to restoration activities. A Mitigation Plan and an Island Park Regional Mitigation Project Plan were created to detail the restoration activities to occur at the preserve, including creation of filter marshes, invasive exotic plant removal, native plantings, monitoring, and success criteria. The mapped plans for the restoration has been included in Appendix G.

Restoration at the preserve began in the northern portion of nomination #128 with the cutting of the northern boundary berm to bring water from the IDD canal into a newly created 2.84-acre filter marsh. This water would flow through a network of interior ditches toward salt marsh and mangrove swamp communities to the southwest. The next stages included cutting into the IDD canal that bisected nomination #128 with four culverts, and creating internal ditches to carry water into a larger 35.85-acre filter marsh south of the FPL powerline, and creating a 7.23-acre filter marsh at the northeastern corner of nomination #66 where the roadside drainage flow way was altered to restore water flow into the preserve. In total, the project created 45.92 acres of filter marshes.

The invasive exotic plant removal, wetland restoration, filter marsh creation, and internal ditch construction for the northern portion of the IPRM project area was completed in 2006 and the southern portion was completed in 2007. The First Annual Monitoring Report, completed post-restoration, was completed and submitted to the SFWMD in December 2008. Monitoring Reports were completed annually for five years after the restoration work was completed at the preserve to fulfill special requirements of the SFWMD Environmental Resource Permit number 36-05430-P. Contracted invasive exotic plant treatments have continued to be conducted at the preserve and funded through county mitigation use of the IPRM, and will continue until all of the mitigation credits have been utilized.

To further protect the conservation goals of the preserve: the zoning code for nomination #128 was changed to “Environmentally Critical,” the future land use categories of nomination #128 and #66 were changed to “Conservation Lands Wetland/Upland,” and a conservation easement was designated over nomination #128

and #66 (Appendix E). Debris was also removed throughout the preserve that had existed since acquisition.

Small debris cleanup has continued to be conducted by C20/20 staff, and is often done during a tri-annual site inspection that also allows staff to identify perimeter boundary sign, gate, or fence maintenance issues. The C20/20 heavy equipment operators have seasonally maintained the perimeter firebreaks of the preserve after initial clearing was completed by contractors along shared boundaries with residential development. Contractors have also been used to control feral hog populations within the preserve that cause damage to restored wetlands, and to clear hazard trees from portions of preserve boundaries adjacent to residential development.

Not all hazards can be prevented, and the preserve has been impacted by natural disturbances including a wildfire and extreme storm events. The one wildfire that has impacted the preserve to date was ignited by a lightning strike in the salt marsh of the EBPSP in May 2013. FFS created 3,430 feet of plow lines as firebreaks to stop the fire, which burned 17 acres of the EBPSP and 17 acres of EMP along the southern boundary (Figure 18). Lightning is a natural cause of fire in the wildlands, but a wildfire occurring close to residential development is contained and suppressed to protect the public and private property.

In August 2017, the preserve was impacted by a tropical disturbance named “Invest 92L” that hovered over Lee County for four days and dropped heavy rains that flooded the Island Park Road area. Before these areas could drain completely, a hurricane named “Irma” by the National Hurricane Center of the National Oceanic and Atmospheric Administration (NOAA) blew over Lee County in September 2017. The storm was documented by NOAA with sustained winds up to 89 miles per hour, and was classified as a Category 2 hurricane. Damage to EMP included temporary flooding and storm surge, wind-caused damaged to vegetation, minor damage to field fencing along Island Park Road resulting from high-energy storm water runoff, and debris deposited in the wetlands as the floodwaters receded.

Public access to the preserve remains limited, but two pedestrian walk-through gates have been installed to allow pedestrian access to the FPL powerline easement at the northeastern corner and southeastern corner of nomination #66. These gates are accompanied by vehicle gates for use by C20/20 staff or contractors to access the preserve for maintenance or management activities. Another vehicle gate is located along the FPL powerline easement at the boundary of EMP and the EBPSP, which is also available for authorized use only. Vehicle trespass at these gates, and along select fence lines, have been an on-going issue for land managers.

To raise awareness of available recreational activities and increase public involvement at the preserve, C20/20 staff have conducted public outreach in the form of: meetings, site tours, educational presentations, and distributed written materials such as letters and flyers to neighboring residential communities. An informational sign about the restoration project was installed along the boundary with Island Park Road, and a preserve identification sign displaying approved recreational opportunities was installed next to the pedestrian access in the southwest corner of nomination #66 to educate neighbors and visitors about the preserve. Volunteer groups that have been actively

involved in monitoring at EMP include the Lee County Bird Patrol, whose volunteer roamers collect data on bird presence at the preserve and log it into the eBird.com online database.

C. Goals and Strategies

The primary management objectives for EMP will be continued control of invasive exotic plant species, maintenance of the boundary firebreaks, hydrologic enhancement, and securing the preserve boundaries from trespass, dumping and encroachment through educational outreach or fenceline installation. Funding budgeted for county mitigation projects will continue to be used for contracted invasive exotic plant control to ensure compliance of permit conditions for the preserve to continue to be used for IPRM project credits; this funding source will expire when the mitigation credits of the IPRM are all claimed. Grants and the general operations budget will be used, where applicable, to fund management activities to meet goals in a timely manner. Work will be prioritized in order of importance and ease of accomplishment, and include the tasks below. An overview of the timeline for the projected goals and strategies can be found in the Projected Timetable for Implementation section of this plan.

<u>Natural Resource Management</u>

- Invasive Exotic Plant Control

EMP was once largely infested with woody and herbaceous invasive exotic plant species, but is now a maintenance level for exotics due to the IPRM restoration project, follow-up treatments, and supplemental native plantings. The total coverage of nuisance and invasive exotic plants classified by the most recent FLEPPC list must not exceed five percent for the preserve to stay at maintenance level and to be in compliance with the SFWMD permit. C20/20 staff will monitor the site conditions schedule treatments a minimum of once per year, and as needed. Contracted treatments have been included in the projected financial considerations to occur once per year over the 10 year reporting period. These contracts will be funded through county mitigation for the use of the IPRM for county capital projects. Each contracted project requires a completed Herbicide Prescription Form to be completed by the contractor, along with a Daily Report Control Form, as work is completed; copies of these forms are available in the LSOM. Completed forms are kept by land managers and used to prepare future treatments. The most current FLEPPC “List of Invasive Species” (FLEPPC 2017) will be consulted in determining the invasive exotic plants to be controlled.

- Exotic and Feral Animal Removal

Feral hogs, and signs of hog activity, have been documented within the salt marshes, salt flats, wet flatwoods, and mangrove swamp communities of the preserve. The animals are a known issue within the neighboring EBPSP, and neighbors along the eastern EMP boundary have reported observations of hogs and rooting activities most often occurring in the freshly disked preserve firebreaks. Signs of feral hog movements show that there is not a consistent population within the preserve, but rather, the hogs utilize the preserve when the Mullock Creek and Hendry Creek floodplains become too flooded.

In an effort to control the population, trappers have been contracted with Lee County to trap and remove live animals from the preserve. Ideally, the preserve would receive the most trapping effort during the wet season to take advantage of the feral hog migration to the higher habitat. However, this timing is also when the majority of EMP is too flooded to safely access with vehicles or ORV equipment. Land managers will continue to communicate with contracted feral hog trappers to improve efficiency. Removing all hogs is an unreasonable goal, but the control program will need to be continuous on a long-term basis.

Land managers will continue to monitor for newly introduced exotic wildlife species that have not yet been documented at the preserve, but could become established. C20/20 staff will also continue to provide educational outreach to neighboring residential communities to raise awareness about exotic wildlife, such as feral cats, and their potential impacts to the preserve.

- Prescribed Fire Management

While not currently a management tool being used at the preserve, prescribed burning may be used to reduce fuel levels and enhance habitat for listed species. Each plant community in south Florida has a historic fire frequency interval that land managers mimic to promote healthy succession of plants. The wet flatwoods is the most fire-dependent community at EMP that would need fire to reduce fuels, clear the understory, and enrich the soil quality. The absence of fire in this forest has created an understory dominated by shrubby vegetation that shades out lower grasses, herbaceous plants, and even tree saplings. Application of prescribed fire every three to seven years would reduce the understory and promote new growth, increasing the biodiversity and habitat quality. Listed wildlife and plant species, such as the gopher tortoise and West Indian mahogany, require habitat with a thin canopy and would benefit from prescribed burning.

Another plant community that could benefit from prescribed burning is the salt marsh. FNAI states that these wetlands are “some of the most biologically productive natural communities known” (FNAI 2010), and that fire can be used to decrease wildfire risk and to increase foraging opportunities for wildlife. However, many plant species and wildlife within this community are sensitive to fire intervals that are too frequent; nesting and foraging activities by migratory songbirds could be disrupted, and species of wetland grasses and rushes could be replaced by upland species if fire timing disrupts growth seasons. Application of prescribed fire will only be done as needed, if unwanted plant succession is occurring, or if the fuel level and wildfire threat to neighboring residential development is too high. The projected financial considerations and Timetable for Implementation do not currently include future prescribed burning.

- Mechanical brush reduction

Between prescribed burn intervals, or to supplement fire, C20/20 staff may conduct mechanical brush reduction. This will to reduce fuel load, reduce the threat of wildfire to neighboring residential developments, and maintain the plant communities that require thinner canopies or understories. If land managers choose not to utilize prescribed burning, the shrub-dominated understory of the wet flatwoods could be thinned to produce the thin canopy needed by listed species and to reduce the fuel loads.

Mechanical brush reduction could also be conducted in a more selective pattern to reduce fuel loads adjacent to neighboring residential developments to reinforcement firebreaks and reduce wildfire risk in drought conditions. The projected financial considerations and Timetable for Implementation do not currently include mechanical brush reduction, but it will be conducted as needed.

- Monitor and Protect Listed Species

As discussed in the Designated Species section of this plan, listed plant and wildlife species will continue to influence management activities at the preserve. Efforts will be taken to manage for listed species with activities including invasive exotic plant treatments and prescribed burning. All management activities will be timed and carried out with precautions to minimize negative impacts to listed species documented at the preserve. Staff will also continue to monitor for newly observed listed species during the tri-annual site inspections, and will document the observances using the appropriate forms.

Overall Protection

- Debris Removal and Prevention of Dumping

Debris removal will be an as-needed effort at EMP due to the runoff flowing through the IDD canal cuts that brings debris into the restored marshes, and litter left by trespassers along the FPL easement and fenceline along Park Road. The preserve also has a history of neighboring residential community members dumping on the preserve, but this has mostly consisted of landscaping waste. Staff removes small debris during tri-annual site inspections, and C20/20 Rangers also assist with debris removal when conducting patrols at the preserve. Land managers recognize that new debris may be dumped at the preserve periodically and, depending on the nature of this debris, it will be dealt with accordingly. The boundary signs and fences placed around the perimeter of the preserve notify visitors and neighbors that dumping is not permitted.

- Boundary Sign Maintenance

Signs placed around the perimeter of the preserve disappear periodically and become quickly weathered from exposure to the sun, water, salt, and floodwaters of the Estero Bay watershed. C20/20 staff survey these signs during the tri-annual inspections and replace missing or damaged signs as needed. C20/20 rangers will also replace any missing boundary signs during patrols, or will report issues to the land manager or their supervisor.

- Fence and Firebreak Maintenance/Installation

The preserve does not currently feature firebreak or fences around the entire perimeter due to shared boundaries with other conservation land, but does have firebreak around neighboring residential development and fencing installed along boundaries prone to trespassing. Fences are repaired or replaced as needed due to age deterioration, trespass cuts, storm damage, or vehicle accidents along Park Road or Island Park Road. Firebreaks are seasonally maintained, as conditions allow, and are mowed or disked to reduce vegetation.

The firebreaks are currently maintained by heavy equipment, specifically by large tractors towing mowers or disks, which cannot be used on flooded or muddy soil conditions without damaging hydrology or plant communities. C20/20 staff have received calls from neighboring residential community members concerning vegetation growth in firebreaks as the summer floodwaters recede, but have not been able to access the preserve due to conditions. Staff will continue to communicate and educate neighbors about these seasonal restrictions while closely monitoring the preserve for accessibility.

Firebreaks and fences will also be added as needed to secure preserve boundaries. New residential development along the northeast boundary of nomination #128 and a history of trespass, dumping, and encroachment along the northeastern boundary of nomination #66 may necessitate the installation of new fencing along existing firebreaks. There are currently no new firebreaks planned to be installed at the preserve.

- Change Zoning and Future Land Use

The zoning code for nomination #66 and #506 have not yet been changed from “Multi-Family (RM-2)” to “Environmentally Critical,” and the future land use for nomination #506 has not yet been changed from “Suburban” to “Conservation Lands Upland/Wetland.” These changes will better protect the conservation of the property into the future and reflect the goals of C20/20. Staff with LCDCD and C20/20 will continue to coordinate to update these classifications of the preserve parcels.

<u>Volunteers</u>

- Assist Volunteer Groups

If there is interest from the community to form a volunteer group, C20/20 staff will work with them to assist with the many diverse management activities that will be associated with the preserve. Activities include boundary sign maintenance, debris removal, wildlife monitoring, fence maintenance, and other land management projects. Currently, EMP is one of the preserves regularly monitored for bird species counts by the Lee County Bird Patrol. This volunteer group records bird presence data on the online eBird database for land managers to use.

VII. Projected Timetable (for Implementation)

The following timetable is dependent on obtaining necessary funding for numerous land management projects. Implementation of these goals may be delayed due to changes in staff, extreme weather conditions, or a change in priorities on properties manage by Lee County. Details on each management activity are found in the Management Action Plan section.

Table 4: Timetable for Implementation

Management Activity	2018				2019				2020				2021				2022				2023				2024				2025				2026				2027			
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
Natural Resource Management																																								
Exotic Species Control																																								
Contracted Plant Treatments		X		X		X		X		X		X		X		X		X		X		X		X		X		X		X		X		X		X		X		X
Exotic/Feral Animal Removal	Conducted as needed, monitoring on-going										→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→
Monitor & Protect Listed Species																																								
Tri-Annual Inspection	X	X		X	X	X		X	X	X		X	X	X		X	X	X		X	X	X		X	X	X		X	X	X		X	X	X		X	X	X		X
Fuels Reduction																																								
Prescribed Burning																					X																			
Mechanical Brush Removal									X																															
Overall Protection																																								
Debris Removal	On-Going			→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→
Boundary Sign Maintenance	On-Going			→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→
Fence/Fireline Maintenance	X				X				X				X				X				X				X				X				X				X			
Change Zoning Code							X																																	
Change Future Land Use							X																																	
Volunteers																																								
Assist Volunteer Groups	On-Going			→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→

VIII. Financial Considerations

The Conservation 20/20 program is funded through Lee County's general fund in accordance with Ordinance 15-08 (as amended). This annual allocation funds restoration, maintenance of the preserve, equipment, and C20/20 staff costs. Funds not used in the annual allocation will roll over to the following year for future maintenance and restoration.

Invasive exotic plant treatments are funded by county mitigation in exchange for mitigation credit use of the preserve. This funding will be available until the mitigation credits are used in entirety. Other possible funding for invasive exotic plant treatments and restoration projects may be requested through grants from agencies such as SFWMD, FDEP, FWC, and USFWS, or include additional mitigation opportunities. However, projected costs for EMP are relatively minor and land management staff believes that LCPR general budget funds should be able to cover these costs. Projected and expended costs with funding sources are listed in Appendix H.

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X. Appendices

A: Legal Description

B: Merged Parcel STRAP Numbers

C: List of Wildlife Species

D: List of Plant Species

E: Conservation Easement

F: FPL Consent Agreement

G: IPRM Restoration Plans Map

H: Expended and Projected Costs

Appendix A: Legal Descriptions

Appendix A: Legal Descriptions

Nomination Parcel #66

Bean, Whitaker, Lutz & Kareh, Inc.
13041 McGregor Boulevard
Fort Myers, Florida 33919-5910
email – fmoffice@bwlk.net
(Ph) 239-481-1331 (Fax) 239-481-1073

Description of a Parcel of Land
Lying in
Section 12, Township 46 South, Range 24 East
Lee County, Florida
(Parcel 66 - Less Northerly 150 Feet)

A parcel of land lying in Section 12, Township 46 South, Range 24 East, Lee County, Florida, being more particularly described as follows:

Beginning at the southeast corner of the Southwest One Quarter (SW 1/4) of said Section 12; thence S88°47'40"W along the south line of the Southwest One Quarter (SW 1/4) of said Section 12 for 1318.79 feet to the southwest corner of the East One Half (E 1/2) of said Southwest One Quarter (SW 1/4); thence N01°12'59"W along the west line of the East One Half (E 1/2) of said Southwest One Quarter (SW 1/4) for 2494.99 feet to the south line of a Florida Power and Light Company easement as recorded in Deed Book 264 at page 526, Public Records of Lee County, Florida, said line lying 150.00 feet south of and parallel with the north line of the Southwest One Quarter (SW 1/4) of said Section 12; thence N88°46'31"E along the south line of said Florida Power and Light Company easement for 360.50 feet; thence S01°12'18"E for 760.89 feet; thence S52°45'16"W for 171.45 feet; thence S37°14'44"E for 60.00 feet; thence N52°45'16"E for 38.22 feet; thence S45°02'56"E for 223.61 feet; thence N55°40'32"E for 227.97 feet; thence N40°44'44"E for 154.69 feet; thence S79°37'56"E for 321.18 feet; thence S43°23'01"W for 40.00 feet; thence S46°36'58"E for 284.57 feet; thence N90°00'00"E for 212.83 feet; thence S73°20'00"E for 25.14 feet; thence S00°00'00"E for 117.43 feet; thence S49°30'00"W for 104.42 feet; thence S25°21'08"W for 56.01 feet; thence S51°01'28"W for 69.32 feet; thence S17°20'00"W for 159.82 feet; thence S16°20'00"E for 147.00 feet; thence S14°00'00"W for 173.74 feet; thence S03°52'27"E for 59.93 feet; thence S25°47'33"W for 50.28 feet; thence S59°55'19"W for 67.56 feet; thence S67°32'06"W for 165.69 feet; thence S22°27'54"E for 20.00 feet; thence N67°32'06"E for 166.34 feet; thence N63°50'00"E for 83.20 feet; thence N02°02'49"W for 18.66 feet; thence N25°47'33"E for 42.31 feet; thence N03°52'27"W for 67.12 feet; thence N20°20'24"E for 89.00 feet; thence N09°12'55"E for 105.94 feet; thence N26°39'38"W for 71.72 feet; thence N09°51'10"W for 64.45 feet; thence N17°20'00"E for 137.87 feet; thence N51°01'28"E for 67.82 feet; thence N25°21'08"E for 52.46 feet; thence N60°32'00"E for 95.65 feet; thence S00°00'00"E for 256.90 feet; thence S81°22'22"E for 541.59 feet; thence S58°55'17"E for 60.01 feet; thence N31°04'43"E for 24.80 feet; thence S81°22'22"E for 58.95 feet; thence S52°38'56"E for 46.28 feet; thence N86°37'38"E for 170.34 feet; thence N00°00'00"E for 132.00 feet; thence N90°00'00"E for 75.00 feet; thence N00°00'00"E for 40.00 feet; thence N90°00'00"E for 195.54 feet to the westerly right-of-way line of Island Park Road (60 feet wide); thence S00°46'23"E along said westerly right-of-way line for 944.06 feet to the beginning of a tangent circular curve concave to the northwest; thence southwesterly along the arc of said curve to the right having for its elements a radius of 25.00 feet, a central angle of 89°31'43", a chord distance of 35.21 feet, a chord bearing of S43°59'28"W, an arc distance of 39.06 feet; thence S88°45'20"W parallel with the south line of the Southeast One Quarter (SE 1/4) of said Section 12 and along the north line of Park Road (60 feet wide) for 1257.84 feet to the east line of the Southwest One Quarter (SW 1/4) of said Section 12; thence S01°10'10"E along said east line for 30.00 feet to the Point Of Beginning.

Continued...

Description of a Parcel of Land
Lying in
Section 12, Township 46 South, Range 24 East
Lee County, Florida
(Parcel 66 - Less Northerly 150 Feet)
- Continued -

Parcel contains 81.685 acres, more or less.

Subject to easements, restrictions, reservations and rights-of-way (recorded and unrecorded, written and unwritten).

Bearings are based on the east line of the Southwest One Quarter (SW 1/4) of Section 12, Township 46 South, Range 24 East as bearing S01°10'10"E.

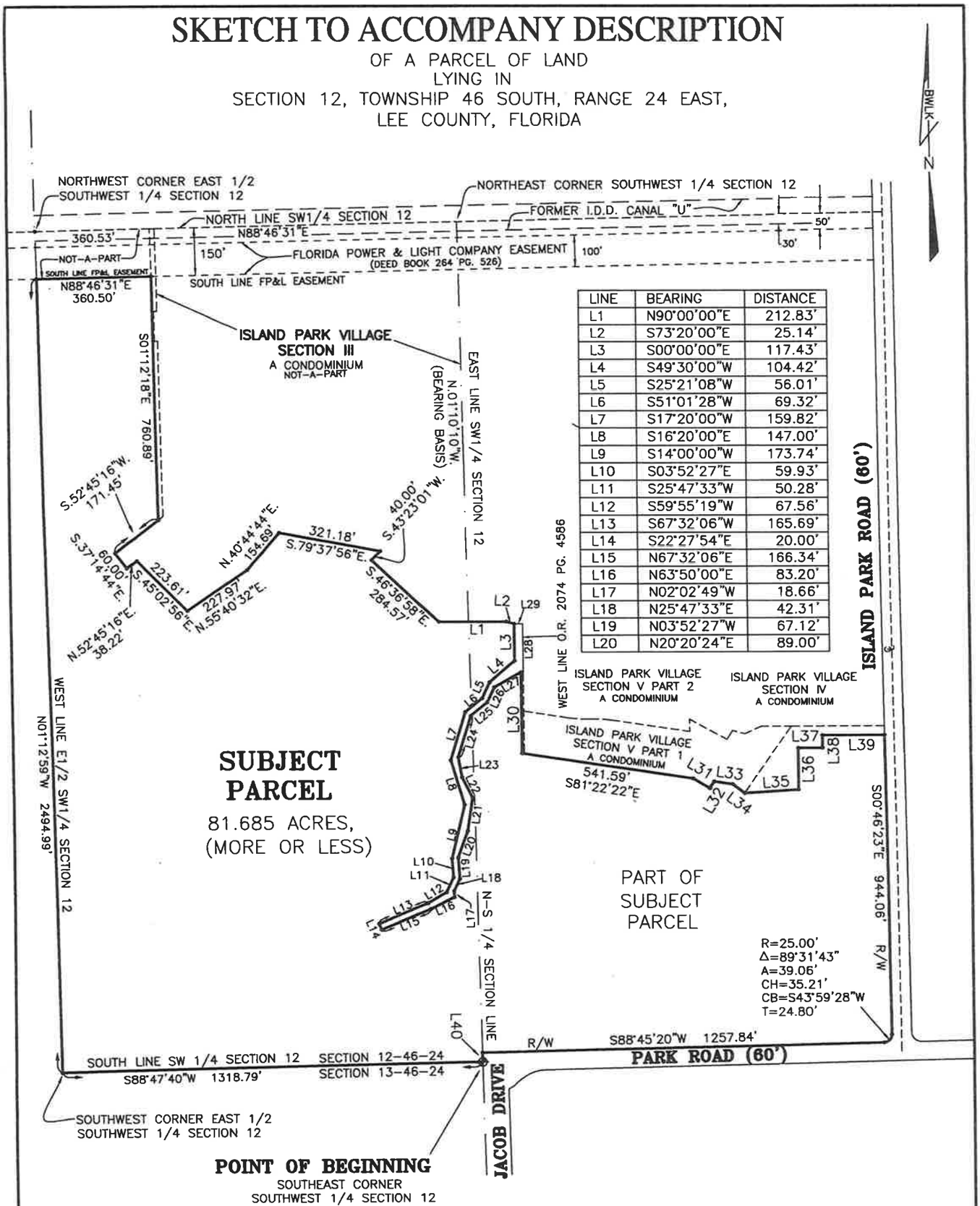
Bean, Whitaker, Lutz & Kareh, Inc. (LB4919)

Scott C. Whitaker, P.S.M. 4324

43386_PARCEL166 LESS 150 5/19/15

SKETCH TO ACCOMPANY DESCRIPTION

OF A PARCEL OF LAND
LYING IN
SECTION 12, TOWNSHIP 46 SOUTH, RANGE 24 EAST,
LEE COUNTY, FLORIDA



LINE	BEARING	DISTANCE
L1	N90°00'00"E	212.83'
L2	S73°20'00"E	25.14'
L3	S00°00'00"E	117.43'
L4	S49°30'00"W	104.42'
L5	S25°21'08"W	56.01'
L6	S51°01'28"W	69.32'
L7	S17°20'00"W	159.82'
L8	S16°20'00"E	147.00'
L9	S14°00'00"W	173.74'
L10	S03°52'27"E	59.93'
L11	S25°47'33"W	50.28'
L12	S59°55'19"W	67.56'
L13	S67°32'06"W	165.69'
L14	S22°27'54"E	20.00'
L15	N67°32'06"E	166.34'
L16	N63°50'00"E	83.20'
L17	N02°02'49"W	18.66'
L18	N25°47'33"E	42.31'
L19	N03°52'27"W	67.12'
L20	N20°20'24"E	89.00'

LINE	BEARING	DISTANCE
L21	N09°12'55"E	105.94'
L22	N26°39'38"W	71.72'
L23	N09°51'10"W	64.45'
L24	N17°20'00"E	137.87'
L25	N51°01'28"E	67.82'
L26	N25°21'08"E	52.46'
L27	N60°32'00"E	95.65'
L28	N00°00'00"W	150.70'
L29	N90°00'00"W	24.47'

LINE	BEARING	DISTANCE
L30	S00°00'00"E	256.90'
L31	S58°55'17"E	60.01'
L32	N31°04'43"E	24.80'
L33	S81°22'22"E	58.95'
L34	S52°38'56"E	46.28'
L35	N86°37'38"E	170.34'
L36	N00°00'00"E	132.00'
L37	N90°00'00"E	75.00'
L38	N00°00'00"E	40.00'
L39	N90°00'00"E	195.54'
L40	S01°10'10"E	30.00'

1200' 800' 400' 0'

BEARINGS ARE BASED ON THE EAST LINE OF THE SOUTHWEST ONE QUARTER (SW 1/4) OF SECTION 12, TOWNSHIP 46 SOUTH, RANGE 24 EAST, AS BEARING N01°10'10"E.

P.O.C. = POINT OF COMMENCEMENT
P.O.B. = POINT OF BEGINNING
O.R. = OFFICIAL RECORD BOOK
PG. = PAGE
R/W= RIGHT OF WAY
FP&L= FLORIDA POWER & LIGHT

*** THIS IS NOT A SURVEY ***

Bean, Whitaker, Lutz & Kareh, Inc.

SCOTT C. WHITAKER, P.S.M.
Florida Certificate No. 4324

PARCEL 66-LESS NORTH 150'
LEE COUNTY CONSERVATION 2020

Bean, Whitaker, Lutz & Kareh, Inc. (LB 4919)

CONSULTING ENGINEERS - SURVEYORS AND MAPPERS - PLANNERS

13041 MCGREGOR BOULEVARD, FORT MYERS, FLORIDA 33919-5910 (239) 481-1331

SK43386_PARCEL66.DWG

DATE	PROJECT NO.	DRAWN BY	SCALE	SHEET	FILE NO. (S-T-R)
05-19-15	43386	SCW	1"= 400'	1 OF 1	12-46-24

Appendix A: Legal Descriptions

Nomination Parcel #128

Bean, Whitaker, Lutz & Kareh, Inc.

13041 McGregor Boulevard
Fort Myers, Florida 33919-5910
email – fmoffice@bwlk.net
(Ph) 239-481-1331 (Fax) 239-481-1073

Description of a Parcel of Land
Lying in
Section 12, Township 46 South, Range 24 East
Lee County, Florida
(Parcel 128 - Less 200' Strip)

A parcel of land lying in Section 12, Township 46 South, Range 24 East, Lee County, Florida, being more particularly described as follows:

Commencing at the southeast corner of the Southwest One Quarter (SW 1/4) of said Section 12; thence S88°47'40"W along the south line of the Southwest One Quarter (SW 1/4) of said Section 12 for 1318.79 feet to the southwest corner of the East One Half (E 1/2) of said Southwest One Quarter (SW 1/4) and the Point of Beginning; thence continue S88°47'40"W along the south line of the Southwest One Quarter (SW 1/4) of said Section 12 for 1318.79 feet to the southwest corner of said Section 12; thence N01°15'48"W along the west line of the Southwest One Quarter (SW 1/4) of said Section 12 for 2644.56 feet to the northwest corner of said Southwest One Quarter (SW 1/4), being the West 1/4 corner of said Section 12; thence N01°15'06"W along the west line of the Northwest One Quarter (NW 1/4) of said Section 12 for 2645.29 feet to the northwest corner of said Section 12; thence N88°45'36"E along the north line of the Northwest One Quarter (NW 1/4) of said Section 12 for 1322.86 feet to the northeast corner of the West One Half (W 1/2) of said Northwest One Quarter (NW 1/4) of said Section 12; thence S01°12'38"E along the east line of the West One Half (W 1/2) of said Northwest One Quarter (NW 1/4) for 2645.65 feet to the southeast corner of the West One Half (W 1/2) of said Northwest One Quarter (NW 1/4) of said Section 12; thence S01°12'59"E along the east line of the West One Half (W 1/2) of the Southwest One Quarter (SW 1/4) of said Section 12 for 2644.99 feet to the southeast corner of said fraction and to the Point of Beginning.

Less and Except the following described parcel:

Commencing at the southeast corner of the Southwest One Quarter (SW 1/4) of said Section 12; thence S88°47'40"W along the south line of the Southwest One Quarter (SW 1/4) of said Section 12 for 1318.79 feet to the southwest corner of the East One Half (E 1/2) of said Southwest One Quarter (SW 1/4); thence continue S88°47'40"W along the south line of the Southwest One Quarter (SW 1/4) of said Section 12 for 1318.79 feet to the southwest corner of said Section 12; thence N01°15'48"W along the west line of the Southwest One Quarter (SW 1/4) of said Section 12 for 2494.56 feet to the south line of a Florida Power and Light Company easement as recorded in Deed Book 259 at page 529, Public Records of Lee County, Florida, and to the Point of Beginning (said line lying 150.00 feet south of and parallel with the north line of the Southwest One Quarter (SW 1/4) of said Section 12); thence continue N01°15'48"W along the west line of the Southwest One Quarter (SW 1/4) of said Section 12 for 150.00 feet to the northwest corner of said Southwest One Quarter (SW 1/4), being the West 1/4 corner of said Section 12; thence N01°15'06"W along the west line of the Northwest One Quarter (NW 1/4) of said Section 12 for 50.00 feet to the north line of the former Iona Drainage District (I.D.D.) "Canal U" easement; thence N88°46'31"E parallel with and 50.00 feet north of the south line of the Northwest One Quarter (NW 1/4) of said Section 12 and along the north line of said easement for 1321.00 feet to the east line of the West One Half (W 1/2) of the Northwest One Quarter (NW 1/4) of said Section 12; thence S01°12'38"E along the

Continued...

Description of a Parcel of Land
Lying in
Section 12, Township 46 South, Range 24 East
Lee County, Florida
(Parcel 128 - Less 200' Strip)
- Continued -

east line of the of the West One Half (W 1/2) of the Northwest One Quarter (NW 1/4) of said Section 12 for 50.00 feet to the southeast corner of said fraction; thence S01°12'59"E along the east line of the West One Half (W 1/2) of the Southwest One Quarter (SW 1/4) of said Section 12 for 150.00 feet to the south line of said Florida Power and Light Company easement; thence S88°46'31"W parallel with and 150.00 feet south of the north line of the Southwest One Quarter (SW 1/4) of said Section 12 and along the south line of said easement for 1320.84 feet to the Point of Beginning.

Described parcel contains 154.354 acres, more or less.

Subject to easements, restrictions, reservations and rights-of-way (recorded and unrecorded, written and unwritten).

Bearings are based on the east line of the Southwest One Quarter (SW 1/4) of Section 12, Township 46 South, Range 24 East as bearing S01°10'10"E.

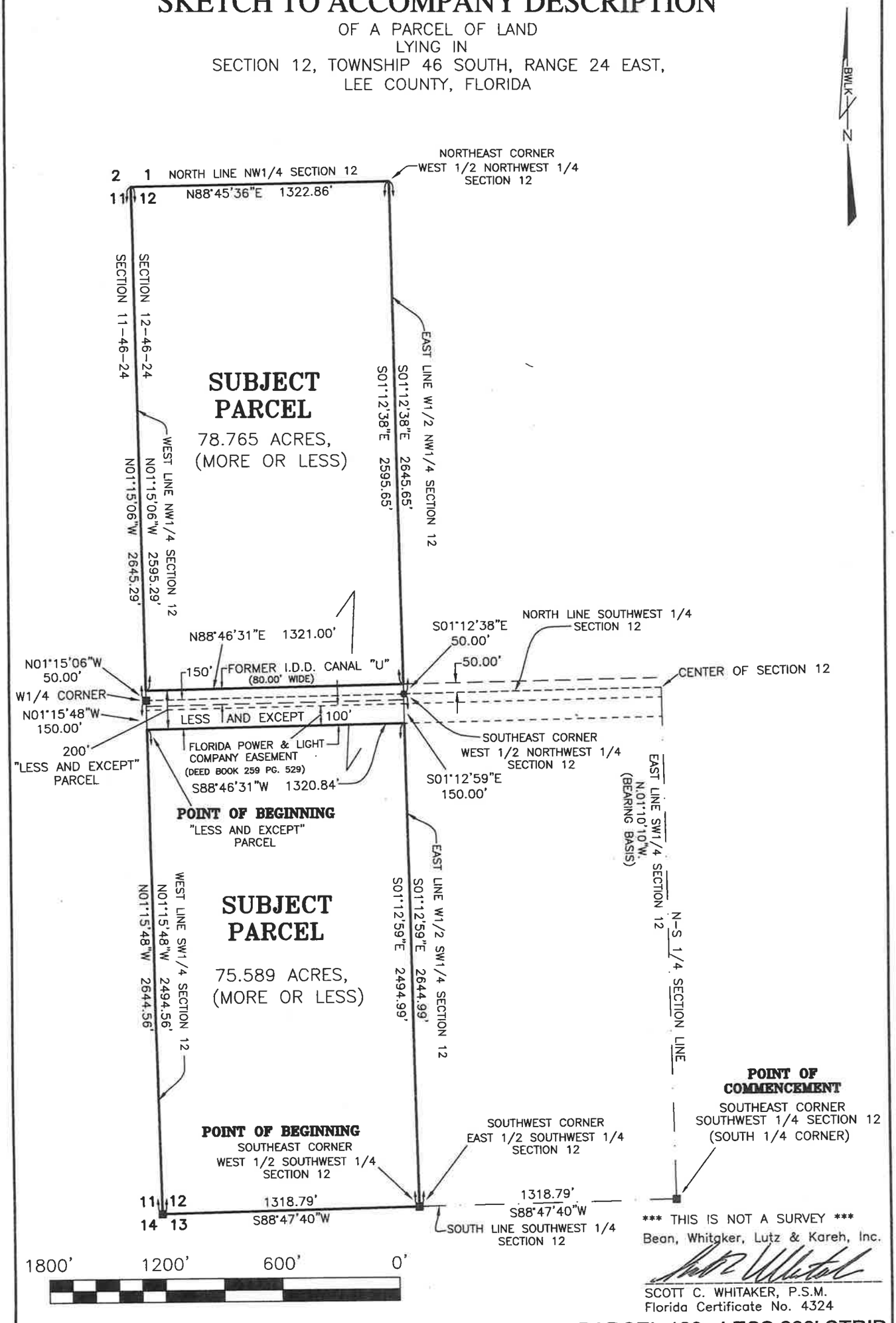
Bean, Whitaker, Lutz & Kareh, Inc. (LB4919)

Scott C. Whitaker, P.S.M. 4324

43386_PARCEL128 LESS 200 5/19/15

SKETCH TO ACCOMPANY DESCRIPTION

OF A PARCEL OF LAND
LYING IN
SECTION 12, TOWNSHIP 46 SOUTH, RANGE 24 EAST,
LEE COUNTY, FLORIDA



*** THIS IS NOT A SURVEY ***
Bean, Whitaker, Lutz & Kareh, Inc.

SCOTT C. WHITAKER, P.S.M.
Florida Certificate No. 4324

BEARINGS ARE BASED ON THE EAST LINE OF THE SOUTHWEST ONE QUARTER (SW 1/4) OF SECTION 12, TOWNSHIP 46 SOUTH, RANGE 24 EAST, AS BEARING N01°10'10"E.

P.O.C. = POINT OF COMMENCEMENT
P.O.B. = POINT OF BEGINNING
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FP&L= FLORIDA POWER & LIGHT

PARCEL 128 - LESS 200' STRIP
LEE COUNTY CONSERVATION 2020

Bean, Whitaker, Lutz & Kareh, Inc. (LB 4919)

CONSULTING ENGINEERS - SURVEYORS AND MAPPERS - PLANNERS

13041 MCGREGOR BOULEVARD, FORT MYERS, FLORIDA 33919-5910 (239) 481-1331

SK43386_PARCEL128.DWG

DATE	PROJECT NO.	DRAWN BY	SCALE	SHEET	FILE NO. (S-T-R)
05-19-15	43386	SCW	1"= 600'	1 OF 1	12-46-24

Appendix A: Legal Descriptions

Nomination Parcel #506

Bean, Whitaker, Lutz & Kareh, Inc.
13041 McGregor Boulevard
Fort Myers, Florida 33919-5910
email – fmoffice@bwlk.net
(Ph) 239-481-1331 (Fax) 239-481-1073

Description of a Parcel of Land
Lying in
Section 12, Township 46 South, Range 24 East
Lee County, Florida
(Lee County Conservation 2020 - Parcel 506 - Boardwalk Parcel)

A parcel of land lying in Section 12, Township 46 South, Range 24 East, Lee County, Florida, being more particularly described as follows:

Commencing at the southeast corner of the Southwest One Quarter of said Section 12; thence S88°47'40"W along the south line of the Southwest One Quarter (SW 1/4) of said Section 12 for 1318.79 feet to the southwest corner of the East One Half (E 1/2) of said Southwest One Quarter (SW 1/4); thence N01°12'59"W along the west line of the East One Half (E 1/2) of said Southwest One Quarter (SW 1/4) for 2644.99 feet to the northwest corner of said fraction; thence N88°46'31"E along the north line of the Southwest One Quarter (SW 1/4) of said Section 12 for 360.53 feet; thence S01°12'18"E for 910.89 feet; thence S52°45'16"W for 171.45 feet; thence S37°14'44"E for 60.00 feet; thence N52°45'16"E for 38.22 feet; thence S45°02'56"E for 223.61 feet; thence N55°40'32"E for 227.97 feet; thence N40°44'44"E for 154.69 feet; thence S79°37'56"E for 321.18 feet; thence S43°23'01"W for 40.00 feet; thence S46°36'58"E for 284.57 feet; thence N90°00'00"E for 212.83 feet; thence S73°20'00"E for 25.14 feet to the Point of Beginning; thence S00°00'00"E for 117.43 feet; thence S49°30'00"W for 104.42 feet; thence S25°21'08"W for 56.01 feet; thence S51°01'28"W for 69.32 feet; thence S17°20'00"W for 159.82 feet; thence S16°20'00"E for 147.00 feet; thence S14°00'00"W for 173.74 feet; thence S03°52'27"E for 59.93 feet; thence S25°47'33"W for 50.28 feet; thence S59°55'19"W for 67.56 feet; thence S67°32'06"W for 165.69 feet; thence S22°27'54"E for 20.00 feet; thence N67°32'06"E for 166.34 feet; thence N63°50'00"E for 83.20 feet; thence N02°02'49"W for 18.66 feet; thence N25°47'33"E for 42.31 feet; thence N03°52'27"W for 67.12 feet; thence N20°20'24"E for 89.00 feet; thence N09°12'55"E for 105.94 feet; thence N26°39'38"W for 71.72 feet; thence N09°51'10"W for 64.45 feet; thence N17°20'00"E for 137.87 feet; thence N51°01'28"E for 67.82 feet; thence N25°21'08"E for 52.46 feet; thence N60°32'00"E for 102.53 feet to an intersection with the west line of a parcel as described in Official Record Book 2074 at Page 4586; thence N00°00'00"W along said west line for 150.70 feet; thence N90°00'00"W departing said west line for 24.47 feet to the Point of Beginning.

Parcel contains 27,094 square feet (0.62 acres), more or less.

Subject to easements, restrictions, reservations and rights-of-way (recorded and unrecorded, written and unwritten).

Bearings are based on the east line of the Southwest One Quarter (SW 1/4) of Section 12, Township 46 South, Range 24 East, as being S01°10'10"E.

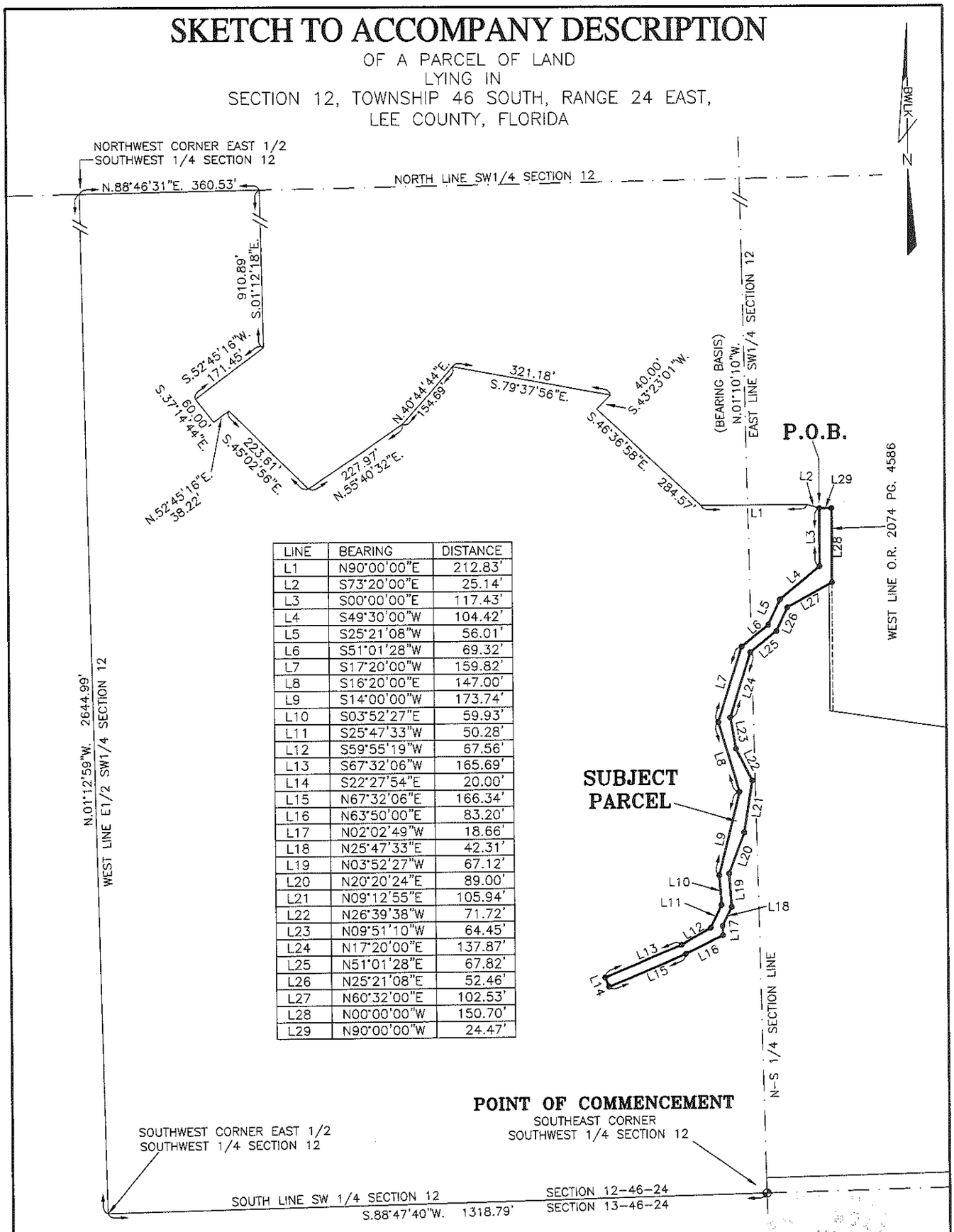
Bean, Whitaker, Lutz & Kareh, Inc. (LB4919)

Scott C. Whitaker, P.S.M. 4324

31559_PAR 506 BOARDWALK 1/27/14

SKETCH TO ACCOMPANY DESCRIPTION

OF A PARCEL OF LAND
LYING IN
SECTION 12, TOWNSHIP 46 SOUTH, RANGE 24 EAST,
LEE COUNTY, FLORIDA



LINE	BEARING	DISTANCE
L1	N90°00'00"E	212.83'
L2	S73°20'00"E	25.14'
L3	S00°00'00"E	117.43'
L4	S49°30'00"W	104.42'
L5	S25°21'08"W	56.01'
L6	S51°01'28"W	69.32'
L7	S17°20'00"W	159.82'
L8	S16°20'00"E	147.00'
L9	S14°00'00"W	173.74'
L10	S03°52'27"E	59.93'
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L13	S67°32'06"W	165.69'
L14	S22°27'54"E	20.00'
L15	N67°32'06"E	166.34'
L16	N63°50'00"E	83.20'
L17	N02°02'49"W	18.66'
L18	N25°47'33"E	42.31'
L19	N03°52'27"W	67.12'
L20	N20°20'24"E	89.00'
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L26	N25°21'08"E	52.46'
L27	N60°32'00"E	102.53'
L28	N00°00'00"W	150.70'
L29	N90°00'00"W	24.47'

*** THIS IS NOT A SURVEY. ***

Bean, Whitaker, Lutz & Kareh, Inc.

SCOTT C. WHITAKER, P.S.M.
Florida Certificate No. 4324

PARCEL 506-BOARDWALK PARCEL
LEE COUNTY CONSERVATION 2020

BEARINGS ARE BASED ON THE EAST LINE OF THE SOUTHWEST ONE QUARTER (SW 1/4) OF SECTION 12, TOWNSHIP 46 SOUTH, RANGE 24 EAST, AS BEARING N01°10'10"E.

P.O.C. = POINT OF COMMENCEMENT
P.O.B. = POINT OF BEGINNING
O.R. = OFFICIAL RECORD BOOK
PG. = PAGE

Bean, Whitaker, Lutz & Kareh, Inc. (LB 4919)
CONSULTING ENGINEERS - SURVEYORS AND MAPPERS - PLANNERS
13041 MCGREGOR BOULEVARD, FORT MYERS, FLORIDA 33919-5910 (239) 481-1331

SK31559_BOARDWALK.DWG

DATE	PROJECT NO.	DRAWN BY	SCALE	SHEET	FILE NO. (S-T-R)
01-27-14	31559	KAE	1"= 250'	1 OF 1	12-46-24

Appendix B: Merged Parcel STRAP Numbers

Estero March Preserve

66 +128

10225426

STATE OF FLORIDA

LEE COUNTY PROPERTY APPRAISER

KENNETH M. WILKINSON, C.F.A.

Mailing Address:
P.O. Box 1546
Fort Myers, Florida 33902-1546

Physical Address:
2480 Thompson Street
Fort Myers, Florida 33901-3074

Telephone: (239) 533-6100 Extension: 9 -- **Facsimile:** (239) 533-6107

www.leepa.org

MEMBER International Association of Assessing Officers

AUG 26 2008

Application for Combination of Existing Parcels

Instructions: Please read the requirements, complete the form, sign, date and return to our office. If you need assistance or have questions, please call (239) 533-6100 press 91.

General Requirements: This form is a request to combine parcels per the owner's request. Our office will only combine parcels that meet the following:

- Title to and ownership of the parcels is identical.
- The parcels are contiguous. Lots of a plat separated by a public easement or thoroughfare are not considered contiguous.
- Proof that all taxes on the parcels have been paid (F.S. 197.192).
- **ALL REQUESTS MUST HAVE OWNER'S SIGNATURE. PHOTO ID REQUIRED.**

We reserve the right to request additional information as necessary to complete the request. Additional information may include items such as a copy of a survey or a letter from the governing jurisdiction regarding the request etc.

Additional Notes and Information: For a condominium request, the owner must obtain a letter from the condominium association acknowledging the request and the property's physical status as one living unit. Please be advised that this request does not imply suitability or authorize development of the parcel. Please contact the appropriate land development or planning and zoning department for your jurisdiction for questions concerning development of the parcel. No rights are being granted by this action that are reserved to any regulatory agency. This action does not nullify or alleviate any existing liens or encumbrances on the property.

You agree by submitting this application that the Lee County Property Appraiser is neither responsible nor liable for any problems or complications resulting from this request. CA (Initial Here)

SPECIAL NOTE FOR IMPROVED PARCELS: ***In the event we receive a request to split this property at a later date, a survey will be required designating the location of all improvements.*** CA (Initial Here)

Print or type parcel (STRAP) numbers into the boxes below to be combined into one new parcel:

12-46-24-23-00000.00A0	
12-46-24-00-00005.4000	

Owner Name: LEE COUNTY **Date:** 8/26/08

Telephone Number: 239-533-7455

Facsimile Number: 239-485-2302

Owner Signature: Cathy Olson / Cathy Olson Conservation 20/20 Senior Supervisor

Confirmation Request by: **Fax** ☒ **Mail** ☐ **Phone:** ☐

For Office Use Only:

New Parcel Number: 12-46-24-00-00005.4000 **FolioID:** 10225426

Paid Tax Bill: Yes ☒ No ☐ City/County Approval: Yes ☐ No ☐ N/A ☒ ID Verified ☒

Abstractor: Lynnell Edwards Date: 8-27-08

STATE OF FLORIDA
LEE COUNTY PROPERTY APPRAISER
KENNETH M. WILKINSON, C.F.A.

Mailing Address:
P.O. Box 1546
Fort Myers, Florida 33902-1546

Physical Address:
2480 Thompson Street
Fort Myers, Florida 33901-3074

IAAO MEMBER

Telephone: (239) 533-6100 -- (866) 673-2868 (From anywhere in continental US/Canada/Florida except 239 area code)
Facsimile: (239) 533-6160 -- **Website:** www.leepa.org

Application for Combination or Split of Existing Parcels

Please submit this completed form to GISTeam@leepa.org or fax to 239-533-6107.

This form is a request to combine or split parcels per the owner's request. Our office will only combine/split parcels that meet the following:

- ❑ All taxes on the parcels have been paid.
- ❑ Parcels are contiguous.

In addition to above, to split a parcel we will need one or more of the following:

- ❑ Deed, Subdivision Plat, Declaration of Condominium etc. recorded with Lee Clerk of Court.
- ❑ Information that the parcel(s) were previously platted and/or have previously recorded documents that correspond to the requested configuration.

We reserve the right to request additional information such as photo identification, site survey (to locate or identify buildings etc.), permit application, land development order, ordinance, or evidence of ownership.
This request does not imply suitability or authorize development of the parcel. Contact the development department of the local jurisdiction for questions concerning the development of the parcel and legality of this request. This action does not nullify or alleviate any existing liens or encumbrances on the property.

You agree by submitting this application that the Lee County Property Appraiser is neither responsible nor liable for any problems or complications resulting from this request. CA (Initial)

A copy of this request will be forwarded to the appropriate jurisdiction if an advance approval has not been provided with this application. CA (Initial)

❑ COMBINE ← Check One ✓ → ❑ SPLIT

Folio IDs or STRAP Numbers
(Attach another application if more than 4)

12-46-24-00-00005.4000
12-46-24-00-00005.0010

Folio ID or STRAP Number

Lot Numbers or Attach Sketch / Survey

Owner Signature: Cathy Olson Date: 18 April 2018

Print Name: Cathy Olson Phone: 239-533-7455

E-Mail: colson@leegov.com

If this request involves a Homesteaded parcel, please complete the reverse side.

STATE OF FLORIDA
LEE COUNTY PROPERTY APPRAISER
KENNETH M. WILKINSON, C.F.A.

Mailing Address:
P.O. Box 1546
Fort Myers, Florida 33902-1546

Physical Address:
2480 Thompson Street
Fort Myers, Florida 33901-3074

Telephone: (239) 533-6100 -- (866) 673-2868 (From anywhere in continental US/Canada/Florida except 239 area code)
Facsimile: (239) 533-6160 -- **Website:** www.leepa.org

You are requesting to split or combine parcels for the tax roll. One of the parcels involved is currently receiving a Homestead Exemption. The act of splitting or combining a parcel may impact your homestead exemption. In order to determine that impact, we need additional information about the use of the parcel(s) after the split or combination. Please answer the following question and return this form to our office.

After completion of the split or combination, will the parcel(s) be used as part of your homesteaded property?

Yes No

If no, how will the property be used?_____

I authorize the Lee County Property Appraiser to obtain information to determine my eligibility for Homestead Exemption. I understand that under section 196.131(2), Florida Statutes, any person who knowingly gives false information to claim Homestead Exemption is guilty of a misdemeanor of the first degree, punishable by imprisonment up to one (1) year, a fine up to $5,000, or both.
Under penalties of perjury, I declare that I have read the foregoing affidavit and the facts in it are true. I further understand that if the Property Appraiser determines that for any year within the prior 10 years I was not entitled to receive this exemption, my property shall be subject to the taxes exempted, plus 15 percent per annum, and a penalty of 50 percent of the taxes exempted.

_____ _____ _____
Signature Date Daytime Telephone Number

_____
Print Name

Office Use Only

STRAP/folio:

For Tax Roll: Action Taken:
Remove/Deny ☐
Reaffirm: ☐

Reviewed by:

Date Completed:

Appendix C: Wildlife Species List

Appendix C: EMP Wildlife Species List

		Designated Status		
Scientific Name	**Common Name**	**FWC**	**FWS**	**FNAI**
MAMMALS				
Family: Dasypodidae (armadillos)				
Dasypus novemcinctus	nine-banded armadillo *			
Family: Sciuridae (squirrels and their allies)				
Sciurus carolinensis	eastern gray squirrel			
Family: Leporidae (rabbits and hares)				
Sylvilagus palustris	marsh rabbit			
Sylvilagus floridanus	eastern cottontail			
Family: Felidae (cats)				
Lynx rufus	bobcat			
Family: Procyonidae (raccoons)				
Procyon lotor	raccoon			
Family: Suidae (old world swine)				
Sus scrofa	feral hog *			
BIRDS				
Family: Anatidae (swans, geese and ducks)				
Subfamily: Anatinae				
Anas fulvigula	mottled duck			
Anas discors	blue-winged teal			
Anas clypeata	northern shoveler			
Anas crecca carolinensis	green-winged teal			
Aythya americana	redhead			
Aythya collaris	ring-necked duck			
Aythya affinis	lesser scaup			
Family: Podicipedidae (grebes)				
Podilymbus podiceps	pied-billed grebe			
Family: Ciconiidae (storks)				
Mycteria americana	wood stork	FT	T	G4/S2
Family: Fregatidae (frigatebirds)				
Fregata magnificens	magnificent frigatebird			G5/S1
Family: Phalacrocoracidae (cormorants)				
Phalacrocorax auritus	double-crested cormorant			
Family: Anhingidae (anhingas)				
Anhinga anhinga	anhinga			
Family: Pelecanidae (pelicans)				
Pelecanus erythrorhynchos	American white pelican			
Pelecanus occidentalis	brown pelican			G4/S3
Family: Ardeidae (herons, egrets, bitterns)				
Ardea herodius	great blue heron			
Ardea alba	great egret			G5/S4
Egretta thula	snowy egret			G5/S3
Egretta caerulea	little blue heron	T		G5/S4
Egretta tricolor	tricolored heron	T		G5/S4
Egretta rufescens	reddish egret	T		G4/S2
Bubulcus ibis	cattle egret			
Butorides virescens	green heron			
Nycticorax nycticorax	black-crowned night heron			G5/S3

Appendix C: EMP Wildlife Species List

		Designated Status		
Scientific Name	**Common Name**	**FWC**	**FWS**	**FNAI**
Nyctanassa violacea	yellow-crowned night heron			G5/S3
Family: Threskiornithidae (ibises and spoonbills)				
Subfamily: Threshiornithinae				
Eudocimus albus	white ibis			G5/S4
Plegadis falcinellus	glossy ibis			G5/S3
Subfamily: Plataleinae				
Platalea ajaja	roseate spoonbill	T		G5/S2
Family: Cathartidae (new world vultures)				
Coragyps atratus	black vulture			
Cathartes aura	turkey vulture			
Family: Pandionidae (ospreys)				
Pandion haliaetus	osprey			G5/S3S4
Family: Accipitridae (hawks, kites, accipiters, harriers, eagles)				
Elanoides forficatus	swallow-tailed kite			G5/S2
Circus cyaneus	northern harrier			
Accipiter striatus	sharp-shinned hawk			
Accipiter cooperii	Cooper's hawk			G5/S3
Hailaeetus leucocephalus	bald eagle			G5/S3
Buteo lineatus	red-shouldered hawk			
Buteo brachyurus	short-tailed hawk			G4G5/S1
Family: Rallidae (coots and gallinules)				
Rallus crepitans	clapper rail			
Gallinula galeata	common gallinule			
Gallinula chloropus	common moorhen			
Fulica americana	American coot			
Family: Gruidae (cranes)				
Subfamily: Gruinae				
Grus canadensis pratensis	Florida sandhill crane	T		G5T2T3/S2S3
Family: Recurvirostridae (avocets and stilts)				
Himantopus mexicanus	black-necked stilt			
Family: Charadriidae (plovers)				
Subfamily: Charadriinae				
Pluvialis squatarola	black-bellied plover			
Charadrius vociferus	killdeer			
Family: Scolopacidae (sandpipers and phalaropes)				
Subfamily: Scolopacinae				
Actitis macularia	spotted sandpiper			
Tringa solitaria	solitary sandpiper			
Tringa melanoleuca	greater yellowlegs			
Tringa semipalmatus	willet			
Tringa flavipes	lesser yellowlegs			
Limosa fedoa	marbled godwit			
Calidris canutus	red knot			
Calidris alba	sanderling			
Calidris alpina	dunlin			
Calidris minutilla	least sandpiper			
Calidris mauri	western sandpiper			

Appendix C: EMP Wildlife Species List

		Designated Status		
Scientific Name	**Common Name**	**FWC**	**FWS**	**FNAI**
Limnodromus griseus	short-billed dowitcher			
Limnodromus scolopaceus	long-billed dowitcher			
Gallinago delicata	Wilson's snipe			
Family: Laridae (gulls)				
Subfamily: Larinae				
Larus atricilla	laughing gull			
Larus delawarensis	ring-billed gull			
Subfamily: Sterninae (terns)				
Sterna forsteri	Forster's tern			
Family: Columbidae (pigeons and doves)				
Streptopelia decaocto	Eurasian collared-dove *			
Zenaida macroura	mourning dove			
Columbina passerina	common ground-dove			
Family: Strigidae (true owls)				
Otus asio	eastern screech owl			
Family: Caprimulgidae (goatsuckers)				
Subfamily: Chordeilinae				
Chordeiles minor	common nighthawk			
Subfamily: Caprimulginae				
Caprimulgus carolinensis	chuck-will's-widow			
Family: Apodidae (swifts)				
Subfamily: Chaeturinae				
Chaetura pelagica	chimney swift			
Family: Trochilidae (hummingbirds)				
Subfamily: Trochilinae				
Archilochus colubris	ruby-throated hummingbird			
Family: Alcedinidae (kingfishers)				
Ceryle alcyon	belted kingfisher			
Family: Picidae (woodpeckers)				
Subfamily: Picinae				
Melanerpes erythrocephalus	red-headed woodpecker			
Melanerpes carolinus	red-bellied woodpecker			
Sphyrapicus varius	yellow-bellied sapsucker			
Picoides pubescens	downy woodpecker			
Colaptes auratus	northern flicker			
Dryocopus pileatus	pileated woodpecker			
Family: Falconidae (falcons)				
Subfamily: Falconinae (falcons)				
Falco sparverius	American kestrel			
Falco sparverius paulus **	southeast American kestrel	T		G5T4/S3
Falco columbarius	merlin			G5T4/S3
Falco peregrinus	peregrine falcon			G4/S2
Family: Tyrannidae (tyrant flycatchers)				
Subfamily: Fluvicolinae				
Sayornis phoebe	eastern phoebe			
Myiarchus crinicensis	great-crested flycatcher			
Tyrannus tyrannus	eastern kingbird			

Appendix C: EMP Wildlife Species List

		Designated Status		
Scientific Name	**Common Name**	**FWC**	**FWS**	**FNAI**
Tyrannus dominicensis	gray kingbird			
Family: Laniidae (shrikes)				
Lanius ludovicianus	loggerhead shrike			
Family: Vireonidae (vireos)				
Vireo griseus	white-eyed vireo			
Vireo solitarius	blue-headed vireo			
Vireo olivaceus	red-eyed vireo			
Family: Corvidae (crows, jays, etc.)				
Cyanocitta cristata	blue jay			
Corvus brachyrhyncos	American crow			
Corvus ossifragus	fish crow			
Family: Hirundinidae (swallows)				
Subfamily: Hirundinidae				
Progne subis	purple martin			
Tachycineta bicolor	tree swallow			
Hirundo rustica	barn swallow			
Family: Paridae (chickadees and titmice)				
Baeolophus bicolor	tufted titmouse			
Family: Troglodytidae (wrens)				
Troglodytes aedon	house wren			
Cistothorus platensis	sedge wren			
Cistothorus palustris	marsh wren			
Thryothorus ludovicianus	Carolina wren			
Family: Polioptilidae				
Polioptila caerulea	blue-gray gnatcatcher			
Family: Regulidae (kinglets)				
Regulus calendula	ruby-crowned kinglet			
Family: Turdidae (thrushes)				
Sialia sialis	eastern bluebird			
Turdus migratorius	American robin			
Family: Mimidae (mockingbirds and thrashers)				
Dumetella carolinensis	gray catbird			
Toxostoma rufum	brown thrasher			
Mimus polyglottos	northern mockingbird			
Family: Sturnidae (starlings)				
Sturnus vulgaris	European starling *			
Acridotheres tristis	common myna *			
Family: Bombycillidae (waxwings)				
Bombycilla cedrorum	cedar waxwing			
Family: Parulidae (wood-warblers)				
Seiurus aurocapillus	ovenbird			
Seiurus noveboracensis	northern waterthrush			
Mniotilta varia	black-and-white warbler			
Geothlypis tristis	common yellowthroat			
Setophaga ruticilla	American redstart			
Parula americana	northern parula			
Dendroica castanea	bay-breasted warbler			

Appendix C: EMP Wildlife Species List

		Designated Status		
Scientific Name	**Common Name**	**FWC**	**FWS**	**FNAI**
Dendroica petechia	yellow warbler			
Dendroica pensylvanica	chestnut-sided warbler			
Dendroica palmarum	palm warbler			
Dendroica pinus	pine warbler			
Dendroica coronata	yellow-rumped warbler			
Dendroica dominica	yellow-throated warbler			
Dendroica discolor	prairie warbler			
Dendroica virens	black-throated green warbler			
Dendroica cerulea	cerulean warbler			
Family: Emberizine (sparrows and their allies)				
Pipilo erythrophthalmus	eastern towhee			
Passerculus sandwichensis	Savannah sparrow			
Ammodramus nelsoni	Nelson's sparrow			
Melospiza georgiana	swamp sparrow			
Ammodramus maritimus	seaside sparrow			
Family: Cardinalidae (cardinals, some grosbeaks, new world buntings, etc.)				
Cardinalis cardinalis	northern cardinal			
Pheucticus ludovicianus	rose-breasted grosbeak			
Passerina cyanea	indigo bunting			
Passerina ciris	painted bunting			
Family: Icteridae (blackbirds, orioles, etc.)				
Agelaius phoeniceus	red-winged blackbird			
Quiscalus quiscula	common grackle			
Quiscalus major	boat-tailed grackle			
Molothrus ater	brown-headed cowbird			
Icterus galbula	Baltimore oriole			
Family: Fringillidae				
Subfamily: Carduelinae				
Carduelis tristis	American goldfinch			
REPTILES				
Family: Alligatoridae (alligator and caiman)				
Alligator mississippiensis	American alligator	FT(SA)	T(SA)	G5/S4
Family: Kinosternidae (musk and mud turtles)				
Kinosternon baurii	striped mud turtle			
Family: Emydidae (box and water turtles)				
Terrapene carolina bauri	Florida box turtle			
Family: Testudinidae (gopher tortoises)				
Gopherus polyphemus	gopher tortoise	T		G3/S3
Family: Polychridae (anoles)				
Anolis carolinensis	green anole			
Anolis sagrei	brown anole *			
Family: Anguidae (glass and alligator lizards)				
Ophisaurus ventralis	eastern glass lizard			
Family: Colubridae (harmless egg-laying snakes)				
Coluber constrictor priapus	southern black racer			
Family: Viperidae (vipers)				
Subfamily: Crotalinae (pit vipers)				

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		Designated Status		
Scientific Name	**Common Name**	**FWC**	**FWS**	**FNAI**
Sistrurus miliarius barbouri	dusky pygmy rattlesnake			
Family: Dipsadidae (rear-fanged snakes)				
Diadophis punctatus punctatus	southern ringneck snake			
Family Natricidae (harmless live-bearing snakes)				
Nerodia clarkii compressicausa	mangrove salt marsh snake			
Nerodia fasciata pictiventris	Florida water snake			
AMPHIBIANS				
Family: Bufonidae (toads)				
Anaxyrus quercicus	oak toad			
Anaxyrus terrestris	southern toad			
Family: Hylidae (treefrogs and their allies)				
Hyla cinerea	green treefrog			
Hyla squirella	squirrel treefrog			
Osteopilus septentrionalis	Cuban treefrog *			
Family: Microhylidae (narrowmouth toads)				
Gastrophryne carolinensis	eastern narrowmouth toad			
Family: Ranidae (true frogs)				
Lithobates sphenocephalus sphenocephalus	Florida leopard frog			
FISHES				
Family: Fundulidae (topminnows and killifishes)				
Fundulus confluentus	marsh killifish			
Fundulus grandis	gulf killifish			
Lucania parva	rainwater killifish			
Family: Cyprinodontidae (pupfishes)				
Cyprinodon variegatus	sheepshead minnow			
Family: Poeciliidae (livebearers)				
Poecilia latipinna	sailfin molly			
Gambusia spp.	mosquitofish			
MILLIPEDES				
Family: Spirobolidae (millipedes)				
Chicobolus spinigerus	Florida ivory millipede			
INSECTS				
Family: Psyllidae (psyllids)				
Boreioglycaspis melaleucae	melaleuca psyllid *			
Family: Curculionidae (true weevils)				
Oxyops vitiosa	melaleuca weevil *			
Family: Pieridae (whites and sulphurs)				
Subfamily: Pierinae (whites, marbles and orange tips)				
Ascia monuste	great southern white			
Subfamily: Coliadinae (sulphurs)				
Phoebis sennae	cloudless sulphur			
Phoebis philea	orange-barred sulphur			
Family: Nymphalidae (brushfoots)				
Subfamily: Heliconiinae (longwings)				
Agraulis vanillae	gulf fritillary			
Heliconius charitonius	zebra			
Subfamily: Nymphalinae (brushfoots)				

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		Designated Status		
Scientific Name	**Common Name**	**FWC**	**FWS**	**FNAI**
Junonia coenia	common buckeye			
Anartia jatrophae	white peacock			
Subfamily: Danaidae (milkweed butterfiles)				
Danaus gilippus	queen			
Family: Ocypodoidea (ghost and fiddler crabs)				
Subfamily: Ocypodinae (fiddler crabs)				
Uca stylifera	fiddler crab			
GASTROPODS				
NEOGASTROPODA-whelks, cones and tritons (in the order sea snails & marine mollusks)				
Family: Olivellidae (dwarf olives)				
Olivella perplexa	dwarf olive			

KEY:

FWS (U.S. Fish & Wildlife Service)
E - Endangered
T - Threatened
T(SA) - Threatened for Similar Appearance

FWC (Florida Fish & Wildlife Conservation Commission)
FT/FE - Federally-listed Threatened/Endangered
FT(SA) - Federally-listed Threatened for Similar Appearance
E - Endangered
T - Threatened
SSC - Species of Special Concern

FNAI (Florida Natural Areas Inventory)
G - Global rarity of the species
S - State rarity of the species
T - Subspecies of special population
1 - Critically imperiled
2 - Imperiled
3 - Rare, restricted or otherwise vulnerable to extinction
4 - Apparently secure
5 - Demonstratebly secure

* = Non-native

** A kestrel was observed on 12/12/2003. During this time of year, both the southeastern American kestrel and American kestrel may be found in southwest Florida. As these are not easily distinguishable from the other, it was not determined which species was observed (WilsonMiller 2005).

Appendix D: Plant Species List

Appendix D: Plant Species List

			Designated Status			
Scientific Name	**Common Name**	**Status**	**EPPC**	**FDACS**	**IRC**	**FNAI**
Family: Blechnaceae (mid-sorus fern)						
Blechnum serrulatum	swamp fern	native			S	
Woodwardia virginica	Virginia chain fern	native			R	
Family: Dennstaedtiaceae (cuplet fern)						
Pteridium aquilinum / caudatum	lacy bracken fern	native			S	
Family: Nephrolepidaceae (sword fern)						
Nephrolepis cordifolia	tuberous sword fern	exotic	I			
Family: Polypodiaceae (polypody)						
Phlebodium aureum	golden polypody	native			S	
Pleopeltis polypodioides	resurrection fern	native			S	
Family: Pteridaceae (brake fern)						
Acrostichum aureum	golden leather fern	native		T	R	G3/S3
Acrostichum danaeifolium	giant leather fern	native			S	
Family: Schizaeaceae (curly-grass)						
Lygodium microphyllum	old world climbing fern	exotic	I			
Family: Thelypteridaceae (marsh fern)						
Thelypteris kunthii	widespread maidenfern	native			S	
Family: Vittariaceae (shoestring fern)						
Vittaria lineata	shoestring fern	native			S	
Family: Cupressaceae (cedar)						
Taxodium distichum	bald-cypress	native			AS	
Family: Pinaceae (pine)						
Pinus elliottii var. densa	south Florida slash pine	native			S	
Family: Agavaceae (agave)						
Yucca aloifolia	Spanish bayonet	native			S	
Family: Alismataceae (water plantain)						
Sagittaria lancifolia	bulltongue arrowhead	native			S	
Family: Amaryllidaceae (amaryllis)						
Crinum americanum	string-lily	native			S	
Family: Araceae (arum)						
Epipremnum pinnatum cm. Aureum	golden pothos	exotic	II			
Family: Arecaceae (plam)						
Dypsis lutescens	areca palm	exotic				
Phoenix reclinata	Senegal date palm	exotic	II			
Sabal palmetto	cabbage palm	native			S	
Serenoa repens	saw palmetto	native			S	
Family: Asparagaceae (asparagus)						
Asparagus sprengeri	Sprenger's asparagus-fern	exotic	I			
Family: Bromeliaceae (pineapple)						
Tillandsia balbisiana	reflexed wild pine	native		T	S	
Tillandsia fasciculata var. densispica	cardinal airplant	native		E	S	
Tillandsia flexuosa	twisted airplant	native		T	R	G5/S3
Tillandsia paucifolia	potbelly airplant	native			S	
Tillandsia recurvata	ballmoss	native			S	
Tillandsia setacea	southern needleleaf	native			S	
Tillandsia usneoides	Spanish moss	native			S	
Tillandsia utriculata	giant airplant	native		E	S	
Family: Commelinaceae (dayflower)						
Commelina diffusa var. diffusa	common dayflower	exotic				

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			Designated Status			
Scientific Name	**Common Name**	**Status**	**EPPC**	**FDACS**	**IRC**	**FNAI**
Family: Cyperaceae (sedge)						
Cladium jamaicense	Jamaica swamp sawgrass	native			S	
Cyperus haspan	haspan flatsedge	native			S	
Cyperus ligularis	swamp flatsedge	native			S	
Cyperus odoratus	fragrant flatsedge	native			S	
Cyperus polystachyos	manyspike flatsedge	native			S	
Eleocharis baldwinii	roadgrass	native			R	
Eleocharis cellulosa	Gulf Coast spikerush	native			S	
Eleocharis geniculata	Canada spikerush	native			S	
Eleocharis interstincta	jointed spikerush	native			AS	
Fimbristylis cymosa	hurricanegrass	exotic				
Fuirena scirpoidea	southern umbrellasedge	native			AS	
Rhynchospora colorata	starrush whitetop	native			S	
Rhynchospora odorata	fragrant beaksedge	native			R	
Rhynchospora tracyi	Tracy's beaksedge	native			AS	
Scirpus tabernaemontani	softstem bulrush	native			R	
Family: Eriocaulaceae (pipewort)						
Lachnocaulon anceps	whitehead bogbutton	native			R	
Family: Juncaceae (rush)						
Juncus megacephalus	bighead rush	native			AS	
Juncus polycephalus / paludosus	manyhead rush	native			R	
Juncus roemerianus	needle rush	native			R	
Family: Orchidaceae (orchid)						
Encyclia tampensis	Florida butterfly orchid	native		CE	S	
Eulophia alta	wild-coco	native			R	
Oeceoclades maculata	monk orchid	exotic				
Family: Poaceae (grass)						
Amphicarpum muhlenbergianum	blue maidencane	native			R	
Andropogon glomeratus var. glaucopsis	purple bluestem	native			R	
Andropogon glomeratus var. pumilus	bushy bluestem	native			S	
Andropogon virginicus	broomsedge bluestem	native				
Aristida spiciformis	bottlebrush threeawn	native			R	
Aristida stricta	wiregrass	native			S	
Cenchrus incertus	coastal sandbur	native			S	
Distichlis spicata	saltgrass	native			R	
Eragrostis elliottii	Elliot's love grass	native			S	
Eustachys glauca	saltmarsh fingergrass	native			S	
Eustachys petraea	pinewoods fingergrass	native			S	
Imperata cylindrica	cogongrass	exotic	I			
Monanthochloe littoralis	keygrass	native			R	
Muhlenbergia capillaris	muhlygrass	native			S	
Panicum hemitomon	maidencane	native			S	
Urochloa maxim / Panicum maximum	guineagrass	exotic	II			
Panicum repens	torpedograss	exotic	I			
Panicum virgatum	switchgrass	native			S	
Paspalum distichum	knotgrass	native			R	
Paspalum monostachyum	gulfdune paspalum	native			S	
Paspalum notatum	Bahia grass	exotic				
Setaria parviflora	knotroot foxtail	native			S	

Appendix D: Plant Species List

			Designated Status			
Scientific Name	**Common Name**	**Status**	**EPPC**	**FDACS**	**IRC**	**FNAI**
Spartina bakeri	sand cordgrass	native			S	
Sporobolus indicus	smutgrass	exotic				
Tripsacum dactyloides	Fakahatcheegrass	native			R	
Family: Ruscaceae (butcher's broom)						
Sansevieria hyacinthoides	bowstring hemp	exotic	II			
Family: Smilacaceae (smilax)						
Smilax auriculata	earleaf greenbrier	native			S	
Family: Typhaceae (cattail)						
Typha domingensis	southern cattail	native			S	
Typha latifolia	broadleaf cattail	native			R	
Family: Xyridaceae (yelloweyed grass)						
Xyris elliottii	Elliot's yelloweyed grass	native			R	
Family: Acanthaceae (acanthus)						
Ruellia caroliniensis	Carolina wild petunia	native			I	
Family: Aizoaceae (mesembryanthemum)						
Sesuvium portulacastrum	shoreline seapurslane	native			S	
Family: Amaranthaceae (amaranth)						
Blutaparon vermiculare	samphire, silverhead	native			S	
Salicornia bigelovii	annual glasswort	native			R	
Sarcocornia perennis	perennial glasswort	native			S	
Family: Anacardiaceae (cashew)						
Rhus copallinum	winged sumac	native			S	
Schinus terebinthifolius	Brazilian pepper	exotic	I			
Toxicodendron radicans	poison ivy	native			S	
Family: Annonaceae (custard-apple)						
Asimina reticulata	netted pawpaw	native			S	
Family: Apiaceae (carrot)						
Ptilimnium capillaceum	mock bishopsweed	native			R	
Family: Apocynaceae (dogbane)						
Asclepias tuberosa	butterflyweed	native			R	
Rhabdadenia biflora	rubbervine	native			AS	
Family: Aquifoliaceae (holly)						
Ilex cassine	dahoon holly	native			S	
Ilex glabra	gallberry	native			S	
Family: Araliaceae (ginseng)						
Hydrocotyle umbellata	manyflower marsh pennywort	native			AS	
Schefflera actinophylla	Australian umbrella tree	exotic	I			
Family: Asteraceae (aster)						
Ambrosia artemisiifolia	common ragweed	native			S	
Baccharis angustifolia	saltwater falsewillow	native			AS	
Baccharis glomeruliflora	silverling	native			S	
Baccharis halimifolia	groundsel tree	native			S	
Bidens alba var. radiata	beggerticks, Spanish-needles	native			S	
Borrichia arborescens	tree seaside oxeye	native			S	
Borrichia frutescens	bushy seaside oxeye	native			S	
Coreopsis floridana	Florida tickseed	native			I	
Coreopsis leavenworthii	Leavenworth's tickseed	native			S	
Elephantopus elatus	tall elephantsfoot	native			R	
Emilia fosbergii	Florida tasselflower	exotic				

Appendix D: Plant Species List

			Designated Status			
Scientific Name	**Common Name**	**Status**	**EPPC**	**FDACS**	**IRC**	**FNAI**
Erigeron quercifolius	oakleaf fleabane	native			S	
Eupatorium capillifolium	dogfennel	native			S	
Eupatorium mikanioides	semaphore thoroughwort	native			AS	
Euthamia caroliniana	slender goldenrod	native			S	
Flaveria linearis	narrowleaf yellowtops	native			S	
Heterotheca subaxillaris	camphorweed	native			S	
Mikania cordifolia	Florida Keys hempvine	native			AS	
Mikania scandens	climbing hempvine	native			S	
Pluchea odorata	sweetscent	native			S	
Pluchea rosea	rosy camphorweed	native			S	
Pterocaulon pycnostachyum	blackroot	native			S	
Rudbeckia hirta	blackeyed Susan	native			R	
Solidago sempervirens	seaside goldenrod	native			S	
Solidago stricta	wand goldenrod	native			S	
Sonchus asper	spiny sowthistle	exotic				
Sphagneticola trilobata	creeping oxeye	exotic	II			
Vernonia blodgettii	Florida ironweed	native			AS	
Family: Avicenniaceae (black mangrove)						
Avicennia germinans	black mangrove	native			S	
Family: Bataceae (saltwort)						
Batis maritima	saltwort	native			S	
Family: Casuarinaceae (sheoak)						
Casuarina equisetifolia	Australian-pine	exotic	I			
Family: Chrysobalanaceae (coco plum)						
Licania michauxii	gopher apple	native			S	
Family: Clusiaceae (mangosteen)						
Hypericum cistifolium	roundpod St. John's wort	native			AS	
Hypericum crux-andreae	St. Peter's wort	native			CI	
Hypericum gentianoides	pineweeds	native			I	
Hypericum tetrapetalum	fourpetal St. John's wort	native			AS	
Family: Combretaceae (combretum)						
Conocarpus erectus	buttonwood	native			S	
Laguncularia racemosa	white mangrove	native			S	
Terminalia catappa	West Indian almond	exotic	II			
Family: Convolvulaceae (morningglory)						
Cuscuta pentagona	fiveangled dodder	native			R	
Ipomoea indica	oceanblue morning-glory	native			S	
Ipomoea sagittata	saltmarsh morning-glory	native			S	
Family: Crassulaceae (orpine)						
Kalanchoe pinnata	life plant	exotic	II			
Family: Droseraceae (sundew)						
Drosera brevifolia	dwarf sundew	native			I	
Family: Ericaceae (heath)						
Lyonia fruticosa	coastalplain staggerbush	native			S	
Lyonia lucida	fetterbush	native			S	
Vaccinium myrsinites	shiny blueberry	native			S	
Family: Fabaceae (pea)						
Abrus precatorius	rosary pea	exotic	I			
Acacia auriculiformis	earleaf acacia	exotic	I			

Appendix D: Plant Species List

			Designated Status			
Scientific Name	**Common Name**	**Status**	**EPPC**	**FDACS**	**IRC**	**FNAI**
Albizia lebbeck	Woman's tongue	exotic	I			
Chamaecrista nictitans var. nictitans	sensitive pea	native			CI	
Crotalaria rotundifolia	rabbitbells	native			S	
Dalbergia ecastaphyllum	coinvine	native			S	
Desmodium incanum	beggar's-tick	native			S	
Erythrina herbacea	coralbean	native			S	
Leucaena leucocephala	white leadtree	exotic	II			
Sesbania herbacea	danglepod	native			AS	
Senna pendula	climbing cassia	exotic	I			
Sophora tomentosa var. truncata	yellow necklacepod	native			R	
Vigna luteola	hairy cowpea	native			S	
Family: Fagaceae (beech)						
Quercus elliottii / pumila	running oak	native			R	
Quercus laurifolia	laurel oak	native			S	
Quercus minima	dwarf live oak	native			R	
Quercus virginiana	live oak	native			S	
Family: Gentianaceae (gentian)						
Sabatia grandiflora	largeflower rosegentian	native			R	
Sabatia stellaris	rose-of-plymouth	native			AS	
Family: Lamiaceae (mint)						
Callicarpa americana	American beautyberry	native			S	
Hyptis alata	musky mint	native			S	
Piloblephis rigida	wild pennyroyal	native			R	
Family: Lauraceae (laurel)						
Cassytha filiformis	love vine	native			S	
Family: Malvaceae (mallow)						
Melochia corchorifolia	chocolateweed	exotic				
Taliparitii tiliaceum	sea hibiscus	exotic	II			
Urena lobata	caesarweed	exotic	I			
Family: Melastomataceae (melastome)						
Rhexia mariana	pale meadowbeauty	native			R	
Family: Meliaceae (mahogany)						
Swietenia mahagoni	West Indian mahogany	native		T	R	
Family: Moraceae (mulberry)						
Ficus aurea	strangler fig	native			S	
Family: Myricaceae (bayberry)						
Myrica cerifera	wax myrtle	native			S	
Family: Myrsinaceae (myrsine)						
Ardisia elliptica	shoebutton	exotic	I			
Rapanea punctata	myrsine	native			S	
Family: Myrtaceae (myrtle)						
Eugenia axillaris	white stopper	native			S	
Eugenia foetida	Spanish stopper	native			S	
Melaleuca quinquenervia	punktree	exotic	I			
Rhodomyrtus tomentosa	rose myrtle	exotic	I			
Syzygium cumini	Java plum	exotic	I			
Family: Olacaceae (olax)						
Ximenia americana	hog plum	native			S	

Appendix D: Plant Species List

			Designated Status			
Scientific Name	**Common Name**	**Status**	**EPPC**	**FDACS**	**IRC**	**FNAI**
Family: Onagraceae (eveningprimrose)						
Gaura angustifolia	southern beeblossom	native			S	
Ludwigia octovalvis	Mexican primrosewillow	native			S	
Ludwigia peruviana	Peruvian primrosewillow	exotic	I			
Family: Orobanchaceae (broomrape)						
Buchnera americana	American bluehearts	native			S	
Family: Passifloraceae (passionflower)						
Passiflora suberosa	corkystem passionflower	native			S	
Family: Plumbaginaceae (leadwort)						
Limonium carolinianum	Carolina sealavender	native			AS	
Family: Polygalaceae (milkwort)						
Polygala grandiflora	showy milkwort	native			S	
Polygala lutea	orange milkwort	native			I	
Polygala nana	candyroot	native			R	
Polygala rugelii	yellow milkwort	native			I	
Family: Polygonaceae (buckwheat)						
Coccoloba uvifera	seagrape	native			S	
Polygonum spp.	smartweed	native				
Family: Primulaceae (primrose)						
Samolus ebracteatus	water pimpernel	native			S	
Family: Rhizophoraceae (mangrove)						
Rhizophora ramosior / mangle	red mangrove	native			S	
Family: Rosaceae (rose)						
Rubus argutus	sawtooth blackberry	native				
Family: Rubiaceae (madder)						
Chiococca alba	snowberry	native			S	
Ernodea littoralis	beach-creeper	native			S	
Psychotria nervosa	wild coffee	native			S	
Randia aculeata	white indigoberry	native			S	
Spermacoce verticillata	shrubby false buttonweed	exotic	II			
Family: Sapindaceae (soapberry)						
Cupaniopsis anacardioides	carrotwood	exotic	I			
Family: Sapotaceae (sapotaceae)						
Sideroxylon celastrinum	saffron plum	native			S	
Family: Solanaceae (nightshade)						
Lycium carolinianum	christmasberry	native			S	
Family: Verbenaceae (vervain)						
Stachytarpheta jamaicensis	blue porterweed	native			S	
Family: Veronicaceae (speedwell)						
Bacopa caroliniana	lemon bacopa	native			S	
Bacopa monnieri	herb-of-grace	native			S	
Family: Vitaceae (grape)						
Parthenocissus quinquefolia	Virginia creeper	native			S	
Vitis cinerea var. floridana	Florida grape	native			S	
Vitis rotundifolia	muscadine	native			S	

Appendix D: Plant Species List

			Designated Status			
Scientific Name	**Common Name**	**Status**	**EPPC**	**FDACS**	**IRC**	**FNAI**

Key:

EPPC (Florida Exotic Pest Plant Council)
I - species that are invading and disrupting native plant communities
II - species that have shown a potential to disrupt native plant communities

FDACS (Florida Department of Agriculture and Consumer Services)
E - endangered
T - threatened
CE - commercially exploited

IRC (Institute for Regional Conservation)
CI - critically imperiled
I - imperiled
R - rare
AS - apparently secure
S - secure

FNAI (Florida Natural Areas Inventory)
G - global status
S - state status
1 - critically imperiled
2 - imperiled
3 - rare, restricted, or otherwise vulnerable to extinction
4 - apparently secure
5 - demonstrably secure

Appendix E: Conservation Easement

Prepared by:

Lee County
PO Box 398
Fort Myers, FL 33902

STRAP Number(s): 12-46-24-00-00005.4000

Deed of Conservation Easement

[Pursuant to §704.06, Florida Statutes]

THIS DEED OF CONSERVATION EASEMENT ("*Conservation Easement*") is given this 24th day of January, 2017, by **LEE COUNTY,** a political subdivision of the State of Florida ("*Grantor*") whose mailing address is P.O. Box 398 Fort Myers, Fl 33902, to **SOUTH FLORIDA WATER MANAGEMENT DISTRICT** ("*Grantee*"), whose mailing address is 3301 Gun Club Road, West Palm Beach, Florida 33408, together with third party enforcement rights to the **U.S Army Corps of Engineers** ("*Third Party Beneficiary*"). As used herein, the term "Grantor" shall include any and all heirs, successors or assigns of the Grantor, and all subsequent owners of the "Conservation Easement Area" (as hereinafter defined); the term "Grantee" shall include any successor or assignee of Grantee; and the term "Third Party Beneficiary" shall include any successor or assignee of the Third Party Beneficiary.

WITNESSETH

WHEREAS, the Grantor is the fee simple owner of certain lands situated in Lee County, Florida, and more specifically described on the location map in Exhibit "A" attached hereto and incorporated herein (the "Property"); and

WHEREAS, Permit No. 36-05430-P ("*Permit*") and any modifications thereto issued by the Grantee authorizes certain activities which could affect wetlands or other surface waters in or of the State of Florida; and

WHEREAS, the U.S. Army Corps of Engineers' Permit No. SAJ-2004-10862 ("*Corps Permit*") authorizes certain activities in the waters of the United States and requires this site protection instrument over the lands identified in Exhibit B as mitigation for such activities;

WHEREAS, the Grantor, in consideration of the consent granted by the Permit or other good and valuable consideration provided to Grantor, is agreeable to granting and securing to the Grantee a perpetual Conservation Easement as defined in Section 704.06, Florida Statutes (F.S.), over the area of the Property described on attached Exhibit "B" and incorporated herein by reference ("*Conservation Easement Area*"); and

WHEREAS, Grantor grants this Conservation Easement as a condition of the Permit, solely to off-set or prevent adverse impacts to natural resources, fish and wildlife, and wetland functions; and

WHEREAS, Grantor desires to preserve the Conservation Easement Area in perpetuity in its natural condition, or, in accordance with the Permit, in an enhanced, restored, or created condition; and

NOW, THEREFORE, in consideration of the issuance of the Permit to construct and operate the permitted activity, and as an inducement to Grantee in issuing the Permit, together with other good and valuable consideration provided to the Grantor, the adequacy and receipt of which are hereby acknowledged, Grantor hereby voluntarily grants, creates, conveys, and establishes a perpetual Conservation Easement for and in favor of the Grantee upon the Conservation Easement Area which shall run with the land and be binding upon the Grantor, and shall remain in full force and effect forever.

The scope, nature, and character of this Conservation Easement shall be as follows:

1. **Recitals**. The recitals hereinabove set forth are true and correct and are hereby incorporated into and made a part of this Conservation Easement.

C17
1-24-17

2. **Purpose.** It is the purpose of this Conservation Easement to retain land or water areas in their existing, natural, vegetative, hydrologic, scenic, open or wooded condition and to retain such areas as suitable habitat for fish, plants, or wildlife in accordance with Section 704.06, F.S. Those wetland and upland areas included in this Conservation Easement which are to be preserved, enhanced, restored, or created pursuant to the Permit (or any modification thereto) and any Management Plan, if attached hereto as Exhibit "C" ("Management Plan"), which has been approved in writing by the Grantee, shall be retained and maintained in the preserved, enhanced, restored, or created condition required by the Permit (or any modification thereto).

To carry out this purpose, the following rights are conveyed to Grantee by this easement:

a. To enter upon the Conservation Easement Area at reasonable times with any necessary equipment or vehicles to inspect, determine compliance with the covenants and prohibitions contained in this easement, and to enforce the rights herein granted in a manner that will not unreasonably interfere with the use and quiet enjoyment of the Conservation Easement Area by Grantor at the time of such entry; and

b. To proceed at law or in equity to enforce the provision of this Conservation Easement and the covenants set forth herein, to prevent the occurrence of any of the prohibited activities set forth herein, and to require the restoration of such areas or features of the Conservation Easement Area that may be damaged by any activity or use that is inconsistent with this Conservation Easement.

3. **Prohibited Uses.** Except for activities that are permitted or required by the Permit (or any modification thereto) (which may include restoration, creation, enhancement, maintenance, and monitoring activities, or surface water management improvements) or other activities described herein or in the Management Plan (if any), any activity on or use of the Conservation Easement area inconsistent with the purpose of this Conservation Easement is prohibited. Without limiting the generality of the foregoing, the following activities are expressly prohibited in or on the Conservation Easement Area (except as authorized or required by the Permit (or any modification thereof) or in a Management Plan which has been approved in writing by the Grantee):

a. Construction or placing of buildings, roads, signs, billboards or other advertising, utilities, or other structures on or above the ground;

b. Dumping or placing of soil or other substance or material as landfill, or dumping or placing of trash, waste, or unsightly or offensive materials;

c. Removing, destroying or trimming trees, shrubs, or other vegetation, except:

I. The removal of dead trees and shrubs or leaning trees that could cause damage property is authorized;
II. The destruction and removal of noxious, nuisance or exotic invasive plant species as listed on the most recent Florida Exotic Pest Plant Council's List of Invasive Species is authorized;
III. Activities authorized by the Permit or described in the Management Plan or otherwise approved in writing by the Grantee are authorized; and
IV. Activities conducted in accordance with a wildfire mitigation plan developed with the Florida Forest Service that has been approved in writing by the Grantee are authorized. No later than thirty (30) days before commencing any activities to implement the approved wildfire mitigation plan, Grantor shall notify the Grantee in writing of its intent to commence such activities. All such activities may only be completed during the time period for which the Grantee approved the plan;

d. Excavation, dredging, or removal of loam, peat, gravel, soil, rock, or other material substance in such manner as to affect the surface;

e. Surface use except for purposes that permit the land or water area to remain in its natural, restored, enhanced, or created condition;

f. Activities detrimental to drainage, flood control, water conservation, erosion control, soil conservation, or fish and wildlife habitat preservation including, but not limited to, ditching, diking, clearing, and fencing;

g. Acts or uses detrimental to such aforementioned retention of land or water areas; and

h. Acts or uses which are detrimental to the preservation of the structural integrity or physical appearance of sites or properties having historical, archaeological, or cultural significance.

4. **Grantor's Reserved Rights**. Grantor reserves all rights as owner of the Conservation Easement Area, including the right to engage or to permit or invite others to engage in all uses of the Conservation Easement Area that are not prohibited herein and which are not inconsistent with the Permit (or any modification thereto), Management Plan, or the intent and purposes of this Conservation Easement.

5. **Rights of the U.S. Army Corps of Engineers** ("Corps"). The Corps, as a third-party beneficiary, shall have the right to enforce the terms and conditions of this Conservation Easement, including:

a. The right to take action to preserve and protect the environmental value of the Conservation Easement Area;

b. The right to prevent any activity on or use of the Conservation Easement Area that is inconsistent with the purpose of this Conservation Easement, and to require the restoration of areas or features of the Conservation Easement Area that may be damaged by any inconsistent activity or use;

c. The right to enter upon and inspect the Conservation Easement Area in a reasonable manner and at reasonable times to determine if Grantor or its successors and assigns are complying with the covenants and prohibitions contained in this Conservation Easement; and

d. The right to enforce this Conservation Easement by injunction or proceed at law or in equity to enforce the provisions of this Conservation Easement and the covenants set forth herein, to prevent the occurrence of any of the prohibited activities set forth herein, and the right to require Grantor, or its successors or assigns, to restore such areas or features of the Conservation Easement Area that may be damaged by any inconsistent activity or use or unauthorized activities.

The Grantor, including their successors or assigns, shall provide the Corps at least 60 days advance notice in writing before any action is taken to amend, alter, release, or revoke this Conservation Easement. The Grantee shall provide reasonable notice and an opportunity to comment or object to the release or amendment to the U.S. Army Corps of Engineers. The Grantee shall consider any comments or objections from the U.S. Army Corps of Engineers when making the final decision to release or amend this Conservation Easement.

6. **No Dedication.** No right of access by the general public to any portion of the Conservation Easement Area is conveyed by this Conservation Easement.

7. **Grantee's and Third Party Beneficiary's Liability.** Grantee's liability is limited as provided in Subsection 704.06(10) and Section 768.28, F.S. Additionally, Grantee and Third Party Beneficiary shall not be responsible for any costs or liabilities related to the operation, upkeep, or maintenance of the Conservation Easement Area.

8. **Enforcement.** Enforcement of the terms, provisions and restrictions of this Conservation Easement shall be at the reasonable discretion of Grantee, and any forbearance on behalf of Grantee to exercise its rights hereunder in the event of any breach hereof by Grantor, shall not be deemed or construed to be a waiver of Grantee's rights hereunder. Grantee shall not be obligated to Grantor, or to any other person or entity, to enforce the provisions of this Conservation Easement.

9. **Third Party Beneficiary's Enforcement Rights.** The Third Party Beneficiary of this Conservation Easement shall have all the rights of the Grantee under this Conservation Easement, including third party enforcement rights of the terms, provisions and restrictions of this Conservation Easement. Third Party Beneficiary's enforcement of the terms, provisions and restrictions shall be at the discretion of the Third Party Beneficiary, and any forbearance on behalf of the Third Party Beneficiary to exercise its rights hereunder in the event of any breach hereof by Grantor, shall not be deemed or construed to be a waiver of Third Party Beneficiary's rights hereunder. Third Party Beneficiary shall not be obligated to Grantor, or to any other person or entity, to enforce the provisions of this Conservation Easement.

10. **Taxes.** When perpetual maintenance is required by the Permit, Grantor shall pay before delinquency any and all taxes, assessments, fees, and charges of whatever description levied on or assessed by competent authority on the Conservation Easement Area, and shall furnish the Grantee with satisfactory evidence of payment upon request.

11. **Assignment.** Grantee will hold this Conservation Easement exclusively for conservation purposes. Grantee will not assign its rights and obligations under this Conservation Easement except to another organization or entity qualified to hold such interests under the applicable state laws.

12. **Severability.** If any provision of this Conservation Easement or the application thereof to any person or circumstances is found to be invalid, the remainder of the provisions of this Conservation Easement shall not be affected thereby, as long as the purpose of the Conservation Easement is preserved.

13. **Terms and Restrictions.** Grantor shall insert the terms and restrictions of this Conservation Easement (or incorporate the terms and restrictions by reference) in any subsequent deed or other legal instrument by which Grantor divests itself of any interest in the Conservation Easement.

14. **Written Notice.** All notices, consents, approvals or other communications hereunder shall be in writing and shall be deemed properly given if sent by United States certified mail, return receipt requested, addressed to the appropriate party or successor-in-interest.

15. **Modifications.** This Conservation Easement may be amended, altered, released or revoked only by written agreement between the parties hereto or their heirs, assigns or successors-in-interest, which shall be filed in the public records in Lee County, Florida.

16. **Recordation.** Grantor shall record this Conservation Easement in timely fashion in the Official Records of Lee County, Florida, and shall rerecord it at any time Grantee may require to preserve its rights. Grantor shall pay all recording costs and taxes necessary to record this Conservation Easement in the public records. Grantor will hold Grantee harmless from any recording costs or taxes necessary to record this Conservation Easement in the public records.

TO HAVE AND TO HOLD unto Grantee forever. The covenants, terms, conditions, restrictions and purposes imposed with this Conservation Easement shall be binding upon Grantor, and shall continue as a servitude running in perpetuity with the Conservation Easement Area.

Grantor hereby covenants with Grantee that Grantor is lawfully seized of said Conservation Easement Area in fee simple; that the Conservation Easement is free and clear of all encumbrances that are inconsistent with the terms of this Conservation Easement; all mortgages and liens on the Conservation Easement area, if any, have been subordinated to this Conservation Easement; that Grantor has good right and lawful authority to convey this Conservation Easement; and that it hereby fully warrants and defends record title to the Conservation Easement Area hereby conveyed against the lawful claims of all persons whomsoever.

(*End of provisions – execution page follows next.*)

IN WITNESS WHEREOF, the Grantor has hereunto set its authorized hand this 24th day of January, 2017.

LEE COUNTY, FLORIDA, BY ITS BOARD OF COUNTY COMMISSIONERS

LINDA DOGGETT, CLERK

BY: Joyce Townsend
Signature
Joyce Townsend
Typed or printed name
Deputy Clerk

BY: John Manning
Signature
John Manning, Chair
Typed or printed name
Chair/ Vice-Chair

BOARD OF COUNTY COMMISSIONERS SEAL LEE COUNTY FLORIDA

APPROVED AS TO FORM FOR THE RELIANCE OF LEE COUNTY ONLY

Andrea L. Fraser
Lee County Attorney's Office

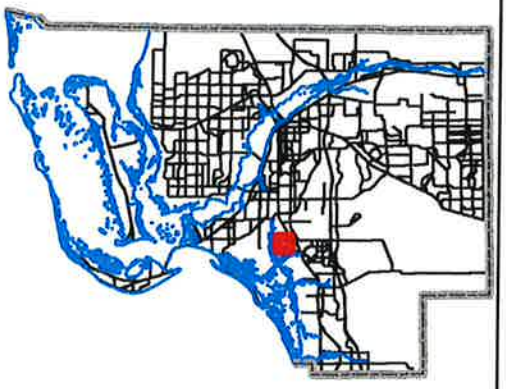
Attached Exhibits:

Exhibit "A" – Location Map

Exhibit "B" – Legal Description and Sketch of Conservation Easement Area

Exhibit "C" – Management Plan – not provided – Intentionally left blank

Exhibit A



Island Park Regional Mitigation Area

Parcel STRAP 12-46-24-00-00005.4000

Roads

Section 12 Township 46 S Range 24 E

Map Generated: August 2016

Prepared By: Department of Community Development/Planning

Lee County Southwest Florida

0 250 500 750 1,000

Feet

N W E S

Exhibit B

Bean, Whitaker, Lutz & Kareh, Inc.

13041 McGregor Boulevard
Fort Myers, Florida 33919-5910
email – fmoffice@bwlk.net
(Ph) 239-481-1331 (Fax) 239-481-1073

Description of a Parcel of Land
Lying in
Section 12, Township 46 South, Range 24 East
Lee County, Florida
(Overall Parcel 128 and Parcel 66 - Less Easement Strips)

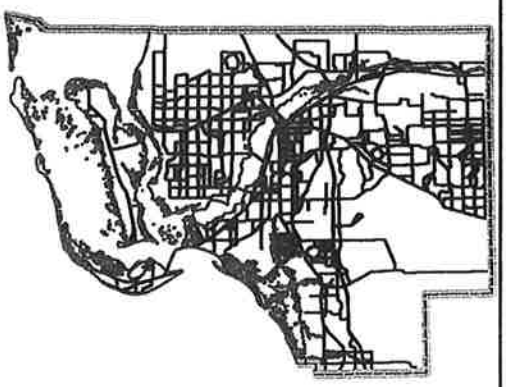
Parcel 66:

A parcel of land lying in Section 12, Township 46 South, Range 24 East, Lee County, Florida, being more particularly described as follows:

Beginning at the southeast corner of the Southwest One Quarter (SW 1/4) of said Section 12; thence S88°47'40"W along the south line of the Southwest One Quarter (SW 1/4) of said Section 12 for 1318.79 feet to the southwest corner of the East One Half (E 1/2) of said Southwest One Quarter (SW 1/4); thence N01°12'59"W along the west line of the East One Half (E 1/2) of said Southwest One Quarter (SW 1/4) for 2494.99 feet to the south line of a Florida Power and Light Company easement as recorded in Deed Book 264 at page 526, Public Records of Lee County, Florida, said line lying 150.00 feet south of and parallel with the north line of the Southwest One Quarter (SW 1/4) of said Section 12; thence N88°46'31"E along the south line of said Florida Power and Light Company easement for 360.50 feet; thence S01°12'18"E for 760.89 feet; thence S52°45'16"W for 171.45 feet; thence S37°14'44"E for 60.00 feet; thence N52°45'16"E for 38.22 feet; thence S45°02'56"E for 223.61 feet; thence N55°40'32"E for 227.97 feet; thence N40°44'44"E for 154.69 feet; thence S79°37'56"E for 321.18 feet; thence S43°23'01"W for 40.00 feet; thence S46°36'58"E for 284.57 feet; thence N90°00'00"E for 212.83 feet; thence S73°20'00"E for 25.14 feet; thence S00°00'00"E for 117.43 feet; thence S49°30'00"W for 104.42 feet; thence S25°21'08"W for 56.01 feet; thence S51°01'28"W for 69.32 feet; thence S17°20'00"W for 159.82 feet; thence S16°20'00"E for 147.00 feet; thence S14°00'00"W for 173.74 feet; thence S03°52'27"E for 59.93 feet; thence S25°47'33"W for 50.28 feet; thence S59°55'19"W for 67.56 feet; thence S67°32'06"W for 165.69 feet; thence S22°27'54"E for 20.00 feet; thence N67°32'06"E for 166.34 feet; thence N63°50'00"E for 83.20 feet; thence N02°02'49"W for 18.66 feet; thence N25°47'33"E for 42.31 feet; thence N03°52'27"W for 67.12 feet; thence N20°20'24"E for 89.00 feet; thence N09°12'55"E for 105.94 feet; thence N26°39'38"W for 71.72 feet; thence N09°51'10"W for 64.45 feet; thence N17°20'00"E for 137.87 feet; thence N51°01'28"E for 67.82 feet; thence N25°21'08"E for 52.46 feet; thence N60°32'00"E for 95.65 feet; thence S00°00'00"E for 256.90 feet; thence S81°22'22"E for 541.59 feet; thence S58°55'17"E for 60.01 feet; thence N31°04'43"E for 24.80 feet; thence S81°22'22"E for 58.95 feet; thence S52°38'56"E for 46.28 feet; thence N86°37'38"E for 170.34 feet; thence N00°00'00"E for 132.00 feet; thence N90°00'00"E for 75.00 feet; thence N00°00'00"E for 40.00 feet; thence N90°00'00"E for 195.54 feet to the westerly right-of-way line of Island Park Road (60 feet wide); thence S00°46'23"E along said westerly right-of-way line for 944.06 feet to the beginning of a tangent circular curve concave to the northwest; thence southwesterly along the arc of said curve to the right having for its elements a radius of 25.00 feet, a central angle of 89°31'43", a chord distance of 35.21 feet, a chord bearing of S43°59'28"W, an arc distance of 39.06 feet; thence S88°45'20"W parallel with the south line of the Southeast One Quarter (SE 1/4) of said Section 12 and along the north line of Park Road (60 feet wide) for 1257.84 feet to the east line of the Southwest One Quarter (SW 1/4) of said Section 12; thence S01°10'10"E along said east line for 30.00 feet to the Point Of Beginning.

Continued...

Exhibit A



Island Park Regional Mitigation Area

Parcel STRAP 12-46-24-00-00005.4000

Roads

Section 12 Township 46 S Range 24 E

Map Generated: August 2016

Prepared By: Department of Community Development/Planning

Lee County Southwest Florida

0 250 500 750 1,000

Feet

N W E S

Description of a Parcel of Land
Lying in
Section 12, Township 46 South, Range 24 East
Lee County, Florida
(Overall Parcel 128 and Parcel 66 - Less Easement Strips)
- Continued -

Bearings are based on the east line of the Southwest One Quarter (SW 1/4) of Section 12, Township 46 South, Range 24 East as bearing S01°10'10"E.

Together with the following described parcel:

Parcel 128:

A parcel of land lying in Section 12, Township 46 South, Range 24 East, Lee County, Florida, being more particularly described as follows:

Commencing at the southeast corner of the Southwest One Quarter (SW 1/4) of said Section 12; thence S88°47'40"W along the south line of the Southwest One Quarter (SW 1/4) of said Section 12 for 1318.79 feet to the southwest corner of the East One Half (E 1/2) of said Southwest One Quarter (SW 1/4) and the Point of Beginning; thence continue S88°47'40"W along the south line of the Southwest One Quarter (SW 1/4) of said Section 12 for 1318.79 feet to the southwest corner of said Section 12; thence N01°15'48"W along the west line of the Southwest One Quarter (SW 1/4) of said Section 12 for 2644.56 feet to the northwest corner of said Southwest One Quarter (SW 1/4), being the West 1/4 corner of said Section 12; thence N01°15'06"W along the west line of the Northwest One Quarter (NW 1/4) of said Section 12 for 2645.29 feet to the northwest corner of said Section 12; thence N88°45'36"E along the north line of the Northwest One Quarter (NW 1/4) of said Section 12 for 1322.86 feet to the northeast corner of the West One Half (W 1/2) of said Northwest One Quarter (NW 1/4) of said Section 12; thence S01°12'38"E along the east line of the West One Half (W 1/2) of said Northwest One Quarter (NW 1/4) for 2645.65 feet to the southeast corner of the West One Half (W 1/2) of said Northwest One Quarter (NW 1/4) of said Section 12; thence S01°12'59"E along the east line of the West One Half (W 1/2) of the Southwest One Quarter (SW 1/4) of said Section 12 for 2644.99 feet to the southeast corner of said fraction and to the Point of Beginning.

Less and Except the following described parcel:

Commencing at the southeast corner of the Southwest One Quarter (SW 1/4) of said Section 12; thence S88°47'40"W along the south line of the Southwest One Quarter (SW 1/4) of said Section 12 for 1318.79 feet to the southwest corner of the East One Half (E 1/2) of said Southwest One Quarter (SW 1/4); thence continue S88°47'40"W along the south line of the Southwest One Quarter (SW 1/4) of said Section 12 for 1318.79 feet to the southwest corner of said Section 12; thence N01°15'48"W along the west line of the Southwest One Quarter (SW 1/4) of said Section 12 for 2494.56 feet to the south line of a Florida Power & Light Company easement as recorded in Deed Book 259 at page 529, Public Records of Lee County, Florida, and to the Point of Beginning (said line lying 150.00 feet south of and parallel with the north line of the Southwest One Quarter (SW 1/4) of said Section 12); thence continue N01°15'48"W along the west line of the Southwest One Quarter (SW 1/4) of said Section 12 for 150.00 feet to the northwest corner of said Southwest One Quarter (SW 1/4), being the West 1/4 corner of said Section 12; thence N01°15'06"W along the west line of the Northwest One Quarter (NW 1/4) of said Section 12 for 50.00 feet to the north line of the former Iona Drainage District (I.D.D.) "Canal U" easement; thence N88°46'31"E parallel with and 50.00 feet north of the south line of the Northwest One Quarter (NW 1/4) of

Continued...

Description of a Parcel of Land
Lying in
Section 12, Township 46 South, Range 24 East
Lee County, Florida
(Overall Parcel 128 and Parcel 66 - Less Easement Strips)
- Continued -

said Section 12 and along the north line of said easement for 1321.00 feet to the east line of the West One Half (W 1/2) of the Northwest One Quarter (NW 1/4) of said Section 12; thence S01°12'38"E along the east line of the of the West One Half (W 1/2) of the Northwest One Quarter (NW 1/4) of said Section 12 for 50.00 feet to the southeast corner of said fraction; thence S01°12'59"E along the east line of the West One Half (W 1/2) of the Southwest One Quarter (SW 1/4) of said Section 12 for 150.00 feet to the south line of said Florida Power and Light Company easement; thence S88°46'31"W parallel with and 150.00 feet south of the north line of the Southwest One Quarter (SW 1/4) of said Section 12 and along the south line of said easement for 1320.84 feet to the Point of Beginning.

The Overall described parcel contains 236.039 acres, more or less.

Subject to easements, restrictions, reservations and rights-of-way (recorded and unrecorded, written and unwritten).

Bearings are based on the east line of the Southwest One Quarter (SW 1/4) of Section 12, Township 46 South, Range 24 East as bearing S01°10'10"E.

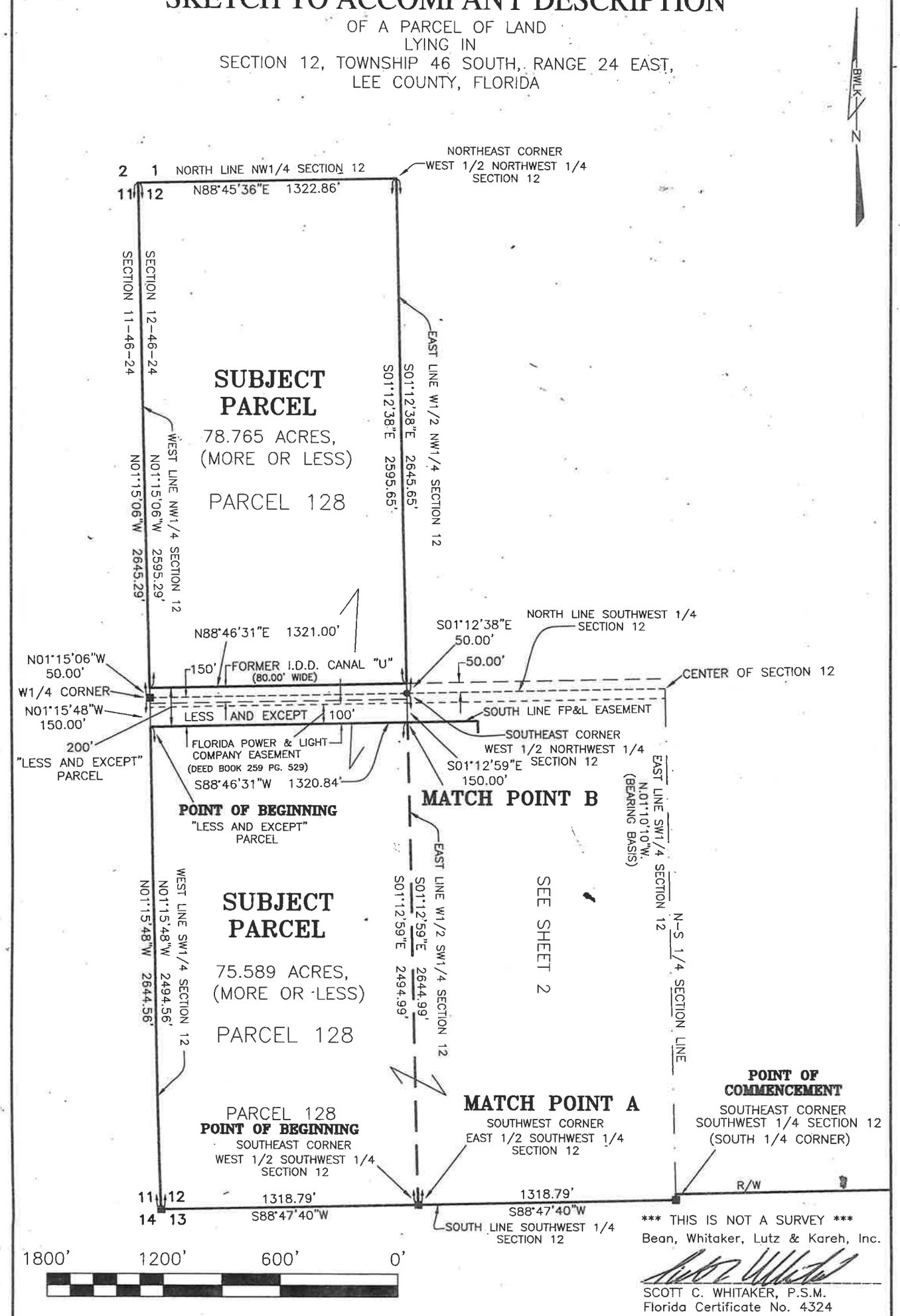
Bean, Whitaker, Lutz & Kareh, Inc. (LB4919)

Scott C. Whitaker, P.S.M. 4324

43386_OVERALL PARCEL128 AND PARCEL 66 5/19/15

SKETCH TO ACCOMPANY DESCRIPTION

OF A PARCEL OF LAND
LYING IN
SECTION 12, TOWNSHIP 46 SOUTH, RANGE 24 EAST,
LEE COUNTY, FLORIDA



*** THIS IS NOT A SURVEY ***
Bean, Whitaker, Lutz & Kareh, Inc.

SCOTT C. WHITAKER, P.S.M.
Florida Certificate No. 4324

BEARINGS ARE BASED ON THE EAST LINE OF THE SOUTHWEST ONE QUARTER (SW 1/4) OF SECTION 12, TOWNSHIP 46 SOUTH, RANGE 24 EAST, AS BEARING N01°10'10"E.

P.O.C. = POINT OF COMMENCEMENT
P.O.B. = POINT OF BEGINNING
O.R. = OFFICIAL RECORD BOOK
PG. = PAGE
R/W= RIGHT OF WAY
FP&L= FLORIDA POWER & LIGHT

OVERALL PARCEL 128 AND PARCEL 66- LESS EASEMENT STRIPS
LEE COUNTY CONSERVATION 2020

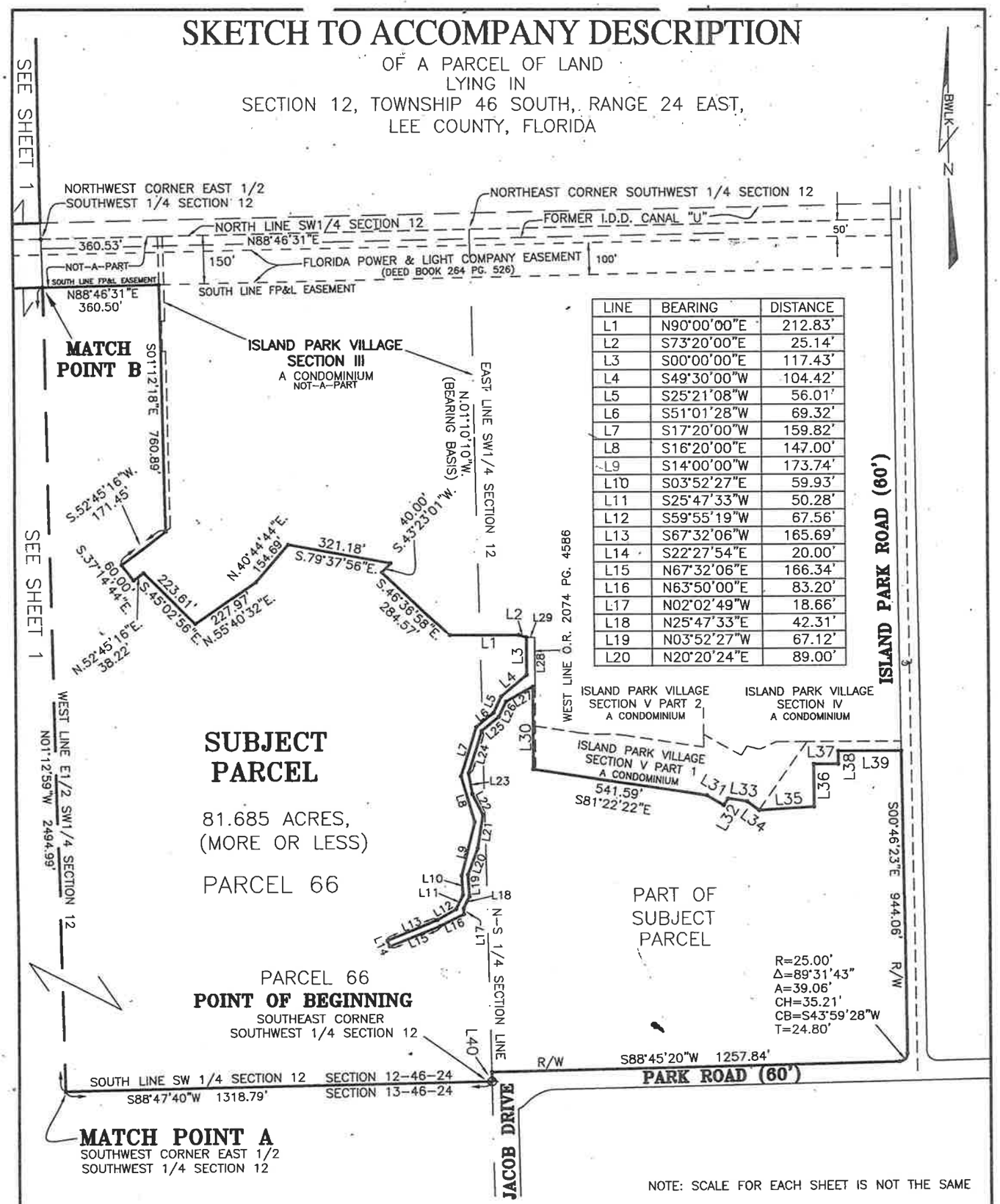
Bean, Whitaker, Lutz & Kareh, Inc. (LB 4919)
CONSULTING ENGINEERS - SURVEYORS AND MAPPERS - PLANNERS
13041 MCGREGOR BOULEVARD, FORT MYERS, FLORIDA 33919-5910 (239) 481-1331

SK43386_OVERALL PARCEL128 AND PARCEL66.DWG

DATE	PROJECT NO.	DRAWN BY	SCALE	SHEET	FILE NO. (S-T-R)
05-19-15	43386	SCW	1"= 600'	1 OF 2	12-46-24

SKETCH TO ACCOMPANY DESCRIPTION

OF A PARCEL OF LAND
LYING IN
SECTION 12, TOWNSHIP 46 SOUTH, RANGE 24 EAST,
LEE COUNTY, FLORIDA



LINE	BEARING	DISTANCE
L1	N90°00'00"E	212.83'
L2	S73°20'00"E	25.14'
L3	S00°00'00"E	117.43'
L4	S49°30'00"W	104.42'
L5	S25°21'08"W	56.01'
L6	S51°01'28"W	69.32'
L7	S17°20'00"W	159.82'
L8	S16°20'00"E	147.00'
L9	S14°00'00"W	173.74'
L10	S03°52'27"E	59.93'
L11	S25°47'33"W	50.28'
L12	S59°55'19"W	67.56'
L13	S67°32'06"W	165.69'
L14	S22°27'54"E	20.00'
L15	N67°32'06"E	166.34'
L16	N63°50'00"E	83.20'
L17	N02°02'49"W	18.66'
L18	N25°47'33"E	42.31'
L19	N03°52'27"W	67.12'
L20	N20°20'24"E	89.00'

LINE	BEARING	DISTANCE
L21	N09°12'55"E	105.94'
L22	N26°39'38"W	71.72'
L23	N09°51'10"W	64.45'
L24	N17°20'00"E	137.87'
L25	N51°01'28"E	67.82'
L26	N25°21'08"E	52.46'
L27	N60°32'00"E	95.65'
L28	N00°00'00"W	150.70'
L29	N90°00'00"W	24.47'

LINE	BEARING	DISTANCE
L30	S00°00'00"E	256.90'
L31	S58°55'17"E	60.01'
L32	N31°04'43"E	24.80'
L33	S81°22'22"E	58.95'
L34	S52°38'56"E	46.28'
L35	N86°37'38"E	170.34'
L36	N00°00'00"E	132.00'
L37	N90°00'00"E	75.00'
L38	N00°00'00"E	40.00'
L39	N90°00'00"E	195.54'
L40	S01°10'10"E	30.00'

NOTE: SCALE FOR EACH SHEET IS NOT THE SAME

1200' 800' 400' 0'

BEARINGS ARE BASED ON THE EAST LINE OF THE SOUTHWEST ONE QUARTER (SW 1/4) OF SECTION 12, TOWNSHIP 46 SOUTH, RANGE 24 EAST, AS BEARING N01°10'10"E.

P.O.C. = POINT OF COMMENCEMENT
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*** THIS IS NOT A SURVEY ***

Bean, Whitaker, Lutz & Kareh, Inc.

SCOTT C. WHITAKER, P.S.M.
Florida Certificate No. 4324

OVERALL PARCEL 128 AND PARCEL 66- LESS EASEMENT STRIPS
LEE COUNTY CONSERVATION 2020

Bean, Whitaker, Lutz & Kareh, Inc. (LB 4919)
CONSULTING ENGINEERS - SURVEYORS AND MAPPERS - PLANNERS
13041 MCGREGOR BOULEVARD, FORT MYERS, FLORIDA 33919-5910 (239) 481-1331

SK43386_OVERALL PARCEL128 AND PARCEL66.DWG

DATE	PROJECT NO.	DRAWN BY	SCALE	SHEET	FILE NO. (S-T-R)
05-19-15	43386	SCW	1"= 400'	2 OF 2	12-46-24

Exhibit C – Management Plan not provided - Intentionally left blank

Appendix F: FPL Consent Agreement

Line No.: 2G-11
Line Name: Alico-Buckingham 138kv; Alico-Ft. Myers Plant #1 138kv
Structure No.: A99M2
Section, Township, Range: 12-46-24

RIGHT-OF-WAY CONSENT AGREEMENT FOR FENCING

FLORIDA POWER & LIGHT COMPANY, a Florida corporation, whose mailing address is P.O. Box 14000, Juno Beach, Florida 33408-0420, Attn: Corporate Real Estate Department, hereinafter referred to as "Company", hereby consents to LEE COUNTY, a political subdivision and charter county of the State of Florida, whose mailing address is P.O. Box 398, Ft. Myers, FL 33902-0398, hereinafter referred to as "Licensee", using an area within Company's right-of-way granted by that certain agreement recorded in Deed Book 264, Page 526, of the Public Records of Lee County, Florida. The said area within Company's right-of-way is hereinafter referred to as the "Lands".

The use of the Lands by Licensee, shall be solely for the purpose of fencing as shown on the plans and specifications submitted by Licensee, attached hereto as Exhibit "A".

In consideration for Company's consent and for the other mutual covenants set forth below, and for Ten Dollars and No Cents ($10.00) and other good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, the parties hereto agree as follows:

1. Licensee hereby confirms ownership of the Lands, and agrees to obtain any and all applicable federal, state, and local permits required in connection with Licensee's use of the Lands; and at all times, to comply with all requirements of all federal, state, and local laws, ordinances, rules and regulations applicable or pertaining to the use of the Lands by Licensee pursuant to this Agreement.

2. Licensee understands and agrees that the use of the Lands pursuant to this Agreement is subordinate to the rights and interest of Company in and to the Lands and agrees to notify its employees, agents, and contractors accordingly. Company specifically reserves the right to maintain its facilities located on the Lands; to make improvements; add additional facilities; maintain, construct or alter roads; maintain any facilities, devices, or improvements on the Lands which aid in or are necessary to Company's business or operations; and the right to enter upon the Lands at all times for such purposes. Licensee understands that in the exercise of such rights and interest, Company from time-to-time may require Licensee, to relocate, alter, or remove its fence, which interferes with or prevents Company, in its opinion, from properly and safely constructing, improving, and maintaining its facilities. Licensee agrees to relocate, alter, or remove said fence within thirty (30) days of receiving notice from Company to do so. Such relocation, alteration, or removal will be made at the sole cost and expense of Licensee and at no cost and expense to Company; provided however, should Licensee, for any reason, fail to make such relocation, alteration, or removal, Company retains the right to enter upon the Lands and make said relocation, alteration, or removal of Licensee's fence and Licensee hereby agrees to reimburse Company for all of its costs and expense incurred in connection therewith upon demand.

3. Licensee agrees that it will not use the Lands in any manner which, in the opinion of Company, may tend to interfere with Company's use of the Lands or may tend to cause a hazardous condition to exist. Licensee agrees to properly ground the fence in accordance with the FPL specifications, attached hereto as Exhibit "B".

4. Licensee hereby agrees and covenants to prohibit its agents, employees, and contractors from using any tools, equipment, or machinery on the Lands capable of extending greater than fourteen (14) feet above existing grade and further agrees that no dynamite or other explosives shall be used within the Lands and that no alteration of the existing terrain, including the use of the Lands by Licensee as provided herein, shall be made which will result in preventing Company access to its facilities located within said Lands. Unless otherwise provided herein, Licensee agrees to maintain a forty (40) foot wide setback, twenty (20) feet on each side, from Company's facilities.

C9a
5-1-12

5. Licensee agrees to warn its employees, agents, contractors and invitees of the fact that the electrical facilities and appurtenances installed or to be installed by Company within the Lands are of high voltage electricity and agrees to use all safety and precautionary measures when working under or near Company's facilities.

6. The use of the Lands by Licensee shall be at the sole risk and expense of Licensee, and Company is specifically relieved of any responsibility for damage or loss to Licensee or other persons resulting from Company's use of the Lands for its purposes.

7. Notwithstanding any provision contained herein, Licensee agrees to reimburse Company for all cost and expense for any damage to Company's facilities resulting from Licensee's use of the Lands and agrees that if, in the opinion of Company, it becomes necessary as a result of Licensee's use of the Lands for Company to relocate, rearrange or change any of its facilities, to promptly reimburse Company for all cost and expense involved with such relocation, rearrangement or change.

8. Licensee agrees, at all times, to maintain and keep the Lands clean and free of debris.

9. Licensee agrees it will exercise its privileges hereunder at its own sole risk and agrees subject to the limitations contained in Section 768.28, Florida Statutes, to indemnify and save harmless Company, its parent, subsidiaries, affiliates, and their respective officers, directors, agents and employees (hereinafter referred to as FPL Entities), from all liability, loss, cost, and expense, including attorneys' fees, which may be sustained by FPL Entities to any person, natural or artificial, by reason of the death of or injury to any person or damage to any property, arising out of or in connection with the herein described purposes by Licensee, its contractors, agents, or employees; and Licensee agrees subject to the limitations contained in Section 768.28, Florida Statutes, to defend at its sole cost and expense and at no cost and expense to FPL Entities any and all suits or action instituted against FPL Entities, for the imposition of such liability, loss, cost and expense.

10. This Agreement will become effective upon execution by Company and Licensee and will remain in full force and effect until completion of Licensee's use of the Lands pursuant to this Agreement, unless earlier terminated upon ninety (90) days written notice by Company to Licensee, or at the option of Company, immediately upon Licensee failing to comply with or to abide by any or all of the provisions contained herein.

11. The term "Licensee" shall be construed as embracing such number and gender as the character of the party or parties require(s) and the obligations contained herein shall be absolute and primary and shall be complete and binding as to each, including its successors and assigns, upon this Agreement being executed by Licensee and subject to no conditions precedent or otherwise.

12. Should any provision of this Agreement be determined by a court of competent jurisdiction to be illegal or in conflict with any applicable law, the validity of the remaining provisions shall not be impaired. In the event of any litigation arising out of enforcement of this Consent Agreement, the prevailing party in such litigation shall be entitled to recovery of all costs, including reasonable attorneys' fees.

13. Licensee agrees that any review or approval by Company of the plans and/or specifications submitted by Licensee attached hereto as Exhibit "A," the approval of the identity of any contractors, subcontractors and materialmen, or the delivery by Company of any construction specifications to Licensee, is solely for Licensee's benefit, and without any representation or warranty whatsoever to Licensee with respect to the adequacy, correctness or efficiency thereof or otherwise and it is understood that such Company's approval does not absolve Licensee of any liability hereunder. Further, Licensee, in connection with the construction, maintenance and/or removal of improvements depicted on Exhibit A to the Agreement, agrees to observe and fully comply with all construction, operation and maintenance standards, as well as all applicable laws, rules and regulations of the United States, the State of Florida, and all agencies and political subdivisions thereof, including without limitation, the National Electric Safety Code and the Occupational Safety & Health Administration regulations, standards, rules, registers, directives or interpretations.

14. Licensee may assign its rights and obligations under this Agreement to a solvent party upon prior written consent of the company, which consent shall not be unreasonably withheld.

The parties have executed this Agreement this 1st day of May, 2012.

Witnesses:

Signature:
Print Name: RAE DOWLING

Signature:
Print Name: MARK A. THOMSON

FLORIDA POWER & LIGHT COMPANY

By:
Its: Area Real Estate Manager
Print Name: Mark L. Byers

Approved and accepted for and behalf of Lee County, Florida, this 1st day of May, 2012.

(Official Seal)

ATTEST:
CHARLIE GREEN, CLERK

BY: Marcia Wilson
Deputy Clerk

BOARD OF COUNTY COMMISSIONERS

BY:
Chair

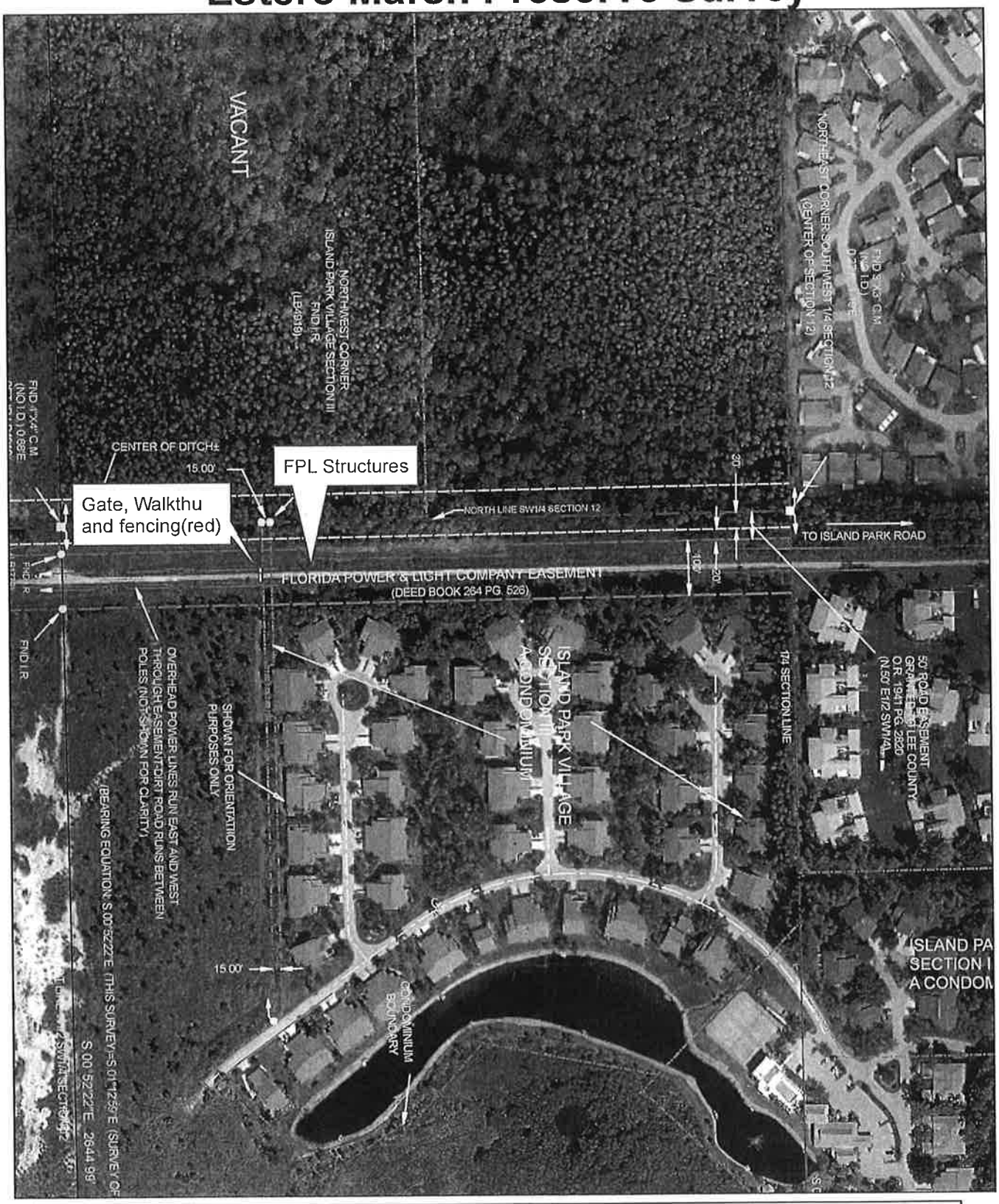
APPROVED AS TO LEGAL FORM

BY:
Lee County Attorneys Office

Form 3740 Rev. 10/9/95

EXHIBIT "A"

Estero Marsh Preserve Survey



N
W E
S

Legal Description 12-46-24-00-00005.4000
PAR IN SEC 12-46-24
DESC OR 3202 PG 4165 +
OSPREY VILLAGE OR 1922 PG 2643

0 750 1,500 3,000 Feet

EXHIBIT "A"

Estero Marsh Preserve
Fencing specifications

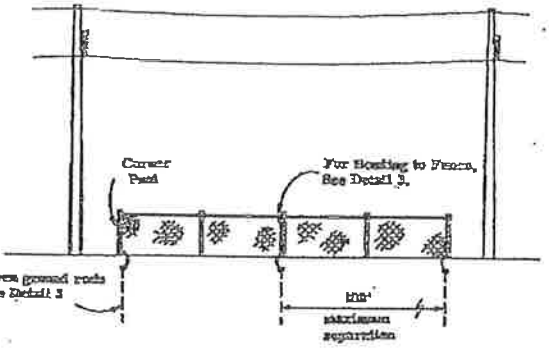
- 150' of 4 foot field fence installed on inside (western) side of posts
- 1 – 16' gate and 1 – 3' pedestrian walkthrough
- 6-8" corner posts; 3-4" line posts spaced 10' apart; all wood posts
- All H-braces will be secured with either ground anchors or brace wires NLC
- Fence runs under transmission lines and must be grounded according to FPL specs (provided by FPL rep.) PROVIDE OUR SPEC
- Top of fenceline will be at 48"-50" height
- Distance of current boundary line from FPL structures: 88 feet – to west of structures. This is the distance we would install the gate from the nearest structures.

Nearest structure # A99M2

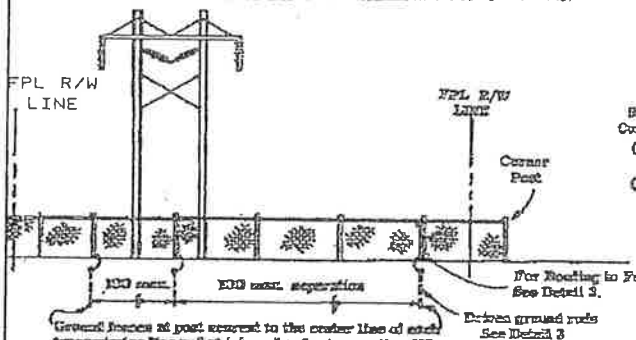
EXHIBIT "B"

6/99

GROUNDING OF CHAIN LINK & INDUSTRIAL TYPE FENCES AND GATES

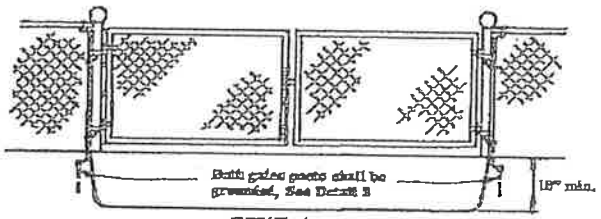


DETAIL 1
FENCES PARALLEL TO & WITHIN FPL RIGHT-OF-WAY

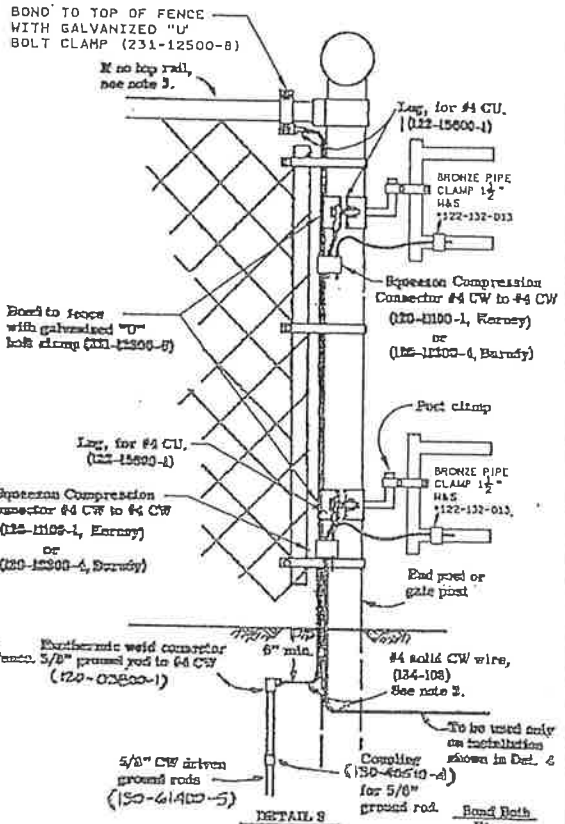


Ground fences at post nearest to the center line of each transmission line and at intervals of not more than 250 feet across the width of FPL right-of-way. Ground fence at first post inside FPL right-of-way on each side

DETAIL 2
FENCES CROSSING FPL RIGHT-OF-WAY



DETAIL 4
GROUNDING GATES IN FENCES THAT CROSS FPL RIGHT-OF-WAY



DETAIL 3
END POST & GATE POST GROUNDING

NOTES:

1. Fences and gates crossing or parallel to and within FPL Transmission right-of-way shall be grounded as SPECIFIED below:

   (a) Fences, longer than 20 feet parallel and within a FPL right-of-way, shall be grounded at a minimum of 2 locations with a maximum separation of 100 feet between grounds.

   (b) Fences crossing FPL right-of-way shall be grounded as shown on Detail 2.

   (c) GATES SHALL BE GROUNDED AS SHOWN ON DETAIL 4.

2. Install 5/8 inch diameter copperclad rod or rods to obtain a driven ground of 25 ohms or less resistance. The top of the driven ground shall be 6 inches below the ground line. See Detail 3.

3. If fence has no top rail bond to top wire of fence with AL-CU parallel groove clamp for aluminum or galvanized fences. Insert a short piece of aluminum wire in one side of clamp if fence is too small.

SUPERSEDES 6-914

NO	DATE	REVISION
2	12-06-10	20102691: REV'D NOTES AND ADDED BRONZE CLAMPS ON DETAIL 3
	JR	BY
	CH	CO
	APP	APPROVED Hall, Jeff A 12/06/2010-08:48:33:412EST
		REVISION 2

Transmission & Substation
Follow the Plan • Live the Values
Achieve the Mission

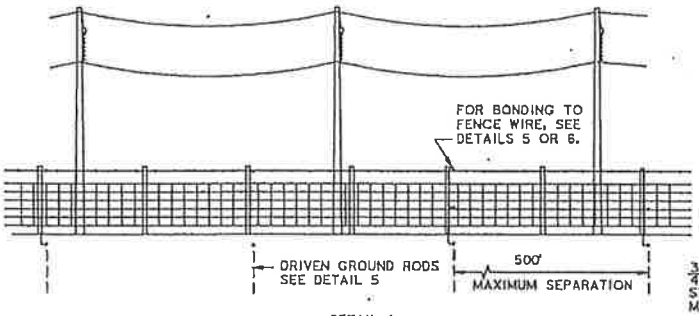
TRANSMISSION INSTALLATION SPECIFICATIONS

DATE:	APPROVED:	SECTION 2.0	SHEET 1 OF 1
4-19-83	L.H. DAVIS	(TR, IS, -)	A-88019-2 CADE

EXHIBIT "B"

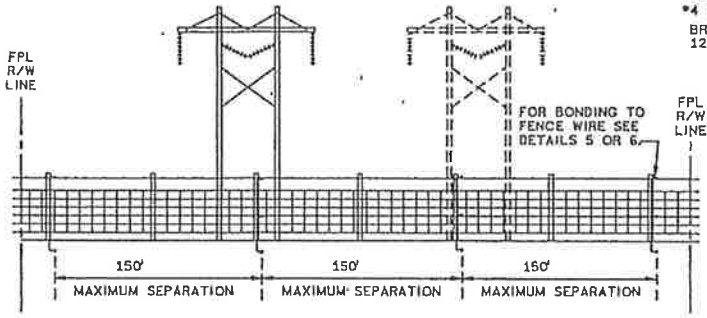
6/99

GROUNDING OF FIELD WIRE & BARBED WIRE TYPE FENCES AND GATES



DETAIL 1

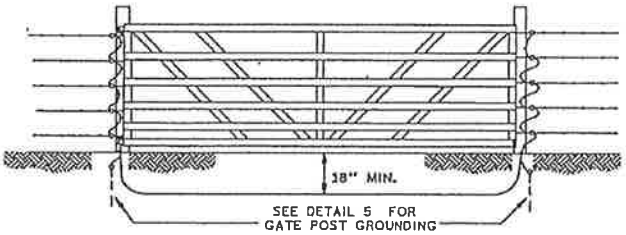
LOCATION OF GROUNDS ON FENCES PARALLEL TO AND WITHIN FPL RIGHT-OF-WAY



GROUND FENCE AT POST NEAREST TO THE CENTER LINE OF EACH TRANSMISSION LINE AND AT INTERVALS OF NOT MORE THAN 150 FEET ACROSS THE WIDTH OF FPL RIGHT-OF-WAY. GROUND FENCE AT FIRST POST INSIDE FPL RIGHT-OF-WAY ON EACH SIDE.

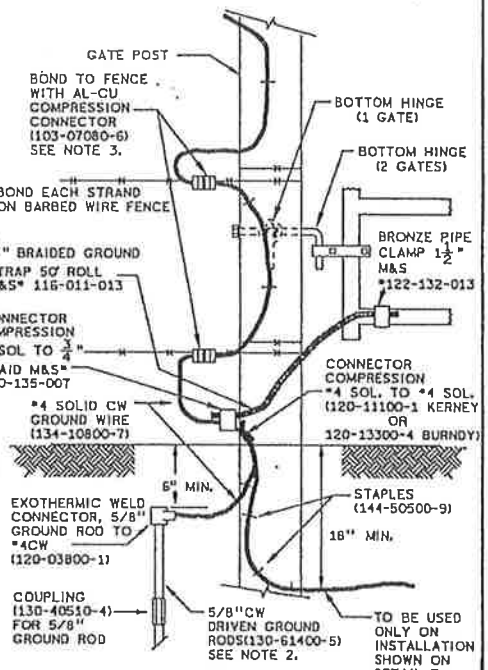
DETAIL 2

LOCATION OF GROUNDS ON FENCES THAT CROSS FPL RIGHT-OF-WAY



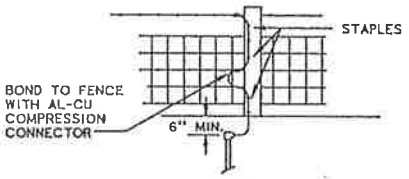
DETAIL 3

GROUNDING GATES IN FENCES THAT CROSS FPL RIGHT-OF-WAY



DETAIL 5

FENCE POST AND GATE POST GROUNDING



DETAIL 6

LOCATION OF BONDS ON "FIELD-WIRE" FENCES

NOTES:

1. FENCES AND GATES CROSSING OR PARALLEL AND WITHIN FPL TRANSMISSION RIGHT-OF-WAY SHALL BE GROUNDED AS SPECIFIED BELOW:
   (a) FENCES LONGER THAN 20 FEET PARALLEL AND WITHIN A FPL RIGHT-OF-WAY SHALL BE GROUNDED AT A MINIMUM OF 2 LOCATIONS WITH A MAXIMUM SEPARATION OF 500 FEET BETWEEN GROUNDS. SEE DETAIL 1.
   (b) FENCES THAT CROSS FPL RIGHT-OF-WAY SHALL BE GROUNDED AS SHOWN ON DETAIL 2.
   (c) GATES SHALL BE GROUNDED AS SHOWN IN DETAIL 3.
2. INSTALL $\frac{5}{8}$ INCH DIAMETER COPPERCLAD ROD OR RODS TO OBTAIN A DRIVEN GROUND OF 25 OHMS OR LESS RESISTANCE. THE TOP OF THE DRIVEN GROUND SHALL BE 6 INCHES BELOW THE GROUND LINE.
3. USE AL-CU COMPRESSION CONNECTORS FOR ALUMINUM OR GALVANIZED FENCES.

SUPERSEDES 5-913

NO	DATE	REVISION	BY	CH	APP
4	10-26-10	20102691:REV'D NOTES, DELETED DETAIL 4.	JR	COR	JW
3		20040686:REV'D DETAIL 5.	GHH		
2	6-17-92	92ES0859.ADDED NEW M&S NUMBERS IN DETAIL 5	JT	JT	
1			JT	CH	

APPROVED REVISION 4
Hall, Jeff A
12/05/2010-08:48:01:068EST

Transmission & Substation
Follow the Plan • Live the Values
Achieve the Mission

TRANSMISSION INSTALLATION SPECIFICATIONS

DATE:	APPROVED:	SECTION 2.0	SHEET 1 OF 1
1-3-84	L.H.DAVIS	(TR, IS, -)	A-88018-4 CADE

Appendix G: IPRM Restoration Plans Map

LEE COUNTY ISLAND PARK
REGIONAL MITIGATION PROJECT

PART OF SECTION 12, TOWNSHIP 46 SOUTH, RANGE 24 EAST
LEE COUNTY, FLORIDA

PREPARED FOR:

LEE COUNTY DEPARTMENT OF TRANSPORTATION

1500 MONROE STREET
FORT MYERS, FLORIDA 33901
(239) 479-8580

LEGEND

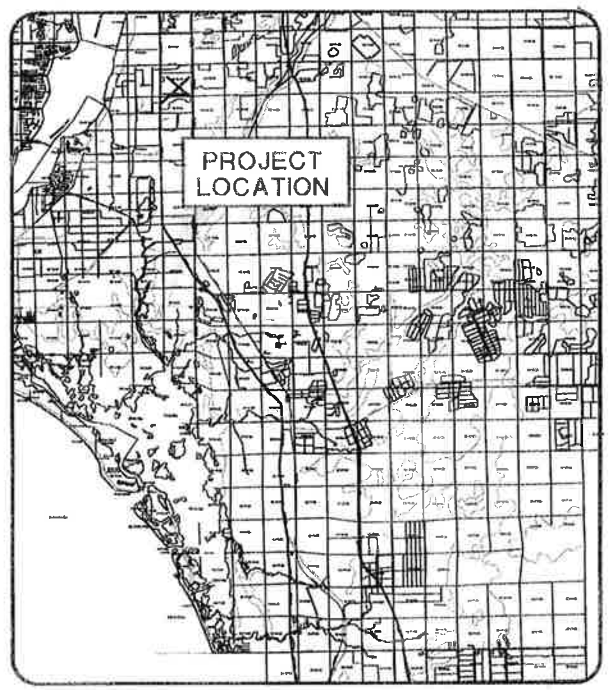
ABBREVIATIONS

Abbreviation	Meaning
BOC	BACK OF CURB or BACK OF GUTTER
EOP	EDGE OF PAVEMENT
DE	DRAINAGE EASEMENT
LME	LAKE MAINTENANCE EASEMENT
UE	UTILITY EASEMENT
CUE	COUNTY UTILITY EASEMENT
EL or ELEV	ELEVATION
INV	INVERT
LF	LINEAR FEET
NGVD	NATIONAL GEODETIC VERTICAL DATUM
PVI	POINT OF VERTICAL INTERSECTION
NIC	NOT IN CONTRACT
R/W or ROW	RIGHT OF WAY
SB	SOIL BORING
STA	STATION
UP	UTILITY POLE
FDOT	FLORIDA DEPARTMENT OF TRANSPORTATION
CATV	CABLE TELEVISION
FPL or FP&L	FLORIDA POWER & LIGHT
UTF	UNITED TELEPHONE OF FLORIDA
BL	BASE LINE
CL	CENTERLINE
FL	FLOW LINE
PL	PROPERTY LINE
CMP	CORRUGATED METAL PIPE
D.I.P	DUCTILE IRON PIPE
PVC	POLYVINYL CHLORIDE PIPE
HDPE	HIGH DENSITY POLYETHYLENE
RCP	REINFORCED CONCRETE PIPE
ERCP	ELLIPTICAL REINFORCED CONCRETE PIPE
MH	MANHOLE
STR	STORM SEWER STRUCTURE
X.XX' LT/X.XX' RT	FEET LEFT or FEET RIGHT

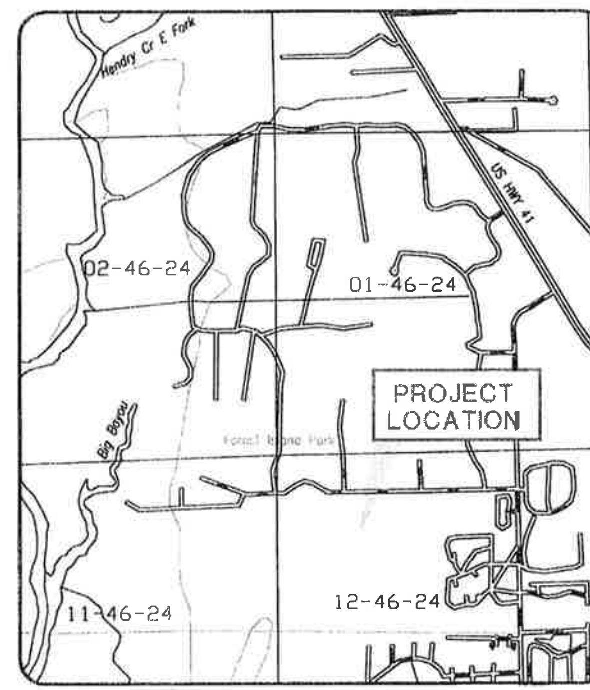
SYMBOLS

- AIR RELEASE VALVE, COMPLETE
- IN-LINE VALVE W/ BOX
- FIRE HYDRANT, COMPLETE
- BLOW-OFF W/ BACTERIAL SAMPLE POINT
- BACTERIAL SAMPLE POINT
- BLOW-OFF
- PIPE PLUG
- WATER METER
- IRRIGATION METER
- REDUCER
- BACKFLOW PREVENTER/ABOVE GROUND METER
- SANITARY SEWER MANHOLE
- SANITARY SEWER LATERAL & CLEAN-OUT
- PUMP STATION
- STORM SEWER & STRUCTURE
- HEADWALL
- U-ENDWALL
- CONTROL STRUCTURE
- MITERED END/FLARED END SECTION
- (XX.XX) PROPOSED ELEVATION
- (XX.XX) PROPOSED PAVEMENT ELEVATION
- EXISTING ELEVATION
- EXISTING PAVEMENT ELEVATION
- DIRECTION OF DRAINAGE FLOW
- SWALE & DIRECTION OF FLOW
- HANDICAPPED PARKING SPACE
- UNDERDRAIN

NOTE: OPEN SYMBOLS AND DASHED LINES DENOTE EXISTING IMPROVEMENTS



LOCATION MAP



SITE MAP

INDEX TO SHEETS

ORIGINAL SUBMITTAL APR 14 2006 LWC SERVICE CENTER

APPLICATION NUMBER 060414-2

NO.	DATE	DESCRIPTION	BY

STATUS : REVISIONS

PROJECT MANAGER	PROJECT ENGINEER	PROJECT SURVEYOR
J. MIKE McGEE P.E. FL.REG#44055	J. MIKE McGEE P.E. FL.REG#44055	ALAN W. SADOWSKI P.L.S. FL.REG#LS4800

CHECKED BY ____________ DATE ____________

RECEIVED APR 14 2006 LWC SERVICE CENTER

PRINTED APR 10 2006 WilsonMiller, Inc. 4571 Colonial Boulevard Ft. Myers, Florida 33912

RESERVED FOR STATUS AND DATE STAMPS

PROJECT NUMBER
04325-001-000-FSERP

DATE
FEB. 2004

INDEX NUMBER
D-4325-004

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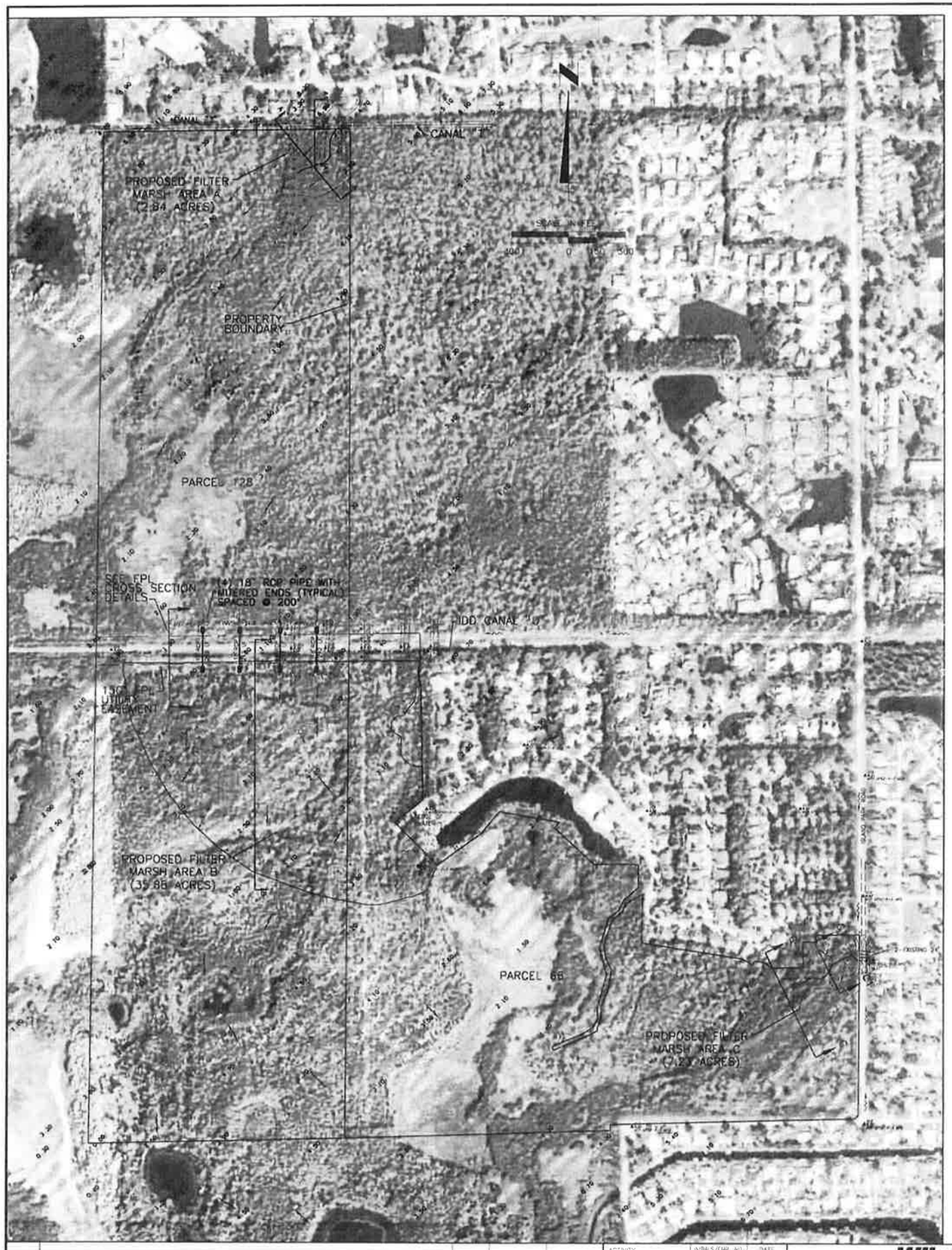
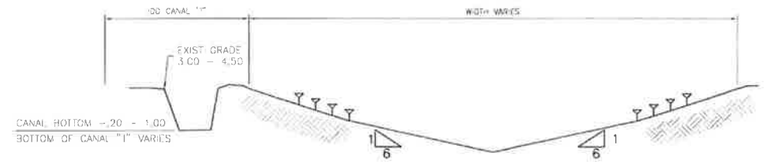
060414-2

EXHIBIT 2.0





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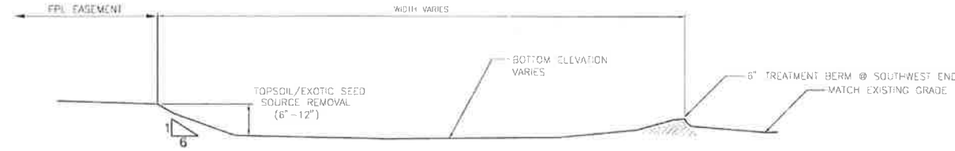

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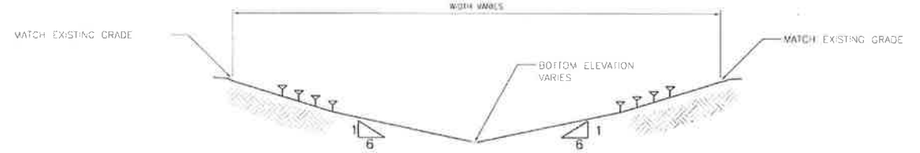

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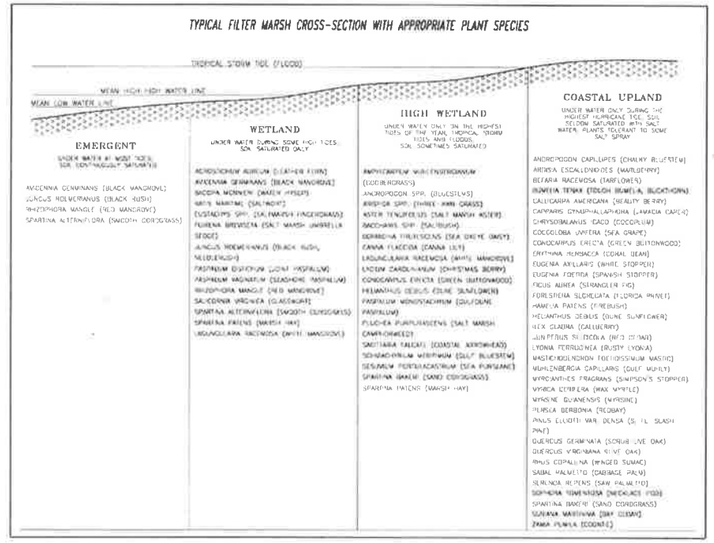

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Ft. Myers, Florida 33912

ACTIVITY	INITIALS/EMP. NO.	DATE
DESIGNED BY	K.J./1962	7/2005
DRAWN BY	A.R.W./2080	7/2005
CHECKED BY	R.G./2036	7/2005
CONTRACT ADMIN. BY	K.J./1962	7/2005
AM APPROVED BY	K.J./1962	7/2005

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CLIENT: LEE COUNTY
PROJECT: ISLAND PARK REGIONAL MITIGATION

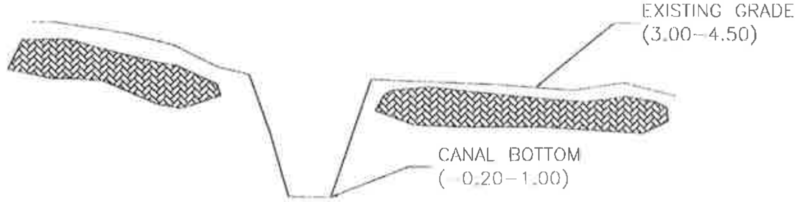
DATE: FEB 2004
DESIGNED BY:
DRAWN BY:
HORIZONTAL SCALE: AS SHOWN
VERTICAL SCALE: AS SHOWN
SEC TWP RGE: 12 46 24
CROSS REFERENCE FILE NO.:
PROJECT NUMBER: 04325-001-000

TITLE: ISLAND PARK PROPOSED FILTER MARSH AREAS

FLORIDA CERTIFICATE #4655
FILE NUMBER: D-04325-004
SHEET NUMBER: 2 OF 3

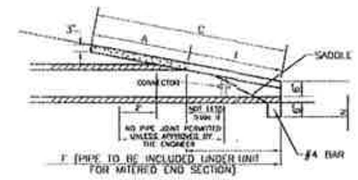
060417-2

EXHIBIT 2.1

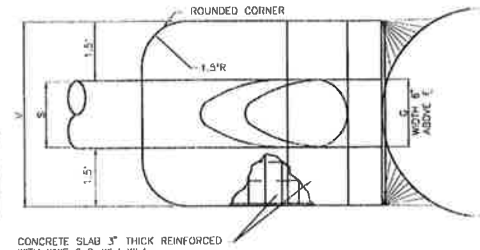


SECTION A1–A1
EXISTING IDD DRAINAGE CANAL "I"
(N.T.S)

SECTION C1–C1



RCP SECTION



RCP OR CMP PLAN

TABLE 1															
DIA.	T	REINF. SQ IN/LF	BELL OR SPIGOT	A	B	C	D	E	P	R 1	R 2	FLAT	WEIGHT (LBS.)	H	TOE WALL CLASS I CONC.
18"	2¼"	0.07	2¼"	9"	2'-3"	3'-10"	6'-1"	3'-0"	29"	15½"	12"	4"	990	15"	.11

MITERED END SECTION

(FDOT INDEX No. 272) N.T.S.

DESIGN NOTES:

1.) REINFORCED CONCRETE JACKETS SHALL BE USED AT ALL LOCATIONS.

2.) TOE WALLS SHALL BE USED WHENEVER THE ANTICIPATED VELOCITY OF DISCHARGE AND SOIL TYPE ARE SUCH THAT EROSION ACTION WOULD OCCUR. TOE WALLS ARE NOT REQUIRED WHERE DITCH PAVEMENT IS PROVIDED. EXCEPT WHEN DISJOINTING WOULD OCCUR IF THE DITCH PAVEMENT SHOULD FAIL.

GENERAL NOTES:

1.) FLARED END SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-76 WITH THE EXCEPTION THAT DIMENSIONS AND REINFORCEMENT SHALL BE AS PRESCRIBED IN TABLE 1. CIRCUMFERENTIAL REINFORCEMENT MAY CONSIST OF EITHER MAY CONSIST OF EITHER ONE CAGE OR TWO CAGES OF STEEL. COMPRESSIVE STRENGTH OF CONCRETE SHALL BE 4000 PSI. SHOP DRAWING FOR FLARED END SECTIONS HAVING DIMENSIONS OTHER THAN TABLE I MUST BE SUBMITTED FOR APPROVAL TO THE ENGINEER.

2.) CONNECTIONS BETWEEN FLARED END SECTION AND THE PIPE CULVERT MAY BE ANY OF THE FOLLOWING TYPES UNLESS OTHERWISE SHOWN ON THE PLANS.

A.) JOINTS MEETING THE REQUIREMENTS OF SECTION 941-1.5 OF THE STANDARD SPECIFICATIONS (O-RING GASKET).

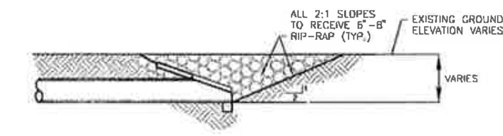
FLARED END SECTION JOINT DIMENSIONS AND TOLERANCES SHALL BE IDENTICAL OR COMPATIBLE TO THOSE USED IN THE PIPE CULVERT JOINT. WHEN PIPE CULVERT AND FLARED END SECTION MANUFACTURERS ARE DIFFERENT, THE COMPATIBILITY OF JOINT DESIGNS SHALL BE CERTIFIED TO BY THE MANUFACTURER OF THE FLARED END SECTIONS.

B.) JOINTS SEALED WITH PREFORMED PLASTIC GASKETS.

THE GASKETS SHALL MEET THE REQUIREMENTS OF SECTION 942-2 OF THE STANDARD SPECIFICATIONS AND THE MINIMUM SIZES FOR GASKETS SHALL BE AS THAT SPECIFIED FOR EQUIVALENT SIZES OF ELLIPTICAL PIPE.

3.) TOE WALLS SHALL BE CONSTRUCTED WHEN SHOWN ON THE PLANS OR AT LOCATIONS DESIGNATED BY THE ENGINEER. TOE WALLS ARE TO BE CAST-IN-PLACE WITH CLASS I CONCRETE AND PAID FOR UNDER THE CONTRACT UNIT PRICE FOR CLASS I CONCRETE (MISCELLANEOUS), CY. REINFORCING STEEL TO BE INCLUDED IN THE COST OF THE TOE WALL.

4.) ON SKEWED PIPE CULVERTS THE FLARED END SECTIONS SHALL BE PLACED IN LINE WITH THE PIPE CULVERT. SIDE SLOPES SHALL BE WARPED AS REQUIRED TO FIT THE FLARED END SECTIONS.



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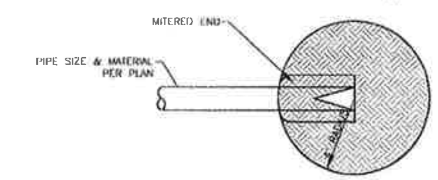

RIP-RAP SUMP DETAIL
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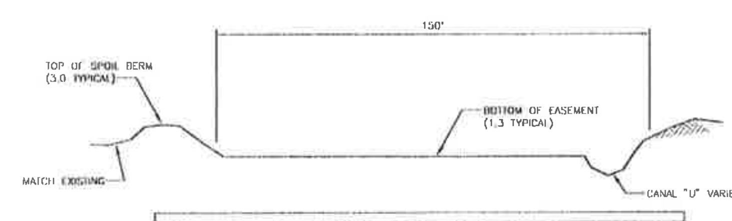
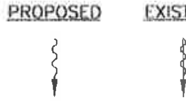


FPL EASEMENT
CROSS SECTION DETAIL
N.T.S

FLOW LINES

PROPOSED EXISTING



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ACTIVITY	INITIALS/EMP. NO.	DATE
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DRAWN BY:	A.R.M./2080	7/2005
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CONTRACT ADMIN. BY:	K.J./1982	7/2005
WM APPROVED BY:	K.J./1982	7/2005

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CLIENT: LEE COUNTY
PROJECT: ISLAND PARK REGIONAL MITIGATION

DATE: FEB 2004
HORIZONTAL SCALE: AS SHOWN
SEC. TWP. RGE.: 12 46 24

TITLE: CROSS-SECTION DETAILS

PROJECT NUMBER: 04325-001-000-FSERP
INDEX NUMBER: D-04325-004
SHEET NUMBER: 3 of 3

06A/14-2

EXHIBIT 2.2

Appendix H: Expended and Projected Costs

Appendix H: Expended and Projected Costs

Expended Costs 2000 -2017

Natural Resource Management		
Item	Funding Source	Costs
Land Management Plan	C20/20	$26,449.18
Mitigation Credit Analysis	LCDOT	$35,900.00
IPRM Construction (Phase I & II) Allocated Funds	LCDOT	$1,865,044.00
IPRM Engineering Allocated Funds	LCDOT	$181,695.00
Contracted Exotic Plant Treatments	C20/20	$4,894.88
Contracted Exotic Plant Treatments	LCDOT	IPRM Funds
	Total	**$2,113,983.06**

Overall Protection		
Item	Funding Source	Costs
Debris Removal	C20/20	$1,640.00
Hazard Tree Removal	C20/20	$7,450.00
Boundary Surveys	C20/20	$6,100.00
Contracted Fence/Gate Installation	C20/20	$9,022.00
Fence Maintenance	C20/20	In House
Contracted Firebreak Installation	C20/20	$20,870.00
Firebreak Maintenance	C20/20	In House
	Total	**$45,082.00**

Public Use		
Item	Funding Source	Costs
Preserve Identification Signage	C20/20	$78.00
Preserve Restoration Signage	LCDOT	$170.00
	Total	**$170.00**

EMP Total Expended Cost To Date $2,159,235.06

Appendix H: Expended and Projected Costs

Projected Costs 2018-2028

Natural Resource Management			
Item	Funding Source	Costs	Occurrences
Prescribed Burn	C20/20	$4,360.00	1
Mechanical Brush Reduction	C20/20	$75,600.00	1
Contracted Exotic Plant Treatments	LCDOT or C20/20	$27,345.00	10 times

Overall Protection			
Item	Funding Source	Costs	Occurrences
Fence Maintenance (In House)	C20/20	$100.00	10 times
Debris Removal (In House)	C20/20	$50.00	10 times
Firebreak Maintenance (In House)	C20/20	$688.00	10 times
Contracted Fence/Gate Installation	C20/20	$63,360.00	1 time
Contracted Fence Replacement	C20/20	$37,935.00	1 time

Public Use			
Item	Funding Source	Costs	Occurrences
Boundary Signage Replacement	C20/20	$50.00	10 times

Due to the timeframe of this management report, all associated management expenses have been projected over 10 years.

Total costs have been distributed evenly across a 10 year timeframe to generate a projected annual management expense of **$46,358.50 per year**.

Total projected annual management expense will be **$463,585.00 over 10 years.**

Total projected restoration expense to occur within the timeframe of this plan will be **$0.**