



> **GULF LANDINGS LOGISTICS CENTER**
Lee County Indigenous Preserve
Management Plan

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ECT No. 210907-0200

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INTRODUCTION

The following outlines the Lee County Indigenous Preserve Management and Restoration Plan for the Gulf Landings Logistics Center (GLLC) (Project). The overall Project site totals 283.75± acres and is located in Sections 2 and 3, Township 46 South, Range 25 East, Lee County (Figure 1). The proposed project will establish on-site conservation (indigenous vegetation) areas totaling approximately 5.80± acres. The purpose for the additional conservation easement acreage is to offset the wetland functional loss incurred from the 1.36-acre vacated portion of the existing conservation easement, therefore management and restoration activities will take place within non-indigenous areas.

The proposed conservation areas will contain the following elements:

- Restoration of 5.80± acres of indigenous wetlands through the removal of exotic vegetation and the addition of supplemental plantings.

2.0 EXISTING INDIGENOUS HABITATS

Pursuant to Land Development Code (LDC) Section 10-1, indigenous native vegetation is defined as those plant species that are characteristic of the major plant communities of the county. Native habitats, where invasive exotic vegetation exceeds 75 percent coverage, are not considered to be indigenous vegetation.

The proposed wetland restoration areas were historically functioning forested wetlands and have since been cleared of vegetation as part of the previously authorized development of the project. There are no existing indigenous areas within the proposed conservation areas.

3.0 EXISTING NON-INDIGENOUS HABITATS

Existing non-indigenous wetland habitat within the preserve totals 5.80± acres. The non-indigenous wetland habitat is comprised mainly of hydric disturbed lands (FLUCFCS 740) with greater than 75 percent coverage by exotics including torpedo grass (*Panicum repens*) and West Indian marsh grass (*Hymenachne amplexicaulis*).

4.0 INDIGENOUS VEGETATION RESTORATION

Wetland areas will be restored through the chemical treatment of exotic and nuisance vegetation and installation of supplemental plantings in the entirety of the conservation areas. The supplemental planting details are discussed in Section 5.0. The locations of the preservation areas are shown on Figure 2 while the mitigation monitoring plan is depicted on Figure 3.

4.1 METHODS TO REMOVE AND CONTROL EXOTIC AND NUISANCE PLANTS

Exotics to be eradicated include, but are not limited to, the 21 species of prohibited invasive exotic species listed in Section 10-420(h) of the LDC (Table 1).

Table 1. Prohibited Invasive Exotics

Common Name	Scientific Name
Air potato	<i>Dioscorea bulbifera</i>
Australian pine	<i>Casuarina sp.</i>
Bishopwood	<i>Bischofia javanica</i>
Brazilian pepper	<i>Schinus terebinthifolia</i>
Carrotwood	<i>Cupaniopsis anacardioides</i>
Chinese tallow	<i>Sapium sebiferum</i>
Seaside mahoe	<i>Thespesia populnea</i>
Indian laurel	<i>Ficus microcarpa</i>
Downy rose-myrtle	<i>Rhodomyrtus tomentosa</i>
Earleaf acacia	<i>Acacia auriculiformis</i>
Japanese climbing fern	<i>Lygodium japonicum</i>
Java plum	<i>Syzygium cumini</i>
Melaleuca	<i>Melaleuca quinquenervia</i>
Murray red gum	<i>Eucalyptus camaldulensis</i>
Old World climbing fern	<i>Lygodium microphyllum</i>
Rose apple	<i>Syzygium jambos</i>
Indian rosewood	<i>Dalbergia sissoo</i>
Tropical soda apple	<i>Solanum viarum</i>
Wedelia	<i>Wedelia trilobata</i>
Weeping fig	<i>Ficus benamina</i>
Woman's tongue	<i>Albizia lebbbeck</i>

Exotic and nuisance vegetation removal will be conducted by an initial mowing event followed by chemical treatment via foliar application of approved herbicide to nuisance grasses.

Efforts will be made to preserve and protect abutting native vegetation. This may include the use of temporary barriers (e.g., staking, roping, fencing) along the existing conservation area. To prevent ground disturbance, mechanical equipment will not be utilized in areas that are saturated or inundated. If rutting occurs, the ground surface will be restored to natural grade with the use of low impact equipment or by hand methods such as raking.

4.2 DEBRIS REMOVAL

The preserve areas will be inspected annually for trash or garbage. Trash or garbage located within the preserve areas will be removed and disposed of by hand.

4.3 METHOD AND FREQUENCY OF PRUNING AND TRIMMING

Exotic removal within the restored indigenous habitats is scheduled to begin after Development Order (DO) approval. After completing the initial exotic removal, semi-annual inspections of the preserves will occur for the first two years. During these inspections, the conservation areas will be traversed by a qualified ecologist. Locations of nuisance and/or exotic species will be identified for immediate treatment with an appropriate herbicide. Potential problems will also be noted, and corrective actions will be taken. Once exotic/nuisance species levels have been reduced to acceptable limits, inspections of the conservation areas will be conducted a minimum of once every two years.

Exotic maintenance will be hand-removal only. Maintenance will be conducted in perpetuity to ensure that the conservation areas are free of exotic vegetation, including the prohibited invasive exotic species listed in Section 10-420(h) of the LDC (Table 1).

5.0 SUPPLEMENTAL WETLAND PLANTINGS

Following the removal of exotics, the wetlands will be supplemented with native vegetation plantings. The proposed tree, shrub, and groundcover plantings are listed in Table 2 for the restored wetland habitat.

Table 2. Supplemental Wetland Plantings

Plant Species ¹	Common Name	Size	Spacing
Trees			
<i>Quercus laurifolia</i>	Laurel oak	3-7 gallon	20-foot
<i>Pinus elliottii</i>	Slash pine		
<i>Taxodium distichum</i>	Bald cypress		
<i>Ilex cassine</i>	Dahoon holly		
Shrubs			
<i>Morella cerifera</i>	Wax myrtle	1-3 gallon	10-foot
<i>Myrsine guianensis</i>	Myrsine		
<i>Cephalanthus occidentalis</i>	Buttonbush		
Groundcover			
<i>Spartina bakeri</i>	Sand cordgrass	1 quart or bare root	3-foot
<i>Panicum hemitomon</i>	Maidencane		
<i>Cladium jamaicense</i>	Sawgrass		
<i>Eleocharis interstincta</i>	Spike-rush		

¹Other Florida native species may be substituted where appropriate.²Temporary buffer encroachments occurring in the 15-foot minimum buffer will be replanted.

6.0 MAINTENANCE

After completing the initial exotic removal, semi-annual inspections of the conservation areas will occur for the first two years. During these inspections, the conservation areas will be traversed by a qualified ecologist. Locations of nuisance and/or exotic species will be identified for immediate treatment with an appropriate herbicide. Additional potential problems will also be noted, and corrective actions will be taken. Once exotic/nuisance species levels have been reduced to acceptable limits, inspections of the

conservation area will be conducted annually. Maintenance will be conducted in perpetuity to ensure that the conservation areas are free of exotic vegetation, including the prohibited invasive exotic species listed in Section 10-420(h) of the LDC (Table 1).

7.0 MONITORING REPORTS

The proposed monitoring of the Lee County indigenous preserves will consist of baseline, time- zero, and annual monitoring. Annual reports documenting the achievement of the enhancement, restoration, and creation activities will be submitted to Lee County's Department of Community Development (DCD) staff. Annual monitoring reports will be provided for five years after the Certificate of Compliance has been issued by the DCD. The monitoring reports will include documented exotic and nuisance species, mortality of vegetation, estimated causes of mortality, growth of the vegetation, hydrologic conditions of the wetland preserve areas including monitoring well hydrographs, wildlife observed, photographs, and factors that demonstrate the functional health of the conservation areas. A brief description of the anticipated maintenance work to be conducted over the next year will also be included. In addition, monitoring reports will provide recommendations and/or corrective measures to address deficiencies observed, including impacts to wetland hydrology. Periodic inspections will be conducted by DCD staff to ensure the accuracy of the monitoring reports.

FIGURE 1
SITE LOCATION MAP

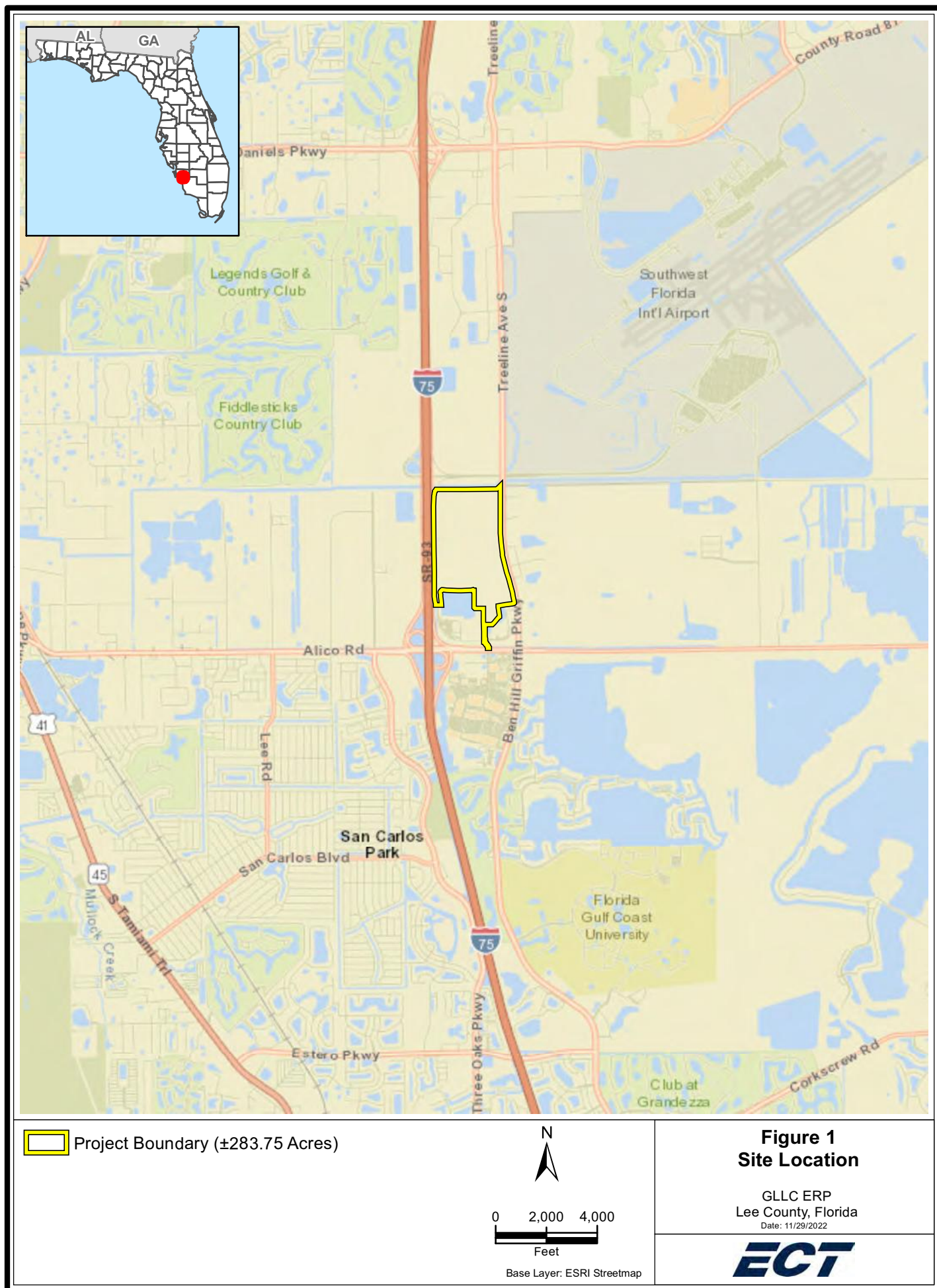


FIGURE 2
AERIAL LAYOUT



- Legend**
- | | |
|----------------------------------|---------------------------|
| Project Boundary (±283.75 Acres) | Lake |
| Conservation Easements (1-3) | Dry Detention |
| Conservation Easements (4-7) | Egress & Utility Easement |

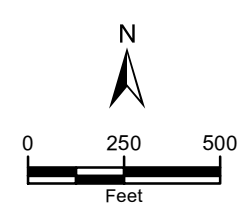


Figure 2
Aerial Layout

GLLC ERP
Lee County, Florida



Sources: FDOT Imagery, 2020; ECT, 2022.

FIGURE 3
RESTORATION MANAGEMENT PLAN MAP

