



**EAGLE TECHNICAL ADVISORY COMMITTEE  
PUBLIC WORKS/COMMUNITY DEVELOPMENT BUILDING  
1500 Monroe Street, Ft. Myers, FL  
First Floor Conf. Rm. 1B**

**TUESDAY, JULY 12, 2022  
3:00 P.M.**

**AGENDA**

- 1) Call to Order
- 2) Approval of Minutes – March 8, 2022
- 3) Shane Johnson from Passarella & Associates, Inc. to present Bald Eagle Management Plan for LE-28A Raptor Bay
- 4) Member Reports
- 5) Public Input
- 6) Adjournment – Next Tentative Meeting Date: September 13, 2022

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**MINUTES REPORT**  
**EAGLE TECHNICAL ADVISORY COMMITTEE (ETAC)**  
**Tuesday, March 8, 2022**

**Committee Members Present:**

Laura Greeno, Chair  
Ed Elms  
Kyle Philpot  
Jacob Taminosian  
Betsie Hiatt, Vice-Chair

**Excused / Absent:**

None

**Lee County Government Staff Present:**

Becky Sweigert, DCD Planning  
Nic DeFilippo, DCD Planning  
Amanda Swindle, CAO  
Debbie Carpenter, DCD Admin

**Outside Consultants/Members of the Public Present:**

Ashley Abdel-Hadi, Kissinger Campo & Associates  
Ashley Koza, LC FCM  
Hans Wilson, Hans Wilson Associates  
Clayton Wasson, Hans Wilson Associates  
Shane Johnson, Passarella & Associates  
Paul Digiacobbe, Arco

**CALL TO ORDER:**

Ms. Laura Greeno, Chair, called the meeting to order at 3:00 pm in the first floor conference room of the Public Works/Community Development Building, 1500 Monroe Street, Ft. Myers, Florida and introductions were made.

She announced that approval of the minutes would follow the Management Plan presentations.

**3) BALD EAGLE MANAGEMENT PLAN FOR LE-070B – Port Sanibel Marina**

Clayton Wasson of Hans Wilson Associates reviewed the Bald Eagle Management Plan (BEMP) for LE-070B. Figure #2 provided a good view of the work area and he pointed out the eagle nest for reference. He reviewed the scope of work stating that dock renovation work for Docks D thru I are located outside of the buffer zone. Docks A-B-C are on the edge of the 660' buffer zone and all work will be done outside of nesting season. The work is a renovation, will remain in the same footprint, no trees will be taken down and there will be no impediment of the eagles flight path. Ms. Sweigert asked about the boat barn. Mr. Hans Wilson explained that as part of the Dock A renovation, the covered boat slips are going to be modified to go from one lane to two lanes to accommodate a fork lift. Ms. Sweigert explained that this project already has zoning, a development order and permits for the docks, but they fell within the 660' so a BEMP was necessary.

Ms. Greeno asked whether the Audubon history of the eagle pair matched Lee County's records. There was a brief discussion about Audubon's records. Ms. Sweigert clarified that the second to last sentence in the **History of Eagle Pair:** should be "After the 2018 nesting season, the nest tree was removed and the eagle pair relocated ....".

**Motion to approve the BEMP for Nest LE-070B by Kyle Philpot, Betsie Hiatt seconded. Motion passed unanimously.**

#### **4) BALD EAGLE MANAGEMENT PLAN FOR LE-056 – Able Canal Pathway**

Ms. Sweigert explained that the committee reviewed the Lehigh Acres Park Expansion at the last meeting. This is a separate project along the Able Canal that will also affect nest LE-056.

Ms. Ashley Abdel-Hadi, Kissinger Campo & Associates said the Able Canal project is approximately 6 miles long, from Harns Marsh down to the Lehigh Acres Trailhead Park at Joel Blvd. It is a 12' wide shared use path not for motorized traffic and will only be open during daylight hours so no lighting will be associated with it. The shared use path was placed on the north side of Able Canal as far away from the nest as possible, but it still intersects the 0-330' and 330-660' buffer zones. This nest has been active and the pair appears acclimated to Urban Land Uses. Exotic vegetation will be removed on the north side of the canal to allow for construction of the path. A landscape architect will be designing some replacement vegetation to go north of the path. The sparse vegetative buffer on the south side is not part of this project. Construction is slated to start in summer to fall of 2023 and is expected to last 2 years possibly impacting 2 nesting seasons. US Fish and Wildlife Service (USFWS) correspondence confirmed that a bald eagle permit will not be necessary as long as there is no disturbance. She reviewed the Conservation and Minimization Measures outlined in **3.3 Conservation and Minimization Measures**.

Ms. Hiatt asked about the exotics removal and there was a brief discussion that the exotics would be removed to allow for construction of the path. Any replacement vegetation would go north of that.

Ms. Greeno had a concern about the landscape removal and the possibility of opening up the area to more human traffic, and asked for a denser buffer along that north side, and possibly the south, to keep people from accessing the 330' zone. She has been monitoring that nest for a long time and although the eagles are used to cars, they are not necessarily used to pedestrian traffic which will be more visible. Ms. Abdel-Hadi said that the same landscape architect is working on both this project and the Lehigh Park Expansion project and that she will see if something more can be done along the southern buffer.

Mr. Taminosian had a concern that the language in section **3.3** did not contain the conditions of USFWS correspondence from **3.2**. Ms. Abdel-Hadi, agreed to add that language into **3.3**.

**Mr. Taminosian made a motion to approve the Able Canal BEMP for Nest LE-056 with the addition of the USFWS service statement into Section 3.3; and the addition of enhanced buffering within the eagle zone where possible, and no benches. Mr. Elms seconded. Motion passed unanimously**

#### **5) BALD EAGLE MANAGEMENT PLAN FOR LE-093 Zippy Shell**

Mr. Taminosian had a conflict of interest. He will provide Form 8A to the secretary and abstain from discussion and voting.

Mr. Shane Johnson reviewed the project limits saying that the nest is along Alico Road and the project is just north of that, along Lee Road within the Alico Industrial area. The project area is 10 acres, with no vegetation on it (disturbed area). About 2 acres of the project is within the 330' to 660' zone. It does not encroach into the 330'. The project will include two storage facilities/buildings, associated parking and infrastructure. Specifically the plan calls for construction within 660 feet to be done during nesting season in accordance with Bald Eagle Monitoring Guidelines. If monitoring is required it too will be done consistent with the Guidelines. Outdoor lighting will be subdued, shielded and directed away from the nest tree.

Not included as a specific element, but discussed in some detail with Ms. Sweigert informally, they propose a vegetative buffer along the southern and eastern boundaries, a Type D "like" buffer. It will be about 10 feet, not the 15 feet wide required by Type D, but will adhere to the same plant material per the Type D requirements.

No work will occur within the 330' buffer, therefore a FWS permit will not be required.

Entrance will be along Lee Road. Truck activities will be down the center of the two buildings, which is outside the 660' zone. Car and pedestrian traffic will be along the eastern side of Building B with the main point of entry from the south side, which is within the 660' buffer zone. Building A will be 32' and Building B will be 28'. The two buildings will be mirror image. The structure of the buildings will not change, and there will be one end user. Should something change for Building B, then the plan would have to come back to ETAC for any substantial changes. Mr. Elms asked about the lighting whether the condition was just during construction or after. Mr. Johnson said the lighting conditions were post-construction, very minimal, no light poles.

**Mr. Elms made a motion to approve the BEMP for the Zippy Shell project affecting LE-093, with the addition of a Type "D-like" vegetative buffer. Ms. Hiatt seconded. The motion passed 4-0 with Mr. Taminosian abstaining.**

#### **APPROVAL OF MINUTES – February 8, 2022**

Ms. Greeno called for a review of the February minutes.

**Mr. Taminosian made a motion to approve the February minutes as written. Mr. Elms seconded. The motion was called and carried.**

#### **6) LE-983 Sunset Villas Lost Nest Determination**

Mr. Nic DeFilippo reviewed the history of the nest stating it became inactive during the 2018-2019 nesting season. There has been no activity since and has been inactive for 3 years. It is located off of McGregor near Davis Blvd. and Shell Point.

**Mr. Taminosian made a motion to approve the Lost Nest designation for LE-983. Seconded by Ms. Hiatt. The motion passed unanimously.**

#### **7) LE-38D Calusa Palms**

Mr. DeFilippo reviewed the history stating the nest was new in 2018-2019 but became inactive in 2019-2020 and the nest and nest tree came down after that and there has been no activity since.

Ms. Sweigert thought the pair moved to 20/20 land near Tortuga.



**Mr. Elms made the motion to designate LE-38D as a Lost Nest. Ms. Hiatt seconded. The motion passed unanimously.**

#### **8) LE-43C Moody River Estates**

Mr. DeFilippo reviewed the history. The nest tree was cut down illegally in 2017 and has been inactive ever since. This would be considered abandoned.

Staff thought the pair has moved north to a lot that is protected.

Ms. Greeno asked that the letter make reference to the tree being cut down illegally. Ms. Sweigert suggested instead that the nest history could be attached to it.

**Mr. Taminosian made the motion to approve the Abandoned Nest determination for LE-43C. Seconded by Ms. Hiatt. The motion passed unanimously.**

Letters for the final record had been prepared for the Chairman's signature for each of the Lost/Abandoned Nests. Each of the nests will be removed from Lee Spins and taken off the monitoring reports.

Criteria for a lost nest designation is 3 years from a disaster; abandoned is 5 years with no activity.

#### **Member Reports**

##### Betsie Hiatt

Bank of America – One time saw a very young eagle sitting on the nest, otherwise has seen no activity there.

Pacosin – Nothing there.

Esther – 1 chick in the nest, she hasn't seen the adults since incubating.

Quail Trail – 1 adult and 1 chick. She thought there might be a second chick but it's too hard to tell.

Barrancas – she had a concern about this nest – a very young chick was in the nest but she hasn't seen an adult at either visit. The chick did appear to be eating and the chick was a little bigger the second time she was there. Mr. Elms reported that he was out there on 3/7/22 with friends who reported seeing Great Horned Owls in the nest. He did not see any birds in the nest, however around the bend and 50' back he did see an adult eagle in a tree. He couldn't see a chick in the nest even with a scope.

There was a brief discussion about the breeding season of the Great Horned Owls and a discussion about CROW and when they will interfere.

Ms. Hiatt worked with Ms. Sweigert on a GIS issue, pointing out that a nest that was down was still showing up on the map, whereas a nest that was active had been removed. Staff will remedy that.

##### Mr. Elms

- Manatee Bay Nest – He thought this one may be headed for a lost nest determination. There is a nest there but no activity around it. Ms. Sweigert confirmed that the nest is in rough shape. Looking at it closely it was overgrown with vines.
- Galt – when he was out there last, there were no adults, but he talked to Ms. Greeno who said they were incubating. He thought this was probably a second clutch of eggs, since

they were in incubating posture on November 3 – and after that there was no sign of anything.

- Vacation Lane – 2 good sized chicks in the nest, probably 9 to 10 weeks old.
- St. Jude's – 2 young, probably about 10 weeks old. Two weeks ago saw both adults, more recently saw none.
- Post Office - no nest is visible and no eagles have been seen in the area.
- Pine Island Flatwoods Trail. Both adults were there. They're in a brooding posture, like they're feeding young. There is another nest (not the fire road) that's fairly new back on the trail in a westerly direction

Ms. Hiatt asked if anyone had heard anything about the Little Pine Island nest. Mr. Taminosian will ask his co-workers who are doing field work in that area if they've seen the nest. Neither Ms. Sweigert nor Ms. Hiatt have not seen anything.

#### Mr. Philpot

- Bayshore Commons – Saw both adults and one juvenile, close to fledging. Noticed construction equipment near the nest. Staff had advised the owner that the equipment had to stay, could not be moved.
- Donald Rd/Pritchett nest – Saw both adults, both chicks are close to fledging.
- Littleton Road – Saw both juveniles from the road. Getting big.
- Moody River – No eagle activity or nests. This nest has been declared abandoned and will be removed from the monitoring schedule.
- Creekside Preserve – He can't see the nest from inside the neighborhood. Ms. Sweigert said there is an application in-house so they will be able to go on the site.
- Alico Road – Saw one juvenile getting close to fledging
- Oriole Road – he last reported the birds didn't seem to be bringing food back to the nest, just some nesting material. This time, he saw one adult one time, but then saw none. There was a reported airline strike in the area.

Ms. Sweigert got a call that an eagle fell out of the sky and landed near Lee Road, close to the Amazon Distribution site. It could have been one of the Oriole Road pair, or possibly the Alico Road pair.

#### Jacob Taminosian

- St. Charles Harbor – He reported seeing 2 chicks and 2 adults. All 4 eagles were eating together.
- Robalo – There was a chick in the nest. Saw no adults but heard vocalizing.
- Jonathan Harbor – saw no adults. Mr. Taminosian talked to some of the residents who said they had seen adults in the area. He observed a lot under construction nearby. Mr. DeFilippo will go check to be sure work had stopped.
- Sanibel Sunset – declared as a lost nest. This will be removed from the monitoring schedule.
- Lakes Park - No birds, none on the cell tower.
- Pickle & Pub – 1 chick documented, probably 3 – 4 weeks. 2 adults were feeding the chick.
- Lexington – Chick is close to fledging.
- Sora Drive – Saw 2 chicks there – on the younger side. One adult flying overhead, one brought food in.
- Tortuga – Saw both adults and 2 chicks close to fledging.

Ms. Greeno

- Laredo - She doesn't know what happened with Laredo. Ms. Sweigert was going to check in with her contact.
- Orange River Nest - Saw nothing.
- Lehigh Nest – Saw one adult.
- Rosie's - has a chick
- Prairie Pines – that nest is completely down
- St. James – that nest is falling apart and is not active. Sent a picture to Ms. Sweigert to document it..
- Wild Turkey Strand - has adults in it. Very late, but they are there now.
- Galt – Tyler watched it for about an hour. Saw an adult there.
- Estero Marsh - She thought Mr. DeFlippo had gone out there. He confirmed, but didn't see any eagles but did see 3 Great Horned Owls.

There was no public present. Ms. Greeno adjourned the meeting at 4:32 p.m.

**RAPTOR BAY GOLF COURSE RENOVATION  
BALD EAGLE MANAGEMENT PLAN  
FOR BALD EAGLE NEST LE-28A  
LEE COUNTY, FLORIDA**

**July 2022**

Prepared For:

***LBRaptor, LLC***  
*2210 Vanderbilt Beach Road, Suite 1300*  
*Naples, Florida 34109*  
*(239) 449-1550*

Prepared By:

***Passarella & Associates, Inc.***  
*13620 Metropolis Avenue, Suite 200*  
*Fort Myers, Florida 33912*  
*(239) 274-0067*

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## 1.0 INTRODUCTION

This Bald Eagle Management Plan (BEMP) has been prepared for Bald Eagle (*Haliaeetus leucocephalus*) Nest LE-28A located on the Raptor Bay Golf Course Renovation project (Project). The Project site is located in Sections 5 and 8, Township 47 South, Range 25 East, Lee County (Exhibit 1). The Project site totals 306.89± acres and is located north of Coconut Road, 1.5± miles west of U.S. 41 and 2.28± miles south of Corkscrew Road. More specifically, the site is bordered to the north by West Bay Club; to the south by El Dorado Acres and Meadowbrook residential developments and Coconut Road; to the east by a Florida Power & Light (FPL) easement, existing conservation lands, and Fountain Lakes and Marsh Landing residential developments; and to the west by existing conservation lands, the Raptor Bay Golf Club, and Hyatt Residence Club.

A BEMP was previously prepared by Wilson Miller, Inc. on March 7, 2000 for Nest LE-28A which depicted the eagle nest tree and two protection zones (Exhibit 2). The two zones consisted of the Primary Protection Zone (PPZ), which ranged from 750 feet to 1,200 feet from the nest tree and the Secondary Protection Zone (SPZ), which ranged from 750 feet to 1,300 feet from the PPZ.

This BEMP has been prepared to update the PPZ and SPZ for Nest LE-28A to 330 and 660 feet, respectively, as currently accepted by Lee County the U.S. Fish and Wildlife Service (USFWS), and the Florida Fish and Wildlife Conservation Commission (FWCC). Additionally, this BEMP is intended to facilitate construction of the Project (i.e., golf course renovation activities) while providing sufficient measures to minimize the potential for adverse impacts to nesting bald eagles. The golf course renovation activities are currently underway in accordance with Lee County Development Order (DO) No. DOS2021-00137.

Nest LE-28A and its proposed protection zones (i.e., 330 and 660 feet) are contained entirely within the Project's conservation area. Therefore, no development activities will occur within 660 feet of Nest LE-28A. Approval of this BEMP will allow the Project's golf course renovation activities to continue throughout the year, as needed.

## 2.0 HABITAT INVENTORY AND MAPPING

Vegetation and land cover mapping for the Project was updated by Passarella & Associates, Inc. (PAI) in August 2021 using a Lee County 2021 rectified aerial. Groundtruthing of the vegetative communities was conducted using the Florida Land Use, Cover and Forms Classification System (FLUCFCS) Level III (Florida Department of Transportation 1999). Level IV FLUCFCS was utilized to denote disturbance and hydrologic conditions. "E" codes were used to identify levels of exotic and invasive vegetation (e.g., Brazilian pepper (*Schinus terebinthifolia*) and melaleuca (*Melaleuca quinquenervia*)). AutoCAD 3D 2021 software was used to determine the acreage of each mapping area, produce summaries, and generate the FLUCFCS map for the Project. An aerial with FLUCFCS and SFWMD wetlands is included as Exhibit 3. According to the FLUCFCS map, the on-site land uses and vegetation communities consist primarily of golf course, pine flatwoods, pine, scrubby flatwoods, melaleuca, shallow ponds, cypress, mixed wetland forest, and freshwater marsh.

A total of 22 land use types were identified on the Project site and are described below.

Golf Course (FLUCFCS Code 182)

This land use type includes the existing Raptor Bay golf course.

Pine Flatwoods, Disturbed (0-24% Exotics) (FLUCFCS Code 4119 E1)

The canopy of this habitat type includes slash pine (*Pinus elliottii*), melaleuca, and scattered cabbage palm (*Sabal palmetto*) and earleaf acacia (*Acacia auriculiformis*). The sub-canopy contains slash pine, melaleuca, twining snoutbean (*Rhynchosia tomentosa*), wax myrtle (*Morella cerifera*), myrsine (*Myrsine cubana*), saltbush (*Baccharis halimifolia*), saw palmetto (*Serenoa repens*), dahoon holly (*Ilex cassine*), gallberry (*Ilex glabra*), Brazilian pepper, muscadine grapevine (*Vitis rotundifolia*), cassia (*Senna pendula*), and scattered cabbage palm and earleaf acacia. The ground cover is dominated by saw palmetto.

Pine Flatwoods, Disturbed (25-49% Exotics) (FLUCFCS Code 4119 E2)

This habitat type is similar to FLUCFCS Code 4119 E1, but with 25 to 49 percent melaleuca in the canopy and sub-canopy.

Pine Flatwoods, Disturbed (50-75% Exotics) (FLUCFCS Code 4119 E3)

This habitat type is similar to FLUCFCS Code 4119 E2, but with 50 to 75 percent melaleuca in the canopy and sub-canopy.

Pine Flatwoods, Disturbed (76-100% Exotics) (FLUCFCS Code 4119 E4)

The canopy of this habitat type is similar to FLUCFCS Code 4119 E3 but contains 76 to 100 percent melaleuca in the canopy and sub-canopy.

Pine, Disturbed (0-24% Exotics) (FLUCFCS Code 4159 E1)

The canopy of this habitat type contains slash pine and scattered earleaf acacia and melaleuca. The sub-canopy contains slash pine, melaleuca, earleaf acacia, and carrotwood (*Cupaniopsis anacardioides*). The ground cover contains bracken fern (*Pteridium aquilinum*), deer-tongue (*Carphephorus paniculatus*), muscadine grapevine, and bushy bluestem (*Andropogon glomeratus*).

Pine, Disturbed (25-49% Exotics) (FLUCFCS Code 4159 E2)

This habitat type is similar to FLUCFCS Code 4159 E1, but with 25 to 49 percent melaleuca and earleaf acacia in the canopy and sub-canopy and cogongrass (*Imperata cylindrica*) in the ground cover.

Pine, Disturbed (50-75% Exotics) (FLUCFCS Code 4159 E3)

This habitat type is similar to FLUCFCS Code 4159 E2 but contains 50 to 75 percent Brazilian pepper in the sub-canopy and scattered caesarweed (*Urena lobata*) and spermacoce (*Spermacoce verticillata*) in the ground cover.

Scrubby Flatwoods, Disturbed (0-24% Exotics) (FLUCFCS Code 4169 E1)

The canopy of this habitat type contains scattered slash pine and sand live oak (*Quercus geminata*). The sub-canopy contains myrtle oak (*Quercus myrtifolia*), Chapman's oak (*Quercus chapmanii*), sand live oak, dahoon holly, rosemary (*Ceratiola ericoides*), gallberry, staggerbush (*Lyonia*



*fruticosa*), fetterbush (*Lyonia lucida*), tarflower (*Bejaria racemosa*), saw palmetto, and widely scattered earleaf acacia. The ground cover contains saw palmetto, muscadine grapevine, prickly pear (*Opuntia* sp.), pawpaw (*Asimina* sp.), and wiregrass (*Aristida stricta*).

Scrubby Flatwoods, Disturbed (25-49% Exotics) (FLUCFCS Code 4169 E2)

This habitat type is similar to FLUCFCS Code 4169 E1 but contains 25 to 49 percent earleaf acacia in the canopy and sub-canopy.

Melaleuca, Hydric (FLUCFCS Code 4241)

The canopy of this habitat type contains melaleuca, dahoon holly, and widely scattered slash pine. The sub-canopy contains melaleuca, Brazilian pepper, dahoon holly, earleaf acacia, slash pine, saw palmetto, and myrsine. The ground cover contains swamp fern (*Telmatoblechnum serrulatum*), royal fern (*Osmunda regalis*), Japanese climbing fern (*Lygodium japonicum*), rosy camphorweed (*Pluchea baccharis*), gulfdune paspalum (*Paspalum monostachyum*), beaksedge (*Rhynchospora microcarpa*), and scattered wiregrass and saw palmetto.

Live Oak, Disturbed (0-24% Exotics) (FLUCFCS Code 4279 E1)

The canopy of this habitat type includes live oak (*Quercus virginiana*) and cabbage palm. The sub-canopy contains cabbage palm, saw palmetto, myrsine, and dahoon holly. The ground cover is open.

Hardwood/Conifer Mixed, Disturbed (0-24% Exotics) (FLUCFCS Code 4349 E1)

The canopy of this habitat type consists of slash pine, live oak, and cabbage palm. The sub-canopy contains saw palmetto. The ground cover is open.

Shallow Pond (FLUCFCS Code 525)

The canopy, sub-canopy, and ground cover of this land use type are mostly open, with the edges containing spikerush (*Eleocharis* sp.), sand cordgrass (*Spartina bakeri*), cattail (*Typha* sp.), pickerelweed (*Pontederia cordata*), arrowhead (*Sagittaria lancifolia*), and leather fern (*Acrostichum* sp.).

Mixed Wetland Hardwoods, Disturbed (0-24% Exotics) (FLUCFCS Code 6179 E1)

The canopy of this habitat type consists of scattered red maple (*Acer rubrum*), Carolina willow (*Salix caroliniana*), and bald cypress (*Taxodium distichum*). The sub-canopy contains buttonbush (*Cephalanthus occidentalis*), Carolina willow, red maple, and pond apple (*Annona glabra*). The ground cover contains swamp fern, maidencane (*Panicum hemitomon*), West Indian marsh grass (*Hymenachne amplexicaulis*), and climbing hempvine (*Mikania scandens*).

Exotics Wetland Hardwoods (FLUCFCS Code 619)

The canopy and sub-canopy of this habitat type contain Brazilian pepper, cassia, and widely scattered cabbage palm. The ground cover is mostly open with Brazilian pepper sprouts.

Cypress, Disturbed (0-24% Exotics) (FLUCFCS Code 6219 E1)

The canopy of this habitat type includes bald cypress, scattered cabbage palm, and widely scattered melaleuca. The sub-canopy contains bald cypress, wax myrtle, buttonbush, pond apple, and scattered Brazilian pepper. The ground cover contains swamp fern, sawgrass (*Cladium*

*jamaicense*), little blue maidencane (*Amphicarpum muhlenbergianum*), and widely scattered West Indian marsh grass.

Cypress, Disturbed (76-100% Exotics) (FLUCFCS Code 6219 E4)

This habitat type is similar to FLUCFCS Code 6219 E1 but contains 76 to 100 percent melaleuca in the canopy and sub-canopy.

Mixed Wetland Forest, Disturbed (25-49% Exotics) (FLUCFCS Code 6309 E2)

The canopy of this habitat type contains cabbage palm, bald cypress, Carolina willow, red maple, oak (*Quercus* sp.), and melaleuca. The sub-canopy contains bald cypress, cabbage palm, Carolina willow, buttonbush, and scattered pop ash (*Fraxinus caroliniana*) and Brazilian pepper. The ground cover contains swamp fern, maidencane, sawgrass, and red ludwigia (*Ludwigia repens*).

Mixed Wetland Forest, Disturbed (76-100% Exotics) (FLUCFCS Code 6309 E4)

This habitat type is similar to FLUCFCS Code 6309 E2 but contains 76 to 100 percent melaleuca in the canopy and sub-canopy.

Freshwater Marsh, Disturbed (0-24% Exotics) (FLUCFCS Code 6419 E1)

The canopy and sub-canopy of this habitat type contain Carolina willow and pond apple on the edges. The ground cover contains cattail, sawgrass, fireflag (*Thalia geniculata*), leather fern, and maidencane.

Disturbed Land (FLUCFCS Code 740)

The canopy of this habitat type includes Brazilian pepper, cabbage palm, buttonwood (*Conocarpus erectus*), Norfolk Island pine (*Araucaria heterophylla*), and scattered earleaf acacia and slash pine. The sub-canopy contains slash pine, cabbage palm, Brazilian pepper, buttonwood, earleaf acacia, Guinea grass (*Panicum maximum*), Norfolk Island pine, false willow (*Baccharis angustifolia*), castor-bean (*Ricinus communis*), and widely scattered saw palmetto. The ground cover contains areas of open sand with dog fennel (*Eupatorium capillifolium*), rustweed (*Polypremum procumbens*), jointweed (*Polygonella polygama*), caesarweed, rosemary, slash pine, bermudagrass (*Cynodon dactylon*), cogongrass, limpograss (*Hemarthria altissima*), wild bush bean (*Macroptilium lathyroides*), wedelia (*Sphagneticola trilobata*), sweetbroom (*Scoparia dulcis*), beggarticks (*Bidens alba*), ragweed (*Ambrosia artemisiifolia*), bushy bluestem, water pennywort (*Hydrocotyle umbellata*), peppervine (*Nekemias arborea*), saltgrass (*Distichlis spicata*), and scattered saw palmetto.

### **3.0 BALD EAGLE BIOLOGY AND PROTECTION**

The following information on the biology of the bald eagle is excerpted from the South Florida Multi-Species Recovery Plan (U.S. Fish and Wildlife Service (USFWS) 1999).

Bald eagles are considered a water-dependent species typically found near estuaries, large lakes, reservoirs, major rivers, and some seacoast habitats (Robards and King 1966, King *et al.* 1972, Weekes 1974, Whitfield *et al.* 1974, Gerrard *et al.* 1975, Grier 1977, Anthony and Isaacs 1989, Wood *et al.* 1989). Their distribution is influenced by the availability of suitable nest and perch

sites near large and open water bodies, typically with high amounts of water-to-land edge. Bald eagles demonstrate a remarkable ability to tolerate perturbations to their habitat throughout their range.

Their adaptability to a variety of habitat conditions makes any generalizations about habitat requirements and nesting behavior difficult. Though variable, eagles have basic habitat requirements that must be met in order to successfully reproduce and survive during the winter or non-nesting season. Florida bald eagle nests are constructed in dominant or co-dominant living pines (*Pinus* spp.) or bald cypress (*Taxodium distichum*) and are often located in the ecotone between forest and marsh or water (McEwan and Hirth 1979). Approximately ten percent of eagle nests are located in dead pine trees, while two to three percent occur in other species such as Australian pine (*Casuarina equisetifolia*) and live oak (*Quercus virginiana*). The stature of nest trees decreases from north to south (Wood 1987, Wood *et al.* 1989); and in extreme Southwest Florida, eagles nest in black mangroves (*Avicennia germinans*) and red mangroves (*Rhizophora mangle*), half of which are snags (Curnutt and Robertson 1994). Nest trees in South Florida are smaller and shorter than reported elsewhere; however, comparatively they are the largest trees available (Wood *et al.* 1989, Hardesty 1991). The small size of nest trees in South Florida relative to other nest sites throughout the eagle's range is due to the naturally smaller stature of slash pine (*Pinus elliotti*), loblolly pine (*P. taeda*), longleaf pine (*P. palustris*), and sand pine (*P. clausa*) in South Florida and to the lack of pines in extreme Southern Florida.

Bald eagles are monogamous, and annual courtship behavior reinforces pair bonds (Palmer 1988). Pair bond formation includes dramatic pursuit flights, high soaring, talon locking, and cartwheeling (Johnsgard 1990). Eagles may also fly around the perimeter of their nesting areas, visually communicating their presence and further establishing their territories. Pair bond behavior, as well as territory establishment and defense, probably occur concurrently throughout much of the eagle's range. Successful pair bond ultimately leads to nest site selection and nest construction for newly formed pairs or established pairs without nests. Pairs that have previously nested may repair established nests or construct an alternate nest concurrent with copulation.

Nesting activities generally begin in early September in South Florida, with egg-laying occurring as early as late October and peaking in the latter part of December. Incubation may be initiated from as early as October through as late as March, depending upon latitude. Clutches usually consist of one or two eggs, but occasionally three or four are laid. Incubation takes approximately 35 days and fledging occurs within 10 to 12 weeks of hatching. Parental care may extend 4 to 6 weeks after fledging, even though young eagles are fully developed and may not remain at the nest after fledging (USFWS 1989).

The Florida Fish and Wildlife Conservation Commission (FWCC) documented 88 active bald eagle nesting territories in Florida during their initial surveys of this species in 1973; by 1987, that number had increased to 391 active territories when the USFWS implemented the Habitat Management Guidelines for the Bald Eagle in the Southeast Region (Guidelines) (USFWS 1987). By 1999, the 1,000-breeding pair recovery goal for Florida had been achieved and had increased to 1,511 breeding pairs by 2012 (Brush *et al.* 2012). Peterson and Robertson (1978) reported that historic numbers of breeding pairs of bald eagles in Florida were likely "in excess of 1,000 breeding pairs."

The bald eagle was a federally and state listed “threatened” species that had been protected since the mid-1970s under the Endangered Species Act of 1973 and Chapter 68A-27.004, Florida Administrative Code. Management and recovery efforts for the species generally have included actions to improve reproductive success and survival by 1) reducing levels of persistent organochlorine pesticides, such as Dichlorodiphenyltrichloroethane (i.e., DDT), occurring in the environment; and 2) habitat protection. Habitat protection measures in Florida primarily have focused on the protection of nesting territories through the implementation of the 1987 Guidelines. Recovery goals for the bald eagle have been achieved as a result of these and related management actions throughout the United States, and the USFWS subsequently published a proposed rule in July 1999 to remove the bald eagle in the lower 48 states from the list of threatened or endangered wildlife. The bald eagle was subsequently delisted by the federal government in August 2007 and by the State of Florida in April 2008. The Bald and Golden Eagle Protection Act and Migratory Bird Treaty Act provide continued federal protection for bald eagles. State Rule 68A-16.002 establishes rules for the continued protection and conservation of eagles in Florida.

#### **4.0 DESCRIPTION OF LE-28A**

##### **4.1 Location and Landscape Information**

Nest LE-28A is located in a large slash pine tree immediately west of Halfway Creek (Exhibit 3). The nest tree is surrounded by dense scrub oak and forested wetland habitats with varying degrees of exotic infestation. Both the nest tree and protection zones (330 and 660 feet) are located within the proposed conservation area (Exhibit 4). The proposed conservation area contains an abundance of trees that could potentially be utilized for perching and/or nesting by bald eagles.

The site is bordered to the north by West Bay Club; to the south by El Dorado Acres and Meadowbrook residential developments and Coconut Road; to the east by an FPL easement, existing conservation lands, and Fountain Lakes and Marsh Landing residential developments; and to the west by existing conservation lands, the Raptor Bay Golf Club, and Hyatt Residence Club. The location of Nest LE-28A, the eagle nest protection zones, and the surrounding land uses are depicted on Exhibit 4.

##### **4.2 Nesting History**

Based on Wilson Miller’s 2000 BEMP, Nest LE-28A was first observed in 1987 and served to replace Nest LE-28, which was last used during the 1986-1987 nesting season. The eagle pair also utilized a nest (LE-28B) located approximately 3,700 feet west-southwest of LE-28A. Nest LE-28B was last active during the 1992-1993 nesting season. A survey conducted by the Florida Game and Fresh Water Fish Commission during the 1997-1998 nesting season identified Nest LE-28B as “nest down” (nest came apart and there is no longer any nest material in the nest tree).

Site observations conducted by PAI in February and March 2022 confirmed that Nest LE-28A was inactive.

## **5.0 PROPOSED SITE PLAN AND EAGLE PROTECTION ZONES**

The Project's site plan consists of the reconfiguration of the existing golf course with associated parking and infrastructure. The site plan is depicted on Exhibit 4.

The USFWS and FWCC recognize 330- and 660-foot protection zones around an active eagle nest (Exhibit 4). Additionally, Lee County's Eagle Ordinance (08-25) states that no construction (structures or site work) may occur within 660 feet of an eagle nest without an approved BEMP. Both the 330- and 660-foot protection zones of Nest LE-28A are within the proposed conservation area. Therefore, no development activities will occur within 660 feet of Nest LE-28A. However, DO No. DOS2021-00137 requires that the Project's conservation areas be maintained free of exotic vegetation. This includes the conservation areas within the 330- and 660-foot eagle protection zones.

## **6.0 BALD EAGLE MANAGEMENT PLAN**

This BEMP serves to revise the existing plan prepared by Wilson Miller in 2000, to reduce the protection zones to the current Lee County, USFWS, and FWCC standards (i.e., 330 and 660 feet). Additionally, this BEMP is intended to facilitate construction of the Project while providing sufficient measures to minimize the potential for adverse impacts to nesting bald eagles that could occur as a result of the proposed development activities. As a management instrument, the BEMP is only applicable to the Project. It is the responsibility of the property owner to retain and implement this plan for as long as it is required, including educating others (e.g., contractors, future owners, tenants, etc.) about the specific requirements of this BEMP and the state and federal eagle protection laws. Any amendment to this management plan shall require review and approval by the Eagle Technical Advisory Committee or any successor body.

Specific elements of the BEMP are as follows:

1. Exotic vegetation removal within 660 feet of the nest tree shall be completed during the non-nesting season (i.e., May 16 through September 30).
2. The use of chemicals which are known to be toxic to wildlife shall be prohibited at all times in close proximity to the nest tree and within the on-site preserve areas. Chemicals used for the purpose of controlling invasive exotic plants shall be prohibited around the base of the nest tree.

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**EXHIBIT 1**

**PROJECT LOCATION MAP**



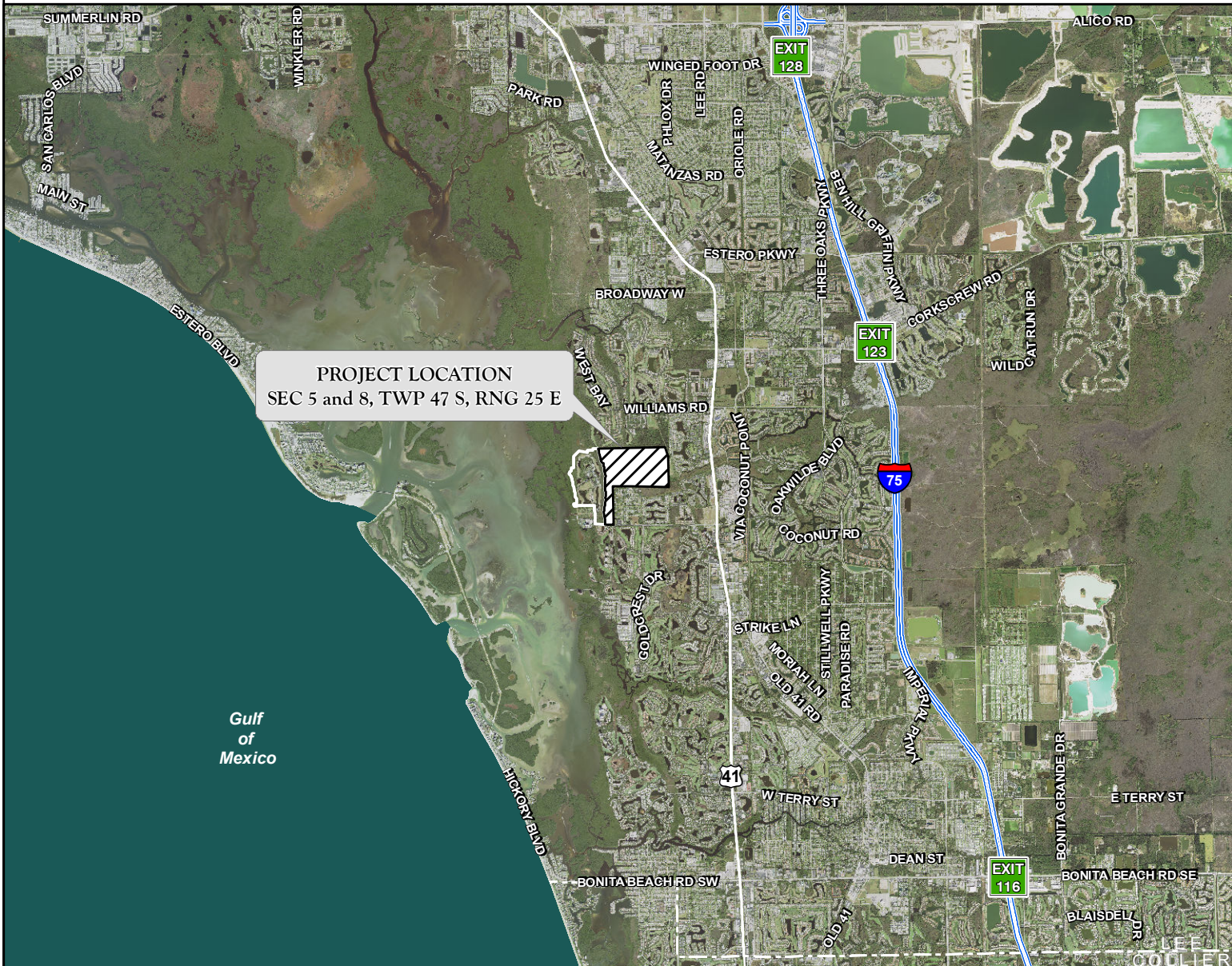
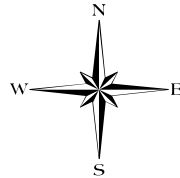
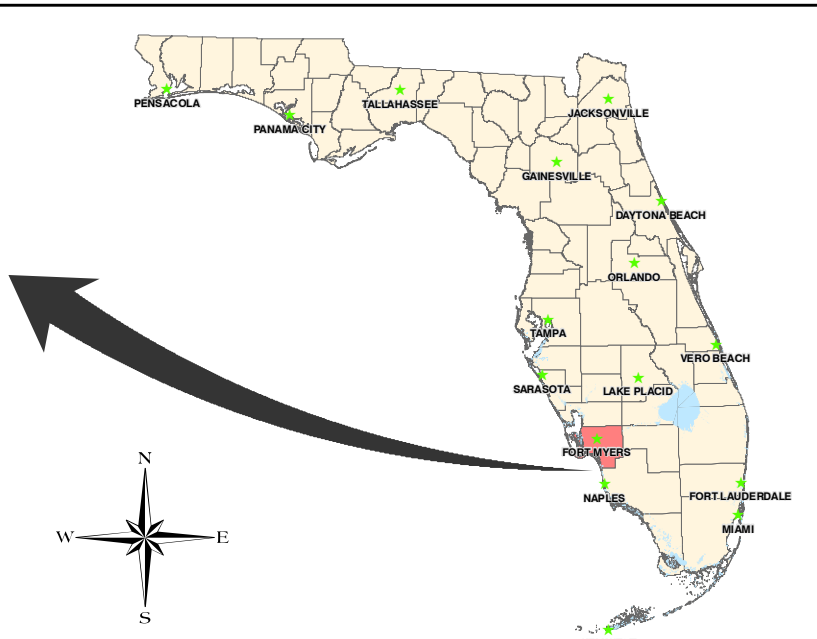
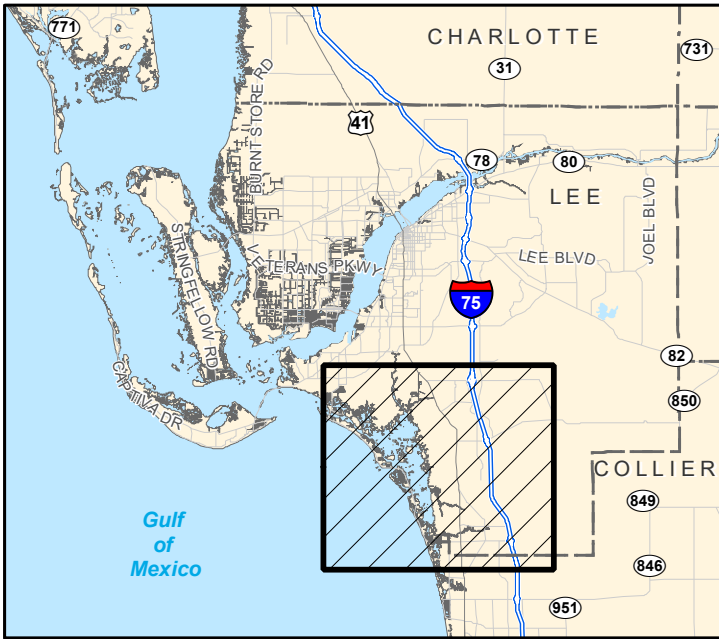


EXHIBIT 1. PROJECT LOCATION MAP  
RAPTOR BAY GOLF COURSE RENOVATION

|             |          |
|-------------|----------|
| DRAWN BY    | DATE     |
| P.F.        | 09/22/21 |
| REVIEWED BY | DATE     |
| S.J.        | 09/22/21 |
| REVISED     | DATE     |



**EXHIBIT 2**

**BALD EAGLE MANAGEMENT PLAN BY WILSON MILLER, INC.  
MARCH 2000**



**BALD EAGLE MANAGEMENT PLAN  
FOR NEST LE-28A**

**Pelican Landing DRI  
Section 5, Township 47 South, Range 25 East  
Lee County, Florida**

Prepared for:

**WCI Communities, Inc.**  
24301 Walden Center Drive  
Bonita Springs, Florida 34134  
941.947.2600 (phone)  
941.498.8273 (fax)

**DRI 940279**  
Prepared by:

**WilsonMiller, Inc.**  
3200 Bailey Lane, Suite 200  
Naples, Florida 34105-8507  
941.649-4040 (phone)  
941.643.5716 (fax)

**RECEIVED**  
MAR 15 2000

Submitted to:

**ZONING COUNTER**

**U.S. Fish and Wildlife Service**  
3860 Tollgate Blvd., Suite 300  
Naples, Florida 34114  
941.353.2873 (phone)  
941.353.8640 (fax)

March 7, 2000

**BALD EAGLE MANAGEMENT PLAN  
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24301 Walden Center Drive  
Bonita Springs, Florida 34134  
941.947.2600 (phone)  
941.498.8273 (fax)

Prepared by:

**WilsonMiller, Inc.**  
3200 Bailey Lane, Suite 200  
Naples, Florida 34105-8507  
941.649-4040 (phone)  
941.643.5716 (fax)

Submitted to:

**U.S. Fish and Wildlife Service**  
3860 Tollgate Blvd., Suite 300  
Naples, Florida 34114  
941.353.2873 (phone)  
941.353.8640 (fax)

March 7, 2000

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## 1.0. Introduction and Project History

Pelican Landings is a 2,580-acre Development of Regional Impact (DRI) located approximately three miles north of the Lee/Collier County line. The DRI property is bounded on the west by Estero Bay, on the north by the West Bay Club residential development, on the east by U.S. 41, and on the south by Spring Creek. The original Development Order for the Pelican Landing DRI was issued by Lee County on August 29, 1994 and has been amended several times. The latest amendment is the Fifth Development Order Amendment issued by Lee County on September 21, 1998.

The Pelican Landing DRI contains a 78-acre xeric scrub/pine flatwood upland preservation area known as the "Eco-Park". Figure 1 provides a location map for the Pelican Landing Eco-Park. The Eco-Park was established pursuant to a gopher tortoise incidental take permit issued by the Florida Game and Fresh Water Fish Commission (Permit #Lee-9 issued August 28, 1995) to mitigate for impacts to the gopher tortoise and xeric scrub habitat located within the Pelican Landing DRI. It was strategically chosen since at that time it contained the majority of the xeric oak habitat on the entire undeveloped portion of Pelican Landing. A conservation easement for the 78-acre tract was granted to the Florida Game and Fresh Water Fish Commission and was recorded in the public records of Lee County on October 18, 1995. The incidental take permit contains provisions for perpetual management of the Eco-Park to maintain appropriate vegetative density and composition. Condition #5 of the permit addresses conditions placed on the use and management of the Eco-Park with regard to eagle nesting activities. An active bald eagle's nest is present in the Eco-Park of the Pelican Landing DRI. The eagle nest is recognized by U.S. Fish and Wildlife Service (USFWS) as nest #LE-28A. Conditions of the Development Order for the Pelican Landing DRI require that a management plan be implemented for this nest.

A bald eagle management plan (BEMP) was drafted for nest LE-28A in 1994 (Heald and Associates, Inc. 1994a; Appendix A) and was submitted to the USFWS for review, comment, and approval. The original plan proposed a 1,300-foot setback between the nest and any proposed construction and a 2,500-foot secondary protection zone where construction would be seasonally restricted. Under the 1994 plan, the closest proposed construction was a two-lane road west of the nest that would terminate near the northern property boundary of the project site, and single-story single-family homes on large lots to the west of the road. Via a letter from David Ferrell (USFWS) to Dan Trescott (Southwest Florida Regional Planning Council) dated January 31, 1994, the USFWS made a preliminary determination that 1,300 and 2,500 feet represented adequate primary and secondary protection zones for Nest LE-28A. Prior to making a final determination, the USFWS requested that a study be conducted during the nesting season to determine flight lines and identify any trees frequently used for roosting. The study was conducted by Eric Heald & Associates (Heald, 1994b) during the period of January through May, 1994 and indicated that 84% of all flights recorded inbound or outbound fell within the northern (n=15 of 44), northwestern (n=13), and western (n=9) quadrants.

On August 8, 1995, a meeting was held with Jane Tutton (USFWS) and a revised BEMP was submitted to the USFWS. In consideration of the density of site vegetation and effective visual screening of the eagle's nest, a Primary Protection Zone (PPZ) of 500 feet and a Secondary Protection Zone (SPZ) ranging from 1,200 feet on the southwest to 2,175 feet on the south was proposed. An August 16, 1995 letter from Craig Johnson (USFWS) to Tim Durham (WilsonMiller) indicated the USFWS's concurrence that the revised plan was adequate and appropriate for the nest. A subsequent letter dated October 11, 1995, sent by Craig Johnson (USFWS) to Tim Durham (WilsonMiller) for clarification purposes, superseded the August 16, 1995 letter and indicated that a PPZ of 1,200 feet and an SPZ of 2,500 feet would be required.

The purpose of this document is to provide a revised management plan for eagle nest LE-28A (hereafter referred to as the "Plan") and request technical assistance from the USFWS for review, comment, and approval of the revised Plan. The previous management plan was based on the original configuration of the Eco-Park, the boundary of which was determined by property boundaries and/or preliminary/conceptual subdivision plans for adjacent lands. Now that WCI Communities, Inc. (WCI) has refined the required area and uses of adjacent lands, it has become apparent that a modification to the Eco-Park boundary is needed. Proposed revisions have been made to the original Plan due to the acquisition or planned acquisition of adjacent parcels, changes in the site development plan, and the desire to utilize an ecosystem approach in reconfiguring the Eco-Park. WilsonMiller is currently coordinating with the Florida Fish and Wildlife Conservation Commission (FFWCC) to gain approval for the proposed reconfiguration of the Eco-Park boundary as described herein. Thus, we are requesting that the USFWS provide approval of the Plan pending approval of the Eco-Park boundary configuration by the FFWCC. Upon approval by the USFWS, the revised Plan would supersede the 1994 plan in its entirety.

The revised plan is consistent with existing USFWS management guidelines for the bald eagle as well as the original 1994 plan. The proposed plan maintains a PPZ of 1,200 feet and an SPZ of 2,500 feet (1,300 feet outward from PPZ) in the directions most utilized by inbound and outbound eagle flight paths. In the direction of seldom utilized flight paths, the PPZ is 750 feet and the SPZ is 1,500' (750' outward from the PPZ) in accordance with bald eagle management guidelines. It should be noted that the revised plan results in a numerous benefits to the eagle compared to the original plan. Details regarding these benefits are provided in Section 4.4 of this report.

## **2.0 Nest Location/History**

Figure 2 shows the location of nest LE-28A with respect to the existing boundary of the Pelican Landing Eco-Park. Nest LE-28A is located on the northwest side of a large slash pine (*Pinus elliotii*) tree immediately west of Halfway Creek. From most angles, the nest is effectively screened from view beyond a distance of 200 to 600 feet by pines, dense scrub oak, and tall fetterbush (*Lyonia* spp.). Heald (1994b) indicated that the primary perch tree for the eagles is located approximately 400 feet west of the nest tree.

Nest LE-28A was first observed in 1987 and served to replace nest LE-28, which was last used during the 1986/1987 breeding season. The eagle pair also utilized a nest (LE-28B) located approximately 3,700 feet west-southwest of LE-28A. Nest LE-28B was last active during the 1992/1993 breeding season. A survey conducted by the Florida Game and Fresh Water Fish Commission during the 1997/1998 breeding season identified nest LE-28B as "nest down" (nest came apart and there is no longer any nest material in the nest tree).

## **3.0 Results of Flight Pattern Surveys**

At the request of the USFWS, a flight pattern study of eagles nesting in LE-28A was conducted from January to May 1994. A report summarizing the results of this study (Heald, 1994b) is provided in Appendix A. The study concluded that 34%, 30%, and 20% of recorded flights were to or from the northern, northwestern, or western directions, respectively. Based on the flight study, it is presumed that the eagles feed primarily in Estero Bay. Other research conducted KBN Engineering and Applied Sciences, Inc. (1995) indicated that the eagle pair utilizing nest LE-28A were frequently seen perching

on trees next to homes and roads along Kings Road and Williams Road, foraging in sewage treatment ponds of the Fountain Lakes development, feeding on road kills along U.S. 41, and perching in trees in the vicinity of the Coconut Point fish camp. Thus, it appears that the eagles are opportunistic feeders and have become accustomed to human activity.

#### **4.0 Habitat Management/Nest Protection Strategies**

##### **4.1 Objectives**

The overall objectives of the Plan are as follows:

- To protect the integrity of the bald eagle nest LE-28A.
- To minimize detrimental human-related impacts on the bald eagles utilizing nest LE-28A, particularly during the nesting season (generally from October 1 through May 15 but specific to individual nests depending on the time of commencement of mating and fledging of young).
- To define compatible land uses and development in areas in close proximity to the active nest.

These objectives, and the methods proposed to attain them, are consistent with the guidelines issued by the USFWS Southeast Region as found in *"Habitat Management Guidelines for the Bald Eagle in the Southeast Region"* (USFWS, 1987). These guidelines recommend the establishment of primary and secondary protection/management zones around eagle nest trees. The following methods and management techniques are hereby proposed for each of these zones in order to achieve Plan objectives.

##### **4.2 Primary Protection Zone (PPZ)**

The PPZ will extend outward radially from the nest tree a distance ranging from 750' to 1,200'. Figure 3 shows the configuration of the PPZ and the habitat types present. The purpose of the PPZ will be to provide a natural zone in the immediate vicinity of the nest tree that will remain free of development, and where passive activities potentially detrimental to nesting will be restricted.

The following activities will be prohibited within the PPZ:

- Residential, commercial, and industrial development
- Tree cutting, except as absolutely needed to construct the golf cart bridge across Halfway Creek and golf cart paths leading to the bridge.
- Logging, mining, filling, and excavation.
- Use of non-approved chemicals toxic to wildlife.
- Habitat management practices during the active nesting season, including burning.
- Unauthorized human activities potentially detrimental to bald eagle nesting.
- Passive recreational use of the golf cart bridge across Halfway Creek, and golf cart paths leading to the bridge, during the eagle nesting season, except for uses related strictly to golfing.

The following activities will not be considered detrimental when conducted in the PPZ during the non-nesting season:

- Construction or use of passive recreational facilities, including benches, jogging/hiking trails, or similar uses consistent with the Eco-Park management plan. In accordance with the Eco-Park habitat management plan, passive recreational facilities will be located no closer than 500' from nest LE-28A.
- Construction of the golf cart bridge across Halfway Creek, and golf cart paths leading to the bridge.



- Habitat management activities, including removal of exotic and nuisance vegetation and prescribed burning. Prior to any prescribed burning, the nest tree and perch trees will be protected by hand raking or clearing to minimize fuel in the vicinity of the tree.

Habitat management in the PPZ will be in accordance with the Eco-Park management plan approved by the Florida Game and Fresh Water Fish Commission. Appendix B provides a summary of the habitat management methods for the Eco-Park. Management activities in the PPZ will occur only during the non-nesting season.

#### 4.3 Secondary Protection Zone (SPZ)

The SPZ will extend a distance varying from 750' to 1,300' outward from the PPZ and will serve to provide a buffer for the PPZ. Figure 3 shows the configuration of the PPZ and the habitat types present. Development in the SPZ will be consistent with USFWS guidelines so as to minimize activities potentially detrimental to the PPZ. The majority of development in the SPZ will be golf course to be constructed during the non-nesting season. A relatively small portion (2 acres) of the outer zone of the SPZ in the western region of the site (Figure 3) is proposed for timeshare units that will have a maximum height of 45' above flood elevation. Considering that: a) this height is below the height of the existing tree canopy of this region of the site, b) the timeshare units are at least 2,370' removed from the nest tree, and c) the preserved freshwater slough and other native vegetation to be retained to the east will provide an effective visual screen, it is unlikely that the timeshare units will affect eagle nesting or foraging behavior. At its closest point the golf course is 1,250' from the nest tree, which is well beyond the line of sight distance of the tree and should also not affect eagle behavior.

The following activities will be prohibited within the SPZ unless otherwise approved by the USFWS:

- Development of commercial and industrial sites.
- Development of high density housing and multi-story buildings.
- Road or canal construction that would facilitate access to the nest.
- Use of non-approved chemicals toxic to wildlife.
- Heavy construction during the nesting season, including operation of heavy machinery, land clearing, earthmoving, blasting, excavation, installation of major utilities, and burning.

The following activities will not be considered detrimental when conducted in the SPZ during the nesting season:

- Normal habitat management practices, excluding prescribed burning.
- Passive pedestrian recreational use (e.g., hiking, bird watching, fishing, etc.).
- Construction of pedestrian pathways using non-motorized equipment, and erecting interpretive/educational signage.
- Golfing activity and operation of golf carts in golf course areas.
- Activities normally associated with golf course maintenance operations, except as noted in the above prohibitions.
- Finishing work (i.e., all interior work, hanging windows and doors, stucco-ing exterior walls, and activities of similar nature) on those portions of the two timeshare units located in the SPZ, provided that the vertical construction of the units (i.e., construction of exterior walls and roof) is conducted during the non-nesting season.

Habitat management in the SPZ will be in accordance with the Eco-Park management plan approved by the Florida Game and Fresh Water Fish Commission. Appendix B provides a summary of the habitat management methods for the Eco-Park. Management activities in the SPZ can occur at any

time of the year, with the exception that prescribed burning and methods involving excessive noise will be restricted during the active nesting season.

#### *4.4 Other Management/Protection Strategies Benefiting the Eagle*

Other management/protection strategies that will be used as measures to protect eagle nest LE-28A, provide a net benefit to eagles utilizing nest LE-28A, and provide a net benefit to eagle conservation in general will include the following:

*4.4.1 Increased Size of Pelican Landing DRI Eco-Park:* The size of the Pelican Landing Eco-Park, within which nest LE-28A is located, is proposed to be substantially increased by the proposed project. Changes to the Eco-Park from its current configuration incorporate an ecosystem approach by including a variety of upland and wetland habitat types (as opposed to only several upland habitat types in the existing Eco-Park). The proposed reconfiguration includes all of that portion of Halfway Creek located in the project area and thereby serves to provide a buffer to the east of nest LE-28A that was not previously under ownership. The proposed changes will increase the size of the Eco-Park by approximately 84% (66-acre± net increase) and insure the continued protection and success of nest LE-28A.

*4.4.2 Preservation of Habitat in Secondary Protection Zone:* The project has incorporated a significant amount of habitat preservation in the SPZ to insure the continued success of eagles utilizing nest LE-28A. Of the land located in the SPZ, 102 of 159 acres (64%) will remain in a natural state (SPZ areas in Eco-Park) or mostly-natural state (golf course rough and inter-hole areas where selective removal of vegetation will occur but where majority of canopy will be retained). On a site-wide basis, a total of 56% of the existing habitat will be retained in a natural or semi-natural state, the majority of which will be enhanced via the removal of exotic vegetation. Figure 3 shows the location of areas to be preserved in the project.

*4.4.3 Creation of Foraging Habitat:* As part of the project, foraging habitat for the eagle, as well as wading birds, will be created both within and outside of the SPZ by excavating surface water management lakes and creating freshwater marshes (Figure 3). Created lakes and marshes within the SPZ occupy 11 acres or 7% of the SPZ, and on a site-wide basis occupy 9% of the land area. Many of the marshes to be created are located adjacent to the lakes and will serve to establish a more natural appearance to, and function of, the lakes. The marshes also serve as pretreatment areas to 'polish' surface water runoff prior to entering the lake. Such pretreatment is not required by existing SFWMD regulations, but is being incorporated into the site design to enhance the quality of the created systems. In most areas, the marshes are separated from golf course areas by upland areas that will remain in a mostly-natural state, providing additional pretreatment of runoff and further mimicking a natural lake system.

*4.4.4 Restoration of Freshwater Slough:* The north-south trending freshwater slough located in the western region of the project (Figure 3) will be enhanced as part of this project. Approximately one-third of this slough is located in the SPZ. The slough is currently dominated (>75% coverage) by exotic and nuisance species. Exotic/nuisance species will be removed from the slough, thus increasing habitat quality. In many areas of the slough, planting of native wetland species will occur to further enhance the quality of this area. Preservation and enhancement of the slough will also serve to provide a buffer between the eagle nest and development to the west of the slough.

*4.4.5 Retaining Canopy, Perch, and Roost Trees:* The site design incorporates the retainage of a substantial amount of the existing canopy. Areas that will remain natural or mostly-natural and thus will retain the majority of their existing canopy comprise 64% of the SPZ and 56% of the overall project site. Preservation of the existing canopy of the site will insure the continued presence of suitable perch and roost trees, as well as provide for suitable screening between the eagle nest and land uses

in the SPZ. In golf course and other development areas, potential perch/roost trees that are of specimen value (e.g., largest trees in stand, trees with open crowns and stout lateral limbs) will be field located/flagged and incorporated into the field design whenever possible. The shores of excavated lakes will also be meandered where necessary to preserve individual canopy trees of moderate to high value, as well as to provide a more natural character to the lake system.

4.4.6 Minimization of Number of Buildings in Secondary Protection Zone: The existing BEMP for nest LE-28A provides for single-family residential units and an associated access road in a portion of the SPZ. As part of the revised site plan proposed herein, these residential units have been eliminated and replaced with golf course, a land use more compatible with eagle nest protection. Under the proposed site plan, only two buildings of substantial size (excluding minor buildings such as golf course halfway houses) occur in the SPZ. These units are timeshare buildings that are approximately 2,370' removed from the eagle nest and comprise only 1% of the SPZ. Minimization of buildings in the SPZ will serve to further enhance the success of eagles utilizing nest LE-28A.

4.4.7 Minimization of Building Height Outside of Secondary Protection Zone: In the western region of the project between the SPZ and the western property line, building heights will be limited to a maximum height of 45' above flood elevation. This height is below the height of the existing tree canopy of this area and thus will not affect eagle nesting or foraging behavior. Although such height restrictions are not mandatory based on past USFWS determinations regarding nest LE-28A, they will be instituted as a measure to insure that the degree of access that the eagles' currently have to their primary foraging destination, Estero Bay, is maintained and is not hindered by the project.

4.4.8 Establishment of Educational Programs: Educational programs will be established for local homeowners and site users (golfers, Hyatt resort guests, other people utilizing the Eco-Park). The objectives of such programs will be to :a) inform citizens of local, state, and federal laws protecting eagles and other wildlife, b) identify ways for citizens to protect eagles from disturbance, and c) inform citizens of the habitat management plan for the Pelican Landing Eco-Park.

#### 4.5 Proposed Post-Development Conditions and Eco-Park Configuration

Figure 3 shows the proposed post-development conditions and configuration of the Pelican Landing Eco-Park. It should be noted that the Eco-Park boundary has been modified (on paper only) compared to the 1994 BEMP. The boundary reconfiguration is due to the acquisition or planned acquisition of adjacent parcels, changes in the site development plan, and the desire to utilize an ecosystem approach in configuring the Eco-Park. [All of the preceding moved to Section 4.1.1]

WilsonMiller is currently coordinating with the FFWCC to gain approval for the proposed reconfiguration of the Eco-Park boundary. Also, the parcel located to the east of the existing Eco-Park ("Skebe" parcel) is currently under contract but has not yet been acquired. Thus, post-development conditions proposed herein are tentative pending approval of the reconfiguration by the FFWCC and the subsequent acquisition of the Skebe parcel. Upon approval of the proposed Eco-Park boundary reconfiguration by the FFWCC, the existing conservation easement for the Eco-Park will be revised to conform to the new boundary.

WCI Communities, Inc. reserves the right to modify the Plan, consistent with USFWS management recommendations and upon concurrence by the USFWS, as the needs of the project change, and as the location or status of the nest changes.

## **5.0 References**

Florida Department of Transportation. 1985. Florida Land Use, Cover and Forms Classification System. Procedure No. 550-010-001-a, Second Edition. 81 pp.

Heald and Associates, Inc., 1994a. Management Plan for the Southern Bald Eagle in the Vicinity of the Pelican Landing DRI, Lee County, Florida. 3 p. + attachments.

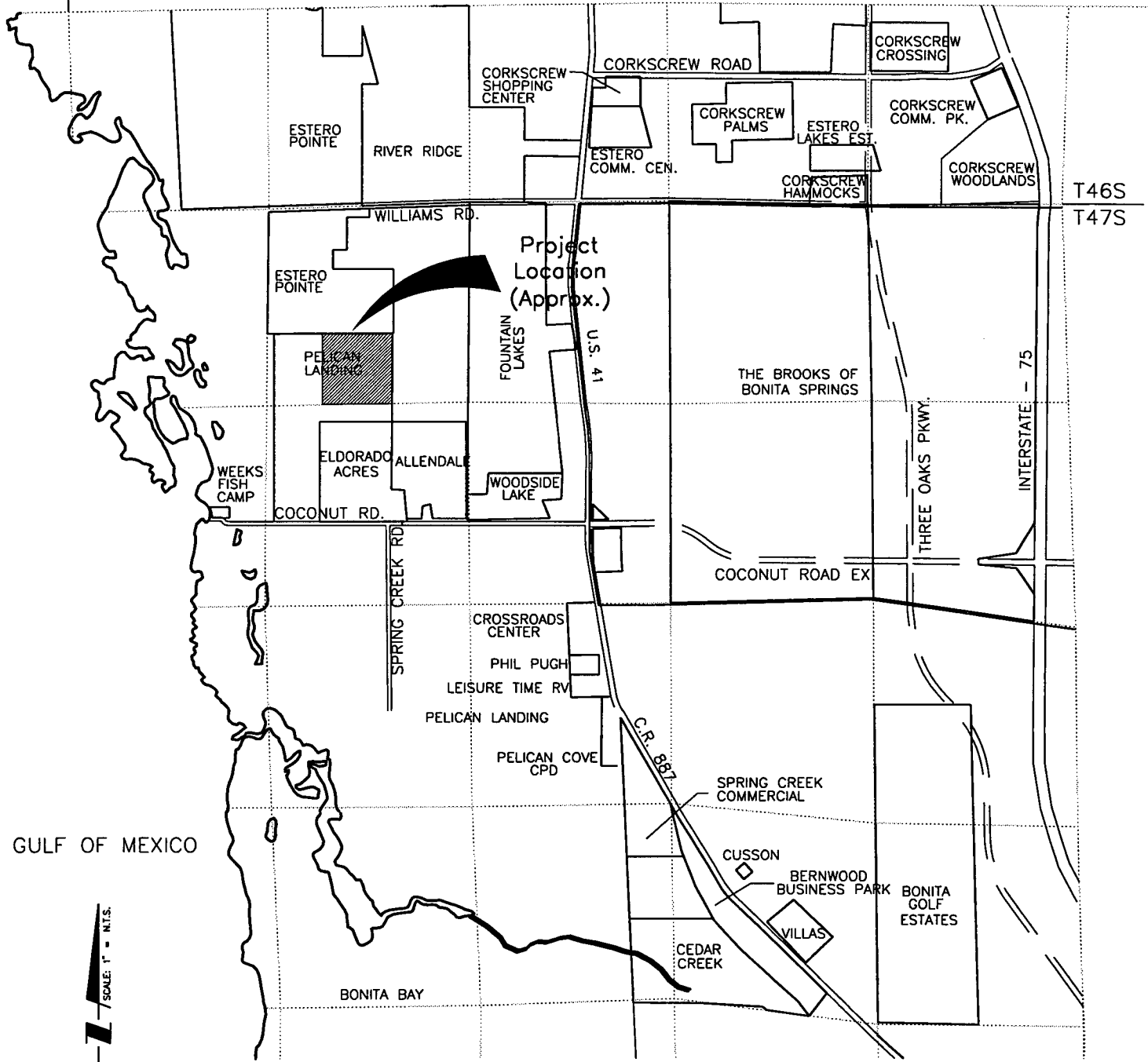
Heald and Associates, Inc., 1994b. Observations from January-May 1994 on the Flight Patterns of Southern Bald Eagles from Nest Tree LE 28A on the "L&L Tract", Pelican Landing, Lee County, Florida. 7 p.

KBN Engineering and Applied Sciences, Inc., 1995. Bald Eagle Management Plan for Nest LE-28A; Estero Pointe Project. 20 p.

U.S. Fish and Wildlife Service. 1987. Habitat Management Guidelines for the Bald Eagle in the Southeastern Region. U. S. Department of the Interior. 9 pp.

# LOCATION MAP

R24E R25E



PROJECT: *Pelican Landing DRI Bald Eagle Management Plan*

APPLICANT: *WCI Communities, Inc.*

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WilsonMiller, Inc.

Naples • Fort Myers • Sarasota • Bradenton • Tampa

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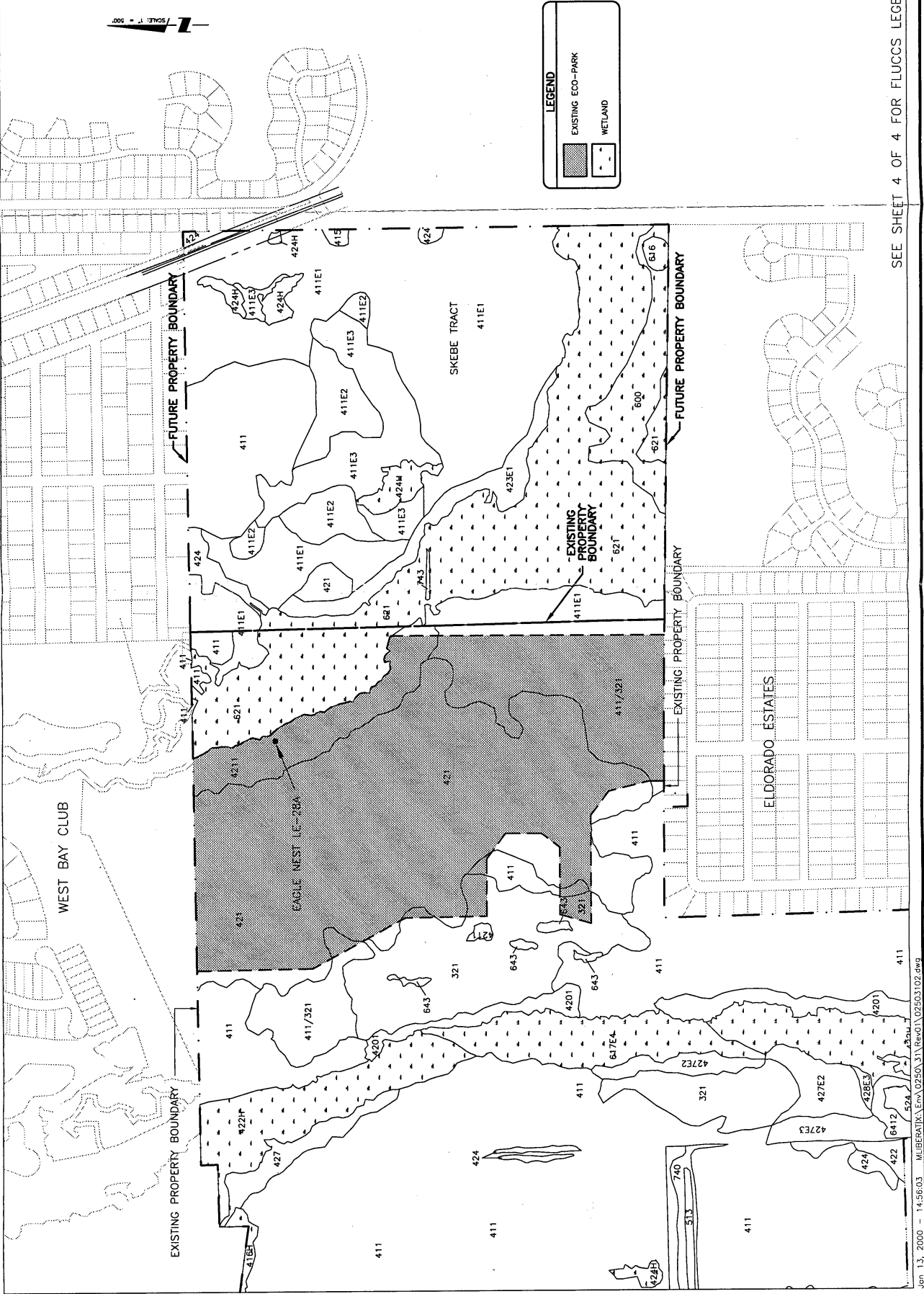
WilsonMiller, Inc. - FL Lic# LC-000070

FLA. REG. #

|                 |               |           |               |
|-----------------|---------------|-----------|---------------|
| COUNTY:         | LEE           | DATE:     | Sept. 21, '99 |
| SEC:            | 4,5,8,9 47S   | REV NO:   |               |
| TWP:            | 25E           | FILE NO:  | C-0250-31     |
| PROJECT NO:     | F0250-024-006 | SHEET NO: | 1 OF 4        |
| DRWN BY/EMP NO: | M.W.L./1260   |           |               |

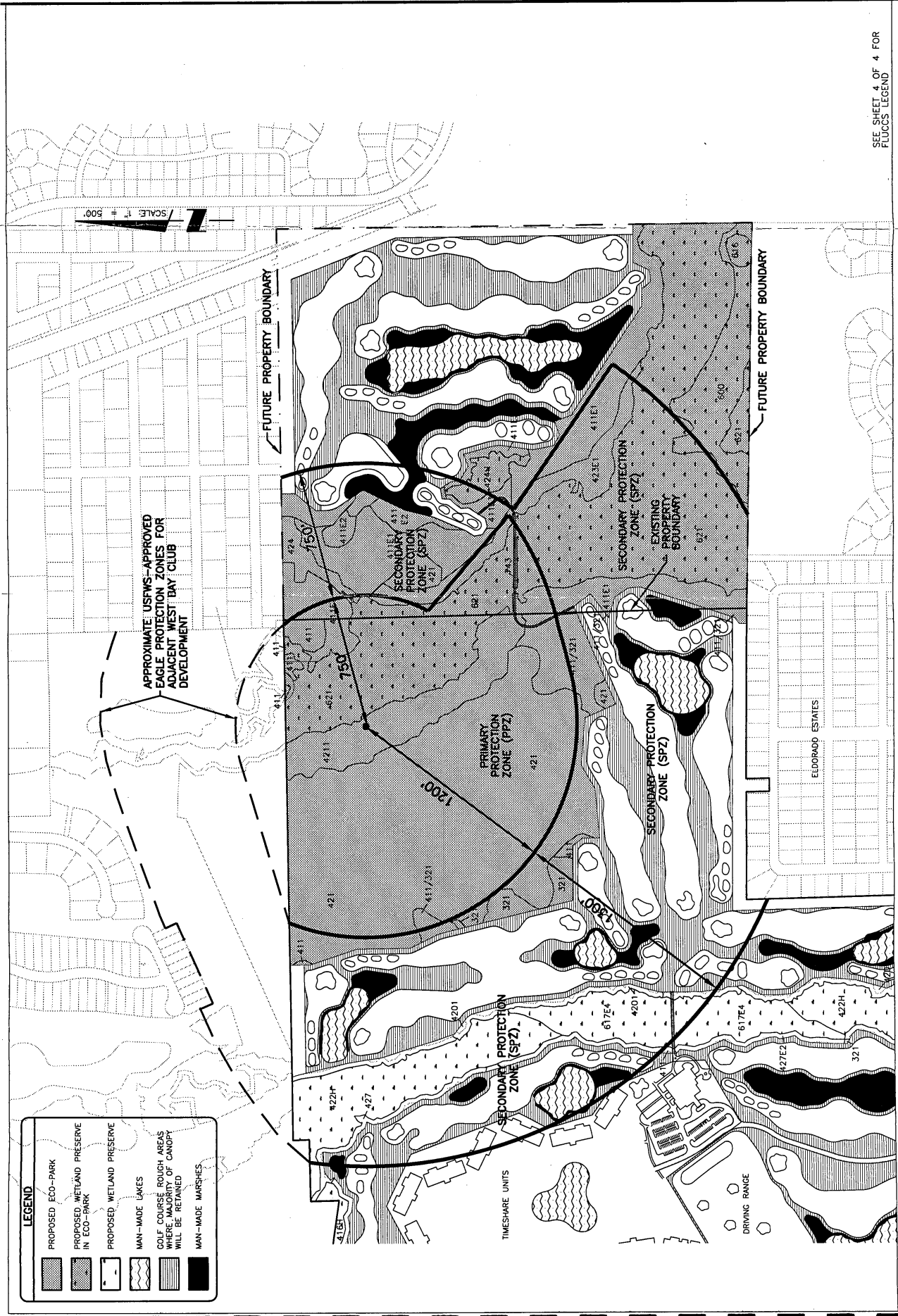
**FIGURE 2**  
**Existing Eco-Park**  
**and Associated Habitats**

SEC 5 TWP 47S R02E 25E  
 Designed by:  
 Drawn by: M.W.L./J.S.G.  
 Checked by:  
 Approved by:  
 Date: Sept. 21, '99  
 Scale: 1" = 500'  
 PIN: 02505-024-006-47900  
 File #: C-0250-21  
 Sheet 2 of 4



SEE SHEET 4 OF 4 FOR FLUCCS LEGEND

- LEGEND**
- PROPOSED ECO-PARK
  - PROPOSED WETLAND PRESERVE IN ECO-PARK
  - PROPOSED WETLAND PRESERVE
  - MAN-MADE LAKES
  - GOLF COURSE ROUGH AREAS WHERE MAJORITY OF CANOPY WILL BE RETAINED
  - MAN-MADE MARSHES



SCALE: 1" = 500'

# FIGURE 2 Proposed Configuration of Eco-Park, Eagle Protection Zones, And Adjacent Development

**WilsonMiller**  
 Planners • Engineers • Ecologists • Surveyors  
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 WilsonMiller, Inc.  
 3500 Wilshire Blvd., Suite 200 • Los Angeles, CA 90010  
 Tel: 310-407-1000 • Fax: 310-407-1001 • Web: www.wilsonmiller.com

Rev. 1.0 (11/01) - Update  
 Date: 11/01/01  
 Project: Eagle Park  
 Project No.: 02-050-31  
 Sheet: 3 of 4  
 SEE SHEET 4 OF 4 FOR  
 FLUCCS LEGEND

# Pelican Landing Eco-Park FLUCCS Legend

| FLUCCS  | FLUCCS Description                                   |
|---------|--|
| 321     | Palmetto prairie                                     |
| 411     | Pine flatwoods                                       |
| 411E1   | Pine flatwoods, 10-24% exotics                       |
| 411E2   | Pine flatwoods, 25-49% exotics                       |
| 411E3   | Pine flatwoods, 50-75% exotics                       |
| 411/321 | Pine flatwoods/Palmetto prairie                      |
| 415     | Scrubby flatwoods                                    |
| 416H    | Pine flatwoods/Graminoid understory-hydric           |
| 421     | Xeric oak  |
| 4201    | Mesic oak, high density shrub layer                  |
| 4211    | Xeric oak, high density shrub layer                  |
| 422     | Brazilian pepper                                     |
| 422H    | Brazilian pepper-hydric                              |
| 423E1   | Pine-cabbage palm-oaks, 10-24% exotics               |
| 424     | Melaleuca  |
| 424H    | Melaleuca-hydric                                     |
| 427     | Live oak   |
| 427E2   | Live oak, 25-49% exotics                             |
| 427E3   | Live oak, 50-75% exotics                             |
| 428E3   | Cabbage palm, 50-75% exotics                         |
| 513     | Ditch  |
| 524     | Lakes less than 10 acres which are dominant features |
| 600     | Shrub wetland  |
| 616     | Inland pond  |
| 617E4   | Mixed wetland hardwoods                              |
| 621     | Cypress  |
| 6412    | Cattail  |
| 643     | Wet prairie  |
| 740     | Disturbed land                                       |
| 743     | Spoil area   |

PROJECT: *Pelican Landing DRI Bald Eagle Management Plan*

APPLICANT: *WCI Communities, Inc.*

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| COUNTY:         | LEE                       | DATE:     | Sept. 21, '99 |
| SEC:            | TWP: 4,5,8,9 47S RGE: 25E | REV NO:   |               |
| PROJECT NO:     | F0250-024-006             | FILE NO:  | C-0250-006    |
| DRWN BY/EMP NO: | M.W.L./1260               | SHEET NO: | 4 OF 4        |



## **APPENDIX A**

### **1994 Version of Bald Eagle Management Plan (Heald, 1994a, 1994b)**

# *Heald and Associates, Inc.*

7550 S.W. 136 Street  
Miami, Florida 33156  
305-253-5343

Management Plan for the Southern Bald Eagle  
in the Vicinity of  
The Pelican Landing DRI, Lee County, Florida  
(Revised to Reflect Renewed Nesting Activity)

Prepared for  
Westinghouse Bayside Communities, Inc.

by  
Dr. Eric J. Heald, Ph.D.  
Heald and Associates, Inc.

May, 1994

### Introduction

Nest-building by bald eagles is known to have occurred at 5 locations (trees) within or in the vicinity of the Pelican Landing DRI project boundaries over the past decade. Some confusion has existed in connection with the locations and official designations of these (see sections of ADA, ADA Sufficiency Response, and pertinent correspondence appended to Draft Management Plan, June 1993).

The nest trees (sites, territories) are listed by Florida Game and Fish Commission (FGFC) as follows, and their current status is described:

#### LE 08

The nest no longer exists, having disintegrated over the past several years. The nest tree, a cypress, remains, and a pair of eagles was sighted at the tree during a December 3, 1992 overflight by FGFC.

#### LE 08A

This nest is no longer in existence (FGFC, Dec., 1993). It was occupied by great-horned owls during the 1991-1992 and 1992-1993 breeding seasons. It is addressed in a Lee County Rezoning Resolution (#Z-88-034) for San Marino Pines (March 18, 1988) in which a 900' buffer zone was established in a semi-circle to the west of the nest tree.

#### LE 28

Only a few twigs remain. It has been unoccupied since the 1986/1987 breeding season.

#### LE28A

The nest is located in a large pine tree on the western margin of Half-way Creek. It was occupied during the 1990-1991 breeding season, and was reported by Mr. Paul Schultz (FGFC) as occupied in December, 1993. A field representative of United States Fish and Wildlife Services (USFWS) inspected the preserve area and the newly-occupied nest tree (LE-28A) in January, 1994. On January 31, 1994 USFWS signified approval of the Management Plan (see enclosed letter from Mr. Peter Plage to Mr. Dan Trescott), and requested a study to determine flight lines during the current nesting season. This has been conducted (copy appended).

#### LE-28B

This recently constructed nest was occupied during the 1992-1993 breeding season and contained an unfledged eaglet at the time of FGFC overflight on March 14, 1993. The eaglet was no longer in evidence on overflights conducted by Heald and Associates on May 3

and May 20, 1993. It was not used during the 1993-1994 breeding season (Schultz, FGFC, Pers. Comm.).

#### Management Strategies

Nest tree ('territory') 28A on the western margin of Half-way Creek lies within approximately 120 contiguous acres of upland and wetland communities to be preserved within the Pelican Landing Development. It is located almost at the northern boundary of the project. A proposed two lane access road to single family homesites lies, at its closest point, approximately 1300' from the tree. The nest tree, and other potential nest, roost, or perch trees in close proximity within the preserve, will remain available for any future nesting activities. The birds presumably feed primarily in the Estero Bay system which they reach either by flying over the proposed single-road alignment of single family residences and the existing fish camp, or by flying over undeveloped uplands and wetlands immediately north and northwest of the nest tree (see appended copy of recorded flight patterns).

USFWS has determined that the primary zone should be established at a radius of  $\pm 1300'$  from the nest tree. Human activities within the preserve will be limited to pedestrian pathways, with interpretive/educational signage. Pathways will not impinge upon a 750' radius around the nest tree, which is well-screened by dense oaks. The nest tree and all other potential nest trees within the preserve will be monitored twice a month from October through April for a period of five years to determine if nesting is occurring. If the nest is occupied, access to all pathways within the  $\pm 1300'$  primary zone will be prohibited until nesting activities are reliably reported to have ceased. Appropriate signs will be installed at the barricaded path entrances. No habitat management activities, such as selective clearing or prescribed burning, will be conducted during the active nesting season and no construction of road or residences will be permitted within a 2500' radius of the nest tree during this period.

Bayside Improvement District will own the preserve area, known as the Pelican Landing Eco-Park, and will be responsible for all management and maintenance, in accordance with the approved Development Order.

Nest tree 28B lies off the property, approximately 1800-2000' west of the northwest boundary of the project. The birds feed primarily in the extensive Estero Bay system to the west of the nest tree. Approximately 80 acres of uplands plus approximately 42 acres of freshwater wetlands within the northwestern portion of the project will be preserved; and are thus available as potential additional feeding sites. Scattered large pines within the upland preserve will also remain available as potential nesting sites. Since applicant does not own the nest tree site or the lands surrounding it, further management practices are not feasible. Monitoring of potential nest trees within the preserve area will be

conducted as described above (28A), and appropriate measures will be taken to comply as far as practical with established guidelines if the birds relocate onto the subject property.

The remaining nest trees or territories (28, 08 and 08A) are located north and east of the project site. The birds, should they resume residence or nesting, will be unaffected by project activities. Extensive wetland areas preserved to the south within the project will remain available as potential feeding areas. Florida Game and Fish Commission and U.S. fish and Wildlife Service will be consulted on appropriate actions if the eagles are reported to relocate to trees closer to the project than at present.

**Attachments**

Observations From January - May, 1994  
on the Flight Patterns of Southern Bald Eagles  
from Nest Tree LE 28A on the "L&L Tract",  
Pelican Landing, Lee County, Florida

Prepared for  
Westinghouse Bayside Communities, Inc.

by  
Dr. Eric J. Heald, Ph.D.  
Heald and Associates, Inc.

May, 1994

### Introduction

As an integral part of a Development of Regional Impact (DRI), Westinghouse Bayside communities (WBC) in 1992 designated a contiguous area of  $\pm 120$  acres, including  $\pm 78$  acres of xeric oak scrub and pine flatwoods, for preservation. This area, known as the "L&L Tract" and latterly as the "Pelican Landing Eco-Park", lies north of Coconut Road in Southern Lee County and constitutes a portion of the Planned Community of Pelican Landing (Figure 1). The preserved tract includes several large slash pines, one of which contains the nest of a southern bald eagle. The nest tree, designated LE-28A by Florida Game and Fish Commission (FGFC) was occupied during the breeding season of 1990-1991 and was not used during the subsequent two seasons.

In accordance with requests by several regulatory agencies during the Application for Development Approval review process, a Management Plan for the southern bald eagle was prepared and submitted for review to U.S. Fish and Wildlife Service (USFWS) in June 1993. While the Management Plan was under review the nest was reported by FGFC in December, 1993 to be occupied by a pair of eagles (Paul Schultz, FGFC; Pers. Comm.). It is assumed, though not confirmed, that the eagle pair currently occupying this nest utilized nest LE 28B during the 1992-1993 breeding season. In January 1994, USFWS, while approving the Management Plan as submitted, requested that prevalent flight patterns of the birds occupying nest LE-28A be documented to assist further review. At the request of WBC, Dr. Eric Heald of Heald and Associates (H&A) conducted the field observations reported below.

### Methods

The slash pine containing the nest stands immediately adjacent to the western margin of Halfway Creek (Figure 2) and from most angles is effectively screened from view beyond a distance of 200' to 600' by pines, dense scrub oak and tall *Lyonia* spp. During mid-late January, 1994 several potential observation stations were tried before a satisfactory station (see Figure 2) was chosen. With the exception of two flights recorded on January 19, 1994 all observations were conducted from this station. Observations were conducted on 25 separate days between January 19 and May 19. Table 1 gives dates, hours of observation, basic climatic conditions and miscellaneous observations.

Activities at or in the immediate vicinity of the nest were observed through binocular field-glasses. Outbound flights were monitored with or without field-glasses until visual contact was lost. The efficacy of tracking varied according to pattern of flight on departure from nest tree, direction of flight, and altitude assumed by the bird during flight. Inbound flights (returns) were sometimes not detected until the bird was within 200' of the nest tree, and are thus considered a less reliable indication of flight patterns.



**FIGURE 1**  
**Location of the "L&L Tract".**

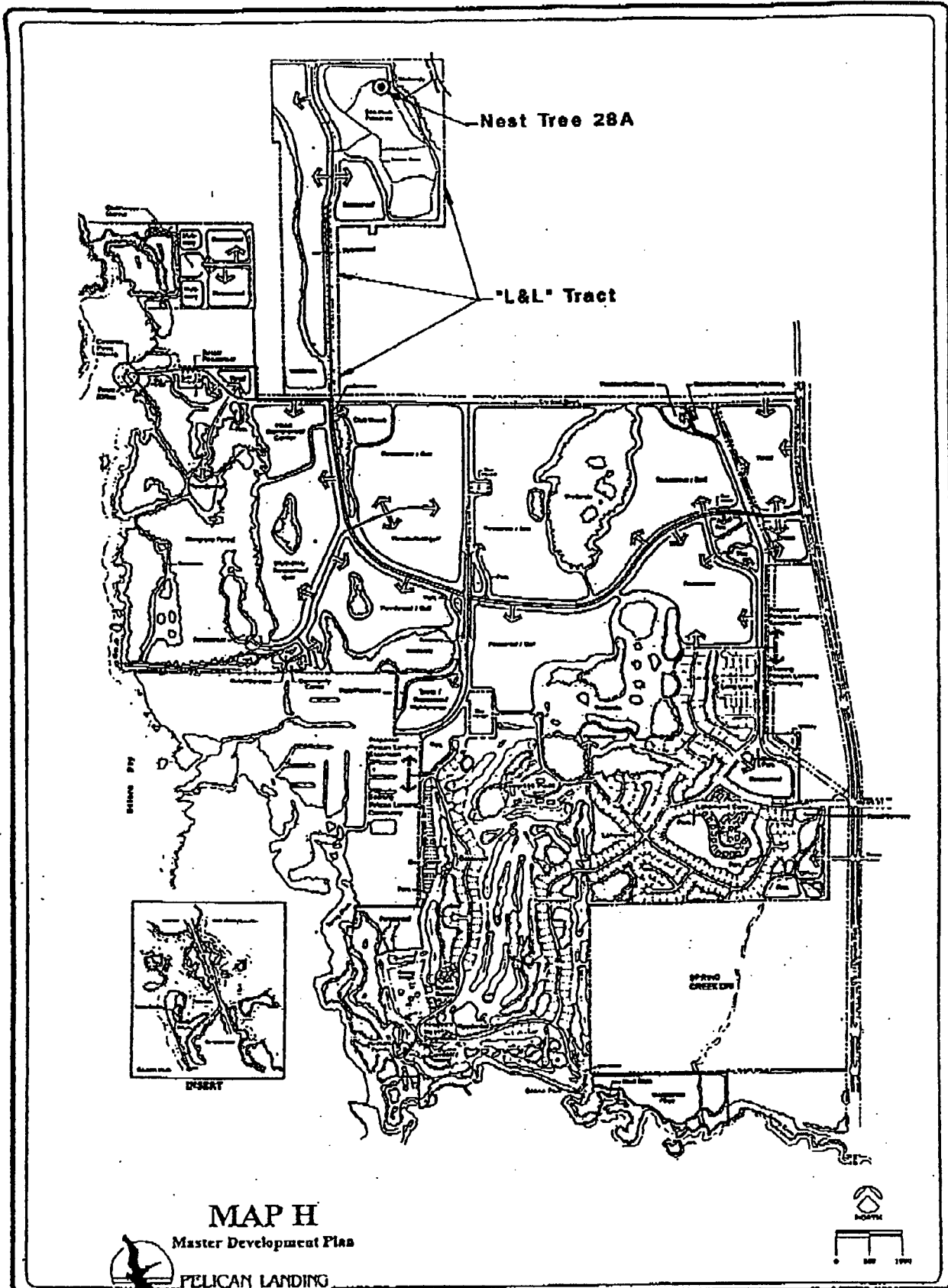
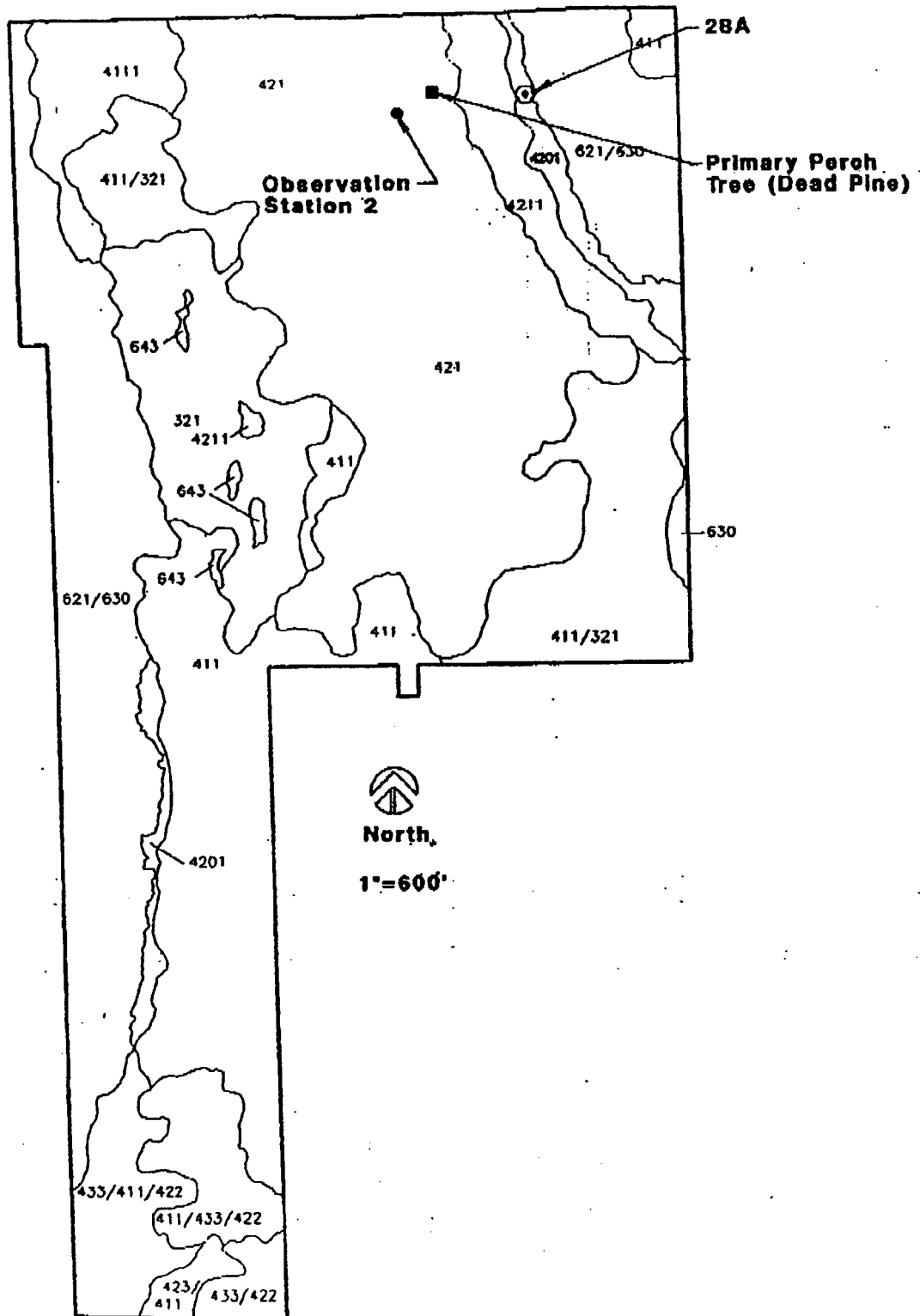


TABLE 1. Observations January 19 to May 19 1994

| DATE | TIME |      | FLIGHTS |      | SKY        | APPROX. TEMP | WIND DIR | approx. MPH | COMMENTS                                |
|------|------|------|---------|------|------------|--------------|----------|-------------|---|
|      | ARR  | DEP  | OUT     | IN** |            |              |          |             |   |
| 1/19 | 930  | 1630 | 2       | —    | Clear      | 70           | NE       | <5          | 4 stations occupied                     |
| 1/31 | 1420 | 1730 | 1       | —    | Pt. Cloudy | 70           | ENE      | <5          | Station on Figure 2                     |
| 2/01 | 0800 | 1140 | 2       | 1    | Pt. Cloudy | 65           | E        | 5           | —                                       |
| 2/01 | 1425 | 1720 | 1       | 1    | Cloudy     | 65           | E        | <5          | —                                       |
| 2/02 | 1300 | 1700 | —       | —    | Cloudy     | 50           | NE       | <5          | Drizzle/rain                            |
| 2/03 | 1030 | 1515 | 1       | 1    | Clear      | 50           | SE       | 10          | Cold                                    |
| 2/08 | 1600 | 1800 | 1       | 1    | Pt. Cloudy | 75           | SW       | 10          | —                                       |
| 2/09 | 0800 | 1540 | 1       | —    | Clear      | 75           | SW       | 15          | —                                       |
| 2/10 | 0730 | 1005 | —       | 1    | Clear      | 70           | SE       | 0-10        | Gusty Winds                             |
| 2/18 | 1410 | 1615 | 1       | —    | Cloudy     | 65           | ENE      | 10          | —                                       |
| 2/17 | 0800 | 1000 | —       | —    | Pt. Cloudy | 70           | E        | 20          | Very windy                              |
| 2/22 | 1550 | 1705 | —       | —    | Pt. Cloudy | 75           | SE       | 5           | —                                       |
| 2/23 | 1520 | 1900 | 2       | 1    | Clear      | 80           | SW       | 5-20        | Gusty winds; eaglet observed            |
| 2/24 | 0800 | 1730 | 2       | 2    | Cloudy     | 70           | NONE     | NONE        | Eaglet observed                         |
| 3/08 | 1100 | 1330 | 1       | —    | Pt. Cloudy | 80           | NE       | 5           | Eaglet observed                         |
| 3/09 | 0700 | 1100 | —       | —    | Pt. Cloudy | 75           | ENE      | 5-10        | —                                       |
| 3/12 | 1600 | 1745 | 4       | 2    | Clear      | 75           | E        | 10-15       | Eaglet observed                         |
| 3/13 | 1130 | 1610 | 4       | 2    | Clear      | 80           | SE       | <5          | Eaglet exercising wings                 |
| 3/14 | 1000 | 1250 | 4       | 2    | Cloudy     | 75           | NONE     | NONE        | Eaglet on edge of nest                  |
| 3/15 | 1130 | 1520 | 1       | 2    | Clear      | 80           | E        | <5          | Eaglet - edge of nest; exercising wings |
| 3/28 | 1300 | 1436 | —       | —    | Clear      | 80           | NE       | 15-20       | Eaglet on adjacent branch               |
| 4/01 | 1500 | 1755 | 1       | —    | Clear      | 80           | SW       | 5           | Eaglet - edge of nest; exercising wings |
| 4/07 | 1600 | 1735 | —       | —    | Clear      | 75           | W        | <5          | Eaglet in nest                          |
| 4/13 | 1215 | 1430 | —       | —    | Pt. Cloudy | 80           | WSW      | 15          | Eaglet moving between branches          |
| 5/18 | 1605 | 1755 | —       | —    | Clear      | 85           | SE       | <5          | No birds at nest                        |
| 5/19 | 0940 | 1130 | —       | —    | Pt. Cloudy |              | ESE      | <5          | No birds at nest                        |

\*\* If sighted further than approximately 500' from nest tree

**FIGURE 2**  
**FLUCCS Vegetation Map Showing Location of Nest Tree**  
**LE 28A, Observation Station, and Perch Tree.**



### Observations

Figure 3 and Table II reflect behavior on 44 observed flights between January 19 and May 19. Flight directions in Figure 3 are portrayed within 45° compass quadrants centered upon N, NW, NE, etc. The observed number of flights in either direction within a specific quadrant is indicated along each vector arrow. Inbound flights are only recorded if the bird was sighted and tracked from sufficient distance from the nest tree to be considered a reliable indicator of the direction of approach.

Although no distinction is made in Figure 3 between the flight patterns of male and female birds, the detailed flight patterns of the two sexes differed significantly. The larger bird, presumably the male, frequently flew to an almost dead pine approximately 400' WNW of the nest tree (Figure 2) and there remained for 1-5 minutes before departing westward or northward. The (smaller) female was never observed to do this. Further, all 6 flights recorded in the northeast to south quadrants were made by the female bird.

Flight activity observed from January 19th to May 19th comprised 44 events/flights. A single chick hatched in mid-February, at which point flight activity increased significantly. Although increased in frequency, flights from mid-February onward did not deviate appreciably from previously observed directional patterns.

From mid-March to mid-April, the eaglet was frequently observed exercising wing muscles and hopping between branches, but was never observed in flight. The nest was not visited from mid-April to mid-May, by which time it appeared empty.

As Table II shows, 84% of all flights recorded inbound or outbound fell within the northern, northwestern and western quadrants. The single flight to the southwest was in pursuit of a black vulture or a turkey vulture by the male bird. The female initially gave chase but returned to the nest tree from approximately  $\frac{1}{4}$  mile out.

### Conclusions

Almost 85% of all recorded flights were to or from the northwest quadrant. Only 6% lay within quadrants which would lead to existing or proposed Pelican Landing development. The findings thus support the USFWS conclusion that the proposed development would have no appreciable impact on nesting activities at nest tree LE-28A.

**FIGURE 3**  
**Recorded Flights to and from Nest Tree. Number**  
**of Flights Depicted on each Vector Arrow.**

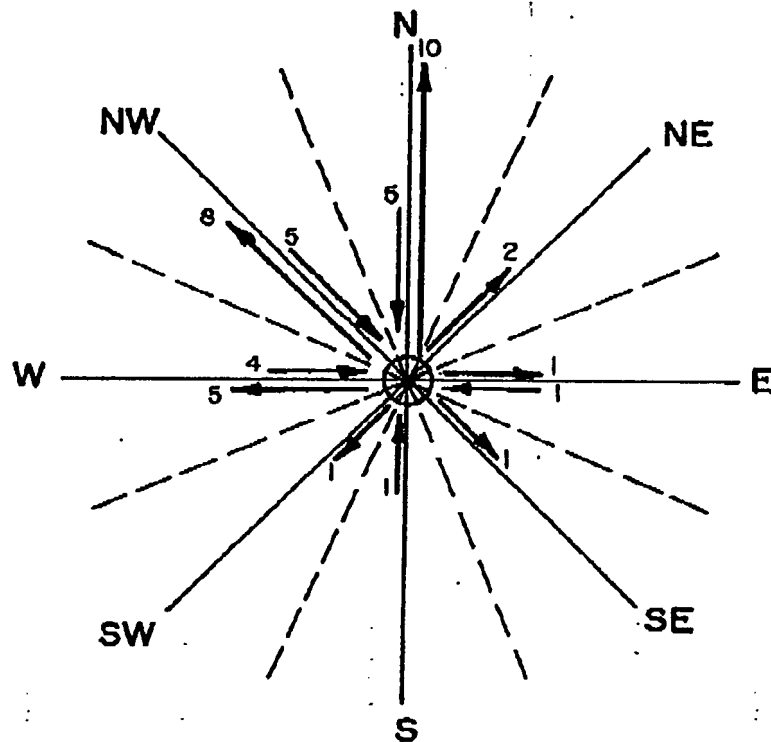


TABLE II. Summation of Observed Flight Directions, Jan. 19 - May 19, 1994

| DIRECTION | NO. OF FLIGHTS |      | TOTAL | % OF TOTAL |
|-----------|----------------|------|-------|------------|
|           | OUT            | IN** |       |            |
| N         | 10             | 5    | 15    | 34.1       |
| NE        | 2              | -    | 2     | 4.6        |
| E         | 1              | 1    | 2     | 4.5        |
| SE        | 1              | -    | 1     | 2.3        |
| S         | -              | 1    | 1     | 2.3        |
| SW        | 1              | -    | 1     | 2.3        |
| W         | 5              | 4    | 9     | 20.5       |
| NW        | 8              | 5    | 13    | 29.5       |

\*\* If sighted further than 500' from nest tree.

## **APPENDIX B**

### **Pelican Landing DRI Eco-Park Habitat Management Methods**

## PELICAN LANDING DRI ECO-PARK HABITAT MANAGEMENT METHODS

### Introduction

The (existing) Pelican Landing DRI "Eco-Park" encompasses approximately 78 acres in the northeast corner of the DRI property. The Eco-Park consists of 65 acres of high quality xeric oak/scrub habitat and 13 acres of pine flatwoods and was established primarily as a gopher tortoise (*Gopherus polyphemus*) preserve. A bald eagle's nest (nest #LE-28A) is present near the northeast corner of the Eco-Park. The majority of the Eco-Park lies within protection zones surrounding this nest and special consideration has been given to minimize disturbance to the nest from habitat management practices.

The Eco-Park is bordered by a cypress/hardwood wetland system (Halfway Creek) to the east, native uplands and wetlands to the west, and residential subdivisions to the north and south. The Eco-Park has been placed under a conservation easement granted to the Florida Game and Fresh Water Fish Commission (now the Florida Fish and Wildlife Conservation Commission - FFWCC) and is managed as outlined below.

Maintenance of the Eco-Park is acknowledged to be an important component of assuring the long term viability of scrub habitat, the existing gopher tortoise population, and the bald eagle's nest. The legal entity responsible for the maintenance of the Eco-Park will be WCI Communities, Inc., or its assignee.

### Management Methods

The following is a summary of the management methods to be employed in the Eco-Park:

1. Maintenance activities will be conducted in perpetuity and will involve a combination of mechanical treatment, selective hand clearing, and/or prescribed burning. Mechanical treatment methods would include mowing and bush hogging which would be conducted when daytime temperatures are below 75 degrees F (periods of reduced tortoise activity). Hand pruning or clearing of midstory vegetation could occur as necessary to control overgrowth. Removal of all or parts of larger trees may be performed in order to increase or maintain sunlight penetration to ground level, except in the Primary Protection Zone of the bald eagle nest. No maintenance activities will be conducted within the Primary Protection Zone of eagle nest LE-28A during the active nesting season.

Preferred maintenance practices per habitat type are as follows.

#### A. *Xeric Scrub*

- Hand-trim to a height of 6-9 feet at 5-year intervals or as deemed necessary.
- Excessive layers of shrubby growth will be removed by hand at 3-year intervals if necessary.
- Prescribed burns may be conducted at 8-year intervals if judged feasible and necessary. Any burning will be conducted by an experienced control-burn contractor. Burning will adhere to applicable regulatory guidelines and will be coordinated with the appropriate Fire District and the State of Florida Division of Forestry. Steps taken to protect the eagle nest or perch trees will include hand raking or clearing to minimize fuel in the vicinity of the tree prior to burning.



- No mowing or raking will be performed in xeric scrub areas.
- No burning will take place during the eagle nesting season in either the Primary or Secondary Protection Zones surrounding the eagle nest.

*B. Pine Flatwoods and Other Upland Habitat Types*

- Bush hogging and/or mowing at 3-year intervals if judged necessary to maintain a minimum of 30% total ground area clear of saw palmetto or other shrubs.
- Prescribed burning will be conducted as in xeric scrub habitat, but at an approximate 3-year interval if judged feasible and necessary.
- Exotic/nuisance plant species will be removed by hand.

*C. Wetland Habitats*

- Wetland habitats will be initially maintained by removing exotic and nuisance plant species (primarily melaleuca, Brazilian pepper, and downy rose myrtle). Hand removal will be utilized whenever feasible. In certain areas of heavy infestation, mechanical clearing may be necessary. Any mechanical clearing will first be approved by the FFWCC and will be conducted so as to minimize disturbance to eagles during the active nesting season.
- Following initial removal of exotic/nuisance species, wetland habitats will be maintained in perpetuity to suppress re-infestation and maintain exotic/nuisance plant species abundance at low levels. Ongoing control of undesirable species will be via directed herbicide applications, physical uprooting, or a combination of these methods.
- During prescribed burning of upland areas of the Eco-Park, appropriate steps will be taken to insure that site wetlands are not unduly damaged by fire (e.g., installing fire breaks, back-burning, executing burns under climatic conditions when wetland vulnerability to fire is minimized, etc.).

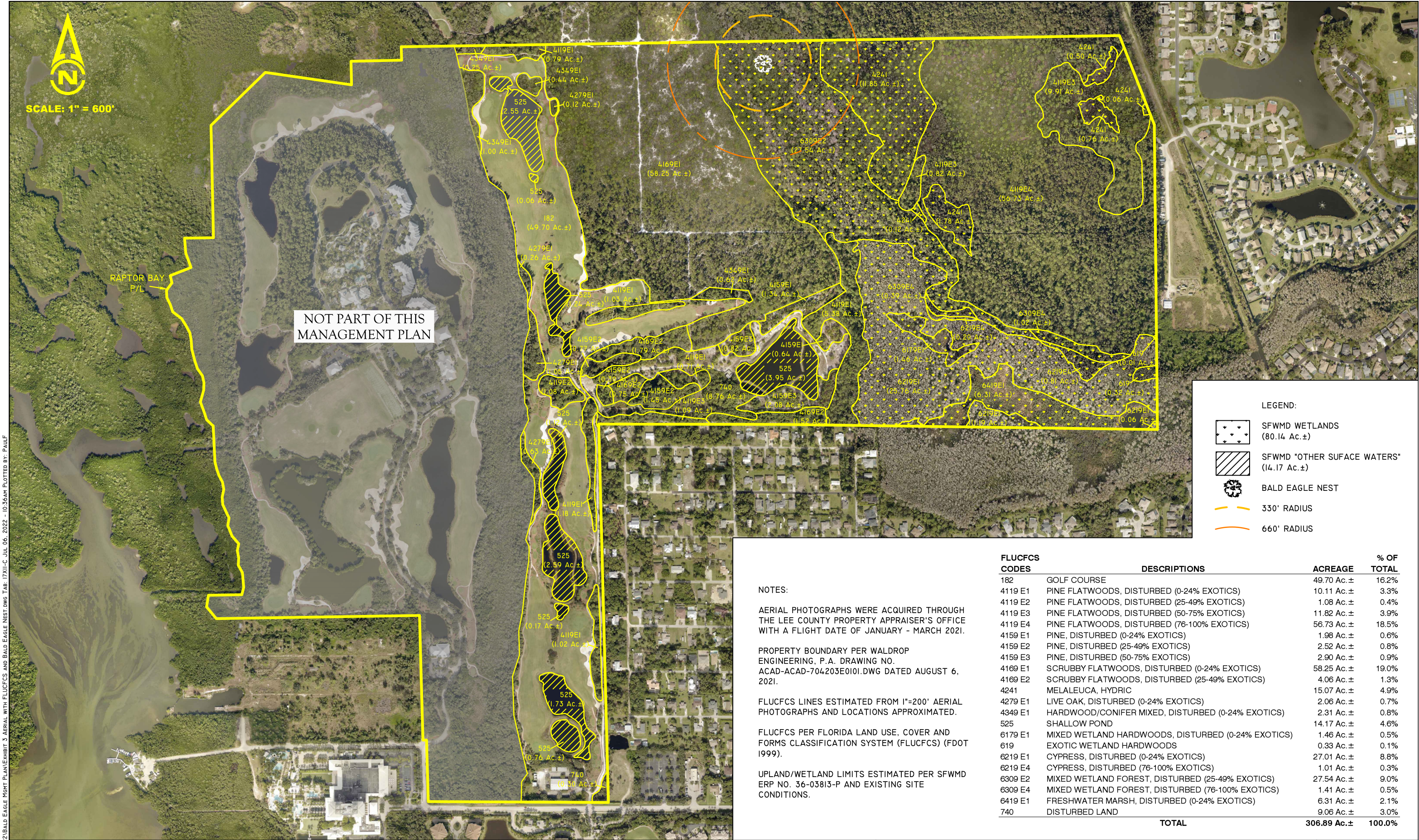
2. Maintenance activities will be initiated upon recording of the conservation easement for the Eco-Park and every other year thereafter.
3. A locally based nuisance-wildlife expert will be engaged as necessary to remove feral hogs from the Eco-Park.
4. If deemed necessary by FFWCC, native plant species of value to gopher tortoises will be used to supplement existing vegetation. Species used would include, but not be limited to, dwarf live oak, gopher apple, buckthorn, lyonia, gallberry, tarflower, and prickly pear cactus.
5. Prior to scheduled maintenance activities (every other year), a site walk and habitat evaluation will be performed by a qualified biologist to determine maintenance requirements. Potential need for supplemental foraging plant material plantings will also be evaluated.
6. Brochures containing information on gopher tortoise and bald eagle habitat, behavior and protection measures will be developed and made available to local homeowners and site users (golfers, Hyatt resort guests, other people utilizing the Eco-Park).

7. Recreational activities will be restricted to specific pedestrian trails. These will be established subject to FFWCC approval during final site planning. No designated picnic areas, biking trails, horse trails or interpretive facilities (other than approved signs, vita trails, and bird viewing blinds) will be allowed. The vita trails will not be paved, hardened or made impermeable. The location and design of all facilities will be reviewed and approved prior to construction by the FFWCC. Educational signage will be placed along the trails.
8. Human access will be restricted by appropriate signage within the primary zone of the eagle nest during the nesting season. During the non-nesting season, pedestrian trails or other human use will be restricted to a minimum of 500' from the nest tree. The trail will be barricaded off by a cable across the path.
9. Exotic vegetation (primarily melaleuca, Brazilian pepper and downy rose myrtle) will be removed from protection areas in perpetuity.

### **EXHIBIT 3**

**AERIAL WITH FLUCFCS AND BALD EAGLE NEST**





NOTES:

AERIAL PHOTOGRAPHS WERE ACQUIRED THROUGH THE LEE COUNTY PROPERTY APPRAISER'S OFFICE WITH A FLIGHT DATE OF JANUARY - MARCH 2021.

PROPERTY BOUNDARY PER WALDROP ENGINEERING, P.A. DRAWING NO. ACAD-ACAD-704203E0101.DWG DATED AUGUST 6, 2021.

FLUCFCS LINES ESTIMATED FROM 1"=200' AERIAL PHOTOGRAPHS AND LOCATIONS APPROXIMATED.

FLUCFCS PER FLORIDA LAND USE, COVER AND FORMS CLASSIFICATION SYSTEM (FLUCFCS) (FDOT 1999).

UPLAND/WETLAND LIMITS ESTIMATED PER SFWMD ERP NO. 36-03813-P AND EXISTING SITE CONDITIONS.

| FLUCFCS CODES | DESCRIPTIONS                                       | ACREAGE     | % OF TOTAL |
|---------------|--|-------------|------------|
| 182           | GOLF COURSE  | 49.70 Ac.±  | 16.2%      |
| 4119 E1       | PINE FLATWOODS, DISTURBED (0-24% EXOTICS)          | 10.11 Ac.±  | 3.3%       |
| 4119 E2       | PINE FLATWOODS, DISTURBED (25-49% EXOTICS)         | 1.08 Ac.±   | 0.4%       |
| 4119 E3       | PINE FLATWOODS, DISTURBED (50-75% EXOTICS)         | 11.82 Ac.±  | 3.9%       |
| 4119 E4       | PINE FLATWOODS, DISTURBED (76-100% EXOTICS)        | 56.73 Ac.±  | 18.5%      |
| 4159 E1       | PINE, DISTURBED (0-24% EXOTICS)                    | 1.98 Ac.±   | 0.6%       |
| 4159 E2       | PINE, DISTURBED (25-49% EXOTICS)                   | 2.52 Ac.±   | 0.8%       |
| 4159 E3       | PINE, DISTURBED (50-75% EXOTICS)                   | 2.90 Ac.±   | 0.9%       |
| 4169 E1       | SCRUBBY FLATWOODS, DISTURBED (0-24% EXOTICS)       | 58.25 Ac.±  | 19.0%      |
| 4169 E2       | SCRUBBY FLATWOODS, DISTURBED (25-49% EXOTICS)      | 4.06 Ac.±   | 1.3%       |
| 4241          | MELALEUCA, HYDRIC                                  | 15.07 Ac.±  | 4.9%       |
| 4279 E1       | LIVE OAK, DISTURBED (0-24% EXOTICS)                | 2.06 Ac.±   | 0.7%       |
| 4349 E1       | HARDWOOD/CONIFER MIXED, DISTURBED (0-24% EXOTICS)  | 2.31 Ac.±   | 0.8%       |
| 525           | SHALLOW POND                                       | 14.17 Ac.±  | 4.6%       |
| 6179 E1       | MIXED WETLAND HARDWOODS, DISTURBED (0-24% EXOTICS) | 1.46 Ac.±   | 0.5%       |
| 619           | EXOTIC WETLAND HARDWOODS                           | 0.33 Ac.±   | 0.1%       |
| 6219 E1       | CYPRESS, DISTURBED (0-24% EXOTICS)                 | 27.01 Ac.±  | 8.8%       |
| 6219 E4       | CYPRESS, DISTURBED (76-100% EXOTICS)               | 1.01 Ac.±   | 0.3%       |
| 6309 E2       | MIXED WETLAND FOREST, DISTURBED (25-49% EXOTICS)   | 27.54 Ac.±  | 9.0%       |
| 6309 E4       | MIXED WETLAND FOREST, DISTURBED (76-100% EXOTICS)  | 1.41 Ac.±   | 0.5%       |
| 6419 E1       | FRESHWATER MARSH, DISTURBED (0-24% EXOTICS)        | 6.31 Ac.±   | 2.1%       |
| 740           | DISTURBED LAND                                     | 9.06 Ac.±   | 3.0%       |
| TOTAL         |  | 306.89 Ac.± | 100.0%     |

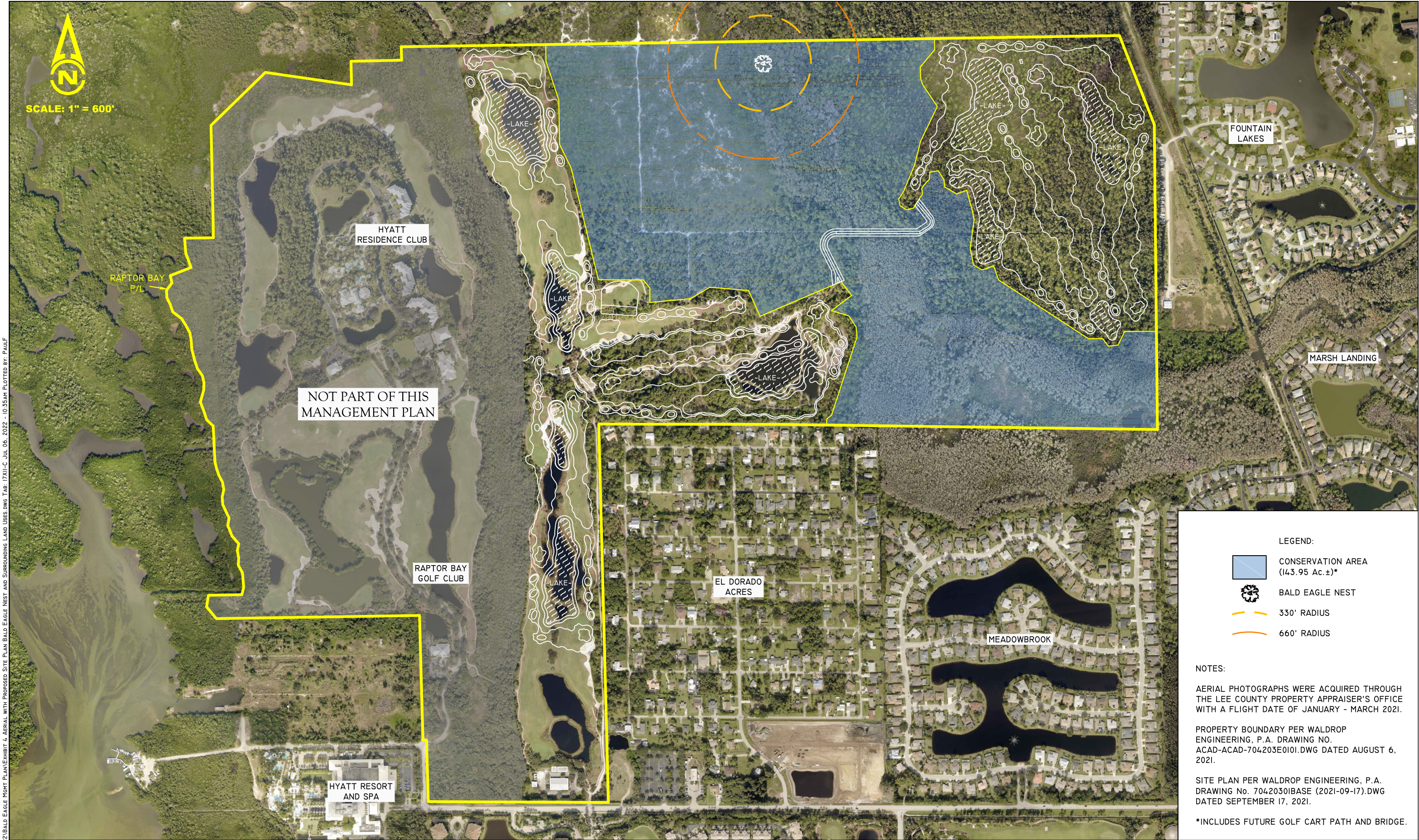
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|--|-------------|--|------|----------|----------|---|---|---|--|-------------|
| J:\2020\20LBR3290\2022\BALD EAGLE MGMT PLAN\EXHIBIT 3 AERIAL WITH FLUCFCS AND BALD EAGLE NEST.DWG TAB: 17X1-C JUL 06, 2022 - 10:36AM PLOTTED BY: PAULF | REVISIONS   |  | DATE | DRAWN BY | DATE     | 13620 Metropolis Avenue<br>Suite 200<br>Ft. Myers, FL 33912<br>Phone (239) 274-0067<br>Fax (239) 274-0069 |  | RAPTOR BAY GOLF COURSE RENOVATION       |  | DRAWING No. |
|  | DESIGNED BY |  | DATE | R.F.     | 06/29/22 |   |   | AERIAL WITH FLUCFCS AND BALD EAGLE NEST |  | 20LBR3290   |
|  | REVIEWED BY |  | DATE | B.T.     | 06/29/22 |   |   |   |  | SHEET No.   |
|  |             |  | DATE | S.J.     | 06/29/22 |   |   |   |  | EXHIBIT 3   |







**EXHIBIT 4**

**AERIAL WITH SITE PLAN, BALD EAGLE NEST,  
CONSERVATION AREA, AND SURROUNDING LAND USES**





LEGEND:

-  CONSERVATION AREA (143.95 Ac.±)\*
-  BALD EAGLE NEST
-  330' RADIUS
-  660' RADIUS

NOTES:

AERIAL PHOTOGRAPHS WERE ACQUIRED THROUGH THE LEE COUNTY PROPERTY APPRAISER'S OFFICE WITH A FLIGHT DATE OF JANUARY - MARCH 2021.

PROPERTY BOUNDARY PER WALDROP ENGINEERING, P.A. DRAWING NO. ACAD-ACAD-704203E0101.DWG DATED AUGUST 6, 2021.

SITE PLAN PER WALDROP ENGINEERING, P.A. DRAWING No. 70420301BASE (2021-09-17).DWG DATED SEPTEMBER 17, 2021.

\*INCLUDES FUTURE GOLF CART PATH AND BRIDGE.

|                       |           |             |             |          |   |  |  |             |
|-----------------------|-----------|-------------|-------------|----------|---|--|--|-------------|
| J:\2020\20LBR3290\202 | REVISIONS | DATE        | DRAWN BY    | DATE     | 13620 Metropolis Avenue<br>Suite 200<br>Ft. Myers, FL 33912<br>Phone (239) 274-0067<br>Fax (239) 274-0069 |  <b>PASSARELLA &amp; ASSOCIATES</b> INC | RAPTOR BAY GOLF COURSE RENOVATION<br>AERIAL WITH SITE PLAN, BALD EAGLE NEST, CONSERVATION AREA,<br>AND SURROUNDING LAND USES | DRAWING No. |
|                       |           |             | R.F.        | 06/29/22 |   |  |  | 20LBR3290   |
|                       |           |             | DESIGNED BY | DATE     |   |  |  | SHEET No.   |
|                       |           |             | B.T.        | 06/29/22 |   |  |  | EXHIBIT 4   |
|                       |           | REVIEWED BY | DATE        |          |   |  |  |             |
|                       |           | S.J.        | 06/29/22    |          |   |  |  |             |

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