PRESERVE AREA MANAGEMENT PLAN

MARTIN COUNTY
GROWTH MANAGEMENT DEPARTMENT
ENVIRONMENTAL DIVISION

THE RANCH – PHASE 1
STUART, FL 34990
343940000000000101; 353940000000000108
223940000000000204; 233940000000000408
253940000000000109; 273940000000000105
263940000000000205; 363940000000000106

Approved by/Date : Shawn McCarthy 8/25/25

August 22, 2025

PART I
ENVIRONMENTAL ASSESSMENT

The Ranch – Phase I

1. Introduction – Property Description and History

The following Preserve Area Management Plan (PAMP) is required based on Martin County Growth Management Regulations and the Master Site Plan that was previously approved. The Phase 1 site plan approval is being submitted for the construction of two 18-hole golf courses, a practice facility, golf clubhouse, golf cottages, maintenance facilities, and associated infrastructure.

Phase I of the subject property consists of ±1,842.37 acres. The previously approved Master Site Plan identified Preserve Areas throughout the property. The proposed preserve areas for Phase I of The Ranch encompasses 196.40 acres of wetlands, 94.55 acres of associated 50 foot wetland buffers, and 27.07 acres of upland preserve. These are identified with varying hatches on all attached Site Plan pages. The preserve areas covered by the Phase I PAMP are shown on the site plan sheets included with this application.

Pedestrian transects were completed by Haley Ward staff (fka EDC, Inc.) throughout the property in order to evaluate the area. The property was traversed in an east to west direction, with transects varying from approximately 20-30 feet apart so that all potential habitat and resident native species could be observed.

2. Environmental Description and Summary

Habitats were delineated onsite using the Florida Department of Transportation (FDOT) geographic mapping section known as the Florida Land Use, Cover and Forms Classification System (FLUCCS). The following FLUCCS codes were identified onsite; Dominant community types consist primarily of open grass/improved pasture lands with a minor association of wooded pasture. There is also a mixture of remnant, natural, herbaceous and forested wetland associations. The overall diversity of plant species ranges from low to moderate, consisting of a mixture of native, nuisance, and invasive plant species. The plant community associations within The Ranch are typical of those commonly seen on managed grazing lands in southeast Florida. There were no rare or unique habitat or plant species observed within the limits of this project.

While the vast majority of the site is either considered to be native habitat or utilized for agriculture (cattle grazing and former silviculture), Phase I of the subject property does contain heavy amounts of nuisance and exotic vegetation including Lygodium, Australian Pine, and Brazilian Pepper. This will require a skilled use of both mechanical and chemical treatment to fully eradicate these species of plants.

a. Soils

Based on a review of the USDA Natural Resource Conservation Service Web Soil Survey, the site is composed of the following soil types:

17 - Wabasso sand: This soil is a nearly level, poorly drained soil in broad open areas of the flatwoods. The water table is typically at a depth of less than 10 inches for 1 to 2 months during the wet season, and at a depth of 10 to 40 inches for 6 months or more.

21 - Pineda sand: This soil is a nearly level, poorly drained soil in low grassy flats. The water table is typically at a depth of less than 10 inches for 2 to 6 months during wet seasons, and at a depth of 10 to 40 inches for the remaining time.

38 - Floridana fine sand, depressional: This nearly level soil is very poorly drained and is found in wet sloughs and depressions. The surface layer is black fine sand about 15 inches thick. The soil is often ponded for six months during most years. If water input is controlled, the potential for pine trees is high.

47 - Pinellas fine sand: This nearly level soil is poorly drained. It is typically found in flatwoods and hammock areas bordering sloughs and depressions. The water table is within a depth of ten inches for less than 3 months. The soil is well suited for pasture, citrus and managed row crops.

49 - Riviera fine sand, depressional: This soil is often in depressions and it has smooth to concave slopes that range from 0 to 2 percent. The soil is often ponded for six to nine months of the year. The soil is often a component of wetland areas.

52 - Malabar sand: This soil is often in broad low areas of flatwoods and its spatial area ranges from 10 to 100 acres. The water table is at a depth of less than 10 inches for two to six months of the year. The soil is well suited for pasture and hay crops.

53 – Udorthents: Urban land complex soil type. The Udorthents-Urban land Complex soil type “consists of. moderately well drained to excessively well drained soils that have been disturbed by cuffing or filling, and areas that are covered by buildings and pavement.

57 - Chobee muck: depressional is a nearly level, very poorly drained soil with a thick black surface layer. It is found in marshy depressions and on flood plains along streams. In most years the water table is within a depth of 10 inches for 6 to 9 months and between 10 to 40 inches for 3 to 6 months. This soil is continuously flooded for 1 to 6 months in many places. Natural vegetation includes sand cordgrass and swamp hardwoods. If drainage and water control are adequate, this soil is well suited to vegetables and improved pasture grasses.

58 - Tequesta muck- Found in depressions and marshy areas, this soil is nearly level and is very poorly drained. The soil is ponded for six to nine months during the year and the surface layer is fourteen inches of black muck. The soil is too wet for cultivated crops in its native condition.

b. Wetlands

Wetlands – ±196.40 ac. (±94.55 ac. Buffers) – Phase 1

Wetlands have been field verified by Haley Ward (fka EDC, Inc.) staff and South Florida Water Management (SFWMD) reviewers on multiple occasions from 2022 to present day. The overall 473.74 acres of wetlands on the parent parcel were identified and field approved by SFWMD staff and formally approved as part of Permit 43-111066-P, Application No. 240205-42263 (letter included). Within Phase I of the proposed project, there are 196.40 acres of wetlands with 94.55 acres of associated native upland buffers. Wetlands within Phase I include the following community types:

Freshwater Marsh (2121) – 44.07 acres

This category represents a wetland community typically containing one or more of the following representative species listed below.

The vegetation observed includes the following:

Sawgrass (Cladium jamaicensis)
Maidencane (Panicum hemitomon)
Needlerush (Juncus efusus)
Water Pennywort (Hydrocotyle spp.)
Pickerelweed (Pontederia cordata)
Willow (Salix spp.)
Dog Fennel (Eupatorium spp.)
Arrowhead (Sagittaria spp.)
Buttonbush (Cephalanthus occidentalis)
Bulrush (Scirpus spp.)
Smart weed (Polygonum spp.)
Wax Myrtle (Myrica cerifera)
Alligator Flag (Thalia geniculata)
Lizard Tail (Saururus cernuus)

Plant diversity within the Freshwater Marsh wetland class ranges from low to moderate. The overall diversity of these systems is limited as a result of active agricultural practices, specifically cattle grazing, on site. Regardless, these systems are receiving sufficient hydration from a combination of groundwater and rainfall to maintain wetland vegetation associations typical of this community type. There was no canopy observed within this community type.

Wet Prairies (2111) – 138.38 acres

This FNAI category represents the second largest wetland system within the proposed The Ranch application. This classification is defined as being composed of predominately of grassy vegetation on hydric soils and is usually distinguished from marshes by having less water and shorter herbage. These communities are usually dominated by one or more of the following representative species listed below.

The vegetation observed includes the following:

Sawgrass (Cladium jamaicensis)
Spike rushes (Eleocharis spp.)
Whitetop sedge (Dichromena colorata)
Dog Fennel (Eupatorium capillifolium)
Lizard Tail (Saururus cernuus)
Pink Sundew (Drosera capillaries)
Maidencane (Panicum hemitomon)
Yellow Eyed grass (Xyris spp.)
St. John's Wort (Hypericum spp.)
Wax Myrtle (Myrica cerifera)
Rush grass (Juncus spp.)
Sedge grass (Carex spp.)

Wet prairie systems within the The Ranch property are primarily distinguished from the freshwater marsh systems on site by shorter hydroperiods and less water depth. The wet prairie systems can also be seen as isolated, independent systems as well as contiguous with both freshwater marsh and cypress wetland systems, bordering these systems in areas where the topography is somewhat higher than the marsh systems. The plant diversity within the wet prairie wetlands also ranges from low to moderate, with diversity limited as a result of active cattle grazing on site. Hydrology also remains sufficient from groundwater and rainfall to maintain these wet prairie systems. No canopy is present within the Wet Prairie areas.

Cypress/Pine Domes (2242) – 13.95

This category represents a lesser amount of total wetland acreage, but the largest forested wetland community on site. According to the FLUCCS manual, this wetland classification is composed of Pond or Bald cypress which is either pure or dominant.

The vegetation observed includes the following:

Bald Cypress (Taxodium distichum)	Smartweed (Polygonum spp.)
Maidencane (Panicum hemitomon)	Swamp Fern (Blechnum serrulatum)
Leather Fern (Acrostichum spp.)	Lizard Tail (Saururus cernuus)
Cabbage Palm (Sabal palmetto)	Laurel oak (Quercus laurifolia)
Red maple (Acer rubrum)	Brazilian pepper (Schinus terebinthifolius)

The Cypress wetlands are largely found in the southeast portion of the overall subject property. However, cypress is found in areas of the west course in Phase 1. Plant diversity within these systems is low with Bald cypress (Taxodium distichum) representing the dominate plant type. Cattle grazing activities, the conversion of this property to agriculture over fifty years ago, construction of adjacent state and county roads, and installation of large scale, permitted, municipal drainage systems have caused these systems to become isolated. This has resulted in loss of flow and reduced hydrology to the Cypress domes within the limits of The Ranch. Individual trees have persisted but the majority of the Cypress systems within The Ranch property do not exhibit characteristics commonly associated with classically defined Bald cypress dome systems. A lack of significant buttressing, large Cypress knees, and herbaceous ground cover are a direct result of these long term topographic and regional alterations and, to a lesser extent, historic cattle grazing on site.

Exotic vegetation, in the form of Old-World Climbing Fern, is present in several dome systems, exhibiting 100% spot coverage in areas. Ground cover is sparse to bare in many dome systems. Other hard and softwood tree associations are limited with scattered patches of cabbage palm, laurel oak, and red maple.

c. Native Upland Habitat

1311 – (Mesic) Pine Flatwoods – ±268.91ac.

The Florida Natural Areas Inventory (FNAI) recognizes mesic flatwoods as flatland with sand substrate, mesic, subtropical or temperate; with frequent fire, and vegetation characterized by slash pine (Pinus elliottii) and/or longleaf pine (Pinus palustris) with saw palmetto, gallberry (Ilex glabra) and/or wiregrass (Aristida beyrichiana) or cutthroat grass (Panicum abscissum) understory. FNAI lists the following synonyms for mesic pine flatwoods: mesic flatwoods, pine savanna, cabbage palm savanna, and pine barrens.

The Florida Land Use Classification and Cover System (FLUCCS) (DOT 1985) does not have a specific categorization for mesic pine flatwoods. As defined by FNAI (1989), mesic pine flatwoods could also be mapped as any of the following FLUCCS codes: 411 pine flatwoods, 415 longleaf-upland oak, 419 other pine, or 428 cabbage palm. The U. S. Soil Conservation Service (1986) combines mesic pine flatwoods with hydric and xeric pine flatwoods in a “South Florida flatwoods” category. Abrahamson and Hartnett (1990) define the mesic flatwoods as occasionally inundated flatlands with sand substrates, canopies of slash pine, longleaf pine, and/or cabbage palm (Sabal palmetto), and understories of mixed shrubs, grasses and forbs, which vary in accordance with fire frequency, and are a gradation between hydric and xeric flatwoods.

Within Phase I of the proposed project, there are 27.07 acres of Mesic Pine Flatwoods proposed for preservation.

183111 - Oak & Palm Hammock – 46.1 acres

This class is characterized by a closed canopy of hardwood species, primarily Live Oak and Cabbage Palm, that are naturally protected from fire by its position on the landscape. This community has been heavily impacted by human activity, primarily clearing for agriculture and urbanization. Soils and understory vegetation, which are often the only shaded habitat in a landscape of prairie, pasture, pineland or marsh, are often trampled and compacted by cattle. The canopy closure must be 25% or more with at least 67% or more dominance by the combination of Live Oak and Cabbage Palm for inclusion in this class. Although other areas within the parent parcel contain this type of habitat, other than within wetland buffers, none of the above habitat is proposed for a separate upland preservation area. This is reflected on the first page of the site plan (attached). Also please note that county protected trees have been quantified and are incorporated into the tree preservation plan under separate cover.

d. Other Land Uses

Improved Pasture (183313)/Bonafide Agriculture Area - ±1,098.18ac.

As the nursery area is also used for cattle grazing, our assessment split this particular category into two subcategories. This was compounded by the blur of uses currently on the site and thus our professional opinion was to classify the property as improved pasture but still describe the two subcategories as follows:

Cattle Operations (183351)
This category is defined as an operation specialized in cattle production enterprises which include beef cattle. This is a more non-vegetative community specific category seen within the limits of the The Ranch, as it represents areas containing large cattle pens. These pens are part of the onsite active cattle operation, utilized during activities such as spring cattle counts, routine health checks, and cattle sales. The pens are located within the improved pasture lands with Bahia grass as the only significant notable vegetative feature.

Ornamental Nursery (183343)
This category defines the specialized operation on The Ranch property that grows vegetation for commercial landscaping projects and includes plant species such as: bamboos, oaks, and palms.

A powerline right-of-way moves NW from the southern terminus of the subject property, adjacent to the Preserve Area. This area is managed by others to maintain access to overhead power lines. Within Phae I there is 499.42 acres of bona fide agriculture that will be retained.

Ditch (4240) – 123.42 acres
This category consists of areas identified by the SFWMD as other surface waters. They are current and former agricultural ditches in varying states of repair, vegetated cover, and depth.

e. Observed Listed Species

The following protected species may be expected to occur within the subject property based on regional databases and/or vegetative communities present:

Wildlife Species	Listing Status	Onsite Habitat
Imperiled Wading Birds	ST	Wetlands & OSWs
Wood Stork	FT/ST	Wetlands & OSWs
Sandhill Crane	ST	Wetlands, OSWs, & Pasture
Burrowing Owls	ST	N/A
Gopher Tortoise & Commensal Species	ST & FT/ST	Pine Flatwoods
Bald Eagle	MBTA	Tall Pines
Crested Caracara	FT/ST	Pasture
American Kestrel	ST	Pasture
Everglade Snail Kite	FE	Wetlands

During the environmental assessment, the following species were observed to be traversing or foraging within the limits of the Ranch property:

Common Name	Species Name	Habitat
American Kestrel (ST)	*Falco sparverius paulus*	Open Areas/Trees
American White Ibis	*Eudocimus albus*	Wetlands/Other Surface Water
Anhinga	*Anhinga anhinga*	Wetlands/Other Surface Water
Bald Eagle	*Haliaeetus leucocephalus*	Open Areas/Nesting Tree
Black Vulture	*Coragyps atratus*	Open Areas
Cattle Egret	*Bubulcus ibis*	Open Areas/Wetlands/OSWs
Common Grackle	*Quiscalus quiscula*	Open Areas/Trees
Cooper's Hawk	*Accipiter cooperii*	Open Areas/Trees
Eastern Meadowlark	*Sturnella magna*	Open Areas
Glossy Ibis	*Plegadis falcinellus*	Wetlands/Other Surface Water
Gopher Tortoise (ST)	*Gopherus polyphemus*	Open sandy areas
Great Blue Heron	*Ardea herodias*	Wetlands/Other Surface Water
Great White Egret	*Ardea alba*	Wetlands/Other Surface Water
Little Blue Heron (ST)	*Egretta caerulea*	Wetlands/Other Surface Water
Loggerhead Shrike	*Lanius ludovicianus*	Open Areas/Trees
Mockingbird	*Mimus polyglottos*	Open Areas/Trees
Red-bellied Woodpecker	*Melanerpes carolinus*	Open Areas/Trees
Red-shouldered Hawk	*Buteo lineatus*	Open Areas/Trees
Red-tailed Hawk	*Buteo jamaicensis*	Open Areas/Trees
Roseate Spoonbill (ST)	*Ajaia ajaja*	Wetlands/Other Surface Water
Sandhill Crane (ST)	*Grus Canadensis*	Wetlands/Other Surface Water
Snowy Egret	*Egretta thula*	Wetlands/Other Surface Water
Tri-colored Heron (ST)	*Egretta tricolor*	Wetlands/Other Surface Water
Turkey Vulture	*Cathartes aura*	Open Areas
Wood Stork (FT)	*Mycteria americana*	Wetlands/Other Surface Water

While the above species were observed on the property, Haley Ward conducted multiple onsite studies as part of a response to FFWCC inquiries. The results of these studies are included in the appendix.

As a proactive measure to breeding wading birds that have been observed on the subject property. A 330 foot buffer has been established around a known Blue Heron Rookery, which can be reference on the site plan**.** Additionally, the creation of littoral shelves as part of Phase I will provide habitat for other wading birds that forage the property.

A Caracara study was performed in 2023 and 2024; and no Caracara were observed utilizing the area identified in Phase I of this submittal. The study is included within the appendix.

While Gopher Tortoises (GTs) were not physically observed within Phase 1, the habitat on the subject property may attract and provide forage habitat. Areas to be cleared outside the proposed Preserve Area will be surveyed by a certified gopher tortoise agent in accordance with FWC Protocol prior to land-disturbing activities.

3. Property and Habitat Site Data Table for Phase I

Description	Total area	Preserved
Wetlands	196.40	196.4
Wetland buffer	94.55	94.55
Native Upland	315.01	27.07
Other	1237.41	0
Total:	1843.37	318.02

4. Additional Activities Allowed in Preserve Areas

The applicant is proposing to utilize golf flyovers within preserve areas. A comprehensive mapping of the proposed golf flyovers are included within the appendix. The fly over areas, in accordance with Martin County regulations, will be allowed to trim vegetation to chest height within the delineated areas. Mechanical clearing will not be allowed within the flyovers. Tree stumps, if any, can not be pulled from the preserve and must remain in place.

In accordance with Martin County Land Development regulations pertaining to golf course development, secondary buffers have been established within 25 feet of the wetland buffers have been noted on the "Setback Map" and is attached within the Appendix. Under county code, the 25 feet adjacent to the golf course may be native sand or a native vegetation planting area. Turf grass, fertilizer and pesticides shall be prohibited. It also should be noted that although all secondary buffers are called out on the attached setback map, not all 25 foot secondary buffers will be impacted.

The Vegetated Filter Strips (VFS) also known as "Vegetated Buffer Strips" are included within the 25' additional golf setback, however, no fertilizer and pesticides will be used on the VFS and they will be native species, per the notes included on C-251.

As part of the approved SFWMD permit, Water Control structures will be installed within buffer areas. Replanting of the areas must be completed post installation. The typical section for the wetland interconnect structures within the wetland boundaries is shown on Sheet C-300. The detail has included double row silt fence between the wetland and the work area, a minimum 5' setback from the wetland line for the structure, and no work in the wetlands. A typical planting plan for lake/littoral restoration is included within the

LAMP attached to the PAMP and typical revegetation quantities for the wetland buffer restoration are shown below within subsection 6.

5. Authorized Impacts Through Environmental Waivers

An Environmental Waiver for one raised golf cart crossing through a buffer area in the practice course area has been applied for under separate cover. No work will be completed as part of this project until the waiver has been approved. The waiver is attached to the approved PAMP.

6. Proposed Exotic Removal & Maintenance Plan

Exotic vegetation can be found throughout the Preserve Area on the subject property. All nuisance and exotic vegetation as listed by the Florida Pest Plant Council will be eradicated from the preserve area. Exotic vegetation includes both woody and non woody species.

- All Brazilian pepper trees and other woody exotics will be eradicated by cutting of the trunk and treatment of the stump with an appropriately labeled herbicide. All vegetative debris will be removed from preserve areas and disposed.
- The criterion for completion of the woody exotic eradication will be 100 percent kill. If initial eradication efforts do not achieve this criterion, follow up treatment will be conducted.
- Any debris removed will be handled in accordance with the disposal specifications.

The exotic vegetation present in the preservation area also includes non-woody species that primarily include old world climbing fern.

- All eradication of non-woody exotic vegetation will be through application of appropriately labeled herbicide.
- The criterion for acceptance of eradication for all non-woody exotic vegetation will be 100 percent kill. If initial eradication efforts do not achieve this criterion, follow up treatment will be conducted.
- The exotic vegetation eradication in the preservation areas will generate vegetative debris that requires disposal. There will be a staging and storage area provided adjacent to the preservation areas on the proposed project site, outside the limits of the preserves.
- Transport of vegetative debris from the preservation area to the staging area will be conducted in a fashion that minimizes the distribution and dispersal of seeds from such debris.
- No cut exotic or nuisance vegetative material will be left in the wetland preservation area.
- All vegetative debris, either whole or chipped/mulched will be hauled off site and disposed of at a landfill or other such appropriately licensed facility.

Herbicides are required for the treatment of all stumps of woody vegetation to prevent re-growth, and for eradication of non-woody exotic and nuisance vegetation.

- All herbicide application activity will be conducted under the supervision of a Florida Agriculture licensed applicator, licensed for application of aquatic herbicides.
- All herbicides applied within the wetland area must be properly labeled for application in wetlands.

- All herbicide applied must include a visible tracer dye in the mix to facilitate observation of treated vegetation.

Replanting with Native Wetland/Transitional/Upland Vegetation

Any revegetation which might be necessary as a result of exotic vegetation removal, or previous recreational activities shall consist of native plant species representative of the existing native plant community. This will ensure that the Preserve Area maintains native plant communities. Revegetation plans shall be submitted to the Martin County Environmental Planning Administrator for approval prior to implementation.

The Ranch Phase I parcel currently contains former agricultural ditches that often extend into jurisdictional wetland areas and the associated buffers. While the ditches within the limits of wetlands will be retained as deep-water habitat, the ditches within Phase 1 wetland buffer areas will be restored in accordance with Martin County Land Development Regulations and the approved Environmental Resource Permit (ERP) from the SFWMD. The location and proposed Phase 1 ditch restoration activities will be defined within a separate document to the PAMP. As required by the Martin County Growth Management Department (GMD) and this PAMP, no building permit CO's will be issued within Phase I until ditch restoration work has been approved by GMD environmental staff.

1. Restoration of Wetland Buffer Preserve Areas

The wetland buffer preserve contains a mixture of native and exotic vegetation. Maintenance activities will include the eradication of exotic invasive vegetation. If re-vegetation is required post exotic removal the plant material will consist of similar species currently found within the wetland buffer areas. Any re-vegetation efforts will achieve 80% coverage of native vegetation within 18 months post restoration. The actual plant material quantities will be a site-specific decision. However, the following plant list has been established for the site and is based on observations of the on-site wetland species composition. The quantities listed are for 0.10 acres of wetland buffer planting (if necessary). The actual quantities may vary depending on the size and nature of the area to be planted (if required).

Common Name	**Scientific Name**	**Size**	**Quantity**	**Size**
Slash Pine	*Pinus ellottii*	10g	3	10' O.C.
Cabbage Palm	*Sabal pametto*	10g	3	10' O.C
Saw Palmetto	*Serenoa repens*	3g	5	5' O.C
Wax Myrtle	*Myrica cerifera*	3g	5	3' O.C
Beauty Berry	*Callicarpa americana*	3g	20	3' O.C
Sand Cordgrass	*Spartina bakeri*	1g	15	3' O.C

2. Restoration of Wetland Preserve Areas

The wetland areas within the Ranch property were previously managed as part of an agricultural operation. This type of management has ceased on the property and the wetlands are currently re-vegetating with a variety of native species. Based on this, the applicant will, as part of the continued onsite monitoring, determine if supplemental planting of the wetlands is required within six (6) months of the approval of the Phase 1 PAMP.

If supplemental planting is required, the owner will utilize the following planting plan as a base. The quantities listed are for one quarter acre of wetland planting (if necessary). The actual quantities may vary depending on the size and nature of the area to be planted.

Common Name	Scientific Name	Size	Quantity
Soft Rush	*Juncus spp.*	br	500
Yellow Eyed Grass	*Xyris spp.*	br	400
Maidencane	*Panicum hemitomon*	br	450
Swamp Fern	*Blechnum serrulatum*	br	250
Broom Grass	*Andropogon spp.*	br	250
Spikerush	*Eleocharis spp.*	br	500

The vegetative success criteria for the preservation area includes the requirement for 80 percent coverage of desirable vegetation by the end of the second year, and aerial coverage of exotic vegetation at zero percent and nuisance vegetation limited to 5 percent or less. The planted restoration areas of the Ranch project site will be monitored annually for a two (2) year period. A Time-Zero Report will be performed immediately after the installation of all planted material. Monitoring will be conducted annually with annual reports, documenting the results of the annual monitoring iterations. The reports will include monitoring photographs, wildlife utilization, vegetative analysis, and conclusions of the annual monitoring events. Annual monitoring reports, depicting results of each of the annual monitoring events, will be submitted to the Martin County Growth Management Department.

7. Concluding Statement

The entirety of the subject property, The Ranch contains native upland habitat and native wetland habitat. The overall native upland preserve area will be ±268.91 acres in size and will be located throughout the site, but a large portion will be used to connect wetlands along the western boundary of Phase I. The overall native wetland preserve area and associated buffers will be ±676.01 acres in size and distributed throughout the site.

The proposed preserve areas for Phase I of The Ranch encompasses 196.40 acres of wetlands, 94.55 acres of associated 50 foot wetland buffers, and 27.07 acres of upland preserve. The Preserve Areas associated with this Phase I PAMP will be managed in their natural state as required by Martin County regulations. All Phase I preserve areas will be treated and maintained by the applicant or their designee.

It shall be unlawful to alter the approved slopes, contours, or cross sections or to chemically mechanically, or manually remove, damage, or destroy any plants in the littoral or upland transition zone buffer areas of constructed lakes except upon the written approval of the Planning and Development Services Director, as applicable. It is the responsibility of the owner or property owners association, its successors or assigns to maintain the required survivorship and coverage of the reclaimed upland and planted littoral and upland transition areas and to ensure ongoing removal of prohibited and invasive non-native plant species from these areas.

PART II
GENERAL CONDITIONS

A. PURPOSE

This Preserve Area Management Plan (PAMP) has been established for the protection and long-term management and maintenance of native upland and wetland habitats on this property, in accordance with Martin County's Comprehensive Growth Management Plan and Land Development Regulations.

B. RECORDING

This PAMP shall be recorded by the Martin County Clerk of Courts and labeled with the appropriate O.R. Book and Page Number within 30 days of final approval. This PAMP may be altered or amended only with the agreement of the Martin County Environmental Planning Administrator and the owner/developer and with the approval of the Martin County Board of County Commissioners. If the PAMP is altered or amended, the revised document shall be recorded by the Martin County Clerk of Courts within 30 days of final approval.

C. TRANSFER OF OWNERSHIP

The Martin County Environmental Planning Administrator shall be notified in writing within thirty (30) days of transfer of ownership of any lands preserved by this PAMP. Failure to notify will be considered as non-compliance with the terms of this PAMP.

D. COMPLIANCE

The owner(s) of the lands to be preserved/maintained by this Preserve Area Management Plan and the developer(s) of the property described in this PAMP, their successors and assigns, and their environmental consultants and contractors shall implement and comply with all portions of this PAMP.

E. INSPECTION OF PRESERVE AREA

Compliance with the terms of this PAMP includes inspections by county staff to ensure PAMP compliance. For any required restoration, the preserve area will be inspected after replanting to verify compliance with the Restoration Plan included as part of this PAMP.

The Preserve Area may be subject to further inspections to ensure environmental integrity and consistency with the provisions of the PAMP.

F. PRESERVE AREA SURVEYING REQUIREMENTS

All Preserve Areas shall be surveyed and marked with permanent monuments at each corner and at other sites necessary for locating the boundary of the Preserve Area. These permanent monuments shall be constructed under the supervision of a Registered Land Surveyor and shall be shown on the Site Plan. The surveyed locations of Preserve Areas shall be provided to the Martin County

Environmental Planning Administrator in a form compatible for use in the County's GIS mapping system.

G. PRESERVE AREA SIGNAGE REQUIREMENTS

Preserve Area Signs. Preserve areas shall be posted with permanent signs. These signs shall be at least 11 x 14 inches in size, be posted in conspicuous locations precisely along the Preserve Area boundary, at a frequency of no less than one (1) sign per 500 feet. Designs for preserve signs shall be approved by the Martin County Environmental Planning Administrator prior to installation and must be in place prior to the issuance of a building permit for construction on the site. The use of GPS technology in golf carts and maintenance vehicles in-lieu of preserve signage is included within this PAMP.

H. SITE PLAN

The Site Plan included as an appendix to this PAMP illustrates all preserve areas, Any proposed structures and fill/grade elevations with distances to on and off-site upland preserves, wetlands and wetland buffers shall be shown, as applicable. Site Plan shall be submitted in form of PDF drawing and a corresponding shape file with site coordinates projected in the State Plane Coordinate System.

The following areas and summaries shall be included in the Site Plan (as applicable):

1. Boundaries, dimensions, and acreage of wetland habitats under preservation
2. Boundaries, dimensions, and acreage of wetland buffers to wetlands on and off-site
3. Boundaries, dimensions, and acreage of on-site wetland mitigation areas
4. Boundaries, dimensions, and acreage of common upland habitats under preservation
5. Boundaries, dimensions, and acreage of rare upland habitats under preservation
6. Boundaries, dimensions, and acreage of existing impacts
7. Boundaries, dimensions, and acreage of proposed impact(s) through environmental waiver(s)
8. Total acreage under preservation
9. Total acreage of the site

The following notation shall be provided on the Site Plan:
"PRESERVE AREAS ARE NOT TO BE ALTERED WITHOUT WRITTEN PERMISSION OF THE MARTIN COUNTY BOARD OF COUNTY COMMISSIONERS."

I. SITE CLEARING

Where clearing of vegetation may be permitted (i.e., building envelope, utilities, drainage, road right-of-way, etc.), the developer shall ensure that all Preserve Areas are protected with construction barricades and erosion control devices in accordance with the following guidelines.

Construction barricades shall be placed at least 5 feet outside of all upland Preserve Areas, or at the dripline of the canopy trees, whichever is greater. Barricades shall be inspected by County Environmental Division staff prior to work approval. Barricades shall consist of high-visibility orange safety fence extending from the ground to a height of at least 4 feet and shall not be attached to vegetation. Removal of the barricades shall be approved only after the completion of construction and prior to the issuance of a Certificate of Occupancy.

Preserve areas shall be protected from possible surface water and sediment runoff by the placement of erosion control devices (e.g., silt screens, hay bales or other turbidity control measures) at least 5 feet outside the perimeter of the wetland buffer.

All barricades, silt screens and other erosion control devices shall be upright and maintained intact for the duration of construction.

The owner/developer is required to inform all contractors of site clearing requirements. Failure to comply with these requirements shall be considered a violation of the Site Plan approval. Work on the project may be stopped until compliance is achieved.

J. ACTIVITIES ALLOWED IN PRESERVE AREAS

Property owners are encouraged to enjoy the natural beauty of their Preserve Areas. Although development of Preserve Areas is not allowed, passive recreational uses, such as bird-watching and other non-destructive uses of natural areas are encouraged, as long as they do not negatively affect the hydrology, soils, or vegetative cover of a Preserve Area. See Part I (4), Activities Allowed in Preserve Areas, for additional prescribed allowances in preservation areas.

K. ACTIVITIES PROHIBITED IN PRESERVE AREAS

Activities prohibited in Preserve Areas or easements within Preserve Areas include, but are not limited to: construction; dumping or placing building materials, soil, garbage, trash, or dead vegetation on or above the ground; removal or destruction of native trees, shrubs or other native vegetation; excavation or dredging of soil; diking or fencing; vehicular traffic including use by non-motorized vehicles, recreational vehicles and off-road vehicles; permanent irrigation; trimming, pruning, or fertilization; and any other activities detrimental to drainage, flood control, water conservation, erosion control or fish and wildlife conservation and preservation.

No hazardous material other than fuel for refueling on-site equipment may be stored during construction. On-site fuel tanks may not be located within twenty-five (25) feet of any Preserve Areas and shall be removed upon completion of construction work.

Buildings proposed to be located adjacent to Preserve Areas shall be set back a minimum of ten (10) feet to allow for construction and maintenance without encroaching into the Preserve Area. All other accessory structures (e.g., pools, sheds, decks, etc.) and excavations and fill material shall be set back a minimum of five (5) feet from the Preserve Area boundary.

L. MAINTENANCE ACTIVITIES

Except for approved restoration, exotic removal, and maintenance activities, Preserve Areas shall be left undisturbed. All maintenance of Preserve Areas shall be in accordance with this PAMP. Maintenance and management activities shall be routinely performed by or under the supervision of a qualified environmental professional and must be conducted in accordance with this PAMP or as approved by the Martin County Environmental Planning Administrator. A description of all proposed restoration and maintenance activities to be conducted on the site shall be included in the Restoration/Mitigation Plan prepared as part of this PAMP. The following maintenance activities may be allowed within Preserve Areas with prior written approval from the Environmental Plannin

Administrator: mechanical exotic plant removal; revegetation with native plants and other activities required for habitat restoration; removal of plant material that is dead or diseased, or considered to be a safety hazard; and prescribed burns.

Exotic Plant Removal

Exotic vegetation shall be removed from Preserve Areas by the least ecologically damaging method available. Such methods include hand pulling, hand spading, cutting with hand or chain saws and in-situ treatment with appropriate herbicides. Mechanical removal shall be allowed only if specifically approved as part of a Restoration/Mitigation Plan. No debris, including dead plants, plant clippings or wood scraps, shall be allowed in Preserve Areas, unless specified in the Restoration/Mitigation Plan. In addition, all dead plant material and exotic plant debris removed from Preserve Areas shall be disposed of in a County-approved recycling facility.

Revegetation

Any revegetation which might be necessary as a result of exotic vegetation removal or site construction activities shall consist of native plant species representative of the existing native plant community. This will ensure that the Preserve Areas maintain indigenous plant associations. Revegetation plans shall be included in the Restoration/Mitigation Plan prepared as part of this PAMP.

Native Vegetation Removal

Dead trees generally shall be retained in preserve areas as a natural function of habitat succession. Diseased and dead trees and vegetation considered to be a safety hazard may be altered or removed upon approval by the Martin County Environmental Planning Administrator. Other dead or diseased plant material may be removed from Preserve Areas upon approval by the Martin County Environmental Planning Administrator. Plant removal shall be conducted so that no debris, including dead plants, plant clippings or wood scraps, shall be retained in Preserve Areas. All dead plant material and debris removed from Preserve Areas shall be disposed of in a County-approved recycling facility. Revegetation may be required for any removed plant material.

Planting Plan

The preserve area shall be replanted in accordance with the standards established with a planting plan included with this PAMP. Planting plans may be provided to the Martin County Environmental Planning Administrator for approval to address any current or future required habitat management requirements.

Prescribed Burns

Martin County considers prescribed burns an acceptable habitat management tool. When approved by the Martin County Environmental Planning Administrator, prescribed burns may be conducted by a certified burn manager who shall be responsible for obtaining all appropriate permits from State and local agencies.

Other Restoration and Maintenance Activities

Alternative and innovative management techniques, which may provide for the long-term viability and habitat value of the Preserve Areas and for protection against imminent threats to public health and safety, may be approved by the Martin County Environmental Planning Administrator.

M. SITE HYDROLOGY

Previous or potential drainage impacts shall be corrected to the extent technically feasible. Water quality and the rate, timing, and volume of run-off shall recreate natural conditions for the benefit of onsite wetlands and other waterbodies.

N. PROTECTED SPECIES

If a protected species survey conducted as part of the Environmental Assessment of the project site indicates the presence of protected plant or animal species, the Environmental Assessment shall include a Protected Species Management Plan. This Plan shall ill include the results of the protected species survey; a listing and description of protected species occurring on, or utilizing, the site; documentation of the protection status of each species; a map of active and inactive burrows, nests, cavity trees, etc. found as part of the survey; a description of the protective measures being provided for each listed species found on the site; and copies of all correspondence with applicable state and federal agencies regarding the protection of listed species.

O. INSPECTIONS AND ENFORCEMENT

Martin County is authorized to inspect any County regulated site or appurtenance. Duly authorized representatives of Martin County may, at any time, upon presenting proper identification, enter upon and shall be given access to any premises for the purpose of such inspection. Martin County shall have the right to enforce the provisions of this PAMP through any available administrative or civil proceeding, which may result in penalties. Restoration of habitat and other remedies, such as fines and fees covering staff time, may be required of any person, corporation or other entity found in violation of any of the provisions of this PAMP or as may be found in the Martin County Code of Ordinances and Land Development Regulations.

APPENDICES

Example of Preserve Area Sign

Annual Monitoring Report Template

PRESERVE

AREA

17479-51323

MARTIN COUNTY, FLORIDA

PRESERVE AREA MANAGEMENT PLAN

ANNUAL MONITORING REPORT FOR (*Year*)

Annual monitoring shall be conducted at the end of the wet season (usually by November 30) for five years from the date of PAMP approval. A report of the results of each monitoring event shall be submitted by the property owner to the Martin County Environmental Planning Administrator within 30 days of the completion of the monitoring. Monitoring and reporting are the responsibility of the property owner. However, a qualified environmental professional may conduct the monitoring, prepare the Annual Monitoring Reports, or submit the Reports.

All Annual Monitoring Reports shall contain the following information:

- **Name and address of current owner of Preserve Area;**
- **Location of Preserve Area** *(site/project location, Martin County Parcel Control Number, section/township/range, etc)***;**
- **Date PAMP approved;**
- **Documentation of vegetation changes, including encroachment of exotic vegetation;**
- **Fixed-point panoramic photos of all Preserve Areas;**
- **Synopsis of maintenance activities conducted in compliance with the PAMP requirements such as exotic vegetation removal, revegetation, and additional enhancement activities necessary to maintain the Preserve Area;**
- **A timetable for action within 90 days of the report;**
- **A list of all violations of the PAMP; and**
- **Recommendations for remedial actions, with a proposed schedule for the coming year.**

Signature/Date : _____

Typed Name/Title : _____

Company Name (if applicable) : _____

ENGINEERS ◔ SURVEYORS ◔ ENVIRONMENTAL

Environmental Assessment

SW Kanner Highway

Stuart, Martin County, FL

Location Map

Project #22-153	Calusa Creek	01/25/2024

N

ENGINEERS SURVEYORS ENVIRONMENTAL

Environmental Assessment

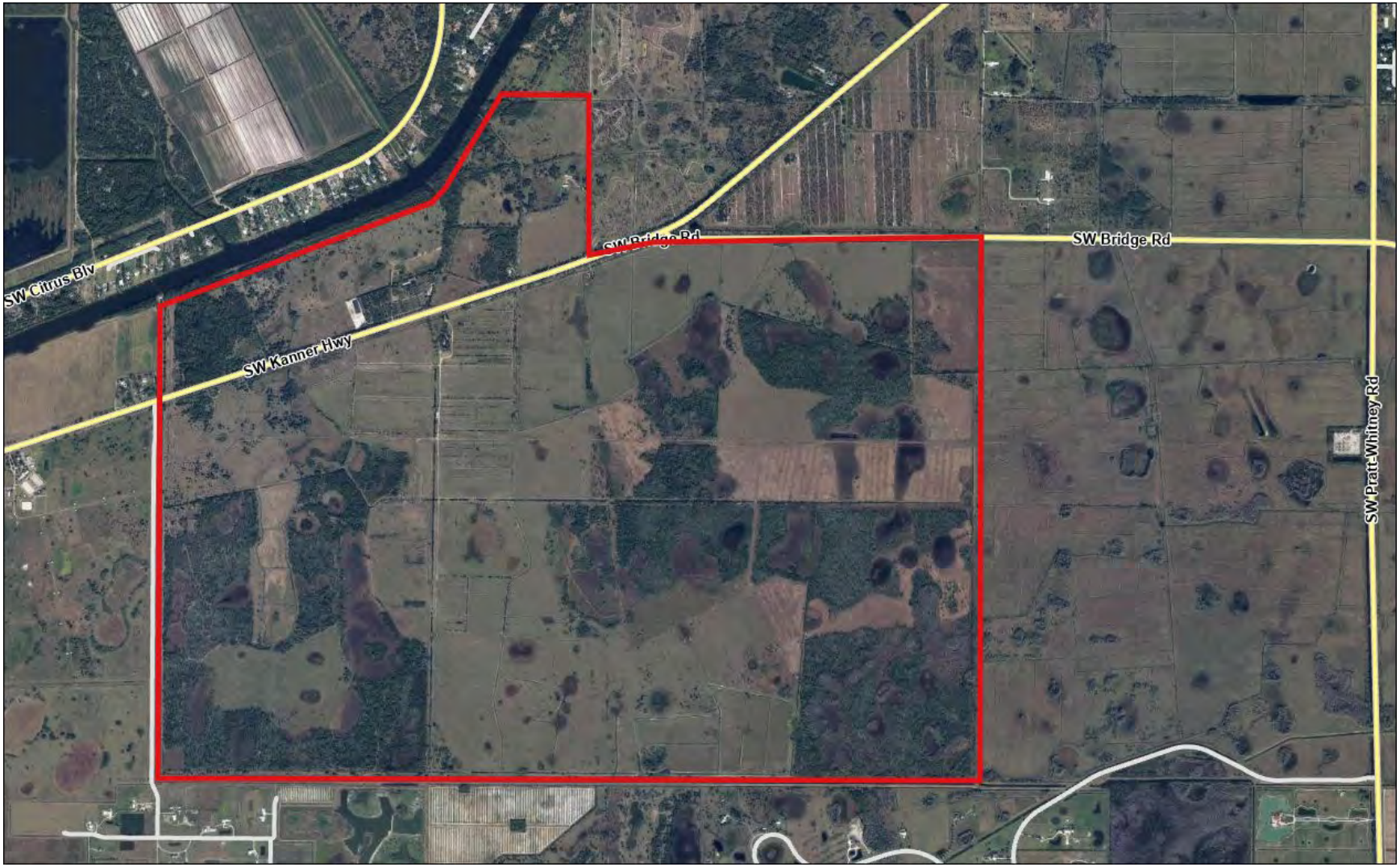
SW Kanner Highway

Stuart, Martin County, FL

Property Appraiser Map

Project #22-153	Calusa Creek	01/25/2024

N



ENGINEERS SURVEYORS ENVIRONMENTAL

Environmental Assessment

SW Kanner Highway

Stuart, Martin County, FL

USDA Web Soil Survey Map

Project #22-153	Calusa Creek	01/25/2024

N

Martin County, Florida (FL085)

Martin County, Florida (FL085)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
17	Wabasso sand, 0 to 2 percent slopes	740.2	18.5%
21	Pineda-Riviera fine sands association, 0 to 2 percent slopes	2,250.8	56.3%
36	Arents, 0 to 2 percent slopes	6.7	0.2%
38	Floridana fine sand, frequently ponded, 0 to 1 percent slopes	31.3	0.8%
47	Pinellas fine sand, 0 to 2 percent	24.1	0.6%
49	Riviera fine sand, frequently ponded, 0 to 1 percent slopes	760.7	19.0%
52	Malabar fine sand, high, 0 to 2 percent slopes	21.8	0.5%
53	Udorthents, 0 to 35 percent slopes	6.3	0.2%
57	Chobee muck, frequently ponded, 0 to 1 percent slopes	127.2	3.2%
58	Gator and Tequesta mucks	30.5	0.8%
Totals for Area of Interest		**3,999.5**	**100.0%**

ENGINEERS SURVEYORS ENVIRONMENTAL

Environmental Assessment

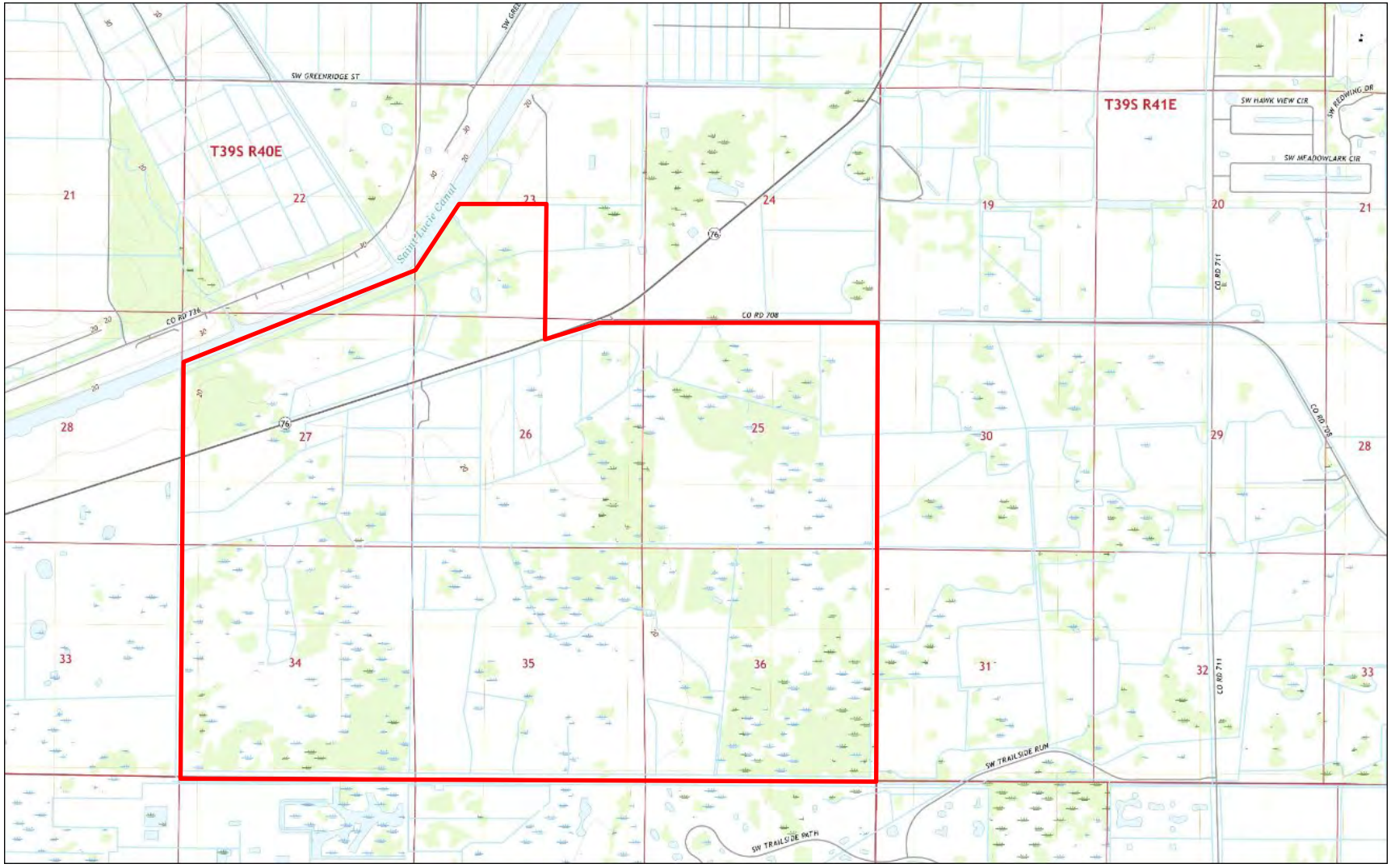
SW Kanner Highway

Stuart, Martin County, FL

Topography Map

Project #22-153	Calusa Creek	01/25/2024

N



ENGINEERS SURVEYORS ENVIRONMENTAL

Environmental Assessment

SW Kanner Highway

Stuart, Martin County, FL

FWC Eagle Nest Locator Map

Project #22-153	Calusa Creek	01/25/2024

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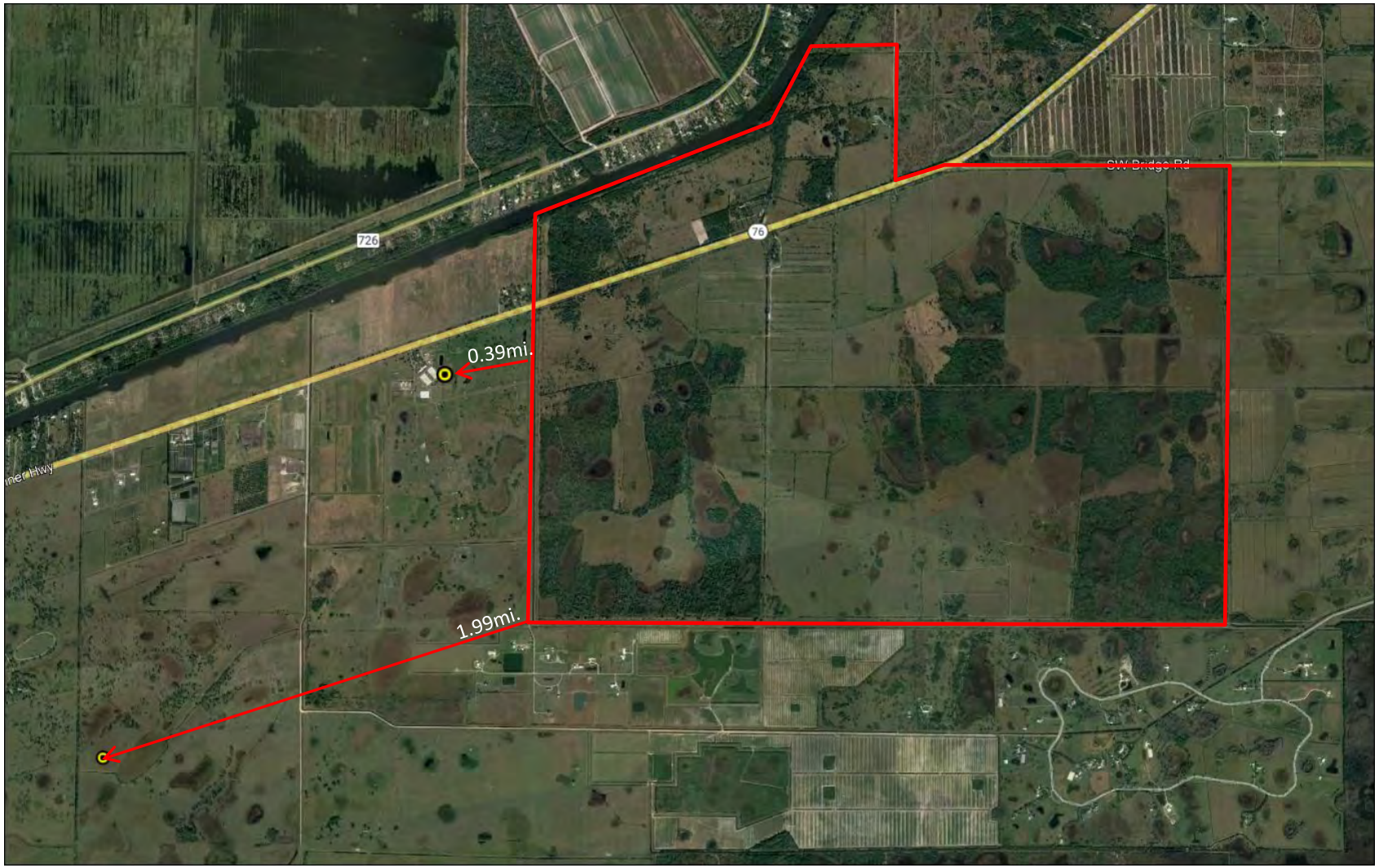

ENGINEERS ◔ SURVEYORS ◔ ENVIRONMENTAL

Environmental Assessment

SW Kanner Highway

Stuart, Martin County, FL

Heron Rookery Location Map

Project #22-153	Calusa Creek	01/25/2024

N

ENGINEERS SURVEYORS ENVIRONMENTAL

Environmental Assessment

SW Kanner Highway

Stuart, Martin County, FL

SGSF Wildfire Risk Assessment Aerial

Project #22-153	Calusa Creek	01/25/2024

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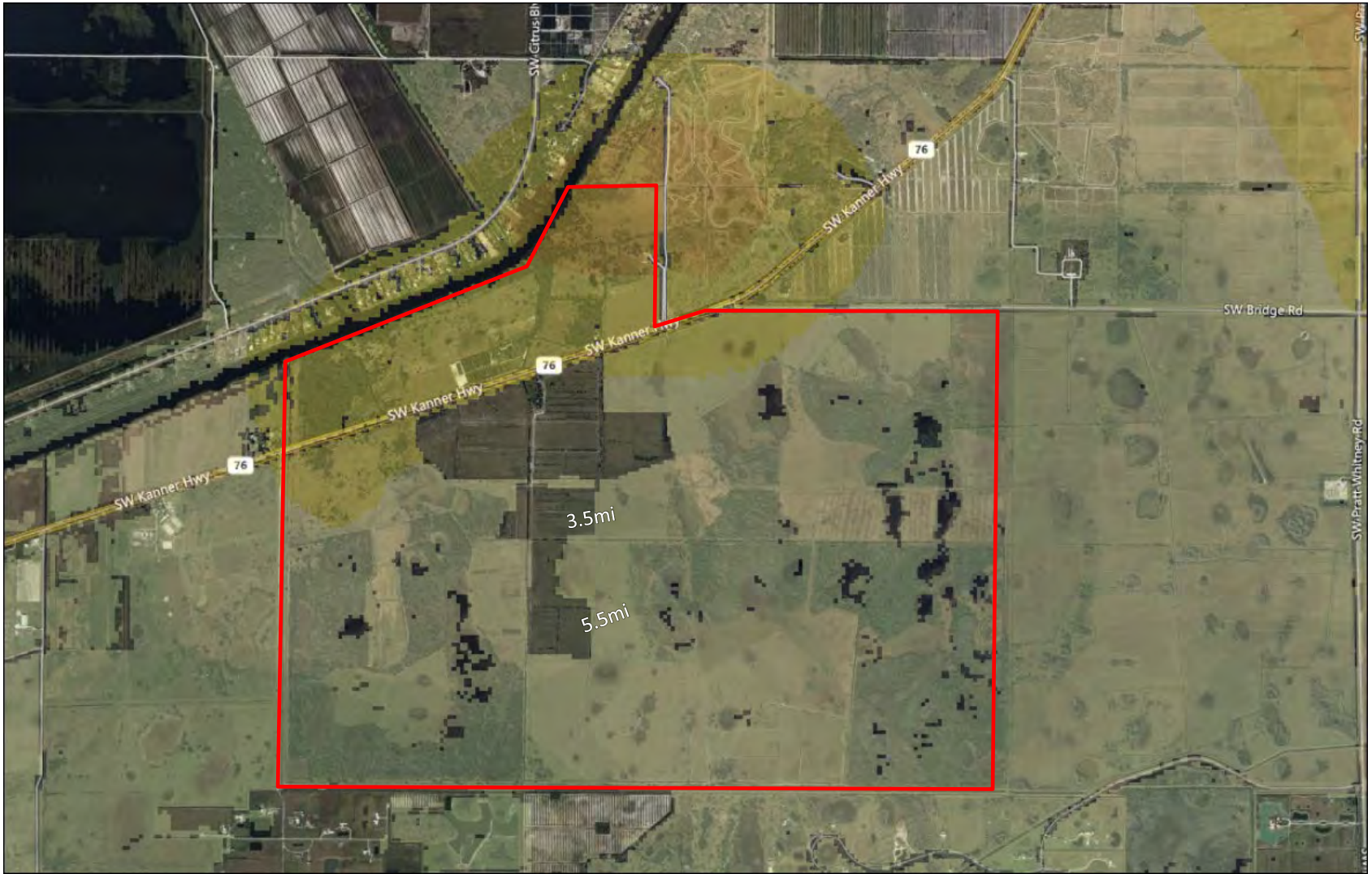
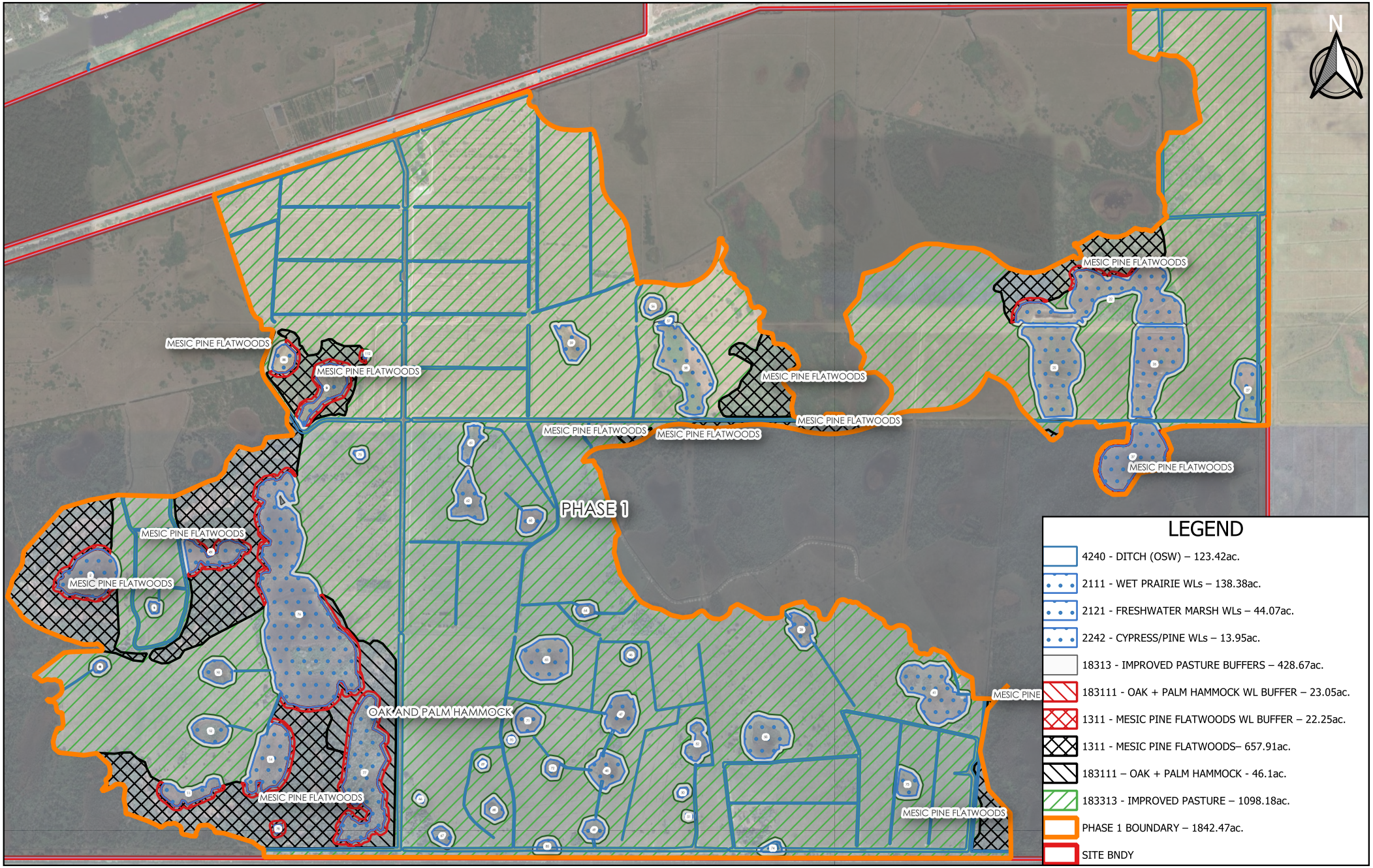


THE RANCH - PHASE 1 HABITAT MAP



#22-153 - The Ranch - Phase 1
25 August 2025

0 0.15 0.3 0.45 mi

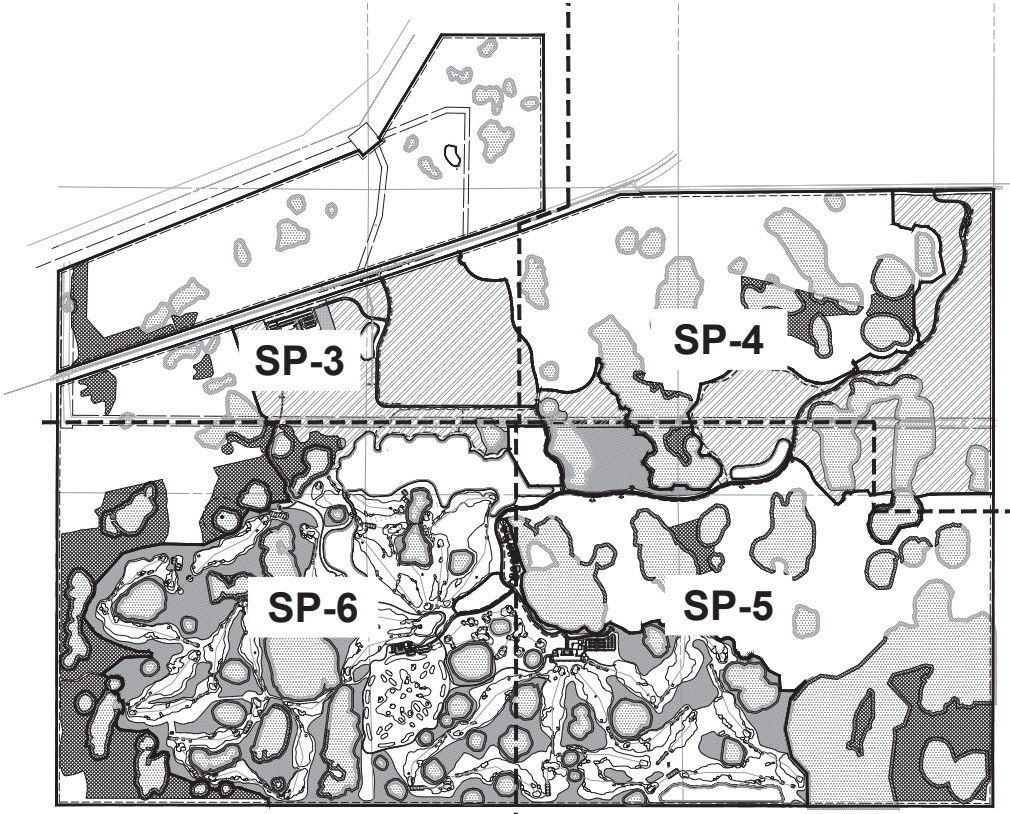
HALEY WARD

Site Plan

The Ranch PUD

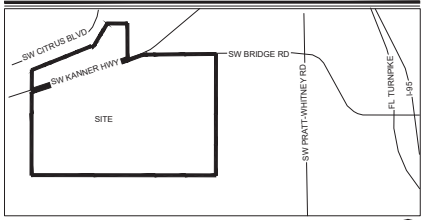
Phase 1 Final Site Plan

Martin County, Florida



SHEET KEY N.T.S.

LOCATION MAP



DEVELOPMENT TEAM

OWNER / APPLICANT:
JWA RANCH, LLC
13401 OAKMEADE
PALM BEACH GARDENS, FL 33418

PLANNER:
URBAN DESIGN STUDIO
610 CLEMATIS STREET, SUITE CU02
WEST PALM BEACH, FL 33401
(561) 366-1100

LANDSCAPE ARCHITECT:
LANDSCAPE ARCHITECTURAL SERVICES, LLC
1708 SE JOY HAVEN STREET
PORT ST. LUCIE, FL 34983
(772) 834-1357

ARCHITECT:
SHOPE RENO WHARTON
18 MARSHALL STREET STE 114
SOUTH NORWALK, CT 06854
(203) 852-7250

SURVEYOR/ENVIRONMENTAL:
HALEY WARD
10250 SW VILLAGE PARKWAY STE. 201
PORT ST. LUCIE, FL 34987
(772) 462-2455

CIVIL ENGINEER/TRAFFIC:
KIMLEY HORN
1615 S. CONGRESS AVE, STE 201
DELRAY BEACH, FL 33445
(561) 330-2345

GOLF DESIGNER:
WHITMAN, AXLAND & CUTTEN GOLF COURSE ARCHITECTS
64 BRANT RD SOUTH
CAMBRIDGE, ON, CANADA
(226) 750-3855

OVERALL SITE DATA

TOTAL SITE AREA:	**3,902.64 AC**	
RIGHT OF WAY DEDICATION	**2.07 AC**	
NET REMAINING SITE AREA	**3,900.57 AC**	
FUTURE LAND USE:	**RURAL LIFESTYLE**	
EXISTING ZONING:	**PUD**	
EXISTING USE:	**AGRICULTURAL**	
PARCEL ID NUMBERS:	223940000000000204	233940000000000408
	253940000000000109	273940000000000105
	343940000000000101	353940000000000108
	263940000000000205	363940000000000106

PHASE 1 SITE DATA

SITE AREA:	1,842.37 AC
PROPOSED USE:	**BONAFIDE AGRICULTURE, (2) 18-HOLE CHAMPIONSHIP GOLF COURSES, WORLD CLASS PRACTICE FACILITY, (7) GOLF COTTAGES, MAINTENANCE FACILITY, CLUBHOUSE & CART BARNS,SUPPORTING ROADS, UTILITIES & DRAINAGE INFRASTRUCTURE**
BONAFIDE AGRICULTURE AREA:	499.42 AC (27%)
WETLAND PRESERVE AREA:	196.40 AC (11%)
50' WETLAND BUFFER PRESERVE AREA:	94.55 AC (5%)
UPLAND PRESERVE AREA:	27.07 AC (1%)

LAND USE SUMMARY

LAND USE TYPE	ACRES	% TOTAL
COTTAGES	7.02	1%
GOLF COURSE & PATHWAYS	264.00	14%
SPINE ROADS	23.40	1%
LAKES	92.18	5%
LAKE BANKS	5.99	1%
COMMUNITY AMENITIES & MAINTENANCE	26.35	1%
BUFFERS & LANDSCAPE AREA	582.99	32%
FORMER AGRICULTURAL AREAS TO REMAIN	117.55	6%
BONAFIDE AGRICULTURE	499.42	27%
WETLANDS	196.40	11%
UPLAND PRESERVE AREA	27.07	1%
TOTALS:	1,842.37	100%

TOTAL DEVELOPMENT AREA:	**1,024.93 AC**
PERVIOUS AREA:	**899.31 AC**
GOLF COURSE:	260.01 AC
ROADWAYS:	10.62 AC
COMMUNITY AMENITIES & MAINT.:	12.14 AC
LAKE BANKS:	5.99 AC
LANDSCAPE AREA:	488.44 AC
FORMER AGRICULTURAL AREAS TO REMAIN:	117.55 AC
COTTAGES:	4.56 AC
IMPERVIOUS AREA:	**125.62 AC**
GOLF CART PATH:	3.99 AC
ROADWAYS:	12.78 AC
COMMUNITY AMENITIES & MAINT.:	14.21 AC
LAKES:	92.18 AC
COTTAGES:	2.46 AC

PRESERVE AREA DATA

PRESERVE AREA DATA:

PHASE 1 SITE AREA:	**1,842.37 AC**
TOTAL WETLAND PRESERVE AREA:	**196.40 AC ***
TOTAL 50' WETLAND BUFFER AREA:	**94.55 AC ***
SURFACE WATER AREA:	**92.18 AC**
SUBMERGED LAND:	**0.00 AC**
UPLAND PRESERVATION AREA PROVIDED (PHASE 1):	**27.07 AC**
MESIC PINE FLATWOODS:	27.07 AC
OAK & PALM HAMMOCK:	0.00 AC
GREAT BLUE HERON ROOKERY	**7.85 AC ***

* AREA INCLUDED IN THE OVERLAPPING WETLAND BUFFER AND PRESERVE AREAS

BUILDING DATA

MAINTENANCE FACILITY & RANCH OPERATIONS:	
ADMINISTRATION & REPAIR BUILDING:	14,442 SF
ENVIRONMENTAL CENTER:	4,968 SF
STORAGE BUILDING:	26,392 SF
COVERED SERVICE AREA:	10,583 SF
GOLF MAINTENANCE BARN:	9,000 SF
(1 @ 4,000 SF, 1 @ 5,000 SF)	
GATE HOUSE:	1,034 SF
RANGE HOUSE:	18,236 SF
TRAINING CENTER:	8,206 SF
CLUBHOUSE:	87,265 SF
CART BARN (NORTH):	3,434 SF
CART BARN (SOUTH):	3,434 SF
COTTAGES:	49,147 SF
(8,045 SF EACH X 5)	
(4,461 SF EACH X 2)	
COMFORT STATIONS:	3,500 SF
(875 SF EACH X 4)	

PARKING DATA

PARKING REQUIRED:		**515**
SHORT COURSE (3 SP/GREEN)	33	
(2) 18-HOLE GOLF COURSES (3 SP/GREEN)	108	
RANGE HOUSE (1.3 SP/TEE)	8	
CLUBHOUSE/TRAINING CENTER (1 SP/300 SF)	318	
GOLF COTTAGES (1 SP/BEDROOM)	48	
PARKING PROVIDED:		**502**
RANGE HOUSE/TRAINING CENTER:	41	
(INCLUDES 2 ADA SPACES)		
MAINTENANCE FACILITY & RANCH OPERATIONS:	179	
(INCLUDES 6 ADA SPACES)		
CLUBHOUSE:	228	
(INCLUDES 7 ADA SPACES)		
GOLF COTTAGES:	52	
(INCLUDES 2 ADA SPACES)		
GATE HOUSE:	2	
(INCLUDES 1 ADA SPACE)		

LAKE LITTORAL DATA

LAKE ONE PERIMETER (SHORELINE):	**15,214 LF**
REQUIRED/PROVIDED LITTORAL ZONE AREA (10 SF X 15,214 LF):	152,140 SF (3.49 AC)
REQUIRED/PROVIDED TRANSITION ZONE AREA (10 SF X 15,214 LF):	152,140 SF (3.49 AC)
LAKE TWO PERIMETER (SHORELINE):	**4,508 LF**
REQUIRED/PROVIDED LITTORAL ZONE AREA (10 SF X 4,508 LF):	45,080 SF (1.03 AC)
REQUIRED/PROVIDED TRANSITION ZONE AREA (10 SF X 4,508 LF):	45,080 SF (1.03 AC)
LAKE THREE PERIMETER (SHORELINE):	**2,667 LF**
REQUIRED/PROVIDED LITTORAL ZONE AREA (10 SF X 2,667 LF):	26,670 SF (0.61 AC)
REQUIRED/PROVIDED TRANSITION ZONE AREA (10 SF X 2,667 LF):	26,670 SF (0.61 AC)
LAKE FOUR PERIMETER (SHORELINE):	**1,620 LF**
REQUIRED/PROVIDED LITTORAL ZONE AREA (10 SF X 1,620 LF):	16,200 SF (0.37 AC)
REQUIRED/PROVIDED TRANSITION ZONE AREA (10 SF X 1,620 LF):	16,200 SF (0.37 AC)
TOTALS:	**24,009 LF**
REQUIRED/PROVIDED LITTORAL ZONE AREA (10 SF X 24,009 LF):	240,090 SF (5.51 AC)
REQUIRED/PROVIDED TRANSITION ZONE AREA (10 SF X 24,009 LF):	240,090 SF (5.51 AC)

*NOTE: SEE LANDSCAPE PLANS FOR PLANT SPECIES AND QUANTITIES.

LAND USE LEGEND

- WETLAND PRESERVE
- 50' WETLAND BUFFER PRESERVE
- 25' GOLF COURSE BUFFER SETBACK
- GOLF TURF AREA
- UPLAND PRESERVE AREA
- AGRICULTURAL AREA
- FORMER AGRICULTURAL AREAS TO REMAIN

UNDEFINED AREAS ADJACENT TO GOLF COURSE, PRESERVE AREAS, OR LAKES HAVE BEEN INCLUDED AS 'DEVELOPED AREA' FOR PURPOSES OF CALCULATING REQUIRED SITE DATA AND MAY BE LEFT UNDISTURBED EXCEPT FOR THE REMOVAL OF EXOTIC VEGETATION, OR STABILIZED WITH GRASS, NATIVE SEED, MULCH, OR PLANTED WITH NATIVE GRASSES.

GENERAL NOTES

1) BASE SURVEY FILE PROVIDED FROM GCV INCORPORATED DATED OCTOBER, 2021.
2) WETLAND DELINEATION MAP PROVIDED BY EDC DATED 02/28/2024.
3) PRESERVE AREAS SHALL BE DESIGNATED WITH A PRESERVE AREA SIGN LOCATED AT A DISTANCE AND SPACING NO LESS THAN EVERY 500 FT. ALONG THE PERIMETER OF THE PRESERVATION AREA.
4) STORM WATER MANAGEMENT AREAS ABUTTING PRESERVE AREAS SHALL BE MAINTAINED WITH PLANTED NATIVE VEGETATION IN PERPETUITY.
5) ALL PROHIBITED EXOTIC PLANT SPECIES SHALL BE REMOVED FROM THE SITE PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY. PERPETUAL MAINTENANCE IS REQUIRED TO PROHIBIT THE REESTABLISHMENT OF INVASIVE EXOTIC SPECIES WITHIN PRESERVATION AREAS AND PLANTED LANDSCAPE OR LAKE LITTORAL AREAS AND STORMWATER MANAGEMENT AREAS AS PROVIDED ON THE PLANS APPROVED WITH THE DEVELOPMENT ORDER.
6) ALL PRESERVE AREAS SHALL BE MAINTAINED IN ACCORDANCE WITH THE APPROVED PRESERVE AREA MANAGEMENT PLAN (PAMP).
7) REFER TO THE PAMP FOR AN EXHIBIT DEPICTING THE EXTENT OF GOLF FLY-OVER ROUTING IN THE CONTEXT OF PRESERVE AREAS AND DETAILS ON THE MANAGEMENT OF SUCH AREAS UNDER THE "USE OF PRESERVE AREAS" SECTION OF THE PAMP.
8) PRESERVE AREA SIGNS WILL BE POSTED IN CONSPICUOUS LOCATIONS ALONG THE PRESERVE AREA BOUNDARY IN ACCORDANCE WITH THE PAMP.
9) ALL 25 FOOT GOLF COURSE SETBACK AREAS SHALL NOT CONTAIN TURF GRASS AND NOT BE FERTILIZED AND SHALL BE MAINTAINED IN ACCORDANCE WITH THE MANAGEMENT CRITERIA IN THE APPROVED PAMP.
10) PRESERVE AREA SETBACK.
    - NEW CONSTRUCTION (INCLUDING FILL PROPOSED ADJACENT TO WETLAND BUFFER ZONES AND UPLAND PRESERVE AREAS) SHALL BE SET BACK A MINIMUM OF TEN FEET FOR PRIMARY STRUCTURES;
    - SETBACKS FOR ACCESSORY STRUCTURES, SUCH AS, BUT NOT LIMITED TO, POOL DECKS, SCREEN ENCLOSURES AND DRIVEWAYS, SHALL BE FIVE FEET.
    - GRADED AREAS ADJACENT TO PRESERVE AREAS SHALL NOT EXCEED A SLOPE OF ONE FOOT VERTICAL TO FOUR FEET HORIZONTAL. ALL SLOPES SHALL BE PROPERLY STABILIZED UPON COMPLETION OF CONSTRUCTION TO THE SATISFACTION OF THE COUNTY ENGINEER.
10) STORMWATER MANAGEMENT AREAS ARE TO BE MAINTAINED WITH PLANTED NATIVE VEGETATION, IN PERPETUITY.
11) ALL ROADWAY OWNERSHIP AND MAINTENANCE WITHIN THE PROPERTY BOUNDARY WILL BE PRIVATE USE.
12) DESIGN STANDARDS AND PLACEMENT OF SIGNS WILL BE REVIEWED VIA SEPARATE BUILDING PERMIT.

urban design studio
Urban Design
Land Planning
Landscape Architecture

610 Clematis Street, Suite CU02
West Palm Beach, FL 33401
561.366.1100 FAX 561.366.1111
www.udsflorida.com
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The Ranch PUD

Martin County, FL
Phase 1 Final Site Plan

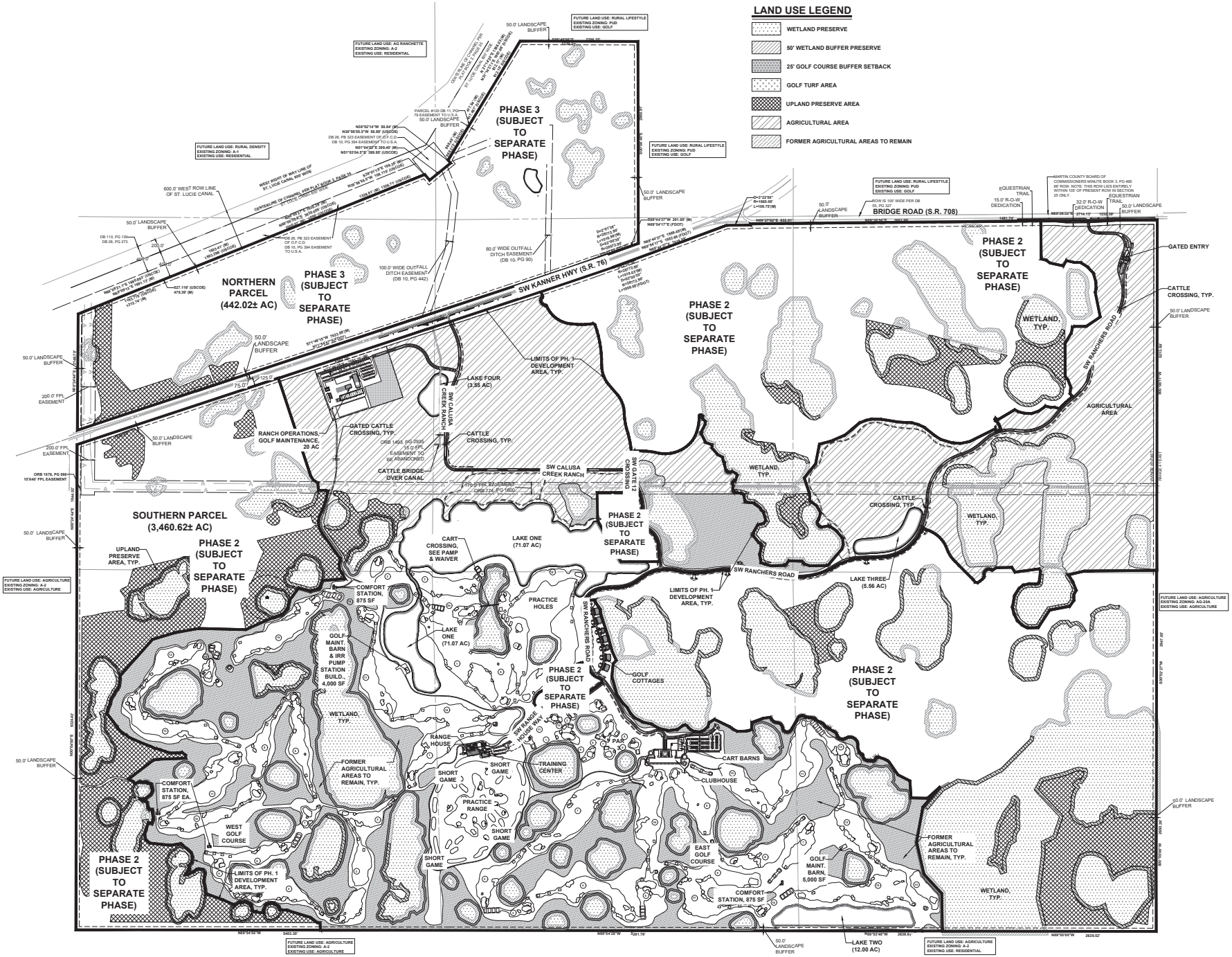
H:\DESIGN\Land\Golf Course_21-124\Dwg\Site Plan\PHASE PLAN\PHASE 1\2025.05.21_PHASE 1 SP.dwg

Date:	09/09/2024
Project No.:	21-124.000
Designed By:	RD/LMB
Drawn By:	RD/LMB
Checked By:	RD

Revision Dates:

09/25/2024	RESUBMITTAL
10/08/2024	RESUBMITTAL
05/02/2025	RESUBMITTAL
07/18/2025	RESUBMITTAL

SP-1
of 11



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The Ranch PUD

Martin County, FL
Phase 1 Final Site Plan

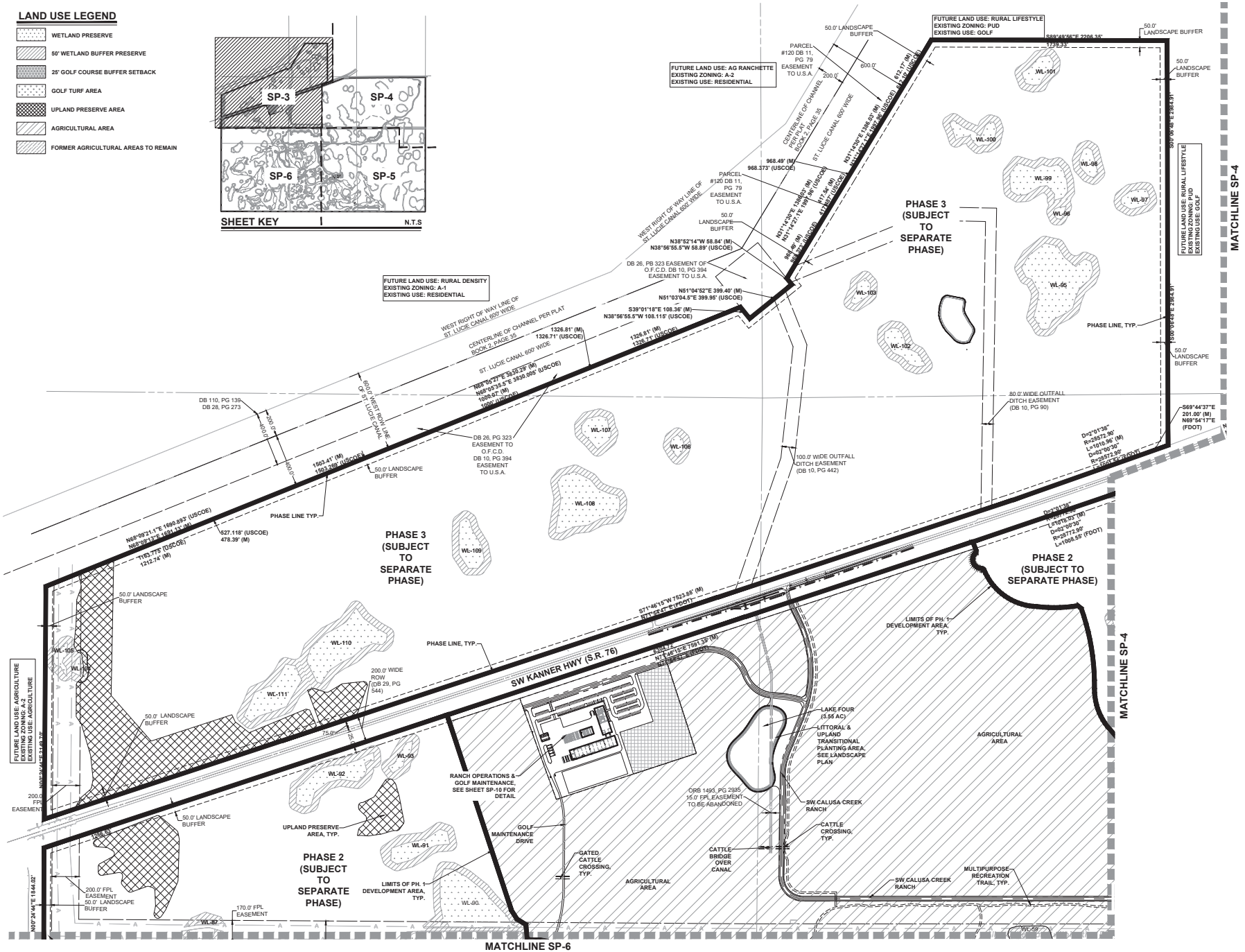
H:\DESIGN\Land Work\Golf Course_21-124\dwg\c_GC_DEV\Overlay\Site Plan\PHASE PLAN\PHASE 1\2025.08.21_PHASE 1 SP.dwg

Date:	09/09/2024
Project No.:	21-124.000
Designed By:	RD/LMB
Drawn By:	RD/LMB
Checked By:	RD

Revision Dates:

09/25/2024	RESUBMITTAL
10/08/2024	RESUBMITTAL
05/02/2025	RESUBMITTAL
07/18/2025	RESUBMITTAL

SP-2
of 11



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The Ranch PUD

Martin County, FL
Phase 1 Final Site Plan

H:\DESIGN\Land\Land Golf Course_21-124\Base_CD_DEV\Evangeline Plan\PHASE PLAN\PHASE 1\2025.07.18_PHASE 1 SP-3.dwg

NORTH

0 150' 300' 600'

Scale: 1" = 300'-0"

Date:	09/09/2024
Project No.:	21-124.000
Designed By:	RD/LMB
Drawn By:	RD/LMB
Checked By:	RD

Revision Dates:

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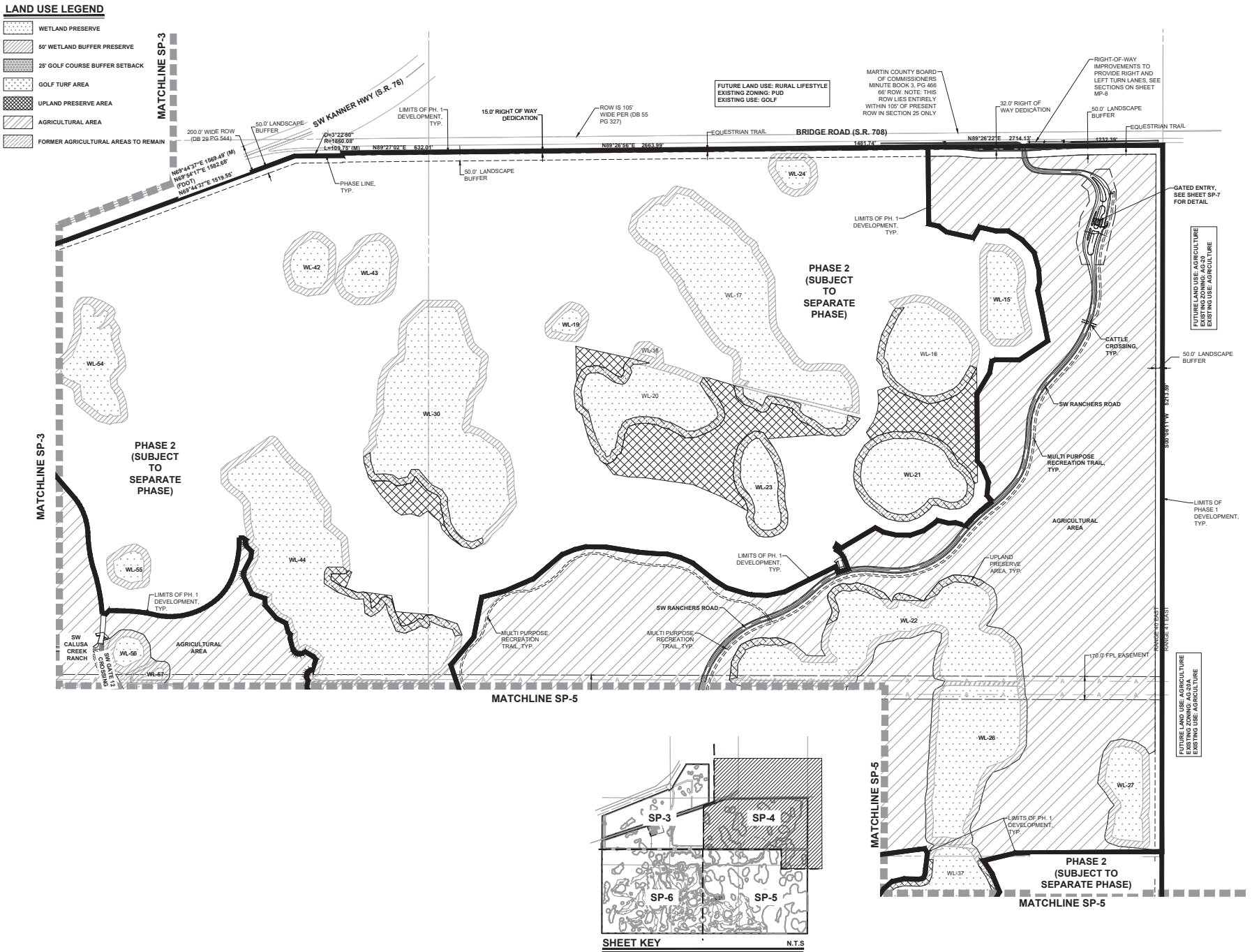
10/08/2024 RESUBMITTAL
05/02/2025 RESUBMITTAL
07/18/2025 RESUBMITTAL

SP-3

of 11



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Martin County, FL
Phase 1 Final Site Plan

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NORTH

0 150' 300' 600'

Scale: 1" = 300'-0"

Date:	09/09/2024
Project No.:	21-124.000
Designed By:	RD/LMB
Drawn By:	RD/LMB
Checked By:	RD

Revision Dates:

09/25/2024	RESUBMITTAL
10/08/2024	RESUBMITTAL
05/02/2025	RESUBMITTAL
07/18/2025	RESUBMITTAL

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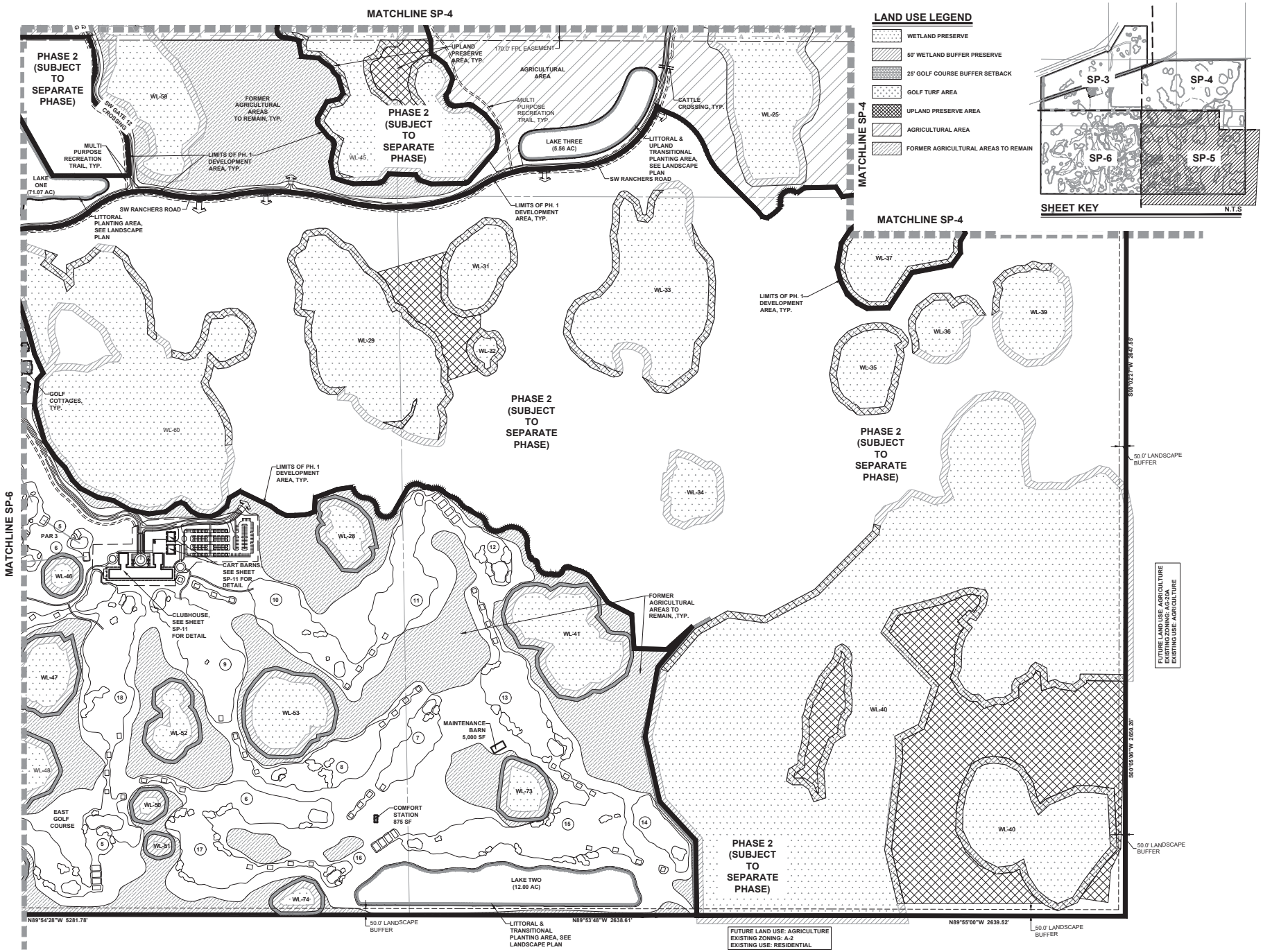
of 11



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The Ranch PUD

Martin County, FL
Phase 1 Final Site Plan

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NORTH

0 150' 300' 600'

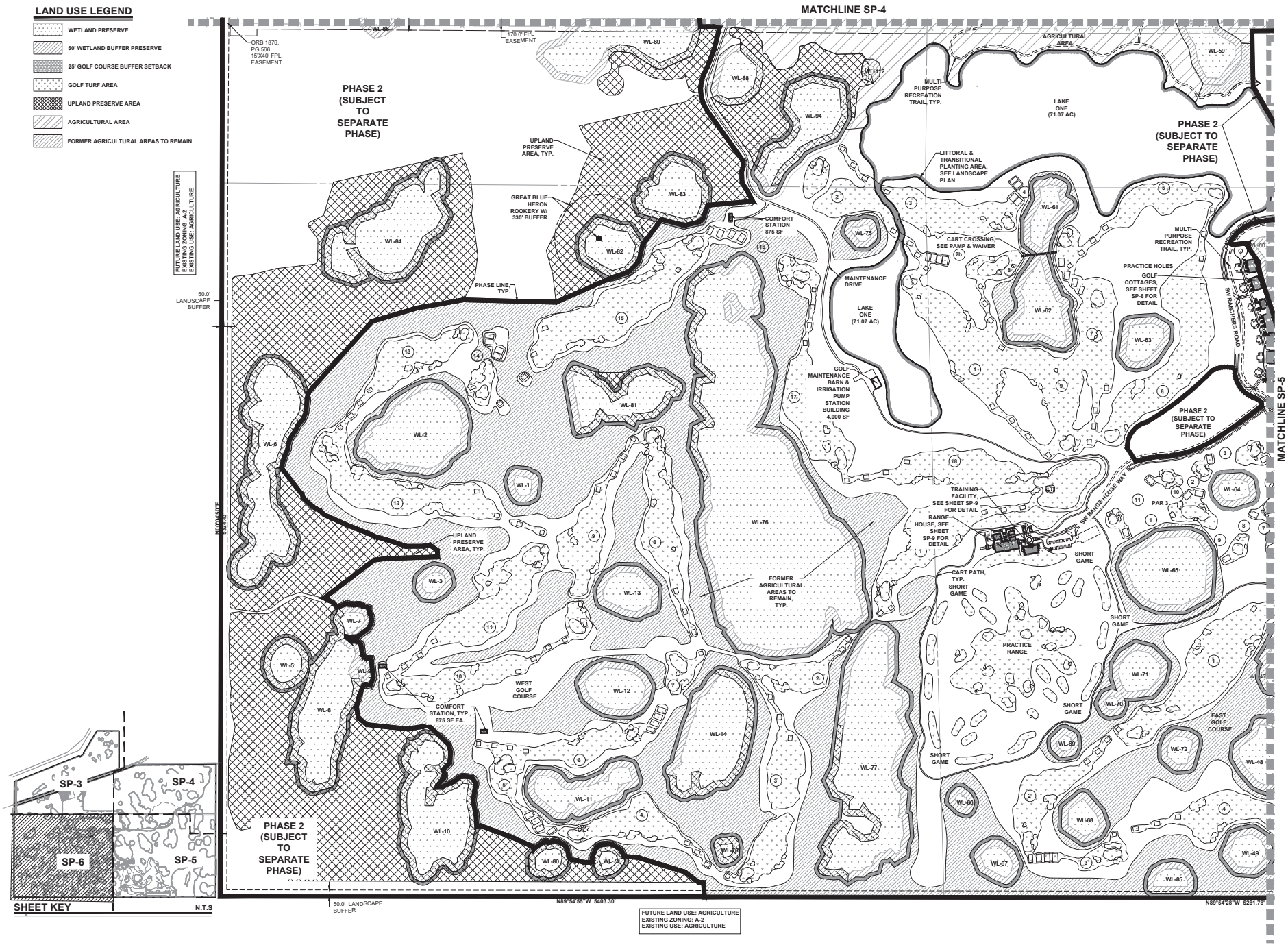
Scale: 1" = 300'-0"

Date:	09/09/2024
Project No.:	21-124.000
Designed By:	RD/LMB
Drawn By:	RD/LMB
Checked By:	RD

Revision Dates:

09/25/2024	RESUBMITTAL
10/08/2024	RESUBMITTAL
05/02/2025	RESUBMITTAL
07/18/2025	RESUBMITTAL

SP-5
of 11



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The Ranch PUD

Martin County, FL
Phase 1 Final Site Plan

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NORTH

0 150' 300' 600'

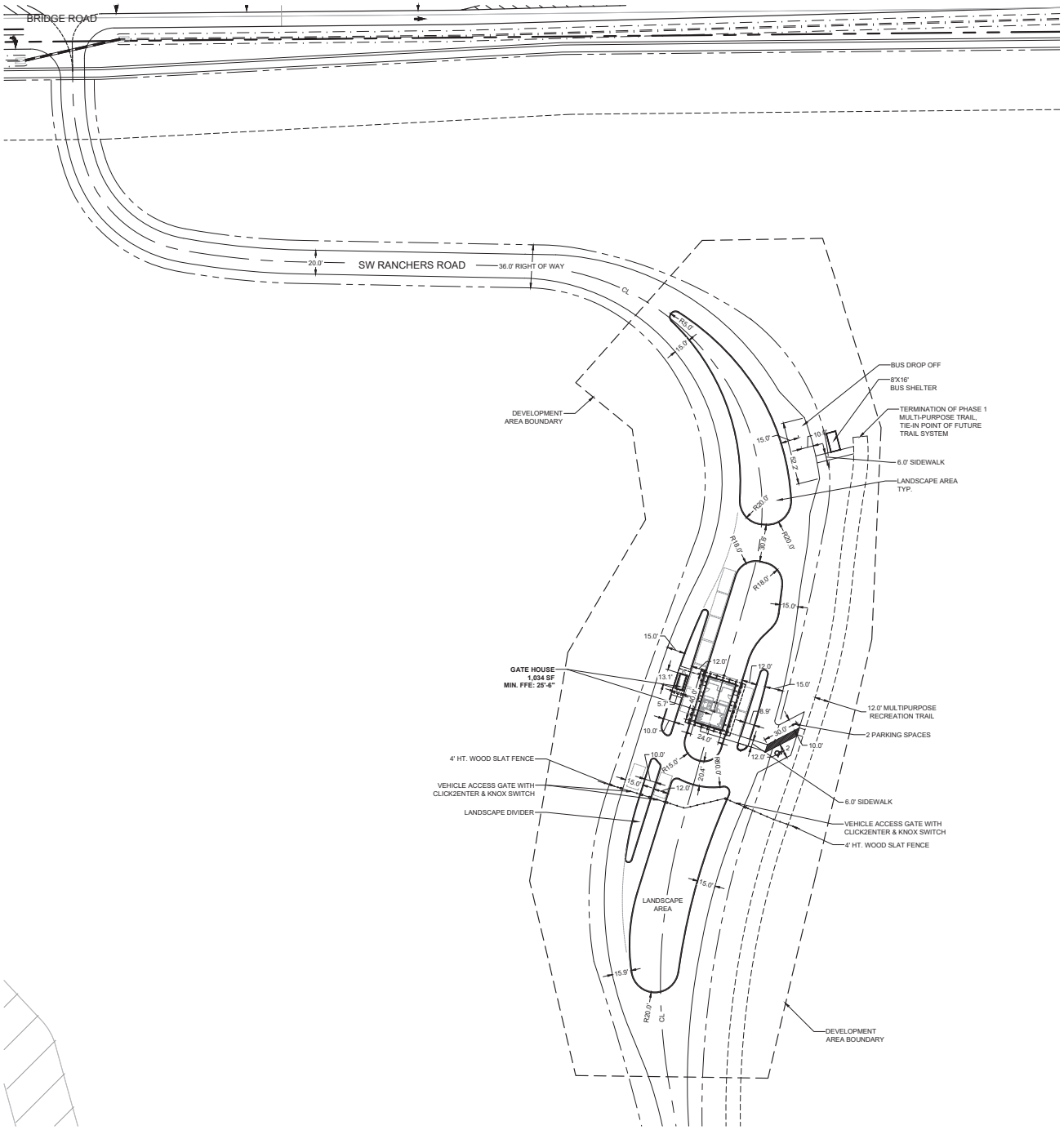
Scale: 1" = 300'-0"

Date:	09/09/2024
Project No.:	21-124.000
Designed By:	RD/LMB
Drawn By:	RD/LMB
Checked By:	RD

Revision Dates:

09/25/2024	RESUBMITTAL
10/08/2024	RESUBMITTAL
05/02/2025	RESUBMITTAL
07/18/2025	RESUBMITTAL

SP-6
of 11



LAND USE LEGEND

- WETLAND PRESERVE
- 50' WETLAND BUFFER PRESERVE
- 25' GOLF COURSE BUFFER SETBACK
- GOLF TURF AREA
- UPLAND PRESERVE AREA
- AGRICULTURAL AREA
- FORMER AGRICULTURAL AREAS TO REMAIN

SITE AREA DATA-GATE HOUSE:

DEVELOPMENT AREA:	**3.41 AC (148,437.82 SF)**
IMPERVIOUS AREA:	**0.97 AC (44,427.52 SF)**
PAVEMENT (ROADS, PARKING, SIDEWALK):	**0.94 AC (41,066.66 SF)**
BUILDING COVERAGE (BUS SHELTER & GATEHOUSE):	**0.03 AC (1,150.58 SF)**
PERVIOUS AREA:	**2.44 AC (106,220.58 SF)**
LANDSCAPE:	**2.44 AC (106,220.58 SF)**

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The Ranch PUD

Martin County, FL
Phase 1 Final Site Plan

H:\UDS\Ranch\Ranch Golf Course_21-124\Site\...\DEVELOPMENT PLAN\PHASE 1\SDP_07.16_PHASE 1.DP.dwg

NORTH

0 20' 40' 80'

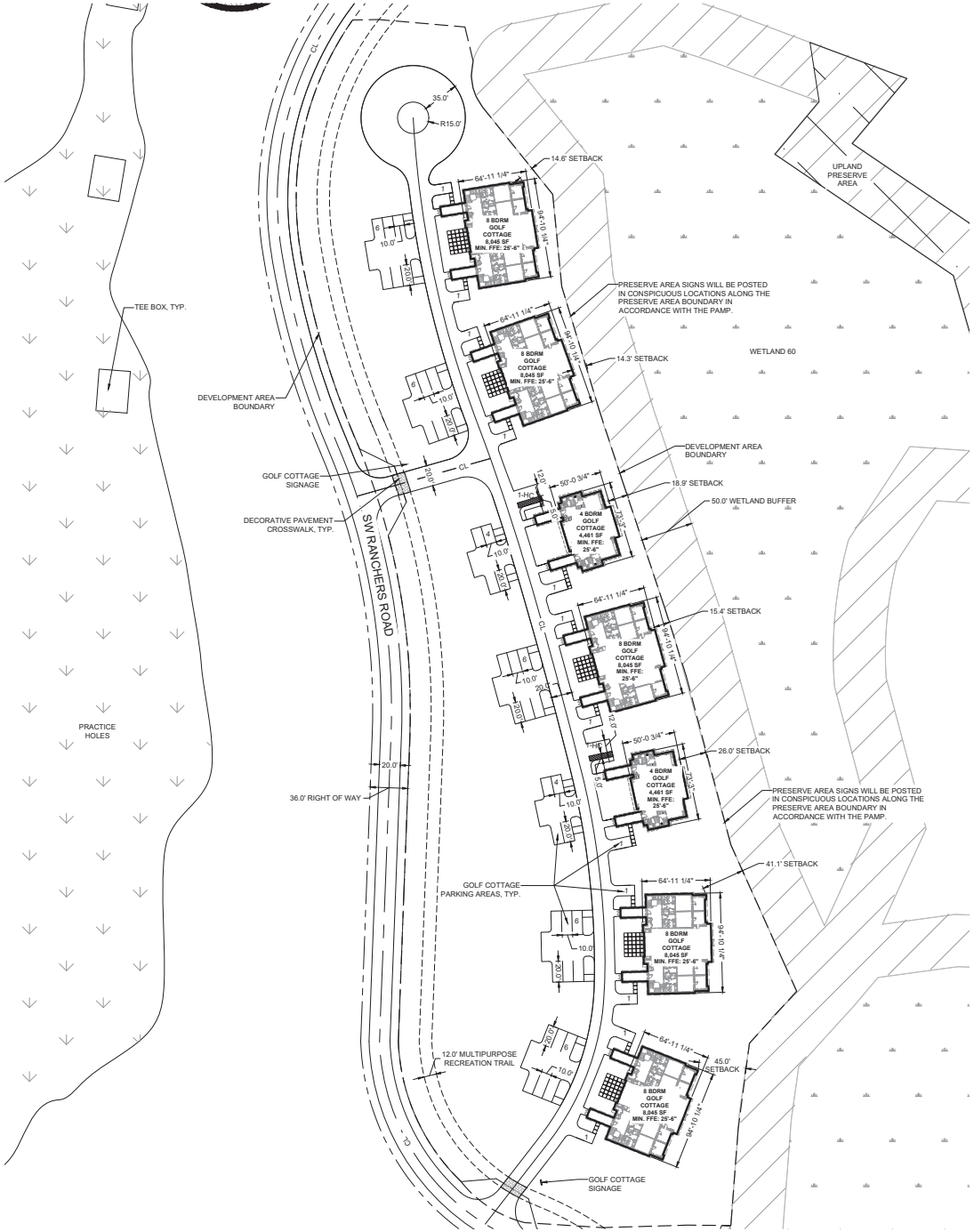
Scale: 1" = 40'-0"

Date:	09/09/2024
Project No.:	21-124.000
Designed By:	RD/LMB
Drawn By:	RD/LMB
Checked By:	RD

Revision Dates:

09/25/2024	RESUBMITTAL
10/08/2024	RESUBMITTAL
05/02/2025	RESUBMITTAL
07/18/2025	RESUBMITTAL

SP-7
of 11



LAND USE LEGEND

- WETLAND PRESERVE
- 50' WETLAND BUFFER PRESERVE
- 25' GOLF COURSE BUFFER SETBACK
- GOLF TURF AREA
- UPLAND PRESERVE AREA
- AGRICULTURAL AREA
- FORMER AGRICULTURAL AREAS TO REMAIN

SITE AREA DATA-GOLF COTTAGES:

DEVELOPMENT AREA:	**7.02 AC (305,652.83 SF)**
IMPERVIOUS AREA:	**2.50 AC (108,917.09 SF)**
PAVEMENT (ROADS, PARKING, SIDEWALK):	**1.63 AC (70,984.88 SF)**
BUILDING COVERAGE (COTTAGES):	**0.87 AC (37,932.21 SF)**
PERVIOUS AREA:	**4.52 AC (196,735.74 SF)**
LANDSCAPE:	**4.52 AC (196,735.74 SF)**

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The Ranch PUD

Martin County, FL
Phase 1 Final Site Plan

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NORTH

0 25' 50' 100'

Scale: 1" = 50'-0"

Date:	09/09/2024
Project No.:	21-124.000
Designed By:	RD/LMB
Drawn By:	RD/LMB
Checked By:	RD

Revision Dates:

09/25/2024	RESUBMITTAL
10/08/2024	RESUBMITTAL
05/02/2025	RESUBMITTAL
07/18/2025	RESUBMITTAL

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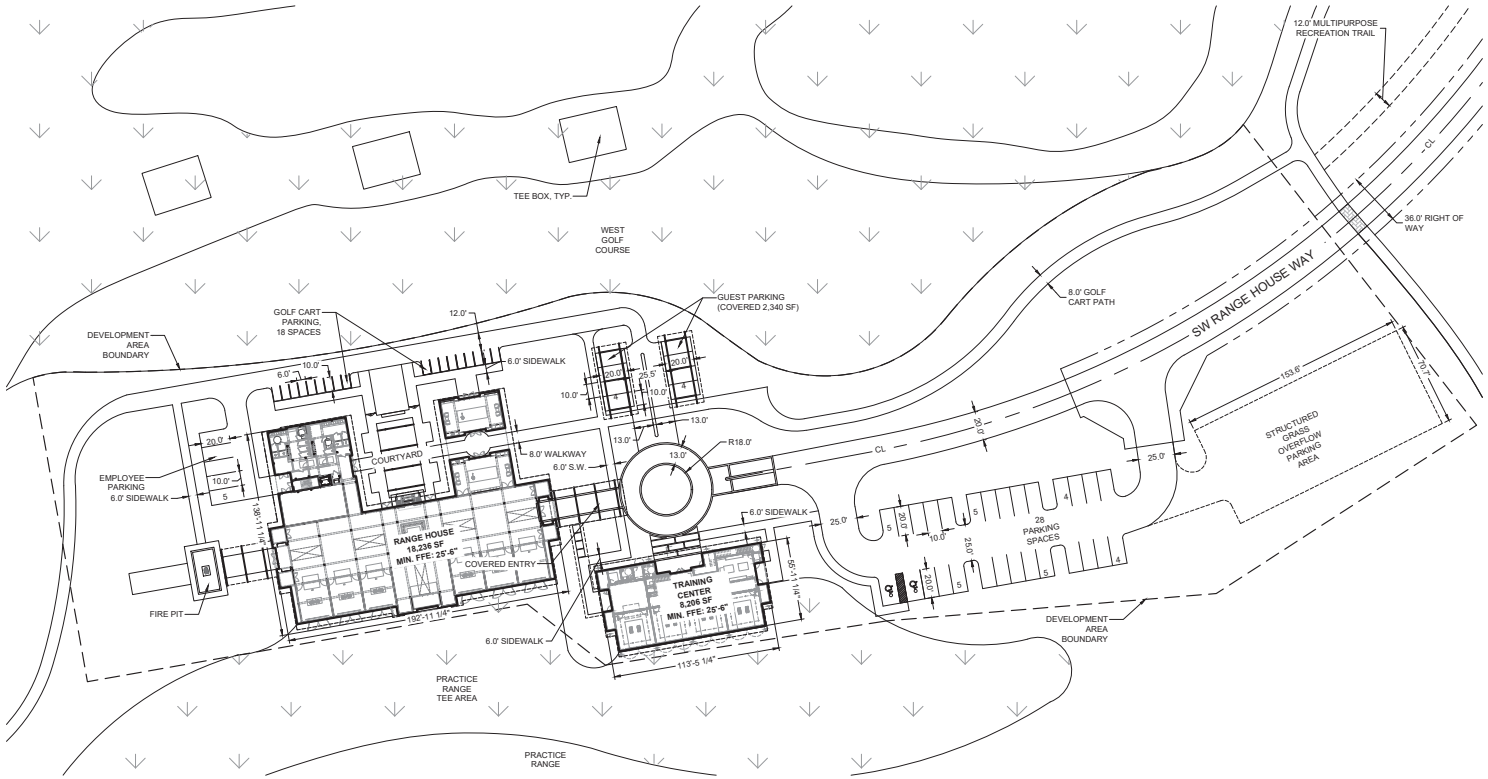
of 11



SITE AREA DATA-RANGE HOUSE/TRAINING CENTER:

DEVELOPMENT AREA:	**4.85 AC (211,567.98 SF)**
IMPERVIOUS AREA:	**2.19 AC (95,760.14 SF)**
PAVEMENT (ROADS, PARKING, SIDEWALK):	**1.65 AC (71,932.25 SF)**
BUILDING COVERAGE (RANGE HOUSE & TRAINING CENTER):	**0.54 AC (23,827.89 SF)**
PERVIOUS AREA:	**2.66 AC (115,807.84 SF)**
LANDSCAPE:	**2.66 AC (115,807.84 SF)**

LAND USE LEGEND

- WETLAND PRESERVE
- 50' WETLAND BUFFER PRESERVE
- 25' GOLF COURSE BUFFER SETBACK
- GOLF TURF AREA
- UPLAND PRESERVE AREA
- AGRICULTURAL AREA
- FORMER AGRICULTURAL AREAS TO REMAIN

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Phase 1 Final Site Plan

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NORTH

0 20' 40' 80'

Scale: 1" = 40'-0"

Date:	09/09/2024
Project No.:	21-124.000
Designed By:	RD/LMB
Drawn By:	RD/LMB
Checked By:	RD

Revision Dates:

09/25/2024	RESUBMITTAL
10/08/2024	RESUBMITTAL
05/02/2025	RESUBMITTAL
07/18/2025	RESUBMITTAL

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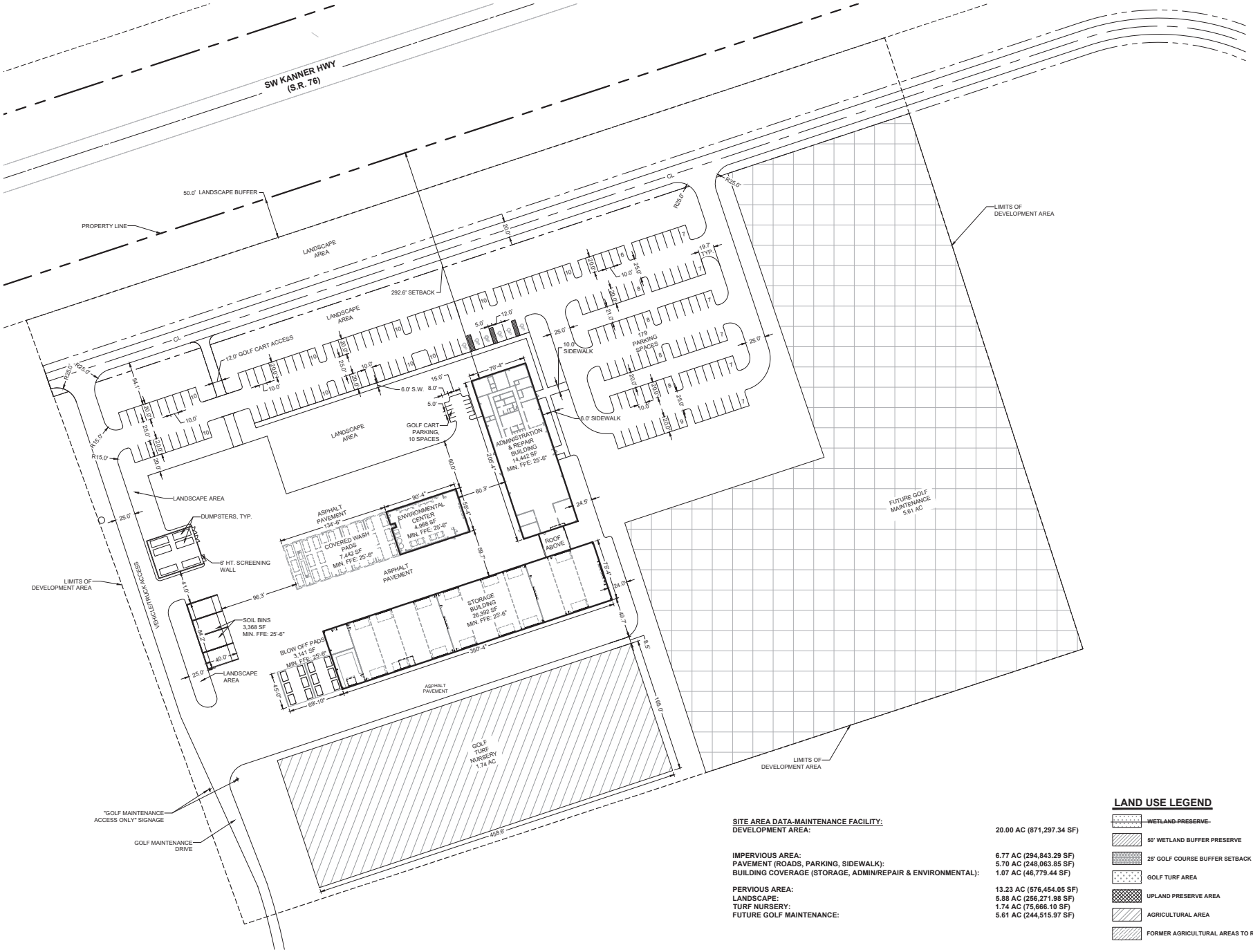
of 11



SITE AREA DATA-MAINTENANCE FACILITY:

DEVELOPMENT AREA:	**20.00 AC (871,297.34 SF)**
IMPERVIOUS AREA:	**6.77 AC (294,843.29 SF)**
PAVEMENT (ROADS, PARKING, SIDEWALK):	**5.70 AC (248,063.85 SF)**
BUILDING COVERAGE (STORAGE, ADMIN/REPAIR & ENVIRONMENTAL):	**1.07 AC (46,779.44 SF)**
PERVIOUS AREA:	**13.23 AC (576,454.05 SF)**
LANDSCAPE:	**5.88 AC (256,271.98 SF)**
TURF NURSERY:	**1.74 AC (75,666.10 SF)**
FUTURE GOLF MAINTENANCE:	**5.61 AC (244,515.97 SF)**

LAND USE LEGEND

- ~~WETLAND PRESERVE~~
- 50' WETLAND BUFFER PRESERVE
- 25' GOLF COURSE BUFFER SETBACK
- GOLF TURF AREA
- UPLAND PRESERVE AREA
- AGRICULTURAL AREA
- FORMER AGRICULTURAL AREAS TO REMAIN

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Martin County, FL
Phase 1 Final Site Plan

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NORTH

0 25' 50' 100'

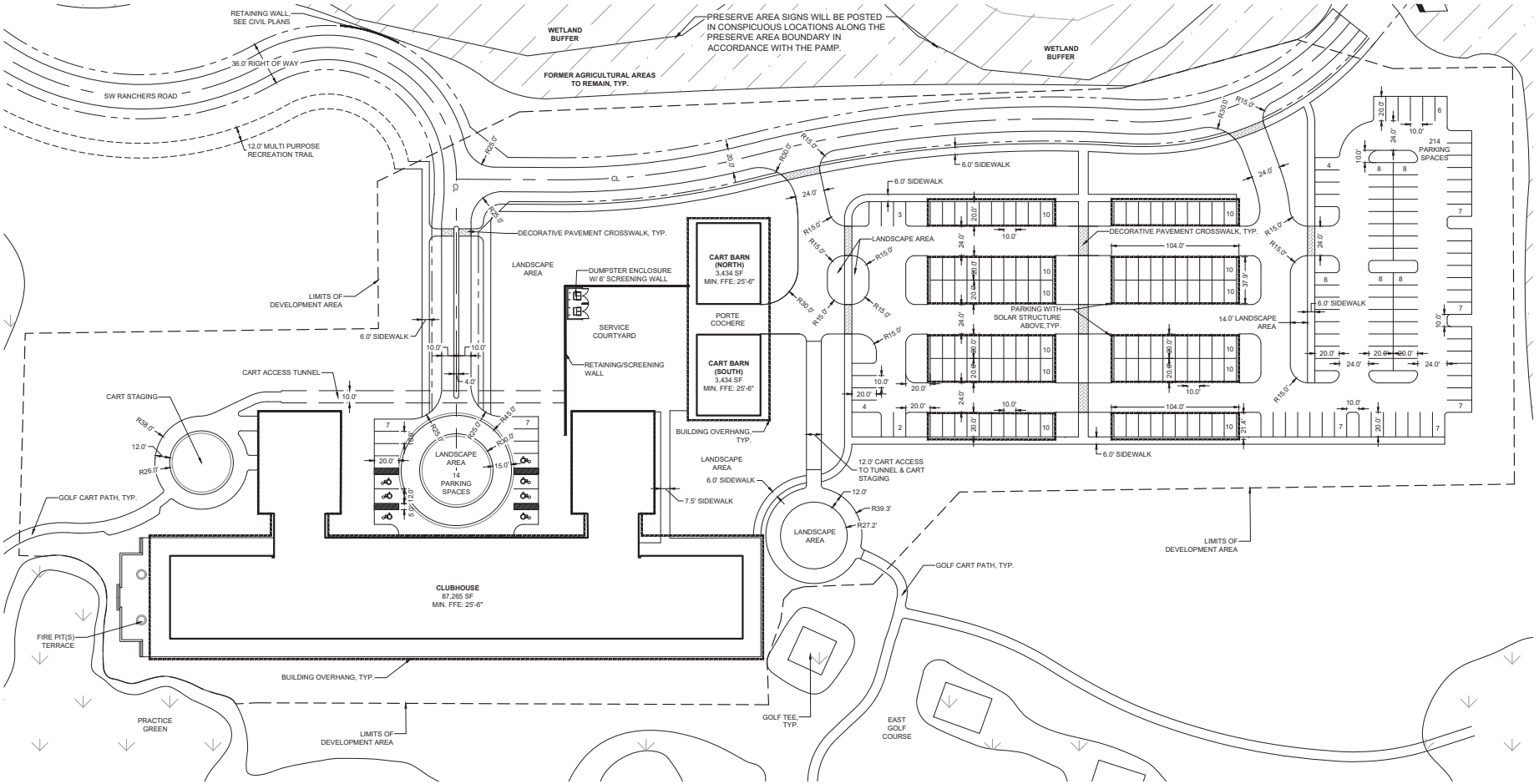
Scale: 1" = 50'-0"

Date:	09/09/2024
Project No.:	21-124.000
Designed By:	RD/LMB
Drawn By:	RD/LMB
Checked By:	RD

Revision Dates:

09/25/2024	RESUBMITTAL
10/08/2024	RESUBMITTAL
05/02/2025	RESUBMITTAL
07/18/2025	RESUBMITTAL

SP-10
of 11



SITE AREA DATA-CLUBHOUSE:

DEVELOPMENT AREA:	**10.20 AC (444,372.88 SF)**
IMPERVIOUS AREA:	**5.47 AC (238,125.36 SF)**
PAVEMENT (ROADS, PARKING, SIDEWALK):	**3.76 AC (163,660.61 SF)**
BUILDING COVERAGE (CLUBHOUSE/CART BARNS):	**1.71 AC (74,464.75 SF)**
PERVIOUS AREA:	**4.73 AC (206,247.52 SF)**
LANDSCAPE:	**4.73 AC (206,247.52 SF)**

LAND USE LEGEND

- WETLAND PRESERVE
- 50' WETLAND BUFFER PRESERVE
- 25' GOLF COURSE BUFFER SETBACK
- GOLF TURF AREA
- UPLAND PRESERVE AREA
- AGRICULTURAL AREA
- FORMER AGRICULTURAL AREAS TO REMAIN

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Martin County, FL
Phase 1 Final Site Plan

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NORTH

0 20' 40' 80'

Scale: 1" = 40'-0"

Date:	09/09/2024
Project No.:	21-124.000
Designed By:	RD/LMB
Drawn By:	RD/LMB
Checked By:	RD

Revision Dates:

09/25/2024	RESUBMITTAL
10/08/2024	RESUBMITTAL
05/02/2025	RESUBMITTAL
07/18/2025	RESUBMITTAL

SP-11
of 11

SFWMD
Wetland Delineation

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

February 28, 2025

** Delivered via email*

Ken Bakst *
Jwa Ranch LLC
13401 Oakmeade
Palm Beach Gardens, FL 33418

Subject: **The Ranch**
Petition for Formal Determination of Wetlands and Surface Waters
Permit No. 43-111066-P
Application No. 240205-42263
Martin County

Your petition for a formal determination of wetlands and other surface waters is approved. This action is taken based on Chapter 373, Part IV of Florida Statutes (F.S.) and the rules in Chapters 62-330 and 62-340, Florida Administrative Code (F.A.C.). Please read this entire agency action thoroughly and understand its contents.

This action is subject to:

- Not receiving a filed request for a Chapter 120, F.S., administrative hearing.
- All referenced Exhibits.

Should you object to these conditions, please refer to the attached "Notice of Rights" which addresses the procedures to be followed if you desire a public hearing or other review of the proposed agency action. Please contact this office if you have any questions concerning this matter. If we do not hear from you in accordance to the "Notice of Rights", we will assume that you concur with the District's action.

CERTIFICATE OF SERVICE

I hereby certify that this Formal Wetland Determination and Notice of Rights have been mailed or electronically submitted to the addressee (and the persons listed on the attached distribution list) on November 7, 2024 in accordance with Section 120.60(3), F.S. Notice was also electronically posted on this date through a link on the home page of the District's website (www.sfwmd.gov/regpermitting).

Sincerely,

Natalie Cole
Administrator, Environmental Resource Bureau

South Florida Water Management District
Formal Wetland Determination Permit No. 43-111066-P
Date Issued: February 28, 2025

Project Name:	The Ranch
Petitioner:	Ken Bakst Jwa Ranch LLC 13401 Oakmeade Palm Beach Gardens, FL 33418
Application No.	240205-42263
Location:	Martin County, See Exhibit 1
Acres:	3,885
Expiration Date:	February 28, 2030
Type:	Certified Survey

Summary
On February 5, 2024 the District received a request for a formal determination of the boundary of wetlands and other surface waters (OSWs) on a 3,885-acre property known as The Ranch.

The landward extent of wetlands and OSWs was established by the petitioner and verified by District staff during multiple site visits conducted in 2023 and 2024, pursuant to Rule 62-330.201 F.A.C. The methodology used for the determination is consistent with Chapter 62-340, F.A.C.

Site Description
The 3,885-acre property is located in Sections 25, 26, 27, 34, 35, and 36 Township 39 South, Range 40 East, Martin County, Florida. The subject property is adjacent to the C-44 Canal and consists of eight (8) tax parcels on the north and south side of SW Kanner Highway. Refer to Exhibit No. 1.0 for a location map.

Vegetative communities on the property consist of native and disturbed uplands, wetlands, and OSWs which range from low to high quality habitat.

Wetland Delineation Procedure
Wetlands and OSWs, as defined by Subsection 373.019(27), F.S. and Chapter 62-340, F.A.C., were identified on the property. Wetlands and OSWs were delineated using the methods established in Chapter 62-340, F.A.C.; more specifically, the wetlands across the site were delineated using a combination of the A, B, and D tests, as well as the wetland definition.

Numerous wetlands were delineated on the property totaling 652.63 acres. OSWs delineated onsite totaled approximately 105.43 acres. A certified survey of these boundaries conducted by GCY, Inc., Professional Surveyors and Mappers, dated February 5, 2025 is depicted as Exhibit No. 2.0.

Wetland delineation information, including delineation data forms and representative photographs of the wetland and upland areas, can be found in the permit file, on the District's RegPermitting site. The wetland delineation data forms were filled out by District staff during the 2023 and 2024 field inspections.

Upland, Wetland, and OSW Descriptions

Onsite upland habitats consist of improved and unimproved pasture, oak cabbage palm forests, mesic pine flatwoods, land designated for cattle operations, and ornamental nursery. Vegetation in these communities include pasture grasses (*Bahia spp.* and smut grasses), hardwood species, including laurel oak (*Quercus laurifolia*) and live oak (*Quercus virginiana*), and cabbage palm (*Sabal palmetto*), slash pine (*Pinus ellottii*), saw palmetto (*Serenoa repens*), gallberry (*Ilex glabra)*, and wiregrass. The ornamental nursery includes plant species such as bamboo, oaks, and palms.

Wetland habitats onsite consist of freshwater marsh, wet prairie, hydric pine flatwoods, and cypress domes.

Vegetation observed in the marsh habitats included, but is not limited to the following species: sawgrass (*Cladium jamaicensis*), arrowhead (*Sagittaria spp*.), maidencane (*Panicum hemitomon*), buttonbush (*Cephalanthus occidentalis*), needlerush (*Juncus efusu*s), bulrush (*Scirpus spp.*), water pennywort (*Hydrocotyle spp*.), smartweed (*Polygonum spp*.), pickerelweed (*Pontederia cordata*), wax myrtle (*Myrica cerifera*), willow (*Salix spp*.), alligator flag (*Thalia geniculat*a), dog fennel (*Eupatorium spp*.), and lizard tail (*Saururus cernuus*).

Vegetation observed in the wet prairie and hydric pine flatwood habitats included, but is not limited to the following species: *Pinus ellottii*, *Ilex glabra*, *Cladium jamaicens*is, *Panicum hemitomon*, spikerush (*Eleocharis spp*.), yellow-eyed grass (*Xyris spp*.), whitetop sedge (*Dichromena colorata*), St. John's wort (*Hypericum spp*.), *Eupatorium capillifolium*, *Myrica cerifera*, *Saururus cernuu*s, softrush (*Juncus spp*.), pink sundew (*Drosera capillaries*), and sedges (*Carex spp*.). No canopy is present within the wet prairie areas.

Vegetation observed in the cypress dome habitats included, but is not limited to the following species: Bald Cypress (*Taxodium distichum*), *Polygonum spp*., *Panicum hemitomon*, *Blechnum serrulatum*, leather fern (*Acrostichum spp*.), *Saururus cernuus*, *Sabal palmetto*, *Quercus laurifolia*, red maple (*Acer rubrum*), and Brazilian pepper (*Schinus terebinthifolius*).

OSWs include agricultural ponds, ditches, and furrows. Surface waters across the site range from shallow to deeper water habitat and are both vegetated and unvegetated. Numerous OSWs onsite are considered suitable foraging habitat for Wood Storks (*Mycteria americana*), as defined by the United States Fish and Wildlife Service.

Soil pits from the wetlands and uplands were dug and the profiles examined by staff; the soil pit data are included in the data forms.

Based on a map produced using National Resource Conservation Service (NRCS) soil data, the soils supporting the site are predominately mapped as:

- 17 - Wabasso sand, 0-2% slopes - *not hydric*
- 21 - Pineda-Riviera fine sands association, 0 to 2 percent slopes - *hydric*
- 38 - Floridana fine sand, frequently ponded, 0 to 1 percent slopes - *hydric*
- 47 - Pinellas fine sand, 0 to 2 percent slopes - *hydric*
- 49 - Riviera fine sand, frequently ponded, 0 to 1 percent slopes - *hydric*
- 52 - Malabar fine sand, high, 0 to 2 percent slopes - *not hydric*
- 53 – Udorthents, 0 to 35 percent slopes - not hydric
- 57 - Chobee muck, frequently ponded, 0 to 1 percent slopes - *hydric*
- 58 - Gator and Tequesta mucks - *hydric*

Hydrologic indicators observed in wetlands included standing water, stain lines, lichen lines, adventitious roots, algal matting, tussocking, hummocking, etc. Hydrologic indicators and their height above/below ground varied depending on the wetland hydroperiods, as well as wetland

community types.

Formal Determination of Wetlands and OSWs
This Formal Determination of Wetlands and OSWs is the District's determination of the landward extent (boundaries) of wetlands and OSWs within the property based on the documentation submitted by the petitioner and field application of Chapter 62-340, F.A.C.

This action does not authorize any construction activities or constitute conceptual approval of any anticipated projects or activities in wetlands or OSWs. It does not in any way establish boundaries of sovereign submerged lands, high water elevations or other elevations/ boundaries.

Pursuant to Subsection 373.421 (4), F.S., the Governing Board may revoke the Formal Wetland Determination (FWD) upon a finding that the petitioner has submitted inaccurate information to the District.

The (FWD) shall be binding for the stated duration provided physical conditions on the property do not change so as to alter the boundaries of wetlands and OSWs waters during that period.

Distribution List

Anthony Adams, EDC, Inc *

Florida Department of Environmental Protection SLERC *

Martin County Property Appraiser *

Florida Department of Environmental Protection - Environmental Administrator *

Exhibits

The following exhibits to this permit are incorporated by reference. The exhibits can be viewed by clicking on the links below or by visiting the District's RegPermitting website (www.sfwmd.gov/regpermitting) and searching under this application number 240205-42263.

Exhibit No. 1.0 Location Map

Exhibit No. 2.0 Wetland and OSW Survey

NOTICE OF RIGHTS

As required by Chapter 120, Florida Statutes, the following provides notice of the opportunities which may be available for administrative hearing pursuant to Sections 120.569 and 120.57, Florida Statutes, or judicial review pursuant to Section 120.68, Florida Statutes, when the substantial interests of a party are determined by an agency. Please note that this Notice of Rights is not intended to provide legal advice. Some of the legal proceedings detailed below may not be applicable or appropriate for your situation. You may wish to consult an attorney regarding your legal rights.

RIGHT TO REQUEST ADMINISTRATIVE HEARING

A person whose substantial interests are or may be affected by the South Florida Water Management District's (District) action has the right to request an administrative hearing on that action pursuant to Sections 120.569 and 120.57, Florida Statutes. Persons seeking a hearing on a District decision which affects or may affect their substantial interests shall file a petition for hearing in accordance with the filing instructions set forth herein within 21 days of receipt of written notice of the decision unless one of the following shorter time periods apply: (1) within 14 days of the notice of consolidated intent to grant or deny concurrently reviewed applications for environmental resource permits and use of sovereign submerged lands pursuant to Section 373.427, Florida Statutes; or (2) within 14 days of service of an Administrative Order pursuant to Section 373.119(1), Florida Statutes. "Receipt of written notice of agency decision" means receipt of written notice through mail, electronic mail, posting, or publication that the District has taken or intends to take final agency action. Any person who receives written notice of a District decision and fails to file a written request for hearing within the timeframe described above waives the right to request a hearing on that decision.

If the District takes final agency action that materially differs from the noticed intended agency decision, persons who may be substantially affected shall, unless otherwise provided by law, have an additional point of entry pursuant to Rule 28-106.111, Florida Administrative Code.

Any person to whom an emergency order is directed pursuant to Section 373.119(2), Florida Statutes, shall comply therewith immediately, but on petition to the board shall be afforded a hearing as soon as possible.

A person may file a request for an extension of time for filing a petition. The District may grant the request for good cause. Requests for extension of time must be filed with the District prior to the deadline for filing a petition for hearing. Such requests for extension shall contain a certificate that the moving party has consulted with all other parties concerning the extension and whether the District and any other parties agree to or oppose the extension. A timely request for an extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

FILING INSTRUCTIONS

A petition for administrative hearing must be filed with the Office of the District Clerk. Filings with the Office of the District Clerk may be made by mail, hand-delivery, or e-mail. Filings by facsimile will not be accepted. A petition for administrative hearing or other document is deemed filed upon receipt during normal business hours by the Office of the District Clerk at the District's headquarters in West Palm Beach, Florida. The District's normal business hours are 8:00 a.m. – 5:00 p.m., excluding weekends and District holidays. Any document received by the Office of the District Clerk after 5:00 p.m. shall be deemed filed as of 8:00 a.m. on the next regular business day.

Additional filing instructions are as follows:

- Filings by mail must be addressed to the Office of the District Clerk, 3301 Gun Club Road, West Palm Beach, Florida 33406.
- Filings by hand-delivery must be delivered to the Office of the District Clerk. Delivery of a petition to the District's security desk does not constitute filing. It will be necessary to request

that the District's security officer contact the Office of the District Clerk. An employee of the District's Clerk's office will receive and process the petition.

- Filings by e-mail must be transmitted to the Office of the District Clerk at clerk@sfwmd.gov. The filing date for a document transmitted by electronic mail shall be the date the Office of the District Clerk receives the complete document.

INITIATION OF ADMINISTRATIVE HEARING

Pursuant to Sections 120.54(5)(b)4. and 120.569(2)(c), Florida Statutes, and Rules 28-106.201 and 28-106.301, Florida Administrative Code, initiation of an administrative hearing shall be made by written petition to the District in legible form and on 8 1/2 by 11 inch white paper. All petitions shall contain:

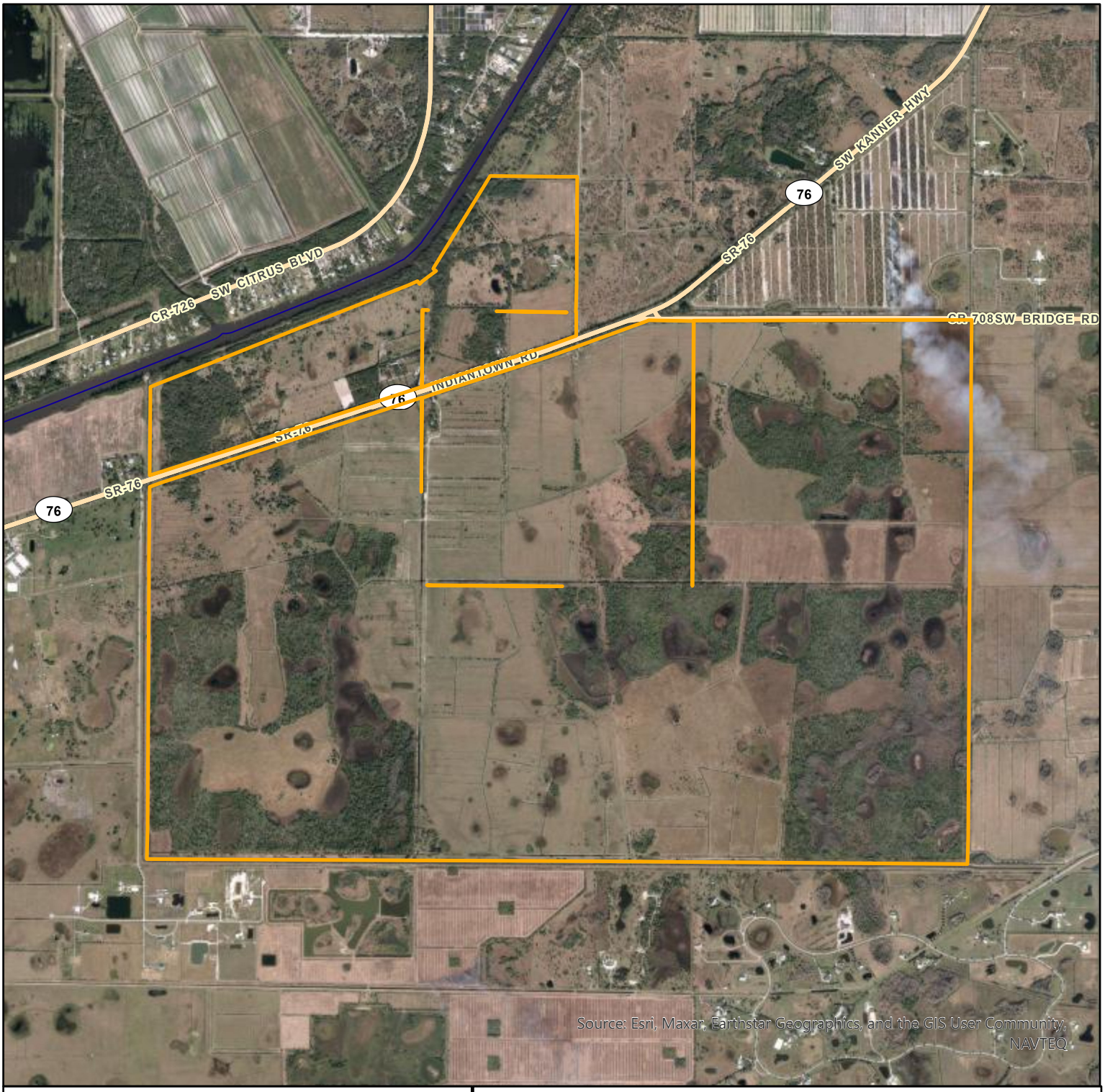
1. Identification of the action being contested, including the permit number, application number, District file number or any other District identification number, if known.
2. The name, address, any email address, any facsimile number, and telephone number of the petitioner, petitioner's attorney or qualified representative, if any.
3. An explanation of how the petitioner's substantial interests will be affected by the agency determination.
4. A statement of when and how the petitioner received notice of the District's decision.
5. A statement of all disputed issues of material fact. If there are none, the petition must so indicate.
6. A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the District's proposed action.
7. A statement of the specific rules or statutes the petitioner contends require reversal or modification of the District's proposed action.
8. If disputed issues of material fact exist, the statement must also include an explanation of how the alleged facts relate to the specific rules or statutes.
9. A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the District to take with respect to the District's proposed action.

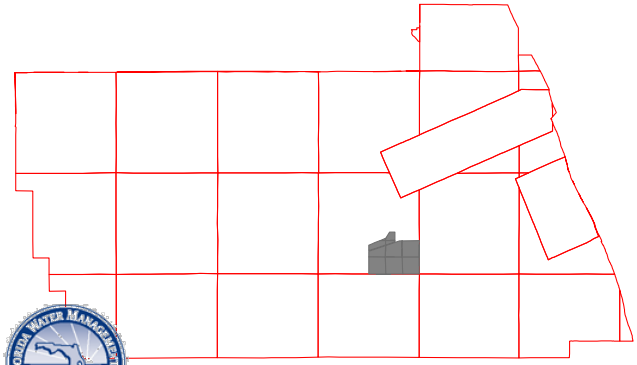
MEDIATION

The procedures for pursuing mediation are set forth in Section 120.573, Florida Statutes, and Rules 28-106.111 and 28-106.401–.405, Florida Administrative Code. The District is not proposing mediation for this agency action under Section 120.573, Florida Statutes, at this time.

RIGHT TO SEEK JUDICIAL REVIEW

Pursuant to Section 120.68, Florida Statutes, and in accordance with Florida Rule of Appellate Procedure 9.110, a party who is adversely affected by final District action may seek judicial review of the District's final decision by filing a notice of appeal with the Office of the District Clerk in accordance with the filing instructions set forth herein within 30 days of rendition of the order to be reviewed, and by filing a copy of the notice with the appropriate district court of appeals via the Florida Courts E-Filing Portal.





Application

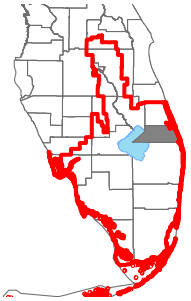
MARTIN COUNTY, FLORIDA

N

Application No: 240205-42263

Permit No: 43-111066-P

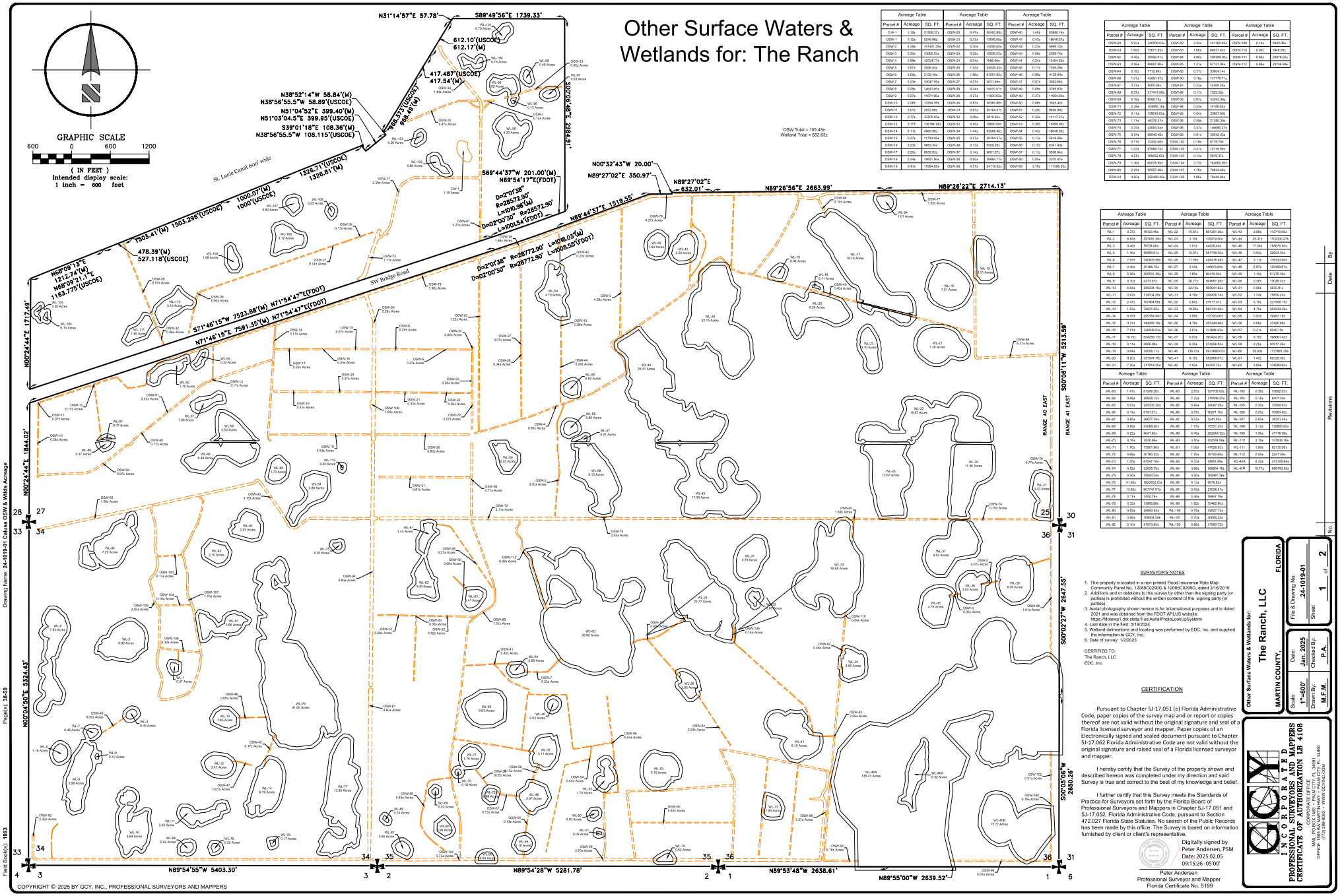
Project Name: The Ranch



Map Date: 2025-02-21

0 0.5 1 Miles

Exhibit No: 1.0



Acreage Table		
Parcel #	Acreage	SQ. FT.
C-W-1	1.18±	51509.37±
OSW-1	0.12±	5240.95±
OSW-2	4.39±	191421.29±
OSW-3	0.30±	13065.53±
OSW-4	0.96±	42024.77±
OSW-5	0.07±	2936.64±
OSW-6	0.05±	2135.40±
OSW-7	0.23±	10047.95±
OSW-8	0.29±	12631.69±
OSW-9	0.27±	11871.95±
OSW-10	0.28±	12254.30±
OSW-11	0.07±	2972.05±
OSW-12	0.77±	33708.03±
OSW-13	3.17±	138184.74±
OSW-14	0.11±	4969.95±
OSW-15	0.27±	11793.39±
OSW-16	0.23±	9853.34±
OSW-17	0.25±	8839.50±
OSW-18	0.34±	14851.56±
OSW-19	0.41±	17864.55±

Acreage Table		
Parcel #	Acreage	SQ. FT.
OSW-20	0.47±	20463.69±
OSW-21	0.32±	13876.00±
OSW-22	0.31±	13596.65±
OSW-23	0.28±	12639.25±
OSW-24	0.04±	1596.95±
OSW-25	1.23±	53638.53±
OSW-26	1.90±	81051.62±
OSW-27	0.07±	3031.94±
OSW-28	0.34±	14915.01±
OSW-29	0.27±	11830.63±
OSW-30	0.83±	36360.95±
OSW-31	0.81±	35164.97±
OSW-32	0.96±	39103.82±
OSW-33	0.45±	19690.09±
OSW-34	1.44±	62568.46±
OSW-35	0.13±	5658.25±
OSW-36	0.16±	6941.40±
OSW-37	0.53±	23084.57±
OSW-38	0.57±	24718.62±

Acreage Table		
Parcel #	Acreage	SQ. FT.
OSW-40	1.40±	60880.14±
OSW-41	0.42±	18648.07±
OSW-42	0.23±	9989.10±
OSW-43	0.06±	2559.74±
OSW-44	0.24±	10454.82±
OSW-45	0.17±	7349.29±
OSW-46	0.09±	4138.64±
OSW-47	0.07±	3092.05±
OSW-48	0.09±	3769.93±
OSW-49	0.27±	11694.54±
OSW-50	0.05±	2042.42±
OSW-51	0.20±	8839.96±
OSW-52	0.32±	14117.21±
OSW-53	0.36±	15464.08±
OSW-54	0.42±	18648.96±
OSW-55	0.13±	5618.06±
OSW-56	0.15±	6541.40±
OSW-57	0.13±	5636.84±
OSW-58	0.05±	2070.47±
OSW-59	2.70±	117585.55±

Acreage Table		
Parcel #	Acreage	SQ. FT.
OSW-60	5.52±	240360.03±
OSW-61	1.60±	70071.83±
OSW-62	0.46±	20069.91±
OSW-63	2.06±	89807.80±
OSW-64	0.18±	7712.89±
OSW-65	1.01±	43981.87±
OSW-66	0.21±	9083.08±
OSW-67	6.37±	277417.09±
OSW-68	0.19±	8098.73±
OSW-69	2.39±	103995.18±
OSW-70	3.11±	135519.03±
OSW-71	1.11±	48278.37±
OSW-72	0.75±	32683.34±
OSW-73	2.94±	89040.40±
OSW-74	0.77±	33440.48±
OSW-75	1.33±	57964.73±
OSW-76	4.27±	185932.68±
OSW-77	1.30±	90035.95±
OSW-78	2.29±	99697.46±
OSW-79	4.80±	209080.45±

Acreage Table		
Parcel #	Acreage	SQ. FT.
OSW-80	0.84±	36581.52±
OSW-81	4.60±	200380.45±
OSW-82	2.93±	127705.52±
OSW-83	2.83±	123308.25±
OSW-84	4.46±	194267.38±
OSW-85	1.31±	57061.27±
OSW-86	0.37±	16271.10±
OSW-87	0.07±	3241.02±
OSW-88	0.37±	16256.72±
OSW-89	0.43±	18753.32±
OSW-90	3.93±	152954.58±
OSW-91	1.00±	47528.83±
OSW-92	1.75±	76123.98±
OSW-93	0.33±	14361.68±
OSW-94	3.85±	168904.18±
OSW-95	4.20±	182967.38±
OSW-96	0.13±	5679.82±
OSW-97	0.53±	23038.51±
OSW-98	0.46±	19867.78±
OSW-99	1.82±	79462.80±
OSW-100	0.75±	32527.10±
OSW-101	0.70±	30408.22±
OSW-102	0.86±	37560.72±

Acreage Table		
Parcel #	Acreage	SQ. FT.
OSW-103	2.08±	90478.08±
OSW-104	25.31±	1102330.27±
OSW-105	17.36±	756670.90±
OSW-106	2.02±	88024.38±
OSW-107	3.11±	135533.96±
OSW-108	2.97±	129439.87±
OSW-109	1.18±	51276.38±
OSW-110	0.38±	13038.32±
OSW-111	1.74±	75829.22±
OSW-112	5.16±	224968.18±
OSW-113	4.78±	208403.34±
OSW-114	0.92±	39907.18±
OSW-115	0.86±	37420.68±
OSW-116	0.21±	9040.10±
OSW-117	5.18±	225981.42±
OSW-118	2.25±	97917.38±
OSW-119	20.90±	1737891.09±
OSW-120	1.43±	62329.39±
OSW-121	3.08±	134189.82±

Acreage Table		
Parcel #	Acreage	SQ. FT.
WL-83	1.41±	61249.28±
WL-84	0.98±	42653.10±
WL-85	5.63±	245235.36±
WL-86	0.16±	6161.21±
WL-87	0.85±	36977.19±
WL-88	0.96±	41806.20±
WL-89	0.22±	9641.80±
WL-90	0.18±	7838.89±
WL-91	1.70±	73961.96±
WL-92	0.89±	38780.32±
WL-93	1.05±	45747.16±
WL-94	0.52±	22655.70±
WL-95	0.30±	12929.24±
WL-96	41.80±	1820552.83±
WL-97	13.95±	607741.07±
WL-98	0.17±	7458.79±
WL-99	0.32±	13965.88±
WL-100	0.82±	35863.92±
WL-101	2.80±	121904.24±
WL-102	0.41±	17873.65±

Acreage Table		
Parcel #	Acreage	SQ. FT.
WL-103	0.13±	5644.68±
WL-104	0.15±	6515.40±
WL-105	3.12±	135810.93±
WL-106	0.25±	10892.70±
WL-107	1.76±	76634.46±
WL-108	1.13±	49215.48±
WL-109	1.08±	47044.80±
WL-110	0.16±	6941.40±
WL-111	1.99±	86684.40±
WL-112	0.95±	41382.60±

Acreage Table		
Parcel #	Acreage	SQ. FT.
WL-1	0.37±	16122.45±
WL-2	0.82±	35708.19±
WL-3	0.45±	19734.06±
WL-5	1.16±	50656.61±
WL-6	7.83±	340999.55±
WL-7	0.46±	20186.10±
WL-8	5.98±	260537.36±
WL-9	0.10±	4273.37±
WL-10	6.64±	289231.19±
WL-11	2.62±	114104.25±
WL-12	2.47±	107464.98±
WL-13	1.82±	79631.05±
WL-14	8.78±	382534.94±
WL-15	3.31±	144240.78±
WL-16	7.51±	326930.25±
WL-17	18.15±	834259.15±
WL-19	0.11±	4866.68±
WL-20	0.84±	36658.71±
WL-21	8.20±	357241.76±

Acreage Table		
Parcel #	Acreage	SQ. FT.
WL-22	15.87±	691281.30±
WL-23	3.10±	135210.50±
WL-24	1.01±	44039.40±
WL-25	12.67±	551749.30±
WL-26	11.36±	494815.48±
WL-27	3.43±	149616.08±
WL-28	1.85±	80419.04±
WL-29	20.77±	904697.29±
WL-30	22.15±	965041.82±
WL-31	4.78±	208438.74±
WL-32	0.83±	37617.31±
WL-33	19.66±	856741.95±
WL-34	3.06±	133125.03±
WL-35	4.78±	207744.85±
WL-36	3.03±	131884.43±
WL-37	9.03±	393424.20±
WL-41	8.18±	356268.87±
WL-42	1.93±	84056.73±

Acreage Table		
Parcel #	Acreage	SQ. FT.
WL-43	2.99±	130277.52±
WL-44	7.23±	315048.25±
WL-45	0.64±	28067.33±
WL-46	0.37±	16271.10±
WL-47	0.07±	3241.02±
WL-48	1.73±	75351.27±
WL-49	6.45±	280944.32±
WL-50	3.93±	152954.58±
WL-51	1.00±	47528.83±
WL-52	1.75±	76123.98±
WL-53	3.33±	145013.69±
WL-54	3.85±	168904.18±
WL-55	4.20±	182967.38±
WL-56	0.13±	5679.82±
WL-57	0.53±	23038.51±
WL-58	9.15±	398561.42±
WL-59	1.68±	73161.96±
WL-60	39.66±	1727552.52±
WL-61	1.63±	71077.05±
WL-62	3.09±	134589.82±

Acreage Table		
Parcel #	Acreage	SQ. FT.
WL-63	2.83±	123308.25±
WL-64	8.88±	386852.25±
WL-65	5.63±	245235.36±
WL-66	0.16±	6161.21±
WL-67	0.85±	36977.19±
WL-68	0.96±	41806.20±
WL-69	0.22±	9641.80±
WL-70	0.18±	7838.89±
WL-71	1.70±	73961.96±
WL-72	0.89±	38780.32±
WL-73	1.05±	45747.16±
WL-74	0.52±	22655.70±
WL-75	0.30±	12929.24±
WL-76	41.80±	1820552.83±
WL-77	13.95±	607741.07±
WL-78	0.17±	7458.79±
WL-79	0.32±	13965.88±
WL-80	0.82±	35863.92±
WL-81	2.80±	121904.24±
WL-82	2.10±	91571.65±

Acreage Table		
Parcel #	Acreage	SQ. FT.
WL-83	1.41±	61249.28±
WL-84	0.98±	42653.10±
WL-85	5.63±	245235.36±
WL-86	0.16±	6161.21±
WL-87	0.85±	36977.19±
WL-88	0.96±	41806.20±
WL-89	0.22±	9641.80±
WL-90	0.18±	7838.89±
WL-91	1.70±	73961.96±
WL-92	0.89±	38780.32±
WL-93	1.05±	45747.16±
WL-94	0.52±	22655.70±
WL-95	0.30±	12929.24±
WL-96	41.80±	1820552.83±
WL-97	13.95±	607741.07±
WL-98	0.17±	7458.79±
WL-99	0.32±	13965.88±
WL-100	0.82±	35863.92±
WL-101	2.80±	121904.24±
WL-102	2.10±	91571.65±

Acreage Table		
Parcel #	Acreage	SQ. FT.
WL-103	0.13±	5644.68±
WL-104	0.15±	6515.40±
WL-105	3.12±	135810.93±
WL-106	0.25±	10892.70±
WL-107	1.76±	76634.46±
WL-108	1.13±	49215.48±
WL-109	1.08±	47044.80±
WL-110	0.16±	6941.40±
WL-111	1.99±	86684.40±
WL-112	0.95±	41382.60±

Acreage Table		
Parcel #	Acreage	SQ. FT.
WL-113	4.78±	208403.34±
WL-114	0.92±	39907.18±
WL-115	0.86±	37420.68±
WL-116	0.21±	9040.10±
WL-117	5.18±	225981.42±
WL-118	2.25±	97917.38±
WL-119	20.90±	1737891.09±
WL-120	1.43±	62329.39±
WL-121	3.08±	134189.82±

Acreage Table		
Parcel #	Acreage	SQ. FT.
WL-123	0.56±	24267.60±
WL-124	0.16±	6937.42±
WL-125	0.64±	28067.33±
WL-126	0.30±	13065.53±
WL-127	0.13±	5679.82±
WL-128	0.53±	23038.51±
WL-129	0.98±	42653.10±
WL-130	0.37±	16271.10±
WL-131	0.07±	3241.02±
WL-132	1.73±	75351.27±
WL-133	6.45±	280944.32±
WL-134	0.73±	31884.43±
WL-135	0.96±	41806.20±
WL-136	0.22±	9641.80±
WL-137	0.18±	7838.89±
WL-138	1.70±	73961.96±
WL-139	0.89±	38780.32±
WL-140	1.05±	45747.16±
WL-141	0.52±	22655.70±
WL-142	0.30±	12929.24±
WL-143	41.80±	1820552.83±
WL-144	13.95±	607741.07±
WL-145	0.17±	7458.79±
WL-146	0.32±	13965.88±
WL-147	0.82±	35863.92±
WL-148	2.80±	121904.24±
WL-149	2.10±	91571.65±

Acreage Table		
Parcel #	Acreage	SQ. FT.
WL-150	0.13±	5644.68±
WL-151	0.15±	6515.40±
WL-152	3.12±	135810.93±
WL-153	0.25±	10892.70±
WL-154	1.76±	76634.46±
WL-155	1.13±	49215.48±
WL-156	1.08±	47044.80±
WL-157	0.16±	6941.40±
WL-158	1.99±	86684.40±
WL-159	0.95±	41382.60±

Acreage Table		
Parcel #	Acreage	SQ. FT.
WL-160	4.78±	208403.34±
WL-161	0.92±	39907.18±
WL-162	0.86±	37420.68±
WL-163	0.21±	9040.10±
WL-164	5.18±	225981.42±
WL-165	2.25±	97917.38±
WL-166	20.90±	1737891.09±
WL-167	1.43±	62329.39±
WL-168	3.08±	134189.82±

Acreage Table		
Parcel #	Acreage	SQ. FT.
WL-169	0.56±	24267.60±
WL-170	0.16±	6937.42±
WL-171	0.64±	28067.33±
WL-172	0.30±	13065.53±
WL-173	0.13±	5679.82±
WL-174	0.53±	23038.51±
WL-175	0.98±	42653.10±
WL-176	0.37±	16271.10±
WL-177	0.07±	3241.02±
WL-178	1.73±	75351.27±
WL-179	6.45±	280944.32±
WL-180	3.93±	152954.58±
WL-181	1.00±	47528.83±
WL-182	1.75±	76123.98±
WL-183	3.33±	145013.69±
WL-184	3.85±	168904.18±
WL-185	4.20±	182967.38±
WL-186	0.13±	5679.82±
WL-187	0.53±	23038.51±
WL-188	0.46±	19867.78±
WL-189	1.82±	79462.80±
WL-190	0.75±	32527.10±
WL-191	0.70±	30408.22±
WL-192	0.86±	37560.72±

Acreage Table		
Parcel #	Acreage	SQ. FT.
WL-193	2.08±	90478.08±
WL-194	0.15±	6407.40±
WL-195	0.30±	12958.93±
WL-196	0.25±	10883.42±
WL-197	0.83±	36201.45±
WL-198	0.12±	5068.50±
WL-199	1.18±	47776.08±
WL-110	3.18±	137830.16±
WL-111	1.89±	82138.86±
WL-112	0.58±	2247.48±
WL-40A	6.33±	275158.84±
WL-40B	15.77±	686753.55±

Acreage Table		
Parcel #	Acreage	SQ. FT.
OSW-99	0.14±	5945.08±
OSW-110	0.04±	1948.28±
OSW-111	0.60±	26078.23±
OSW-112	0.68±	29736.84±

Acreage Table		
Parcel #	Acreage	SQ. FT.
OSW-113	0.31±	13503.96±
OSW-114	0.04±	1948.28±
OSW-115	0.60±	26078.23±
OSW-116	0.68±	29736.84±

SURVEYOR'S NOTES

1. This property is located in a non printed Flood Insurance Rate Map Community Panel No. 12085C0290G & 12085C0295G, dated 3/16/2015.
2. Additions and or deletions to this survey by other than the signing party (or parties) is prohibited without the written consent of the signing party (or parties).
3. Aerial photography shown hereon is for informational purposes and is dated 2021 and was obtained from the FDOT APLUS website: https://fdotewp1.dot.state.fl.us/AerialPhotoLookUpSystem/
4. Last date in the field: 5/19/2024
5. Wetland delineations and locating was performed by EDC, Inc. and supplied the information to GCY, Inc.
6. Date of survey: 1/2/2025

CERTIFIED TO:
The Ranch, LLC
EDC, Inc.

CERTIFICATION

Pursuant to Chapter 5J-17.051 (e) Florida Administrative Code, paper copies of the survey map and or report or copies thereof are not valid without the original signature and seal of a Florida licensed surveyor and mapper. Paper copies of an Electronically signed and sealed document pursuant to Chapter 5J-17.062 Florida Administrative Code are not valid without the original signature and raised seal of a Florida licensed surveyor and mapper.

I hereby certify that the Survey of the property shown and described hereon was completed under my direction and said Survey is true and correct to the best of my knowledge and belief.

I further certify that this Survey meets the Standards of Practice for Surveyors set forth by the Florida Board of Professional Surveyors and Mappers in Chapter 5J-17.051 and 5J-17.052, Florida Administrative Code, pursuant to Section 472.027 Florida State Statutes. No search of the Public Records has been made by this office. The Survey is based on information furnished by client or client's representative.

Digitally signed by Peter Andersen, PSM
Date: 2025.02.05 09:15:26 -05'00'

Peter Andersen
Professional Surveyor and Mapper
Florida Certificate No. 5199

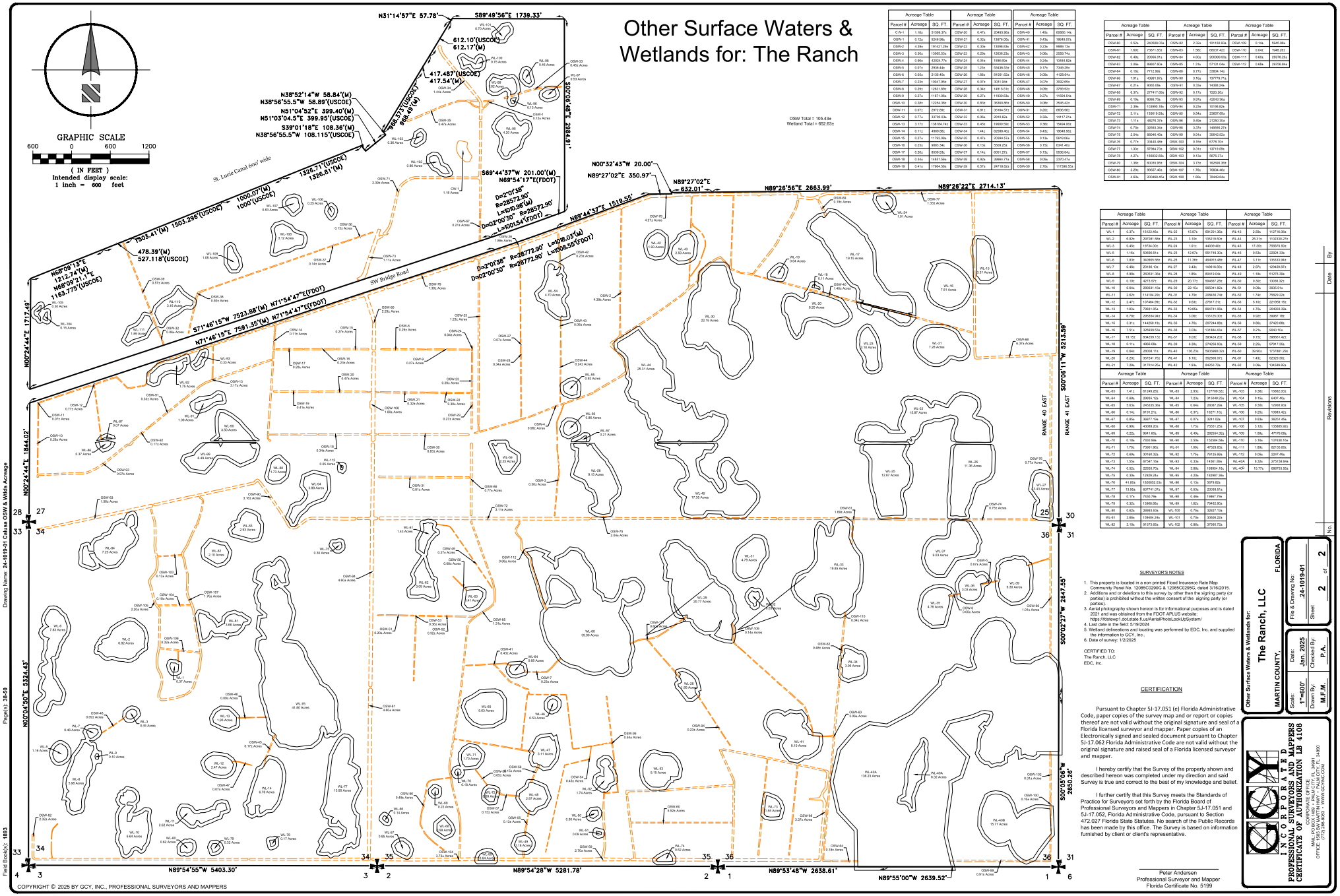
Other Surface Waters & Wetlands for: The Ranch, LLC
MARTIN COUNTY, FLORIDA

Scale: 1"=600'
Drawn By: M.F.M.
Date: Jan. 2025
Checked By: P.A.
File & Drawing No: 24-1019-01
Sheet 1 of 2

GCY PROFESSIONAL SURVEYORS AND MAPPERS
CERTIFICATE OF AUTHORIZATION LB 4108
GCY, INC.
CORPORATE OFFICE
MAILING: PO BOX 1689 • PALM CITY, FL 34991
OFFICE: 2152 SE OCEAN BLVD. • STUART, FL 34996
(772) 286-8363 • WWW.GCYINC.COM

No. | Revisions | Date | By

Drawing Name: 24-1019-01 Calusa OSW & Wtds Acreage
Page(s): 38-50
Field Book(s): 1893



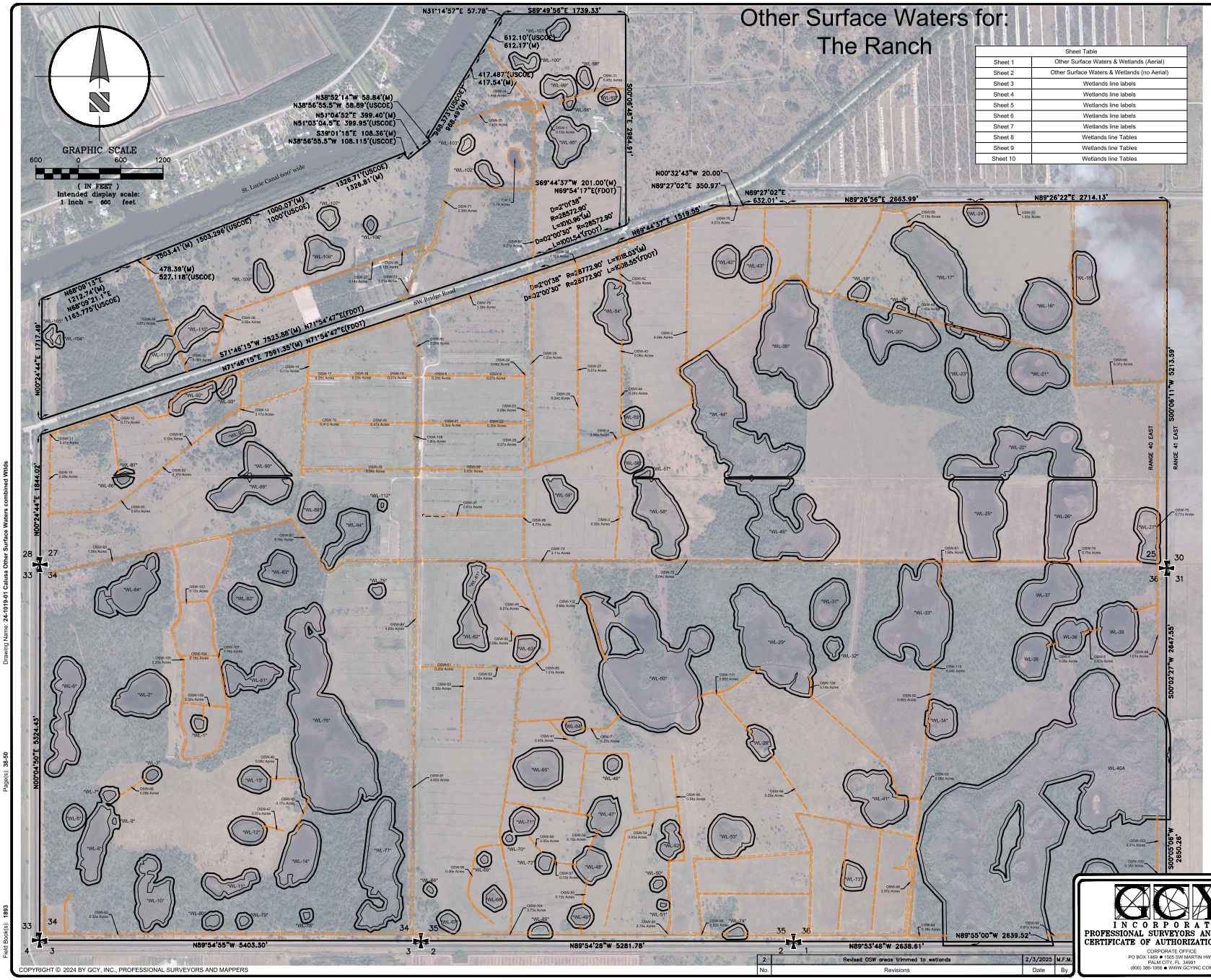
Acreage Table			Acreage Table			Acreage Table		
Parcel #	Acreage	SQ. FT.	Parcel #	Acreage	SQ. FT.	Parcel #	Acreage	SQ. FT.
C-W-1	1.10±	51559.37±	OSW-20	0.47±	20483.96±	OSW-40	1.40±	60890.14±
OSW-1	0.12±	5246.06±	OSW-21	0.32±	13975.09±	OSW-41	0.43±	18648.97±
OSW-2	4.39±	191167.29±	OSW-22	0.30±	13068.60±	OSW-42	0.23±	9989.13±
OSW-3	0.30±	13065.53±	OSW-23	0.29±	12636.23±	OSW-43	0.06±	2550.74±
OSW-4	0.99±	43024.77±	OSW-24	0.04±	1890.69±	OSW-44	0.24±	10464.82±
OSW-5	0.07±	2936.44±	OSW-25	1.23±	53436.50±	OSW-45	0.17±	7349.29±
OSW-6	0.09±	3720.43±	OSW-26	1.06±	81031.62±	OSW-46	0.09±	4128.84±
OSW-7	0.23±	10047.95±	OSW-27	0.07±	3031.84±	OSW-47	0.07±	3092.65±
OSW-8	0.29±	12631.69±	OSW-28	0.34±	14815.51±	OSW-48	0.08±	3769.93±
OSW-9	0.27±	11671.06±	OSW-29	0.27±	11930.63±	OSW-49	0.37±	16094.94±
OSW-10	0.28±	12234.36±	OSW-30	0.83±	35360.96±	OSW-50	0.06±	2645.42±
OSW-11	0.07±	2972.88±	OSW-31	0.81±	35184.91±	OSW-51	0.25±	10830.96±
OSW-12	0.77±	33703.83±	OSW-32	0.06±	2618.62±	OSW-52	0.32±	14117.27±
OSW-13	3.17±	138104.74±	OSW-33	0.45±	19690.58±	OSW-53	0.36±	15494.95±
OSW-14	0.11±	4969.09±	OSW-34	1.44±	62585.46±	OSW-54	0.43±	18648.99±
OSW-15	0.27±	11760.09±	OSW-35	0.47±	20384.57±	OSW-55	0.13±	5810.84±
OSW-16	0.23±	9883.34±	OSW-36	0.15±	5509.23±	OSW-56	0.15±	6341.40±
OSW-17	0.20±	8539.53±	OSW-37	0.14±	6081.27±	OSW-57	0.13±	5636.84±
OSW-18	0.34±	14831.06±	OSW-38	0.92±	39864.77±	OSW-58	0.08±	3370.47±
OSW-19	0.41±	17864.06±	OSW-39	0.57±	24718.62±	OSW-59	2.70±	117390.85±

Acreage Table			Acreage Table			Acreage Table		
Parcel #	Acreage	SQ. FT.	Parcel #	Acreage	SQ. FT.	Parcel #	Acreage	SQ. FT.
OSW-60	5.52±	240360.03±	OSW-82	2.32±	101160.83±	OSW-109	0.14±	5945.08±
OSW-61	1.60±	70071.83±	OSW-83	1.56±	68037.42±	OSW-110	0.04±	1948.28±
OSW-62	0.46±	20069.31±	OSW-84	4.60±	200389.65±	OSW-111	0.60±	26078.25±
OSW-63	2.36±	89807.80±	OSW-85	1.31±	57131.04±	OSW-112	0.68±	29736.84±
OSW-64	0.18±	7712.89±	OSW-86	0.77±	33804.14±			
OSW-65	1.01±	43981.87±	OSW-90	3.16±	137779.71±			
OSW-66	0.21±	9063.08±	OSW-91	0.33±	14388.24±			
OSW-67	6.37±	277417.69±	OSW-92	0.17±	7220.35±			
OSW-68	0.19±	8068.73±	OSW-93	0.97±	42243.36±			
OSW-69	2.39±	103995.18±	OSW-94	0.23±	10196.62±			
OSW-70	3.11±	135519.03±	OSW-95	0.54±	23607.03±			
OSW-71	1.11±	48276.37±	OSW-96	0.49±	21250.30±			
OSW-72	0.75±	32683.34±	OSW-98	0.37±	16068.27±			
OSW-73	2.94±	86040.40±	OSW-99	0.01±	3042.52±			
OSW-74	0.77±	33440.48±	OSW-100	0.16±	6778.70±			
OSW-75	2.93±	127649.73±	OSW-101	0.31±	13716.68±			
OSW-76	4.27±	185932.69±	OSW-103	0.13±	5670.37±			
OSW-77	1.30±	56635.95±	OSW-104	3.73±	162600.35±			
OSW-80	2.29±	99697.46±	OSW-107	1.76±	76834.48±			
OSW-81	4.60±	200480.45±	OSW-108	1.65±	72440.94±			

Acreage Table			Acreage Table			Acreage Table		
Parcel #	Acreage	SQ. FT.	Parcel #	Acreage	SQ. FT.	Parcel #	Acreage	SQ. FT.
WL-1	0.37±	16122.45±	WL-22	15.87±	691201.30±	WL-43	2.08±	91218.00±
WL-2	6.82±	297081.36±	WL-23	3.18±	138210.50±	WL-44	25.31±	1102330.27±
WL-3	0.45±	19734.06±	WL-24	1.01±	44039.48±	WL-45	17.36±	756673.93±
WL-5	1.16±	50656.61±	WL-25	12.67±	551749.30±	WL-46	0.53±	22924.38±
WL-6	7.83±	340999.55±	WL-26	11.36±	494815.48±	WL-47	3.11±	135533.94±
WL-7	0.49±	20186.10±	WL-27	3.43±	149616.09±	WL-48	2.07±	129459.87±
WL-8	5.98±	260537.36±	WL-28	1.85±	80419.04±	WL-49	1.18±	51276.38±
WL-9	0.10±	4273.37±	WL-29	20.77±	904997.29±	WL-50	0.30±	13058.32±
WL-10	0.64±	28022.15±	WL-30	22.15±	965041.83±	WL-51	0.09±	3835.91±
WL-11	2.62±	114104.25±	WL-31	4.79±	208638.74±	WL-52	1.74±	75829.22±
WL-12	2.47±	107464.98±	WL-32	0.63±	27617.31±	WL-53	5.18±	225668.18±
WL-13	1.83±	79831.05±	WL-33	19.66±	856741.95±	WL-54	4.78±	208403.34±
WL-14	8.76±	381554.94±	WL-34	3.06±	133125.03±	WL-55	0.92±	39907.18±
WL-15	3.31±	144240.78±	WL-35	4.78±	207744.85±	WL-56	0.49±	21420.68±
WL-16	7.51±	326930.25±	WL-36	3.03±	131884.43±	WL-57	0.21±	9040.10±
WL-17	16.15±	834259.15±	WL-37	9.03±	393424.20±	WL-58	9.15±	398661.42±
WL-18	0.11±	4866.68±	WL-38	8.30±	361454.93±	WL-59	2.25±	97917.38±
WL-19	0.64±	28008.11±	WL-43	19.23±	837369.02±	WL-60	39.90±	1737801.09±
WL-20	8.20±	357241.76±	WL-61	8.18±	352958.87±	WL-61	1.43±	62329.39±
WL-21	7.28±	317514.26±	WL-62	1.93±	84056.73±	WL-62	3.08±	134189.82±

Acreage Table			Acreage Table			Acreage Table		
Parcel #	Acreage	SQ. FT.	Parcel #	Acreage	SQ. FT.	Parcel #	Acreage	SQ. FT.
WL-63	1.41±	61249.28±	WL-83	2.83±	123709.52±	WL-103	0.84±	36662.03±
WL-64	0.88±	38659.10±	WL-84	7.23±	315048.23±	WL-104	0.15±	6407.49±
WL-65	5.63±	245235.36±	WL-85	0.64±	28067.23±	WL-105	0.30±	12958.93±
WL-66	0.16±	6161.21±	WL-86	0.37±	16271.10±	WL-106	0.25±	10983.42±
WL-67	0.85±	36977.19±	WL-87	0.07±	3241.82±	WL-107	0.83±	36201.45±
WL-68	0.86±	37686.20±	WL-88	1.73±	75051.27±	WL-108	0.32±	13985.92±
WL-69	0.22±	9641.80±	WL-89	0.49±	20934.32±	WL-109	1.68±	47178.08±
WL-70	0.18±	7938.89±	WL-90	3.93±	152554.58±	WL-110	3.18±	137830.16±
WL-71	1.70±	73961.96±	WL-91	1.09±	47528.83±	WL-111	1.89±	82138.86±
WL-72	0.69±	30160.32±	WL-92	1.75±	76123.98±	WL-112	0.58±	2527.69±
WL-73	1.05±	37547.16±	WL-93	0.33±	14351.68±	WL-40A	6.33±	275718.84±
WL-74	0.52±	22835.70±	WL-94	3.85±	168904.18±	WL-40B	15.77±	686753.55±
WL-75	0.30±	12929.24±	WL-95	4.20±	182967.38±			
WL-76	41.80±	1820552.83±	WL-96	0.13±	5679.82±			
WL-77	13.95±	607747.07±	WL-97	0.53±	23038.51±			
WL-78	0.17±	7458.79±	WL-98	0.46±	19867.78±			
WL-79	0.32±	13965.68±	WL-99	1.82±	79462.80±			
WL-80	0.82±	35863.92±	WL-100	0.75±	32527.12±			
WL-81	2.84±	123604.24±	WL-101	0.70±	30638.22±			
WL-82	2.10±	91573.83±	WL-102	0.86±	37560.72±			

Other Surface Waters for: The Ranch



Sheet Table	
Sheet 1	Other Surface Waters & Wetlands (Aerial)
Sheet 2	Other Surface Waters & Wetlands (no Aerial)
Sheet 3	Wetlands line labels
Sheet 4	Wetlands line labels
Sheet 5	Wetlands line labels
Sheet 6	Wetlands line labels
Sheet 7	Wetlands line labels
Sheet 8	Wetlands line Tables
Sheet 9	Wetlands line Tables
Sheet 10	Wetlands line Tables

Acreage Table			Acreage Table			Acreage Table		
Parcel #	Acreage	SQ. FT.	Parcel #	Acreage	SQ. FT.	Parcel #	Acreage	SQ. FT.
OSW-1	0.12±	5240.96±	OSW-20	0.47±	20493.99±	OSW-40	1.40±	60992.14±
C-W-1	1.18±	51599.37±	OSW-21	0.32±	13870.00±	OSW-41	0.43±	18649.07±
OSW-2	4.38±	191421.20±	OSW-22	0.30±	13080.03±	OSW-42	0.23±	9950.13±
OSW-3	0.32±	13968.53±	OSW-23	0.28±	12305.23±	OSW-43	0.09±	3939.74±
OSW-4	0.98±	42824.77±	OSW-24	0.09±	3788.89±	OSW-44	0.24±	10484.82±
OSW-5	0.07±	2836.44±	OSW-25	1.23±	53436.53±	OSW-45	0.17±	7349.28±
OSW-6	0.05±	2130.40±	OSW-26	1.80±	81051.62±	OSW-46	0.09±	4128.64±
OSW-7	0.23±	10047.89±	OSW-27	0.07±	3031.84±	OSW-47	0.07±	3092.66±
OSW-8	0.28±	12631.89±	OSW-28	0.34±	14815.51±	OSW-48	0.09±	3700.00±
OSW-9	0.27±	11871.99±	OSW-29	0.27±	11930.03±	OSW-49	0.27±	11694.54±
OSW-10	0.28±	12264.38±	OSW-30	0.83±	36360.89±	OSW-50	0.09±	3845.42±
OSW-11	0.07±	2972.89±	OSW-31	0.81±	35164.57±	OSW-51	0.20±	8836.98±
OSW-12	0.77±	33700.05±	OSW-32	0.95±	41510.62±	OSW-52	0.32±	14117.21±
OSW-13	3.17±	138184.74±	OSW-33	0.45±	19690.09±	OSW-53	0.36±	15684.06±
OSW-14	0.11±	4993.89±	OSW-34	1.44±	62588.46±	OSW-54	0.43±	18648.56±
OSW-15	0.27±	11793.99±	OSW-35	0.47±	20394.57±	OSW-55	0.13±	5616.06±
OSW-16	0.23±	9833.04±	OSW-36	0.12±	5109.23±	OSW-56	0.19±	8347.40±
OSW-17	0.20±	8539.03±	OSW-37	0.14±	6051.27±	OSW-57	0.13±	5536.84±
OSW-18	0.24±	10451.90±	OSW-38	0.92±	39964.77±	OSW-58	0.55±	23770.47±
OSW-19	0.41±	17864.58±	OSW-39	0.97±	24718.82±	OSW-59	2.70±	117396.06±

Acreage Table			Acreage Table			Acreage Table		
Parcel #	Acreage	SQ. FT.	Parcel #	Acreage	SQ. FT.	Parcel #	Acreage	SQ. FT.
OSW-60	5.52±	240358.83±	OSW-62	2.32±	101100.00±	OSW-110	0.04±	1948.26±
OSW-61	1.69±	73671.83±	OSW-63	1.90±	82537.42±	OSW-111	0.05±	2307.26±
OSW-62	0.48±	20906.01±	OSW-64	4.80±	209389.93±	OSW-112	0.65±	28790.94±
OSW-63	2.06±	89807.66±	OSW-65	1.31±	57131.84±			
OSW-64	0.18±	7712.95±	OSW-66	0.77±	33604.14±			
OSW-66	1.51±	43961.97±	OSW-68	3.16±	137779.71±			
OSW-67	0.21±	9060.08±	OSW-91	0.33±	14388.24±			
OSW-68	6.37±	277417.89±	OSW-92	0.17±	7325.26±			
OSW-69	0.18±	8000.72±	OSW-93	0.97±	42043.38±			
OSW-71	2.38±	103660.19±	OSW-94	0.23±	10198.92±			
OSW-72	3.11±	135519.03±	OSW-95	0.54±	23507.89±			
OSW-73	1.11±	48276.97±	OSW-96	0.49±	21250.30±			
OSW-74	0.76±	32900.34±	OSW-98	3.37±	146890.27±			
OSW-75	2.04±	88846.49±	OSW-99	0.91±	39542.52±			
OSW-76	0.77±	33440.48±	OSW-100	0.18±	8778.79±			
OSW-77	1.33±	57964.73±	OSW-102	0.31±	13719.99±			
OSW-78	4.27±	185832.60±	OSW-104	3.73±	162560.38±			
OSW-79	1.38±	60035.95±	OSW-107	1.70±	74004.40±			
OSW-80	2.28±	99307.48±	OSW-108	1.80±	78449.84±			
OSW-81	4.66±	203468.45±	OSW-109	0.14±	5945.88±			

TOTAL: 105.43± Acres

LEGEND	
OSW	= OTHER SURFACE WATERS
WL	= WETLAND
(M)	= MEASURED
(FDOT)	= FLORIDA DEPARTMENT OF TRANSPORTATION
(USCOE)	= US CORP OF ENGINNERS
	= FIELD LOCATED DITCH

SURVEYORS NOTES

1. This property is located in a non printed Flood Insurance Rate Map Community Panel No. 12085C0290G & 12085C0295G, dated 3/16/2015.
2. Additions and or deletions to this survey by other than the signing party (or parties) is prohibited without the written consent of the signing party (or parties).
3. Aerial photography shown hereon is for informational purposes and is dated 2021 and was obtained from the FDOT APLUS website: https://fdotewp1.dot.state.fl.us/AerialPhotoLookUpSystem/
4. Last date in the field: 5/19/2024
5. Wetland delineations and locating was performed by EDC, Inc. and supplied the information to GCY, Inc.

CERTIFIED TO:
The Ranch, LLC
EDC, Inc.

CERTIFICATION

Pursuant to Chapter 5J-17.051 (e) Florida Administrative Code, paper copies of the survey map and or report or copies thereof are not valid without the original signature and seal of a Florida licensed surveyor and mapper. Paper copies of an Electronically signed and sealed document pursuant to Chapter 5J-17.062 Florida Administrative Code are not valid without the original signature and raised seal of a Florida licensed surveyor and mapper.

I hereby certify that the Survey of the property shown and described hereon was completed under my direction and said Survey is true and correct to the best of my knowledge and belief.

I further certify that this Survey meets the Standards of Practice for Surveyors set forth by the Florida Board of Professional Surveyors and Mappers in Chapter 5J-17.051 and 5J-17.052, Florida Administrative Code, pursuant to Section 472.027 Florida State Statutes. No search of the Public Records has been made by this office. The Survey is based on information furnished by client or client's representative.

Digitally signed by Peter Andersen, PSM
Date: 2025.02.05 09:18:13 -05'00'

Peter Andersen
Professional Surveyor and Mapper
Florida Certificate No. 5199

Rev 1. Added sheet index 11-18-2024 M.F.M.

No.	Revisions	Date	By
2	Revised OSW areas trimmed to wetlands	2/3/2025	M.F.M.

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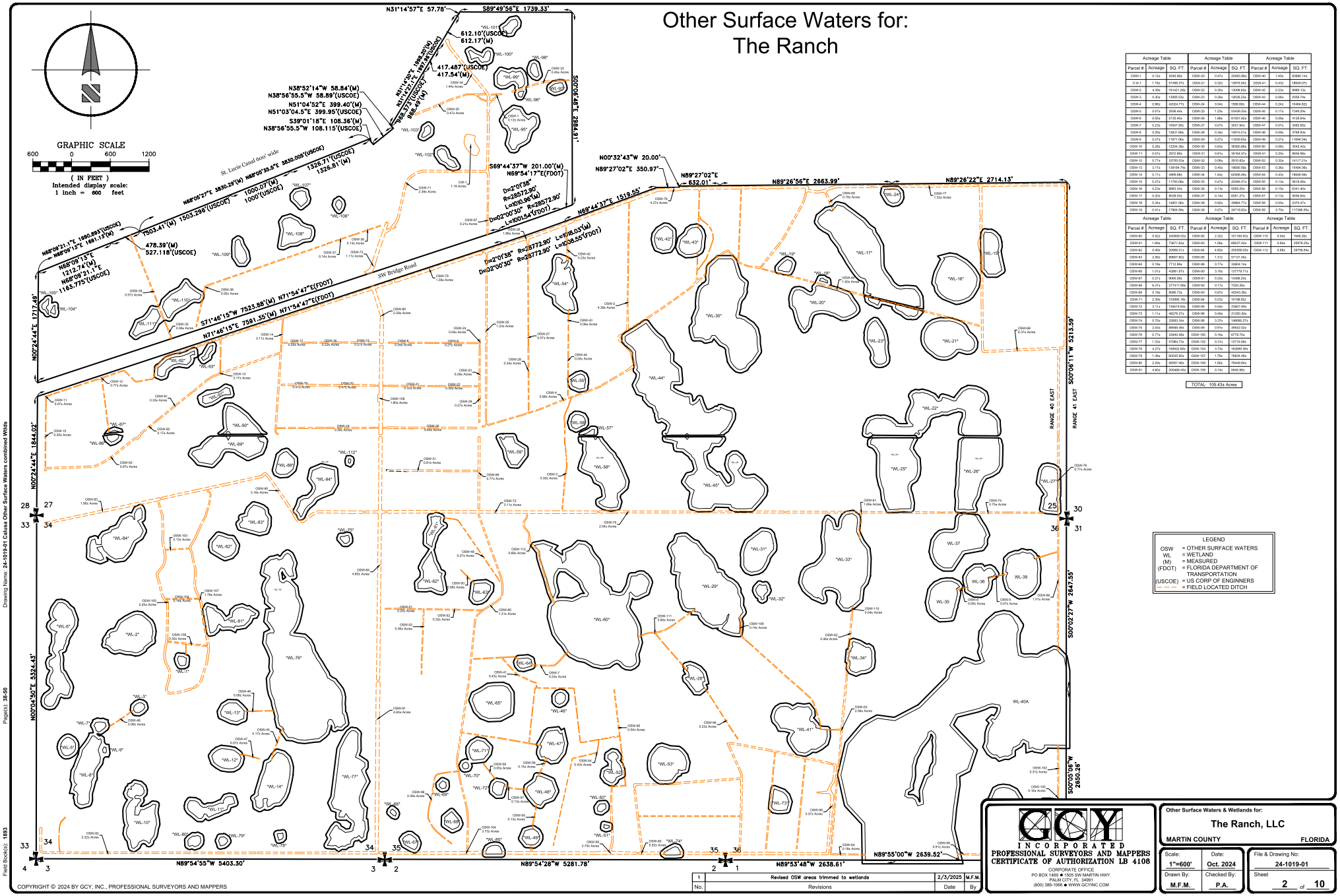
GCY INCORPORATED
PROFESSIONAL SURVEYORS AND MAPPERS
CERTIFICATE OF AUTHORIZATION LB 4108
CORPORATE OFFICE
PO BOX 1469 ● 1505 SW MARTIN HWY.
PALM CITY, FL 34991
(800) 386-1006 ● WWW.GCYINC.COM

Other Surface Waters & Wetlands for:
The Ranch, LLC
MARTIN COUNTY FLORIDA

Scale:	Date:	File & Drawing No:
1"=600'	Oct. 2024	24-1019-01
Drawn By:	Checked By:	Sheet
M.F.M.	P.A.	1 of 10

Drawing Name: 24-1019-01 Calusa Other Surface Waters combined Wlds
Page(s): 38-50
Field Book(s): 1893



Acreage Table			Acreage Table			Acreage Table		
Parcel #	Acreage	SQ. FT.	Parcel #	Acreage	SQ. FT.	Parcel #	Acreage	SQ. FT.
OSW-1	0.12±	5246.96±	OSW-20	0.47±	20483.86±	OSW-40	1.40±	60980.14±
OSW-1	1.76±	51599.37±	OSW-21	0.32±	13978.05±	OSW-41	0.45±	19640.07±
OSW-2	4.39±	191621.28±	OSW-22	0.30±	13098.83±	OSW-42	0.23±	9988.13±
OSW-3	0.30±	13065.53±	OSW-23	0.29±	12638.23±	OSW-43	0.06±	2559.74±
OSW-4	0.95±	42024.77±	OSW-24	0.04±	1896.65±	OSW-44	0.24±	10494.82±
OSW-5	0.07±	2958.44±	OSW-25	1.23±	53436.33±	OSW-45	0.17±	7349.29±
OSW-6	0.05±	2135.46±	OSW-26	1.68±	81051.02±	OSW-46	0.09±	4128.84±
OSW-7	0.23±	10047.95±	OSW-27	0.07±	3031.94±	OSW-47	0.07±	3062.65±
OSW-8	0.29±	12631.68±	OSW-28	0.34±	14915.51±	OSW-48	0.09±	3769.93±
OSW-9	0.27±	11871.08±	OSW-29	0.27±	11630.83±	OSW-49	0.27±	11694.04±
OSW-10	0.28±	12254.38±	OSW-30	0.83±	36360.89±	OSW-50	0.09±	3543.42±
OSW-11	0.07±	2972.89±	OSW-31	0.81±	35164.57±	OSW-51	0.20±	8838.98±
OSW-12	0.77±	33700.33±	OSW-32	0.06±	2610.62±	OSW-52	0.32±	14117.21±
OSW-13	3.13±	136194.74±	OSW-33	0.45±	19556.59±	OSW-53	0.36±	15404.06±
OSW-14	0.11±	4969.84±	OSW-34	1.44±	62686.46±	OSW-54	0.43±	18648.58±
OSW-15	0.27±	11765.08±	OSW-35	0.47±	20394.57±	OSW-55	0.13±	5618.99±
OSW-16	0.23±	9993.34±	OSW-36	0.13±	5539.25±	OSW-56	0.15±	6541.40±
OSW-17	0.20±	8539.53±	OSW-37	0.14±	6051.21±	OSW-57	0.15±	6538.84±
OSW-18	0.34±	14801.58±	OSW-38	0.60±	26068.77±	OSW-58	0.05±	2270.47±
OSW-19	0.41±	17904.58±	OSW-39	0.57±	24710.62±	OSW-59	2.70±	117566.55±

Acreage Table			Acreage Table			Acreage Table		
Parcel #	Acreage	SQ. FT.	Parcel #	Acreage	SQ. FT.	Parcel #	Acreage	SQ. FT.
OSW-60	5.52±	240600.03±	OSW-82	2.32±	101160.83±	OSW-110	0.04±	1948.28±
OSW-61	1.69±	73671.83±	OSW-83	1.58±	68837.42±	OSW-111	9.49±	29378.25±
OSW-62	0.48±	20955.51±	OSW-84	4.60±	200389.05±	OSW-112	0.68±	29758.84±
OSW-63	2.36±	80667.80±	OSW-85	1.31±	57131.04±			
OSW-64	0.16±	7112.99±	OSW-86	0.77±	33604.14±			
OSW-65	1.01±	43981.97±	OSW-90	3.16±	137779.71±			
OSW-67	0.21±	9166.58±	OSW-91	0.33±	14358.24±			
OSW-68	0.37±	27747.68±	OSW-92	0.17±	7230.39±			
OSW-69	0.19±	8098.73±	OSW-93	0.97±	42543.36±			
OSW-71	2.39±	103995.18±	OSW-94	0.23±	10198.82±			
OSW-72	3.11±	135619.93±	OSW-95	0.54±	23607.09±			
OSW-73	1.11±	48279.37±	OSW-96	0.49±	21230.30±			
OSW-74	0.75±	32693.34±	OSW-98	3.37±	146690.27±			
OSW-75	2.94±	80946.49±	OSW-99	0.91±	39642.52±			
OSW-76	0.77±	33440.46±	OSW-100	0.16±	6772.70±			
OSW-77	1.33±	57984.17±	OSW-101	0.31±	13718.59±			
OSW-78	4.27±	186052.65±	OSW-104	3.72±	162069.39±			
OSW-79	1.38±	60035.95±	OSW-107	1.78±	76834.48±			
OSW-80	2.23±	96857.40±	OSW-108	1.60±	73449.84±			
OSW-81	4.60±	200480.49±	OSW-109	0.14±	6649.90±			

No.	Revisions	Date	By
1	Revised OSW areas trimmed to wetlands	2/3/2025	M.F.M.

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PALM CITY, FL 34991
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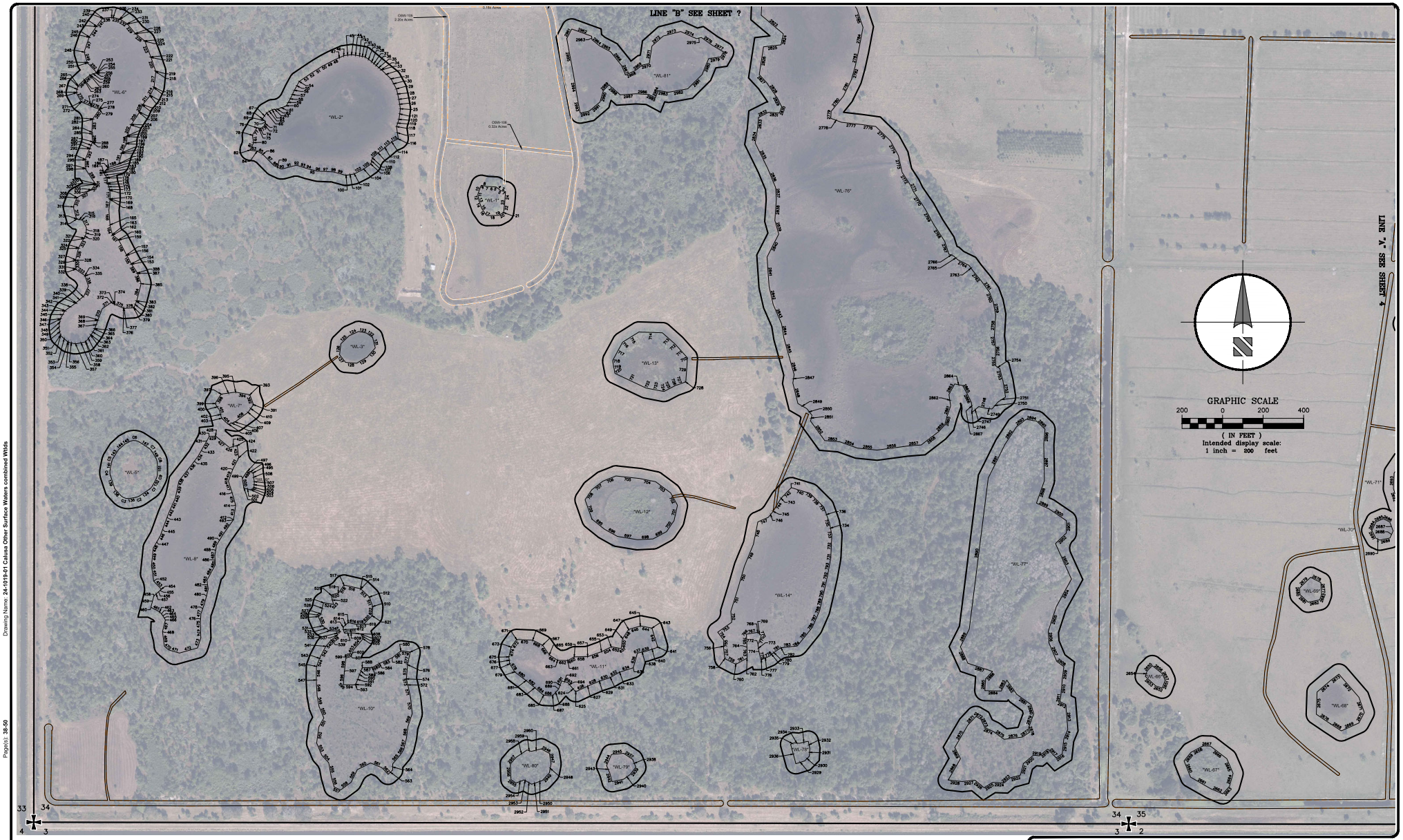
Other Surface Waters & Wetlands for:
The Ranch, LLC
MARTIN COUNTY FLORIDA

Scale:	Date:	File & Drawing No:
1"=600'	Oct. 2024	24-1019-01
Drawn By: M.F.M.	Checked By: P.A.	Sheet 2 of 10

Drawing Name: 24-1019-01 Calusa Other Surface Waters combined Wilds
Page(s): 38-50
Field Book(s): 1893



LINE TABLE SHEETS 8-10

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No.	Revisions	Date	By
1	Added wetland line labels & tables	11/18/2024	M.F.M.

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MARTIN COUNTY FLORIDA

Scale:	Date:	File & Drawing No:
1"=200'	Oct. 2024	24-1019-01
Drawn By: M.F.M.	Checked By: P.A.	Sheet 3 of 10

Drawing Name: 24-1019-01 Calusa Other Surface Waters combined Wlds
Page(s): 38-50
Field Book(s): 1893

LINE TABLE SHEETS 8-10

GRAPHIC SCALE
300 0 300 600
(IN FEET)
Intended display scale:
1 inch = 300 feet

No.	Revisions	Date	By
1	Added wetland line labels & tables	11/18/2024	M.F.M.

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Scale:	Date:	File & Drawing No:
1"=300'	Oct. 2024	24-1019-01
Drawn By: M.F.M.	Checked By: P.A.	Sheet 4 of 10

Drawing Name: 24-1019-01 Calusa Other Surface Waters combined Wlds
Page(s): 38-50
Field Book(s): 1893

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GRAPHIC SCALE
300 0 300 600
(IN FEET)
Intended display scale:
1 inch = 300 feet

LINE TABLE SHEETS 8-10

No.	Revisions	Date	By
1	Added wetland line labels & tables	11/18/2024	M.F.M.

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MARTIN COUNTY FLORIDA

Scale:	Date:	File & Drawing No:
1"=300'	Oct. 2024	24-1019-01
Drawn By:	Checked By:	Sheet
M.F.M.	P.A.	5 of 10

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Drawing Name: 24-1019-01 Calusa Other Surface Waters combined Wtlds
Page(s): 38-50
Field Book(s): 1893

GRAPHIC SCALE

300 0 300 600

(IN FEET)

Intended display scale:
1 inch = 300 feet

LINE TABLE SHEETS 8-10

Drawing Name: 24-1019-01 Calusa Other Surface Waters combined Wlds

Page(s): 38-50

Field Book(s): 1893

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No.	Revisions	Date	By
1	Added wetland line labels & tables	11/18/2024	M.F.M.

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Other Surface Waters & Wetlands for:
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MARTIN COUNTY FLORIDA

Scale:	Date:	File & Drawing No:
1"=300'	Oct. 2024	24-1019-01
Drawn By: M.F.M.	Checked By: P.A.	Sheet 6 of 10

LINE "D" SEE SHEET 7

GRAPHIC SCALE
300 0 300 600
(IN FEET)
Intended display scale:
1 inch = 300 feet

LINE TABLE SHEETS 8-10

No.	Revisions	Date	By
1	Added wetland line labels & tables	11/18/2024	M.F.M.

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Scale:	Date:	File & Drawing No:
1"=300'	Oct. 2024	24-1019-01
Drawn By: M.F.M.	Checked By: P.A.	Sheet 7 of 10

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Drawing Name: 24-1019-01 Calusa Other Surface Waters combined Wtlds
Page(s): 38-50
Field Book(s): 1893

Wetland 1

Line #	Direction	Length
1	N37°02'54"W	1.85'
2	N77°01'44"W	23.16'
3	N62°37'06"W	2.70'
4	N51°08'48"W	24.18'
5	N64°44'35"W	2.97'
6	N86°42'46"W	41.94'
7	N83°08'07"W	2.42'
8	N79°32'43"W	27.33'
9	S28°45'50"E	3.37'
10	S20°45'19"W	43.21'
11	S12°38'22"W	4.47'
12	S10°25'35"E	27.33'
13	S17°06'43"E	4.83'
14	S19°21'40"E	37.39'
15	S28°48'50"E	3.37'
16	S34°22'29"E	39.13'
17	S59°49'25"E	2.34'
18	N88°48'34"E	56.31'
19	N70°27'23"E	3.66'
20	N61°56'09"E	24.52'
21	N36°06'50"E	2.28'
22	N06°45'41"E	47.16'
23	N05°28'16"E	2.41'
24	N04°04'36"E	52.07'

Wetland 2

Line #	Direction	Length
25	N06°43'43"W	2.40'
26	N09°12'16"W	42.74'
27	N12°13'36"W	6.58'
28	N12°54'38"W	48.01'
29	N23°16'48"W	3.73'
30	N28°18'11"W	52.58'
31	N38°17'27"W	2.96'
32	N46°30'25"W	62.72'
33	S00°00'00"E	0.06'
34	N47°45'06"W	3.24'
35	N50°45'59"W	29.67'
36	N50°19'56"W	3.47'
37	N49°48'29"W	24.98'
38	N51°28'59"W	3.35'
39	N53°34'17"W	36.63'
40	N63°28'56"W	3.16'
41	N80°04'16"W	26.21'
42	N80°28'06"W	2.43'
43	N80°47'58"W	37.35'
44	N89°30'32"W	2.40'
45	S81°45'33"W	35.85'
46	S70°40'25"W	4.15'
47	S66°10'20"W	44.32'
48	S63°53'46"W	3.93'
49	S62°45'26"W	59.81'
50	S59°32'54"W	3.59'
51	S57°36'57"W	68.69'
52	S56°32'55"W	3.56'
53	S55°50'20"W	66.24'
54	S42°38'36"W	2.74'
55	S28°37'49"W	46.97'
56	S27°33'56"W	3.83'
57	S25°33'37"W	42.91'
58	S27°06'34"W	4.17'
59	S30°12'48"W	36.50'
60	S54°20'36"W	5.59'
61	S70°15'54"W	41.15'
62	S76°48'47"W	2.46'
63	S83°43'49"W	22.05'
64	S86°28'38"W	3.63'
65	S81°08'14"W	29.11'
66	S47°35'36"W	2.76'
67	S34°55'43"W	33.12'
68	S00°00'00"E	2.69'
69	S50°51'40"E	17.64'
70	S27°10'22"E	2.70'
71	S11°25'38"W	14.99'
72	S36°31'23"W	2.94'
73	S51°58'49"W	24.88'
74	S76°04'57"W	2.47'
75	N74°01'35"W	15.63'
76	S65°54'09"W	2.10'
77	S30°47'12"W	40.13'
78	S16°56'10"W	3.36'
79	S19°26'52"E	34.28'

Wetland 2

Line #	Direction	Length
80	S08°47'17"W	2.43'
81	S26°16'13"W	37.31'
82	S00°00'00"E	2.59'
83	S82°25'06"E	33.66'
84	S70°29'46"E	2.55'
85	S66°05'09"E	28.12'
86	S63°45'18"E	4.07'
87	S44°47'34"E	75.16'
88	S53°40'25"E	2.97'
89	S65°02'58"E	36.20'
90	N90°00'00"E	7.15'
91	N75°16'54"E	70.76'
92	S88°27'35"E	2.40'
93	S72°26'21"E	58.43'
94	S74°17'42"E	2.49'
95	S76°11'07"E	44.90'
96	S81°43'23"E	2.43'
97	S87°25'13"E	74.38'
98	S81°00'49"E	2.43'
99	S74°49'29"E	63.48'
100	S87°12'17"E	2.40'
101	N80°09'10"E	38.31'
102	N68°16'26"E	3.80'
103	N62°47'33"E	48.83'
104	N57°59'09"E	3.43'
105	N54°52'43"E	39.67'
106	N36°29'04"E	2.54'
107	N14°33'32"E	28.20'
108	N34°35'09"E	2.92'
109	N48°13'16"E	34.27'
110	N50°18'38"E	3.56'
111	N53°02'03"E	38.78'
112	N50°42'42"E	3.37'
113	N49°37'31"E	40.15'
114	N59°16'53"E	4.35'
115	N64°41'01"E	32.06'
116	N30°22'07"E	2.05'
117	N07°47'35"W	58.22'
118	N05°21'40"E	2.41'
119	N17°58'49"E	34.19'
120	N15°33'44"E	5.08'
121	N07°46'44"E	48.84'

Wetland 3

Line #	Direction	Length
122	N53°22'48"W	36.92'
123	N78°34'49"W	40.78'
124	S65°52'12"W	50.94'
125	S45°48'01"W	56.46'
126	S07°06'38"W	54.39'
127	S37°44'56"E	48.07'
128	S85°25'17"E	55.04'
129	N59°43'18"E	60.34'
130	N41°30'42"E	60.50'
131	N14°35'25"W	52.43'

Wetland 5

Line #	Direction	Length
132	S27°33'50"W	37.55'
134	S55°40'35"W	56.99'
136	S79°59'47"W	31.08'
138	N42°19'05"W	41.59'
139	N18°17'12"W	70.48'
141	N11°14'54"W	43.51'
143	N32°07'32"E	48.05'
144	N47°52'30"E	42.23'
145	N61°58'26"E	26.19'
147	S56°58'27"E	53.82'
149	S30°42'39"E	39.02'
151	S00°00'00"E	52.42'

Wetland 5

C #	L	R	D
C1	24.53	50.0	028°08'44"
C2	21.22	50.0	024°19'12"
C3	50.34	50.0	057°41'08"
C4	25.77	50.0	029°32'06"
C5	18.22	50.0	020°52'38"
C6	53.31	50.0	061°05'07"
C7	22.89	50.0	026°13'48"
C8	26.80	50.0	030°42'39"
C9	24.05	50.0	027°33'50"

Wetland 6

Line #	Direction	Length
153	N90°00'00"W	2.00'
154	N00°00'00"E	3.40'
155	N28°35'01"W	45.17'
156	N90°00'00"W	1.89'
157	N00°00'00"E	8.52'
158	N27°22'22"W	81.83'
159	N90°00'00"W	1.82'
160	N04°28'56"W	67.70'
161	N52°16'12"E	35.12'
162	N90°00'00"W	2.75'
163	N00°00'00"E	6.17'
164	N15°07'38"W	41.23'
165	N03°33'57"W	10.17'
166	N04°28'56"W	67.70'
167	N06°13'01"E	54.34'
168	N90°00'00"W	1.07'
169	N00°00'00"E	2.40'
170	N90°00'00"W	1.17'
171	N01°33'51"W	42.26'
172	N90°00'00"W	1.23'
173	N00°00'00"E	4.90'
174	N17°59'15"W	26.35'
175	N90°00'00"W	1.59'
176	N00°00'00"E	9.30'
177	N08°25'51"W	21.47'
178	N90°00'00"W	1.38'
179	N00°00'00"E	3.00'
180	N33°42'22"W	26.24'
181	N90°00'00"W	2.00'
182	N00°00'00"E	3.00'
183	S33°42'22"E	0.72'
184	N90°00'00"W	1.89'
185	N41°03'50"W	30.36'
186	N00°00'00"E	2.58'
187	N90°00'00"W	1.82'
188	N71°52'39"E	49.66'
189	N00°00'00"E	1.59'
190	N90°00'00"W	1.53'
191	N15°27'11"E	54.15'
192	N90°00'00"W	0.87'
193	N00°00'00"E	2.40'
194	N90°00'00"W	1.82'
195	N27°18'37"E	48.17'
196	N00°00'00"E	3.52'
197	N90°00'00"W	1.29'
198	N04°05'55"E	34.39'
199	N90°00'00"W	1.11'
200	N00°00'00"E	2.40'
201	N90°00'00"W	1.63'
202	N19°34'08"E	55.96'
203	N00°00'00"E	4.58'
204	N90°00'00"W	2.00'
205	N33°36'03"E	69.50'
206	N00°00'00"E	3.01'
207	N90°00'00"W	1.69'
208	N22°07'12"E	35.43'
209	N00°00'00"E	4.15'
210	N90°00'00"W	2.21'
211	N40°10'58"E	55.39'
212	N00°00'00"E	2.62'
213	N90°00'00"W	1.76'
214	N25°02'02"E	40.72'
215	N00°00'00"E	3.77'
216	N90°00'00"W	1.33'
217	N06°06'04"E	77.60'
218	N90°00'00"W	1.07'
219	N00°00'00"E	4.71'
220	N18°33'53"W	69.23'
221	N90°00'00"W	1.61'
222	N00°00'00"E	4.35'
223	N20°52'39"W	81.12'
224	N90°00'00"W	1.68'
225	N00°00'00"E	2.13'
226	N52°05'16"W	55.23'
227	N90°00'00"W	2.74'
228	N00°00'00"E	2.65'
229	N39°38'54"W	58.78'
230	N90°00'00"W	2.19'
231	N00°00'00"E	1.98'
232	N57°05'47"W	39.76'
233	N90°00'00"W	3.05'
234	N00°00'00"E	1.49'

Wetland 6

Line #	Direction	Length
235	N76°15'42"W	33.11'
236	S00°00'00"E	0.91'
237	N90°00'00"W	15.77'
238	S85°17'26"W	34.10'
239	S00°00'00"E	1.30'
240	N90°00'00"W	2.13'
241	S37°47'00"W	47.42'
242	S00°00'00"E	2.75'
243	N90°00'00"W	2.02'
244	N90°00'00"W	2.75'
245	S00°00'00"E	2.96'
246	N90°00'00"W	1.60'
247	S18°19'54"W	73.19'
248	S00°00'00"E	7.58'
249	S16°51'42"E	49.36'
250	N90°00'00"E	1.56'
251	S00°00'00"E	2.46'
252	S43°37'26"E	63.82'
253	N90°00'00"E	4.57'
254	S70°42'27"W	2.36'
255	S00°00'00"E	1.68'
256	S25°02'07"W	57.38'
257	N63°37'26"W	0.08'
258	S49°23'15"W	44.84'
259	S00°00'00"E	1.62'
260	N90°00'00"W	2.63'
261	S89°04'27"W	38.09'
262	S00°00'00"E	2.20'
263	N90°00'00"W	2.46'
264	S46°18'26"W	39.17'
265	S00°00'00"E	2.35'
266	N90°00'00"W	1.50'
267	S14°03'32"W	31.80'
268	N90°00'00"E	0.90'
269	S00°00'00"E	3.38'
270	S28°48'56"E	47.89'
271	N90°00'00"E	1.86'
272	S00°00'00"E	1.74'
273	S65°56'44"E	48.85'
274	N90°00'00"E	3.89'
275	S00°00'00"E	1.64'
276	S69°46'11"E	39.59'
277	N90°00'00"E	4.46'
278	S00°00'00"E	2.40'
279	N90°00'00"E	2.05'
280	S35°18'03"W	55.11'
281	S00°00'00"E	2.89'
282	N90°00'00"W	1.27'
283	S03°30'44"W	64.34'
284	N90°00'00"E	1.13'
285	S00°00'00"E	16.54'
286	S04°28'19"E	31.03'
287	N90°00'00"E	1.29'
288	S00°00'00"E	2.40'
289	N90°00'00"W	1.75'
290	S24°31'26"W	31.09'
291	S21°47'45"W	54.13'
292	N90°00'00"W	1.68'
293	S21°47'45"W	54.13'
294	S00°00'00"E	4.20'
295	N90°00'00"E	1.21'
296	S00°15'30"W	41.72'
297	N90°00'00"E	1.19'
298	S00°00'00"E	2.97'
299	S34°11'07"E	88.90'
300	N90°00'00"E	2.02'
301	N00°00'00"E	2.97'
302	N34°11'07"W	0.69'
303	S00°00'00"E	1.81'
304	S39°46'53"W	32.81'
305	N00°00'00"E	2.64'
306	N90°00'00"W	3.33'
307	S60°39'03"W	76.18'
308	S00°00'00"E	1.87'
309	N90°00'00"W	1.67'
310	S21°28'44"W	43.50'
311	S00°00'00"E	7.58'
312	S14°50'51"E	57.10'
313	N90°00'00"E	1.52'
314	S00°00'00"E	1.34'
315	S83°18'20"E	25.87'
316	N79°08'59"E	0.97'

Wetland 6

Line #	Direction	Length
317	S27°25'39"E	44.68'
318	S02°29'04"W	16.14'
319	S06°20'13"W	17.90'
320	S27°38'45"W	17.17'
321	S00°00'00"E	3.49'
322	N90°00'00"W	1.87'
323	S29°11'39"W	51.90'
324	S00°00'00"E	3.35'
325	N90°00'00"W	1.21'
326	S00°00'00"E	2.40'
327	N90°00'00"W	1.60'
328	S00°00'00"E	2.40'
329	N90°00'00"W	1.21'
330	S00°00'00"E	42.04'
331	N90°00'00"E	1.19'
332	S00°00'00"E	2.01'
333	S56°01'47"E	53.62'
334	N90°00'00"E	2.98'
335	S00°00'00"E	4.93'
336	S17°59'46"E	51.00'
337	S25°02'07"W	57.38'
338	N90°00'00"W	2.80'
339	S49°23'15"W	44.84'
340	S00°00'00"E	2.23'
341	N90°00'00"W	2.88'
342	S54°30'27"W	62.42'
343	S00°00'00"E	2.06'
344	N90°00'00"W	1.89'
345	S29°46'47"W	42.33'
346	S00°00'00"E	3.30'
347	N90°00'00"W	1.40'
348	S09°40'20"W	32.33'
349	S00°00'00"E	14.19'
350	S09°32'03"E	34.05'
351	N90°00'00"E	1.40'
352	S00°00'00"E	2.23'
353	S49°13'32"E	46.86'
354	N90°00'00"E	2.59'
355	S00°00'00"E	1.51'
356	S75°20'00"E	30.96'
357	N90°00'00"E	10.52'
358	N78°34'33"E	45.24'
359	S00°00'00"E	1.44'
360	N90°00'00"E	2.13'
361	N37°45'46"E	38.79'
362	N00°00'00"E	2.75'
363	N90°00'00"E	1.93'
364	N31°23'31"E	32.28'
365	N00°00'00"E	3.17'
366	N90°00'00"E	1.61'
367	N18°57'48"E	40.39'
368	N00°00'00"E	4.69'
369	N90°00'00"E	1.67'
370	N21°15'47"E	59.21'
371	N55°27'36"E	53.05'
372	S65°36'32"E	14.75'
373	N90°00'00"E	3.65'
374	S00°00'00"E	1.74'
375	S65°40'31"E	46.66'
376	N90°00'00"E	3.85'
377	S00°00'00"E	1.14'
378	N86°58'00"E	48.18'
379	N00°00'00"E	1.26'
380	N90°00'00"E	1.67'
381	N21°25'29"E	31.47'
382	N00°00'00"E	4.26'
383	N90°00'00"E	1.51'
384	N14°27'30"E	83.37'
385	N00°00'00"E	8.09'
386	N19°14'36"W	48.81'
387	N90°00'00"E	1.62'
388	N00°00'00"E	3.01'
389	N33°32'39"W	50.88'
390	S00°00'00"E	2.40'
391	S07°04'28"E	72.39'
392	S50°25'58"E	28.64'
393	S73°28'54"E	54.36'
394	N74°22'31"E	92.94'
395	N17°57'28"E	52.30'
396	N01°49'52"W	66.08'
397	S55°27'32"W	2.40'
398	S33°02'11"W	52.26'
399	S00°00'00"E	3.62'
400	S34°04'47"E	35.15'
401	S19°06'37"E	6.15'
402	N58°29'23"W	41.54'
403	S33°25'54"E	2.75'
404	S47°43'04"E	42.18'
405	N88°36'15"E	4.46'
406	N69°48'42"E	30.24'
407	N59°50'19"E	3.27'
408	N53°32'38"E	76.17'
409	N44°26'34"E	2.92'
410	N35°11'39"E	43.14'

Wetland 8

Line #	Direction	Length
412	N19°56'36"E	1.46'
413	N08°55'28"E	68.88'
414	N10°21'20"W	5.63'
415	N15°28'12"W	59.14'
416	N17°33'17"W	55.40'
417	N18°13'53"W	55.40'
418	N01°17'49"E	2.40'
419	N20°32'22"E	57.69'
420	N22°27'12"E	4.76'
421	N27°18'17"E	60.32'
422	N16°39'08"E	3.68'
423	N06°59'41"W	55.89'
424	N47°43'04"W	5.68'
425	S72°53'43"W	35.07'
426	N75°13'49"W	2.48'
427	N50°08'14"W	86.30'
428	N67°43'04"W	2.85'
429	S84°19'03"W	28.79'
430	S54°52'17"W	2.29'
431	S29°22'12"W	43.75'
432	S29°32'19"W	3.83'
433	S29°50'12"W	60.82'
434	S32°40'25"W	3.91'
435	S37°13'04"W	56.04'
436	S37°32'12"W	3.51'
437	S37°57'08"W	90.91'
438	S27°53'10"W	3.10'
439	S11°43'47"W	83.57'
440	S18°13'19"W	2.53'
441	S24°15'55"W	71.97'
442	S23°10'12"W	4.20'
443	S20°40'34"W	52.86'
444	S20°29'25"W	4.68'
445	S19°59'44"W	64.18'
446	S23°00'09"W	4.89'
447	S30°38'27"W	62.75'
448	S22°16'16"W	3.49'
449	S05°59'24"W	85.87'
450	S01°13'14"E	2.40'
451	S08°14'41"E	74.83'
452	S29°11'17"E	2.82'
453	S43°36'53"E	51.86'
454	S04°39'25"E	2.41'
455	S48°04'13"W	15.21'
456	S48°06'36"W	3.41'
457	S48°06'51"W	28.48'
458	S33°32'52"W	2.73'
459	S14°27'10"W	54.66'
460	S26°03'02"E	2.03'
461	S62°35'41"E	45.06'
462	S52°30'58"E	4.43'
463	S38°44'57"E	21.51'
464	S34°06'35"E	3.86'
465	S31°01'07"E	20.13'
466	S09°56'30"E	2.44'
467	N90°00'00"E	1.62'
468	N00°00'00"E	3.01'
469	S33°32'39"W	50.88'

Wetland 7

Line #	Direction	Length
471	N00°00'00"E	4.94'
472	N20°19'38"W	46.95'
473	N49°01'18"W	2.18'
474	N01°49'52"W	66.08'
475	N90°28'28"W	2.40'
476	S82°15'24"W	69.49'

Wetland 7

Line #	Direction	Length
477	N11°19'03"E	2.45'
478	N19°12'18"E	51.93'
479	N17°58'34"E	4.88'
480	N14°21'15"E	68.17'
481	N03°03'07"E	2.40'
482	N08°29'23"W	41.54'
483	N11°05'48"E	2.45'
484	N28°26'14"E	81.77'
485	N18°44'41"E	3.61'
486	N01°56'50"W	44.98'
487	N03°25'22"E	2.40'
488	N08°43'59"E	48.56'
489	N20°55'13"E	2.57'
490	N31°25'19"E	54.15'
491	N32°52'27"E	3.77'
492	N35°09'09"E	89.88'
493	N30°11'37"E	1.77'

Wetland 9

Line #	Direction	Length
495	N38°57'23"W	2.15'
496	N68°36'55"W	25.03'
497	N90°00'00"W	3.87'
498	S33°53'28"W	42.87'
499	S18°50'59"W	3.16'
500	S08°33'07"E	45.29'
501	S42°02'21"E	2.06'
502	S74°34'39"E	36.08'
503	N70°57'23"E	2.66'
504	N47°40'13"E	54.11'
505	N28°58'38"E	2.62'
506	S03°19'55"E	27.38'
507	N01°54'58"W	2.40'
508	N07°07'56"W	41.61'

Wetland 10

Line #	Direction	Length
510	N13°32'31"W	4.81'
512	N34°36'54"W	2.84'
513	N46°31'01"W	56.77'
514	S00°00'00"E	0.06'
515	N57°31'37"W	2.81'
516	N77°36'05"W	81.50'
517	S65°06'04"W	2.22'
518	S34°14'49"W	43.97'
519	S63°46'40"W	6.71'
520	S76°00'21"W	31.86'
521	S00°00'00"E	5.03'
522	S14°13'14"E	42.06'
523	S41°56'43"W	1.34'
524	N80°23'39"W	47.50'
525	S55°54'02"W	1.78'
526	S12°47'31"W	54.37'
527	S34°26'25"W	2.91'
528	S48°51'13"W	15.45'
529	S00°00'00"E	3.70'
530	S24°22'17"E	47.07'
531	S40°45'13"E	2.67'
532	S55°32'47"E	39.73'
533	S67°56'42"E	3.18'
534	S49°47'56"E	30.38'
535	S16°31'54"E	16.51'
536	S25°52'25"E	2.67'
537	S51°42'48"E	35.89'
538	S46°13'03"W	3.10'
539	S40°56'41"W	37.67'
540	S35°10'36"W	3.16'
541	S27°22'07"W	63.73'
542	S25°06'01"W	3.89'
543	S20°28'27"W	38.01'
544	S15°28'05"W	4.58'
545	S01°01'26"W	63.47'
546	S00°00'00"E	2.40'
547	S01°06'26"E	2.40'
548	S03°14'08"E	77.04'
549	S10°29'56"E	54.21'
550	S22°35'28"E	60.79'
551	S29°16'10"W	51.29'
552	S07°35'52"W	79.79'
553	S23°06'42"E	65.19'
554	S42°25'04"E	50.16'
555	S10°23'24"E	69.92'

Wetland 10

Line #	Direction	Length
556	S16°02'43"E	53.46'
557	S64°57'39"E	34.36'
558	N53°52'27"E	64.73'
559	N26°03'06"E	69.08'
560	N63°15'12"E	73.52'
561	S67°45'03"E	60.16'
562	S42°42'26"E	45.00'
563	N47°33'39"E	31.37'
564	N00°30'57"W	30.54'
565	N40°16'31"E	64.23'
566	N30°06'50"E	26.33'
567	N13°23'31"E	57.66'
568	N07°02'03"E	55.05'
569	N18°19'18"E	69.12'
570	N05°56'41"W	77.99'
571	N11°55'04"W	62.24'
572	N13°32'04"W	6.21'
573	N13°55'56"W	25.94'
574	N04°43'49"W	2.41'
575	N04°43'16"E	68.26'
576	N08°14'31"E	2.43'
577	N11°42'05"E	60.79'
578	N34°53'12"W	1.66'
579	N82°11'29"W	43.31'
580	S69°07'11"W	2.91'
581	S51°36'22"W	50.80'
582	S60°58'53"W	4.43'
583	S65°51'28"W	65.87'
584	S62°29'16"W	3.76'
585	S60°40'49"W	37.30'
586	S73°56'26"W	2.50'
587	S89°15'49"W	46.55'
588	S53°54'52"W	2.06'
589	S21°17'26"W	32.55'
590	S21°12'25"W	4.59'
591	S20°59'31"W	47.87'
592	S00°00'00"E	4.33'
593	N90°00'00"W	2.40'
594	N88°49'59"W	58.50'
595	N41°55'39"W	1.65'
596	N04°46'41"E	63.94'
597	N05°31'14"E	2.41'
598	N06°15'41"E	62.86'
599	N59°21'20"E	4.71'
600	N72°58'36"E	22.29'
601	N45°01'32"E	2.22'
602	N17°06'02"E	30.04'
603	N30°25'21"E	2.78'
604	N40°55'45"E	70.78'
605	N00°00'00"E	4.67'
606	N20°02'51"W	19.68'
607	N50°40'17"W	2.12'
608	N63°15'11"W	48.10'
609	N87°41'17"W	2.40'
610	S87°50'57"W	31.63'
611	N23°09'54"W	6.10'
612	N11°58'56"W	23.44'
613	N24°36'53"E	2.64'
614	N10°27'55"E	69.92'
615	N71°10'06"E	2.54'
616	S78°28'08"E	41.72'
617	S85°52'03"E	2.41'
618	N86°35'38"E	31.29'
619	N62°25'12"E	2.75'
620	N45°48'57"E	55.15'
621	N28°16'17"E	2.69'
622	N03°28'36"E	41.59'

Wetland 11

Line #	Direction	Length
624	S40°15'12"E	34.14'
625	N90°00'00"E	3.57'
626	N64°50'25"E	60.82'
627	N66°06'26"E	4.35'
628	N66°39'46"E	57.84'
629	N70°22'11"E	5.11'
630	N71°38'26"E	52.71'
631	N64°02'30"E	3.65'
632	N60°03'13"E	48.04'
633	N68°59'03"E	5.27'
634	N72°08'05"E	67.48'
635	N44°04'01"E	2.21'

Wetland 11

Line #	Direction	Length
636	N15°38'21"E	73.18'
637	N68°47'42"E	6.64'
638	N78°24'28"E	34.97'
639	N73°14'38"E	5.02'
640	N71°34'49"E	57.27'
641	N60°00'00"E	4.01'
642	N17°02'38"W	93.66'
643	N47°35'06"W	31.37'
644	N79°02'23"W	54.45'
645	S79°39'57"W	5.39'
646	S73°42'37"W	55.79'
647	S52°09'29"W	2.53'
648	S33°33'38"W	50.81'
649	S24°33'26"W	3.31'
650	S08°17'24"W	47.08'
651	S54°18'04"W	1.69'
652	N79°58'33"W	46.44'
653	S74°42'00"W	3.74'
654	S63°32'27"W	48.94'
655	S68°23'18"W	4.28'
656	S70°13'08"W	69.09'
657	S79°21'09"W	2.44'
658	S89°03'47"W	63.58'
659	S60°36'46"W	33.08'
660	S74°50'24"W	2.49'
661	S74°50'24"W	50.60'
662	N88°46'51"W	47.84'
663	N71°18'41"W	2.53'
664	N56°45'56"W	65.05'
665	N45°55'22"W	4.22'
666	N34°39'54"W	54.73'
667	N48°30'40"W	2.71'
668	N63°37'15"W	50.98'
669	N70°52'43"W	3.83'
670	N87°22'47"W	75.80'
671	S61°08'03"W	2.37'
672	S36°10'07"W	43.41'
673	S27°26'20"W	3.20'
674	S12°55'21"W	46.49'
675	S03°21'51"W	2.40'
676	S06°23'01"E	51.88'
677	S22°56'53"E	3.42'
678	S31°35'28"E	43.83'
679	S42°34'32"E	2.86'
680	S52°50'44"E	67.64'
681	S51°45'05"E	3.54'
682	S50°21'22"E	51.88'
683	S50°01'44"E	3.46'
684	S49°38'18"E	54.16'
685	S64°17'51"E	2.90'
686	S87°16'20"E	41.81'
687	N63°11'43"E	2.53'
688	N41°30'26"E	42.32'
689	N30°04'37"E	2.83'
690	N20°13'48"E	37.23'
691	N38°48'43"E	3.83'
692	S77°12'19"E	28.02'
693	S54°51'02"E	2.94'
694	S40°15'12"E	23.42'

Wetland 12

Line #	Direction	Length
695	S51°15'08"E	78.44'
696	S60°47'48"E	73.93'
697	S62°34'48"E	101.12'
698	N86°59'45"E	76.50'
699	N61°40'21"E	75.28'
700	N34°16'10"E	66.55'
701	N12°31'33"E	77.77'
702	N28°47'11"W	69.54'
703	N53°21'23"W	92.71'
704	N78°33'52"W	79.74'
705	N83°52'40"W	118.14'
706	S68°19'33"W	69.09'
707	S52°10'01"W	69.59'
708	S33°47'09"W	59.53'
709	S19°31'26"E	101.22'

Wetland 13

Line #	Direction	Length
710	N23°34'59"W	2.78'
711	N41°38'33"W	85.65'
712	N45°01'20"W	3.20'
713	N48°24'17"W	85.23'
714	N88°06'09"W	116.15'
715	S57°56'27"W	92.90'
716	S43°28'48"W	2.69'
717	S28°28'05"W	100.12'
718	S00°00'00"E	8.54'
719	S10°44'13"E	58.40'
720	S38°56'46"E	2.27'
721	S64°44'33"W	45.56'
722	S89°08'20"E	4.01'
723	S39°08'37"E	58.87'
724	N74°32'43"E	3.64'
725	N62°31'44"E	58.62'
726	N68°23'07"E	4.95'
727	N70°34'38"E	60.40'
728	N38°24'42"E	2.07'
729	N04°58'50"E	116.21'

Wetland 14

Line #	Direction	Length
731	N06°26'03"E	2.42'
732	N02°40'41"E	109.61'
733	N09°20'56"W	7.04'
734	N11°47'32"W	54.89'
735	N17°27'25"W	4.84'
736	N19°22'26"W	75.30'
737	N34°07'09"W	2.89'
738	N45°08'54"W	92.89'
739	N50°53'20"W	3.55'
740	N73°04'07

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Wetland 25

Line #	Direction	Length
1327	S37°25'16"W	49.49'
1328	S67°39'11"E	56.50'
1329	S44°54'53"E	59.33'
1330	S00°09'23"E	91.08'
1331	S00°00'39"E	115.61'
1332	S01°22'51"W	116.82'
1333	S01°12'51"E	119.40'
1334	S01°12'51"E	134.79'
1335	S22°56'13"E	75.29'
1336	S06°51'48"E	152.59'
1337	S19°24'05"E	94.15'
1338	S25°34'27"E	88.21'
1339	N87°06'42"E	133.20'
1340	N83°21'49"E	29.79'
1341	N22°25'55"W	29.90'
1342	N86°20'12"E	53.23'
1343	N89°47'52"E	120.68'
1344	N04°51'49"E	89.21'
1345	N11°42'19"W	129.22'
1346	N19°38'02"W	78.71'
1347	N02°09'28"E	64.29'
1348	N26°19'40"E	68.56'
1349	N57°33'09"E	83.45'
1350	N27°08'11"E	82.20'
1351	N07°02'46"E	92.40'
1352	N04°22'01"W	142.91'
1353	N39°52'01"W	65.23'
1354	N30°58'43"W	68.04'
1355	N35°01'29"W	62.91'
1356	N18°43'50"E	57.18'
1357	N21°12'48"E	41.78'
1358	N28°15'37"E	67.83'
1359	N65°22'09"W	43.10'
1360	S89°46'33"W	149.01'
1361	N88°55'42"W	180.95'
1362	S89°36'31"W	156.52'
1363	S88°53'08"W	111.71'

Wetland 26

Line #	Direction	Length
1364	S05°43'36"E	75.03'
1365	S19°36'00"E	38.03'
1366	S00°16'16"E	109.02'
1367	S01°36'50"W	202.76'
1368	S28°10'10"W	83.73'
1369	S56°58'47"W	97.94'
1370	S70°12'43"W	116.20'
1371	S33°33'52"W	101.68'
1372	S17°27'57"W	120.60'
1373	S12°05'47"W	101.58'
1374	S30°08'08"W	102.14'
1375	S16°44'46"W	75.08'
1376	S24°13'55"E	65.19'
1377	S86°38'37"W	98.96'
1378	N75°26'42"W	44.89'
1379	S89°35'43"W	41.34'
1380	S84°34'38"W	33.97'
1381	N83°42'03"W	31.66'
1382	N06°02'48"E	60.13'
1383	N02°35'39"E	81.11'
1384	N10°00'17"W	70.45'
1385	N00°16'50"E	71.88'
1386	N12°04'30"E	43.43'
1387	N09°06'48"E	53.12'
1388	N00°55'43"W	91.57'
1389	N07°35'01"E	49.70'
1390	N03°35'33"E	107.28'
1391	N00°01'47"W	90.71'
1392	N10°55'54"E	75.70'
1393	N01°13'03"E	71.58'
1394	N03°40'49"W	164.72'
1395	N08°35'05"E	30.06'
1396	N36°18'27"E	62.10'
1397	N26°28'01"E	79.82'
1398	S88°46'42"E	165.24'
1399	N89°49'41"E	203.58'
1400	S85°59'16"E	81.59'

Wetland 27

Line #	Direction	Length
1401	S38°54'46"E	63.84'
1402	S32°47'31"E	74.31'
1403	S40°02'50"E	55.87'

Wetland 27

Line #	Direction	Length
1404	S03°04'35"E	43.45'
1405	S43°17'41"W	57.63'
1406	S07°22'38"W	82.93'
1407	S12°13'54"W	87.11'
1408	S69°47'28"E	59.94'
1409	S84°21'19"E	175.31'
1410	N02°01'23"W	157.23'
1411	N36°23'43"W	24.48'
1412	N12°48'26"E	82.94'
1413	N00°27'42"E	123.46'
1414	N00°32'13"W	75.78'
1415	N01°52'37"W	100.47'
1416	N00°24'09"W	70.73'
1417	N32°22'55"W	29.90'
1418	N57°58'34"W	58.44'
1419	N77°35'29"W	84.94'
1420	S78°20'43"W	56.50'
1421	S35°31'59"W	59.35'
1422	S13°07'26"W	81.19'
1423	S09°00'59"W	119.69'

Wetland 28

Line #	Direction	Length
1502	N83°11'14"E	51.91'
1503	S04°36'44"W	51.24'
1504	S86°41'05"E	46.12'
1505	S65°47'20"E	49.13'
1506	S18°41'25"E	61.56'
1507	S42°33'22"E	105.81'
1508	S62°53'33"E	114.82'
1509	N84°55'52"E	93.63'
1510	N85°23'57"E	46.49'
1511	N44°03'28"E	95.91'
1512	N13°10'33"E	69.99'
1513	N44°06'45"E	36.52'
1514	S00°29'00"W	24.30'
1515	S18°47'49"W	82.33'
1516	S01°20'05"W	17.90'
1517	S39°51'09"W	40.67'
1518	S37°35'09"W	92.06'
1519	S58°51'26"E	57.18'
1520	S71°29'03"E	59.90'
1521	S83°08'47"E	46.43'
1522	S84°50'59"E	50.09'

Wetland 30

Line #	Direction	Length
1524	N19°16'41"E	72.83'
1525	N43°07'37"E	56.42'
1526	N24°58'59"E	73.61'
1527	N04°01'23"E	52.95'
1528	N11°36'27"E	90.66'
1529	N51°00'34"W	98.00'
1530	N36°02'31"W	43.23'
1531	N16°46'59"W	81.16'
1532	N17°51'42"W	73.18'
1533	N17°14'28"W	81.61'
1534	N23°31'55"W	53.57'
1535	N44°47'52"W	41.52'
1536	N90°00'00"W	203.76'
1537	S48°10'07"E	62.51'
1538	S46°05'42"W	118.19'
1539	S17°44'11"E	42.48'
1540	S07°27'25"E	28.49'
1541	S08°17'53"W	81.49'
1542	S07°42'15"E	48.80'
1543	S12°06'13"W	74.61'
1544	S67°22'20"W	62.18'
1545	S45°20'21"E	68.34'
1546	S20°34'44"W	76.98'
1547	S07°02'37"W	74.44'
1548	S04°12'05"W	76.24'
1549	S03°29'28"E	84.20'
1550	S23°31'01"W	83.46'
1551	S21°48'08"W	79.36'
1552	S06°32'42"E	87.93'
1553	S42°15'44"W	73.38'
1554	S03°57'58"E	66.04'
1555	S16°55'17"E	98.08'
1556	N68°50'40"E	78.04'
1557	S82°36'08"E	53.53'
1558	S54°38'14"E	51.49'
1559	N76°49'28"E	68.84'

Wetland 29

Line #	Direction	Length
1481	S78°49'48"W	71.54'
1482	S18°01'14"W	92.35'
1483	S56°35'40"W	74.98'
1484	S24°04'47"W	45.43'
1485	S23°24'02"E	18.56'
1486	S20°32'43"E	69.26'
1487	S26°52'48"E	86.28'
1488	S15°24'56"W	49.13'
1489	S13°27'05"E	45.91'
1490	S07°15'14"W	68.06'
1491	S07°43'21"W	58.05'
1492	S81°32'01"E	100.67'
1493	S13°03'16"W	82.98'
1494	S05°24'02"W	51.76'
1495	S02°54'29"E	80.79'
1496	S26°06'57"E	78.71'
1497	S01°37'24"E	104.66'
1498	S14°35'50"E	87.76'
1499	S25°42'08"E	77.73'
1500	S63°58'45"E	45.47'
1501	S86°41'37"E	59.11'
1502	N83°11'14"E	51.91'
1503	S04°36'44"W	51.24'
1504	S86°41'05"E	46.12'
1505	S65°47'20"E	49.13'
1506	S18°41'25"E	61.56'
1507	S42°33'22"E	105.81'
1508	S62°53'33"E	114.82'
1509	N84°55'52"E	93.63'
1510	N85°23'57"E	46.49'
1511	N44°03'28"E	95.91'
1512	N13°10'33"E	69.99'
1513	N44°06'45"E	36.52'
1514	S00°29'00"W	24.30'
1515	S18°47'49"W	82.33'
1516	S01°20'05"W	17.90'
1517	S39°51'09"W	40.67'
1518	S37°35'09"W	92.06'
1519	S58°51'26"E	57.18'
1520	S71°29'03"E	59.90'
1521	S83°08'47"E	46.43'
1522	S84°50'59"E	50.09'

Wetland 30

Line #	Direction	Length
1560	N28°22'53"E	61.99'
1561	N89°24'41"E	50.80'
1562	S40°03'43"E	75.67'
1563	S41°58'10"E	76.24'
1564	S63°14'17"E	83.94'
1565	S33°47'28"E	68.45'
1566	S00°18'05"E	54.00'
1567	S12°00'39"E	72.50'
1568	S09°35'04"E	59.60'
1569	S30°58'08"E	72.20'
1570	S44°07'40"E	53.14'
1571	S50°28'59"E	42.23'
1572	S76°06'43"E	50.81'
1573	N67°26'54"E	78.20'
1574	N33°11'26"E	67.08'
1575	N48°03'36"E	102.51'
1576	N34°19'15"E	159.05'
1577	N08°47'56"W	115.27'
1578	N01°03'50"W	112.02'
1579	N13°41'30"W	113.49'
1580	N37°08'24"W	92.31'
1581	N65°40'54"W	69.34'
1582	N53°08'32"W	70.70'
1583	N70°34'55"W	84.39'
1584	S80°35'15"W	33.34'
1585	N24°45'19"W	48.39'
1586	N14°37'26"E	62.64'
1587	N12°31'34"E	58.97'
1588	N06°22'49"E	67.98'

Wetland 31

Line #	Direction	Length
1590	N06°42'15"W	43.73'
1591	N22°56'25"W	36.30'
1592	N09°36'52"W	57.50'
1593	N42°28'35"W	45.69'
1594	N69°07'11"W	35.89'
1595	N84°14'49"W	81.36'
1596	S51°55'32"W	69.37'
1597	S56°04'08"W	63.65'
1598	S45°43'10"W	40.38'
1599	S56°27'36"W	52.63'
1600	S49°14'07"W	58.74'
1601	S26°25'38"W	52.01'
1602	S21°00'17"W	67.86'
1603	S11°26'54"W	75.46'
1604	S05°02'12"E	50.44'
1605	S00°20'49"E	61.27'
1606	S01°04'48"W	63.25'
1607	S30°32'04"E	59.00'
1608	S42°55'58"E	38.64'
1609	S68°07'30"E	69.30'
1610	N79°07'35"E	101.07'
1611	N63°37'11"E	47.40'
1612	N43°14'47"E	62.16'
1613	N27°31'15"E	55.28'
1614	N28°29'07"E	46.75'
1615	N15°21'58"E	67.09'
1616	N38°31'50"E	36.36'
1617	N35°43'43"E	40.19'
1618	N40°44'19"E	68.95'
1619	N03°05'51"E	61.71'
1620	N11°49'16"W	34.85'

Wetland 32

Line #	Direction	Length
1621	N07°28'53"W	42.57'
1622	N32°53'33"W	35.05'
1623	S73°54'24"W	34.18'
1624	N82°00'07"W	34.79'
1625	N60°06'27"W	28.35'
1626	S72°34'21"W	42.74'
1627	S38°27'44"W	40.72'
1628	S09°22'54"W	37.11'
1629	S23°24'55"E	48.78'
1630	S34°03'18"E	30.83'
1631	S56°16'50"E	57.73'
1632	S05°11'01"W	29.70'
1633	S51°40'33"E	22.29'
1634	N59°58'24"E	35.39'
1635	N05°40'57"W	48.22'
1636	N34°27'52"E	34.67'

Wetland 32

Line #	Direction	Length
1637	N51°43'44"E	34.36'
1638	N26°48'34"E	37.51'
1639	N39°22'17"W	19.43'

Wetland 33

Line #	Direction	Length
1640	N06°37'28"W	138.67'
1641	N37°34'48"W	137.88'
1642	N25°55'01"W	109.03'
1643	N21°49'57"W	79.48'
1644	N06°24'16"E	79.88'
1645	N05°03'04"E	92.38'
1646	N12°11'59"W	51.15'
1647	N52°27'11"W	82.67'
1648	S81°23'25"W	76.42'
1649	S74°21'34"W	23.20'
1650	S46°46'05"W	46.41'
1651	S29°06'33"W	66.10'
1652	S06°06'25"W	107.00'
1653	S42°37'13"W	57.90'
1654	N80°13'37"W	76.42'
1655	N16°00'56"W	126.13'
1656	N52°24'09"W	78.39'
1657	S27°31'56"W	74.97'
1658	S01°12'08"W	105.52'
1659	S10°11'52"W	112.52'
1660	S07°54'01"E	138.12'
1661	S00°58'02"W	130.56'
1662	S30°44'08"W	106.59'
1663	S43°25'05"W	123.64'
1664	S73°27'07"W	80.76'
1665	S62°10'08"W	83.07'
1666	S34°25'31"W	69.63'
1667	S14°57'44"W	87.76'
1668	S07°00'43"W	58.76'
1669	S25°21'21"E	47.85'
1670	S25°33'25"E	63.04'
1671	S45°25'32"E	78.17'
1672	S54°33'08"E	63.32'
1673	S43°28'11"E	32.49'
1674	S66°52'05"E	70.99'
1675	N25°42'40"E	15.84'
1676	S85°24'22"E	94.12'
1677	S55°05'56"E	66.16'
1678	N82°05'24"E	19.95'
1679	N05°33'37"W	49.29'
1680	N29°48'10"W	46.43'
1681	N01°43'21"E	53.66'
1682	N25°59'05"E	34.38'
1683	N45°26'05"E	27.77'
1684	N79°49'58"E	27.47'
1685	N80°20'28"E	43.27'
1686	N79°56'14"E	65.23'
1687	S64°30'23"E	83.61'
1688	S38°33'13"E	60.24'
1689	S08°52'00"E	29.70'
1690	S48°39'53"W	86.80'
1691	S76°22'01"W	87.96'
1692	S22°57'45"E	27.43'
1693	S06°25'26"E	71.67'
1694	S11°47'40"W	70.08'
1695	S83°43'55"E	71.97'
1696	N58°26'52"E	104.28'
1697	N47°55'23"E	117.07'
1698	N00°36'59"E	194.63'
1699	N39°24'45"E	101.55'
1700	N16°54'40"E	108.82'
1701	N02°02'39"E	268.26'

Wetland 34

Line #	Direction	Length
1703	S60°23'23"E	59.09'
1704	N75°56'59"E	31.75'
1705	N28°58'21"E	36.93'
1706	S18°13'18"E	64.66'
1707	S01°29'02"W	58.43'
1708	S04°49'46"E	74.56'
1709	S08°23'02"W	87.36'
1710	S47°03'40"W	56.68'
1711	S69°12'18"W	55.35'
1712	S82°50'33"W	73.95'

Wetland 34

Line #	Direction	Length
1713	S66°59'41"W	74.63'
1714	N68°02'15"W	83.42'
1715	N34°52'01"W	44.91'
1716	N06°12'46"E	58.09'
1717	N02°30'02"E	57.58'
1718	N65°34'36"W	26.64'
1719	N05°19'36"E	128.04'
1720	N78°09'30"E	22.31'
1721	N10°44'41"E	56.57'
1722	N46°56'08"E	35.13'
1723	N23°23'41"W	36.82'
1724	N09°28'34"E	37.62'
1725	N68°43'47"E	17.61'
1726	S72°57'01"E	92.13'
1727	S59°41'28"E	72.84'

Wetland 35

Line #	Direction	Length
1728	S12°03'47"W	44.23'
1729	S12°38'50"W	80.15'
1730	S16°45'42"W	65.71'
1731	S03°07'22"E	22.47'
1732	S22°28'09"W	48.76'
1733	S11°12'15"W	69.65'
1734	S19°22'22"W	62.61'
1735	S83°08'17"W	69.14'
1736	S87°31'05"W	44.87'
1737	S87°37'47"W	63.69'
1738	N45°53'07"W	38.71'
1739	N73°30'17"W	29.01'
1740	N43°04'11"W	30.78'
1741	N54°50'28"W	51.72'
1742	N32°58'58"W	62.20'
1743	N11°34'57"W	62.46'
1744	N11°34'26"W	51.34'
1745	N11°25'53"E	106.57'
1746	N11°09'05"E	82.03'
1747	N33°31'43"E	47.75'
1748	N45°10'20"E	71.97'
1749	N64°35'20"E	101.99'
1750	N81°51'44"E	78.23'
1751	S88°08'02"E	77.29'
1752	S65°24'22"E	94.12'
1753	S37°17'24"E	58.13'
1754	S59°50'03"W	60.78'
1755	S23°21'21"E	33.05'
1756	S10°45'49"E	41.04'

Wetland 36

Line #	Direction	Length
1757	N54°41'46"E	65.16'
1758	N78°51'45"E	43.11'
1759	S58°12'25"E	46.66'
1760	S87°40'34"E	44.90'
1761	S34°47'27"E	38.51'
1762	S48°39'53"W	46.80'
1763	S76°22'01"W	87.96'
1764	S22°57'45"E	27.43'
1765	S06°25'26"E	71.67'
1766	S11°47'40"W	70.08'
1767	S34°13'54"W	77.86'
1768	S66°12'45"W	77.63'
1769	N85°40'23"W	68.23'
1770	S89°55'03"W	29.20'
1771	N61°11'01"W	117.93'
1772	N01°21'37"W	42.13'
1773	N07°35'31"W	27.39'
1774	N16°54'05"W	71.62'
1775	N02°15'22"W	62.74'
1776	N29°15'07"W	96.52'
1777	N52°56'10"E	119.85'
1778	N88°34'08"E	89.94'
1779	S36°46'54"E	75.63'

Wetland 37

Line #	Direction	Length
1780	N35°24'13"E	73.49'
1781	N03°41'56"W	38.86'
1782	N05°14'06"E	50.31'
1783	N30°32'27"E	54.87'
1784	N19°40'45"W	52.59'
1785	N25°08'35"W	63.98'
1786	N33°47'01"W	87.77'

Wetland 37

Line #	Direction	Length
1787	N32°08'51"W	64.62'
1788	N25°20'33"W	50.58'
1789	N48°52'20"W	52.45'
1790	N77°47'47"W	39.68'
1791	N86°18'54"W	135.30'
1792	S25°33'28"W	29.06'
1793	S86°22'37"W	29.61'
1794	S28°59'09"W	45.71'
1795	S05°23'38"W	149.31'
1796	S21°15'28"W	46.26'
1797	S44°44'02"W	31.06'
1798	S74°17'51"W	44.15'
1799	N89°54'08"W	39.86'
1800	N87°47'41"W	82.80'
1801	S76°11'29"W	65.76'
1802	S49°07'10"W	63.43'
1803	S33°22'12"W	96.19'
1804	S10°05'17"W	62.26'
1805	S09°29'52"W	99.93'
1806	S14°31'52"W	84.68'
1807	S26°55'20"E	98.61'
1808	S47°15'17"E	72.77'
1809	S61°35'52"E	72.81'
1810	S88°53'25"E	65.06'
1811	N88°30'55"E	50.97'
1812	N33°18'48"E	311.15'
1813	N79°42'55"E	299.17'

Wetland 39

Line #	Direction	Length
1814	N24°03'55"E	65.52'
1815	N67°44'32"E	32.16'
1816	N04°42'03"E	81.08'
1817	N15°40'02"E	81.30'
1818	N20°56'40"W	40.79'
1819	N45°15'05"E	75.43'
1820	N68°40'10"E	85.46'
1821	N88°08'11"E	59.53'
1822	N60°51'49"E	56.39'
1823	S75°06'31"E	73.33'
1824	N83°30'00"E	50.60'
1825	S50°14'32"E	72.93'
1826	S06°16'04"E	44.92'
1827	S83°18'59"E	34.50'
1828	S14°00'26"E	52.92'
1829	S55°36'15"E	100.43'
1830	S05°53'54"E	89.00'
1831	S01°03'38"E	131.56'
1832	S24°22'57"W	56.79'
1833	S33°35'05"W	93.64'
1834	S58°58'14"W	110.34'
1835	S34°46'18"W	111.22'
1836	N59°01'56"W	113.80'
1837	N47°43'38"W	94.19'
1838	N16°39'39"W	128.74'
1839	N00°54'52"W	48.44'

Wetland 40A

Line #	Direction	Length
1840	N20°23'31"W	71.96'
1841	N20°13'33"W	83.96'
1842	N16°26'08"E	100.04'
1843	N12°45'46"W	91.67'
1844	N06°14'40"E	112.65'
1845	N31°51'48"E	192.68'
1846	N48°58'08"E	73.04'
1847	N49°43'21"E	83.83'
1848	N77°26'40"E	48.84'
1849	N76°34'30"E	70.55'
1850	S79°33'30"E	51.11'
1851	S85°29'32"E	33.05'
1852	S52°17'22"E	65.02'
1853	S29°22'12"E	107.11'
1854	S42°04'04"E	30.94'
1855	S12°54'23"E	41.52'
1856	S07°29'22"E	46.79'
1857	S22°44'43"W	53.24'
1858	S02°16'06"W	158.13'
1859	S08°52'15"E	187.16'
1860	S11°02'23"E	93.11'
1861	N86°16'46"E	102.21'
1862	S80°16'57"E	115.73'
1863	N55°34'47"E	90.75'

Wetland 40A

Line #	Direction	Length
1864	N71°22'11"E	90.96'
1865	N61°54'34"E	215.46'
1866	S76°59'06"E	41.22'
1867	S44°55'10"E	161.80'
1868	S10°48'42"E	208.09'
1869	S00°25'19"E	304.32'
1870	S00°16'22"W	439.97'
1871	S00°05'40"W	415.27'
1872	N89°08'52"W	303.62'
1873	S87°26'23"W	38.71'
1874	S03°25'04"W	40.94'
1875	S54°12'39"W	98.23'
1876	N81°29'44"W	93.23'
1877	N60°44'50"W	46.66'
1878	S72°39'16"W	59.47'
1879	N03°28'41"W	100.79'
1880	N62°26'03"W	94.40'
1881	N50°37'35"W	44.58'
1882	S25°49'53"W	52.93'
1883	S59°26'06"W	79.47'
1884	S73°32'11"W	24.51'
1885	S26°41'08"W	55.73'
1886	S01°31'56"E	57.42'
1887	S61°04'58"W	72.75'
1888	N86°39'39"W	53.23'
1889	S71°07'59"W	80.42'
1890	N46°01'27"W	62.90'
1891	N87°26'16"W	55.73'
1892	N53°36'53"W	69.36'
1893	N31°09'23"W	98.84'
1894	N21°18'13"E	72.54'
1895	N00°49'14"W	91.35'
1896	N04°42'52"E	55.73'
1897	N17°24'56"E	84.84'
1898	N34°54'56"E	90.13'
1899	N44°30'03"W	58.04'
1900	N45°38'28"E	36.80'
1901	S65°09'54"E	43.89'
1902	N39°32'01"E	42.09'
1903	N32°20'18"E	33.44'
1904	N30°24'21"E	59.63'
1905	N12°01'11"E	75.93'
1906	N24°28'29"W	45.31'
1907	N81°29'41"W	46.14'
1908	N79°50'58"W	67.55'
1909	S79°07'11"W	63.67'
1910	S63°53'14"W	54.99'
1911	S69°20'00"W	115.04'
1912	S75°59'45"W	359.03'
1913	S28°23'14"W	196.35'
1914	S43°21'15"E	542.97'
1915	S18°37'37"W	295.58'
1916	S63°26'13"W	195.87'
1917	S03°10'47"E	155.03'
1918	S08°19'36"W	357.18'
1919	S05°28'41"W	322.85'
1920	S00°52'42"E	506.57'
1921	S89°59'43"W	1451.22'
1922	N00°52'42"W	582.21'
1923	N42°44'53"W	396.63'
1924	N12°40'38"W	464.83'
1925	N13°08'45"E	491.32'
1926	N40°22'26"E	365.78'
1927	N60°49'38"E	249.22'
1928	S82°18'52"E	274.65'
1929	N62°09'58"E	439.70'
1930	N44°49'08"E	823.86'
1931	N10°13'29"E	64.74'
1932	N33°27'16"E	70.08'
1933	N20°59'51"E	44.89'
1934	N70°48'45"E	113.30'
1935	N42°33'56"E	103.17'
1936	S73°51'47"E	60.31'
1937	S68°04'05"E	116.66'
1938	N79°29'40"E	91.75'
1939	N56°16'55"E	62.30'

Wetland 40A

Line #	Direction	Length
1940	S08°26'36"E	81.40'
1941	S05°34'10"W	111.78'
1942	S59°42'50"W	52.31'

Wetland 40A

Line #	Direction	Length
1946	S54°52'19"W	45.06'
1947	S20°41'38"W	215.46'
1948	S04°08'01"E	205.16'
1949	S72°22'50"W	93.02'
1950	N22°37'37"W	99.53'
1951	N54°28'11"W	56.46'
1952	N90°00'00"W	72.21'
1953	N58°14'59"W	54.04'
1954	N10°35'55"E	90.04'
1955	N60°08'36"E	80.71'
1956	N00°00'00"E	61.21'
1957	N17°39'52"E	62.30'
1958	N10°53'14"E	72.56'
1959	N00°12'34"W	74.40'
1960	N19°41'38"E	49.65'
1961	N03°28'41"W	100.79'
1962	N31°30'05"E	83.82'
1963	N51°50'35"W	44.58'
1964	N37°38'07"E	103.97'
1965	N37°48'27"E	58.97'
1966	N22°55'13"E	45.17'

Wetland 40B

C#	L	R	D
C10	175.17	343.0	029°15'46"
C11	52.91	94.6	032°02'15"
C12	118.84	185.3	036°45'12"
C13	63.60	96.7	037°40'05"
C14	185.92	112.5	094°42'47"

Wetland 40B

Line #	Direction	Length
1971	N82°42'50"W	121.10'
1972	N90°00'00"W	99.17'
1973	S66°22'41"W	97.57'
1974	S66°43'38"W	130.76'
1975	S47°57'16"W	112.97'
1976	N26°19'51"W	118.53'
1977	N15°21'15"W	118.29'
1978	N32°14'17"W	121.63'
1979	N62°54'41"W	106.67'
1980	N82°24'56"W	83.29'
1981	S81°49'11"W	87.74'
1982	S61°49'41"W	87.06'
1983	S23°34'22"W	183.70'
1984	S11°10'04"W	138.76'
1985	S01°19'34"W	145.83'
1986	S25°52'25"E	145.16'
1987	S44°17'36"E	127.31'
1988	S62°42'29"E	117.77'
1989	N83°23'52"E	107.62'
1990	N61°23'49"E	98.70'
1991	S15°52'51"E	127.49'
1992	S33°00'43"E	130.13'
1993	S50°45'45"E	103.60'
1994	S65°19'22"E	73.81'
1995	S87°05'15"E	168.87'
1996	N32°57'32"E	145.17'
1997	N37°27'16"E	224.49'
1998	N41°03'49"E	92.75'
1999	N02°48'39"W	387.38'

Wetland 41

Line #	Direction	Length
2000	S89°28'00"W	30.73'
2001	S20°05'56"W	52.01'
2002	S31°04'36"E	245.67'
2003	N73°53'21"E	25.22'
2004	S40°48'07"E	82.08'
2005	S02°03'42"W	37.69'
2006	S79°39'57"E	44.04'
2007	S66°26'03"E	42.46'
2008	S88°49'04"E	93.90'
2009	S02°14'34"E	103.13'
2010	S16°29'13"W	104.71'
2011	S51°32'48"W	98.37'
2012	S61°31'59"W	82.39'
2013	N85°56'11"W	63.78'
2014	S52°02'12"W	65.17'
2015	S65°44'19"W	56.97'
2016	N79°34'53"W	100.77'
2017	N42°42'51"W	74.34'
2018	N33°17'01"W	103.31'
2019	N25°47'43"W	41.15'

Wetland 41

Line #	Direction	Length
2020	N02°55'26"W	39.40'
2021	N32°16'09"E	77.88'
2022	N46°46'53"E	33.85'
2023	N42°01'50"W	32.81'
2024	N74°28'21"W	129.44'
2025	N86°55'07"W	72.92'
2026	N28°44'12"W	66.89'
2027	N42°47'03"W	79.86'
2028	N13°12'20"W	62.40'
2029	N17°08'50"E	84.11'
2030	N35°38'17"E	52.34'
2031	N58°48'39"E	57.14'
2032	N84°41'58"E	77.53'
2033	S77°14'23"E	39.48'
2034	S50°39'09"E	67.67'
2035	N59°55'10"E	102.70'
2036	S81°45'47"E	99.12'
2037	N80°38'56"E	63.03'
2038	S38°30'06"E	83.22'
2039	S04°18'24"E	61.15'

Wetland 42

Line #	Direction	Length
2040	S02°36'58"W	88.82'
2041	S06°33'53"W	59.58'
2042	S33°55'09"W	72.98'
2043	S81°57'20"W	100.69'
2044	S87°29'41"W	94.97'
2045	N23°02'56"W	67.32'
2046	N11°08'17"W	76.16'
2047	N09°11'21"E	74.36'
2048	N36°27'30"E	86.22'
2049	N58°38'10"E	113.83'
2050	S81°58'00"E	45.19'
2051	S49°51'40"E	103.06'
2052	S01°37'32"E	78.72'

Wetland 43

Line #	Direction	Length

Wetland 63

Line #	Direction	Length
2617	N79°27'19"E	56.24'
2618	N57°51'08"E	66.32'
2619	N34°18'19"E	159.88'
2620	N03°32'23"E	67.23'
2621	N59°56'16"W	86.56'
2622	S86°07'49"W	135.23'
2623	S78°12'29"W	47.50'
2624	S06°42'46"W	82.26'
2625	S07°54'31"W	133.19'
2626	S38°44'54"E	63.04'
2627	S80°33'37"E	39.66'

Wetland 64

Line #	Direction	Length
2628	N15°06'10"W	48.52'
2629	N27°45'05"E	61.82'
2630	N65°47'28"E	139.68'
2631	S63°54'55"E	59.05'
2632	S10°59'49"E	74.17'
2633	S05°44'46"W	24.00'
2634	S72°58'26"W	131.32'
2635	N83°12'39"W	57.52'
2636	N41°28'14"W	56.71'

Wetland 65

Line #	Direction	Length
2637	S83°00'46"W	77.12'
2638	S56°23'03"W	126.32'
2639	S62°28'56"W	125.67'
2640	S21°24'05"W	90.69'
2641	S22°20'06"E	172.82'
2642	S45°04'35"E	117.37'
2643	S68°49'05"E	116.14'
2644	N87°58'10"E	178.01'
2645	N61°43'23"E	179.89'
2646	N03°00'35"E	152.59'
2647	N01°02'28"W	151.72'
2648	N33°26'58"W	106.16'
2649	N68°38'11"W	73.28'
2650	S88°24'18"W	147.92'

Wetland 66

Line #	Direction	Length
2651	S21°14'39"W	41.99'
2652	N70°16'27"W	34.00'
2653	N47°46'57"W	69.33'
2654	N18°16'00"E	28.09'
2655	N44°35'11"E	36.73'
2656	S51°29'33"E	62.21'
2657	S24°00'43"E	36.41'

Wetland 67

Line #	Direction	Length
2658	S62°01'57"W	67.76'
2659	S38°42'10"W	54.19'
2660	S21°58'52"E	89.65'
2661	S60°09'54"E	114.32'
2662	S67°13'31"E	64.73'
2663	N41°19'08"E	49.88'
2664	N15°38'51"E	65.57'
2665	N23°07'17"W	78.98'
2666	N52°30'15"W	101.88'
2667	N88°13'32"W	38.30'

Wetland 68

Line #	Direction	Length
2668	S56°55'38"E	62.55'
2669	N65°57'08"E	94.44'
2670	N28°03'30"E	58.42'
2671	N19°14'38"W	79.73'
2672	N40°51'01"W	151.76'
2673	S52°36'39"W	52.99'
2674	S49°27'28"W	86.55'
2675	S01°51'13"W	109.78'
2676	S65°58'57"E	85.45'

Wetland 69

Line #	Direction	Length
2677	N04°30'31"W	58.72'
2678	N63°18'57"W	56.40'
2679	S45°38'15"W	76.31'
2680	S05°11'46"E	32.24'
2681	S46°38'09"E	54.30'
2682	N78°54'09"E	58.32'
2683	N19°46'20"E	29.39'

Wetland 70

Line #	Direction	Length
2684	N26°18'47"E	46.76'
2685	N66°27'29"E	39.94'
2686	S62°25'50"E	35.54'
2687	S20°49'04"E	46.95'
2688	S24°10'52"W	38.12'
2689	S78°03'05"W	51.37'
2690	N65°08'20"W	21.11'
2691	N27°44'21"W	44.06'

Wetland 71

Line #	Direction	Length
2692	N17°30'12"W	81.06'
2693	N02°40'02"E	75.68'
2694	N34°06'25"E	83.09'
2695	N58°35'29"E	94.76'
2696	S75°52'47"E	99.70'
2697	S44°24'25"E	127.39'
2698	S11°20'06"W	92.00'
2699	S38°23'04"W	113.43'
2700	S82°51'25"W	110.88'
2701	S86°47'15"W	57.98'
2702	N41°42'02"W	54.09'

Wetland 72

Line #	Direction	Length
2703	S21°16'08"W	57.86'
2704	S00°33'07"E	67.38'
2705	S49°47'35"E	90.45'
2706	N87°04'20"E	72.01'
2707	N15°21'39"E	73.33'
2708	N16°25'23"E	80.01'
2709	N02°12'00"E	25.22'
2710	N60°29'09"W	48.42'
2711	N81°07'09"W	82.76'
2712	S50°04'41"W	51.86'

Wetland 73

Line #	Direction	Length
2713	S14°24'22"W	130.93'
2714	S84°17'31"W	77.53'
2715	S89°14'10"W	64.35'
2716	N79°38'35"W	59.18'
2717	N45°45'28"W	48.98'
2718	N04°21'35"E	72.51'
2719	N10°00'22"E	48.20'
2720	N06°21'36"E	77.84'
2721	N07°27'32"E	49.49'
2722	N13°50'35"E	46.61'
2723	S68°57'33"E	67.23'
2724	S68°40'49"E	82.30'
2725	S44°03'29"E	77.47'
2726	S20°27'38"E	97.28'

Wetland 74

Line #	Direction	Length
2727	N59°58'13"E	98.34'
2728	N66°22'48"E	53.73'
2729	S71°34'26"E	45.41'
2730	S31°15'03"E	73.16'
2731	S00°00'00"E	48.19'
2732	S85°47'44"W	69.94'
2733	N90°00'00"W	160.01'
2734	N54°06'13"W	36.72'
2735	N49°18'01"E	58.18'

Wetland 75

Line #	Direction	Length
2737	N15°38'23"W	44.25'
2738	N80°46'40"W	29.24'
2739	S69°07'02"W	45.72'
2740	N89°26'53"W	49.73'
2741	S20°44'37"W	35.20'
2742	S41°12'34"E	98.49'
2743	S89°30'10"E	41.39'
2744	N49°43'19"E	51.92'
2745	N00°15'12"W	42.27'

Wetland 76

Line #	Direction	Length
2746	S10°03'54"W	17.60'
2747	N49°03'27"E	47.37'
2749	S83°32'02"E	28.57'

Wetland 76

Line #	Direction	Length
2752	N09°02'18"W	80.00'
2753	N14°19'38"W	63.64'
2754	N56°12'57"W	24.00'
2755	N01°19'12"W	44.12'
2756	N00°03'37"W	56.94'
2757	N07°32'48"W	44.73'
2758	N03°38'21"E	107.17'
2759	N11°04'48"E	61.95'
2760	N19°50'05"W	53.28'
2761	N36°06'47"W	62.21'
2762	N39°19'36"W	71.01'
2763	N36°11'59"W	34.51'
2764	N63°45'56"W	59.81'
2765	N48°20'29"W	29.32'
2766	N68°08'48"W	25.48'
2767	N17°48'11"W	66.63'
2768	N33°06'15"W	98.83'
2769	N28°59'19"W	91.59'
2770	N34°36'42"W	95.24'
2771	N25°45'54"W	42.79'
2772	N32°58'19"W	71.85'
2773	N12°39'44"W	85.37'
2774	N28°32'11"W	81.78'
2775	N45°41'10"W	101.55'
2776	N82°07'39"W	73.13'
2777	N83°34'48"W	96.93'
2778	N69°33'52"W	56.18'
2779	N02°33'27"E	34.33'
2780	N38°58'23"E	98.71'
2781	N26°02'24"E	91.20'
2782	N15°23'54"E	67.80'
2783	N12°26'18"E	77.16'
2784	N10°38'56"E	118.71'
2785	N18°31'42"W	98.43'
2786	N35°19'01"W	54.60'
2787	N08°25'10"W	142.76'
2788	N43°14'13"W	118.54'
2789	N64°37'01"W	53.66'
2790	S53°36'45"W	56.31'
2791	N75°22'25"W	30.66'
2792	N48°44'18"W	44.54'
2793	N04°57'26"W	65.02'
2794	N12°24'18"W	57.93'
2795	N27°26'22"E	64.95'
2796	N41°21'28"E	23.98'
2797	S72°43'12"E	50.16'
2798	S24°35'59"E	64.90'
2799	S39°13'37"E	66.47'
2800	S64°50'04"E	25.21'
2801	N60°51'08"E	18.36'
2802	S88°41'12"E	36.69'
2803	N11°19'22"W	115.42'
2804	N15°58'37"E	89.99'
2805	N20°33'41"W	96.56'
2806	N62°39'52"W	43.97'
2807	N56°19'10"W	50.78'
2808	S55°14'14"W	46.33'
2809	S33°48'19"W	72.80'
2810	S70°35'09"W	63.33'
2811	N41°33'14"W	37.71'
2812	S71°21'51"W	32.12'
2813	S79°35'24"W	65.80'
2814	S48°36'22"W	113.50'
2815	S11°42'29"W	132.82'
2816	S61°06'12"E	112.88'
2817	S52°55'49"E	27.66'
2818	S33°55'53"W	109.87'
2819	S14°07'01"W	75.37'
2820	S13°21'40"E	98.93'
2821	S47°35'24"E	37.98'
2822	S02°29'52"W	80.74'
2823	S49°50'13"E	142.46'
2824	S12°03'07"W	55.37'
2825	S83°36'49"W	86.40'
2826	S08°38'45"W	138.93'
2827	S42°38'06"E	52.09'
2828	S34°34'23"E	93.59'
2829	S27°17'37"E	48.61'
2830	S20°53'31"W	33.34'
2831	N85°48'46"W	52.81'
2832	S63°22'48"W	58.32'

Wetland 76

Line #	Direction	Length
2833	S05°06'51"W	64.47'
2834	S09°19'53"W	63.17'
2835	S26°07'42"E	139.10'
2836	S22°38'55"E	101.88'
2837	S03°56'52"E	58.20'
2838	S04°01'13"W	105.47'
2839	S15°46'01"E	69.81'
2840	S26°58'02"W	127.00'
2841	S03°53'10"E	144.65'
2842	S12°52'15"E	93.42'
2843	S23°29'19"E	102.31'
2844	S09°21'12"E	70.64'
2845	S15°39'40"E	114.05'
2846	S15°26'46"E	74.15'
2847	S08°28'36"W	42.14'
2848	S13°54'56"E	104.16'
2849	S60°07'04"E	49.76'
2850	S38°41'12"E	41.61'
2851	S13°20'52"W	29.94'
2852	S36°03'24"E	119.24'
2853	S85°06'30"E	74.88'
2854	S70°23'25"E	92.57'
2855	S84°21'00"E	96.78'
2856	N82°24'03"E	145.82'
2857	N85°22'57"E	73.87'
2858	N52°29'20"E	108.30'
2859	N42°11'40"E	43.41'
2860	N15°40'52"E	45.13'
2861	N18°58'53"E	54.22'
2862	N06°24'32"W	57.31'
2863	N28°47'36"E	58.91'
2864	S78°59'44"E	39.98'
2865	S28°44'25"E	44.21'
2866	S26°01'57"E	49.84'
2867	S06°06'47"E	34.47'

Wetland 77

Line #	Direction	Length
2869	N29°36'19"E	121.50'
2869	N27°12'42"W	61.83'
2870	N30°27'02"E	128.08'
2871	N43°19'04"E	58.36'
2872	S59°37'09"E	27.85'
2873	S25°36'52"E	44.16'
2874	S64°20'31"E	48.17'
2875	S53°51'45"E	64.20'
2876	N83°02'55"E	90.97'
2877	N56°34'48"E	43.96'
2878	N16°38'09"W	21.51'
2879	N20°11'14"E	74.24'
2880	N15°31'09"W	46.66'
2881	N54°09'13"W	87.28'
2882	N35°20'44"W	85.82'
2883	S26°53'30"W	59.71'
2884	N88°32'53"W	81.30'
2885	N03°39'26"E	58.30'
2886	N42°59'13"E	49.74'
2887	N71°35'47"W	128.15'
2888	N24°25'08"W	88.79'
2889	N26°30'45"E	98.26'
2890	N07°09'25"E	751.13'
2891	N26°25'39"E	185.08'
2892	N33°11'23"E	104.99'
2893	N51°51'17"E	59.65'
2894	S80°50'29"E	52.61'
2895	S46°10'53"E	58.05'
2896	S04°59'49"W	73.90'
2897	S00°57'30"E	181.03'
2898	S19°29'44"W	116.94'
2899	S66°17'19"E	68.32'
2900	S55°54'51"E	103.66'
2901	S00°32'05"W	61.18'
2902	S45°53'59"W	74.74'
2903	S24°19'05"E	192.42'
2904	S28°51'05"W	155.23'
2905	S18°07'32"W	127.82'
2906	S03°39'28"E	57.67'
2907	S22°51'08"E	97.89'
2908	S52°47'05"E	44.14'
2909	S06°45'28"W	77.25'
2910	S04°37'49"W	64.07'
2911	S09°22'10"W	33.30'

Wetland 77

Line #	Direction	Length
2912	S65°25'30"E	32.25'
2913	S04°36'38"E	123.21'
2914	S22°12'00"W	52.48'
2915	S06°22'27"W	73.65'
2916	S57°15'52"W	34.91'
2917	N43°22'18"W	60.20'
2918	S50°34'43"W	52.74'
2919	N84°33'07"W	30.32'
2920	S50°06'38"W	64.27'
2921	S14°36'52"W	58.75'
2922	S74°57'47"W	53.21'
2923	S49°33'09"W	37.70'
2924	N88°03'58"W	57.96'
2925	S57°43'21"W	48.79'
2926	N50°31'15"W	58.75'
2927	S83°27'18"W	63.17'
2928	N83°23'29"W	69.04'

Wetland 78

Line #	Direction	Length
2929	N72°38'22"E	45.38'
2930	N44°29'04"E	32.85'
2931	N03°19'43"E	37.82'
2932	N11°24'56"W	36.90'
2933	S76°38'59"W	44.85'
2934	N84°50'12"W	26.53'
2935	S67°06'59"W	18.79'
2936	S15°17'41"E	99.13'

Wetland 79

Line #	Direction	Length
2937	S56°26'53"E	54.56'
2938	S21°52'48"E	41.23'
2939	S37°57'07"W	45.14'
2940	S53°41'32"W	40.32'
2941	S78°16'30"W	57.67'
2942	N15°51'53"W	43.79'
2943	N22°55'41"W	40.31'
2944	N23°41'47"E	59.76'
2945	N84°36'22"E	59.82'

Wetland 80

Line #	Direction	Length
2946	S61°09'25"E	46.30'
2947	S09°07'04"E	51.66'
2948	S10°27'29"W	45.89'
2949	S42°36'09"W	50.96'
2950	S71°02'22"W	26.14'
2951	S70°46'54"W	29.77'
2952	N60°11'06"W	31.00'
2953	N81°11'01"W	11.99'
2954	S68°50'16"W	43.10'
2955	N54°26'36"W	29.95'
2956	N02°28'20"W	76.37'
2957	N40°13'20"E	43.02'
2958	N56°01'53"E	66.16'
2959	S70°27'45"E	21.58'
2960	N76°55'56"E	50.71'

Wetland 81

Line #	Direction	Length
2961	N27°47'21"E	53.05'
2962	S70°02'38"E	104.03'
2963	S05°41'48"E	17.32'
2964	S50°41'34"E	47.76'
2965	S62°07'48"E	61.95'
2966	S38°50'25"E	86.22'
2967	S22°31'26"E	51.81'
2968	N65°29'19"E	53.13'
2969	N51°34'08"E	43.48'
2970	N76°52'47"E	35.92'
2971	N08°38'44"E	86.75'
2972	N48°18'43"E	74.38'
2973	N75°32'44"E	88.87'
2974	S65°51'07"E	85.82'
2975	N76°18'17"E	24.30'
2976	S54°26'49"E	67.02'
2977	S59°55'05"E	64.01'
2978	S29°55'32"W	28.84'
2979	S82°11'26"W	59.72'
2980	S22°26'28"W	85.69'
2981	S45°16'03"W	99.46'
2982	S70°59'16"W	96.14'
2983	N80°58'08"W	51.04'

Wetland 81

Line #	Direction	Length
2984	S22°02'30"W	39.13'
2985	N61°41'49"W	36.42'
2986	N87°06'47"W	64.13'
2987	S86°15'05"W	77.73'
2988	N48°21'23"W	74.74'
2989	S42°54'29"W	40.10'
2990	S16°25'36"W	58.05'
2991	S49°31'16"W	69.73'
2992	S78°12'50"W	45.46'
2993	N10°57'20"W	67.37'
2994	N09°21'21"W	127.81'
2995	N10°33'25"W	178.39'

Wetland 82

Line #	Direction	Length
2996	S03°57'15"W	71.49'
2997	S14°27'00"E	52.79'
2998	S57°57'08"E	64.17'
2999	S59°06'55"E	104.05'
3000	S62°51'21"E	54.52'
3001	N72°34'01"E	97.12'
3002	N42°51'48"E	87.45'
3003	N13°27'41"E	96.79'
3004	N31°11'17"W	121.62'
3005	N84°52'15"W	70.28'
3006	N68°50'27"W	95.12'
3007	N76°20'41"W	59.00'
3008	S40°51'04"W	146.90'

Wetland 83

Line #	Direction	Length
3009	N20°32'48"W	55.37'
3010	N45°33'38"E	79.04'
3011	N19°36'41"W	46.84'
3012	N73°35'39"E	90.20'
3013	N08°39'58"E	59.29'
3014	N25°42'53"E	50.42'
3015	N46°27'02"E	94.29'
3016	S75°33'05"E	63.07'
3017	S68°37'46"E	73.24'
3018	S51°32'14"E	58.33'
3019	S04°48'41"E	63.04'
3020	S35°21'04"E	72.11'
3021	S02°11'21"W	116.39'
3022	S19°38'52"W	93.40'
3023	S77°35'16"W	99.43'
3024	N74°41'47"W	307.05'

Wetland 84

Line #	Direction	Length
3025	S22°44'47"E	71.22'
3026	S47°32'50"E	135.22'
3027	S61°28'56"E	89.76'
3028	N82°50'24"E	123.88'
3029	N42°26'58"E	116.06'
3030	N24°04'42"E	135.62'
3031	N26°59'34"E	57.44'
3032	N54°29'56"E	66.47'
3033	N55°54'01"E	59.08'
3034	N27°34'11"E	98.50'
3035	N27°51'41"W	114.64'
3036	N34°02'04"W	63.48'
3037	N59°36'13"E	79.22'
3038	N01°13'11"E	108.43'
3039	N19°04'31"W	43.80'
3040	N35°59'42"W	21.16'
3041	S65°04'57"W	60.49'
3042	S27°36'02"W	71.15'
3043	S14°55'09"W	23.25'
3044	S05°06'33"E	70.34'
3045	S67°17'42"W	9.57'
3046	N30°40'08"W	59.11'
3047	N77°26'48"W	45.07'
3048	S62°15'57"W	117.34'
3049	S29°10'11"W	150.12'
3050	S71°40'39"W	98.09'
3051	S25°13'45"W	37.81'
3052	S70°24'58"W	115.34'
3053	S37°15'10"W	64.99'
3054	S01°23'47"E	107.39'
3055	N88°13'35"W	80.25'
3056	N20°15'30"W	35.67'
3057	N09°49'48"W	53.18'

Wetland 84

Line #	Direction	Length
3058	S72°21'49"W	57.36'
3059	S16°45'39"W	88.75'
3060	S01°54'20"E	88.62'
3061	S03°35'23"W	82.43'
3062	S55°46'10"E	21.41'
3063	S71°03'00"E	124.82'
3064	S73°54'07"E	33.07'
3065	N66°47'31"E	56.16'
3066	N20°57'19"E	51.25'
3067	N30°11'00"W	59.53'
3068	N60°01'59"W	24.98'
3069	N29°23'33"W	76.71'
3070	N75°05'57"E	85.40'

Wetland 85

Line #	Direction	Length
3071	N26°19'08"E	55.82'
3072	N59°59'37"E	58.45'
3073	N79°39'05"E	59.46'
3074	S83°39'44"E	56.02'
3075	S50°50'22"E	39.17'
3076	S22°08'45"E	35.81'
3077	S29°10'49"E	27.69'
3078	S00°00'00"E	47.78'
3079	N90°00'00"W	251.40'
3080	N05°34'27"E	46.31'

Wetland 86

Line #	Direction	Length
3081	S75°20'14"E	48.30'
3082	S13°24'08"W	55.93'
3083	S53°59'41"W	73.70'
3084	S73°53'40"W	50.31'
3085	N50°03'44"W	69.03'
3086	N17°50'44"W	64.49'
3087	N81°51'22"E	82.49'
3088	N84°16'44"E	65.55'

Wetland 87

Line #	Direction	Length
3089	N38°47'29"E	16.59'
3090	N66°48'56"E	80.65'
3091	S72°50'14"E	81.81'
3092	S30°11'07"W	7.89'
3093	S88°02'47"W	85.25'
3094	S81°37'49"W	74.32'

Wetland 88

Line #	Direction	Length
3095	N74°48'34"E	50.39'
3096	S45°20'08"E	104.06'
3097	S48°20'17"E	60.14'
3098	S02°03'36"E	71.55'
3099	S14°30'55"W	91.96'
3100	S47°03'36"W	56.71'
3101	S53°09'01"W	64.41'
3102	S85°47'16"W	102.14'
3103	N64°22'40"W	65.55'
3104	N21°58'28"W	42.65'
3105	N14°04'54"E	117.69'
3106	N14°54'15"E	114.11'
3107	N50°48'58"E	83.73'

Wetland 89

Line #	Direction	Length
3108	S75°07'33"E	64.61'
3109	S49°48'53"W	72.69'
3110	S47°38'36"W	120.72'
3111	S31°18'30"W	62.84'
3112	S77°22'02"W	72.02'
3113	S70°26'05"W	70.08'
3114	S25°08'20"W	49.37'
3115	S45°18'16"E	93.79'
3116	S39°30'39"E	75.90'
3117	S80°13'47"E	206.09'
3118	N43°54'39"E	155.48'
3119	N25°23'15"E	91.23'
3120	N45°43'17"E	65.91'
3121	N87°02'58"E	59.76'
3122	S82°47'11"E	104.76'
3123	S54°47'03"E	65.66'
3124	S59°54'49"E	167.54'
3125	N67°17'40"E	83.16'
3126	N65°33'34"E	132.98'

Wetland 89

Line #	Direction	Length
3127	N24°37'14"E	91.17'
3128	N11°55'10"E	63.41'
3129	N76°18'07"W	59.78'
3130	N33°07'23"W	75.88'
3131	N84°48'30"E	93.57'
3132	N10°24'45"W	12.62'
3133	N88°51'43"W	213.54'
3134	N89°59'13"W	296.23'
3135	S26°21'39"W	77.86'
3136	N26°01'31"W	62.27'
3137	N85°36'31"W	143.59'

Wetland 90

Line #	Direction	Length
3138	S88°59'52"E	68.09'
3139	N22°20'54"E	37.17'
3140	N67°11'57"E	36.79'
3141	S26°42'23"E	41.71'
3142	S88°32'56"E	110.49'
3143	S89°42'33"E	154.07'
3144	N23°26'53"E	0.09'
3145	N89°01'50"E	246.70'
3146	N69°25'21"W	49.78'
3147	N32°35'01"W	86.88'
3148	N44°16'35"W	158.44'
3149	N39°48'15"W	95.10'
3150	N51°41'31"W	154.66'
3151	N61°52'23"W	119.88'
3152	N86°41'46"W	61.42'
3153	S18°24'54"W	88.12'
3154	S00°07'47"E	103.87'
3155	S02°09'18"E	93.10'
3156	S11°46'01"E	86.67'
3157	S48°30'10"W	62.77'
3158	S59°46'56"W	48.83'

Wetland 91

Line #	Direction	Length
3159	S60°12'11"W	81.33'
3160	S74°29'38"W	104.79'
3161	N59°48'06"W	52.70'
3162	N02°32'42"E	89.96'
3163	N76°47'06"W	0.47'
3164	N70°52'25"E	112.12'
3165	N77°32'06"E	153.88'
3166	N55°17'42"E	124.54'
3167	S71°12'01"E	58.00'
3168	S12°26'32"E	94.23'
3169	S85°29'22"W	101.44'
3170	S68°01'45"W	55.29'
3171	S53°51'20"W	83.99'

Wetland 92

Line #	Direction	Length
3172	N73°28'56"E	55.73'
3173	N19°03'28"E	0.12'
3174	N16°00'21"E	95.27'
3175	N53°12'53"E	123.34'
3176	N76°05'56"E	91.91'
3177	S81°59'58"E	129.68'
3178	N47°34'40"E	72.24'
3179	N19°09'55"E	38.99'
3180	N15°03'04"W	53.98'
3181	N59°24'55"E	40.18'
3182	S85°14'57"E	35.35'
3183	N04°48'24"W	61.50'
3184	S68°34'01"W	47.17'
3185	S61°02'54"W	72.44'
3186	S71°49'04"W	117.84'
3187	S87°18'15"W	79.73'
3188	S73°59'40"W	70.11'
3189	S64°58'16"W	69.29'
3190	S46°23'42"W	143.07'
3191	S61°06'33"W	37.38'
3192	S03°19'59"W	118.09'
3193	S66°26'36"E	64.73'

Wetland 93

Line #	Direction	Length
3194	S35°54'22"E	55.45'
3195	N56°14'41"E	95.31'
3196	N07°22'29"E	50.34'
3197	N42°09'52"E	72.68'
3198	N06°10'26"E	81.58'

Wetland 93

Line #	Direction	Length
3199	S73°37'43"W	50.92'
3200	S30°39'42"W	108.87'
3201	S27°41'22"W	63.61'
3202	S62°17'10"W	40.46'
3203	S48°18'13"W	13.63'

Wetland 94

Line #	Direction	Length
3204	N24°54'32"E	122.56'
3205	N39°52'40"E	67.87'
3206	N50°42'19"E	91.15'
3207	N34°54'28"E	75.69'
3208	N61°27'51"E	99.84'
3209	N69°28'19"E	165.09'
3210	N29°15'39"E	144.43'
3211	N03°50'21"W	207.10'
3212	N76°59'08"W	207.02'
3213	S67°30'01"W	151.46'
3214	S12°24'48"W	129.02'
3215	S36°20'01"E	114.51'
3216	S36°14'35"E	1.43'
3217	S08°16'40"E	98.98'
3218	S23°47'17"W	79.31'
3219	S44°51'23"W	74.51'
3220	S45°37'02"W	38.50'
3221	S85°40'39"W	69.31'
3222	S59°09'48"W	60.32'
3223	S16°28'58"W	82.53'
3224	S27°05'05"W	83.67'
3225	S43°39'59"E	53.32'
3226	S22°22'20"E	65.48'
3227	N61°47'24"E	19.18'

Wetland 95

Line #	Direction	Length
3228	N86°03'03"W	36.68'
3229	N27°57'26"W	47.01'
3230	N34°53'06"W	55.96'
3231	N15°30'47"E	86.87'
3232	N09°33'45"E	98.04'
3233	N27°43'47"W	114.11'
3234	N73°03'54"W	41.47'
3235	N26°29'29"W	79.46'
3236	N30°23'51"E	104.24'
3237	N51°55'45"E	150.62'
3238	S77°44'27"E	96.75'
3239	S30°54'53"E	98.47'
3240	S50°43'05"E	110.15'
3241	N35°56'15"E	22.77'
3242	N53°21'36"E	65.27'
3243	S67°34'37"E	49.47'
3244	S12°44'33"E	71.16'
3245	S20°10'28"W	67.81'
3246	S49°51'22"W	101.96'
3247	S21°29'09"W	85.98'
3248	S15°16'12"W	67.45'
3249	S52°02'17"W	56.99'
3250	S63°12'48"W	115.93'
3251	S25°29'41"W	68.40'
3252	S70°52'44"W	23.05'

Wetland 96

Line #	Direction	Length
3253	S05°26'54"W	0.67'
3254	N18°45'19"E	85.11'
3255	S85°09'24"W	50.49'
3256	S69°28'39"W	37.14'
3257	S21°09'55"W	25.29'
3258	S23°23'40"E	50.10'
3259	S74°55'25"E	35.74'
3260	N37°40'13"E	20.49'

Wetland 97

Line #	Direction	Length
3261	N60°08'16"W	62.61'
3262	N18°27'32"W	20.35'
3263	N11°48'59"E	29.95'
3264	N52°13'01"E	78.13'
3265	N80°07'59"E	86.13'
3266	S86°51'13"E	37.68'
3267	S21°43'23"E	56.04'
3268	S08°49'17"E	30.28'
3269	S37°23'36"W	36.15'
3270	S70°28'20"W	63.44'

Wetland 97

Line #	Direction	Length
3271	S75°55'57"W	55.75'
3272	N75°06'09"W	19.85'

Wetland 98

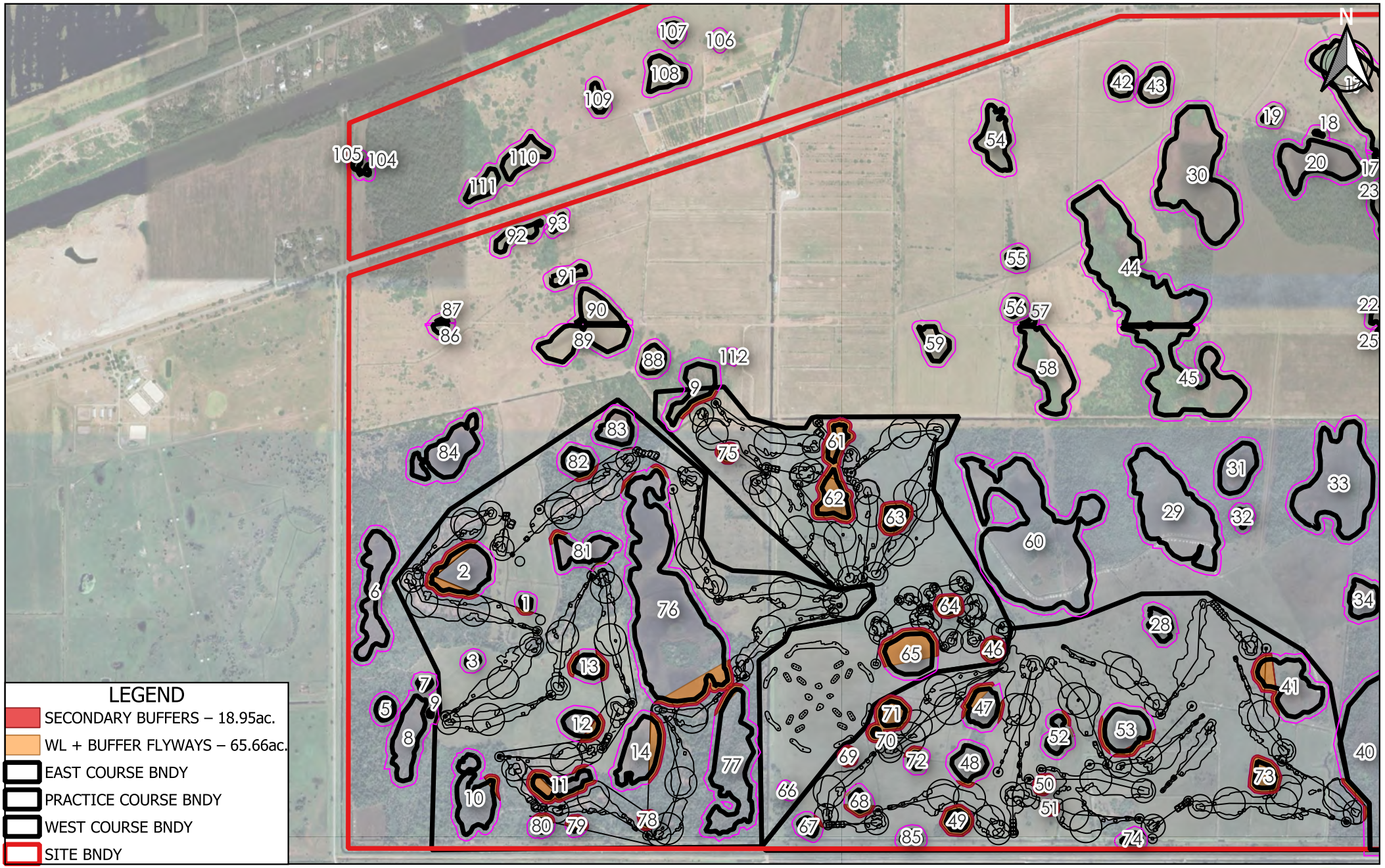
Line #	Direction	Length
3273	N08°33'39"W	54.02'
3274	N21°00'52"E	84.45'
3275	N67°51'04"E	35.31'
3276	S57°27'48"E	38.21'
3277	S14°12'42"E	105.32'
3278	S16°05'55"E	67.59'
3279	S43°55'44"W	48.80'
3280	N68°49'42"W	45.97'
3281	N42°15'47"W	81.83'

Wetland 99

Line #	Direction	Length
3282	S70°05'26"E	60.60'
3283	N58°40'51"E	63.99'
3284	S68°16'26"E	51.61'
3285	N75°26'27"E	69.56'
3286	S43°32'04"E	53.28'
3287	S18°41'09"E	83.31'
3288	S05°

Flyover/Setback Mapping

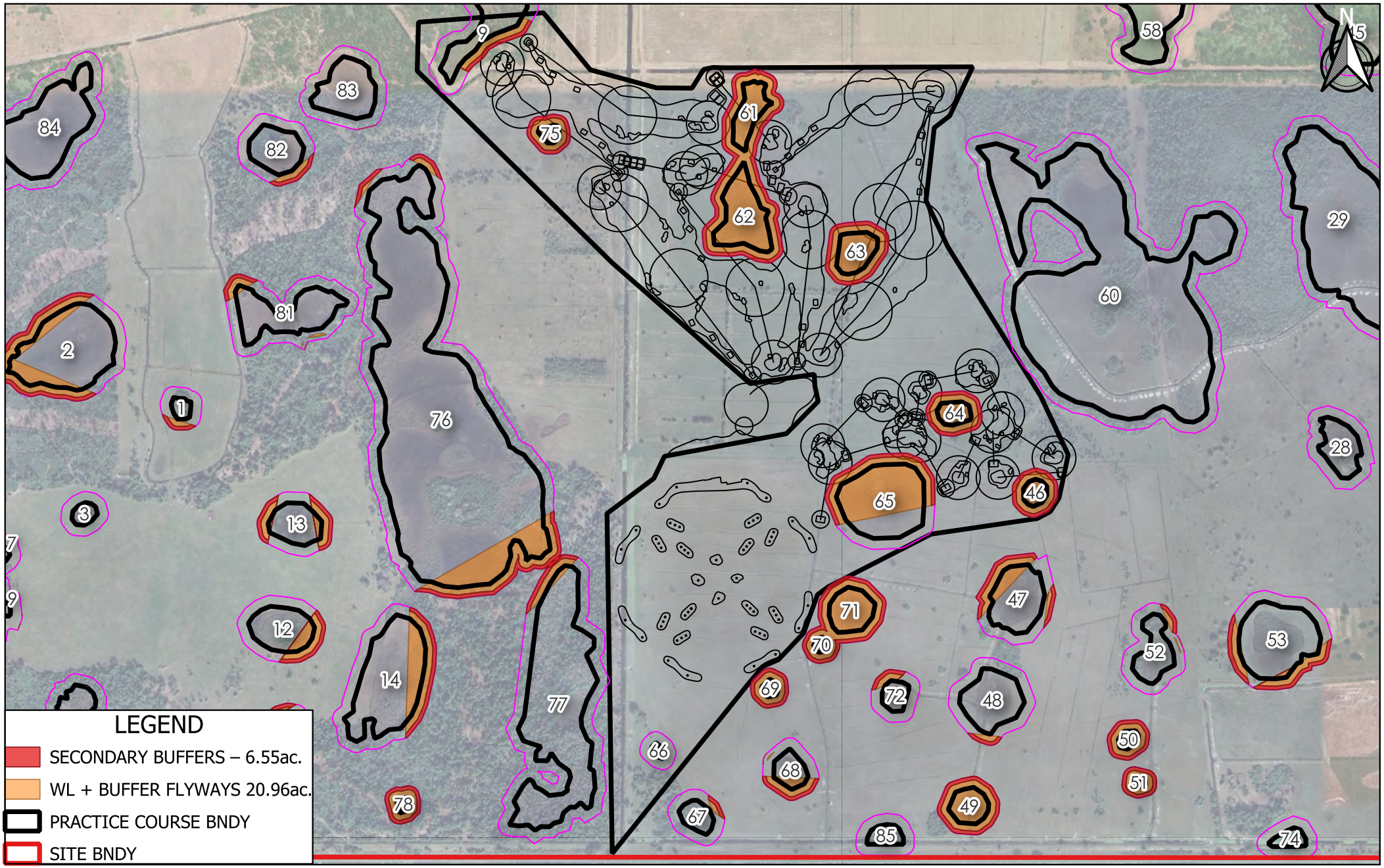
THE RANCH - FLYOVER AND SETBACK MAP



#22-153
16 July 2025

HALEY WARD

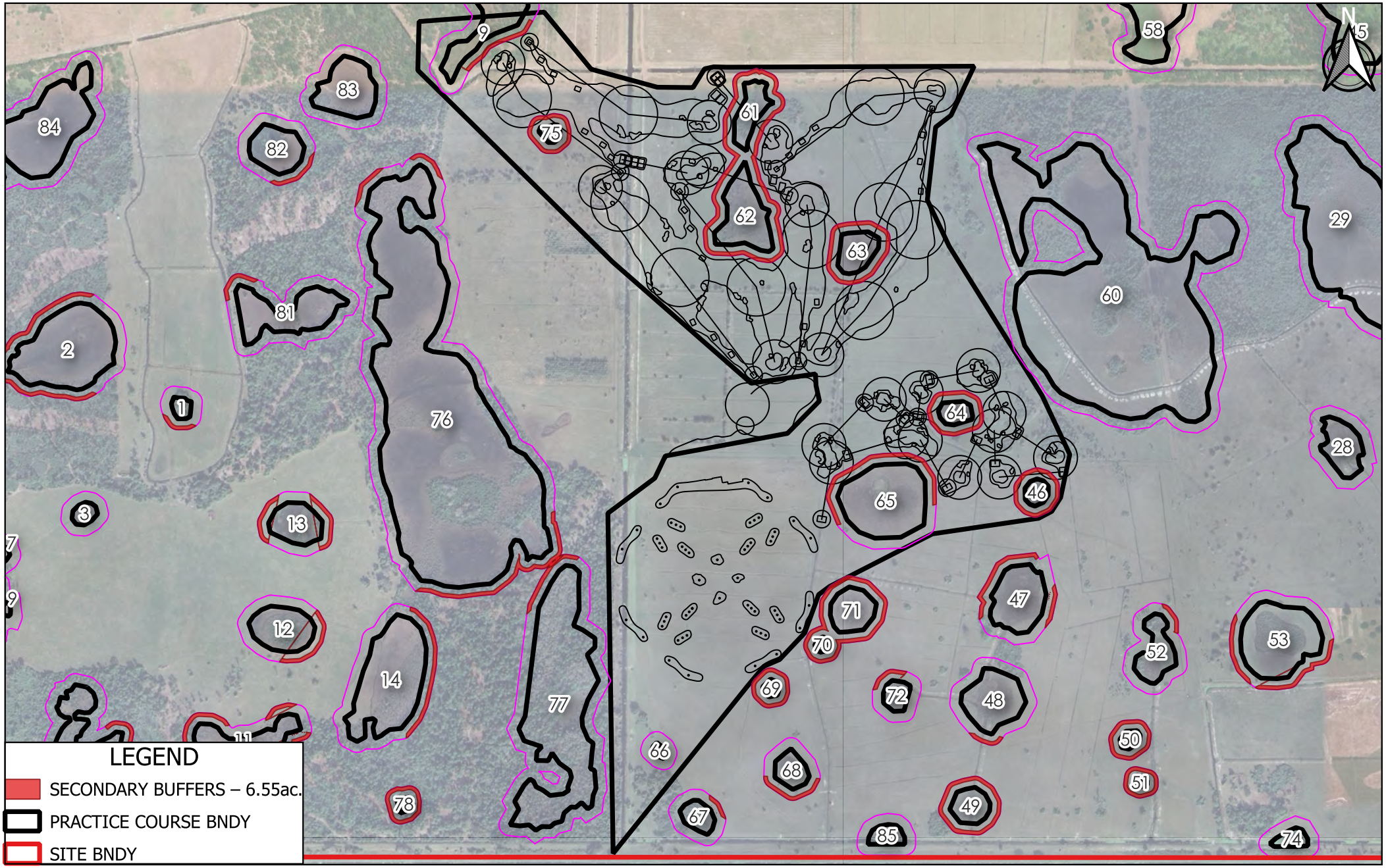
THE RANCH - PRACTICE COURSE SETBACK AND FLYOVER MAP



#22-153
16 July 2025

HALEY WARD

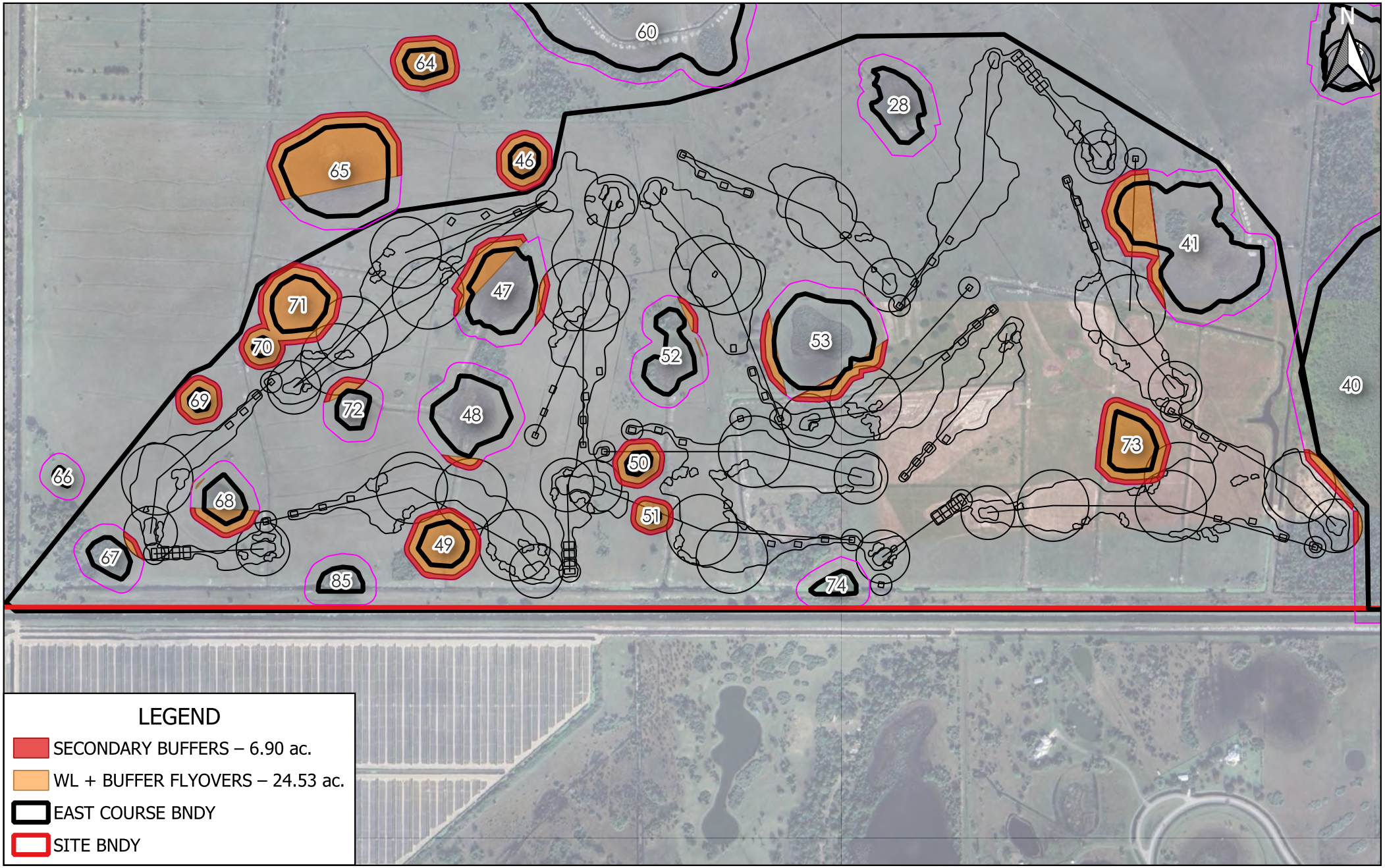
THE RANCH - PRACTICE COURSE SECONDARY BUFFER MAP



#22-153
16 July 2025

HALEY WARD

THE RANCH - EAST COURSE FLYOVER AND SETBACK MAP

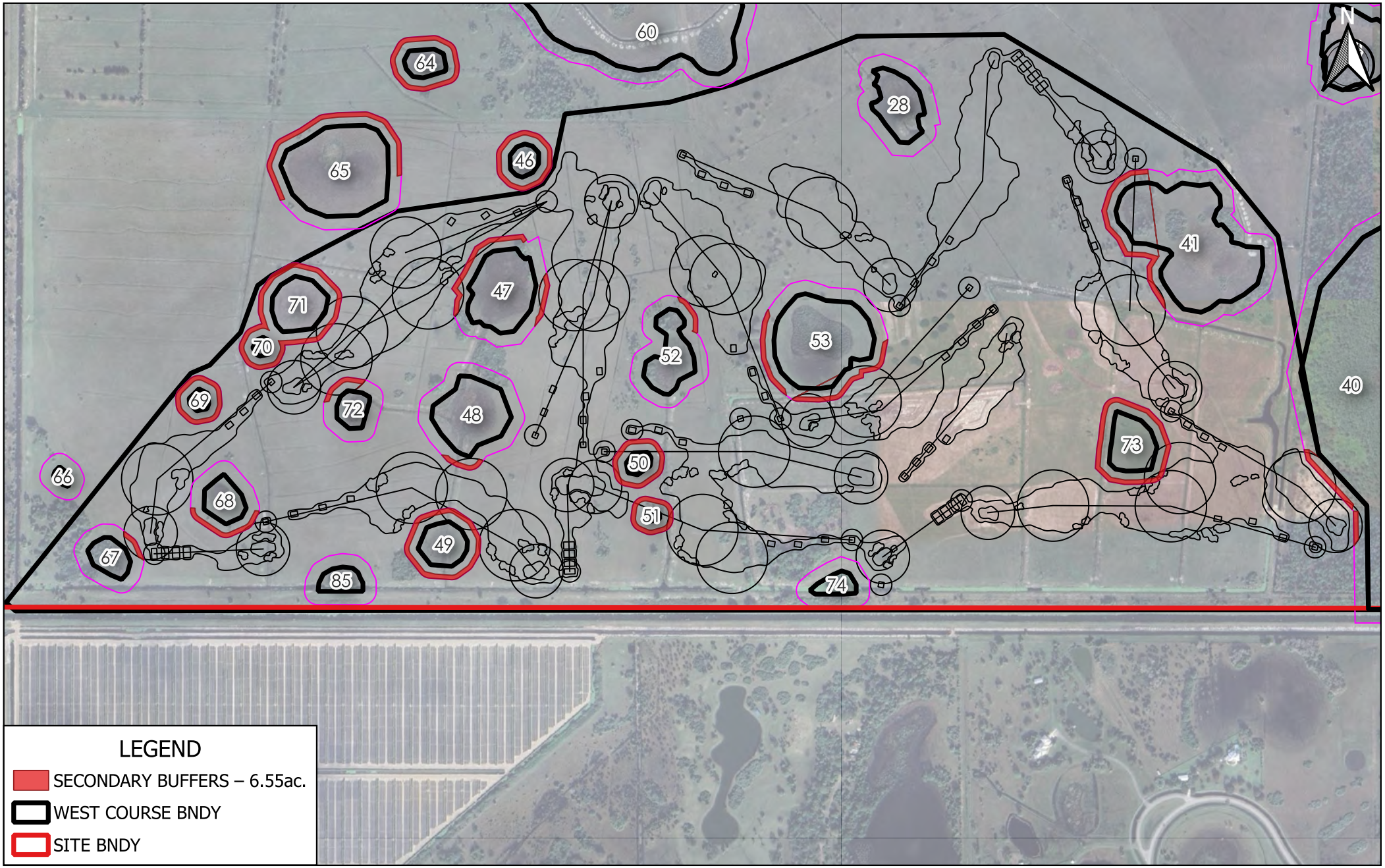


#22-153
16 July 2025

0 0.05 0.1 0.15 mi

HALEY WARD

THE RANCH - EAST COURSE SECONDARY BUFFER MAP



#22-153
16 July 2025

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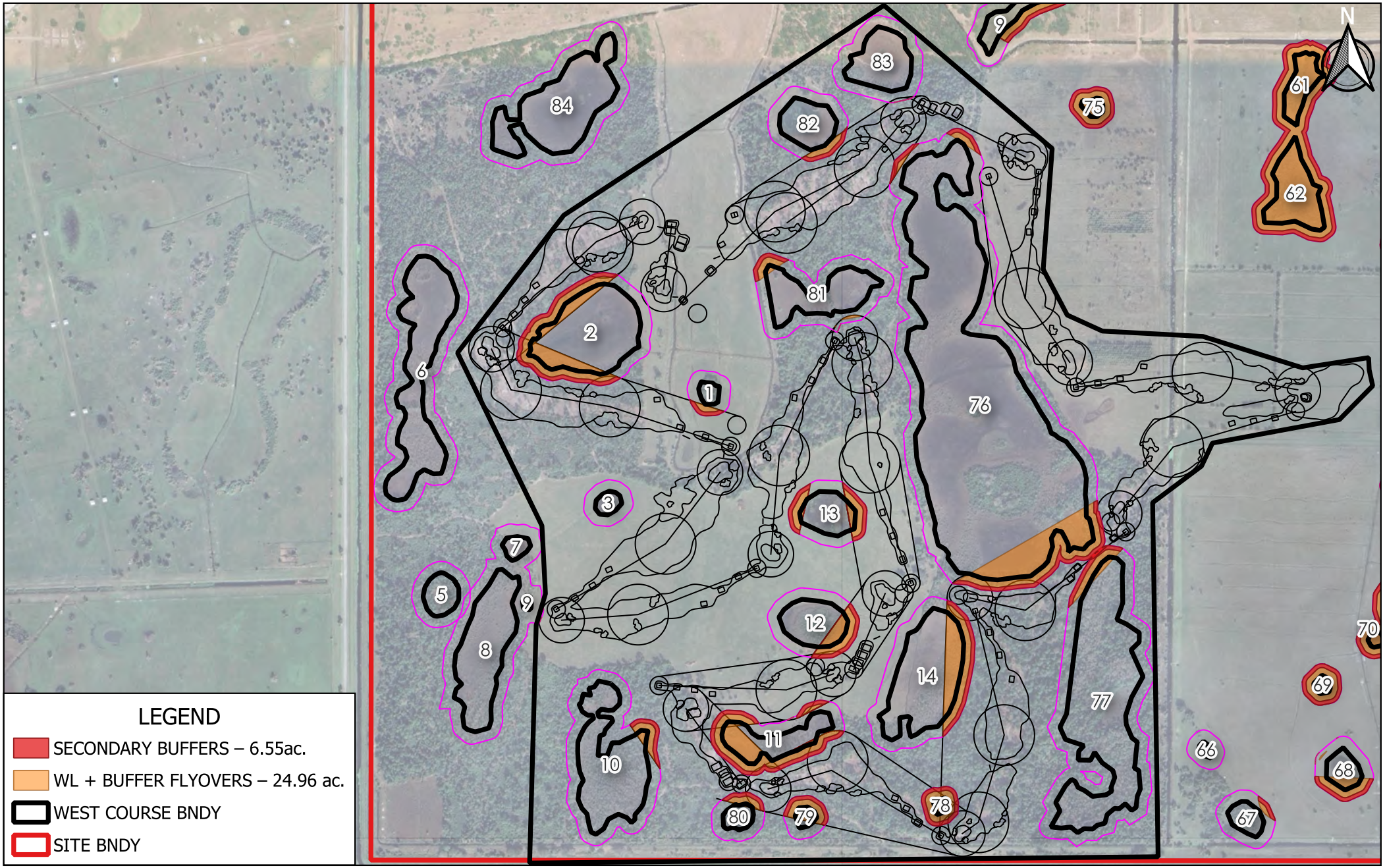
HALEY WARD

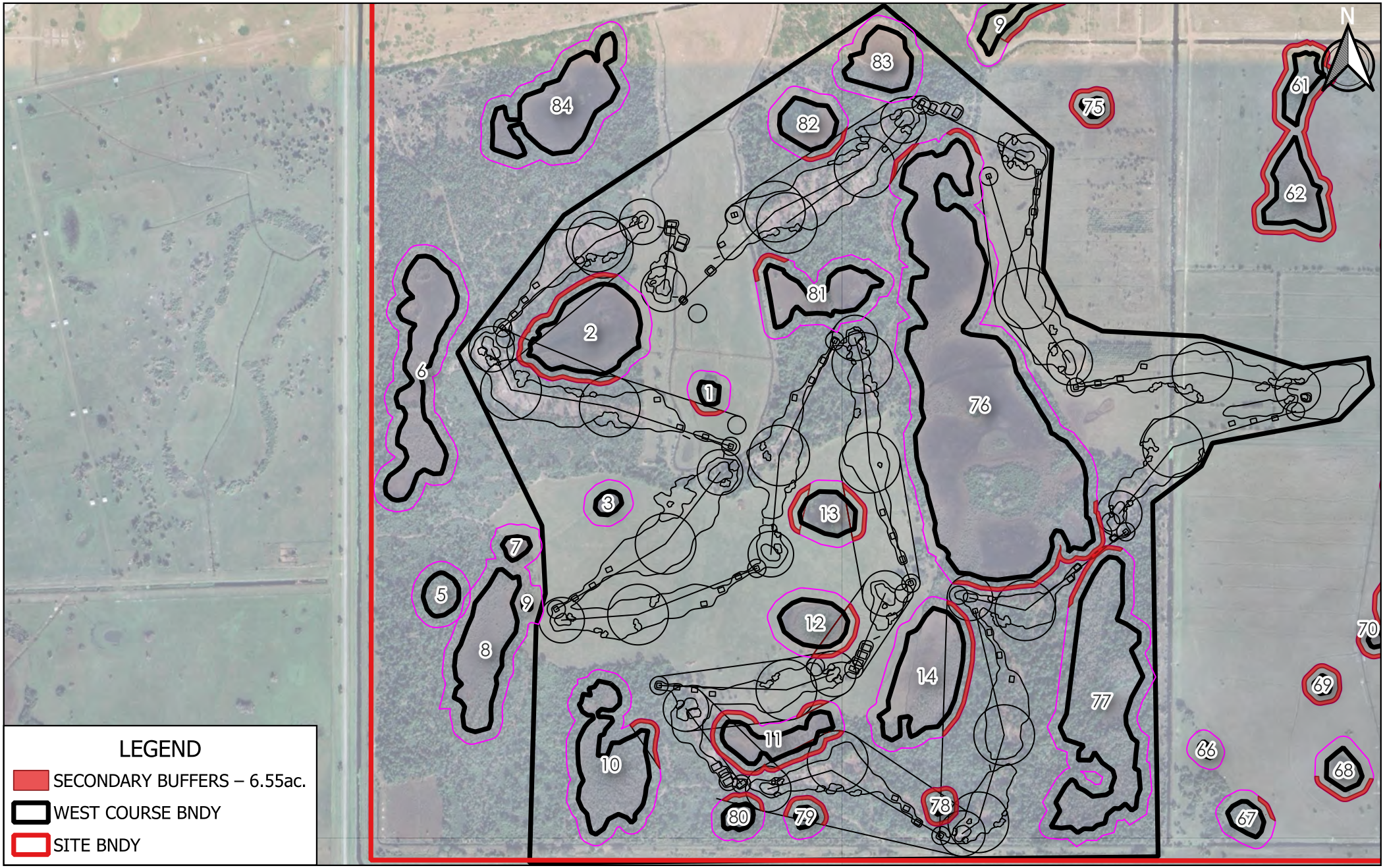
THE RANCH - WEST COURSE SECONDARY BUFFER MAP



#22-153
16 July 2025

HALEY WARD

THE RANCH - WEST COURSE SECONDARY BUFFER MAP



#22-153
16 July 2025

0 0.1 0.2 0.3 mi

HALEY WARD

Wildlife Responses

January 21, 2025

Mr. Matt Hammond, P.E.
Martin County | Public Works Department
Martin County Board of County Commissioners
2401 SE Monterey Road, 2nd floor
Stuart, FL 34996

RE: JWA Ranch LLC/Kimley Horn - SW Kanner Highway
Excavation and Fill – Application No. ENG2024090011 (Modification)
Martin County

Dear Mr. Hammond:

This letter is in response to written comments received on January 21, 2025 and verbal comments from the site meeting held on January 17, 2025 on the submittal for the above-mentioned project. More specifically this letter is in direct response to the additional discussion from our site meeting January 17, 2025. More specifically the response is in direct response to Martin County's request for a formal response to the FWC comments. The FWC Comments are in plain text and the EDC, Inc. a Division of Haley Ward response is in **BOLD**. The responses are as follows:

FFWCC Comments and Recommendations

Florida Manatee

The Florida manatee can be found within shallow coastal and inland waters across Florida, including inland springs, rivers, and lakes. Florida manatee use of the St. Lucie Canal is documented by aerial survey, mortality, and satellite telemetry data. To reduce the risk of entrapment and drowning of manatees, manatee exclusion devices (such as grating) should be installed and maintained over any existing or proposed pipes or culverts greater than 8 inches, but smaller than 8 feet in diameter that are submerged or partially submerged and reasonably accessible to manatees. If horizontal or vertical bars are used, no more than 8-inch gaps on center should be allowed. Grates should be in place at the accessible end(s) during all phases of the construction process and as a final design element to restrict manatee access. Please also note that any proposed upland development and proposed docking facilities must be consistent with the Martin County Manatee Protection Plan (MPP).

No docking facilities are proposed at this time and all intake piping currently has grading to prevent any inadvertent access by manatee or similar sized organisms.

Southeastern American Kestrel

Suitable habitat for southeastern American kestrels may be found within the proposed project area. FWC staff recommend that surveys be conducted from April to August within potentially suitable foraging habitat according to the methodology outlined in the Species Conservation Measures and Permitting Guidelines for Southeastern American Kestrel (https://myfwc.com/media/24482/seamkestrelgl.pdf). Surveys from May to July are ideal to avoid confusion with the migratory subspecies of American kestrel (Falco sparverius sparverius). Surveys may be completed outside of the April to August survey season when necessary, with any kestrels observed assumed to be southeastern American kestrels. Surveys are valid until the beginning of the following

breeding season (March). If surveys encounter active nest cavities, FWC staff recommend avoiding project activities within 490 feet (150 meters) of the nest during the breeding season (March through July) to avoid disturbance. In areas of suitable kestrel habitat, the Guidelines also recommend retaining snags whenever possible.
Per Martin County requirements, the applicant is maintaining snags within upland preserve areas. Additional forage area is being maintained in association with the large expanses of open space as well as within cattle grazing that will be maintained on the property.

Florida Burrowing Owl
Florida burrowing owls typically occupy areas with short groundcover like agricultural fields and prairies and suitable habitat may be found on the project site. FWC staff recommend the applicant survey the property for burrowing owls prior to construction activities to ensure that no burrowing owl burrows occur onsite. Additional information and guidance for conducting burrowing owl surveys can be found in the Species Conservation Measures and Permitting Guidelines for the Florida Burrowing Owl (https://myfwc.com/media/2028/florida-burrowing-owl-guidelines.pdf). If Florida burrowing owls are observed onsite, FWC staff recommend that the applicant contact FWC staff identified at the close of this letter to discuss avoidance, minimization, and permitting options.
No burrowing owls have been observed on the property or recorded within proximity of the site.

Wading Birds
According to the environmental assessment, a nesting area for wading birds was identified on the subject property. FWC staff recommend that specific surveys be conducted for wading birds in the freshwater forested wetlands, cypress, and marshes prior to the commencement of any clearing, grading, or filling activities. Surveys should be conducted during their breeding season, which extends from March through August. The Species Conservation Measures and Permitting Guidelines for Little Blue Heron, Reddish Egret, Roseate Spoonbill, Tricolored Heron (https://myfwc.com/media/18634/threatenedwadingbirds-guidelines.pdf) can be referenced for biological information, survey methodology, measures for avoiding impacts, and recommended conservation practices. If there is evidence of nesting during this period, FWC staff recommend that any wading bird nest sites be buffered by 100 meters (330 feet) to avoid disturbance by human activities. If nesting is discovered after site activities have begun, if the removal or trimming of trees with active nests is unavoidable, or if maintaining the recommended buffer is not possible, the applicant may contact the FWC staff identified below to discuss potential permitting alternatives.
A great blue heron nesting colony is located on the property. The applicant, per FWC recommendations, has voluntarily established a 330 foot minimum buffer around the nesting area. No other species of wading birds have been documented as nesting on the site during multiple surveys throughout the property.

Least Tern
While the existing conditions onsite likely do not support least tern nesting activity, clearing associated with construction may create conditions conducive for beach-nesting bird nesting. Cleared sites such as areas that have undergone surface scraping may attract ground nesting species such as least terns or other imperiled beach-nesting birds (IBNB) during nesting season. IBNB nests have been documented on a variety of disturbed sites, including construction sites. Least terns deposit their eggs in shallow depressions or scrapes in the substrate, possibly lined with pebbles, grasses, or coquina shells. Egg-laying usually begins in late April or early May and colonies may range in size from a few breeding pairs

to many hundreds. FWC staff recommend the following measures to reduce nesting potential during construction:
•Conduct construction activities outside of the breeding season (generally April through August) if feasible, or,
•If the site is cleared during the breeding season, clear the site only when ready to build, and
•Avoid leaving cleared areas with little to no activity for an extended amount of time.
If nesting is observed, FWC staff are available to discuss necessary nest buffers and potential permitting alternatives. The Species Conservation Measures and Permitting Guidelines for American Oystercatcher, Snowy Plover, Black Skimmer, and Least Tern (https://myfwc.com/media/29766/ibnb-guidelines.pdf) can be referenced for additional biological information, measures for avoiding impacts, and conservation practices.
No least terns have been observed on or adjacent to the property. FWC will be consulted if terns are spotted nesting within the confines of the property.

Non-native Fish and Wildlife
The Early Detection & Distribution Mapping System (EDDMapS) indicates high priority invasive species, such as tegus (Salvator spp.), have been reported in this area. These species are considered a high risk to Florida's ecology, economy, or human health and safety. Workers authorized to access the site who encounter these species or other nonnative wildlife listed as Conditional or Prohibited (http://www.myfwc.com/wildlifehabitats/nonnatives/regulations/), are requested to report these sightings, whether dead or alive to http://www.IveGot1.org. Reports of observations, high-resolution photos, proof of captures, and removals of any high priority invasive species are used to monitor populations and coordinate rapid response efforts for nonnative species. If workers require assistance capturing or removing priority nonnative wildlife, they should call FWC's Exotic Species Hotline at 1-888 IVE GOT1 (888-483-4681).
As of this response, no Tegu have been recorded on the property. EDC will work with onsite staff to educate personnel in spotting non-native species and will respond in accordance with FWC guidelines and rules listed above.

Ecological Corridors
Data from the Florida Natural Areas Inventory's (FNAI) Conservation Needs Assessment indicates that portions of the subject property fall within a priority 5 ranked area of the Florida Ecological Greenways Network database. This database identifies the most important ecological corridors and intact landscapes across Florida for the protection of the state's native wildlife, ecosystem services, and ecological resiliency. Severance or reduction of ecological corridors could constitute a significant adverse impact to important state wildlife resources through habitat fragmentation, isolation of existing wildlife populations, and hinderance of genetic exchange. FWC staff are available to provide technical assistance which may minimize adverse impacts to designated ecological corridors as projects within the subject property are being planned.
The applicant has a large portion of the parcel in either open space, grazing, or preserve. Further the applicant is maintaining natural corridors throughout the parcel as per the proposed Master Plan.

Wildlife Crossings
Wildlife crossings can be considered in land use planning when significant areas of productive green space, including wetland and upland forests or small streams or riparian zones, are crossed by major roads. The overall purpose and need for the crossings are to maintain habitat connectivity within natural landscape linkages on the property, avoid habitat degradation, reduce wildlife roadkills, and public

safety. Factors to consider when planning wildlife crossings include the total extent of habitat, type of natural systems crossed by the roadway, wildlife species that will potentially utilize the crossing, and an understanding and control of nearby or adjacent planned land uses. There are numerous wildlife crossing designs which are suitable for target mammals, amphibians, and reptile species, including some designs that provide for both aquatic and terrestrial species movement as well as habitat and hydrological connectivity. Structure types may include bridges, box culverts, and large drainage pipes which can be designed and constructed at appropriate locations. Fencing erected along the outside right-of-way is also needed to exclude animals from the roadway and funnel and encourage them to use the structure. Signage for wildlife underpasses and lower speed limits are also useful in the area of heavy animal use near undercross structures. While there are numerous resources to designing wildlife underpasses, examples and guidelines for various wildlife underpasses in Florida can be obtained from The Florida Department of Transportation at:
https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/environment/pubs/wildlifecrossingguidelines_2018revisions.pdf?sfvrsn=e84b7844_0 or from the U.S. Department of Transportation at:
http://www.fhwa.dot.gov/environment/critter_crossings/main.cfm.
This comment is noted. At this time the project does not propose to have high volume roadways bisecting native linkages.

Wetland Buffers
The ecotone between a wetland and the adjacent upland habitats is important to be delineated as a wetland buffer. Often a wetland buffer is focused on water quality as required by a local government or state water management district. However, buffers that protect water quality may not be sufficient in size to protect wetland-dependent wildlife or aquatic species. For example, nesting wading birds may require a set-back distance from pedestrian activities to prevent the adults from flushing from the nest. Some amphibians and invertebrates may breed and develop in water then move miles away from water into upland habitats to forage and burrow. Therefore, when planning for wetland buffers, considerations for wetland-dependent wildlife species' home ranges and movement patterns may need to be considered.
Large wetland buffers are required on the parcel per Martin County land development regulations. Based on this, the comment has been incorporated within the project.

Habitat Management
Large developments with large conservation areas or ecological corridors may benefit from a specific Wildlife and Habitat Management Plan (WHMP) which can provide a framework for habitat management activities that will ensure these areas continue to provide habitat for fish and wildlife resources. A WHMP can include a list of state and federally listed species which may occur on the site and includes actions to minimize, avoid, and mitigate impacts to those species. Similar plans also include information on proposed maintenance activities such as prescribed fire, invasive plant management, or methods to address nuisance and exotic animal species. FWC staff are available to assist in the development of a management plan that includes these details so that conservation areas and open space may continue to provide habitat for fish and wildlife resources. FWC staff also recommend coordination the USFWS Florida Ecological Service Office at fw4flesregs@fws.gov for technical assistance for development of a site specific WHMP.
The property will utilize a Preserve Area Management Plan (PAMP) and Lake Area management Plan (LAMP) as per Martin County regulations. These two documents are recorded within the public records and enforced by Martin County. They require active management to eliminate non-native

plant species from the property and to enhance native plant materials. Prescribed fire may be utilized as part of this plan.

Lakes and Ponds
According to the pending CPAs, golf courses are proposed for the subject property. The creation of lakes and ponds could provide potential wildlife habitat as well as a recreational area for fishing and wildlife viewing. Lakes and ponds can be managed for both fish production and wildlife habitat, including wading birds and waterfowl. The best design for stormwater ponds is those with complex edges. The addition of native wetland plants along this gradual slope, ideally constructed at a 4:1 grade, could provide a vegetated littoral fringe which could increase the habitat value of the site and possibly provide foraging or nesting areas for several wading bird species. Littoral fringe habitat may also provide spawning habitat for fish which would enhance future recreational fishing opportunities for the community. FWC staff recommend a commitment to long-term maintenance and development of a plan for managing exotic invasive plant species that can significantly degrade habitat values and impact ponds, wetlands, and nearby natural areas. The FWC's Florida Wildlife ConservationGuide provides more information on this topic with suggested guidelines for construction and management of stormwater ponds (http://myfwc.com/conservation/you-conserve/recreation/pond-management/).
Lakes and ponds are being designed and permitted in accordance with State and local regulations. These regulations include robust planting requirements and grading requirements.

Smoke Shed
The residential development is proposed within a smoke shed (periodically smoke-filled corridor) that originates from use of prescribed fire as a management tool at the John C. and Mariana Jones/Hungryland Wildlife Environmental Area and other nearby conservation lands. Prescribed fire is required to maintain many of the natural upland communities that exist on these conservation areas. Natural resource management staff and land managers on these conservation lands will continue to use prescribed burning to manage wildlife habitat and reduce fuel loads that may otherwise lead to catastrophic wildfires that not only affect wildlife but threaten human life and property. FWC staff recommend that the applicant include provisions in any homeowners' association or covenant documents that inform future residents that prescribed burning is an acceptable practice for natural resource management and that the area is within a smoke shed. Developers of lands within two miles of native habitat managed by fire may wish to consider Florida Forest Service recommendations at https://www.fdacs.gov/Forest-Wildfire/For-Communities/Firewise-USA to create Fire-Wise communities.
Noted.

Federal Species
This site may also contain habitat suitable for the federally listed species identified above. FWC staff recommends coordination with the U.S. Fish and Wildlife Service (USFWS) Florida Ecological Services Office (ESO) as necessary for information regarding potential impacts to these species. The USFWS Florida ESO can be contacted at (352) 448-9151 or email at fw4flesregs@fws.gov.

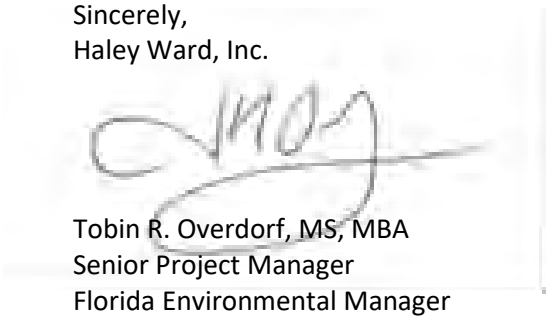
EDC, Inc. a Division of Haley Ward has completed listed species surveys during the fall/winter/spring of 2023-2024. During this time EDC, Inc. conducted a formal caracara survey with protocol approved by the USFWS. The report was completed in May of 2024 and submitted to the USFWS. The results of the report indicated no resident caracara on the parcel. Caracara were observed accessing the NE portion of the property and were observed to be utilizing a roost on the adjacent parcel

approximately 500 feet east of the eastern property line north of Kanner Highway. As of the date of this response, the USFWS has not commented on the 2024 report submitted to their office.

As part of the ongoing efforts associated with the Ranch and local government approvals, the applicant is continuing to develop upland and wetland preserve areas. The applicant is continuing to coordinate directly with the USFWS and the FFWCC. Please see the attached response from the FFWCC in regard to our previously submitted information. In that response the State agency was satisfied with the client's response and did not require any further information.

Please find attached to this letter the FFWCC response as well as the original FFWCC letter. If you have any further comments regarding this response please feel free to contact me at 772-462-2455 or toverdorf@haleyward.com.

Sincerely,
Haley Ward, Inc.



Tobin R. Overdorf, MS, MBA
Senior Project Manager
Florida Environmental Manager

Cc: Jason Webber, PE

From:	Cucinella, Josh
To:	Huffman, Jessica
Cc:	Colletier, Nicolas; Irving, Robert; Goff, Jennifer; Conservation Planning Services; DiGruttolo, Laura
Subject:	FWC"s Comments on The Ranch Lake I - Borrow Pit Excavation (240126-42147)
Date:	Thursday, August 15, 2024 10:14:54 AM
Attachments:	FWC"s Comments on The Ranch Lake I - Borrow Pit Excavation (240126-42147) (1).msg

You don't often get email from josh.cucinella@myfwc.com. Learn why this is important

[Please remember, this is an external email]

Dear Ms. Huffman,
FWC staff have reviewed this project and provided the attached comments. While there have been minor changes to the boundary, we do not need any additional information and have no additional comments. If any wildlife issues arise in the future, we will work directly with the applicant after ERP issuance.

Regards,

Josh Cucinella
Land Use Planning Program Administrator
Office of Conservation Planning Services
Florida Fish and Wildlife Conservation Commission
(352) 620-7330

From:	DiGruttolo, Laura
To:	jhuffman@sfwmd.gov
Cc:	Kenbakst@gmail.com; tobyoverdorf@edc-inc.com; Colletier, Nicolas; Irving, Robert; Conservation Planning Services
Subject:	FWC"s Comments on The Ranch Lake I - Borrow Pit Excavation (240126-42147)
Date:	Wednesday, February 28, 2024 5:22:11 PM
Attachments:	FWC Comments for Martin County 23-06ESR_57729_01122024.pdf

Dear Ms. Huffman:

Florida Fish and Wildlife Conservation Commission (FWC) staff have reviewed The Ranch Lake I - Borrow Pit Excavation Environmental Resource Permit Application (240126-42147) in accordance with our authorities under Chapter 379, Florida Statutes. We previously provided comments and recommendations as part of our review of a Comprehensive Plan Amendment for the larger property (see attached). The Ranch Lake I - Borrow Pit Excavation project falls within the boundaries of the referenced Comprehensive Plan Amendment. Our previous comments and recommendations for fish and wildlife resources remain the same for this project, and we are forwarding the attached letter for informational purposes.

If there are any specific technical questions regarding the content of the letter, please contact Nicolas Colletier at (561) 882-5711 or by email at Nicolas.Colletier@MyFWC.com. If you need any further assistance, please contact our office by email at ConservationPlanningServices@MyFWC.com.

Thank you,

Laura DiGruttolo
Land Use Planning Program Supervisor
Office of Conservation Planning Services
Florida Fish and Wildlife Conservation Commission
(850) 728-5147

The Ranch Lake I - Borrow Pit Excavation_58033

Florida Fish and Wildlife Conservation Commission

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Assistant Executive Director

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Chief Conservation Officer

Jessica Crawford
Chief of Staff

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Managing fish and wildlife resources for their long-term well-being and the benefit of people.

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Tallahassee, Florida
32399-1600
Voice: 850-488-4676

Hearing/speech-impaired:
800-955-8771 (T)
800 955-8770 (V)

MyFWC.com

January 12, 2024

Paul Schilling,
Martin County Growth Management Department
2401 S.E. Monterey Road
Stuart, Florida 34996
pschilli@martin.fl.us

Re: Martin County 23-05ESR (CPA #22-06, Calusa Creek Ranch) and Martin County 23-06ESR (CPA #23-12, The Ranch PUD), Comprehensive Plan Amendments

Dear Mr. Schilling:

Florida Fish and Wildlife Conservation Commission (FWC) staff reviewed the above-referenced comprehensive plan amendments and provide the following comments and recommendations for consideration in accordance with Chapter 163.3184, Florida Statutes. While there are no objections to the amendment, the following technical assistance information is provided to assist the Department of Economic Opportunity, the County, and any applicants during the amendment review and future project planning.

Project Description

The proposed comprehensive plan amendments (CPAs) include a text amendment, Martin County 23-05ESR (CPA #22-06), which proposes minor changes to the language governing the Rural Lifestyle Future Land Use designation, and a future land use map (FLUM) amendment, (CPA #23-12), which would change approximately 3,902 acres from Agricultural to Rural Lifestyle. Concurrent applications have been submitted for these CPAs, and approval of the FLUM amendment is dependent on the adoption of the text amendment. These changes will allow for the development of golf courses, golf cottages, and associated amenities on existing agricultural land. Further, the amendment will allow for the development of residential multi-slip docking facilities along the St. Lucie canal. The land area planned for development occupies less than 20% of the subject property. According to the proposed CPA, a minimum of 25% of the native upland habitat and all wetlands within the site will be preserved and managed under a preserve area management plan.

The subject property is located on both the north and south sides of SW Kanner Highway for approximately 2 miles and the south side of SW Bridge Road for approximately 1 mile. The dominant land covers on the site include 1,758 acres of improved pasture, 502.1 acres of mesic flatwoods, 472.4 acres of marshes, 342.5 acres of tree nurseries, 191.9 acres of wet flatwoods, 161.7 acres of mesic hammock, 150.6 acres of wet prairie, 119.1 acres of mixed hardwood-coniferous, 114.3 acres of unimproved pasture, 48.3 acres of cypress, 23.8 acres of mixed shrub-scrub wetland, and 15.2 acres of shrub and brushland.

Potentially Affected Resources

An initial environmental assessment and wetland delineation was conducted by EDC, Inc., via pedestrian, vehicular, and aerial surveys. According to the environmental report, the following federally and state listed species may be reasonably expected to occur on site, based on the location and habitat characteristics:

- Audubon's crested caracara (*Polyborus plancus audubonii*, Federally Threatened [FT]).
- Wood stork (*Mycteria americana*, FT)

- Everglade snail kite (*Rostrhamus sociabilis plumbeus*, Federally Endangered [FE])
- Gopher tortoise (*Gopherus polyphemus*, State Threatened [ST])
- Southeastern American kestrel (*Falco sparverius paulus*, ST)
- Florida burrowing owl (*Athene cunicularia,* ST)
- Roseate spoonbill (*Platalea ajaja*, ST)
- Little blue heron (*Egretta caerulea*, ST)
- Tricolored heron (*Egretta tricolor*, ST)
- Florida sandhill crane (*Antigone canadensis pratensis*, ST)
- Bald eagle (*Haliaeetus leucocephalus*)

Of the species listed above, the southeastern American kestrel, gopher tortoise, little blue heron, roseate spoonbill, Florida sandhill crane, tricolored heron, and wood stork were observed during the initial site assessment. Adult caracara were observed foraging in or transversing through the subject property, but no evidence of nesting was observed during a separate survey. The consultant plans to conduct surveys for Florida sandhill crane during nesting season and formal surveys for gopher tortoise will be conducted prior to any proposed development activities on the property.

FWC staff conducted a geographic information system (GIS) analysis of the project area. The analysis found that the project site is also located near, within, or adjacent to:

- USFWS Consultation Area for the following federally listed species:
  - Florida scrub-jay (*Aphelocoma coerulescens*, FT)
  - Florida bonneted bat (*Eumops floridanus*, FE)

- Potential habitat for the following federally and state listed species:
  - Florida manatee (*Trichechus manatus latirostris*, FE)
  - Eastern indigo snake (*Drymarchon couperi*, FT)
  - Eastern black rail (*Laterallus jamaicensis jamaicensis*, FT)
  - Least tern (*Sternula antillarum,* ST*)*

- Existing Conservation Areas
  - John C. and Mariana Jones/Hungryland Wildlife Environmental Area (managed by FWC)
  - Palmar Complex/C-44 Basin Harmony Ranch (managed by South Florida Water Management District)

Comments and Recommendations

Florida Manatee

The Florida manatee can be found within shallow coastal and inland waters across Florida, including inland springs, rivers, and lakes. Florida manatee use of the St. Lucie Canal is documented by aerial survey, mortality, and satellite telemetry data. To reduce the risk of entrapment and drowning of manatees, manatee exclusion devices (such as grating) should be installed and maintained over any existing or proposed pipes or culverts greater than 8 inches, but smaller than 8 feet in diameter that are submerged or partially submerged and reasonably accessible to manatees. If horizontal or vertical bars are used, no more than 8-inch gaps on center should be allowed. Grates should be in place at the accessible end(s) during all phases of the construction process and as a final design element to restrict manatee access. Please also note that any proposed upland development and proposed docking facilities must be consistent with the Martin County Manatee Protection Plan (MPP).

Southeastern American Kestrel

Suitable habitat for southeastern American kestrels may be found within the proposed project area. FWC staff recommend that surveys be conducted from April to August within potentially suitable foraging habitat according to the methodology outlined in the *Species Conservation Measures and Permitting Guidelines for Southeastern American Kestrel* (https://myfwc.com/media/24482/seamkestrelgl.pdf). Surveys from May to July are ideal to avoid confusion with the migratory subspecies of American kestrel (*Falco sparverius sparverius*). Surveys may be completed outside of the April to August survey season when necessary, with any kestrels observed assumed to be southeastern American kestrels. Surveys are valid until the beginning of the following breeding season (March). If surveys encounter active nest cavities, FWC staff recommend avoiding project activities within 490 feet (150 meters) of the nest during the breeding season (March through July) to avoid disturbance. In areas of suitable kestrel habitat, the *Guidelines* also recommend retaining snags whenever possible.

Florida Burrowing Owl

Florida burrowing owls typically occupy areas with short groundcover like agricultural fields and prairies and suitable habitat may be found on the project site. FWC staff recommend the applicant survey the property for burrowing owls prior to construction activities to ensure that no burrowing owl burrows occur onsite. Additional information and guidance for conducting burrowing owl surveys can be found in the *Species Conservation Measures and Permitting Guidelines for the Florida Burrowing Owl* (https://myfwc.com/media/2028/florida-burrowing-owl-guidelines.pdf). If Florida burrowing owls are observed onsite, FWC staff recommend that the applicant contact FWC staff identified at the close of this letter to discuss avoidance, minimization, and permitting options.

Wading Birds

According to the environmental assessment, a nesting area for wading birds was identified on the subject property. FWC staff recommend that specific surveys be conducted for wading birds in the freshwater forested wetlands, cypress, and marshes prior to the commencement of any clearing, grading, or filling activities. Surveys should be conducted during their breeding season, which extends from March through August. The *Species Conservation Measures and Permitting Guidelines for Little Blue Heron, Reddish Egret, Roseate Spoonbill, Tricolored Heron* (https://myfwc.com/media/18634/threatenedwadingbirds-guidelines.pdf) can be referenced for biological information, survey methodology, measures for avoiding impacts, and recommended conservation practices. If there is evidence of nesting during this period, FWC staff recommend that any wading bird nest sites be buffered by 100 meters (330 feet) to avoid disturbance by human activities. If nesting is discovered after site activities have begun, if the removal or trimming of trees with active nests is unavoidable, or if maintaining the recommended buffer is not possible, the applicant may contact the FWC staff identified below to discuss potential permitting alternatives.

Least Tern

While the existing conditions onsite likely do not support least tern nesting activity, clearing associated with construction may create conditions conducive for beach-nesting bird nesting. Cleared sites such as areas that have undergone surface scraping may attract ground nesting species such as least terns or other imperiled beach-nesting birds (IBNB) during nesting season. IBNB nests have been documented on a variety of disturbed sites, including construction sites. Least terns deposit their eggs in shallow depressions or scrapes in the substrate, possibly lined with pebbles, grasses, or coquina shells. Egg-laying usually begins in late April or early May and colonies may range in size from a few breeding pairs to many hundreds. FWC staff recommend

the following measures to reduce nesting potential during construction:

- Conduct construction activities outside of the breeding season (generally April through August) if feasible, or,
- If the site is cleared during the breeding season, clear the site only when ready to build, and
- Avoid leaving cleared areas with little to no activity for an extended amount of time.

If nesting is observed, FWC staff are available to discuss necessary nest buffers and potential permitting alternatives. The *Species Conservation Measures and Permitting Guidelines for American Oystercatcher, Snowy Plover, Black Skimmer, and Least Tern* (https://myfwc.com/media/29766/ibnb-guidelines.pdf) can be referenced for additional biological information, measures for avoiding impacts, and conservation practices.

Non-native Fish and Wildlife

The Early Detection & Distribution Mapping System (EDDMapS) indicates high priority invasive species, such as tegus (*Salvator spp.*), have been reported in this area. These species are considered a high risk to Florida's ecology, economy, or human health and safety. Workers authorized to access the site who encounter these species or other nonnative wildlife listed as Conditional or Prohibited (http://www.myfwc.com/wildlifehabitats/nonnatives/regulations/), are requested to report these sightings, whether dead or alive to http://www.IveGot1.org. Reports of observations, high-resolution photos, proof of captures, and removals of any high priority invasive species are used to monitor populations and coordinate rapid response efforts for nonnative species. If workers require assistance capturing or removing priority nonnative wildlife, they should call FWC's Exotic Species Hotline at 1-888 IVE GOT1 (888-483-4681).

Ecological Corridors

Data from the Florida Natural Areas Inventory's (FNAI) Conservation Needs Assessment indicates that portions of the subject property fall within a priority 5 ranked area of the Florida Ecological Greenways Network database. This database identifies the most important ecological corridors and intact landscapes across Florida for the protection of the state's native wildlife, ecosystem services, and ecological resiliency. Severance or reduction of ecological corridors could constitute a significant adverse impact to important state wildlife resources through habitat fragmentation, isolation of existing wildlife populations, and hinderance of genetic exchange. FWC staff are available to provide technical assistance which may minimize adverse impacts to designated ecological corridors as projects within the subject property are being planned.

Wildlife Crossings

Wildlife crossings can be considered in land use planning when significant areas of productive green space, including wetland and upland forests or small streams or riparian zones, are crossed by major roads. The overall purpose and need for the crossings are to maintain habitat connectivity within natural landscape linkages on the property, avoid habitat degradation, reduce wildlife roadkills, and public safety. Factors to consider when planning wildlife crossings include the total extent of habitat, type of natural systems crossed by the roadway, wildlife species that will potentially utilize the crossing, and an understanding and control of nearby or adjacent planned land uses. There are numerous wildlife crossing designs which are suitable for target mammals, amphibians, and reptile species, including some designs that provide for both aquatic and terrestrial species movement as well as habitat and hydrological connectivity. Structure types may include bridges, box culverts, and large drainage pipes which can be designed and constructed at appropriate locations. Fencing erected along the outside right-of-way is also needed to exclude animals from the roadway and funnel and encourage them to use the structure.

Signage for wildlife underpasses and lower speed limits are also useful in the area of heavy animal use near undercross structures. While there are numerous resources to designing wildlife underpasses, examples and guidelines for various wildlife underpasses in Florida can be obtained from The Florida Department of Transportation at: https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/environment/pubs/wildlifecrossingguidelines_2018revisions.pdf?sfvrsn=e84b7844_0 or from the U.S. Department of Transportation at: http://www.fhwa.dot.gov/environment/critter_crossings/main.cfm.

Wetland Buffers

The ecotone between a wetland and the adjacent upland habitats is important to be delineated as a wetland buffer. Often a wetland buffer is focused on water quality as required by a local government or state water management district. However, buffers that protect water quality may not be sufficient in size to protect wetland-dependent wildlife or aquatic species. For example, nesting wading birds may require a set-back distance from pedestrian activities to prevent the adults from flushing from the nest. Some amphibians and invertebrates may breed and develop in water then move miles away from water into upland habitats to forage and burrow. Therefore, when planning for wetland buffers, considerations for wetland-dependent wildlife species' home ranges and movement patterns may need to be considered.

Habitat Management

Large developments with large conservation areas or ecological corridors may benefit from a specific Wildlife and Habitat Management Plan (WHMP) which can provide a framework for habitat management activities that will ensure these areas continue to provide habitat for fish and wildlife resources. A WHMP can include a list of state and federally listed species which may occur on the site and includes actions to minimize, avoid, and mitigate impacts to those species. Similar plans also include information on proposed maintenance activities such as prescribed fire, invasive plant management, or methods to address nuisance and exotic animal species. FWC staff are available to assist in the development of a management plan that includes these details so that conservation areas and open space may continue to provide habitat for fish and wildlife resources. FWC staff also recommend coordination the USFWS Florida Ecological Service Office at fw4flesregs@fws.gov for technical assistance for development of a site specific WHMP.

Lakes and Ponds

According to the pending CPAs, golf courses are proposed for the subject property. The creation of lakes and ponds could provide potential wildlife habitat as well as a recreational area for fishing and wildlife viewing. Lakes and ponds can be managed for both fish production and wildlife habitat, including wading birds and waterfowl. The best design for stormwater ponds is those with complex edges. The addition of native wetland plants along this gradual slope, ideally constructed at a 4:1 grade, could provide a vegetated littoral fringe which could increase the habitat value of the site and possibly provide foraging or nesting areas for several wading bird species. Littoral fringe habitat may also provide spawning habitat for fish which would enhance future recreational fishing opportunities for the community. FWC staff recommend a commitment to long-term maintenance and development of a plan for managing exotic invasive plant species that can significantly degrade habitat values and impact ponds, wetlands, and nearby natural areas. The FWC's *Florida Wildlife ConservationGuide* provides more information on this topic with suggested guidelines for construction and management of stormwater ponds (http://myfwc.com/conservation/you-conserve/recreation/pond-management/).

Smoke Shed

The residential development is proposed within a smoke shed (periodically smoke-filled corridor) that originates from use of prescribed fire as a management tool at the John C. and Mariana Jones/Hungryland Wildlife Environmental Area and other nearby conservation lands. Prescribed fire is required to maintain many of the natural upland communities that exist on these conservation areas. Natural resource management staff and land managers on these conservation lands will continue to use prescribed burning to manage wildlife habitat and reduce fuel loads that may otherwise lead to catastrophic wildfires that not only affect wildlife but threaten human life and property. FWC staff recommend that the applicant include provisions in any homeowners' association or covenant documents that inform future residents that prescribed burning is an acceptable practice for natural resource management and that the area is within a smoke shed. Developers of lands within two miles of native habitat managed by fire may wish to consider Florida Forest Service recommendations at https://www.fdacs.gov/Forest-Wildfire/For-Communities/Firewise-USA to create Fire-Wise communities.

Federal Species

This site may also contain habitat suitable for the federally listed species identified above. FWC staff recommends coordination with the U.S. Fish and Wildlife Service (USFWS) Florida Ecological Services Office (ESO) as necessary for information regarding potential impacts to these species. The USFWS Florida ESO can be contacted at (352) 448-9151 or email at fw4flesregs@fws.gov.

FWC staff appreciates the opportunity to provide input on this project and looks forward to working with the applicant throughout the permitting process. For specific technical questions regarding the content of this letter, please contact Nicolas Colletier at (561) 882-5711 or by email at Nicolas.Colletier@MyFWC.com. All other inquiries may be sent to ConservationPlanningServices@MyFWC.com.

Sincerely,

Jason Hight, Director
Office of Conservation Planning Services

jh/nc
Martin County 23-06ESR_57729_01122024

Cc: DCPexternalagencycomments@deo.myflorida.com

JWA Ranch, LLC
The Ranch PUD
Audubon's Crested Caracara Survey

10250 SW Village Parkway
Suite 201
Port Saint Lucie, FL 34987

August 16, 2023

LIST OF APPENDICES

APPENDIX A

USFWS CRESTED CARACARA SURVEY PROTOCOL-ADDITIONAL GUIDANCE (2016-2017 BREEDING SEASON) AND USFWS BIOLOGICAL OPINION (2010).....A

APPENDIX B

MAPS .....B

Introduction

The Ranch (FKA Calusa Creek Ranch) is a Planned Unit Development (PUD) for 175 single family residences that also plans to contain 2 golf courses with related facilities and the associated infrastructure. JWA Ranch, LLC owns 3,902.67 acres which constitutes The Ranch. This PUD is located within the U.S. Fish and Wildlife (USFWS) Caracara Consultation Area. In the fall of 2023, EDC, Inc. was contracted by The Ranch leadership to conduct a Northern Crested Caracara Survey during the peak of the 2023 breeding season.

The goal of this Caracara survey conducted by EDC was to monitor the raptor's breeding and/or foraging behavior in the area of The Ranch to ascertain the potential effects of land development activities during the breeding season.

Project Description:

The Ranch is a 3,902-acre multiple-parcel PUD subject area evaluated as part of this monitoring report consists of eight (8) tax parcels of 3,902.67 acres located southeast and adjacent to SW Kanner Highway, south of SW Bridge Road, South of the C-44 Canal, east of SW Sunlight Ranch Drive, and west of SW Pratt-Whitney Road in Martin County, Florida. The subject property has a Future Land Use designation of Agricultural and is currently zoned as A-2 (Agricultural) sourced from the Martin County Board of Commissioners Geo-web services.

Parcel ID	Acreage	Land Use
36-39-40-000-000-00010-6	650	6400 - Grazing Land
35-39-40-000-000-00010-8	640	6300 - Grazing Land
34-39-40-000-000-00010-1	640	6300 - Grazing Land
27-39-40-000-000-00010-5	548	6300 - Grazing Land
26-39-40-000-000-00020-5	606	6300 - Grazing Land
25-39-40-000-000-00010-9	636	6400 - Grazing Land
23-39-40-000-000-00040-8	150	6300 - Grazing Land
22-39-40-000-000-00020-4	15.5	6300 - Grazing Land

Existing Environment:

EDC, Inc. conducted an Environmental Assessment (EA) in August 2023. Habitats were delineated onsite using the Florida Department of Transportation (FDOT) geographic mapping section known as the Florida Land Use, Cover and Forms Classification System (FLUCCS). The following FLUCCS codes were identified onsite; Dominant community types consist primarily of open grass/improved pasture lands with a minor association of wooded pasture. There is also a mixture of remnant, natural, herbaceous and forested wetland associations. The overall diversity of plant species ranges from low to moderate, consisting of a mixture of native, nuisance, and invasive plant species. The plant community associations within The Ranch are typical of those commonly seen on managed grazing lands in southeast Florida.
However, the general habitat quality and diversity of plant species present within these individual community types is relatively low. Most communities are exhibiting as a monoculture dominated by

fast growing plant species that are tolerant of cattle disturbance. There were no rare or unique habitat or plant species observed within the limits of this project.

Oak – Cabbage Palm Forests (183111)
This class is characterized by a closed canopy of hardwood species, primarily Live Oak and Cabbage Palm, that are naturally protected from fire by its position on the landscape. This community has been heavily impacted by human activity, primarily clearing for agriculture and urbanization. Soils and understory vegetation, which are often the only shaded habitat in a landscape of prairie, pasture, pineland or marsh, are often trampled and compacted by cattle. The canopy closure must be 25% or more with at least 67% or more dominance by the combination of Live Oak and Cabbage Palm for inclusion in this class.

Mesic Pine Flatwoods (1311)
According to Florida Natural Areas Inventory (FNAI) This habitat is characterized as flatland with sand substrate; mesic; statewide except extreme southern peninsula and Keys; frequent fire (2-4 years); open pine canopy with a layer of low shrubs and herbs; longleaf pine and/or slash pine, saw palmetto, gallberry, dwarf live oak, wiregrass.

Cattle Operations (183351)
This category is defined as an operation specialized in cattle production enterprises which include beef cattle. This is a more non-vegetative community specific category seen within the limits of the The Ranch, as it represents areas containing large cattle pens. These pens are part of the onsite active cattle operation, utilized during activities such as spring cattle counts, routine health checks, and cattle sales. The pens are located within the improved pasture lands with Bahia grass as the only significant notable vegetative feature.

Ornamental Nursery (183343)
This category defines the specialized operation on the The Ranch property that grows vegetation for commercial landscaping projects and includes plant species such as: bamboos, oaks, and palms.

WETLAND DELINEATION:
According to aerial photographs and site visit(s), there are State jurisdictional wetlands on site. Based on the State definition, a wetland consists of three components: 1) hydric soils, 2) wetland plants, and 3) hydrologic indicators. These defining components were found in conjunction during the field reconnaissance on the property.
The wetlands present on the property have been field delineated and are displayed in the attached exhibit. In addition, each wetland is shown with a 50’ Buffer. Below please see the wetland habitat types described in detail.

WETLAND DELINEATION:
According to aerial photographs and site visit(s), there are State jurisdictional wetlands on site. Based on the State definition, a wetland consists of three components: 1) hydric soils, 2) wetland plants, and 3) hydrologic indicators. These defining components were found in conjunction during the field reconnaissance on the property.

The wetlands present on the property have been field delineated and are displayed in the attached exhibit. In addition, each wetland is shown with a 50' Buffer. Below please see the wetland habitat types described in detail.

Freshwater Marsh (2121)

This category represents a wetland community typically containing one or more of the following representative species listed below.

The vegetation observed includes the following:

Sawgrass (*Cladium jamaicensis*)
Maidencane (*Panicum hemitomon*)
Needlerush (*Juncus efusus*)
Water Pennywort (*Hydrocotyle spp.*)
Pickerelweed (*Pontederia cordata*)
Willow (*Salix spp.*)
Dog Fennel (*Eupatorium spp.*)
Arrowhead (*Sagittaria spp.*)
Buttonbush (*Cephalanthus occidentalis*)
Bulrush (*Scirpus spp.*)
Smart weed (*Polygonum spp.*)
Wax Myrtle (*Myrica cerifera*)
Alligator Flag (*Thalia geniculata*)
Lizard Tail (*Saururus cernuus*)

Plant diversity within the Freshwater Marsh wetland class ranges from low to moderate. The overall diversity of these systems is limited as a result of active agricultural practices, specifically cattle grazing, on site. Regardless, these systems are receiving sufficient hydration from a combination of groundwater and rainfall to maintain wetland vegetation associations typical of this community type. There was no canopy observed within this community type.

Wet Prairies (2111)

This FNAI category represents the second largest wetland system within the proposed The Ranch application. This classification is defined as being composed of predominately of grassy vegetation on hydric soils and is usually distinguished from marshes by having less water and shorter herbage. These communities are usually dominated by one or more of the following representative species listed below.

The vegetation observed includes the following:

Sawgrass (*Cladium jamaicensis*)
Spike rushes (*Eleocharis spp.*)
Whitetop sedge (*Dichromena colorata*)
Dog Fennel (*Eupatorium capillifolium*)
Lizard Tail (*Saururus cernuus*)
Pink Sundew (*Drosera capillaries*)
Maidencane (*Panicum hemitomon*)
Yellow Eyed grass (*Xyris spp.*)
St. John's Wort (*Hypericum spp.*)
Wax Myrtle (*Myrica cerifera*)
Rush grass (*Juncus spp.*)
Sedge grass (*Carex spp.*)

Wet prairie systems within the The Ranch property are primarily distinguished from the freshwater marsh systems on site by shorter hydroperiods and less water depth. The wet prairie systems can also be seen as isolated, independent systems as well as contiguous with both freshwater marsh and cypress wetland systems, bordering these systems in areas where the topography is somewhat higher

than the marsh systems. The plant diversity within the wet prairie wetlands also ranges from low to moderate, with diversity limited as a result of active cattle grazing on site. Hydrology also remains sufficient from groundwater and rainfall to maintain these wet prairie systems. No canopy is present within the Wet Prairie areas.

Cypress Domes (2211)

This category represents a lesser amount of total wetland acreage, but the largest forested wetland community on site. According to the FLUCCS manual, this wetland classification is composed of Pond or Bald cypress which is either pure or dominant.

The vegetation observed includes the following:

Bald Cypress (*Taxodium distichum*)
Maidencane (*Panicum hemitomon*)
Leather Fern (*Acrostichum spp.*)
Cabbage Palm (*Sabal palmetto*)
Red maple (*Acer rubrum*)
Smartweed (Polygonum spp.)
Swamp Fern (*Blechnum serrulatum*)
Lizard Tail (*Saururus cernuus*)
Laurel oak (*Quercus laurifolia*)
Brazilian pepper (*Schinus terebinthifolius*)

The Cypress wetlands are found in the southeast portion of the subject property. Plant diversity within these systems is low with Bald cypress (*Taxodium distichum*) representing the dominate plant type. Cattle grazing activities, the conversion of this property to agriculture over fifty years ago, construction of adjacent state and county roads, and installation of large scale, permitted, municipal drainage systems have caused these systems to become isolated. This has resulted in loss of flow and reduced hydrology to the Cypress domes within the limits of The Ranch. Individual trees have persisted but the majority of the Cypress systems within The Ranch property do not exhibit characteristics commonly associated with classically defined Bald cypress dome systems. A lack of significant buttressing, large Cypress knees, and herbaceous ground cover are a direct result of these long term topographic and regional alterations and, to a lesser extent, historic cattle grazing on site.

Exotic vegetation, in the form of Old-World Climbing Fern, is present in several dome systems, exhibiting 100% spot coverage in areas. Ground cover is sparse to bare in many dome systems. Other hard and softwood tree associations are limited with scattered patches of cabbage palm, laurel oak, and red maple.

WILDLIFE EVALUATION:

EDC, Inc. conducted a pedestrian survey throughout the property to investigate for the presence of any plant or animal listed species. The following protected species may be expected to occur within the subject property based on regional databases and/or vegetative communities present:

Wildlife Species	Listing Status	Onsite Habitat
Imperiled Wading Birds	ST	Wetlands & OSWs
Wood Stork	FT/ST	Wetlands & OSWs
Sandhill Crane	ST	Wetlands, OSWs, & Pasture
Burrowing Owls	ST	N/A
Gopher Tortoise & Commensal Species	ST & FT/ST	Pine Flatwoods
Bald Eagle	MBTA	Tall Pines
Crested Caracara	FT/ST	Pasture
American Kestrel	ST	Pasture
Everglade Snail Kite	FE	Wetlands

Method:

Prior to the beginning of the Caracara Survey, three (3) permanent stations were designated to give the surveyor a better vantage point while offering concealment. Station locations were strategically chosen to give the surveyors a near 360° view free of obstructions. These locations minimized any human interaction while allowing the observer to pattern the Caracara's movements through the area. All other observers conducted their activity from inside their vehicles. Locations of the stations were as follows:

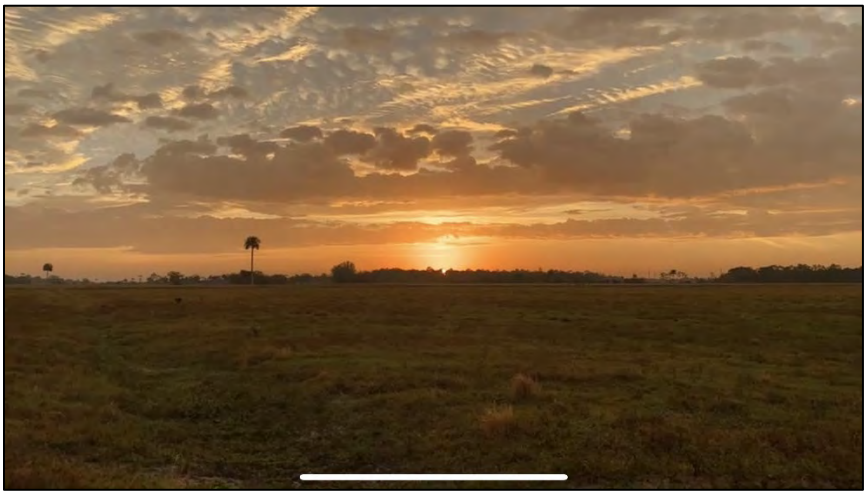
Station one (1) is located north of Kanner Highway within parcel (26-39-40-000-000-00020-5). Within the middle of the parcel behind an old farmhouse a western and eastern lined ditch transects improved pastures. This ditch is lined by native vegetation and can provide surveyors concealment. Station 1 has the following coordinates: 27°3’47.86” N 80°18’43.91” W.

Station 1: Located behind old farm house within the northeastern pasture of The Ranch.

Station two (2) is located north of Kanner Highway and west of station 1, within parcel (27-39-40-000-000-00010-5). Station 2 also takes advantage a similar natural concealment technique along the fringe of upland habitat with a clear visual range of the surrounding improved pastures and fence lines to the east and south. Station 2 has the following coordinates: 27°3’13.87” N 80°19’47.69” W.

Station 2: Located within a western pasture of The Ranch within parcel (27-39-40-000-000-00010-5).

Station three (3) is located south of Kanner Highway within parcel (26-39-40-000-000-00020-5). Station 3 is situated next to an old cattle pen with a near 360° of prime caracara habitat. This cattle pen is at the northern section of the parcel adjacent to Kanner Highway with many fences that border the improved pasture and wetland habitats. Station 3 has the following coordinates: 27°3’25.58” N 80°18’36.24” W.



Station 3: Station 3 is located adjacent to an old cattle pen on the southern side of Kanner Hwy. Station 3 is located within parcel (26-39-40-000-000-00020-5).

The surveys conducted appropriately followed the USFWS (2016-2017 Breeding Season) Survey Protocol. Surveys were conducted during the months of January through April, as this is within the best time period to observe caracara nests. Two survey sessions were conducted every month within the project area and a 1,500-meter buffer zone. The 1,500-meter buffer zone is the radius of protective area from a caracara nest and this zone may stretch offsite. To ensure that this buffer zone is included in the survey area, EDC Inc. reached out to 4 adjoining properties asking permission to observe caracara that may enter their property during the survey. Out of 4, zero responses were received and no single property granted permission to access their property. Please refer to Letters to Adjoining Properties in **Appendix C** and USFWS Crested Caracara Survey Protocol-Additional Guidance (2016-2017 Breeding Season) in **Appendix A**.

Each survey began 15 minutes prior to sunrise and lasted three hours. Each surveyor was equipped with binoculars, camouflage, and a USFWS Crested Caracara Survey Form to record their findings. In addition to recording caracara behavior, locations and flight paths were marked and labeled on aerial maps provided in the text. The three station locations were retained throughout the surveys and the observers were made from within a vehicle. Please refer to USFWS Crested Caracara Survey Protocol-Additional Guidance (2016-2017 Breeding Season) in **Appendix A.**

Results

Species Observed	
Anhinga	*Anhinga anhinga*
Northern Mockingbird	*Mimus polyglottos*
Red Bellied Woodpecker	*Melanerpes carolinus*
Osprey	*Panion haliaetus*
Red Tailed Hawk	*Buteo jamaicensis*
American Crow	*Corvus brachyrhynchos*
Cattle Egret	*Bubulcus ibis*
Northern Cardinal	*Cardinalis cardinalis*
Northern Crested Caracara	*Caracara cheriway*
Great Egret	*Ardea herodias*
Snowy Egret	*Ergretta thula*
White Ibis	*Eudocimus albus*
Sandhill Crane	*Grus canadensis*
Turkey Vulture	*Cathartes aura*
Wild Turkey	*Meleagris gallopavo*

The above listed species represent the observed species from the three monitoring locations.

Caracara Observations
01/23/2023 – Station 1
01/23/2023 – Station 3
02/06/2023 – Station 1
02/24/2023 – Station 1
03/06/2023 – Station 1
04/17/2023 – Station 1

Caracara Survey Form Results: Caracara Observations

01/23/2023
Station 1:
At 7:30am, two (2) possible Caracara were observed at Station 1. They were observed flying 5ft high and traversing the northeastern boarder of The Ranch, to the southwest originating from the adjacent property to the east (PCN: 14-39-40-000-000-00010-3).

Station 3:
At 7:30am, a single (1) Caracara was observed at Station 3. The single caracara was located west of the powerlines and also foraging to the west.

02/06/2023
Station 1:
At 9:04am, two (2) possible Caracara were observed flying 80ft in the air traveling from offsite (East of the subject area) over the pastures of The Ranch in a north to southwest direction.

At 9:13am, a single (1) Caracara was also observed, again, flying from offsite westward over the pastures of The Ranch.

02/24/2023
Station 1:
At 7:18am, a single (1) Caracara was observed flying east to west from the adjacent property (East of The Ranch) from the crown of an open Slash Pine tree. The Caracara appeared to be drying its wings from a precipitation event.

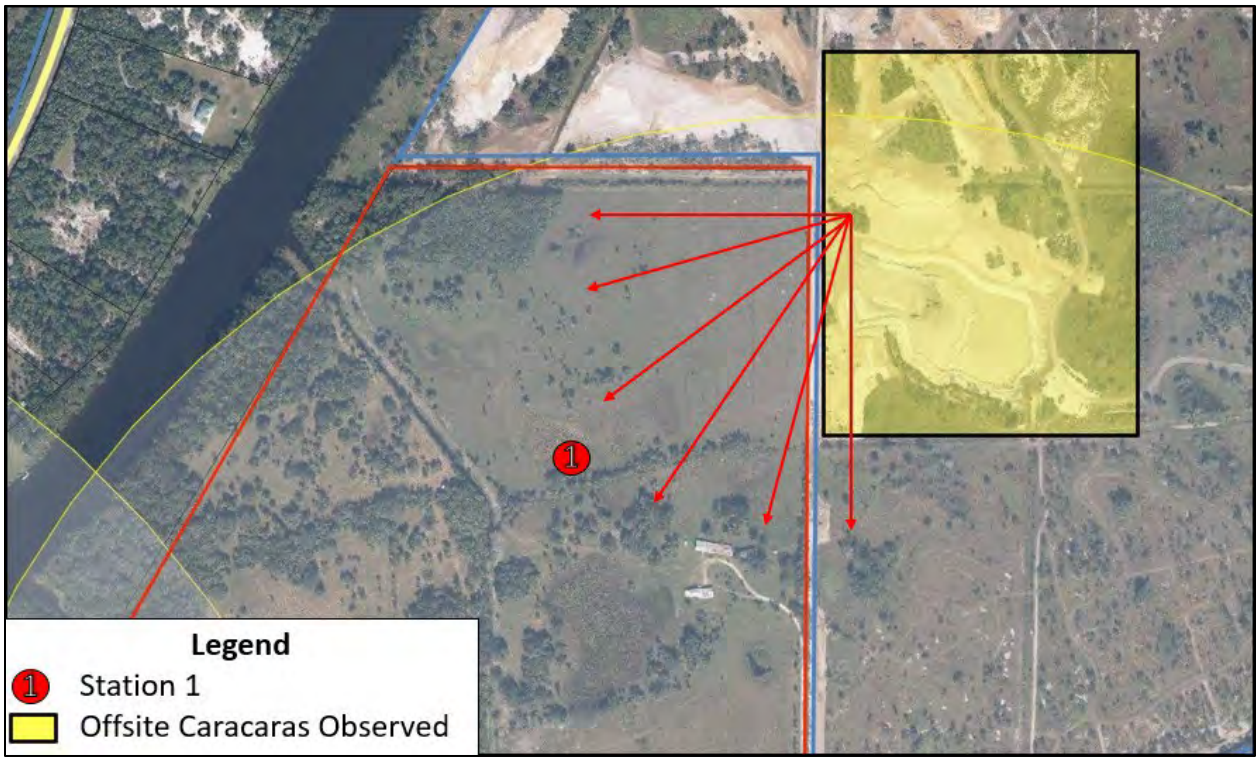
03/06/2023
Station 1:
At 7:30am, a single (1) Caracara was observed leaving the adjacent property to the east and flying from the northwest corner, across The Ranches pastures to the southeast.

At 7:36am, two (2) Caracara were observed flying, again, from the adjacent property to the east over The Ranches pastures in a direct north to south direction.

04/17/2023
Station 1:
At 8:00am, a single (1) Caracara was observed leaving the property east of The Ranch, flying westward 10-15ft in the air over the top of pastures.

Conclusion:

The following images depict the flight patterns observed during the course of the Caracara Survey.



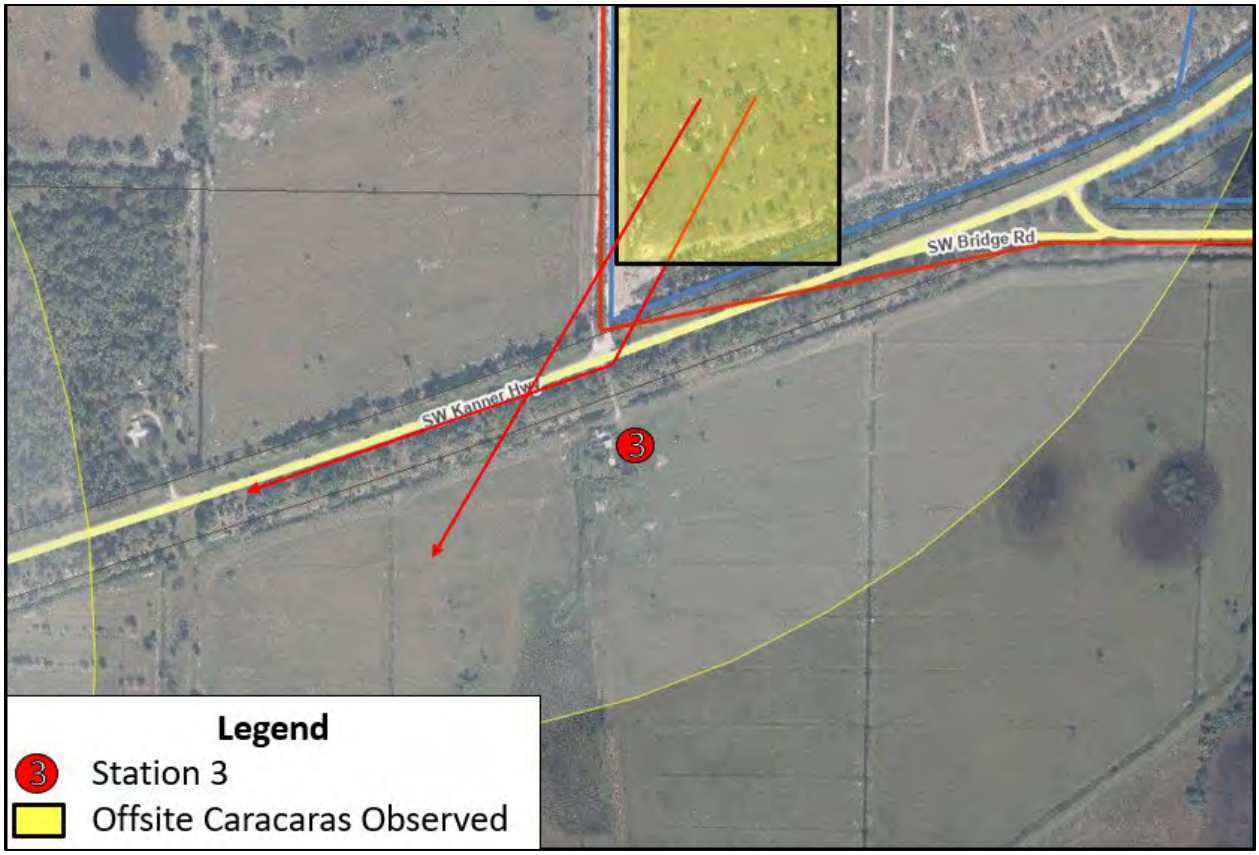
The above figure depicts the observed flight patterns of Caracara at Station 1. All observations of Caracara were documented as originating from offsite (PCN: 14-39-40-000-000-00010-3).

The Caracara monitoring on The Ranch commenced on January 5th 2023 and concluded on April 17th 2023. The Ranch is located within the Caracara's Consultation Area. Our survey identified multiple Caracara observations. The highest volume of observed Carcara were documented from Station 1.

Station 1 observed five (5) instances of which Caracara's flights originated offsite from the eastern boundary of The Ranch, on parcel number (14-39-40-000-000-00010-3). The observations consisted of the Caracara flying along or over The Ranch, possibly scouting for prey items. Caracaras were sporadically observed throughout the course of the survey but no roosting activities nor foraging behaviors were observed within boundary of the subject property.

All observations of Caracara from Station 1were documented as originating from offsite (PCN: 14-39-40-000-000-00010-3). The Slash Pine Tree circled in red was the primary departure location from which Caracara were observed leaving and flying westward, over the pasture within the subject area.

Station 3 also documented two (2) instances of which Caracara were observed actively foraging/hunting along Martin County Hwy fence lines, traversing westward. These Flight patterns and foraging actions originated offsite from the same offsite parcel (14-39-40-000-000-00010-3). Caracaras have been observed utilizing The Ranch to forage during previous monitoring events. During the historical height of nesting and fledging (February/March) the birds were observed within The Ranch but were only observed traversing over the pastures. No nests were located within The Ranch boundaries during the course of this survey.



The above figure depicts the observed flight patterns of Caracara at Station 3. All observations of Caracara were documented as originating from offsite (PCN: 14-39-40-000000-00010-3).

Throughout the entire breeding season, no caracara was observed to be actively breeding. The Caracaras were monitored following the guidelines provided by USFWS and based on continued observations of foraging within The Ranch, it is our professional opinion that they are not being and will not be impacted during proposed development activities.

The offsite observations were made directly east of the subject area. The survey yielded multiple observations of Caracara departing from the adjacent parcel and flying over The Ranch. Caracaras were sporadically observed throughout the course of the survey but no roosting activities nor foraging behaviors were observed onsite. Multiple Caracaras were observed offsite. It did not appear that proposed development activity would have a deleterious effect on the Caracara.

References:

1. U.S. Fish and Wildlife Service.2004c. Draft Species Conservation Guidelines for Audubon's crested caracara. South Florida Ecological Services Office; Vero Beach, Florida.
2. Recommended Management Practices and Survey Protocols for Audubon's Crested Caracara (Caracara cheriway audubonii) in Florida. 2001. Joan L. Morrison. 300 Summit Street Hartford, Connecticut.

APPENDIX A

USFWS CRESTED CARACARA SURVEY PROTOCOL-ADDITIONAL GUIDANCE
(2016-2017 BREEDING SEASON)

USFWS Crested Caracara Draft Survey Protocol – Additional Guidance (2016-2017 Breeding Season)

The northern crested caracara (*Caracara cheriway*) is a resident, diurnal, and non-migratory raptor that occurs primarily in Florida, Texas, Arizona, Cuba, Mexico, Central America, and the northern portions of South America (Morrison and Dwyer 2012). Only the Florida population, which is isolated from the remainder of the species, is listed as threatened under the Endangered Species Act.

In order to avoid the potential for unauthorized take, future project sites within the caracara consultation area (Figure 1) containing habitats (same or similar) as described below should undergo a formal caracara survey to determine site utilization by caracaras. The intent of caracara surveys is three-fold: (1) to determine the location(s) of active caracara nest(s) that could be adversely affected by the proposed project; (2) to determine the presence and use of the project area by breeding and non-breeding caracaras, including the approximate boundaries of breeding territories, if possible; and (3) to determine the fate and productivity of any caracara nest found.

We recommend coordinating with the U.S. Fish and Wildlife Service (Service) prior to conducting surveys, including submittal of a proposed survey plan and list of observers which follows the guidance below. Following the guidance will ensure that the surveys are timed during the period of greatest detection to document caracaras within or adjacent to the proposed project. The Service has caracara observation and nest location data as well as designated caracara congregation areas that may be of use for planning surveys. For project consultations under the Endangered Species Act, surveys must follow this protocol and must be no older than the previous caracara nesting season (January – April) in order to be considered valid. In the event that construction or vegetation clearing activity will occur more than one year after permitting is completed, contact the Service to discuss the need for follow-up surveys.

Foraging and Nesting Habitat

The Florida caracara population commonly occurs on dry or wet prairies with scattered cabbage palms (*Sabal palmetto*). It may also be found in lightly wooded areas. Scattered saw palmetto (*Serenoa repens*), scrub oaks (*Quercus geminata, Q. minima, Q. pumila*), and cypress (*Taxodium* spp.) may also be present. Widespread changes in land use may have caused a change in habitat use in this species. Morrison and Humphrey (2001) found a strong association of caracara home ranges with improved pasture. The presence of seasonal wetlands, which may serve as foraging habitat, is an important factor in the attractiveness of these pastures to caracaras (Service 1999). Therefore, today we recognize caracara foraging habitat (and nesting territories) as those areas with short herbaceous vegetation. This includes native wet and dry prairies, but also improved, unimproved, and woodland pastures, sod farms, row crops, levees, and rangeland. Juvenile caracaras may also use citrus and tree farms.

The primary nesting substrate is cabbage palm, although there have been rare reports of nesting in slash pine (pers. obs.), cypress, oak, red cedar (Morrison 2007), Australian pine

(*Casuarina* sp.), saw palmetto, and black gum (*Nyssa sylvatica*), and even more atypical locations such as an electrical substation, radio tower, and billboard (Dwyer and DallaRosa 2015).

Survey Design and Planning

The protective area for a caracara nest is a radius of about 1,500 meters (m) (4,920 feet) from the nest. Therefore, the survey area should include the project area and a 1,500-m buffer zone around the perimeter of the project area (including access roads) to account for off-site nest trees in territories that might overlap onto the project area. A recent aerial photograph depicting the project boundary and buffer zone should be used to identify all areas of suitable habitat and to preliminarily map observation blocks. An observation block is defined as an area easily observable from one vantage point. Enough observation blocks must be identified to cover all suitable habitats within the project boundary and 1,500-m buffer. Surveyors should try to obtain legal access to non-project property within the survey area where suitable habitat exists; these efforts should be documented (e.g., copy of letter, email, etc.). If permission cannot be obtained, contact the Service for additional guidance prior to initiating surveys.

Prior to the first survey, a site visit should be conducted to confirm suitable habitat and the location of observation blocks. Based on this site assessment (*e.g.*, presence of visual obstructions), observation blocks may need to be revised. During the site visit, also identify observer survey stations (at least one per observation block). Survey stations should be located to allow full, unobstructed view of the observation block – strategic points are those where caracaras are more likely to be seen going to and from potential nesting or foraging sites. Based on the site assessment, update the aerial photo to show suitable habitat, and labeled observation blocks and their respective survey stations. The location of survey stations may be adjusted if needed based on initial survey results in order to obtain a different/better view of caracara activity. Any adjustments to the survey design should be documented via revised maps.

Observer Qualifications

Information from a recent study (Dwyer *et al.* 2012) suggested that the probability that a visit or series of visits (*i.e.*, a survey) would lead to the discovery of an existing caracara nest increases with an experienced observer. Due to their cryptic nest site locations and unorthodox method of foraging (walking on the ground), successful nest site surveys require a specific skillset acquired by conducting numerous surveys under the supervision of an experienced caracara surveyor. In addition, caracaras can be hard to find and identify at long distances, especially under low-light conditions. Caracaras may also be wary of humans and will change their behavior in the presence of people, which can make locating nests extremely difficult for less experienced observers. Due to these factors, surveys must be conducted by a qualified biologist having at least two years of experience conducting bird surveys and at least 40 hours of caracara survey experience (i.e., equivalent to one survey season) under the supervision of an experienced caracara surveyor. If an observer does not meet these minimum qualifications,

the observer should be accompanied by a qualified observer who will serve as the primary observer. Even in cases of qualified observers, and where staff resources allow it, having two observers at the same station can increase the probability of finding a nest.

Conducting Foraging and Nesting Surveys

The highest probability of success in finding caracara nests is during the period of January through March. This period covers the time when adult caracaras are foraging to feed nestlings and therefore, become more visible to observers. As such, surveys must start no later than January 10 and continue through April 30 to provide adequate data to conclude whether or not the site contains an active caracara nest and/or foraging habitat. If the survey starts after January 10, and no nest are found, the survey may not be considered valid by the Service. Surveys considered invalid should be repeated the following nesting season using the latest Service protocol to ensure that early nesting birds were not missed. Surveys should not be conducted in November or December without additional coordination with the Service to avoid disturbing nesting caracaras during nest initiation or incubation, when they are more prone to disturbance.

A complete survey of the project area consists of one survey session every two weeks of each observation block within the project area and the 1,500-m buffer from early January (i.e., Jan 1 - 10) through April 30 (unless a nest is found within the observation block prior to April 30; in that event, begin Productivity Surveys as described below). A survey session is defined as a single survey within an identified observation block initiated at least 15 minutes prior to sunrise and lasting 3 hours (Dwyer et al. 2012). The entire 3-hour survey session must be spent viewing the one observation block – observers cannot rotate between stations, cruise roads, or leave the observation block unless following a flying caracara. If the survey area is large or includes obstructed views, and multiple observation blocks are required, then multiple observers (preferred) or additional survey sessions will be needed to complete the survey of the entire project area. Afternoon or evening surveys are optional, but cannot be substituted for early morning surveys (in the event of not finding a nest). More frequent morning surveys (i.e., more than one during any two-week period) of an observation block are also optional, and can increase the probability of finding a nest, but cannot replace the subsequent “once per two-week surveys” through April 30 (in the event of not finding a nest).

Surveys should be conducted from inside a vehicle (best option is a truck or similar vehicle to maximize height and minimize view obstructions) or an appropriate wildlife blind using high-power binoculars. This minimizes caracara disturbance and behavior alteration, and increases the probability of finding nest locations. Depending on the distance being surveyed, or the proximity of the caracara/nest being observed, it may also be acceptable for the observer to be adjacent to the vehicle if that affords better viewing. A spotting scope is essential when documenting behavior of caracaras and confirming nest tree locations that are far away. If this cannot be accomplished (e.g., due to visibility or vehicle access restrictions), the Service should be contacted to provide site-specific guidance.

Weather conditions must be adequate to clearly view the whole area. Surveys should not be conducted when it is rainy or foggy (Dwyer *et al*. 2012). Wind speed should be less than 12 miles per hour (19 kilometers per hour; Beaufort Number 3). Weather conditions and other important information must be recorded on field data sheets as itemized below (see Reporting).

During the survey, from a stationary position, search for caracara activity, including birds perched in trees or on sentinel posts, flying along roads or levees, or carrying nesting material or food. Watch for other birds, such as American crows (*Corvus brachyrhynchos*), red-tailed hawks (*Buteo jamaicensis*), red-shouldered hawks (*Buteo lineatus*), bald eagles (*Haliaeetus leucocephalus*), and turkey vultures (*Cathertes aura*), that might elicit an aggressive response from caracaras. Nesting caracaras will often chase potential predators away from the nest, thus revealing their presence. Also, vultures can indicate the presence of carrion that may attract caracaras. If the observer is near or on a road, pay attention to road-killed animals that may serve as forage for caracaras. If in a pasture, look for cow or calf carcasses on which caracaras may forage.

If a caracara is sighted, document its activity (*i.e.*, foraging, roosting, preening, territorial behavior, etc.) and location on an aerial map. If a caracara is in flight, document on the aerial map the direction the bird came from, the direction it is flying in, and if it is carrying nesting material or food. Make all reasonable efforts to track the bird to a potential nest location. If a potential nest tree is detected, then the observer can reposition to improve observation of the bird's behavior. All observer locations during a survey should be marked on the aerial. All caracara observations must be recorded on the field data sheets, including time of observation, number of birds, plumage (adult/juvenile), activity/behavior (*e.g.*, perching, foraging, feeding, preening, courtship or territorial display, etc.), and nest stage (building, incubating, nestlings, fledglings), if applicable. Corresponding caracara locations and flight paths must be marked and labeled on the aerial map. Also mark any potential or confirmed nest tree locations on the aerial photo, with GPS coordinates of the observation site and an estimate of the direction and distance of the nest from the observation point (a rangefinder may help to measure distance). Do not try to approach the nest as this may cause the caracara to abandon their nesting attempt. It may be possible to use a compass bearing from two different locations to triangulate the location of a nest tree that may be too far away and not near recognizable landmarks.

Survey sessions of each observation block must be repeated at two week intervals. Once a nest tree location is confirmed, report the location to the Service and transition to Productivity Surveys. In addition to location of nest trees, the survey data described above can be used to understand the use of the survey area (*e.g.*, as foraging or roosting habitat) by both breeding and non-breeding caracaras. Non-breeding caracaras can include both juveniles and adults. Detailed survey data are also useful in approximating boundaries of breeding territories, which is typically important to identifying the number of territories that may be impacted by a proposed project and the anticipated effect that proposed activities may have on a breeding

caracara pair. This is especially true for projects which are large in size or include habitat conversion. For more details on caracaras, see Service (1999) and Morrison and Dwyer (2012).

Conducting Productivity Surveys

Once a nest tree is confirmed or highly suspected, begin productivity surveys. These surveys involve the same repeated, two-week visits, but the surveyor need only observe the nest for the amount of time necessary to determine nest status (*i.e.,* incubating, nestlings, fledglings, or failed) and may survey the nest tree at any time during the day (assuming the weather conditions are appropriate). This will likely require much less effort per day than nest surveys. Many times, a spotting scope can be more useful than binoculars in observing activity in the nest that will indicate the nest status. As nesting progresses, the nestlings will become more active and easier to observe. Record the bird activity and number of nestlings. Record the fledging date and number of fledglings. From the fledging date, and previous observations, estimate the egg-laying date. If the nest appears to fail, continue surveying the nest tree area until April 30 as re-nesting may occur. If nests are deemed active on April 30, continue surveying those nest trees until they are either successful or have failed.

Reporting

An example field data sheet is provided at the end of this document, but observers may use their own data sheet format as long as the required information is collected. Requirements for final reports are as follows:

1. Map of field-verified habitat types within the project area and 1,500-m buffer;
2. Copies of marked aerial photo(s) showing all suitable habitat, with labeled observation blocks and their respective survey stations (including any alternate station locations used);
3. For each survey station, copies of any photos taken that document the field of view, nest tree or caracaras;
4. Documentation of efforts to contact adjacent landowners, and copies of access agreements, if applicable;
5. A summary table with the following information for each observer: name, hours of experience conducting caracara surveys (as of January 1), approximate number of caracara nests previously found, and whether the observer served as a primary or secondary observer;
6. Copies of all individual field data sheets which include the following information for each survey:
    - observation block/survey station identification,
    - survey date,
    - observer name(s),
    - observer location (*e.g.*, in a vehicle, blind, on foot),
    - start and end times,

- start and end weather conditions (temperature, wind speed and direction, cloud cover, visibility, and precipitation),
- caracara location/activity details including (for each observation):
  - time of observation,
  - number of birds,
  - plumage,
  - activity/behavior, and
  - nesting stage, if applicable, and
- an aerial map showing all observed caracara locations and flight paths (labeled to correspond with activity details) and any potential/confirmed nest tree locations; and

7. Location data (*e.g.*, latitude/longitude) for all caracara observations and potential/confirmed nest trees in Excel, projected shapefile (the preferred projection is Florida Albers NAD83 in meters), or .kml/.kmz format and attributed to include the information in (6) above.

Additional survey or reporting requirements may exist if the caracara surveys are required by a Service Biological Opinion (BO)(in this event, refer to the Terms and Conditions of the BO). For questions or additional guidance regarding the above survey protocol, please contact the Service's caracara lead biologist, Steve Schubert, at 772-469-4249 or 772-562-3909.

Literature Cited

Dwyer, J.F., and J.P. Dalla Rosa. 2015. Use of anthropogenic nest substrates by crested caracaras. Southeastern Naturalist 12(1):N10-N15.

Dwyer, J. F., J. L. Morrison, and J. D. Fraser. 2012. Factors influencing detection of nesting crested caracaras. The Journal of Wildlife Management 76(4):857–862.

Morrison, J. L. 2001. Recommended management practices and survey protocols for Audubon's crested caracaras (*Polyborus plancus audubonii*) in Florida. Technical Report No. 18. Florida Fish and Wildlife Conservation Commission. Tallahassee, Florida.

Morrison, J. L. 2007. Characteristics of nest sites used by crested caracaras in South-Central Florida. Florida Field Naturalist 35(1):1-8.

Morrison, J. L. and J. F. Dwyer. 2012. Crested Caracara (*Caracara cheriway*), The Birds of North America (P. G. Rodewald, Ed.). Ithaca: Cornell Lab of Ornithology. Retrieved from the Birds of North America: https://birdsna.org/Species-Account/bna/species/crecar1

U.S. Fish and Wildlife Service (Service). 1999. South Florida multi-species recovery plan. Atlanta, Georgia. http://www.fws.gov/verobeach/MSRPPDFs/AudubonsCrestedCaracara.pdf

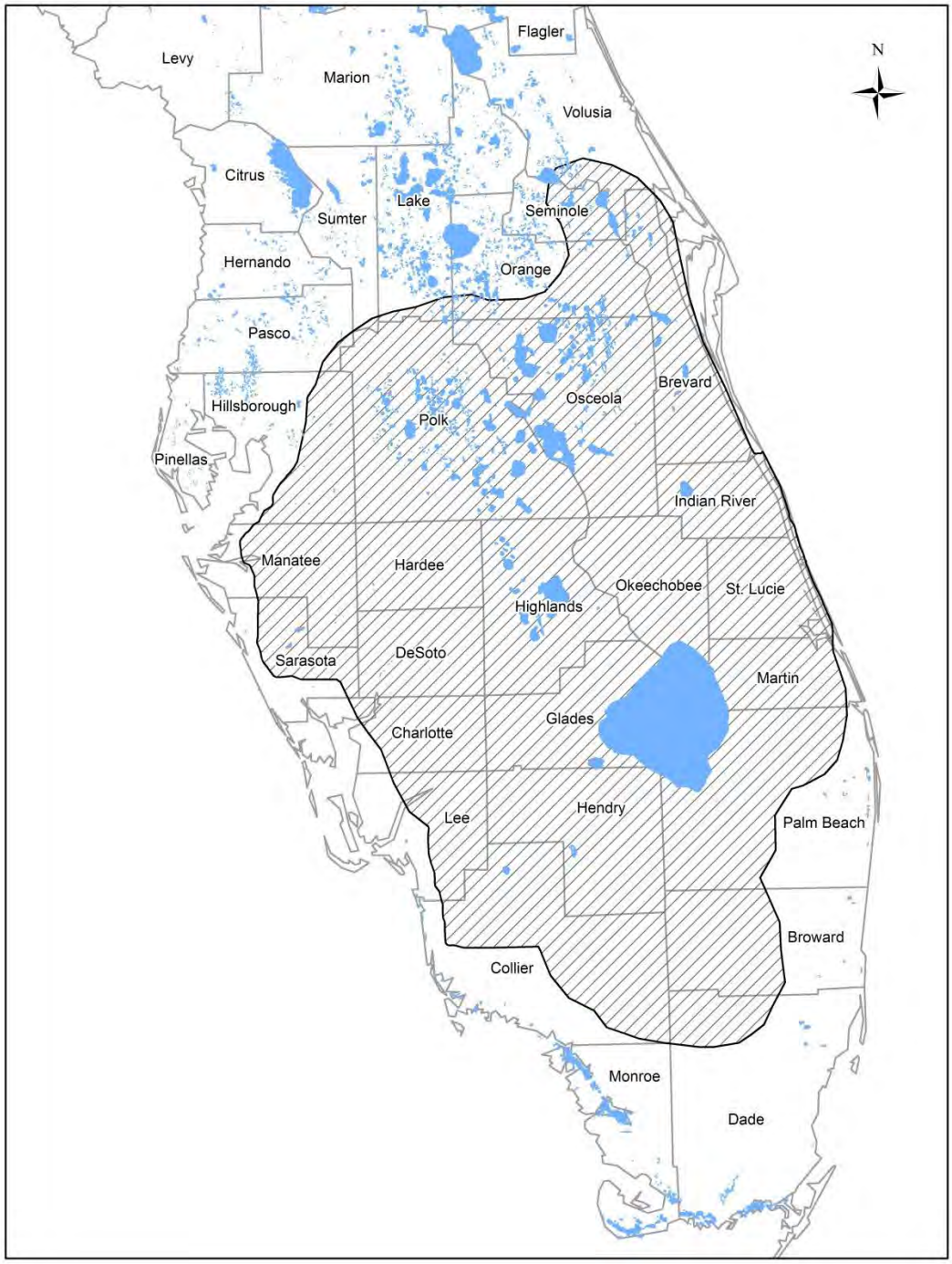


Figure 1. USFWS consultation area for crested caracara.

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: _____
Location/Observation Block/Lat-Long:_____

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)

Weather

Time	Air Temp	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start:					
Finish:					

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc

APPENDIX B
MAPS

ENGINEERS ◔ SURVEYORS ◔ ENVIRONMENTAL

Caracara Monitoring

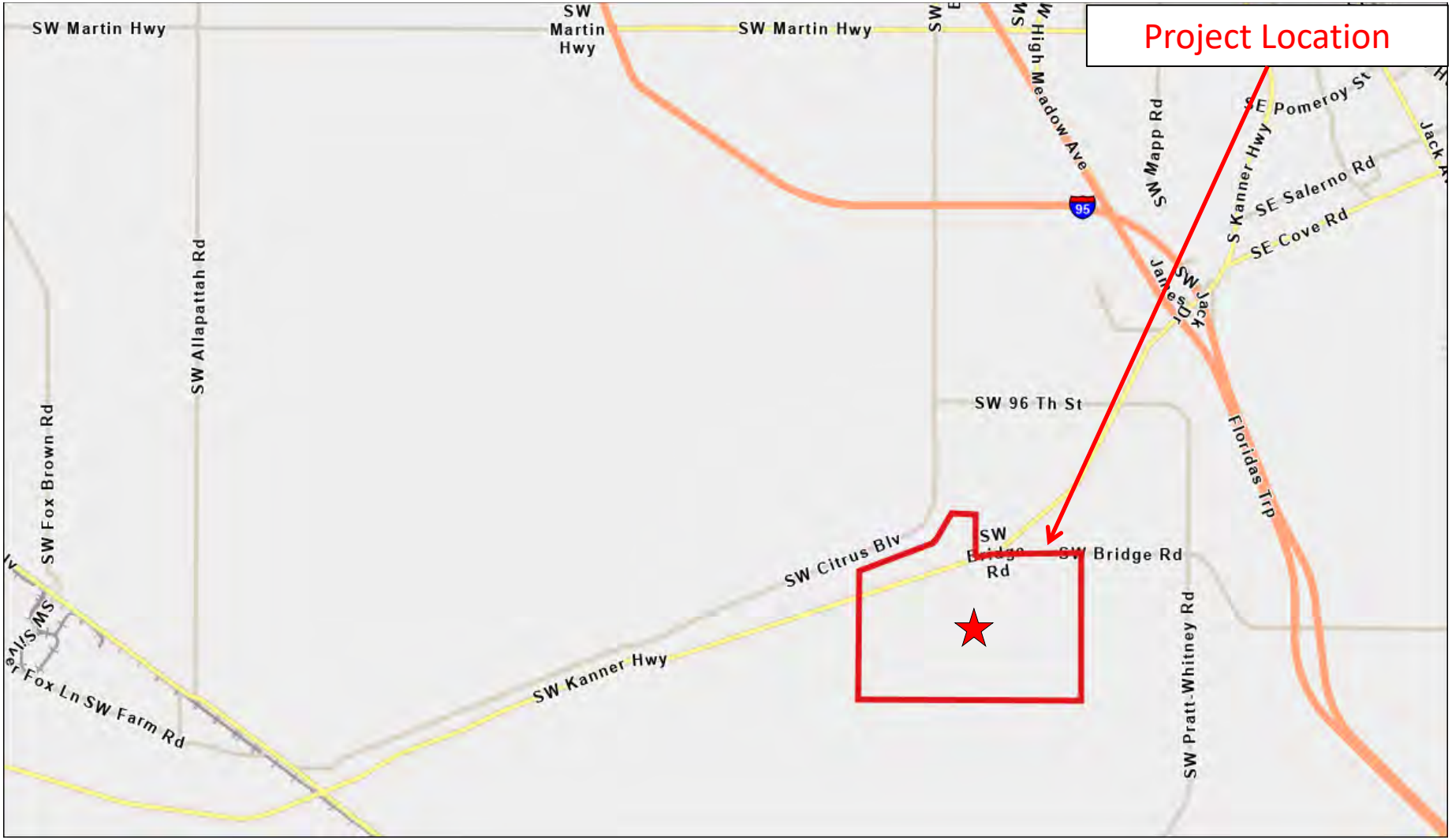
SW Kanner Highway

Stuart, Martin County, FL

Location Map

Project: 22-153	The Ranch	08/15/2023

N



ENGINEERS SURVEYORS ENVIRONMENTAL

Caracara Monitoring

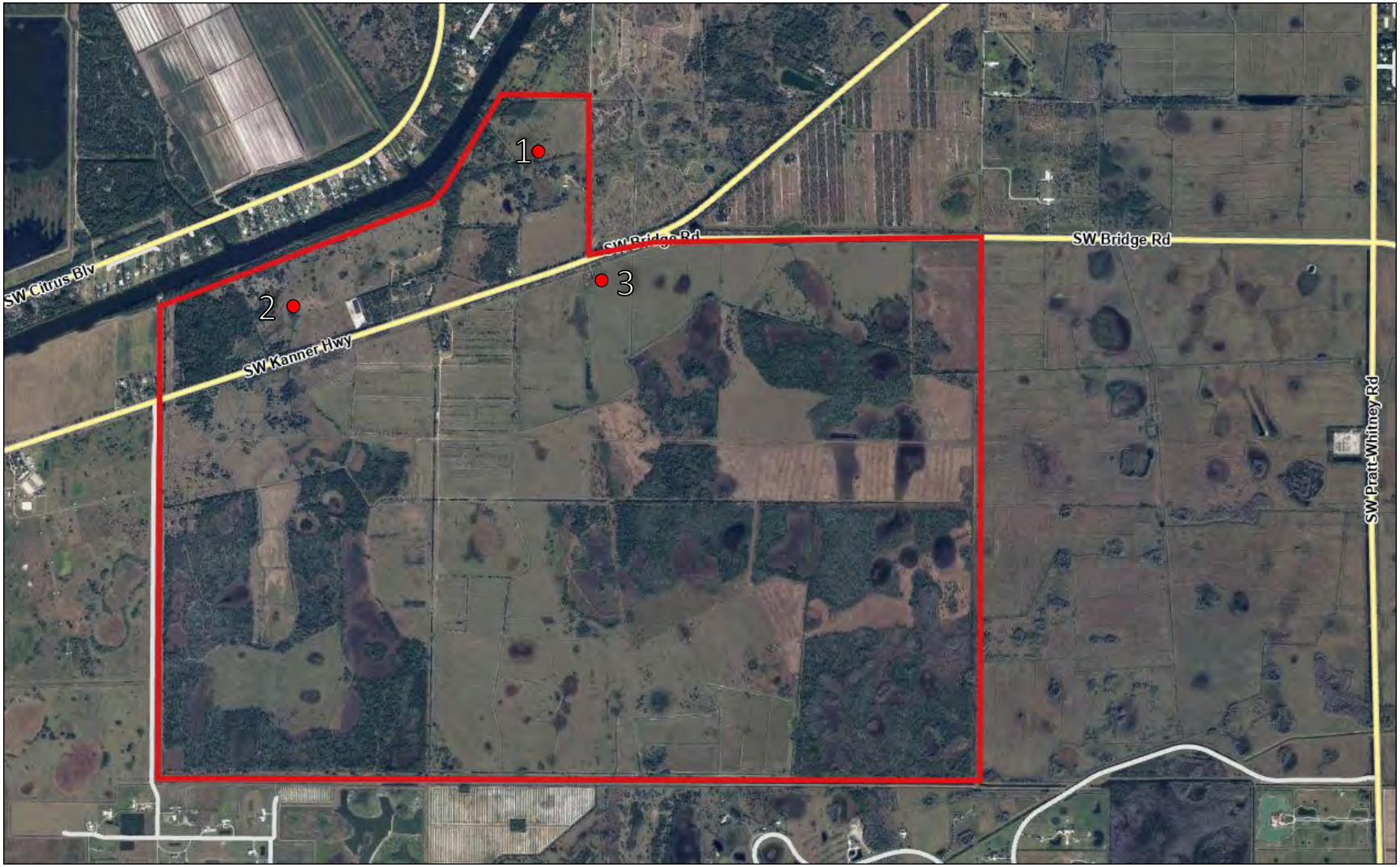
SW Kanner Highway

Stuart, Martin County, FL

Property Appraiser Map

Project: 22-153	The Ranch – Monitoring Locations	08/15/2023

N



ENGINEERS ◔ SURVEYORS ◔ ENVIRONMENTAL

Caracara Monitoring

SW Kanner Highway

Stuart, Martin County, FL

Caracara Observation Blocks & Stations Map

Project: 22-153	The Ranch	08/15/2023

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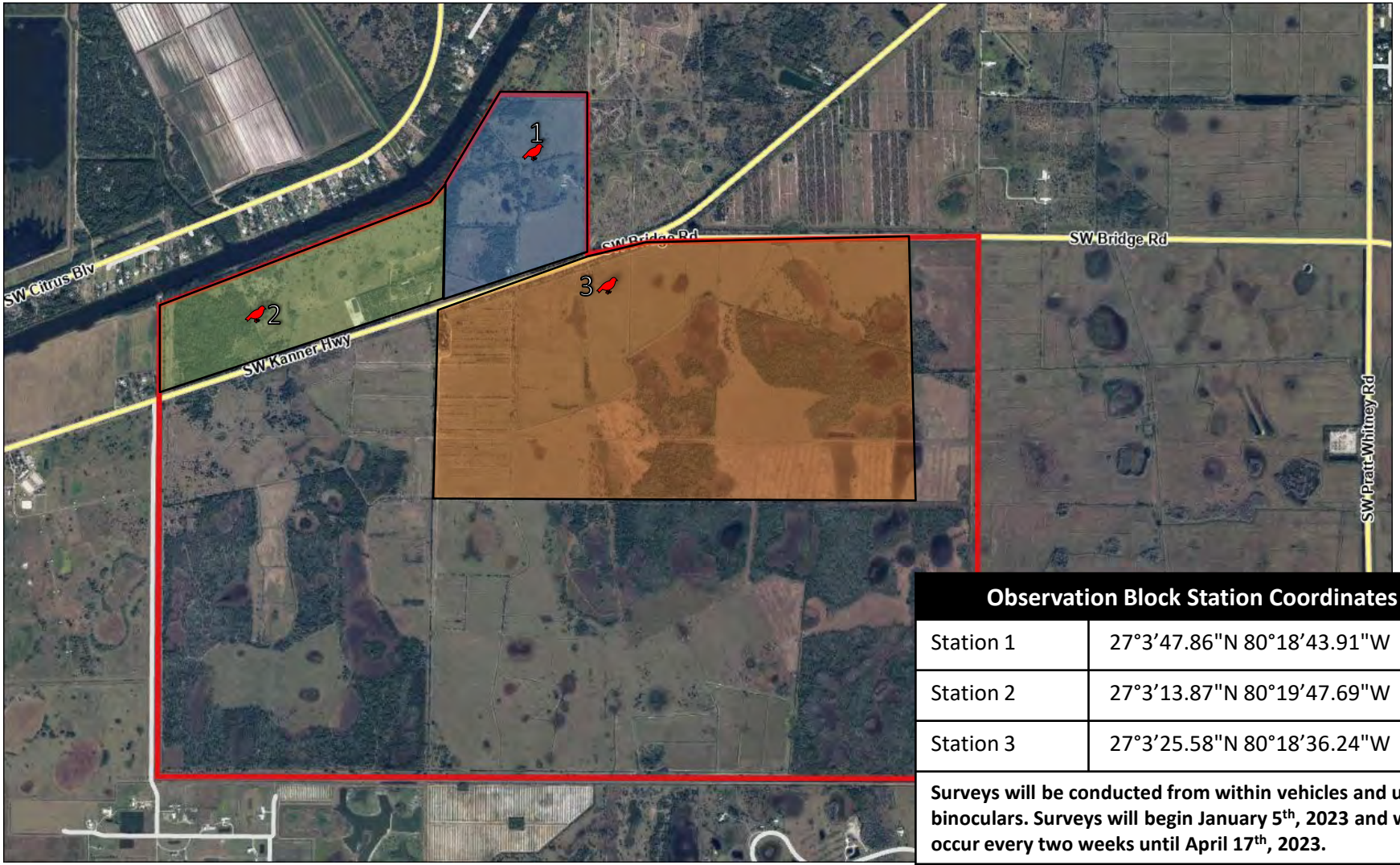


Observation Block Station Coordinates	
Station 1	27°3’47.86"N 80°18’43.91"W
Station 2	27°3’13.87"N 80°19’47.69"W
Station 3	27°3’25.58"N 80°18’36.24"W

Surveys will be conducted from within vehicles and using binoculars. Surveys will begin January 5th, 2023 and will occur every two weeks until April 17th, 2023.

ENGINEERS ◔ SURVEYORS ◔ ENVIRONMENTAL

Caracara Monitoring

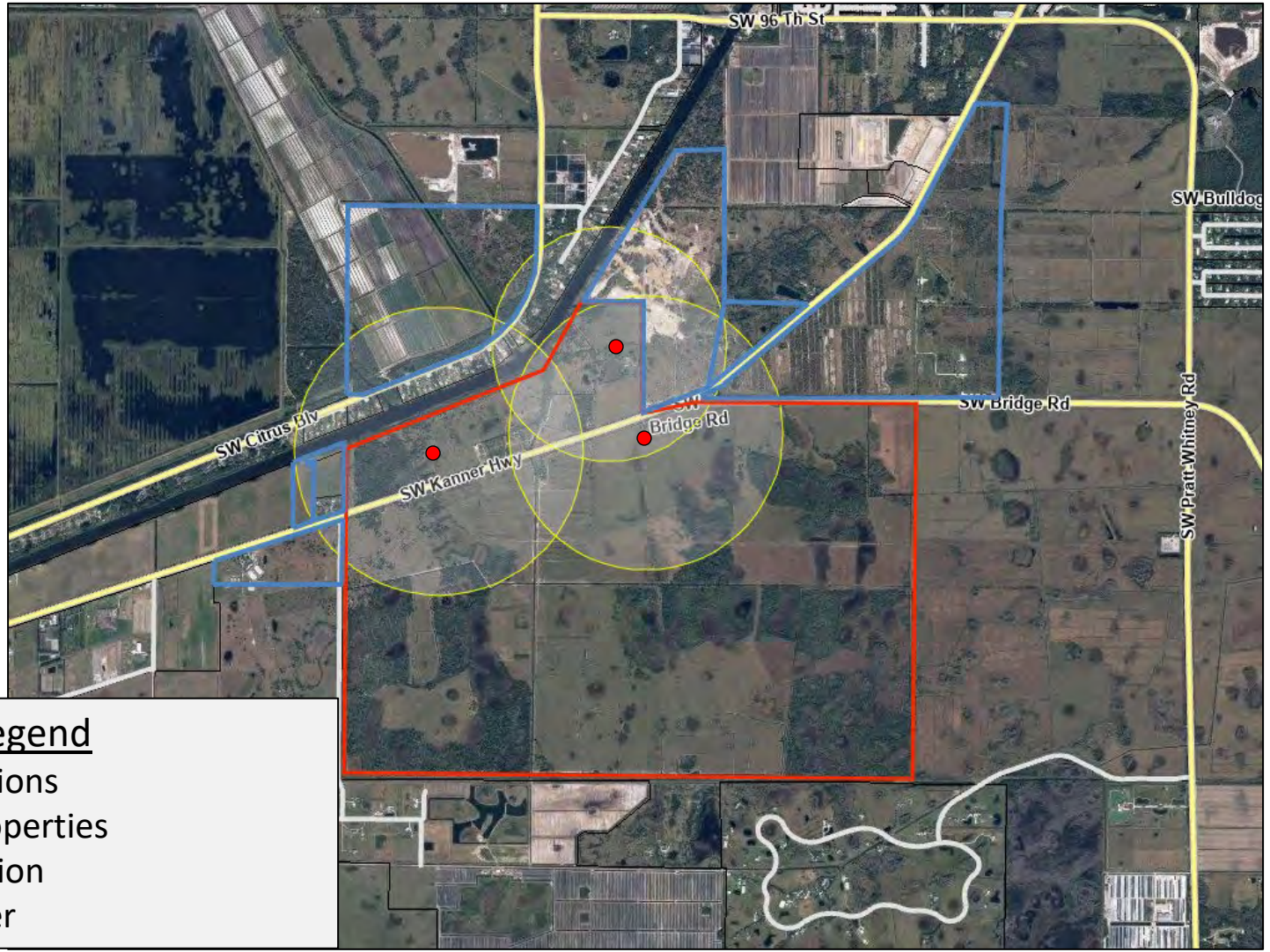
SW Kanner Highway

Stuart, Martin County, FL

Property Appraiser Map

Project: 22-153	The Ranch – Monitoring Locations	08/15/2023

N



Legend

- Station Locations
- Adjoining Properties
- Project Location
- 1,500m Buffer

ENGINEERS SURVEYORS ENVIRONMENTAL

Caracara Monitoring

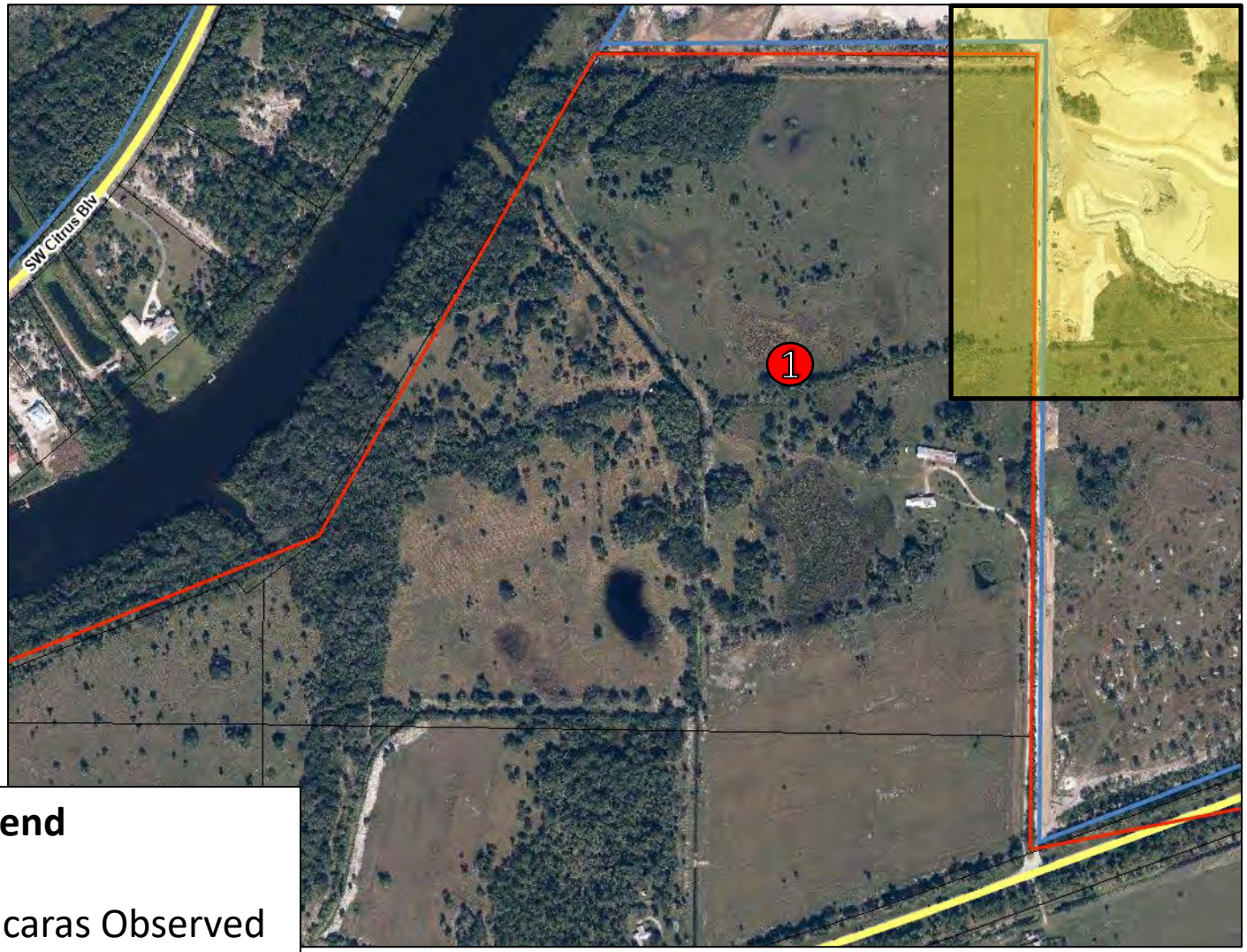
SW Kanner Highway

Stuart, Martin County, FL

Property Appraiser Map

Project: 22-153	The Ranch – Station 1	08/15/2023

N



Legend

1 Station 1

Offsite Caracaras Observed

ENGINEERS SURVEYORS ENVIRONMENTAL

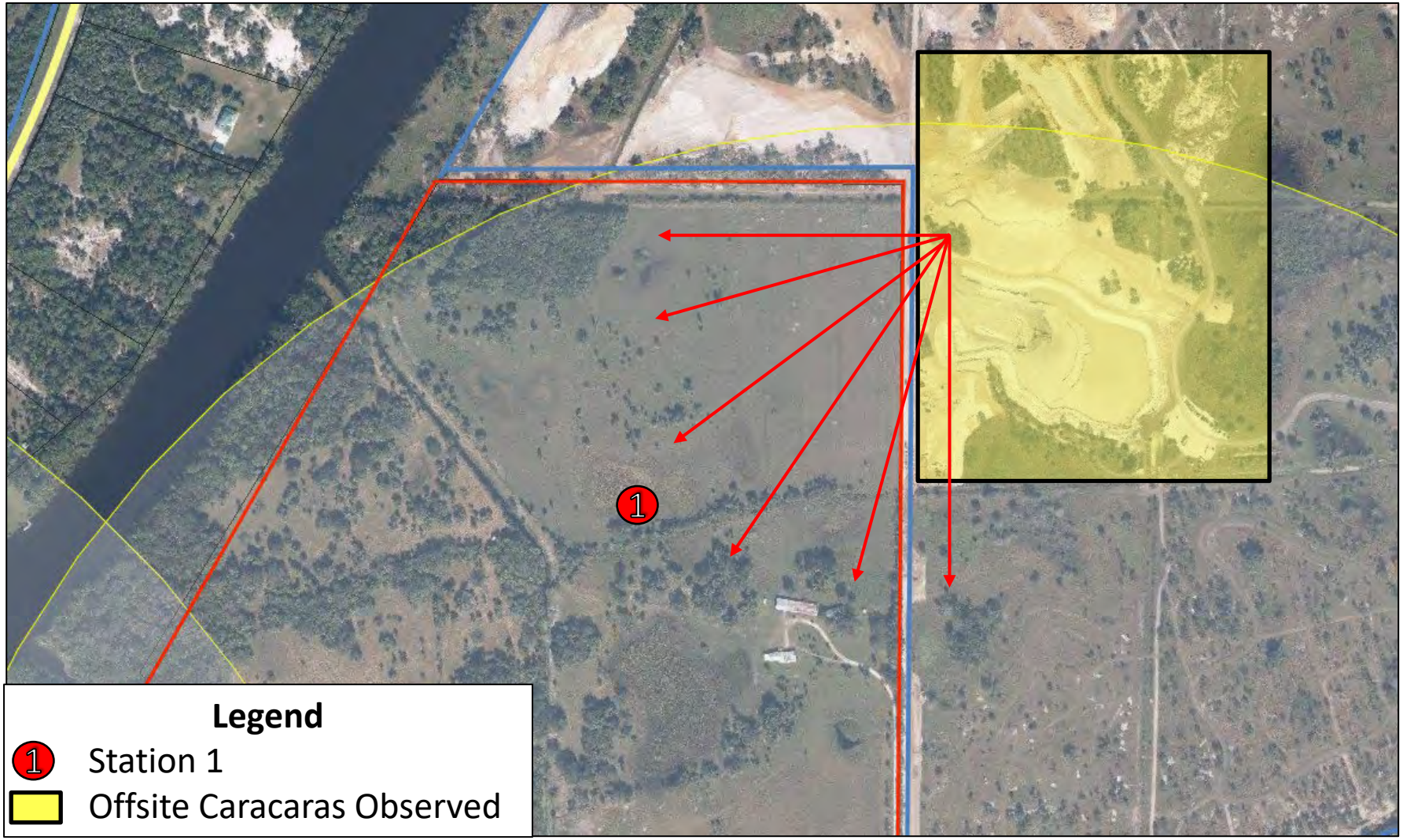
Caracara Monitoring

SW Kanner Highway
Stuart, Martin County, FL

Caracara Flight Path

Project: 22-153	The Ranch – Station 1	08/15/2023

N



ENGINEERS SURVEYORS ENVIRONMENTAL

Caracara Monitoring

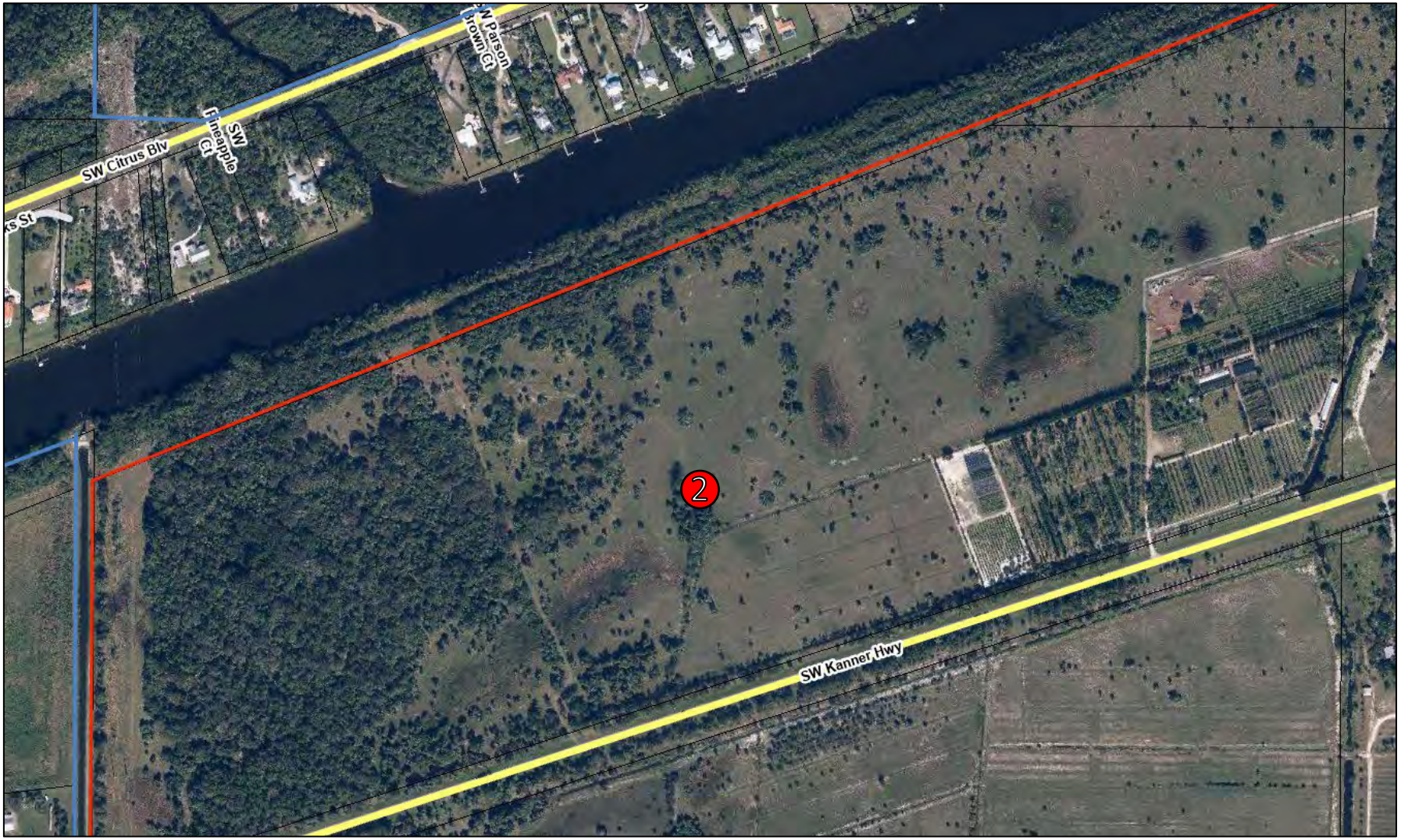
SW Kanner Highway

Stuart, Martin County, FL

Property Appraiser Map

Project: 22-153	The Ranch – Station 2	08/15/2023

N



ENGINEERS SURVEYORS ENVIRONMENTAL

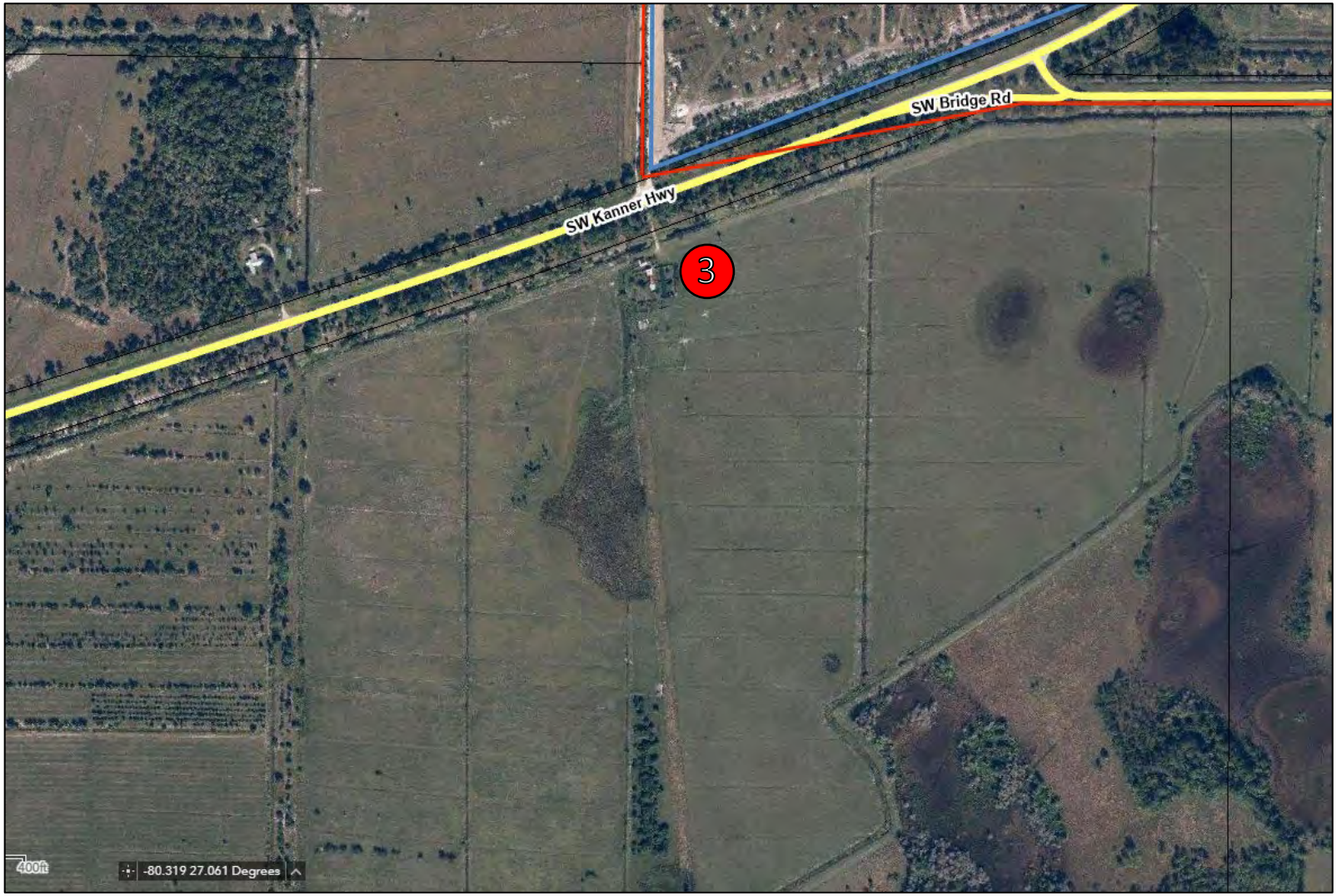
Caracara Monitoring

SW Kanner Highway

Stuart, Martin County, FL

Property Appraiser Map

Project: 22-153	The Ranch – Station 3	08/15/2023



ENGINEERS ◔ SURVEYORS ◔ ENVIRONMENTAL

Caracara Monitoring

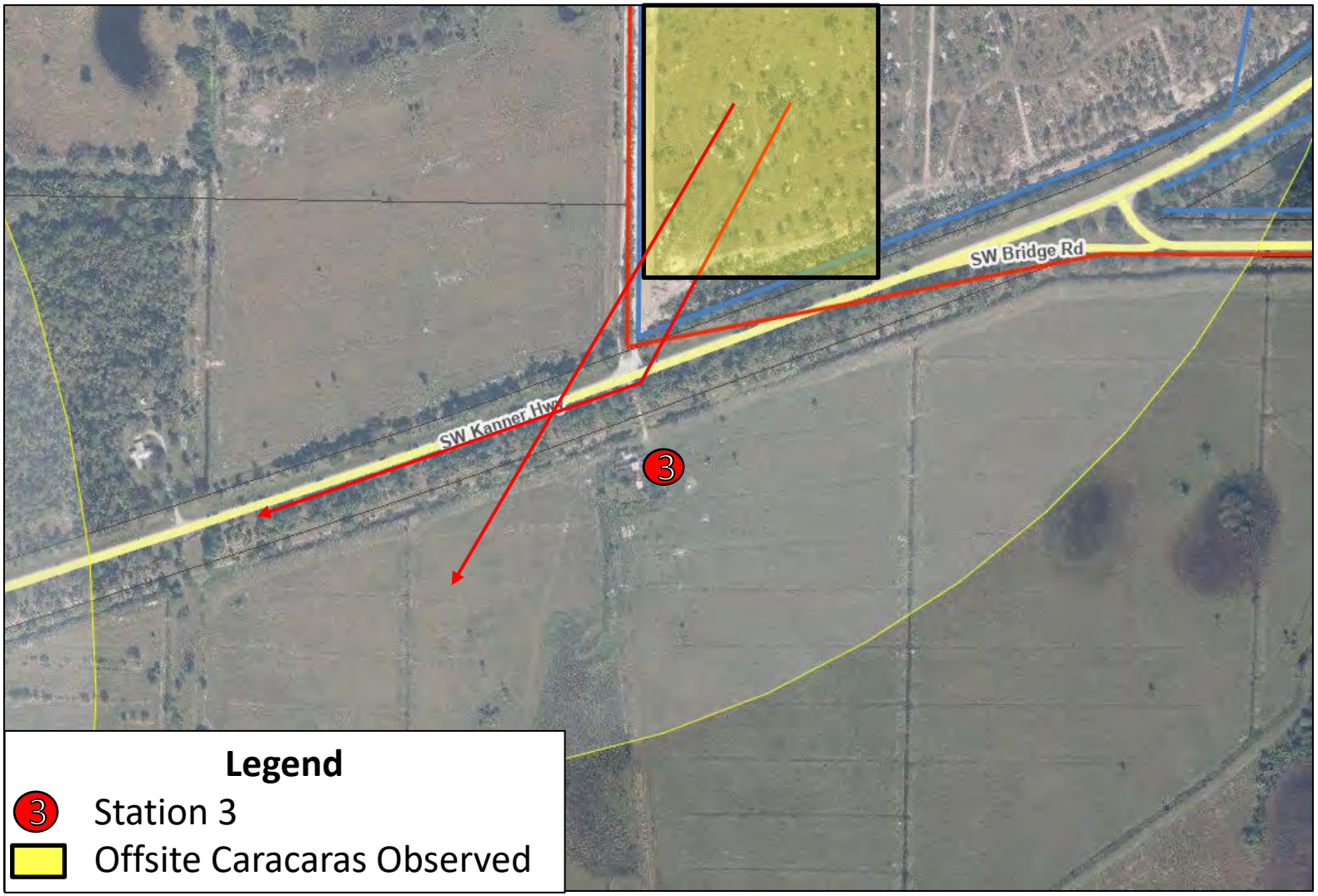
SW Kanner Highway

Stuart, Martin County, FL

Caracara Flight Path

Project: 22-153	The Ranch – Station 3	08/15/2023

N



ENGINEERS ◔ SURVEYORS ◔ ENVIRONMENTAL

Caracara Monitoring

SW Kanner Highway

Stuart, Martin County, FL

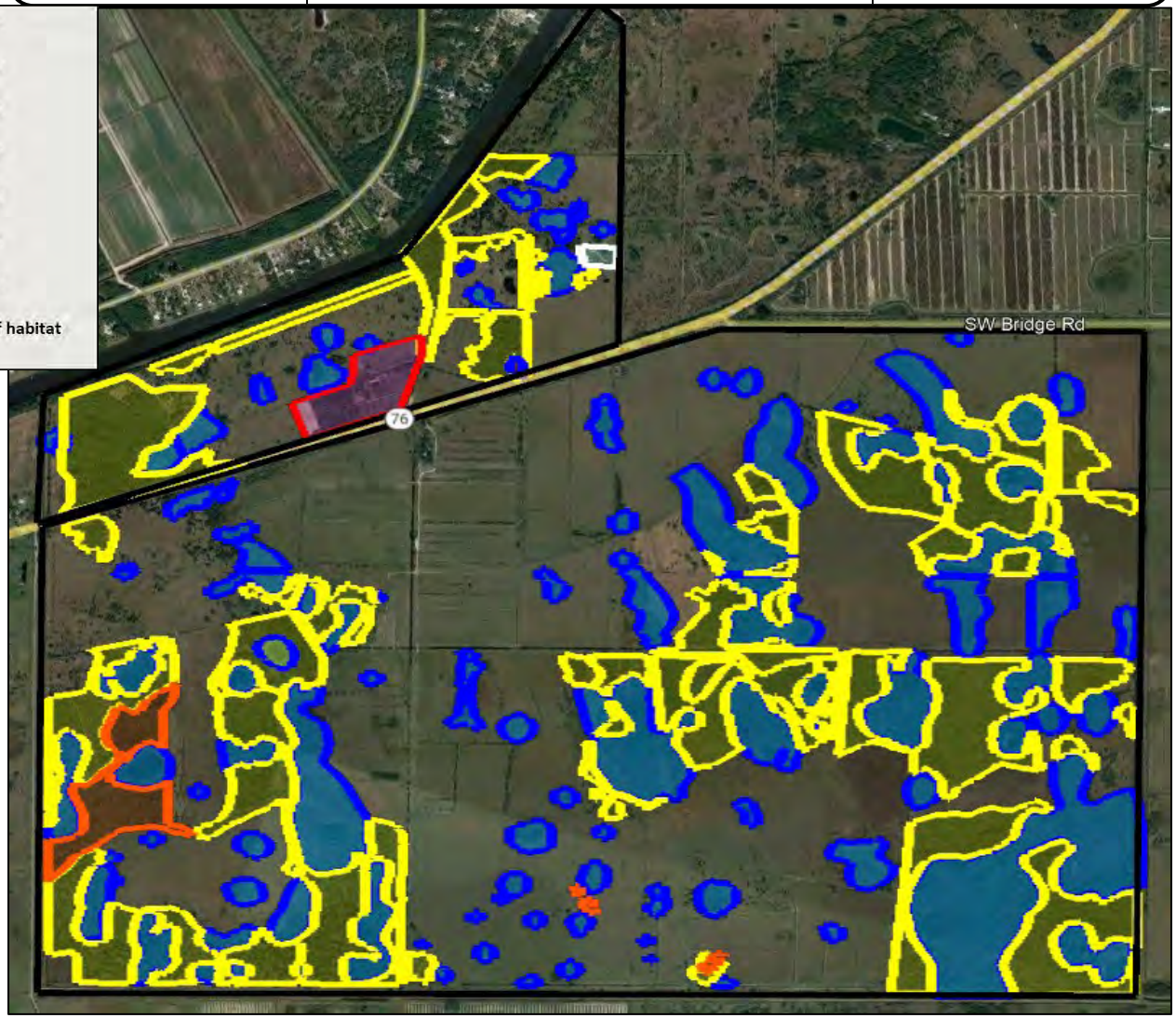
Florida Cooperative Land Cover (CLC) Map

Project: 22-153	The Ranch	08/15/2023

N

183313 - Improved Pasture	2,336.83 AC
1100 – Uplands	762.01 AC
2100; 2111 – Wetlands	703.89 AC
1340 Palmetto Prairie	44.96 AC
183341 – Tree Nurseries	33.10 AC
183351 – Farm Storage	3.71 AC
1832 Rural Structure	1.00 AC

*This map demonstrates an approximation of habitat boundaries on site.



ENGINEERS ◔ SURVEYORS ◔ ENVIRONMENTAL

Caracara Monitoring

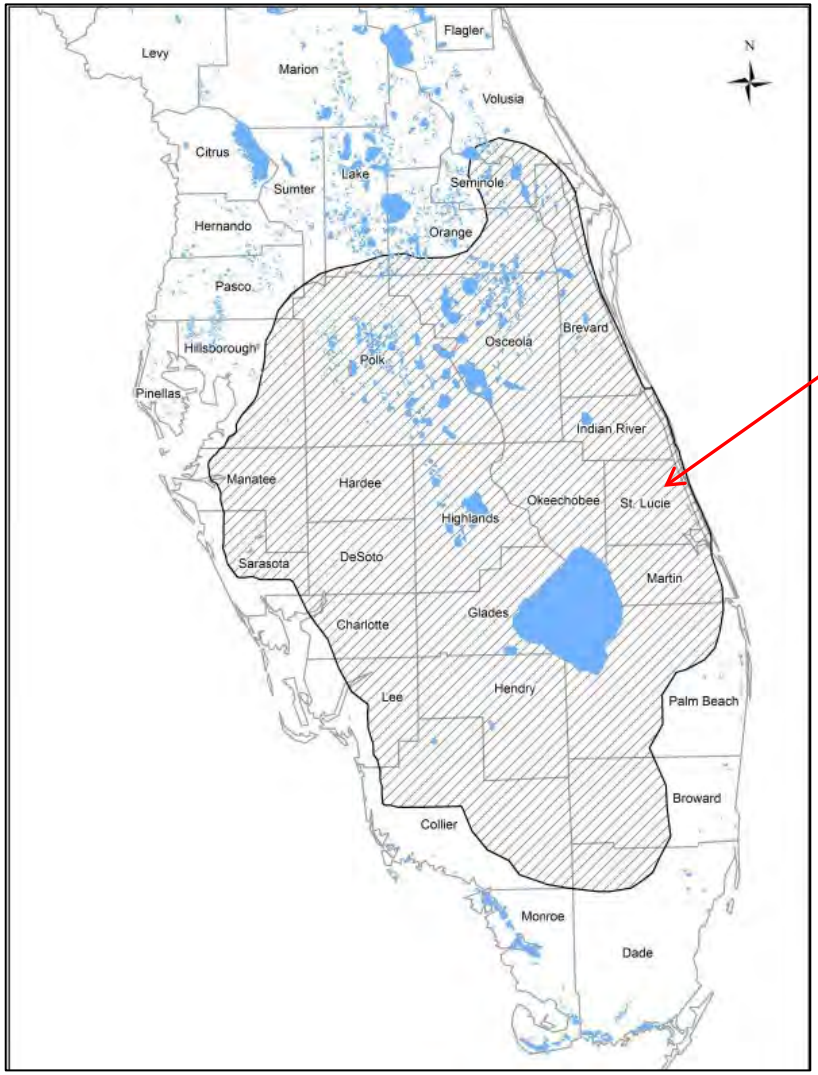
SW Kanner Highway

Stuart, Martin County, FL

USFWS Crested Caracara Consultation Area Map

Project: 22-153	The Ranch	08/15/2023

N



Project Location

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 Caracara Survey

Location/Observation Block/Lat-Long: Baker Parcel: 27.063295; -80.312198

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
01/05/2023	7:00 am	11:30 am	Drew Liddick - Novice

Weather

Time	Air Temp	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start: 6:45 am	70°	SSW	0-10	Cumulus	NA
Finish: 11:30 am	75°	SW	0-10	Cumulus	NA

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area
Open pasture; wetlands (patched on Improved pasture); Active cattle operations; Active Land development adjacent to subject property to the East

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
	A	7:45 am	Small Birds, 3-6; 5-10 ft high; over pasture; Low to the ground
	A	8:15 am	same small bird flock is to E over adjacent property to E
	A	9:00 am	3-6 Egrets (cattle) - along ground; foraging
		9:15 am	No Raptors sighted
	A	9:20 am	2-4 Egrets (cattle) flying E to W; E 10-15 ft high
		10:00 am	No Raptors
	A	10:30 am	4 Ibises flew from E to W; foraging within wetland area adjacent to observation station

	A	11:15am	No Raptors observed

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 - Bexar Caracara Survey
Location/Observation Block/Lat-Long: Station 2: 27°3'13.8"N; 98°19'47.6"W

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
01/05/2023	7:00am	11:30am	Tony Adams - Novice

Weather

Time	Air Temp	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start: 6:45am	68°	SW	10	High Altitude	NA
Finish: 11:30am	70°	SSW	10	High Altitude	NA

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area
Open Ag land; Improved pastures; Wetlands present within visual range

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
		7:30	No Raptors
		8:00	No Raptors
		8:30	No Raptors
		9:00	No Raptors
		9:30	No Raptors
		10:00	No Raptors
		10:30	No Raptors
		11:00	No Raptors
		11:30	Ended

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 - Beckt - Caracara Survey
Location/Observation Block/Lat-Long: Station 3: 27°3'26.58"N, 80°18'36.24"W

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
01/05/2023	7:00am	11:30am	Toby Overdorf - Expert

Weather

Time	Air Temp	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start: 7:00am	70°	SW	10	Cirrocumulus	NA
Finish: 11:30am	74°	SW	10	Cirrocumulus	NA

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area
Cattle Pen; overlooking open pasture; improved pasture

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
		7:00	Song Birds; No raptors
		7:12	Egrets; No Raptors
		7:30	Observation area increased
			No Raptor
		8:20	Powerlines - Hawk; Perched - overlooking open pasture
		9:15	No Raptors
		10:00	No Raptors
		10:30	No Raptors
		11:00	No Raptors
		11:30	Ended

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 Bakst, Inc.

Location/Observation Block/Lat-Long: Location 1 / 6:45am-9:00am / 27.059805 -80.3134459

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
01/10/2023	6:45am	9:00am	Drew Liddick; Novice

Weather

Time	Air Temp	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start:	~60°F	~0-5mph N	10-15%	High Altitude	light Fog (close to ground)
Finish:	~65°F	~0-5mph N	0-5%	"	NA

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area
Open pasture/Prairie; Fenced w/ Barb wire 27.059805, -80.3134459 ; ~400m circumference, open observational area (360°)

Observations (raptor species)

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
	A	7:32am	Osprey; palm-perch; active hunting ~1-2ac patrol over open prairie
	A	7:36am	Red-Shouldered Hawk; flight N to S; ~50ft in air; being chased by flock of Black-birds (small, comparable-size)
	A & IM	8:09am	10-12 ~~5-8~~ Wild Turkeys; walking/foraging 10-20ft away from observation area
	A	8:16am	Red-Shouldered Hawk (Juvenile); palm-perched, hunting
	A	8:40am	Single Wild Turkey (A); foraging

7:51 - Coyote ; ~Near m2
8:00 - Heavy Equip. operation adjacent to parcel Began

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 Bartlett Caracara Survey
Location/Observation Block/Lat-Long: Stanton 2: 27°3'13.87"N; 80°9'47.69"W

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
01/10/2023	6:45 am	~~10:00 am~~ 11:00 am	Tony Adams - Novice

Weather

Time	Air Temp	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start:	~58°	0-5	10	High clouds cover	light Fog
Finish:	~65°	0-5	5	High clouds	NA

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area
Open Ag land; improved pastures; wetlands present within visual

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
		7:30	No Raptors
		8:00	No Raptors
		8:30	No Raptors
		9:00	No Raptors
		9:30	No Raptors
		10:00	No Raptors
		10:30	No Raptors
		11:00	No Raptors

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 Baskt Caracara Survey
Location/Observation Block/Lat-Long: Station 3: 27°3'25.58"N; 80°18'36.24"W

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
01/10/2023	6:45am	11:00am	Toby Overdorf - Expert

Weather

Time	Air Temp.	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start: 7:00am	60°	5-10 - N	10%	Altocumulus	light Fog
Finish: 11:00am	65°	5-10-N	10%	Altocumulus	NA

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area
Cattle Pen; overlooking open pasture; Improved Pasture; wetlands in distance

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
	A	7:15	Anhingas; flock of 5-7; in flight; NE to SW
		8:15	No Raptors
	A	8:30	flock of 5 Cattle Egrets; ground; foraging
		9:00	No Raptors
	A	9:30	More Egrets cattle Pen; No Raptors
	Im	10:00	Many birds cattle Pen
		10:30	No Raptors
		11:00	End - No Raptors

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 BAKST, Inc.

Location/Observation Block/Lat-Long: Location 1: 27.059805 -80.313459

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
01/23/23	6:45 am	11:00	Drew Liddick - Novice

Weather

Time	Air Temp	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start: 6:45am	~70°	NE ~10-15 mph	~65%	Cumulose	Imminent - Rain @ 8:45am
Finish: 11:00am	"	"	"	"	"

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
		7:03am	- Single Aplinga; A; flying ~100ft high; NW
		7:05am	- Cattle egret; A; foraging
		7:17am	- Warbler-sized Bird; Sunning/overseeing prairie; single; Dark; small beak └ fast chirps; 7-8 chirps; "whoop, whoop, whoop, - - - whoop whoop"
		7:30am	- small flock; 3- cattle egrets; A's; └ sticking w/ 5-10 head of cattle
	*	7:31am	- flock - 10-15 " "; working prairie
	*		- 2- possible Caracara; ~50ft high; flying; travelling N to SW └ A; unconfirmed
		7:36am	- Med flock; 15-20; small warbler-sized;
		7:46am	- Great "White" Egret; A; within adjacent wetland
		7:52am	- flock - 3-5 warbler; 50-75ft high └ Increasing cloud cover; light - fading
		7:56am	- Heavy, dark rain clouds arrive from NW └ rain begins

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 Baskt Caracara Survey
Location/Observation Block/Lat-Long: Station 2: 27°47.86"N; 80°18'43.91"W

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
01/23/2023	7:00	11:00	Tony Adams - Novice

Weather

Time	Air Temp	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start: 7:00	70°	NE 10-15	65	Cumulose	Imminent
Finish: 11:00	74°	NE 10-15	65	Cumulose	//

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area
Open Ag land; Improved pastures; wetlands present

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
		7:00	Egrets foraging; 5-10 within pasture
		7:20	No Raptors
		7:25	Cattle egrets; in flight, N-S
		7:30	No Raptors
		8:00	No Raptors
		8:15	Rain clouds present
		9:00	Rain
		10:00	Rain
		11:00	End No Raptors

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 BakST, Inc.

Location/Observation Block/Lat-Long:

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
01/23/2023	6:45am		Toby Overdorf - Gate 11

Weather

Time	Air Temp	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start: 6:40am	73°F	5-10 WSW	≈ 50%		No Ground Fog Rain Eminent
Finish:					

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
		6:45am	Song Bird Activity
		7:00am	Harrier - moving E to W ≈ 500yds S of observation point; 15ft off grd.
		7:14am	Sunrise observed; No raptor activity
		7:22am	great egret moving NE to SW ~~~ off grd; ~~Many~~ song birds; Cattle egret to W of cattle pen; No raptors observed
		7:27am	Possible raptor West of power lines working to W; Size of an eagle ↳ possible Caracara
		7:36am	large raptor W, on S side of tanner
		7:52am	Band of storms moving in from WNW ↳ increase in wind ≈ 10mph sustained
		08:00am	light rain & observer exited; 73°F

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 Baker - Caracara Survey
Location/Observation Block/Lat-Long: Station 2

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
02/06/2023	06:15am	10:30	Drew Liddick - Novice

Weather

Time	Air Temp	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start:	67°F	5-10mph NW	80%		7 1/2 hr. - 24hr.s
Finish:	70°F	5-10 NW	80		NA

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area
Open pasture field w/ few cabbage palms; lined by barbed wire adjacent to rural Hwy (Martin County Hwy)

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
	Juv.	7:07am	- Raptor perched ontop cabbage palm; observing E from middle of pasture - likely hawk-red shouldered
		7:16am	- Sun broke through overcast - cloud cover
	Juv. (Same)	7:18am	- Two, small - black birds flying N-S; ≈ 25ft in air ↳ non-raptors
	Juv. (Same)	7:25am	- Same single ↑ perched-palm; observ. W over pasture
	Juv. (Same)	7:31am	- Same bird ↑, patrolling area around palm
		7:40am	- lack of activity compared to prev. observ. days ↳ cons. activities to E of sub. prop. (Beeping) ↳ maybe having effect
	unknown	7:49am	- 2 small - warbler sized; flying E to W ≈ 15ft in air
	Adult	8:00am	- 2 cattle egrets flying E to W - 5ft in air ↳ foraging through pasture
	Adult/Imm	8:13am	- ≈ 10 cattle Egret flock foraging near entrance within pasture
	Adult	8:17am	- 2 snowy Egrets foraging through adjacent W.L.
	Adult	8:38am	- 2 cattle egrets foraging ground along S fenceline
	Adult	9:00am	- Raptor - Red-shouldered hawk; observing - perched; hunting pasture
	Adults	9:02am	- flock 5-10 small black birds; quick; general outside of pasture
	Adult	9:04am	- NE-SW; possible 2 Caracaras; high-80ft; straight flight SW
	Adult	9:13am	- 1 single Caracara; E to W ≈ 30-50ft; straight flight SW ↳ large! ↳ Blk; white tipped; raptor Over pasture

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 Bethel - Caracara Survey
Location/Observation Block/Lat-Long: Station 2

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
02/06/2023	6:30	10:30	Tony Adams - Novice

Weather

Time	Air Temp	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start: 6:30	68°	5 - NW	60%	?	rain prior
Finish: 10:30	72	5 - NW	60%	NA	NA

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area
Open Pasture Field ; Improved pasture; overlooking wetlands

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
		7:00	No Raptors
		7:20	No Raptors
		8:20	No Raptors
		9:00	No Raptors
		9:30	No Raptors
		10:00	No Raptors
		11:00	No Raptors

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 Bakst - Caracara Survey
Location/Observation Block/Lat-Long: Station 3; Cattle pen

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
02/06/2023	7:00	11:00	Toby Svendsen - Expert

Weather

Time	Air Temp.	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start: 7:00	67°	5-10	80%	Rain-clouds	approaching
Finish: 11:00	68°	5-10	80%	//	approaching

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area
Cattle Pen; overlooking open pasture / improved pasture

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
		7:00	Spotted Sandhill crane walking/foraging
		8:00	No Raptors
		8:30	Song Birds over Cattle Pen
		8:45	Cattle Egrets; float in flight = 5-10 ft
		9:15	No Raptors
		10:15	No Raptors
		11:00	End

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 Caracara Survey
Location/Observation Block/Lat-Long: ~~East~~ Beast Parcel; Cattle Pen

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
02/20/23	6:25am	9:25	Toby Overdorf

Weather

Time	Air Temp	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start:	≈70°F	0	2	High Cirrois Stratus	light ground Fog
Finish:	≈73°F	0	2	//	Absent

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
		6:30	No Evidence of Raptors or other large Birds; Song birds plentiful near the area of observations
		6:45	Great Egret; flyover position to the S (N to S) across cattle pens
		6:48	Sun-fully risen
		6:52	Several wading birds; roosted in Cypress located ESE of observation station
		6:55	several wading birds flying from NE to SW
		7:02	Motorized paraglyder coming towards the prop from Bridge Rd.; Pratt Whitney intersection
		7:05	Glider approached - scattered wading birds - No raptors
		7:15	Sandhill Crane fly from S to N ≈500yds E of observation station

		7:30	No activity observed
		7:39	Two large crows fly from ENE over position
		8:00	great white Egret flying W to E ± 300yds S of ob. position
		8:21	Two large buzzards fly E to W above Kanner
		8:45	Final observation; No Caracara observed No Raptors; Song birds present; Cloud cover at 2% - no fog

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 Caracara Survey
Location/Observation Block/Lat-Long: Bakst Parcel; 27.063295 -80.312198

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
02/24/23	6:30am	9:30am	Drew Liddick

Weather

Time	Air Temp	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start:	~70°F	0-3 mph N	high alt. ~ 10%	—	heavy ground fog evaporating through time
Finish:	~75°F	0-3 mph N	10%	—	Fog evaporated fully

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
		6:57	Small warbler sized; flying circles; 25-30ft
		7:05	Alulinga drying wings
		7:08	Same warbler circling; patrolling
		7:18	Possible caracara; neighboring Prop; Crown of open Pine; Drying wings
		7:23	3 Warbler sized; flying N ~30ft
		7:32	Raptor; flying ~ 30 FT SW X2
		7:35	Red Shouldered hawk; ~20ft; flying SE; calling out
		7:40	" " "; overlooking Pasture from Top of Crown of nearby Pine
		7:45	Construction activity audibly & visually observed on adjacent property E

		7:49 8:10	Flock of cattle Egrets 12-20; foraging wetland " " " "; 30-35; " "
		8:12 8:15	2 crows; 5-15ft; flying S 4 cattle Egrets; ground foraging
		8:17 8:35	2 Ducks / Geese; flying @ 35ft; from E, circled; back to E V flock of wanglers flying 10 total; 40ft, SE
		8:48 8:58	single cattle Egret; foraging; ground; wetland Heron; 5-10ft; flying SE

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 Bakst - Caracara Survey
Location/Observation Block/Lat-Long: Station 2

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
02/24/2023	6:30am	9:45am	Tony Adams - Novice

Weather

Time	Air Temp	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start:	70°	3 - N	10%	—	Fog
Finish:	75°	3 - N	10%	—	Fog gone

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area
Overlooking open pasture - Ag Field; Improved pasture; overlooking wetlands

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
		6:30	No Raptors
		6:50	No Raptors
		7:15	Cattle egrets foraging in wetland
		8:15	Song Birds in flight; N-S; 5-10ft
		9:00	No Raptors
		9:30	No Raptors
		~~10:30~~ 9:45	No Raptors End

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 Caracara Survey
Location/Observation Block/Lat-Long: Basket Parcel; 27.063295 -80.312198

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
03/06/2023	6:45 am	9:45 am	Drew Liddick

Weather

Time	Air Temp	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start:	~75°F	0-5 mph NW	50%	High Alt.	NA
Finish:	~78°F	0-5 mph NW	0-10%	NA	NA

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area
Open pasture; wetlands (patched) on & improved pastures Active cattle operations; & active land development activities to E of subject property

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time (am)	Description of behavior, flight path, etc
~~6:45~~	A	6:45	Red Shouldered Hawk; E to W; 25-35 ft in air; circling pasture
		6:55	Workers on adjacent prop to E; talking around heavy Equip.; in flight path
		7:12	Heavy equip. & generators begin work to E; Loud!!!
	A	7:15	Woodpecker; Palm tree; foraging
	A	7:17	Red Shouldered Hawk; New; patrolling open pasture; 25 ft in air
		7:20	High altitude clouds burnt over
	A	7:22	5- Warbler sized; 35 ft high; circling @ high speed over field
		7:25	3-groups ♣; same activities
		7:27	Individuals (fire-arm based); 2-humans; w/ field gear set off in general hypoth. nest location
	A	7:30	Raptor - possible Caracara; Next door to E; Upper NW of prop to E; flying SW
	Ax2	7:36	11 - 11; x2!; Far N side; almost flying from N of Eastern prop - flying S!

	A A	7:40 7:41	Flock – 5-10 warblers; flying W over field Single raptor; N fence-line of E prop.; circling to Mid-prop, flying N thn S
	A x 3 A x 3	7:43 7:45	Cattle Egrets; 3; within wetland within pasture; foraging (New) // //; //; // // // // //; //
	A A A x 3	8:00 8:32 8:38	Red shouldered hawk; Perched in palm overlooking pasture Cardinal; flying S; 5-10ft off ground 3 warblers circling field; ≈20ft high; flying S
		9:45	Stopped observations

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 Caracara Survey

Location/Observation Block/Lat-Long: Station 2

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
03/06/2023	6:45	10:00	Tony Adam - Novice

Weather

Time	Air Temp.	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start:	75°	0-5 NW	30	High	NA
Finish:	78°	0-5 NW	30	High	NA

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area
Open Ag - Improved pastures that have wetlands

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
		7:00	Hawk flipping 10-20 ft / single; No caracara - Red shouldered
		7:30	No Raptors
		7:45	Cattle Egrets - 5-15; Foraging on Ground
		8:15	No Raptors
		8:45	No Raptors
		9:15	Song Birds flying overhead
		9:45	No Raptors

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 BrightT

Location/Observation Block/Lat-Long: Station 3

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
03/06/2023	6:45	9:45	Toby Overdorf - expert

Weather

Time	Air Temp	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start:	75°	5-10	50%	Altostratus	NA
Finish:	78°	"	"	"	NA

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area
Cattle Ranch; overlooking open pasture; Improved pasture

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
		7:15	Cattle Egrets; 5-10; foraging
		8:15	No Raptors
		9:00	Red-Shouldered Hawk; W-N; over 5 open fields
		9:20	Cattle Egrets; loafing; foraging
		9:45	No Raptors; Ended

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 Caracara Survey
Location/Observation Block/Lat-Long: Bakst Parcel: 27.063295 -80.312198

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
03/20/2023	6:15 am	9:45am	Drew Liddick

Weather

Time	Air Temp	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start:	~ 75-56°F	10-15 mph NE	75%	Cumulus	Prior to arrival (early a.m.)
Finish:	~ 65°F	10-15 mph NE	35%	Cumulus	NA

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area
Open pasture; wetlands (patched) on Improved pasture Active cattle operation; active land development adjacent to Subject property to the East

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
		6:25 am	Crew from adjacent property arrived; began starting equipment @ sunrise
		6:45am	No observations (wildlife)
		7:25am	No observations (11); clouds began to burn off
		7:40am	No observations (11); clouds still deminishing
	A	7:45 am	4 Birds; warbler sized; 15-20 ft high; flying W
	A	7:52am	3 Cattle egrets; 15-20 ft high; circling pasture
		8:05am	No observations (wildlife)
	A	8:10am	X2 Raptors - red shouldered; above house; hunting front pasture

~~A~~ 8:20am No observations (wildlife)

A 8:42am Single cattle egret; 1 small blackbird; flying S; 5-10ft high over pasture

A 8:45am ≈ 20 small black birds, patrolling over pasture; 5-10ft high

9:00 am No observations (wildlife)

9:20am No observations (wildlife)

9:45am No observations (wildlife)

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 BCSKT - Caracara Survey
Location/Observation Block/Lat-Long: Station 2

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
03/29/2023	6:15 am	9:45am	Tony Adams – Novice

Weather

Time	Air Temp.	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start:	55°	10-15 NE	75%	overcast	NA
Finish:	60°	10-15 NE	35%	Stratus	NA

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area
Open Ag – Improved pastures; wetlands present

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
		6:30	No Raptors
		6:55	Song birds around wetland
		7:30	No Raptors
		8:00	No Raptors
		8:15	Cattle Egrets; foraging; 5 total
		9:00	No Raptors
		9:45	No Raptors

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 Caracara Survey

Location/Observation Block/Lat-Long: Station 3

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
03/20/2023	6115	9:45	Toby Wedorf

Weather

Time	Air Temp	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start:	58	10-15 NE	50%	Congestus	
Finish:	64°	10-15 NE	25%	Congestus	

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area
Cattle pen; Improved pasture; open pasture

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
		7:30	No Raptors
		7:55	Long Lines - Cattle pen; 5-10; perched on fence
		8:15	No Raptors
		8:30	No Raptors
		9:15	No Raptors
		10:00	No Raptors
		~~10:30~~	

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 Caracara Survey
Location/Observation Block/Lat-Long: Baker Parcel: 27.063295, -80.312198

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
04/03/2023	7:15am	10:15am	Drew Liddick - Novice

Weather

Time	Air Temp	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start: 7:15am	~78°F	0-5mph N	1/2-3/4	High Alt.-cumulus	NA
Finish: 10:15am	~83°F	0-5mph N	1/4-1/2	High Alt.-Cumulus	NA

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area
open pasture; wetlands (patched) on improved pasture; Active cattle operation; active land development adjacent to subject property to the East

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
	A	7:30am	Small birds; 3-6; 5-10ft high; over pasture
	A	7:50am	Small birds; single; 5-10ft high; over pasture
	A	8:03am	Cattle egrets; X2; E to W; 5-10ft high; over pasture
		8:05am	No raptors sighted yet
	A	8:12am	Cattle egret; single; 10-15ft; N to S
	A	8:15am	4-6 egrets; From E; N to S; 30-35ft
	A	8:17am	N property; 2 Sandhill cranes; NE to SW; 20-25ft high;
	A	8:20am	Small bird; single; 5-10ft; N to S; flying

	A	8:22am	Returning flight
		8:30am	No Raptors
	A	8:52am	Song Birds; Perched in Palm; Singing-Surveying
	A	9:00am	Song Birds X2; 25-30ft high; DE to SW; over pasture
		9:30am	No Raptors
		9:45am	No Raptors; Not active (Avian)
		10:15am	Ended Survey

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 Caracara Survey

Location/Observation Block/Lat-Long: Marion 2

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
04/03/2023	7:15	10:30	Tony Adams - Novice

Weather

Time	Air Temp	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start:	78°	0-5 - N	50%	High	NA
Finish:	83°	0-5 - N	25%	High	NA

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area
Open pasture; improved pasture; wetlands present

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
		7:15	No Raptors
		8:15	Cattle Egrets; 10-15; flying E to W; 10 ft high
		8:30	No Raptors
		9:00	No Raptors
		9:20	Anhinga; (1); in flight; 5-10 ft over wetland
		10:00	No Raptors
		10:30	End - No Raptors

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 Baist - Caracara Survey
Location/Observation Block/Lat-Long: Station 3

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
04/03/2023	7:15	10:30	Toby Overdorf

Weather

Time	Air Temp	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start:	78°	5-10 - N	50	Cirrostratus	NA
Finish:	81°	5-10 - N	50	Cirrostratus	NA

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area
Cattle Pen; improved pasture; overlooking open pasture

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
		7:00	Songbirds over cattle pen; No Raptors
		7:30	No Raptors
		7:42	Pair walking to S and observable; Sandhill crane walking
		8:15	No Raptors
		8:30	Cattle Egrets present; foraging in pasture; No Raptors
		9:00	No Raptors
		9:30	No Raptors
		10:56	Raptor on powerline to SE; Red-tailed Hawk ↳ No caracara
		10:30	END - No Raptors

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 Caracara Survey

Location/Observation Block/Lat-Long: Station 1: 27°3'47.86"N; 80°18'43.91"W

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
04/17/2023	7:15	10:45	Drew Liddick - Novice

Weather

Time	Air Temp	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start:	81°	0-5 NE	25%	Cumulus	NA
Finish:	83°	0-5 NE	25%	Cumulus	NA

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area
Open pasture; wetlands (patched) on improved pastures; active cattle operations active land development activities to E of subject area

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
	A	7:20	Woodpecker; Palm tree; foraging
	A	7:45	Red-shouldered hawk; flying E-W in S-loft high; foraging over open pasture
	A	8:00	Raptor - possible Caracara; flying from off property to the E to the west; (1) ~ 10-15ft high
	A	8:17	Flock ~5-10 warbler song birds; over wetlands - returning to Eastern treeline
		8:45	No Raptors
		9:00	No Raptors
	A	9:30	10-20 Cattle Egrets land in open pasture; foraging within pasture
		10:00	No Raptors
		10:30	No Raptors
		10:45	Ended

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 BoSRT - Caracara Survey
Location/Observation Block/Lat-Long: Station 2

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
04/17/2023	7:15	10:45	Tony Adams - Novice

Weather

Time	Air Temp	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start:	80°	0-5 NE	50%	Med Density	NA
Finish:	85°	0-5 NE	25%	Low Density	NA

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area
Open pasture; Improved pasture that contain wetlands

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
		7:20	Songbirds flying N to S; ≈20; No Raptors
		8:00	No Raptors
		8:14	Cattle Egrets; X 15; Swooping W to E along N perimeter
		8:30	No Raptors
		8:45	Cattle Egrets; X 10; N to S; walking-foraging
		9:15	No Raptors
		9:45	No Raptors
		10:00	No Raptors
		10:45	End

USFWS Crested Caracara Draft Survey Protocol –
Additional Guidance (2016-2017 Breeding Season)

Caracara Survey Form (updated 12/9/2016)

Project Name: 22-153 Bakst-Caracara Survey
Location/Observation Block/Lat-Long: Station 3

Date	Start Time	Stop Time	Observer Name(s) and Experience Level(s)
04/17/2023	7:00	10:30	Toby Overdorf

Weather

Time	Air Temp	Wind Speed and Direction	% Cloud Cover	Cloud Type	Rain/Fog
Start:	80°	5 mph	25%	Cumulus	NA
Finish:	83°	5 mph	25%	Cumulus	NA

Observation Point Information

General Site and Habitat Conditions; Other Activities in the Area
Cattle Pen; Improved pasture; overlooking open pasture

Observations

(flight data, perching, preening, courtship, feeding, nest building, incubation, head throwback, diving, reaction to passing planes/traffic/pedestrians, other bird species, etc)

Observer Location	Age A/Im	Time	Description of behavior, flight path, etc
		7:00	Flock of cattle egrets working cattle pen
		7:20	No Raptors
		7:23	Song Birds appear from N; enter cabbage Palms; No Raptors
		8:00	No Raptors
		8:25	No Raptors
		8:45	No Raptors
		9:00	Cattle egrets; flock of 20; in flight; NE to SW; 10-30ft in air; No Raptors
		9:13	Red Shouldered hawk; Adult; flew from NE to SW Cabbage Palms; overlooking open pasture to S
		10:00	No Raptors
		10:30	End

LAMP

The Ranch, Phase 1
Lake Area Management Plan

Prepared For:
Martin County Growth management

Prepared By:

1.00 INTRODUCTION

The Ranch – Phase I Site Plan, is located on the south side of Kanner Highway in Martin County, FL.

Haley Ward, Inc. has been retained to prepare this Lake Area Management Plan (LAMP) for the proposed on-site lake areas that will be incorporating Littoral Shelves. The following addresses monitoring and maintenance plan for the proposed area.

As part of the Martin County PAMP, this LAMP will work in coordination to restore and maintain littoral areas. It shall be unlawful to alter the approved slopes, contours, or cross sections or to chemically mechanically, or manually remove, damage, or destroy any plants in the littoral or upland transition zone buffer areas of constructed lakes except upon the written approval of the Planning and Development Services Director, as applicable. It is the responsibility of the owner or property owners association, its successors or assigns to maintain the required survivorship and coverage of the reclaimed upland and planted littoral and upland transition areas and to ensure ongoing removal of prohibited and invasive non-native plant species from these areas

2.0 MAINTENANCE OF LAKE LITTORAL AND UPLAND TRANSITION ZONE AREA

Lake and upland transition zone areas will be kept free of nuisance and exotic vegetation as listed by the Florida Exotic Pest Plant Council (FLEPPC). Exotic maintenance will be performed bi-monthly, depending on the existing condition during each annual monitoring iteration. The proposed Littoral Shelf Areas will be maintained at <5% of listed exotic and nuisance vegetation as defined by FLPCC. Maintenance shall be conducted in perpetuity and run with the land. Planting plans for these areas are attached in the appendix of the LAMP.

2.01 Lake Littoral Maintenance

All herbicide applications will be conducted under the supervision of a Florida Department of Agriculture & Consumer Services (FDACS) licensed Commercial Applicator, licensed for the application of aquatic herbicides. Exotic maintenance will be conducted through the application of appropriate herbicide. All herbicides applied within the lake system must be labeled for aquatic areas in accordance with FDA regulations.

2.02 Upland Transition Area

Exotic maintenance will be conducted through manual removal or the application of appropriate herbicides, whichever is the least ecologically damaging. All manual eradication will be conducted through hand pulling. Hand pulled material shall be disposed of off-site. Careful attention should be made not to apply herbicides over the top of planted vegetation.

3.00 MONITORING PLAN

The proposed Littoral Shelves of the Ranch project site will be monitored annually for a two (2) year period. A Time-Zero Report will be performed immediately after the installation of all planted material. Monitoring will be conducted annually with annual reports, documenting the results of the annual monitoring iterations. The reports will include monitoring photographs, wildlife utilization, vegetative analysis, and conclusions of the annual monitoring events.

3.01 Monitoring Photographs

During each monitoring event, color photographs will be taken of the littoral and upland transition zone area plantings. The photographs will provide physical documentation of the conditions of the planted material. Photographs of the annual monitoring iterations will be included in each of the annual reports.

3.02 Wildlife Utilization

A qualitative study of wildlife utilization (birds, mammals, amphibians, and reptiles) will be conducted during each sample iteration. Wildlife utilization will be determined by sighting, scat, calls, nets, tracks, etc. A species list of observed wildlife from each of the annual monitoring iterations will be compiled and included in the annual reports.

3.03 Vegetative Analysis

A qualitative study of planted material and natural recruitment of native vegetation will be conducted during each sample iteration. Vegetative analysis will be determined by overall health and growth of vegetation. Any dead/open areas of no vegetation greater than 100 s.f. shall be replanted with appropriate native plant material. A species list of vegetation observed from each of the annual monitoring iterations will be compiled and included in the annual reports.

3.04 Monitoring Reports

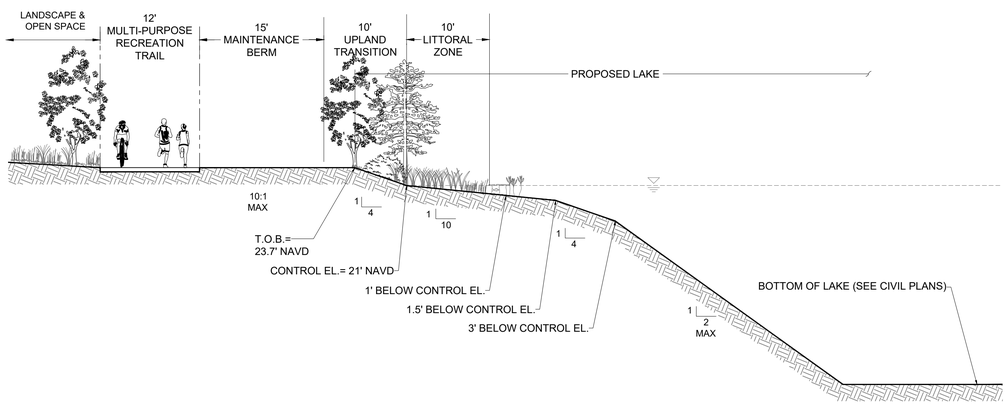
Annual monitoring reports, depicting results of each of the annual monitoring events, will be submitted to the Martin County Growth Management Department.

Annual reports will be submitted within (30) days of sampling the Stormwater Lake Area. The monitoring reports will contain, but are not limited to, the following data:

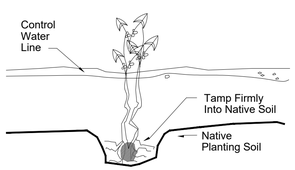
- Results of the annual vegetation surveys;
- Results of the annual wildlife surveys;
- Annual transect photographs,
- Discussion of project issues related to vegetation, hydrology, exotic species and permit compliance, according to SFWMD permit conditions.

LITTORAL AND UPLAND TRANSITION ZONE AREA CALCULATIONS

Lake 1 Perimeter (Shoreline):	**15,214 linear feet (lf)**
Required/Provided littoral zone area (10 sf x 15,214 lf):	152,140 sf (3.49 ac.)
Required/Provided transition zone area (10 sf x 15,214 lf):	152,140 sf (3.49 ac.)
Required/Provided Littoral/Transition Trees (304,280 / 500):	609 Trees
Required/Provided Littoral Zone Plants (304,280 x 0.289):	87,037 Plants (2' oc)
Required/Provided Transition Zone Plants (304,280 x 0.046):	13,997 Plants (5' oc)
Lake 2 Perimeter (Shoreline):	**4,508 linear feet (lf)**
Required/Provided littoral zone area (10 sf x 4,508 lf):	45,080 sf (1.03 ac.)
Required/Provided transition zone area (10 sf x 4,508 lf):	45,080 sf (1.03 ac.)
Required/Provided Littoral/Transition Trees (90,160 / 500):	180 Trees
Required/Provided Littoral Zone Plants (90,160 x 0.289):	26,056 Plants (2' oc)
Required/Provided Transition Zone Plants (90,160 x 0.046):	4,147 Plants (5' oc)
Lake 3 Perimeter (Shoreline):	**2,667 linear feet (lf)**
Required/Provided littoral zone area (10 sf x 2,667 lf):	26,670 sf (0.61 ac.)
Required/Provided transition zone area (10 sf x 2,667 lf):	26,670 sf (0.61 ac.)
Required/Provided Littoral/Transition Trees (53,340 / 500):	107 Trees
Required/Provided Littoral Zone Plants (53,340 x 0.289):	15,415 Plants (2' oc)
Required/Provided Transition Zone Plants (53,340 x 0.046):	2,454 Plants (5' oc)
Lake 4 Perimeter (Shoreline):	**1,620 linear feet (lf)**
Required/Provided littoral zone area (10 sf x 1,620 lf):	16,200 sf (0.37 ac.)
Required/Provided transition zone area (10 sf x 1,620 lf):	16,200 sf (0.37 ac.)
Required/Provided Littoral/Transition Trees (32,400 / 500):	65 Trees
Required/Provided Littoral Zone Plants (32,400 x 0.289):	9,364 Plants (2' oc)
Required/Provided Transition Zone Plants (32,400 x 0.046):	1,490 Plants (5' oc)
Totals:	**24,009 linear feet (lf)**
Required/Provided littoral zone area (10 sf x 24,009 lf):	240,090 sf (5.51 ac.)
Required/Provided transition zone area (10 sf x 24,009 lf):	240,090 sf (5.51 ac.)
Required/Provided Littoral/Transition Trees (480,180 / 500):	961 Trees
Required/Provided Littoral Zone Plants (480,180 x 0.289):	138,772 Plants (2' oc)
Required/Provided Transition Zone Plants (480,180 x 0.046):	22,088 Plants (5' oc)



LAKE TYPICAL LITTORAL & UPLAND BUFFER ZONES SECTION
Scale: nts



TYPICAL LITTORAL DETAIL
Scale: n.t.s.

TREE SCHEDULE LAKE 1

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	HEIGHT	WIDTH	NATIVE	CALIPER
LITTORAL TREES									
	ACL	125	Acer rubrum	Red Maple	CG	8`HT	4` W	Native	1.5" Caliper
	TAL	484	Taxodium distichum	Bald Cypress	CG	8`HT	4` SPR	Native	1.5" Caliper

TREE SCHEDULE LAKE 2

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	HEIGHT	WIDTH	NATIVE	CALIPER
LITTORAL TREES									
	ACL	37	Acer rubrum	Red Maple	CG	8`HT	4` W	Native	1.5" Caliper
	TAL	143	Taxodium distichum	Bald Cypress	CG	8`HT	4` SPR	Native	1.5" Caliper

TREE SCHEDULE LAKE 3

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	HEIGHT	WIDTH	NATIVE	CALIPER
LITTORAL TREES									
	ACL	22	Acer rubrum	Red Maple	CG	8`HT	4` W	Native	1.5" Caliper
	TAL	85	Taxodium distichum	Bald Cypress	CG	8`HT	4` SPR	Native	1.5" Caliper

TREE SCHEDULE LAKE 4

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	HEIGHT	WIDTH	NATIVE	CALIPER
LITTORAL TREES									
	ACL	35	Acer rubrum	Red Maple	CG	8`HT	4` W	Native	1.5" Caliper
	TAL	30	Taxodium distichum	Bald Cypress	CG	8`HT	4` SPR	Native	1.5" Caliper

LITTORAL AND TRANSITION PLANT SCHEDULE - TOTAL

LITTORAL PLANTS	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	HEIGHT	WIDTH	NOTES	NATIVE
	27,754	Eleocharis cellulosa	Gulf Coast Spikerush	1 gal	12" HT	6" W	2' OC	Native
	27,754	Spartina bakeri	Sand Cordgrass	1 gal	12" HT	6" W	2' OC	Native
	27,754	Eleocharis equisetoides	Jointed Spikerush	1 gal	12" HT	6" W	2' OC	Native
	27,755	Pontederia cordata	Pickerelweed	1 gal	12" HT	6" W	2' OC	Native
	27,755	Sagittaria lancifolia	Duck Potato	1 gal	12" HT	6" W	2' OC	Native
TRANSITION PLANTS	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**CONTAINER**	**HEIGHT**	**WIDTH**	**NOTES**	**NATIVE**
	2,300	Serenoa repens	Saw Palmetto	3 gal min	18" HT	8" W	3' -5' OC	Native
	13,888	Spartina bakeri	Sand Cordgrass	3 gal min	18" HT	8" W	3' -5' OC	Native
	1,800	Myrica cerifera	Wax Myrtle	3 gal min	18" HT	8" W	3' -5' OC	Native
	2,300	Chrysobalanus icaco	Cocoplum	3 gal min	18" HT	8" W	3' -5' OC	Native
	1,800	Tripsacum dactyloides	Fakahatchee grass	3 gal min	18" HT	8" W	3' -5' OC	Native

Note: It shall be unlawful to alter the approved slopes, contours, or cross sections or to chemically mechanically, or manually remove, damage, or destroy any plants in the littoral or upland transition zone buffer areas of constructed lakes except upon the written approval of the Planning and Development Services Director, as applicable. It is the responsibility of the owner or property owners association, its successors or assigns to maintain the required survivorship and coverage of the reclaimed upland and planted littoral and upland transition areas and to ensure ongoing removal of prohibited and invasive non-native plant species from these areas

Project Team

Landscape Architect:

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The Ranch Golf Club

Martin County, FL

Littoral Plant Schedule & Littoral Details

Revisions		
Date	Init.	Description
09.10.24	BW	Initial Submittal
09.25.24	BW	Revised Submittal
10.17.24	BW	Revised Submittal
05.02.25	BW	Revised Submittal
07.18.25	ST	Revised Submittal

REGISTERED LANDSCAPE ARCHITECT PAUL A. GOULAS LA 6666807 STATE OF FLORIDA

PAUL GOULAS, RLA
FLORIDA REG. # LA6666807

Drawn By:	BW
Checked By:	PG
Municipal Project:	
Scale:	

NORTH

SCALE: 1" = 0

0 0 0 0

LS-25

WAIVER

HALEY WARD

To: MC Growth Management

From: Tyler Dunbar

Date: 8/13/2025

Re: 22-153 – The Ranch: Boardwalk Crossing (Martin County Environmental Waiver)

Wetland Buffer Waiver Document Report

This report serves as a supporting document for a waiver request to construct a golf cart boardwalk within a designated wetland buffer zone, pursuant to applicable Florida environmental regulations under the Florida Department of Environmental Protection (DEP) and local county ordinances. The total site includes approximately 448.89 acres of delineated wetlands and 221.77 acres of associated wetland buffers. The proposed project involves the installation of an elevated wooden boardwalk to serve as a raised golf cart crossing between holes 4 and 8 (see attached map) on the golf course. The boardwalk will be approximately 125 feet long and 12 feet wide, designed to accommodate safe passage for golf carts while minimizing ground-level disturbance. This structure is necessary to maintain efficient and accessible gameplay, connecting two holes separated by the wetland buffer. Without the boardwalk, golfers would need to detour around the buffer, increasing erosion from informal paths exacerbated by golf carts. The boardwalk will be elevated on pilings to allow for natural water flow and wildlife movement beneath it, aligning with best practices for low-impact recreational infrastructure in sensitive areas.

General Environmental Conditions of the Wetland Buffer Areas

The wetland buffer areas within the project site are vegetated zones adjacent to the delineated wetlands, characterized by a mix of native upland and transitional vegetation typical of Florida's freshwater wetland systems. These buffers generally consist of species such as slash pine (Pinus elliottii), wax myrtle (Morella cerifera), and various grasses. The buffers help filter stormwater runoff from the golf course, prevent sedimentation in the wetlands, and maintain hydrological stability. Soil conditions are hydric or semi-hydric, with periodic inundation during rainy seasons, supporting biodiversity and contributing to the overall health of the 448.8937-acre wetland complex. The specific wetland buffer areas proposed for impact, located between holes 4 and 8, are in good condition with intact native vegetation. These sections exhibit dense shrubbery and groundcover, functioning effectively as a protective barrier against potential pollutants from adjacent turf areas.

10250 SW VILLAGE PARKWAY, SUITE 201, PORT ST. LUCIE, FL 34987 772.462.2455 | HALEYWARD.COM

Description of the Wetland Buffer Impact and Quantification of Shading Impacts

The proposed boardwalk will impact the wetland buffer by introducing an elevated structure that occupies a footprint within the buffer zone. The direct impact includes the placement of pilings and the deck surface, resulting in a total footprint of approximately 1,500 square feet (125 feet long by 12 feet wide). This represents a minor portion (less than 0.02%) of the overall 221.7682-acre buffer area. Construction will involve driving pilings into the substrate, with temporary disturbance estimated at an additional 150 square feet (10% of the footprint) for access and installation, bringing the total disturbed area to 1,650 square feet. These impacts are confined to the buffer and do not extend into the core wetland areas. Regarding shading, the elevated boardwalk will cast shadows on the underlying vegetation, potentially reducing sunlight availability. Studies on similar structures indicate that shading from boardwalks can decrease plant biomass by 20-50% in the directly affected area. For this project, the shading impact is quantified as follows: The full 1,500 square feet footprint will experience partial shading, with an estimated 70% average light reduction under the deck during peak daylight hours, based on typical Florida solar angles and boardwalk designs. This could affect understory plants by slowing photosynthesis, but the narrow width (12 feet) and elevation limit long-term ecological harm, as adjacent unshaded buffer areas (over 99% of the total buffer) remain intact to support overall habitat functions.

Justification for Boardwalk Alignment Within the Buffer

The boardwalk must be aligned within the wetland buffer between holes 4 and 8 to ensure functional connectivity of the golf course while avoiding greater environmental harm. Alternative routes were evaluated, including detours around the buffer to the north or south, but these would require longer paths (potentially 300-500 feet additional length) and increasing impervious surface coverage elsewhere on the site. Such rerouting could lead to higher erosion risks and greater vegetation removal. Aligning outside the buffer is infeasible due to the irregular wetland configuration, which encircles this section of the course. The chosen alignment minimizes the crossing distance to 125 feet and uses an existing gap in denser vegetation. Currently, this represents the sole proposed golf cart crossing for the property.

Proposed Mitigation for Buffer Impacts

To compensate for the 1,650 square feet of wetland buffer impacts, including shading effects, on-site enhancement will produce no net loss of ecological function as required by Martin County LDRs. Specifically, on-site mitigation will involve enhancing 3,300 square feet (2:1 ratio) of adjacent buffer area to the NE corner of Wetland 61, in proximity to the proposed buffer impacts. Enhancement will be completed through the planting of native vegetation such as saw palmetto (Serenoa repens) and wiregrass (Aristida stricta). This enhancement will improve habitat quality, increase biodiversity, and bolster filtration capacity. This approach aligns with Martin County LDRs preference for mitigation that offsets specific functions lost, such as habitat shading, by creating

unshaded, enhanced buffer equivalents. Final planting plan will be approved by Martin County Growth Management prior to implementation. In accordance with County regulations, spatial coverage of plant materials will exceed 80% within one year of planting. Plant material will be included with the proposed bonding for wetland restoration of the practice area. Monitoring will be conducted in accordance with the approved Martin County PAMP. It is important to note the applicant has also provided approximately 48.9% (155.24 ac.) of upland habitat preservation associated with the golf course which is above the 30% (95.33 ac.) that is required by county code.

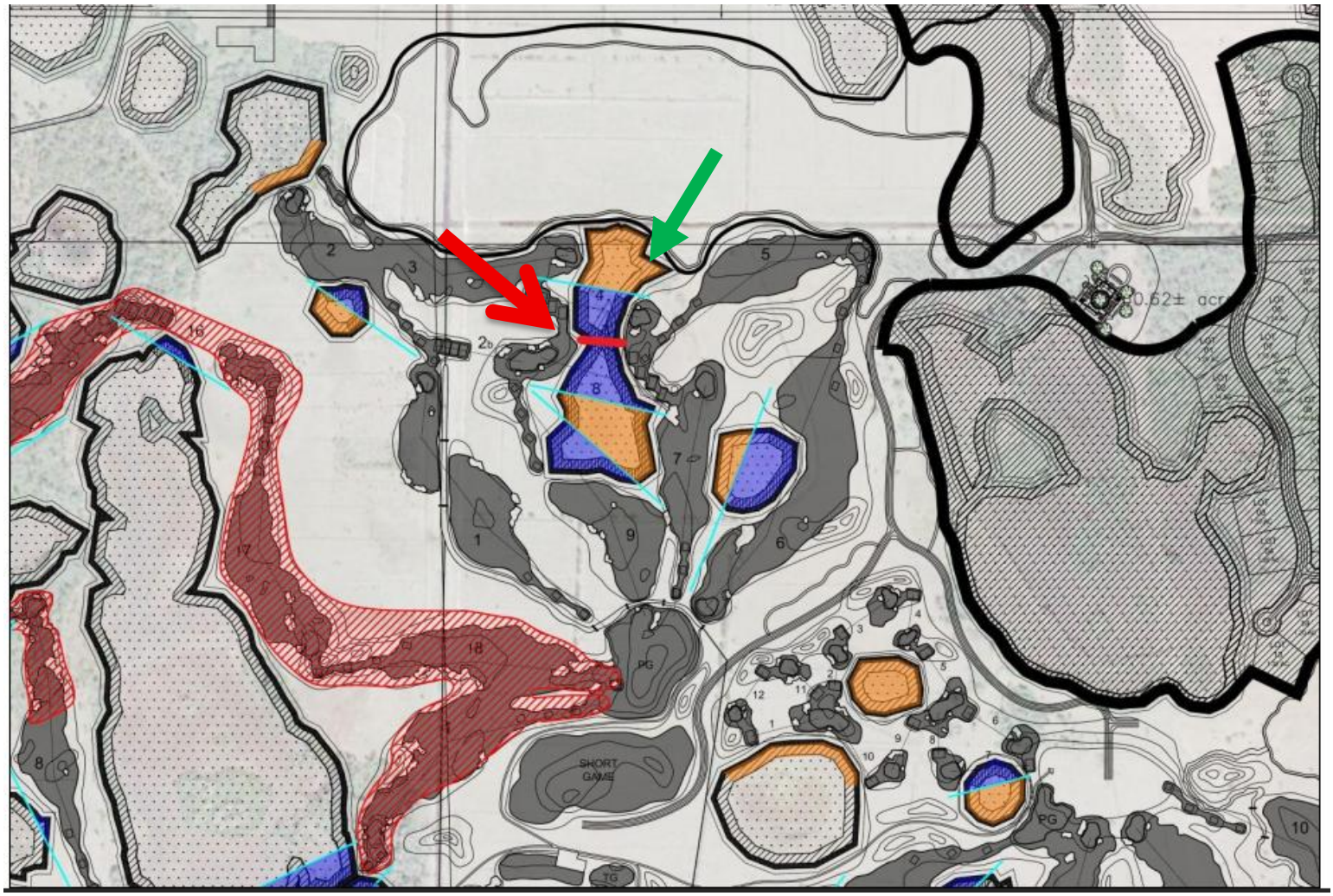

Fig 1. The graphic shows the proposed raised golf cart path through the wetland buffer adjacent to holes 4 and 8 (Wetlands 61 & 62). The red line dividing the two holes represents the path. The GREEN arrow indicates the location of the 3300 square foot enhancement area in the NE corner of WL 61.