RANGE ROAD BREVARD COUNTY, FLORIDA

ENVIRONMENTAL SUPPORT DOCUMENT

Prepared For:

St. Johns River Water Management District Palm Bay Office 525 Community College Parkway, S.E. Palm Bay, Florida 32909

Prepared By:



410 North Street #130 Longwood, FL 32750

May 2022

TABLE OF CONTENTS

1.0	INTRO	DDUCTION
2.0	SITE (CHARACTERISTICS
	2.1	TOPOGRAPHY4
	2.2	SOILS4
	2.3	VEGETATIVE COMMUNITY ANALYSIS4
3.0	THRE	ATENED AND ENDANGERED SPECIES5
	3.1	METHODOLOGY
	3.2	FAUNA6
	3.3	FLORA7
	3.4	REGULATORY REVIEW8
4.0	WETL	AND ANALYSIS9
	4.1	IMPACT AVOIDANCE AND MINIMIZATION ANALYSIS: ALTERNATIVE ANALYSIS
	4.2	SECONDARY AND CUMULATIVE IMPACTS12
5.0	UNIF	DRM MITIGATION ASSESSMENT METHOD12
	5.1	QUALITATIVE DESCRIPTION OF IMPACT AREA13
	5.2	QUANTIFICATION OF IMPACT ASSESSMENT AREA13
	5.3	SECONDARY IMPACTS
6.0	PROP	OSED MITIGATION14
7.0	SUMN	14 IARY

LIST OF FIGURES

Figure 1:	Site Location Map
Figure 2:	Topo Man
Figure 3:	Soils Man
Figure 4:	Florida Land Use, Cover and Forms Classification (FLUCFCS) Map
Figure 5:	Wetland Delineation Map
Figure 6:	Secondary Impact Map

APPENDICES

Appendix A: Conservation Area Wetland Tables:

- Table 1: Project Wetland (WL) and Other Surface Water (SW)

 Summary
- Table 2:
 Project On-Site Mitigation Summary
- Table 3:
 Project Off-Site Mitigation Summary

Appendix B: Part I - Qualitative Description of Assessment / Part II – Quantification of Assessment Areas

Appendix C: Proposed Site Plan

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

ENVIRONMENTAL SUPPORT DOCUMENT

RANGE ROAD SUBDIVISION BREVARD COUNTY, FLORIDA

1.0 INTRODUCTION

The ± 57.23 -acre Range Road property is located immediately east of N Range Road, west of E Stetson Circle, and north of Kathi Kim Street in Cocoa, Florida. More specifically the project site is located in Section 19 & 30, Township 24 South, and Range 36 East in Brevard County, Florida (Figure 1).

The subject property consists of mostly forested habitat. There is a dirt roadway through the center of the property. Two large wetland systems are present within the property boundary as well as a man-made ditch and three additional small wetlands.

The purpose of this application is to obtain a permit for wetland impacts associated with a residential development and stormwater management system consisting of three stormwater ponds.

This application is based on the attached site plan (Appendix C). The total project area is 57.23 acres, with wetlands totaling 27.5694 acres and a surface water totaling 0.76 acres. Five wetlands are present onsite and are located throughout the property with the largest systems on the eastern half of the property. There is an onsite ditch that runs through the middle of the project site.

Proposed wetland impacts total 0.7646 acres and consists of four impact areas. Three of the impact areas are to isolated wetlands less than 0.5 acres. Approximately 0.48 acres of surface waters will also be impacted however the water flow will remain through underground piping. As compensation for the remaining impact, the applicant proposes to purchase mitigation bank credits. Figure 6 depicts the proposed wetland impacts.

This project site is within the Southern St. Johns River hydrologic basin.

The project site was reviewed to determine the geological features of the landscape (e.g., soils and topography), to identify the remaining vegetative communities that occur within the project boundary, and to determine the occurrence of threatened and endangered flora and fauna within the parcel. The findings and conclusions of these studies are presented within this document.

2.0 SITE CHARACTERISTICS

2.1 TOPOGRAPHY

According to the U.S.G.S. 7.5 Minute Topographic Map, the project site elevations between 15 and 20 feet above sea level (Figure 2). Elevations are fairly uniform with elevations decreasing towards the onsite wetlands and drainage ditch.

2.2 SOILS

Soil composition information for the subject site was obtained from the *Soils Survey* of Brevard County, Florida, United States Department of Agriculture; Soil Conservation Service (Figure 3). Seven (07) soil types lie within the subject site of which, four (04) soil type (Basinger sand, St. Johns sand, Terra Ceia muck, Tomoka muck) are considered hydric.

2.3 VEGETATIVE COMMUNITY ANALYSIS

Pedestrian surveys of the project site were conducted in order to qualitatively document the existing vegetation and to assess the present land use patterns according to the *Florida Land Use, Cover and Forms Classification System, Department of Transportation* (FLUCFCS; DOT 1999). Six (06) land-use types were determined for the project site. A brief description of each FLUCFCS community is provided below (Figure 4).

420 – Upland Hardwood Forests

Located in the western portion of the project site this is the only upland habitat located on site. This habitat has a dense canopy cover, species observed consist of slash pine (*Pinus elliottii*), laurel oak (*Quercus laurifolia*), live oak (*Quercus laurifolia*), cabbage palms (*Sabal palmetto*), loblolly bay (*Gordonia lasianthus*), and camphor tree (*Cinnamomum camphora*). The shrub layer species include Brazilian pepper (*Schinus terebinthifolia*), American beauty berry (Callicarpa americana), and American elm (*Ulmus americana*). Groundcover species observed were greenbriar (*Smilax rotundifolia*), blackberry (*Rubus fruticosa*), bracken fern (*Pteridium aquilinum*), saw palmetto (*Serenoa repens*), broomsedge (*Andropogon virginicus*), and some cogon grass (*Imperata cylindrica*).

<u>513 – Ditch</u>

Found through the center of the property is a man-made ditch that runs offsite in both directions. Vegetation observed within the ditch and along the edge consists of Brazilian pepper, wax myrtle (*Myerica cerifera*), primrose willow (*Ludwigia peruviana*), soft rush (*Juncus effuses*), and arrowhead (*Sagittaria lancifolia*).

<u>617 – Mixed Wetland Hardwoods</u>

Found in two places in the southern portion of the property this habitat type is heavily forested. Vegetation observed includes Brazilian pepper, beak rush (*Rhynchospora crinipes*), soft rush, wax myrtle, water hyssop (*Bacopa monnieri*), gall berry (*Ilex glabra*), red maple (*Acer rubrum*), swamp fern (*Blechnum serrulatum*), royal fern (*Osmunda regalis*), American elm, poison ivy (*Toxicodendron radicans*), cabbage palm, laurel oak, and cinnamon fern (*Osmunda cinnamomea*).

619 – Exotic Wetland Hardwoods

Adjacent to the onsite ditch this habitat is densely vegetated with Brazilian pepper. Other species observed include swamp fern, cinnamon fern, cabbage palm, and sugar berry.

<u>641 – Freshwater Marshes</u>

The largest wetland habitat type found onsite, is located in the northeastern portion of the property. This habitat is densely vegetated, species observed include giant leather fern (*Acrostichum danaeifolium*), cattails (*Typha spp.*), sawgrass (*Cladium jamaicense*), marsh pennywort (*Hydrocotyle umbellate*), primrose willow, Carolina willow (*Salix carolinianna*), Brazilian pepper, cabbage palm, sugar berry (*Celtis laevigata*), poison ivy, live oak, water oak (*Quercus nigra*), and wax myrtle.

<u>643 – Wet Prairie</u>

Located in the northwest portion of the property is an isolated wetland defined by a low-lying area within the uplands. Vegetation found within this habitat consists of soft rush, blackberry, gall berry, little blue maiden cane (*Amphicarpum muehlenbergianum*), St. john wort (*Hypericum perforatum*), marsh pennywort, and primrose willow.

3.0 THREATENED AND ENDANGERED SPECIES

3.1 METHODOLOGY

Pedestrian and vehicular transects were conducted throughout 100% of the site to assess the occurrence, or potential for occurrence, of flora and fauna listed as threatened, endangered, or as species of special concern by the Florida Fish and Wildlife Conservation Commission (FWC) and the U. S. Fish and Wildlife Services (USFWS). Various resources were employed to assist with the survey. These resources included ArcGIS aerial maps; Florida Natural Areas Inventory and Official Lists of Endangered and Potentially Endangered Fauna and Flora in Florida (FWC).

3.2 Fauna

Approximately 35 species (and sub-species) of birds found in Florida are protected by the FWC and/or the USFWS. For Brevard County, the USFWS federally lists five (5) bird species. No listed birds were observed at this site (Table 1).

Red-cockaded woodpeckers (*Picoides borealis*) are listed as endangered (USFWS) and endangered (FWC). No red-cockaded woodpeckers were observed, and the upland habitat type is not suitable.

There was no open pine flatwood habitat with old-growth pines that characterize RCW nesting and foraging habitat.

Listed wading birds such as limpkin (*Aramus guarauna*), little blue heron (*Egretta caerulea*), tricolored heron (*Egretta tricolor*), white ibis (*Eudocimus albus*) and wood stork (*Mycteria americana*) were not observed. The onsite ditch and wetlands do provide wading bird habitat. Wading birds likely use the interior of the marsh habitat due to the dense vegetation throughout the remainder of the site.

Brevard County contains the Florida scrub-jay (*Aphelocoma coerulescens*) which is listed as threatened by the USFWS.

A 1993 statewide census documented about 4,000 breeding pairs of Florida scrubjays remaining in Florida, including 374 pairs in mainland Brevard County. In addition, an estimated 850 breeding pairs of scrub-jays are on the Federal lands of Kennedy Space Center, Merritt Island National Wildlife Refuge, and Cape Canaveral Air Force Station. Brevard County's 1993 Florida scrub-jay population was the highest of any county in the state.

The onsite habitat is not suitable for the presence of the Florida scrub jay as there is no scrub habitat available. As previously discussed, the upland habitats are densely vegetated with pine and oak dominated canopy cover and a dense understory of Brazilian pepper.

The survey methodology per the prescribed guidelines established by the USFWS which were adapted from the "Ecology and development-related habitat requirements of the Florida scrub-jay, Florida Game and Freshwater Fish Commission, Nongame Wildlife Program Technical Report No. 8" were reviewed prior to the site visits. No Florida scrub jays were observed, or vocalizations heard.

Bald eagles (*Haliaeetus leucocephalus*) or their nests were observed on the site. Bald eagles are protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The USFWS has established a 660-foot protection zone around a bald eagle nest. ECS searched the Audubon's Eagle Watch website to determine if any documented bald eagle nests are within 660 feet of the site. There are no FWC verified nest located on or adjacent to the project site. For current nesting data, ECS also checked with Audubon Eagle Watch which collects bald eagle nesting data for the FWC, no nests were documented on site or nearby.

No other listed raptors such as Southeastern American kestrels (*Falco sparverius paulus*) or Arctic peregrine falcons (*Falco peregrinus tundrius*) were observed on or around the site. There is no foraging habitat for kestrels. No birds were observed on or offsite at the time of the survey.

Florida sandhill cranes (*Grus canadensis pratensis*), a Threatened Species, were not observed within the project boundaries.

About thirty (30) species of Florida's amphibians and reptiles are protected. For Brevard County, the USFWS federally lists eight (8) reptile species. Five ae species of sea turtles which are not of concern for this property. No listed reptile or amphibian species were observed within the project boundaries.

Surveys were conducted throughout the property for gopher tortoises (Gopherus polyphemus), a species listed by the FWC as a Threatened species. No gopher tortoises or their burrows were observed. The property is densely forested with a dense shrub layer. The onsite habitats are considered poor for the gopher tortoise.

Several commensal species associated with gopher tortoise burrows, including the gopher frog (*Lithobates capito*) and eastern indigo snake (*Drymarchon corais couperi*) also receive protection, but were not observed.

Thirty-three (33) mammals are currently protected in Florida. For Brevard County, the USFWS federally lists two (2) mammal species.

ECS searched for the presence of Southern fox squirrels (*Sciurus niger niger*) and the Florida mouse (*Podomys floridanus*) and their possible den or nest sites. The absence of gopher tortoise burrows decreases the likelihood for the Florida mouse.

No mammal species were observed.

3.3 Flora

There were no protected plant species found on the project site (Table 2).

Currently, there are no technical reports available by the state or federal agencies mentioned in this letter report for the survey of the nearly 400 protected plant species. None of the agencies require relocation or mitigation for protected plant species.

The Department of Agriculture and Consumer Services (DACS) designates and regulates plants listed as "endangered", "commercially exploited" and "threatened".

There is no statutory prohibition against a landowner from harvesting an endangered or threatened plant from his property. However, it is unlawful for an individual to harvest an endangered or threatened species from the private land of another or any public land without first obtaining written permission of that landowner and a permit from DACS. Additionally, harvesting three or more commercially exploited plants from the private land of another or any public land will also require a DACS permit.

3.4 **REGULATORY REVIEW**

U. S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (USFWS) is the federal agency responsible for protecting the nation's fish and wildlife resources through implementation of the Endangered Species Act of 1973, as amended ("ESA"), 16 U.S.G. 1531-1543. The USFWS has responsibility for terrestrial and freshwater species. In Florida, 104 species are federally listed as threatened and endangered.

Florida Fish and Wildlife Conservation Commission

Article IV, Section 9 of the Florida Constitution authorizes the Florida Fish and Wildlife Conservation Commission (FWC) to "exercise the regulatory and executive powers in the state with regard to the wild animal life and freshwater aquatic life..." The FWC regulates the taking of individuals listed as endangered, threatened, or of special concern and their nests. The FWC also provides technical assistance to other agencies that have regulatory authority over activities, which may affect fish and wildlife and their habitat. The regulatory role of the FWC is currently restricted to protecting animals, not their habitats. However, current FWC policies allow for habitat protection as compensation for the "taking" of individuals of the species. The FWC Office of Environmental Services (OES) provides technical assistance to other agencies that regulate development activities. These agencies include the Department of Community Affairs, the Department of Environmental Protection, the U.S. Army Corps of Engineers, water management districts, regional planning councils and local governments. Currently, the FWC lists 106 species of animals.

Florida Department of Agriculture and Consumer Services

In Section 581.185, F. S., the Florida Legislature delegated to the Department of Agriculture and Consumer Services (FDA) authority to designate and regulate plants listed as "endangered," "commercially exploited" and "threatened." There is no statutory prohibition against a landowner from harvesting an endangered or threatened plant from its own property. It is unlawful for an individual to harvest

from the private land of another or any public land without first obtaining written permission of the landowner and a permit from FDA. Harvesting three or more commercially exploited plants will also require an FDA permit.

4.0 WETLAND ANALYSIS

A total of five wetlands are present onsite as well as a single surface water. The onsite wetlands consist of three different types of wetland freshwater marsh, mixed wetland hardwoods, and exotic wetland hardwoods. There is a large ditch system present through the center of the project site. The onsite wetlands all contained standing water in the center of the wetlands. The hydroperiod of the isolated fluctuates with rainfall and frequently are dry during the winter months. The larger wetland (Wetland 2 and Wetland 3) contains standing water year-round. There are varying amounts of nuisance and exotic species present.

Wetland No. 1 (0.3177 acres), located in the northwestern portion of the property, is of moderate quality and typical of the wetlands found in inner Brevard County. It contained little standing water, with herbaceous hydric soil dependent vegetation. Hydric soils were observed. This wetland is isolated.

Wetland No. 2 (19.323 acres), located along the eastern boundary of the project site, consists of a large portion of a larger wetland that extends offsite to the north and east. This wetland is of moderate quality. Native wetland vegetation was present throughout. Standing water was present.

Wetland No. 3 (7.495 acres), located on the northeastern boundary of the project site, is of moderate quality and typical of the wetlands found in inner Brevard County. It contained standing water, with dense canopy cover of wetland hardwoods. Hydric soils were observed.

Wetland No. 4 (0.2486 acres), located in the southeastern portion of the property, is of low quality and typical of the wetlands found in inner Brevard County. It contained little standing water, with minimal wetland vegetation, this area is a low-lying area where water will pool. Hydric soils were observed. This wetland is isolated.

Wetland No. 5 (0.1851 acres), located in the center portion of the property, is of low quality and typical of the wetlands found in inner Brevard County. It contained little standing water, and densely vegetated with Brazilian pepper. Hydric soils were observed. This wetland is isolated.

Surface water (0.76 acres) is a man-made drainage ditch that runs east / west through the center of the property, between Wetland 2 and Wetland 3. An access trail is present on the south side of the ditch.

All of the wetlands appear to be naturally occurring wetlands, typical of this area.

4.1 IMPACT AVOIDANCE AND MINIMIZATION ANALYSIS

Avoidance and minimization (reduction of wetland impacts) to the onsite wetlands has been achieved by the design of site plan. The largest wetlands (Wetland No. 2 and Wetland No. 3) comprise the entire east half of the property. As a result, the applicant has shifted the proposed development to the west half of the property. Proposed wetland impacts have been limited to the isolated wetlands onsite and a small sliver of Wetland 2. Additionally, the isolated wetlands are the poorest quality wetland habitats located on site. The applicant has avoided the higher quality wetland habitats.

Due to the location of the onsite wetlands, impacts are unavoidable. Proposed wetland impacts to Wetland No. 1 (interior isolated wetland) are necessary for lot development and stormwater pond construction. Due to the limited amount of uplands onsite this impact is unavoidable.

A small impact area is proposed to the southern perimeter of Wetland No. 2. The applicant considered alternative designs to shift interior roads to avoid wetland impacts, however there is no opportunity since there is limited upland habitat on site, and road safety standards and setbacks requirements must be met per City requirements. The proposed cul-de-sac was minimized to avoid additional impacts. The impact is due to providing safe side slopes for the interior "Street A" and will only impact 437 s.f.

The impacts to Wetland No. 4 are necessary for five residential lots as well as stormwater. Since the entry to the project site is limited, these impacts are necessary for lot development.

The impacts to Wetland No. 5 are necessary for four residential lots as well as roadway offsets. Since the entry to the project site is limited, these impacts are necessary for lot development.

Development of the subdivision is proposed in the upland portion of the property. Interior roads and stormwater ponds (a total of three) have all been designed to avoid the highest quality onsite wetland habitats. Approximately 26.8048 acres of onsite wetlands will be preserved. There are four wetland impacts proposed.

The remaining onsite wetland habitat and corresponding upland buffers will continue to provide habitat for wildlife species.

The proposed impact to wildlife and fish is considered minimal. The applicant does propose mitigation that provides regional ecological value.

4.1.1 Wetland Impacts

The wetland impacts associated with the proposed development are shown in Figure 6. Approximately 0.7646 acres of impacts are proposed.

Wetland Impact Area 1 - 0.3177 acres (13,839 sf.) Wetland Impact Area 2 - 0.0132 acres (437 sf.) Wetland Impact Area 3 - 0.2486 acres (10,825 sf.) Wetland Impact Area 4 - 0.1851 acres (8,063 sf.) Surface Water Impact - 0.4800 acres (32,954 sf.)

Wetland Impact Area 1 is to the entirety of Wetland No. 1. This impact is necessary for construction of a dry retention as well as three lots and a roadway. The impact area has poor hydrology. Vegetation species consisting of soft rush, blackberry, little blue maiden cane, St. john's wort, and primrose willow.

Wetland Impact Area 2 is located on the south side of Wetland No. 2. This impact is necessary for grading (side slopes) construction associated with a cull de sac (Street A). The impact area has moderate hydrology. Vegetation species consisting of Brazilian pepper, cabbage palm, sugar berry, Carolina willow, and marsh pennywort.

Wetland Impact Area 3 is the entirety of Wetland No. 4. This impact is necessary for construction of a stormwater pond and five lots. Vegetation species consisting of cabbage palm, laurel oak, American elm, cinnamon fern, and royal fern.

Wetland Impact Area 4 is to the entirety of Wetland No. 5. This impact is necessary for construction of a stormwater pond as well as three lots. This wetland contains a dense Brazilian pepper, cinnamon fern, and cabbage palm.

The surface water impact is necessary to pipe the water underground. This impact is for the construction of Street A. The water flow will be maintained so there will be no offsite impacts to upstream habitats.

Mitigation is proposed for the 0.0132 acres of wetland impacts (Wetland Impact Area 2). These impacts will be compensated for by credits from a mitigation bank. The remaining impacts (Wetland Impact Area 1,3, & 4) are to isolated wetlands under 0.5 acres, so no mitigation is proposed. Mitigation is not proposed for the surface water impact as it is man-made and the purpose of the ditch, water conveyance, will be maintained via underground piping.

4.2 SECONDARY AND CUMULATIVE IMPACTS

The criteria within Sections 4.2.7 and 4.2.8 of the SFWMD Applicants Handbook could be reviewed to provide reasonable assurances that any proposed wetland impacts would not result in adverse secondary or cumulative impacts to the water resources associated with this project.

Secondary impacts were assessed for Wetland Impact Area 2. Secondary impacts were not assessed for Wetland Impact Area 1, 3, & 4 since the entirety of these wetlands are proposed for impacts. Secondary impacts were not assessed for the surface water. Therefore, secondary impacts were assessed for 0.0132 acres of wetland impacts. The distance of the impact areas and a depth of 100 feet was used to determine the limits of secondary impacts and is discussed under Section 5.3.

Secondary impact items are addressed below according to their corresponding 12.2.7, A.H., subsection.

(a). The applicant proposed to preserve an upland buffer around the remaining onsite wetland perimeters to preclude secondary impacts as allowed by Section 12.2.7 (a), A.H.

(b). No on-site uplands could be considered to provide significant habitat for listed species.

(c). No historical and archaeological resources are known or likely to occur on the site; and

(d). This permit application and subsequent Environmental Resource Permit addresses all impacts within the project.

No listed species were identified within or adjacent to the project area. Impacts to the upland-nesting habitat of listed species that are aquatic, or wetland dependent are not expected to occur.

The proposed mitigation offsets the project's adverse impacts, and it is in the same drainage basin; therefore, the project complies with 12.2.8, ERP A.H.

5.0 UNIFORM MITIGATION ASSESSMENT METHOD

Per subsection 373.414(18), F.S., a uniform mitigation assessment method (UMAM) was employed to determine the amount of mitigation needed to offset adverse impacts to wetlands and other surface waters and\or to award and deduct mitigation bank credits.

The standardized procedures for assessing the functions provided by wetlands and other surface waters, the amount that those functions are reduced by a proposed impact and the amount of mitigation necessary to offset wetland and surface water loss, were adhered to as outlined in Chapter 62-345.

A qualitative description, per Section 62-345.00.400, F.A.C. (referred to as Part I) and quantification of assessment areas, per Sections 62-345.500 and .600, F.A.C. (referred to as Part II) was conducted for the onsite wetland. Reasonable scientific judgment was used when applying this method.

5.1 Part I – Qualitative Description of Impact Area

The information provided on the data sheets (Appendix B) has been previously discussed in this document. Please refer to the vegetative descriptions under Section 2.3 "Vegetative Community Analysis" and Section 3.3 "Listed Species Survey Results" for detailed information as summarized on the data sheet.

5.2 Part II – Quantification of Impact Assessment Area

One (01) assessment area was analyzed to determine the degree to which the assessment area provides the functions identified in Part I and the amount of function lost or gained by the project for the impacted jurisdictional onsite wetlands. The areas chosen represent wetland vegetation, soils and hydrology of the onsite wetland and upland buffer and include existing sub-canopy and groundcover vegetative species. The assessment area represents current conditions of the existing onsite wetland and upland buffer. Three categories of indicators of wetland function were scored to the extent that they affect the ecological value of the assessment areas. These indicators include: 1) location and landscape support, 2) water environment and 3) community structure.

Wetland Assessment Area 2 is the 0.0132 acres of impact to the perimeter of the on-site wetland (Wetland No. 2). The current condition of the impact area was assessed and a delta of 0.7 was determined. Multiplying the delta (0.7) with the impact acreage (0.0132) yielded a functional loss (FL) of 0.009. Please see the data sheet for the individual information determined for the three indicators of wetland function (Appendix B).

The functional loss for the proposed wetland impacts is 0.009.

5.3 Secondary Impacts

Secondary impacts were assessed for Wetland No. 2. Since the entirety of Wetland No. 1, 4, & 5 will be impacted and is isolated, no secondary impacts were assessed.

More specifically, secondary impacts were assessed along the boundary of the direct wetland impact area. A depth of 100 feet was assessed for secondary impacts or 0.332 acres.

The current condition of the secondary impact area (Wetland No.2) was assessed and a score of 0.7 was determined. A score of 0.63 was determined for the without condition. The difference is a delta of 0.07. Multiplying the delta (0.07) with the impact secondary acreage (0.332) yielded a functional loss (FL) of 0.02. Please see the data sheet for the individual information determined for the three indicators of wetland function (Appendix B).

The combined functional loss for the direct and secondary impacts is 0.029.

6.0 **PROPOSED MITIGATION**

The loss of wetland function due to the proposed impacts can be sufficiently mitigated with the purchase of mitigation credits. The proposed mitigation plan will more than compensate for the loss of the aforementioned wetland areas. The onsite wetlands are not proposed as mitigation.

Approximately 0.03 freshwater forested mitigation bank credits will be purchased from the Farmton Mitigation Bank.

7.0 SUMMARY

As previously discussed, approximately 1.24 acres of wetland impacts are proposed. Mitigation is proposed for 0.0132 acres of proposed wetland impacts, and 0.332 acres of proposed secondary impacts. A total functional loss of 0.029 was determined for the direct impacts and secondary impacts to onsite wetlands.

Mitigation will be provided through the purchase of 0.03 credits from Farmton Mitigation Bank. Once District staff has approved the credit amount, a reservation letter will be obtained from the mitigation bank and provide to District staff.

FIGURES







Cological Consulting Solutions, Inc.

PRO	JECT #:	875.01.20	DATE: 03/23/21	FIGURE #:3
0	100	200	400	600 Fee
N	235 1 Office: (4	N. Hunt Club Longwood, F 07) 869-9434 CKrack@	Blvd. Suite 202 lorida 32779 Fax: (407) 869-943 geosfl.cc	









	PLAN LEG	END			
1		PROPERTY BOU	JNDARY		
		LOT/TRACT LIN	E		
		EASEMENT LIN	E)	
	e	WETLAND LINE		GRAP	HIC SCALE
v		ROAD CENTERI	LINE	90' Q IVIII	50' 100' 200'
		PROJECT AREA	LIMITS		
		WETLAND AREA	¥.		1" = 100'
		WETLAND BUF	FR		
Im	pact				
	MON	AREAS			
	MMON AREA	S (TRACTS A, B,	, C, D, E, F, G, H, I, J, AN TREETS 'A' 'B' AND 'C' WILL	D K) WILL BE C	WNED AND MAINTAINED BY
	RENCHMAR	2K			to the off of occord
	ELEVATIONS SHOWN	HEREON ARE B	ASED ON THE NORTH AMERIC	CAN VERTICAL D	ATUM OF 1988 (NAVD 88).
A.	PHASING I	NOTE	CTED IN ONE PHASE.		
	SETBACK	NOTE: CKS APPLY, THE	MORE RESTRICTIVE SHALL F	PREVAIL.	
	ALL TREE PRESERVA	E NOTE	AND PLANTING SHALL COMPL	LY WITH THE RE	QUIREMENTS OF THE
	UTILITY NO	OTE COMPLY WITH	THE CITY OF COCOA UTILITY	STANDARDS AND	SPECIFICATIONS.
	EASEMENT	NOTE	NTS SHALL BE MAINTAINED B	Y H.O.A. AND TH	HE CITY OF COCOA
	STORMWAT	FR SYS	TEM NOTE		
	THE PROPOSED STO MANAGEMENT DISTRIC	RMWATER SYSTE	M SHALL COMPLY WITH CITY	OF COCOA & S	ST. JOHNS RIVER WATER
	SITE		- 24		
	SECTION, TOWNSHIP, I	RANGE:	N. SECTIONS 19 & 30	RANGE ROAD - D, TOWNSHIP 24	SOUTH, RANGE 36 EAST
	PARCEL ID: FUTURE LAND USE DE	2- ESIGNATION:	4-36-19-00-00-501, 24-	26-30-00-252 l	& 24-36-30-00-258 OW DENSITY RESIDENTIAL
	EXISTING ZONING: EXISTING USE:				PUD VACANT LAND
	PROPOSED USE:			SINGLE FAMILY	RESIDENTIAL SUBDIVISION
	PROJECT AREA:				57.23± ACRES
	RET DEVELOPABI GROSS ACREAGE: WETLAND/BUFFER ARE NET DEVELOPABLE AR	LE LAND: EA: EA:			57.23± ACRES 28.73± ACRES 28.50± ACRES
	RESIDENTIAL LOT PROJECT STATEMENT: LOCATED WITHIN RANG	T INFORMATI	ON: PROJECT CONSISTS OF 71	SINGLE FAMILY	RESIDENTIAL LOTS
	TOTAL NUMBER OF LO	DTS:			71 LOTS
	MINIMUM LOT SIZE -	STANDARD LOT: AT FRONT BUILD	S: ING LINE:		4,000 S.F. 40'
	FRONT SETBACK (BUI	LD TO LINE):			20'
	REAR SETBACK: INTERIOR SIDE SETBA	CK:			20' 5'
	STREET SIDE SETBACH	CESIDENTIAL	DENSITY		15'
		RESIDENTIAL		~	2.49 D.0./ACRE
	72.07.10	TRACT SIZE	TRACTS SUMMAR	r	
	TRACT NO.	(ACRES)	PROPOSED USE		MAINTENANCE ENTITY
	A	0.48	OPEN SPACE/LANDSCAPE	BUFFER HON	EOWNER'S ASSOCIATION
	В	6.96	STORMWATER POND TH	RACT HON	EOWNER'S ASSOCIATION
	с	0.97	OPEN SPACE	НОМ	EOWNER'S ASSOCIATION
	D	0.90	OPEN SPACE	HOM	EOWNER'S ASSOCIATION
	E	0.02	OPEN SPACE	HOM	EOWNER'S ASSOCIATION
	E	0.02	OPEN SPACE	HOM	EOWNER'S ASSOCIATION
3',	G	5.93	STORMWATER POND T	RACT HON	EOWNER'S ASSOCIATION
	н	0.20	OPEN SPACE/RECREA	TION HOM	EOWNER'S ASSOCIATION
	Ĭ	0.39	OPEN SPACE/LANDSCAPE	BUFFER HON	EOWNER'S ASSOCIATION
		0.32	OPEN SPACE /LANDSCAPE	BUFFER HOL	FOWNER'S ASSOCIATION
	ĸ	2.03	STORMWATER POND T	RACT	FOWNER'S ASSOCIATION
		2.00	POADWAYS	HUN	CITY OF COOCA
PRO	DIECT NO.	2.55	RUADWAYS		FLORIDA ENGINEERING/GROUP INC
SC	19-070	THIS ITEM SIGNED	HAS BEEN DIGITALLY D AND SEALED BY: 7 R. CRAWFORD, P.F.		CERTIFICATE NO. EB 0006595
DAT	1"=100' re	ON THE DATE PRINTED COP	ADJACENT TO THE SEAL IES OF THIS DOCUMENT		No 51335
SH	FEBRUARY XX, 202	2 SEALED AND 1 VERIFIED ON	THE SIGNATURE MUST BE ANY ELECTRONIC COPIES.		STATE OF
	C-11				GREGORY BACRAWEORD PF
SHE	ET 11 OF 33				LICENSE NO, 51335 19-070 OverallSitePlan.dwg

APPENDIX A

Appendix B

Table 1: PROJECT WETLAND (WL) AND OTHER SURFACE WATER (SW) SUMMARY

WL & SW ID	WL & SW TYPE (FLUCFCS)	WL & SW SIZE (acres)	WL& SW NOT IMPACTED	TEM	TEMPORARY WL & SW IMPACTS			PERMANENT WL & SW IMPACTS		
				WL & SW TYPE	IMPACT SIZE	IMPACT CODE	WL & SW TYPE (FLUCFCS)	IMPACT SIZE	IMPACT CODE	
Wetland 1	643	0.3177	0.00				643	0.3177	F	NA
Wetland 2	641	19.323	19.3098				641	0.0132	F	Credits
Wetland 3	617	7.495	7.495							
Wetland 4	619	0.2486	0.00				619	0.2486	F	NA
Wetland 5	617	0.1851	0.00				617	0.1851	F	NA
Ditch	513	0.76	0.28				513	0.48	0	N/A
PROJECT TOTALS:		28.3294	27.0848					1.2446		

Comments: CODES (multiple entries per cell not allowed): Wetland Type: from an established wetland classification system (see Section E, 111b.) Impact Type: D=Dredge; F=Fill; H=change hydrology; S=shading; C=clearing; O=other

Reviewer:___

FROM NUMBER 40C-4.900(1)

Pg 8 of 12

Table 2: PROJECT ON-SITE MITIGATION SUMMARY

MITIGATION ID	CREATION		RESTORATION		ENHANCEMENT		WETLAND PRESERVE		UPLAND PRESERVE		OTHER	
	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TYPE	AREA	TYPE	AREA	TYPE
None Proposed												
PROJECT TOTALS												

 CODES (multiple entries per cell not allowed):

 Target Type or Type=target or existing habitat type from an established wetland classification

 system or land use classification for non-wetland mitigation

 FROM NUMBER 40C-4.900(1)
 Pg 9 of 1

Reviewer:_____

Table 3: PROJECT OFF-SITE MITIGATION SUMMARY

MITIGATION ID	CRE	ATION	REST	ORATION	ENHAN	NCEMENT	WE PRE	TLAND SERVE	UPI PRE	LAND SERVE	OTH	HER
	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TYPE	AREA	TYPE	AREA	TYPE
Farmton Mitigation Bank											0.03	credits
PROJECT TOTALS											0.03	

CODES (multiple entries per cell not allowed): Target Type or Type=target or existing habitat type from an established wetland classification system or land use classification for non-wetland mitigation

FROM NUMBER 40C-4.900(1)

Pg 9 of 1

Reviewer:_____

APPENDIX B

PART I – Qualitative Description (See Section 62-345.400, F.A.C.)

Site/Project Name		Application Numbe	ſ		Assessment Area Name or Number			
Range Roa	d				Wetland 2			
FLUCCs code	Further classifica	tion (optional)		Impac	t or Mitigation Site?	Assessment Area Size		
FLUCFCS 641					Impact	0.0132 acres		
Basin/Watershed Name/Number	Affected Waterbody (Clas	ss)	Special Classification	0N (i.e.O	FW, AP, other local/state/federa	I designation of importance)		
Southern St. Johns River	Class	III						
Geographic relationship to and hyd The ±57.6-acre Ridgehaven Pr Street in Cocoa, Florida. More Brevard County, Florida (Figure of the property. Two large wetla small wetlands.	rologic connection with operty is located imme specifically the project 1). The subject prope and systems are preser	wetlands, other s diately east of N t site is located ir rty consists of mo nt within the prope	urface water, uplar Range Road, wes n Section 19 & 30 stly forested habit erty boundary as v	nds st of E l, Tow tat. Th vell as	Stetson Circle, and n nship 24 South, and F ere is a dirt roadway tl a man-made ditch an	orth of Kathi Kim Range 36 East in rrough the center d three additional		
Assessment area description The assessment area consists of for grading (side slopes) constructi consisting of Brazilian pepper, cabb	a small impact located on associated with a cu page palm, sugar berry,	on the south side Il de sac (Street A Carolina willow, a	of Wetland No. 2 \). The impact are and marsh pennyw	(fresh a has vort.	water marsh). This in moderate hydrology. \	pact is necessary /egetation species		
Significant nearby features			Uniqueness (cor landscape.)	nsideri	ng the relative rarity in	relation to the regional		
Indian River is located off site to		This impact area (wetland habitat) not unique or rare in relation to the regional landscape.						
Functions			Mitigation for prev	/ious p	ermit/other historic use	3		
Provides wildlife habitat for loc	al species, water qualit	y from runoff	none					
Anticipated Wildlife Utilization Base that are representative of the asses be found)	d on Literature Review (ssment area and reason	(List of species ably expected to	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)					
amphibians, reptiles	s, songbirds, wadingbird	ls	none found in Brevard County					
Observed Evidence of Wildlife Utiliz	ation (List species direc	ctly observed, or c	ther signs such as	s track	s, droppings, casings, i	nests, etc.):		
nor	le							
Additional relevant factors:								
Assessment conducted by:			Assessment date	(s):				
Chris krack			12-April-2022					

PART II – Quantification of Assessment Area (impact or mitigation) (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name		Application Number	Assessment Ar	Assessment Area Name or Number			
Ran	ge Road		We	Wetland 2			
Impact or Mitigation	-	Assessment conducted by:	Assessment date	Assessment date:			
Wetland Impa	ct - 0 0132 acres	Chris Krack		12-April 22			
				· - · · · · · · · · · · · · · · · · · ·			
Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)			
The scoring of each indicator is based on what	Condition is optimal and fully supports	Condition is less than optimal, but sufficient to	Minimal level of support of	Condition is insufficient to			
would be suitable for the type of wetland or surface	wetland/surface water	maintain most wetland/surface	wetland/surface water functions	provide wetland/surface water functions			
water assessed	functions	waterfunctions					
.500(6)(a) Location and Landscape Support w/o pres or	Support for wildlife spe impacts from upland la uplands provides some	cies outside of Assessment Ar nd uses outside of Assessmen habitat for protection, uplands	ea is moderate. Provides sor t Area, natural connection to s to be developed.	ne benefits, adverse offsite wetlands,			
current with	<u></u>						
7 0							
.500(6)(b)Water Environmen (n/a for uplands) w/o pres or current witt 7 0	t Standing water is not pre uplands have some distu drainage ditch present o nuisance and exotic spe desirable wetland plant s	Standing water is not present in the AA (wetland fringe), standing water is present in the wetland interior, uplands have some disturbance (trails, some historic clearing), alteration to points of discharge - man-made drainage ditch present on teh south side of this wetland, some evidence of flow rates, no evidence of fire, nuisance and exotic species in small numbers, no wading birds observed in Assessment Area, some native desirable wetland plant species. Light penetration is to sufficient for herbaceous and shrubby species.					
.500(6)(c)Community structu 1. Vegetation and/or 2. Benthic Community	re Canopy cover lacking, sor species. Adjacent uplands west side, reduction of reg show this as a low lying a	Canopy cover lacking, some shrub cover, some desirable wetland species, some nuisance and exotic species. Adjacent uplands developed on SE side, ditch adjacent to south side, forested uplands present on west side, reduction of regeneration/recruitment, age, size and distribution, no snags present, topo features show this as a low lying area within the project site, no evident land management practices.					
current with							
7 0	7						
	<i></i>		_				
Score = sum of above scores/30 uplands, divide by 20)	(If It preservation as mitig	gation,	For impact asses	sment areas			
current	Preservation adjustme	ent factor =	FL = delta x acres - 0	7 X 0 0132=0.009			
pr w/o pres with	Adjusted mitigation de	lta =					
0.7 0							
	If mitigation			coment arc			
Delta = [with-current]	Time lag (t-factor) =		For mitigation asse	essment areas			
0.7	Risk factor =	RFG = delta/(t-factor x risk) =					

PART II – Quantification of Assessment Area (impact or mitigation) (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name		Application Number	Assessment Ar	Assessment Area Name or Number			
Range	Road		We	Wetland 2			
Impact or Mitigation		Assessment conducted by:	Assessment date	sessment date:			
Wetland Impact -	0.332 acres	Chris Krack		12-April 22			
Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)			
The scoring of each	Condition is optimal and	Condition is less than	Minimal level of support of	Condition is insufficient to			
would be suitable for the	fully supports	maintain most	wetland/surface water	provide wetland/surface			
type of wetland or surface	functions	wetland/surface	functions	water functions			
water assessed		waterrunctions					
.500(6)(a) Location and Landscape Support w/o pres or current with	Support for wildlife spec impacts from upland lar uplands provides some	cies outside of Assessment Ar nd uses outside of Assessmen habitat for protection, uplands	ea is moderate. Provides sor t Area, natural connection to s to be developed.	ne benefits, adverse offsite wetlands,			
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current with 7 7	Standing water is not pre uplands have some distu drainage ditch present or nuisance and exotic spec desirable wetland plant s With: permitted master s quality.	sent in the AA (wetland fringe rbance (trails, some historic cl n teh south side of this wetland sies in small numbers, no wadi pecies. Light penetration is to tormwater management syste), standing water is present in learing), alteration to points of l, some evidence of flow rates ing birds observed in Assessr sufficient for herbaceous and m will ensure no negative imp	the wetland interior, f discharge - man-made s, no evidence of fire, ment Area, some native d shrubby species. pacts to the water			
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or	Canopy cover lacking, some shrub cover, some desirable wetland species, some nuisance and exotic species. Adjacent uplands developed on SE side, ditch adjacent to south side, forested uplands present on west side, reduction of regeneration/recruitment, age, size and distribution, no snags present, topo features show this as a low lying area within the project site, no evident land management practices.						
current with	· · · · · · · · · · · · · · · · · · ·						
7 6							
	1						
Score = sum of above scores/30 (if	If preservation as mitig	ation.	For impact asses	sment areas			
uplands, divide by 20)		nt footor					
current	Preservation adjustme		FL = delta x acres = 0.	07 X 0.332= 0.02			
0.7 0.63	Adjusted mitigation del	ta =					
	1						
	If mitigation		For mitigation asse	essment areas			
Delta = [with-current]	Time lag (t-factor) =						
0.07	Risk factor =		RFG = delta/(t-factor x risk) =				

Form 62-345.900(2), F.A.C. [effective date 02-04-2004]

APPENDIX C

