



**EAGLE TECHNICAL ADVISORY COMMITTEE
Community Development/Public Works Center
1500 Monroe Street, Ft. Myers, FL
Second Floor Conf. Rm. 2C**

**TUESDAY, JUNE 11, 2019
3:00 P.M.**

AGENDA

- 1) Call to Order
- 2) Approval of Minutes – January 16, 2019
- 3) The Estates at Entrada Bald Eagle Management Plan for nest in North Fort Myers presented by Shane Johnson with Passarella and Associates
- 4) Member Reports
- 5) Adjournment – Next Tentative Meeting Date: September 10, 2019.

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Draft

MINUTES REPORT EAGLE TECHNICAL ADVISORY COMMITTEE (ETAC) Wednesday, January 16, 2019

Committee Members Present:

Betsie Hiatt, Vice-Chair Ed Elms Mike Myers

Committee Members Absent:

Cindy Bear Laura Greeno

Lee County Government & Representatives Present:

Becky Sweigert, DCD Planning, Principal Environmental Planner

Pam Hendry, DCD Administration

Amanda Swindle, Assistant County Attorney

Jessica Sulzer, Development Services Manager

Public Participants:

Jim Ink with Inkwerks

Introduction

Ms. Betsie Hiatt called the meeting to order at 3:03 PM in the second floor conference room 2C of the Community Development/Public Works Center, 1500 Monroe Street, Ft. Myers, Florida.

Approve Meeting Minutes – December 11, 2018

The December 11, 2018 meeting minutes were not available to be members for review and will be reviewed/approved at the next meeting.

Pineland Marina Bald Eagle Management Plan for LE-107 presented by Jim Ink with InkWerks

Ms. Sweigert said the property is Pineland Marina on Pine Island by Tarpon Lodge. She showed the property on the map and said it's a pretty large facility. She said they're asking to provide some additional parking at the north end for a boat service that would go to the outer islands. Part of the work would be in the eagle zone and part outside the 660' zone. The nest is to the north, it's one of the newer nests named the Pacosin nest that Ms. Hiatt monitors. The eagles are currently incubating. Ms. Hiatt said she thinks they have chicks now, but hasn't seen them yet. The tree is an Australian pine and the nest tends to fall out at the end of the season just from the two chicks, the size, and the adults. Even though the nest falls out of the tree every season, it's been successfully producing young. Mr. Ink said the tree is thin and wobbly. Ms. Sweigert said Mr. Ink's proposed in the plan to do the work outside of the nesting season. It's predominantly going to be a small building and some gravel parking. Mr. Ink said it's a modular building for Tropic Star that's separate from the main marina and all we're doing is some ramps and stairs. Ms. Sweigert said there will be no construction in the 660' zone and we're actively monitoring the nest so we'll know when construction may begin. Mr. Myers said it's a good looking plan. Ms. Hiatt said it looks good, I really appreciate the additional

buffer on the northern edge where Australian pines are being removed. Mr. Ink said we're taking out the Australian pines and putting in buttonwoods per Ms. Sweigert's suggestion. Ms. Hiatt said to be consistent with our other plans, if the eagles have not initiated nesting activity by February 1st construction and exotic removal maintenance activities may occur. We have traditionally done February 15th because we've been surprised when eagles have actually initiated nesting in February. Mr. Ink said we're anticipating that we'll be done so that doesn't matter.

Mr. Myers made a motion that the bald eagle management plan be approved for nest LE-107 with the date changed to February 15th. Mr. Elms seconded. The motion passed unanimously.

Discussion on construction within Jonathan Harbor in proximity to LE-070 and LE-070A

Ms. Sweigert said this territory that had a single-family house being built and the tree was very close to the home, and the homeowner obtained a permit from the U.S. Fish & Wildlife Service to remove the tree. We let the homeowner know that this would still be considered an active territory because it wouldn't meet the definition of lost or abandoned nest. The nest hadn't been gone for five years because the territory was still active in 2015-2016 and it wouldn't have been lost because it was not lost by natural causes, it was a manmade removal. We've been treating it as an active territory, allowing the birds to determine if they would build a new nest in the same location or shift, and they've actually shifted the territory into the island. Ms. Sweigert said she would like to release the permits that are being held, even though it's before February 15th, because the birds have built a nest outside the zone but they're not nesting. They did this the last two seasons so it should be ok to release the old territory. They showed some fidelity to the old zone in the beginning of the season but haven't built a new structure there and are now further away.

Mr. Myers said that's an interesting situation. As part of getting the take permit from U.S. Fish & Wildlife was there a mitigation payment? Ms. Sweigert said she's not sure.

Mr. Myers said what's being protected is the nest and/or nest tree which no longer is there. So, those buffer requirements would go away but be applicable to the new nest tree? Ms. Sweigert said because the way our ordinance is structured it doesn't address "take". Our goal has always been to avoid a take situation and not knowing if this pair would stick to the same territory because there are still some pine trees. The owner has done a lot of exotic removal and they're going to be replanting some pines in the preserve area. The territory wasn't declared lost or abandoned. The physical take of the nest itself, which was regulated by the Federal government, is not something we regulate. We protect the territory. Mr. Myers said I agree with your analysis, this makes sense since the eagle pair has moved. The people did what they were supposed to do getting a take of the old nest and nest tree. Working with them seems to be a fair solution since the eagles have chosen another nest location. Ms. Hiatt said she agrees.

Ms. Sweigert said we're definitely seeing activity in the new area now. Mr. Myers said they have a good structure there but he hasn't seen them laying eggs or anything yet. In November both were at the new nest location, but on January 1st one was resting in a pine

snag and he didn't see the second bird, and nothing at the nest. He asked if Ms. Sweigert has heard from any of the neighbors. Ms. Sweigert said at the beginning but less frequently from this area. Mr. Myers asked if any neighbors have called about sightings at the new area. Ms. Sweigert said no. Mr. Myers said the nest is not that easy to see, but he did see one perched kind of near the original nest location.

Mr. Elms said is there a reason why you're not waiting for February 15th? Ms. Sweigert said the home that's under construction has reached a point where there's not much more they can do to finish the house. There's a little bit left to do on the exterior. So recognizing that the birds have shifted the territory I'd like to work with them to finish the construction and get the replanting completed in the preserve area. We had a real problem with pine boring beetles there and lost a lot of the trees.

Ms. Hiatt said by mid January, if they were thinking about building another alternate nest, we probably would've seen them putting some sticks down in that area by now. Ms. Sweigert said I agree, and we haven't gotten any other reports from any other locations. In 2016-2017 and 2017-2018 they sat in the territory but they didn't nest and we're seeing that again. Ms. Sweigert said we can go ahead and let that territory finish. Ms. Hiatt said I think so.

Ms. Elms said it's not the first year they're doing this, sounds good. Has Lee County had any instances of birds beginning nesting as late as February 15th? Ms. Sweigert said yes, on Pine Island. Mr. Myers said an eagle pair building another nest when they've already started an alternate nest after January 15th would be highly unusual.

Ms. Sulzer said do you have any concerns about the Jonathan Harbor eagles coming back to this area for the next nesting season? Mr. Elms said it's more than likely. It would be nice if they did come back to the preserve area.

Member Reports

Mr. Myers said St. Charles Harbor, observed one adult sitting on the nest incubating, possibly brooding. Calusa Palms, observed one eagle sitting on the nest incubating, in the dead tree. Daniels Marketplace had one adult incubating. Ms. Hiatt said it looked like they were doing some exotic removal out there. Mr. Myers said they still have buffer where they stop, a heavy wall of Malaleuca. The removal was done around November, December. January 1st they were incubating so nothing seems to have disturbed them. Ms. Hiatt said is the Malaleuca getting bad around that nest? Mr. Myers said yes. Ms. Hiatt said do you have to go to Fish & Wildlife Service and get approval to remove it? Ms. Sweigert said the County would only say it would have to be outside the season, and look to see if it's going to open it up too much, or how close they would get. Usually it would be looked upon as favorable to get the exotics out. The County has ordinances for exotic treatment but only for developments that have a development order, approved construction. Mr. Myers said at Roballo he saw one adult sitting on the nest likely brooding by now. Jonathon Harbor, no eagle activity observed. Sanibel Sunset, observed both adults perched in a pine tree northwest of the nest tree. In talking with one of the neighbors they don't seem to be nesting yet this year. Alico Road, observed one adult incubating. Lakes Park, haven't seen any eagles there in January. There

was a lot of eagle activity there early in the nesting season so I still wonder where they're nesting. Pub & Pickle, those seem to be incubating, more than likely brooding. Lexington Middle School, there was an eagle incubating.

Mr. Elms said Bayshore Commons, they're either in incubating posture or brooding, not sure, they may still be on eggs. The Donald/Bayshore eagle cam shows they're doing well. They're both the same size and now about a third to a half as big as the adults. He said he went by the cell tower on Littleton today and didn't see any activity, but last week he saw both adults, and the week before he saw one in the nest. They're at least incubating. A woman that works at the storage facility there said they've been there for several years, and there's a lot of activity in and out and around the nest so they may be brooding. Ms. Sweigert said she tried to see it but couldn't get a good angle. Mr. Elms said when you stop at the traffic light on business 41, in the left turn lane to Littleton, that's the best view. Looking at it from the east side you can see the whole nest. Mr. Myers said it's a shame we don't know when they really did start because every tower we've watched, they're there for one to two years and then they move on. Ms. Hiatt said I wonder if it's because they're disrupted. She asked Ms. Sweigert if she let FWC know about them. Ms. Sweigert said yes, right away. She said they haven't updated their on-line database in two years and are showing some inaccuracies now.

Ms. Hiatt said Bank of America, they're incubating. She went by to check on the Gloria & Cubes and their nest had come down and the tree is barely anything. She found that one nest down the street, back in the woods and went and checked it and saw nothing there. It's a nice size nest but it's not a full nest. She keeps an eye out because I'm surprised they haven't re-nested in that territory. Barrancas, saw one adult and one tiny little chick so there might be another in there. Quail Trail, one adult in the nest, the nest is way too deep to see what's going on until they pop out of there. Helen Road, pretty sure I saw one adult in the nest. It was really difficult to see. There were two adults there in December. Pacosin, one adult perched on the edge. She thinks they have chicks in there, she just can't see them. Esther, one adult in the area, they don't appear to be incubating. The same as last time, the adult was in the nest and flew off. This time she saw an immature flying over the nest and I almost wondered if it was pestering the adult in the nest.

Ms. Sweigert said from Ms. Bear I know St. Jude's Harbor is active which hasn't been active in a few years, and they appear to be incubating.

Ms. Sweigert said Ms. Greeno told her that the Lehigh Wastewater Treatment Plant, the FGUA facility, has a nest that is active.

Ms. Sweigert said she drove Pondella looking for the Moody again and someone has been driving there (the cell tower) regularly. Last Thursday there was one adult perched on the cell tower. I'm convinced they're there, not in the cell tower but right behind it in the woods.

Mr. Elms said you wonder how many are nesting and we don't know where they are. There's a pair that fishes in the canal where we live. Today going by Seven Islands I saw

a head in the nest and one flying in. Mr. Myers said it's a deep nest so hard to even see them. Mr. Elms said we have at least one pair that I have no idea where they're nesting but I don't think it's the same pair from Seven Islands. Mr. Myers said the Stonewater nest has young and to the south Knott Road has a new nest and they're incubating. Mr. Elms said there's a nest by Oasis School he's been told. By the BMX park there's a nest. They're late nesters, every year they don't start until early January. Ms. Hiatt said if you go southwest, did you ever hear if that moved? She got a call from a homebuilder but didn't have time to monitor for them and she has been wondering where the nest went. Ms. Sweigert said I haven't heard anything more on this one.

Ms. Sweigert said Cobb Road on Pine Island near Soaring Eagle Nursery, is a territory we've not had active since 2009. It had two active nests within 500 feet of each other. We had several different nests in the area. Someone called about clearing 5 acres there to build a house. She told him there are old territories we've never declared lost or abandoned, if that's information you want it's going to take a month to put it together. She went to the FWC web site to confirm and they had it listed as LE-41. We've always kept this territory as LE-10 historically, LE-41 was Quail Trail. So, she emailed Jared that they're indicating, it's active in 2018 but we have no evidence of nests being there since 2009-2010, then the nest deteriorated and after that we've had nothing. I'm not sure where we have this big disconnect. The reply was they haven't updated since 2016. So, somehow something's populating in their system showing it and the territories seem to be off as well. So, they've had some glitches is what they've told me. Mr. Myers said you used to be able to call Michelle and they were pretty good about correcting the map. Ms. Sweigert doesn't know if Jared will fix it today or not, or tomorrow if we'll see a difference, not sure what to do because there's been nothing there. Ms. Hiatt said she has not gone down there because they'd moved up against Tropical and then that nest came down and she never saw them again. Ms. Hiatt said she's not gone down Cobb Road and checked in probably two seasons. Ms. Sweigert said she has driven through there last season and haven't seen anything, but not this season. Anyway, she was glad to know it was just a glitch and we didn't have an incorrect report or communication breakdown. Mr. Myers said is the Tranquility Bay nest still there? Ms. Sweigert said she doesn't know, she doesn't have good access to that property anymore. Mr. Myers said do they still land planes there? Ms. Sweigert said the property is vacant but the zoning is still valid.

ADJOURNMENT

The meeting adjourned at 4:02 p.m.

The next meeting is tentatively scheduled for February 12, 2019.

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**THE ESTATES AT ENTRADA
BALD EAGLE MANAGEMENT PLAN
for
Bald Eagle Nest Trees A and B
Lee County, Florida**

May 2019

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1.0 INTRODUCTION

This Bald Eagle Management Plan (BEMP) has been prepared for The Estates at Entrada (Project) located in Sections 27 and 28, Township 43 South, Range 24 East, Lee County (Exhibit 1). More specifically, the Project site totals 292.90± acres and is located west of Tamiami Trail (U.S. 41) between Del Prado Boulevard and Littleton Road in North Fort Myers. The site is bordered by the Villages of Entrada residential community and commercial property to the north, Lee County District School Board property and multiple residential communities to the south, undeveloped forested land and commercial property to the east, and Lee County 20/20 Yellow Fever Creek Preserve to the west.

The Project consists of a fully permitted mixed-use residential/commercial development with associated infrastructure and surface water management system. The residential component of the Project consists of single- and multi-family dwellings. The applicant possesses all required development authorizations for the Project including South Florida Water Management District (SFWMD) Environmental Resource Permit (ERP) No. 36-06057-P, U.S. Army Corps of Engineers (Corps) Permit No. SAJ-02005-8762, and Lee County Development Order (DO) No. DOS2006-00145, all of which are currently valid. Site clearing and construction of the Project's infrastructure and surface water management system was completed in the eastern portion of the site prior to April 2010 in accordance with these authorizations; however, the Project was suspended shortly thereafter due to economic constraints. DO No. DOS2014-00090 was later issued by Lee County for an update to the multi-family tract and town home tract in the eastern portion of the site.

Lee County has requested the applicant submit a BEMP prior to initiating clearing and development activities within a 660-foot radius of two undocumented bald eagle (*Haliaeetus leucocephalus*) nest trees identified with the Project limits. The nest trees are referred to as Nest Trees A and B in this plan and their locations are depicted on Exhibits 2 through 4. Additional nest history for Nest Trees A and B is provided in Section 5.0 below. Upon approval of this BEMP, Lee County staff will issue a vegetation removal permit required for additional clearing activities to commence on the property within the 660-foot buffer radius of the nest trees.

2.0 EXISTING SITE CONDITIONS

Site clearing and construction of the Project's infrastructure and surface water management system was completed in the eastern portion of the site prior to April 2010. This area includes approximately 86.34 acres and is identified as "Previously Developed" on Exhibit 2. The balance of the approved development footprint includes 163.53± acres and consists primarily of undeveloped pine forest and melaleuca (*Melaleuca quinquenervia*) habitat types with scattered herbaceous uplands and wetlands. The remaining 43.03± acres within the Project site includes preserve areas that were previously placed under conservation easement in accordance with SFWMD and Corps permit requirements. The preserve areas contain a mosaic of native forested and herbaceous upland and wetlands that have been routinely treated for exotic vegetation. The locations of the preserve areas are depicted on Exhibits 3 and 4.

3.0 HABITAT INVENTORY AND MAPPING

The vegetation and land use mapping for the Project was originally conducted by Passarella and Associates (PAI) in 2003. Groundtruthing to update the vegetative communities was conducted in February 2017. The vegetative communities and land uses were classified 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 disturbances and hydrologic conditions. “E” codes were used to identify levels of exotic and invasive vegetation such as Brazilian pepper (*Schinus terebinthifolius*) and melaleuca. AutoCAD Map 3D 2017 was then used to determine the acreage of each mapping area, produce summaries, and generate the FLUCFCS map for the Project (Exhibit 2). A summary of the existing FLUCFCS codes is provided below.

Previously Developed (FLUCFCS Code 100)

This land use designation includes an area of the Project site that was previously cleared and developed prior to April 2010.

Palmetto Prairie, Disturbed (0-24% Exotics) (FLUCFCS Code 3219 E1)

The canopy is open with slash pine (*Pinus elliottii*) and melaleuca. The sub-canopy vegetation includes slash pine, melaleuca, wax myrtle (*Morella cerifera*), rusty lyonia (*Lyonia ferruginea*) and Brazilian pepper. The ground cover includes bottlebrush threeawn (*Aristida spiciformis*), flat-topped goldenrod (*Euthamia minor*), saw palmetto (*Serenoa repens*), broomsedge (*Andropogon virginicus*), melaleuca, and beautyberry (*Callicarpa americana*).

Palmetto Prairie, Disturbed (25-49% Exotics) (FLUCFCS Code 3219 E2)

This upland habitat type is similar to FLUCFCS Code 3219 E1, except with higher concentrations of melaleuca and Brazilian pepper in the sub-canopy.

Palmetto Prairie, Disturbed (50-75% Exotics) (FLUCFCS Code 3219 E3)

This upland habitat type is similar to FLUCFCS Code 3219 E2, except with higher concentrations of melaleuca and Brazilian pepper in the sub-canopy.

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

The canopy vegetation includes slash pine and cabbage palm (*Sabal palmetto*). The sub-canopy includes melaleuca, Brazilian pepper, wax myrtle, rusty lyonia, and scattered dahoon holly (*Ilex cassine*). The ground cover includes saw palmetto, wiregrass (*Aristida stricta*), bahiagrass (*Paspalum notatum*), caesarweed (*Urena lobata*), and muscadine grape (*Vitis rotundifolia*).

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

This upland habitat type is similar to FLUCFCS Code 4119 E2, except with higher concentrations of melaleuca and Brazilian pepper in the sub-canopy.

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

This upland habitat type is similar to FLUCFCS Code 4119 E3, except with higher concentrations of melaleuca and Brazilian pepper in the sub-canopy.

Pine, Disturbed (76-100% Exotics) (FLUCFCS Code 4159 E4)

The canopy vegetation includes slash pine and cabbage palm. The sub-canopy includes melaleuca, Brazilian pepper, wax myrtle, rusty lyonia, and scattered dahoon holly. The ground cover includes wiregrass, bahiagrass, caesarweed, muscadine grape, and widely scattered saw palmetto.

Melaleuca (FLUCFCS Code 424)

The canopy is dominated by melaleuca and contains scattered slash pine. The sub-canopy consists of melaleuca and cabbage palm. The ground cover vegetation is open with scattered saw palmetto and muscadine grape.

Melaleuca, Hydric (FLUCFCS Code 4241)

The canopy is dominated by melaleuca and includes scattered slash pine and cabbage palm. The sub-canopy includes melaleuca, slash pine, cabbage palm, and wax myrtle. The ground cover is dominated by melaleuca with yellow-eyed grass (*Xyris* sp.), rush fuirena (*Fuirena scirpoidea*), gulfdune paspalum (*Paspalum monostachyum*), and scattered saw palmetto.

Wax Myrtle/Willow, Hydric (0-24% Exotics) (FLUCFCS Code 4291 E1)

The canopy is mostly open with scattered cabbage palm. The sub-canopy includes wax myrtle and willow (*Salix caroliniana*), with scattered melaleuca and Brazilian pepper. The ground cover includes pickernelweed (*Pontederia cordata*), arrowhead (*Sagittaria lancifolia*), sawgrass (*Cladium jamaicense*), yellow-eyed grass, beaksedge (*Rhynchospora microcarpa*), inundated beaksedge (*Rhynchospora inundata*), and rush (*Juncus megacephalus*).

Wax Myrtle/Willow, Hydric (50-75% Exotics) (FLUCFCS Code 4291 E3)

This wetland habitat is similar to FLUCFCS Code 4291 E1, except with higher concentrations of melaleuca and Brazilian pepper in the sub-canopy.

Ditch (FLUCFCS Code 514)

The canopy is open. The sub-canopy vegetation includes scattered willow and melaleuca. The ground cover includes torpedograss (*Panicum repens*), cattail (*Typha* sp.), and West Indian marsh grass (*Hymenachne amplexicaulis*).

Wet Prairies, Disturbed (0-24% Exotics) (FLUCFCS Code 6439 E1)

The canopy is open. The sub-canopy vegetation consists of scattered melaleuca. The ground cover includes wiregrass, bottlebrush threeawn, longleaf threeawn (*Aristida affinis*), rush fuirena, yellow-eyed grass, sawgrass, and corkwood (*Stillingia aquatica*).

Wet Prairies, Disturbed (25-49% Exotics) (FLUCFCS Code 6439 E2)

This wetland habitat is similar to FLUCFCS Code 6439 E1, except with higher concentrations of melaleuca in the sub-canopy.

Disturbed Land, Hydric (FLUCFCS Code 7401)

The canopy and sub-canopy are open with scattered Brazilian pepper and cabbage palm. The ground cover includes swamp fern (*Telmatoblechnum serrulatum*), rosy camphorweed (*Pluchea rosea*),

yellow-eyed grass, Asiatic pennywort (*Centella asiatica*), bushy bluestem (*Andropogon glomeratus*), and goldenrod (*Solidago* sp.).

Borrow Area (FLUCFCS Code 742)

These open water habitats include areas of emergent and littoral vegetation including cattail, pickerelweed, arrowhead, and spikerush (*Eleocharis interstincta*).

Spoil Area (FLUCFCS Code 743)

The canopy and sub-canopy of this land use are open. The ground cover includes Brazilian pepper.

Primitive Road (FLUCFCS Code 814)

The canopy, sub-canopy, and ground cover of this land use are absent.

Electrical Power Transmission Line Easement (FLUCFCS Code 832)

The canopy and sub-canopy are open. The ground cover includes bahiagrass, caesarweed, wiregrass and muscadine grape.

Electrical Power Transmission Line Easement, Hydric (FLUCFCS Code 8321)

The canopy and sub-canopy are open. The ground cover includes torpedograss, little blue maidencane (*Amphicarpum muhlenbergianum*), fogfruit (*Phyla nodiflora*), bushy bluestem, and camphorweed (*Pluchea camphorata*).

4.0 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, 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 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 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, 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 (Brush *et al.* 2012) by 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 protection of nesting territories through 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.

5.0 NEST HISTORY AND OBSERVATIONS

Nest Tree A

Nest Tree A was first documented in February 2017. Nest Tree A is located in a slash pine approximately 55 feet in height. The nest was documented as active at the time (i.e., utilized by an adult bald eagle). The location of Nest Tree A is depicted on Exhibits 2 through 4.

During a site visit in February 2019, no nest was found in Nest Tree A. In addition, no bald eagles were observed utilizing the nest tree in February 2019 or during follow-up site visits conducted in March and April 2019. A photograph of Nest Tree A taken on April 29, 2019 is included in Exhibit 5.

Based on the sequence of events, it can be deduced that the nest in Nest Tree A was likely blown out of the tree by Hurricane Irma in September 2017. Therefore, the nest in Nest Tree A has been absent from the tree for the past two nesting seasons (i.e., 2017-2018 and 2018-2019) and will be considered a “lost nest” if not rebuilt before the end of the 2019-2020 nesting season (i.e., May 15, 2020).

Nest Tree B

Nest Tree B was first documented in February 2019. Nest Tree B is approximately 1,050 feet northeast of Nest Tree A and consists of a slash pine approximately 45 feet tall. The location of Nest Tree B is depicted on Exhibits 2 through 4. The nest observed in this tree was small and partially dilapidated. In addition, numerous sticks were present at the base of the tree. No bald eagles were observed utilizing Nest Tree B or its nest.

Later that month, on February 21, 2019, additional observations of this nest were conducted. At that time, a first-year eaglet was observed perched on the edge of the nest. Two adult bald eagles were observed flying to and perched on electrical power transmission lines west of Nest Tree B; however, the adult eagles were not observed utilizing Nest Tree B or its nest.

During observations conducted in March 2019, no bald eagle activity was observed in or around Nest Tree B. Additional observations conducted in April 2019 confirmed that the nest was no longer present in the tree and no bald eagle activity was observed in or around Nest Tree B at that time. Photos of Nest Tree B taken on March 22, 2019 and April 29, 2019 are included in Exhibit 5.

Given the dilapidated nature of the nest as it was first observed in February 2019, it can be reasonably assumed that this nest was not successfully utilized during the 2018-2019 nesting season. However, the February 21, 2019 observation of a first-year eaglet at the nest location indicates that the nest may have been utilized during the 2017-2018 nesting season, as eaglets of this age are known to revisit the nest from which they fledged. Since this nest is currently absent from the tree, it will be considered a “lost nest” if not rebuilt before the end of the 2021-2022 nesting season (i.e., May 15, 2022).

6.0 DESCRIPTION OF THE NEST TERRITORY AND LANDSCAPE

Nest Tree A is a live slash pine tree approximately 55 feet tall located in the southwest corner of the Project site (Exhibits 2 through 4). The nest in this tree, while extant, was near the top of the tree approximately 45 to 50 feet high. The nest tree is primarily surrounded by pine forest with varying levels of exotic vegetation. East of the nest is an electrical power transmission line easement within a portion of the 660-foot buffer. Lee County District School Board property falls within portions of the 330- and 660-foot buffer to the south and a portion of the 660-foot buffer extends into Lee County 20/20 Yellow Fever Creek Preserve to the west. The 330- and 660-foot buffer zones for Nest Tree A are depicted on Exhibits 2 through 4.

Nest Tree B is a live slash pine tree approximately 45 feet tall located 1,050± feet northeast of Nest Tree A in the Project's preserve area (Exhibits 2 through 4). The nest in this tree, while extant, was near the top of the tree approximately 40 feet high. The nest tree is primarily surrounded by pine flatwoods, melaleuca, and palmetto prairie habitat types with varying degrees of exotic infestation. To the south and west, electrical power transmission line easements fall within portions of the 660-foot buffer to Nest Tree B. The 660-foot buffer zone for Nest Tree B is depicted on Exhibits 2 through 4.

Abutting the Project site to the north is permitted residential development (Village of Entrada), with Del Prado Boulevard north of this. Immediately south of the Project are multiple high-density residential developments including the Horizon Village Co-Op, the Tamiami Village & RV Park, and Windmill Village. Lee County District School Board property lies on the southwest side of the site. East of the Project site and west of U.S. 41 lies undeveloped forested land and U-Haul Moving and Storage. Two roads exist within the previously developed portion of the Project and include De Navara Parkway and Playa Del Sol Boulevard. To the west of the Project site lies Lee County 20/20 Yellow Fever Creek Preserve which extends north to Del Prado Boulevard. The surrounding land uses are identified on Exhibits 3 and 4.

The adjacent Lee County 20/20 Yellow Fever Creek Preserve contains an abundance of trees that could potentially be utilized for perching and/or nesting by bald eagles. In addition, the Project's on-site preserve area contains trees that could be utilized for perching.

7.0 PROPOSED SITE PLAN SCENARIOS

This BEMP addresses management activities associated with Nest Trees A and B since the trees were identified after the Project's development authorizations (i.e., SFWMD ERP, Corps permit, Lee County DOs) were issued. The management activities address potential conflicts between Nest Trees A and B and the Lee County-approved Master Concept Plan (MCP). To address these conflicts, the following development scenarios are proposed for Nest Trees A and B.

Nest Tree A

Development Scenario No. 1: The applicant proposes to modify the site plan as depicted on Exhibit 3. The site plan modifications include the removal of 58 townhome units and the addition of 51 townhomes no closer than 200 feet from the nest tree. In addition, the segment of road that runs along the southern property boundary, west of the electrical power transmission line easement, has been removed. If the nest in Nest Tree A is not rebuilt before the end of the 2019-2020 nesting season (i.e., May 15, 2020), development will commence in accordance with Development Scenario No. 2 below.

Development Scenario No. 2: The nest in Nest Tree A will be considered a “lost nest” if not rebuilt before the end of the 2019-2020 nesting season (i.e., May 15, 2020). If the nest is not rebuilt by this date, development will commence in accordance with the Project’s approved MCP depicted on Exhibit 4.

Nest Tree B

Development Scenario No. 1: The applicant proposes to modify the site plan as depicted on Exhibit 3. The site plan modifications include construction of a stormwater management lake between 100 and 200 feet of the nest tree. East of the stormwater lake, single-family lots were relocated to the east so that no residential development is closer than 200 feet from the nest tree. Here, underground utilities, gravity sewer, force main, and water mains will be connected between two cul-de-sacs. If the nest in Nest Tree B is not rebuilt before the end of the 2021-2022 nesting season (i.e., May 15, 2022), development will commence in accordance with Development Scenario No. 2 below.

Development Scenario No. 2: The nest in Nest Tree B will be considered a “lost nest” if not rebuilt before the end of the 2019-2022 nesting season (i.e., May 15, 2022). If the nest is not rebuilt by this date, development will commence in accordance with the Project’s approved MCP depicted on Exhibit 4.

Although development is proposed within 330 feet of both Nest Trees A and B per Development Scenario No. 1, no adverse impacts to bald eagles are anticipated as a result of the Project. This conclusion is based on: 1) the absence of nests in both Nest Trees A and B; 2) no nesting activity observed in Nest Trees A and B during the 2018-2019 nesting season; and 3) the abundance of trees that could potentially be utilized for nesting by bald eagles in the surrounding areas, particularly within the adjacent Lee County 20/20 Yellow Fever Creek Preserve.

8.0 BALD EAGLE PROTECTION ZONES

A summary of the buffer protection (buffer) zones proposed for Nest Tree A and B are provided below and are based on the development scenarios outlined in Section 7.0.

Nest Tree A

Development Scenario No. 1: Minimum distance from the nest tree to proposed residential development is 200 feet. No development activities are proposed within 200 feet of the nest tree. Development activities proposed between 200 and 330 feet of the nest tree will be conducted in the non-nesting season (i.e., May 16 to September 30). The location of the buffer zones are depicted on Exhibit 3.

Development Scenario No. 2: Buffer zones are not applicable if there is a “lost nest” determination.

Nest Tree B

Development Scenario No. 1: Minimum distance from the nest tree to proposed residential development is 200 feet. A stormwater management lake is proposed between 100 and 200 feet of the nest tree. No development activities are proposed within 100 feet of the nest tree. Development activities proposed between 100 and 330 feet of the nest tree will be conducted in the non-nesting season (i.e., May 16 – September 30). The location of the buffer zones are depicted on Exhibit 3.

Development Scenario No. 2: Buffer zones are not applicable if there is a “lost nest” determination.

9.0 PROPOSED EAGLE MANAGEMENT PLAN

This BEMP is proposed as part of the Project, and 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 Project. 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.

Bald Eagle Protection Measures

Specific elements of the BEMP are as follows and do not apply if Nest Tree A and/or Nest Tree B are determined to be a “lost nest”:

1. Project activities within 330 feet of Nest Trees A and B are conditioned upon receipt of a bald eagle incidental take permit from the USFWS.
2. Infrastructure (e.g., grading, clearing, filling, paving, laying foundation, guttering; installation of underground utilities, street lighting, excavation; and installation of stormwater management facilities) that will be constructed within 660 feet of Nest Trees A and B shall be installed during the non-nesting season (i.e., May 16 through September 30). Infrastructure installation shall begin early during the non-nesting season, and any

- portion of such infrastructure installation that may require completion activities to extend into the following nesting season and/or at such time as the nests are active (e.g., courtship, nest tending, egg laying, incubation, and brooding and/or the fledging of the young is occurring), such activities shall be accomplished in accordance with provisions of the Bald Eagle Monitoring Guidelines (USFWS 2007*b*).
3. Residential homes shall be constructed no closer than 200 feet from Nest Trees A and B and shall not exceed two stories in height from the base flood elevation. Vertical, interior, and finish construction may occur during the non-nesting season as needed without monitoring. Vertical construction (e.g., framing, laying foundation, siding, windows, roofing, etc.) and heavy construction (e.g., grading, pouring concrete (including driveways), painting other than by hand, etc.) occurring within 660 feet of the nest during an active nesting season shall be accomplished in accordance with provisions of the Bald Eagle Monitoring Guidelines (USFWS 2007*b*).
 4. The stormwater management lake proposed within 100 feet of Nest Tree B shall be constructed during the non-nesting season.
 5. The use of any chemicals which are known to be toxic to wildlife shall be prohibited at all times in close proximity to Nest Trees A and B 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 trees.

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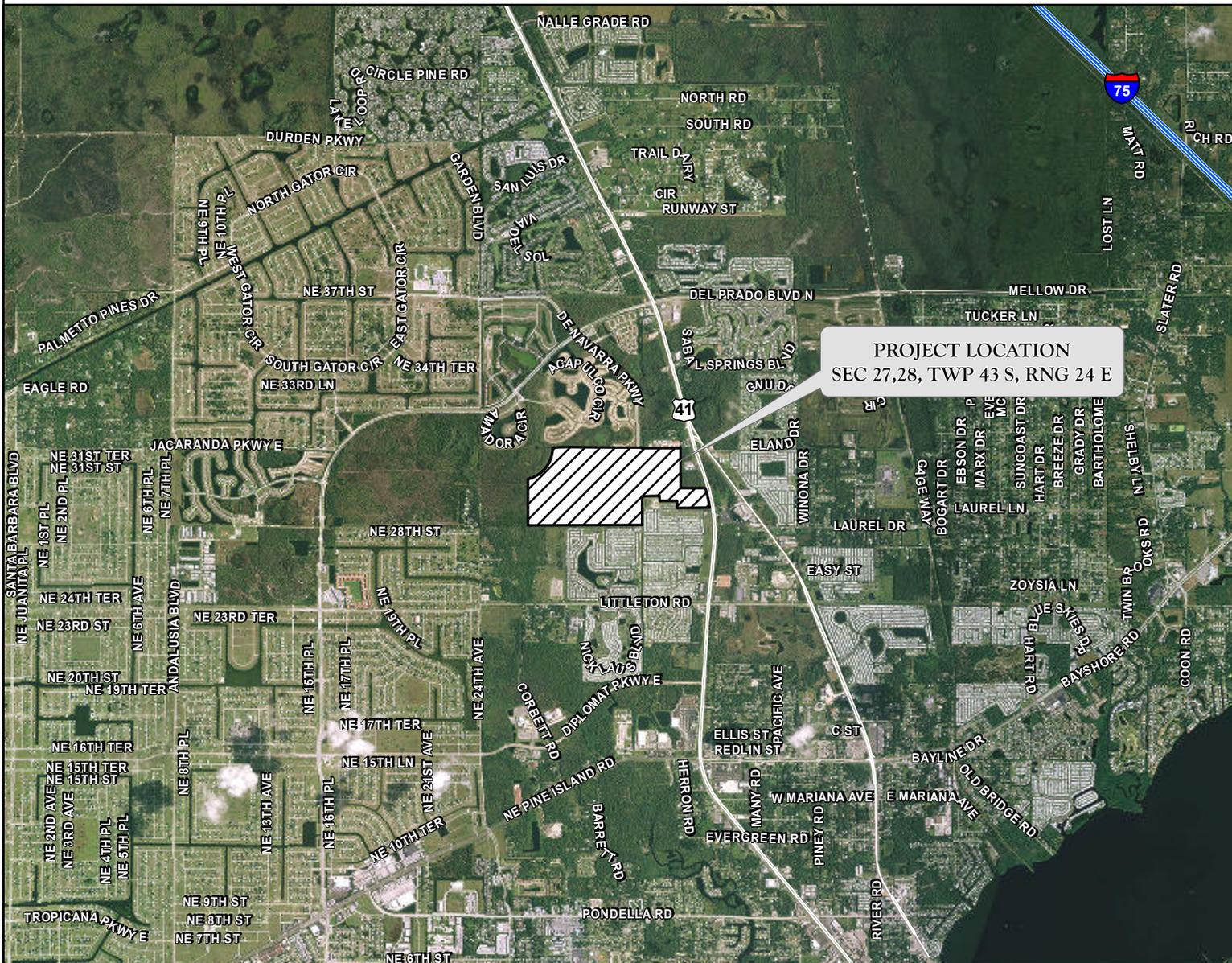
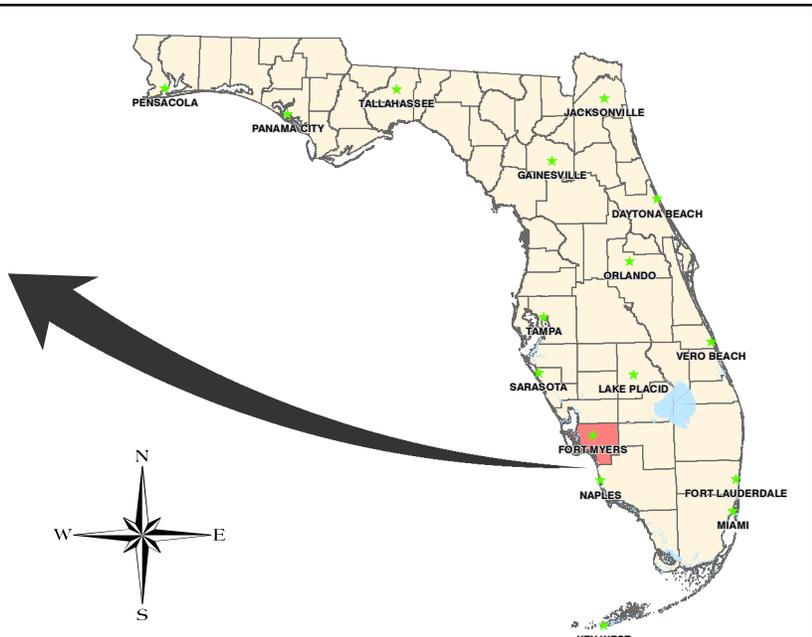
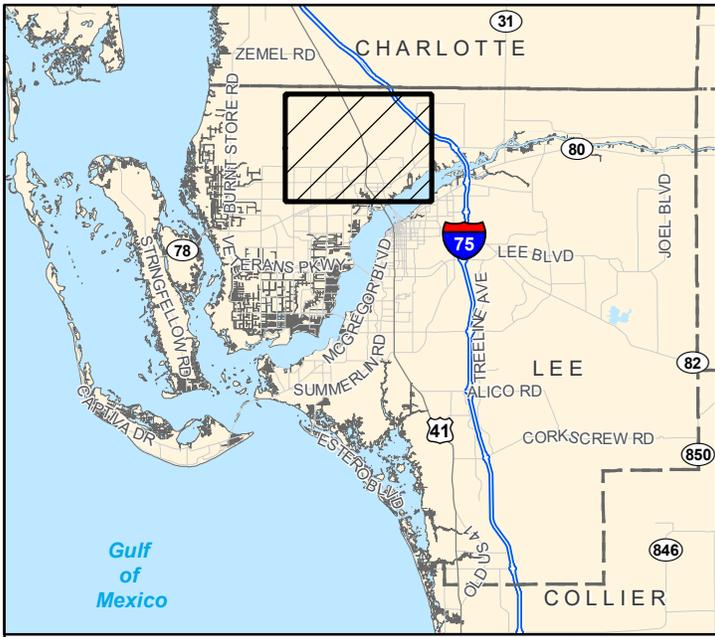
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EXHIBIT 1

PROJECT LOCATION MAP



**EXHIBIT 1. PROJECT LOCATION MAP
THE ESTATES AT ENTRADA**

DRAWN BY	H.H.	DATE	5/3/19
REVIEWED BY	J.T.	DATE	5/3/19
REVISED		DATE	



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EXHIBIT 2

**AERIAL WITH FLUCFCS AND SFWMD WETLANDS AND
BALD EAGLE NEST TREE LOCATIONS**

EXHIBIT 3

**AERIAL WITH PROPOSED SITE PLAN,
BALD EAGLE NEST TREE LOCATIONS, AND SURROUNDING AREAS**

EXHIBIT 4

**AERIAL WITH APPROVED MASTER CONCEPT PLAN,
BALD EAGLE NEST TREE LOCATIONS, AND SURROUNDING AREAS**

EXHIBIT 5

BALD EAGLE NEST TREE PHOTOGRAPHS



Bald Eagle Nest Tree A, April 29, 2019.



Bald Eagle Nest Tree B, April 29, 2019.



Bald Eagle Nest Tree B, March 22, 2019.



Bald Eagle Nest Tree B, March 22, 2019.