

City of Palm Coast, Florida Agenda Item

Agenda Date: July 15, 2026

Agenda Item:
D.2

<p>Department COMMUNITY DEVELOPMENT Division PLANNING</p>	<p>Amount Org/Account #</p>
<p>Subject: A FUTURE LAND USE MAP (FLUM) AMENDMENT TO CHANGE 20,144+/- ACRES FROM CITY OF PALM COAST DESIGNATIONS: DRI-MU (NEOGA LAKES & OLD BRICK TOWNSHIP), CONSERVATION, AND MIXED USE, AND FLAGLER COUNTY DESIGNATIONS: AGRICULTURE & TIMBERLANDS, CONSERVATION, AND RESIDENTIAL LOW DENSITY/RURAL ESTATE TO MASTER PLANNED MIXED USE</p>	
<p>Presenter: Jose Papa, AICP, Senior Planner</p>	
<p>Attachments:</p> <ol style="list-style-type: none"> 1. Staff Report 2. Current Future Land Use Map 3. Proposed Future Land Use Map 4. Current Zoning Map 5. Proposed Zoning Map 6. Proposed Annexation Areas 7. Applicant Submittal Preliminary Environmental Site Assessment 8. Applicant Submittal Cultural Resource Desktop Analysis 9. Applicant Submittal FLUM Analysis Impact on Public Facilities 	
<p>Background:</p> <p>There is a companion zoning map amendment that will change the zoning on the designated parcels to be consistent with the proposed FLUM designation of the subject property. The proposed zoning designation will be Master Planned Development (MPD). The proposed development potential contained within the MPD will be used for the analysis in the FLUM staff report.</p> <p>A summary of the findings and information within the FLUM staff report is provided as follows:</p> <p><u>Density/Intensity and Population</u> Based on 21,920 dwelling units and 2.5 persons/household, there is potential gross population of 54,800.</p> <p><u>Public Facilities Impact Analysis</u> There is currently no infrastructure available to serve the subject area. As stated in the proposed MPD-DA, development in the subject area will be required to meet the Level of Service (LOS) standards established in the Comprehensive Plan and would be the subject of "development agreements" that address the</p>	

responsibilities, the timing, and the process for ensuring that public infrastructure and facilities are available to serve development.

Environmental/Cultural Resources Analysis

Any potential impact on environmental/cultural resources are intended to be addressed as development proceeds.

Land Use Compatibility

No incompatibility with the proposed FLUM designation of Master Planned Mixed Use (MPMU) and the existing and potential uses in the vicinity of the subject property. The proposed MPMU designation includes objectives and policies to recognize the uniqueness and the environmental sensitivity of the subject area.

The MPMU designation includes Goal, Objectives, and Policies such as the creation of a Greenway Overlay” to serve as “the primary defining component of the community form. This Overlay is created based on the regional context of planned conservation lands, adjacent public conservation lands, on-site environmentally sensitive lands, an assessment of wetland quality, and ecological linkages to avoid habitat fragmentation”.

The MPMU designation also creates an “Employment Center” sub area to provide economic development opportunities and encourage the location of jobs proximate to the transportation network. As currently proposed, the Employment Centers are located proximate to existing employment centers found along US-1 and the FEC railroad tracks.

Also, the MPMU establish compatibility, design standards, and in-depth analysis to protect the long-term viability and multi-function of the Greenway Overlay.

Consistency with Other Policies of the Comprehensive Plan

The proposed FLUM amendment recognizes the availability of an approximately 20,100 acre area for the potential implementation of various Annexation and Economic Development goals, objectives and policies identified within the Comprehensive Plan.

It is important to recognize that there are other policies within the Comprehensive Plan that need to be addressed such as the provision of public infrastructure, facilities and services which are required as part of expanding a City’s urban boundary. It is recognized that the provision of the required public infrastructure, facilities, and services are not comprehensively addressed as part of this FLUM amendment but are to be addressed when or should future phases of the westward expansion move forward.

These processes may include the approval of a zoning map amendment, approval of a development agreement, and approval of agreements to specify responsibilities for the stated public infrastructure, facilities, and services.

Neighborhood Meeting

The applicant hosted a neighborhood meeting as required by Unified Land Development Code (LDC) Section 2.05.02 on April 22, 2026, from 6 p.m. to 7 p.m. Numerous staff members from the City of Palm Coast

attended the meeting. A summary of the neighborhood meeting is attached to the agenda package.

This is a legislative item.

Recommended Action:

STAFF RECOMMENDS THAT THE PLANNING AND LAND DEVELOPMENT REGULATION BOARD (PLDRB) FIND APPLICATION #6681 CONSISTENT WITH THE COMPREHENSIVE PLAN AND RECOMMEND THAT CITY COUNCIL APPROVE THE PROPOSED FLUM AMENDMENT FROM FLAGLER COUNTY DESIGNATIONS AGRICULTURE & TIMBERLANDS, CONSERVATION, AND RESIDENTIAL LOW DENSITY/RURAL ESTATE, AND CITY OF PALM COAST DESIGNATION OF DEVELOPMENT OF REGIONAL IMPACT-MIXED USE (DRI-MU), MIXED USE, AND CONSERVATION TO CITY OF PALM COAST DESIGNATION OF MASTER PLANNED MIXED USE



**COMMUNITY DEVELOPMENT DEPARTMENT
COMPREHENSIVE PLAN AMENDMENT STAFF REPORT
PLANNING AND LAND DEVELOPMENT REGULATION BOARD
July 15, 2026**

OVERVIEW

Case Number: 6681

Applicant: England, Thims, & Miller and Driver, McAfee, Hawthorne & Diebenow, PLLC as Agents for Raydient Palm Coast LLC (Owner)

Size of subject property: 20,144+/- acres

Property Description: 20,144+/- acre area generally located west of U.S.1, east of Old Brick Road, and north of Espanola

Property Owner: Raydient Palm Coast LLC

Real Estate ID #: List may be found in Application Package

Current FLUM Designation: City of Palm Coast designations: DRI-MU (Neoga Lakes & Old Brick Township), Conservation, and Mixed Use, and Flagler County designations: Agriculture & Timberlands, Conservation, and Residential Low Density/Rural Estate

Current Zoning Designation: City of Palm Coast designations: Master Planned Development, High Intensity Commercial, and Preservation, and Flagler County Designations: Agriculture, and Rural Mobile Home

Current Use: Vacant/Silviculture

Requested Action: A Future Land Use Map (FLUM) amendment to change 20,144+/- acre subject area from City of Palm Coast designations: DRI-MU (Neoga Lakes & Old Brick Township), Conservation, and Mixed Use, and Flagler County designations: Agriculture & Timberlands, Conservation, and Residential Low Density/Rural Estate to of City of Palm Coast Designation of Master Planned Mixed Use

There is a companion zoning map amendment that will change the zoning on the designated parcels to be consistent with the proposed FLUM designation of the subject property. The proposed zoning designation will be Master Planned Development.

Recommendation: Staff recommends that the Planning and Land Development Regulation Board (PLDRB) find Application #6681 consistent with the Comprehensive Plan and recommend that City Council APPROVE the

FLUM amendment.

Project Planner: José Papa, AICP, Senior Planner

ANALYSIS

BACKGROUND

The proposed westward expansion of the City of Palm Coast encompasses an approximately 20,144 acre area generally located west of the FEC Railroad tracks. Approximately 13,103 acres are already within the city limits of Palm Coast with an additional 7,041+/- acres subject to an annexation petition to be incorporated into the City of Palm Coast. The parcels that are part of this proposed expansion are under singular ownership by Raydient Palm Coast, LLC.

To proceed with the proposed expansion, a series of applications will be presented through a series of public hearings as required by Florida Statutes and the City's Land Development Code. These applications will include: an Annexation, a Future Land Use Map Amendment, a Zoning Map Amendment which will include a Development Agreement, and Abandonment of two (2) Development of Regional Impact (DRI) Development Orders. If the applications are approved by City Council, additional development agreements, mainly related to the funding and construction of public facilities will be negotiated and presented for approval by City Council. A summary of these applications are provided in the Table below.

Application	Background of Proposed Application
Annexation	7,041+/- acres of land, requires two public hearings before the City Council.
Future Land Use Map Amendment	20,144+/- acres of lands that are currently designated as City of Palm Coast designations of Development of Regional Impact-Mixed Use, Mixed Use, Conservation, and Flagler County designations of Agriculture & Timberlands, Residential-Low Density/Rural Estate, and Conservation to be amended to City of Palm Coast designation of Master Planned Mixed Use
Zoning Map Amendment (Companion application)	The subject lands are currently designated as City of Palm Coast zoning designations of Master Planned Development, High Intensity Commercial, and Preservation, and Flagler County designation of Agriculture, Rural Mobile Home, to City of Palm Coast designation of Master Planned Development along with a Development Agreement.
Abandonment of Development of Regional Impact (DRI) Development Orders (DO)	There are two approved Developments of Regional Impact (DRIs) in the westward expansion area. The proposed rezoning to MPD and the accompanying MPD agreement are intended to replace the DOs.

Future Land Use Map Amendment –

Current Designations	Acres (+/-)
City of Palm Coast – DRI-MU (Neoga Lakes & Old Brick Township)	8912
City of Palm Coast – Conservation	1600
City of Palm Coast – Mixed Use	4
Flagler County – Agriculture & Timberlands	7113
Flagler County – Conservation	2497
Flagler County – Residential Low Density/Rural Estate	18

TOTAL	20,144
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The push for westward expansion includes a long history of city actions through public hearings that extend back to the annexation of lands that encompasses the Neoga Lakes and Old Brick Township DRIs. These series of annexations extended from 2007 to 2010. The annexations were followed by adoption of Comprehensive Plan amendments to designate the subject properties (which encompasses the DRIs) with a City of Palm Coast Future Land Use Map designation of Development of Regional Impact-Mixed Use (DRI-MU) and Conservation. The approval of the Comprehensive Plan amendments was in conjunction with the approval of the DRI-Development Orders for Neoga Lakes and Old Brick Township DRIs. In addition to the DRI-DOs, a series of mitigation agreements addressing utilities and school facilities were approved by the City, the landowner, and as appropriate, the applicable agency for the public facility (School Board for School mitigation, and FDOT for state roadway mitigation, etc.). Other lands that were annexed during this time, but are not part of the DRIs retain their Flagler County designation of Agriculture & Timberlands, and Conservation.

In addition to the Future Land Use Map amendment and DRI-DO approvals, Neoga Lakes also received approval for a change of zoning to Master Planned Development in 2012. Old Brick Township continues to retain the Flagler County designation of Agriculture.

Over the subsequent years, the City started to make an effort to kick-start the westward expansion of the City. In 2022, the City Council's Strategic Action Plan (SAP) (FY 2022-2023) made westward expansion a strategy in its Goal of creating a Strong Resilient Economy. Additionally, City Council's Legislative Priorities for the fiscal year included **Transportation Access to the West**.

The background for this legislative priority is as follows:

The FEC Railroad bisects Palm Coast running north/south just west of US1. There are approximately 12,000 acres of land within the Palm Coast municipal boundaries west of the railroad tracks with limited access. Currently, there are only two, at grade, railroad crossings within the city limits. The City is actively evaluating options for three additional westbound corridors at Matanzas Woods Parkway, Palm Coast Parkway, and Whiteview Parkway. Judicious transportation investments lower the costs of moving people and goods increasing economic productivity. Because productivity is a central component of economic growth, it should be a strong consideration when assessing the value of transportation expenditures. Opening these corridors will promote economic opportunities in Palm Coast and Flagler County.

As provided in the Legislative Priority background, as adopted by City Council:

Request Action: Support transportation projects that will improve access to large land tracts on the west side of Palm Coast. Effect: Improved access to the west will provide opportunities for economic advancement. 2022 Legislative Session Update: With assistance from our lobbyist, we successfully submitted a direct appropriations request to the Florida House of Representatives. The request was accepted and filled by Rep. Shoaf as HB3391. The bill was introduced and passed unanimously by the Infrastructure & Tourism Appropriations Subcommittee on 1/13/2022. The bill was referred to the Appropriations committee but was not taken up for a vote. On March 12th, 2022, the bill was indefinitely postponed and withdrawn from consideration.

Since 2023 the City has received an appropriation of approximately \$125 million from the Florida Legislature, while committing approximately \$6.5 million in transportation impact fees for planning studies and engineering design to extend Matanzas Woods Pkwy. to a “loop road” that will serve the westward expansion area.

In addition to allocation of funds for a loop road to serve the westward expansion area, the City finalized and adopted the 2050 Comprehensive Plan in May 2025. The 2050 Comprehensive Plan was the culmination of an 18 month long process to revise the Comprehensive Plan to envision the City’s future direction with a robust participation process from the community and various stakeholders (this includes the landowners of the westward expansion area).

The updated Comprehensive Plan includes a new Goal 1.7 and associated Objectives and Policies that provide policy and guidance to the City’s westward expansion. Along with this guidance, the Comprehensive Plan provides for a new Economic Development Element that with policies that may be implemented with the proposed westward expansion.

As stated in the adopted 2050 Comprehensive Plan, the City adopted Goal 1.7 - Master Planned Mixed Use as a Future Land Use Map designation to properly plan for long term potential growth in the annexed areas west of US 1 and the railroad. The purpose of Goal 1.7 is to *“Create parameters for the development of a Master Planned Mixed Use community in a means that allows and promotes a mixture of uses with an integrated, interconnected transportation network and guides development within the means of the natural environment”*.

The finding for this Goal reads: *“The City will encourage new development to (i) be composed of mixed-use communities and neighborhoods served by a regionally significant interconnected transportation network and public facilities, (ii) provides energy efficient and diverse housing opportunities, (iii) promote enhanced opportunities for further economic growth in the City, and (iv) establish a guide for protection of the natural environment”*.

Other Objectives and Policies for Goal 1.7 envision the “Community Form” of the westward expansion area which includes an interconnected system of greenways within a Greenway Overlay, promoting a greater diversity of land use types (i.e. opportunities for industrial and other non-residential uses (civic, cultural, and recreational), as well as diversifying housing types)), and promoting an interconnected multi-use trail network. The “Community Form” is specified through different sub areas within the expansion area, these sub areas include:

- the Greenway Overlay – this sub area is to be shaped by the planned conservation lands, wetland quality, and linkages to avoid habitat fragmentation,
- Villages – this sub area is described as the building block of the community and designed to be compatible with Greenway Overlay, at least 10% of the area within each Village shall be reserved for open space and recreation,
- Village Centers – this sub area is designed to serve the retail, service, and civic needs of the Village sub area,
- Regional Activity Center – this sub area within the westward expansion area serves as a regional destination for employment, shopping, recreation, and other uses such as education, hospitality or health care, and
- Employment Center – this sub area serves to provide economic development opportunities and encourage the location of jobs within close proximity of the regional roadway network. This sub area will include a variety of non-residential uses.

In addition to the “Community Form” objectives, the MPMU objectives include parameters for an overall mix of uses. This includes a requirement to keep 50% of the total lands within the MPMU for recreation and open space. Other policies include providing for a minimum of 50 sq. ft. of retail

and service space per dwelling unit and a minimum of 100 sq. ft. of workplace space per dwelling unit. The overall mix of uses may be tracked through each MPD application to demonstrate compliance and consistency with the policy and to ensure the targeted mix of uses.

Finally, the 2050 Comprehensive Plan includes Annexation Goal, Objectives, and Policies supporting the annexation of lands in the westward expansion area. These include:

- identifying lands to increase commercial and industrial development,
- establishing criteria for the annexation of employment-based lands and residential land that may be needed to attract businesses. Criteria shall address the evaluation of potential annexation sites, suitability, and proximity to other uses of any land proposed to be annexed,
- Identify and annex land appropriate for all types of housing,
- For any lands proposed for future annexation, the Conservation Future Land Use designation, or if within a MPMU designation a Greenway Overlay designation may be assigned to environmentally sensitive lands to provide protection of large interconnected optimal wetland systems and other high quality environmentally sensitive areas that are located within the proposed annexation area, and
- require developers of annexed lands that are seeking development approval to abide by the City's Concurrency Management System consistent with state law.

Neighborhood Meeting

The applicant hosted a neighborhood meeting as required by Unified Land Development Code (LDC) Section 2.05.02 on April 22, 2026, from 6 p.m. to 7 p.m. A summary of the neighborhood meeting may be found with the application.

DENSITY/INTENSITY AND POPULATION

Note: The footnotes within the tables specify how maximum densities/intensities are determined.

The application proposes designating a 20,144+/- acre area with the City of Palm Coast designation of Master Planned Mixed Use. Certain assumptions are made in developing the estimates found in the following tables. As previously stated, there is a companion Zoning Map Amendment application to designate the entire subject property as Master Planned Development (MPD) along with a Development Agreement (DA) to govern the development of the subject area. The calculations use the development limits identified in the companion zoning map amendment to determine the projected impacts. Additionally, the development potential is assumed to be the maximum allowed by the land use category if it is not identified in the existing Development of Regional Impact Development Order (DRI-DO) or within the proposed DA. Finally, the population projection uses the adopted number of persons per dwelling unit (2.5persons/dwelling unit) found in the adopted 2050 Comprehensive Plan.

Tables 1 and 2 below are intended to demonstrate the net impact of the proposed amendment. It should be noted that since no infrastructure currently exists to serve the subject area, it is important to recognize the gross impact of the proposed amendment (i.e. the entirety of the westward expansion area).

As Table 1 shows, the proposed FLUM amendment results in a net increase of 8,845 dwelling units with a potential population of 19,598. The gross impact from the proposed amendment would be 21,920 dwelling units with a potential population of 54,800. Note that the current FLUM designations through the approved DRI-DO also permit 1,000 age restricted units and 150 Life Care (assisted living) units.

TABLE 1 - FLUM DESIGNATION MAXIMUM DENSITY/INTENSITY ALLOWED (RESIDENTIAL USE)				
	# of Acres	Maximum Density ⁽¹⁾	Maximum # of units ⁽²⁾ , (3)	Population (2.5 persons/dwelling unit)
Proposed FLUM: Master Planned Mixed Use	20,144	1.2/acre	21,920	54,800
Current FLUM: DRI-MU, Ag&Timberlands, Residential Low-Density/Rural Estate	16,043	Varies with each Land Use category	12,435	31,088
NET CHANGE	4,101		9,485	23,713
Footnotes:				
⁽¹⁾ Maximum densities are established by Comprehensive Plan Policy.				
⁽²⁾ Maximum # of units for the proposed FLUM designation will be the caps established in the companion MPD application.				
⁽³⁾ Maximum # of units for the current FLUM designations are based on approved DRI-DOs or if not within a DRI, the maximum permitted by the FLUM designation.				

In addition to measuring the potential impact from the residential development of the subject area, Table 2 below exhibits the potential non-residential development for the subject area. As shown, the proposed amendment may result in a net increase of approximately 2.95 million sq. ft in non-residential development. Overall, the proposed amendment will permit approximately 6.7 million sq. ft. of non-residential development.

TABLE 2 - FLUM DESIGNATION MAXIMUM DENSITY/INTENSITY ALLOWED (NON-RESIDENTIAL USE)			
	# of Acres	Maximum FAR ⁽¹⁾	Maximum Sq. Ft. ^{(2), (3)}
Proposed FLUM: Master Planned Mixed Use	20,144	1.0	6,682,100
Current FLUM: DRI-MU, & Mixed Use	8,916	Varies with each Land Use Category	3,734,436
NET CHANGE	11,228		2,947,664
Footnotes:			
⁽¹⁾ Maximum intensities are established by Comprehensive Plan Policy.			
⁽²⁾ Maximum intensity for the proposed FLUM designation will be the caps established in the companion MPD application.			
⁽³⁾ Maximum intensity for the current FLUM designation are based on approved DRI-DOs or if not within a DRI, the maximum intensity permitted by the FLUM designation.			

PUBLIC FACILITIES AVAILABILITY /IMPACT ANALYSIS (BASED ON THEORETICAL YIELD OF MAXIMUM DEVELOPMENT POTENTIAL)

Objective 1.1.3-Evaluation of Amendments to the FLUM

Review proposed amendments to the Future Land Use Map (FLUM) based upon environmental conditions, the availability of facilities and services, school capacity, compatibility with surrounding uses, and other generally accepted land use planning principles.

Policy 1.1.3.2 - *At a minimum, infrastructure availability and capacity, specified as follows, shall be considered when evaluating proposed FLUM amendments:*

- A. *Existing and future capacity of roadways based on functional classifications and best available data for traffic modeling. For the purposes of evaluating capacity, roadway improvements programmed in the FDOT 5-year Work Plan or listed in either the City or the County 5-year Capital Improvement Program shall be considered.*
- B. *Large-scale, high-intensity commercial projects shall be concentrated at intersections of the following arterials*
- C. *Existing and future availability and capacity of central utility systems.*
- D. *Availability and capacity of receiving watercourses and drainage systems to convey design storm events.*

PUBLIC FACILITIES CAPACITY/IMPACT ANALYSIS

As previously stated, the analysis for this proposed FLUM amendment will consider the proposed companion zoning map amendment and associated Development Agreement as the potential development impact. The current development potential will use the existing approved DRI-DO or maximum development potential from the current FLUM designation (if the parcel is not within one of the two DRIs). Other assumptions such as the number of trips are provided in the footnotes of the analysis table.

The analysis of the public facilities impacts represents the theoretical net change between the existing and proposed land use categories. As previously stated, there is currently no infrastructure available to serve the subject area, therefore, it is crucial to acknowledge that the development impact of the gross development potential for the subject area since it is this development potential that will need to be accommodated by the public infrastructure and public facilities improvements.

The results of the net impact analysis are provided in Table 3 below:

Transportation

The proposed FLUM amendment has previously been described in the Background section. Based on the analysis conducted in Table 3, the net increase in potential trips is 9,386 PM Peak Hour Trips with a gross total of 28,187 trips if the proposed FLUM amendment is approved. The provision for addressing the demand on transportation facilities and the need to expand the transportation facilities is to be covered by a development agreement which will be a negotiated instrument between the applicant and the City with final approval by City Council. Elements of the development agreement may include the impact on the existing roadway network, the additional roadways needed to serve the subject area, the timing of improvements, the costs of the improvements, and the financial mechanism to implement the transportation projects.

Potable Water

The proposed FLUM amendment will have a maximum potential net increase in demand for potable water of approximately 2.5 MGD and a gross increase in demand of 6.3 MGD. Similar to addressing the transportation facilities impacts, the necessary system improvements will be addressed in a development agreement. Elements of the development agreement may include the impact on the capacity (water lines and plant treatment capacity), the costs of the improvements necessary to accommodate the project, and the financial mechanism to implement the necessary improvements to serve the subject area.

Wastewater

The proposed FLUM amendment will have a maximum potential net increase in demand for wastewater treatment of approximately 2.0 MGD and a gross increase in demand of 5.1 MGD. Similar to addressing the other public facilities and utilities, the necessary improvements will be addressed in a development agreement. Elements of the development agreement may include the impact on the capacity (water lines and treatment), the additional capacity needed to serve the subject area, the costs of the improvements, and the financial mechanism to implement the necessary improvements to serve the subject area.

Solid Waste

The proposed FLUM amendment will have a potential net increase of 163,775 lbs./day of solid waste with a gross demand of 452,955 lbs./day of solid waste. Only the demand from residential use is calculated. The demand from non-residential uses are not calculated since the landowner or proprietor (business owner) of a non-residential use have the option to contract with a provider for solid waste disposal.

Public Recreation and Open Space

The proposed FLUM amendment will have a potential net increase in demand of 169.7 acres of park facilities with a gross demand of approximately 438 acres. Addressing the demand for park facilities may include the donation of land, the payment of impact fees, or a development agreement between the City and developer that will address the demand on recreation and open space created by development in the subject area.

Public Schools

The proposed FLUM amendment will have a potential net decrease in demand of 1,702 student stations with a gross increase in demand for 4,351 student stations. Similar to addressing the other public facilities, an agreement between the land owner and the School District will be necessary to address the impact on school facilities. Mitigation of school impacts can range from the donation of land to a payment of a proportionate-share amount.

Stormwater

Stormwater treatment facilities are reviewed for consistency with LOS during site plan review. The LOS standards for stormwater quantity and quality, at a minimum, shall be the requirement established by the SJRWMD and other applicable regulatory requirements.

Table 3 Public Facilities Impact Analysis

***Proposed FLUM designation assigns entitlements as specified in the companion MPD amendment.**

****Current FLUM impacts are based on approved DRI-DO entitlements for the property and maximum development potential based on land use.**

Density ⁽¹⁾	# of units or square feet of development	Transportation (PHT) ⁽²⁾	Potable Water (GPD) ⁽³⁾	Sanitary Sewer (GPD) ⁽⁴⁾	Solid Waste (lbs./day) ⁽⁵⁾	Recreation and Parks (8 acres/ 1000 pop.) ⁽⁶⁾	Public Education (students) ⁽⁷⁾
Proposed FLUM designation*							
Master Planned Mixed Use-Single Family Detached	15440	14977	3667000	3165200	319052	308.8	4243
Master Planned Mixed Use-Single-family Attached	4480	1971	1064000	918400	92575	89.6	School Impact included in total above.
Master Planned Mixed Use-Multi-family	2000	1240	475000	410000	41328	40.0	108
Master Planned Mixed Use-Retail (Commercial)	1876000	7298	318920	187600	N/A	N/A	N/A
Master Planned Mixed Use-Office	738000	871	125460	73800	N/A	N/A	N/A
Master Planned Mixed Use-Industrial	3235000	1068	549950	323500	N/A	N/A	N/A
Master Planned Mixed Use-Hospital (assumes 150,000 sq. ft.)	100 beds	210	25500	15000	N/A	N/A	N/A
Master Planned Mixed Use-Hotel (assumes hotel of 82,500 sq. ft. for 125 rooms or 660 sq. ft./room)	1,035 rooms (683,100 sq. ft.)	486	116127	68310	N/A	N/A	N/A
Master Planned Mixed Use-Golf Course	18 holes	66			N/A	N/A	N/A
Master Planned Mixed Use-Sports/Entertainment Venue	28,000 seats				N/A	N/A	N/A
	Total	28,187	6,341,957	5,161,810	452,955	438	4,351
Current FLUM designation** - the combined acreage of the DRIs to be included as part of the MPMU is +/-10,512 acres							
COPC-DRI-MU (Residential)	11000	10670	2612500	2255000	236775	220.0	2343
COPC-DRI-MU (Age Restricted Units)	1000	970	237500	205000	21525	20.0	N/A
COPC-DRI-MU (Life Care Units)	150	146	35625	30750	N/A	N/A	N/A
COPC-DRI-MU (Retail)	454000	1766	77180	45400	N/A	N/A	N/A
COPC-DRI-MU (Office)	656000	774	111520	65600	N/A	N/A	N/A
COPC-DRI-MU (Industrial)	2309000	762	392530	230900	N/A	N/A	N/A
COPC-DRI-MU (Civic)	222000	1958	37740	22200	N/A	N/A	N/A
COPC-Mixed Use (3.9 acres)-Shopping Center Use	93436.2	363	15884	9344	N/A	N/A	N/A
FC-Residential Low Density/Rural Estate (12 ac.) 1 du/acre	12	12	2850	2460	258	0.2	3
FC-Agriculture & Timberlands (7,113 ac.) 1 du/5 acres	1423	1380	337868	291633	30621	28.5	303
FC & COPC-Conservation	4097 acres	0	0	0	0	0	0
	Total	18,801	3,861,197	3,158,287	289,180	269	2,649
Net Change		9,386	2,480,760	2,003,523	163,775	169.7	1,702

Footnotes:

- (1) *Calculation of Density: Lot Size (acre)*# of units/acre, or determined by site specific policy*
- (1) *Calculation of Intensity: Lot Size (acre)*allowable FAR or determined by site specific policy*
- (2) *Transportation: Single Family Residential - Detached, PM Peak Hour Trips (PHT), ITE Code 210 = 0.97 Trips/Unit, ITE Trip Generation Manual, 12th Edition*
- (2) *Transportation: Single Family Residential - Attached, PM Peak Hour Trips (PHT), ITE Code 215 = 0.44 Trips/Unit, ITE Trip Generation Manual, 12th Edition*
- (2) *Transportation: Multi-family Residential, PM Peak Hour Trips (PHT), ITE Code 220 = 0.62 Trips/Unit, ITE Trip Generation Manual, 12th Edition*
- (2) *Transportation: Retail PM Peak Hour Trips (PHT), ITE Code 820: Shopping Center (>150k) = 3.89/1000 sq. ft. based on equation in ITE Manual, 12th Edition*
- (2) *Transportation: Office PM Peak Hour Trips (PHT), ITE Code 710: General Office Building = 1.18/1000 sq. ft. based on equation in ITE Manual, 12th Edition*
- (2) *Transportation: Industrial PM Peak Hour Trips (PHT), ITE Code 130: Industrial Park = .33/1000 sq. ft. based on equation in ITE Manual, 12th Edition*
- (2) *Transportation: Civic Use PM Peak Hour Trips (PHT), ITE Code 590: Library = 8.82/1000 sq. ft. based on equation in ITE Manual, 12th Edition*
- (2) *Transportation: Hospital Use PM Peak Hour Trips (PHT), ITE Code 610: Hospital = 2.10/Bed based on equation in ITE Manual, 12th Edition*
- (2) *Transportation: Hotel Use PM Peak Hour Trips (PHT), ITE Code 310: Hotel = .47/Room based on equation in ITE Manual, 12th Edition*
- (2) *Transportation: Golf Course PM Peak Hour Trips (PHT), ITE Code 430: Golf Course = 3.68/Hole based on equation in ITE Manual, 12th Edition*
- (3) *Potable Water: Residential = # of units*2.5*95 gallons/capita/day*
- (3) *Potable Water: Commercial = 17 gpd/100 sq. ft.*
- (4) *Wastewater: Residential = # of units*2.5*82 gallons/capita/day*
- (4) *Wastewater: Commercial = 10 gpd/100 sq. ft.*
- (5) *Solid Waste: Residential Demand = # of units*2.50*8.61 lbs/capita/day*
- (5) *Solid Waste: No Level of Service Requirement for Non-residential*
- (6) *Recreation and Parks: Residential Demand = # of units * 2.50 *8 acres/1000 persons*
- (6) *Recreation and Parks = No LOS Requirement for Non-residential*
- (7) *Public Education Residential: = Based on multiplier provided by Flagler County School District.*

ENVIRONMENTAL/CULTURAL RESOURCES ANALYSIS

Objective 1.1.3-Evaluation of Amendments to the FLUM

Review proposed amendments to the Future Land Use Map (FLUM) based upon environmental conditions, the availability of facilities and services, school capacity, compatibility with surrounding uses, and other generally accepted land use planning principles.

Policy 1.1.3.1- At a minimum, the following environmental factors shall be evaluated each time FLUM amendments are proposed:

- A. Topography and soil conditions including the presence of hydric soils.*
- B. Location and extent of floodplains and the Coastal Planning Area, including areas subject to seasonal or periodic flooding.*
- C. Location and extent of wetlands, certain vegetative communities, and protected wildlife species.*
- D. Location and extent of other environmentally sensitive features.*
- E. Proximity to wellfields and aquifer recharge areas.*
- F. Impacts to potable water supply.*

The following section discusses site conditions. Staff has evaluated this information and provides the following findings.

A. TOPOGRAPHY AND SOIL CONDITIONS

The analysis area is vacant and primarily in timberland. It is surrounded to the east by the FEC railroad, the north primarily by public and private conservation lands, the west generally by Old Brick Road and an FPL electric transmission line, and the south by Espanola, CR 13 and CR 205. Aside from a few parcels of land near Espanola, there are no adjacent residential areas.

Analysis: The analysis area is situated within the Atlantic Coastal Plain and the Eastern Flatwoods District physiographic region and is characterized by predominantly flat to gently rolling topography with relatively low overall relief. The landscape consists of pine flatwoods, mixed

upland forests, forested wetlands, cypress strands, and shallow depressional features typical of northeastern Florida.

Surface water drainage on the analysis area is shaped by subtle topographic gradients and extensive natural wetland systems. Due to the limited relief, runoff generally moves as shallow overland flow through interconnected wetlands, swales, and natural drainageways. Wetlands and depressional areas temporarily store surface water before it gradually discharges to downstream receiving systems. Overall, drainage is broadly distributed and influenced more by natural wetlands and the low-gradient landscape than by defined stream channels.

According to the USDA NRCS Soil Survey Geographic database (USDA, 2016) for Flagler County, Florida, the following soil types occur within the analysis area. Soils are classified as hydric, predominantly hydric, partially hydric, predominantly nonhydric, and nonhydric. The hydric and predominantly hydric soils are typically found in the wetland systems in the analysis area.

Soil Map Unit	Hydric Classification	General Description
Riviera fine sand, 0 to 2 percent slopes	Predominantly hydric	Poorly drained, 0 to 2% slope, drainageways and flats.
Samsula and Hontoon soils, depressional	Hydric	Very poorly drained, 0 to 2% slope, floodplains.
Wabasso fine sand, 0 to 2 percent slopes	Predominantly nonhydric	Poorly drained, 0 to 2% slope, floodplains and drainageways.
Pineda-Wabasso complex	Predominantly nonhydric	Poorly drained, 0 to 2% slope, flats.
Favoretta, Chobee, and Winder soils, frequently flooded	Hydric	Very poorly drained, 0 to 2% slope, floodplains.
Hicoria, Riviera, and Gator soils, depressional	Predominantly hydric	Very poorly drained, 0 to 21% slope, depressions.
EauGallie fine sand, 0 to 2 percent slopes	Predominantly nonhydric	Poorly drained, 0 to 2% slope, flatwoods.
Winder fine sand, 0 to 2 percent slopes	Predominantly hydric	Poorly drained, 0 to 2% slope, flats and drainageways.
Myakka-Myakka, wet, fine sands, 0 to 2 percent slopes	Predominantly nonhydric	Poorly drained, 0 to 2% slope, flatwoods.
Placid, Basinger, and St. Johns soils, depressional	Hydric	Very poorly drained, 0 to 1% slope, depressions.
Immokalee fine sand, 0 to 2 percent slopes	Predominantly nonhydric	Poorly drained, 0 to 2% slope, flatwoods.
Pineda-Pineda, wet, fine sand, 0 to 2 percent slopes	Partially hydric	Poorly drained, 0 to 2% slope, drainageways and flatwoods.
Pomello fine sand, 0 to 5 percent slopes	Nonhydric	Moderately well drained, 0 to 5% slope, ridges and knolls.
Malabar fine sand, 0 to 2 percent slopes	Predominantly hydric	Poorly drained, 0 to 2% slope, drainageways and flats.
Valkaria-Smyrna complex	Partially hydric	Poorly drained, 0 to 2% slope, drainageways.
Valkaria fine sand, 0 to 2 percent slopes	Predominantly hydric	Poorly drained, 0 to 2% slope, drainageways on flats.

Soil Map Unit	Hydric Classification	General Description
Orsino fine sand, 0 to 5 percent slopes	Predominantly nonhydric	Moderately well drained, 0 to 5% slopes, knolls and ridges.
Smyrna fine sand, 0 to 2 percent slopes	Predominantly nonhydric	Poorly drained, 0 to 2% slopes, flatwoods.
Astatula fine sand, 0 to 8 percent slopes	Nonhydric	Excessively drained, 0 to 8% slopes, ridges and hills.
Adamsville fine sand, 0 to 2 percent slopes	Predominantly nonhydric	Somewhat poorly drained, 0 to 2% slopes, rises and knolls.
Samsula and Placid soils, frequently flooded	Hydric	Very poorly drained, 0 to 2% slopes, flood plains.
Tavares fine sand, 0 to 5 percent slopes	Nonhydric	Moderately well drained, 0 to 5% slopes, flats, hills, ridges, and knolls.
Cassia fine sand, 0 to 2 percent slopes	Nonhydric	Somewhat poorly drained, 0 to 2% slopes, rises and knolls on flatwoods.
Udarents, moderately wet	Nonhydric	Somewhat poorly drained, 0 to 2% slopes, flats.
Pits	Predominantly nonhydric	0 to 2% slopes, depressions.
Paola fine sand, 0 to 8 percent slopes	Nonhydric	Excessively drained, 0 to 8% slopes, ridges and knolls.
Pomona fine sand, 0 to 2 percent slopes	Predominantly nonhydric	Poorly drained, 0 to 2% slopes, flatwoods.
Water	Nonhydric	—

FINDING: There are no indicators of unique topographical reliefs or soils that would be affected by the FLUM change. It is not anticipated that the FLUM change will negatively impact the local topography and soils or prevent development permissible within the FLUM designation.

B. FLOODPLAINS

Federal Emergency Management Agency's ("FEMA"), Flood Insurance Rate Maps (FIRM) source indicates that the subject analysis area contains Special Flood Hazard Areas (SFHA) designated as Zone A with no Base Flood Elevation ("BFE") determined.

Analysis: The development within the analysis area will follow the FEMA rules and regulations regarding floodplain management. A FEMA-compliant hydrologic and hydraulic analysis will be conducted prior to development to determine BFE for the approximate Zone A floodplain. In addition, substantial areas of the 100-year floodplain will be contained within the Greenway Overlay and other open space areas as provided by Comprehensive Plan Future Land Use Element Objective 1.7.1 and supporting policies.

FINDING: No adverse impacts to the 100-year floodplain are anticipated with the FLUM change. Floodplain management will be addressed during the site specific permitting process prior to technical site plan approval.

C. VEGETATIVE COMMUNITIES

According to the Breedlove, Dennis & Associates, Inc. ("BDA") Preliminary Environmental Site Assessment ("BDA Report"), the following vegetative community types and features are located within the analysis area:

1. Uplands
 - a. Upland Coniferous Forests (410)
 - b. Pine Flatwoods (411)
 - c. Sand Pine (413)
 - d. Regenerating Sand Pine/Xeric Oak Scrub (417)
 - e. Live Oak (427)
 - f. Upland Scrub, Pine and Hardwoods (436)
 - g. Coniferous Plantations (441)
 - h. Sand Pine Plantations (4411)
 - i. Railroads (812)
 - j. Communication Facilities (822) and Electrical Power Transmission Lines (832)
2. Wetlands
 - a. Bay Swamps (611)
 - b. Mixed Wetland Hardwoods (617)
 - c. Cypress (621)
 - d. Hydric Pine Flatwoods (625)
 - e. Wetland Forested Mixed (630)
 - f. Freshwater Marshes (641)
 - g. Wet Prairies (643)
 - h. Mixed Scrub-Shrub Wetland (646)
 - i. Wet Coniferous Plantation (W441)
3. Surface Waters
 - a. Ditches (516)
 - b. Lakes (520)
 - c. Reservoirs larger than 10 acres (533)
 - d. Reservoirs less than 10 acres (534)

Analysis: The analysis area contains uplands, wetlands, and surface waters. Any wetland impacts and mitigation within the analysis area will be pursuant to the St. Johns River Water Management District ("SJRWMD") and U.S. Army Corps of Engineers ("Corps") regulations. Upland buffers along (non-impacted) wetlands within the analysis area will be subject to SJRWMD permitting requirements. In certain instances, a ten (10) foot wide building setback will be provided from upland buffers.

Consistent with Comprehensive Plan Future Land Use Element Goal 1.7, Master Planned Mixed Use, a Greenway Overlay will be created within the analysis area. The Greenway Overlay will consist of a system of interconnected greenways and serve as a critical tool for providing ecological connectivity and recreational opportunities compatible with surrounding natural resources. At least 15% of the Greenway Overlay will consist of upland buffers or other upland open space.

Finding: The FLUM amendment will not change the need to adhere to federal and state regulations related to wetland impacts and upland buffers. It is staff's determination that based on the BDA Report and the above, the FLUM amendment will have no adverse impact on wetlands.

D. PROTECTED SPECIES DISTRIBUTION/ WILDLIFE UTILIZATION

BDA assessed the analysis area for the occurrence or likelihood of occurrence for Listed Species (wildlife or plants listed for protection by the U.S. Fish and Wildlife Service (“USFWS”) and Florida Fish and Wildlife Conservation Commission (“FWC”)). The BDA Report documents the following:

1. American Alligator are regulated and have a high likelihood of occurrence within the analysis area;
2. Eastern Indigo Snake have a low to moderate potential to occur within the analysis area;
3. Florida Pine Snake have a low potential for occurrence within the analysis area;
4. Gopher Tortoise burrows that were potentially occupied were observed by BDA within the analysis area;
5. Striped Newt has a low likelihood of occurring within the analysis area;
6. Bald Eagle is unlikely to be adversely affected by analysis area development;
7. Florida Sandhill Crane have a high potential to forage and nest within the analysis area primarily in the southwestern portion where the natural lakes are located;
8. Florida Scrub-jay has a low likelihood of occurrence within the analysis area;
9. Florida Burrowing Owl have a low likelihood of occurring within the analysis area;
10. Southeastern American Kestrel have a moderate to high likelihood of utilizing the analysis area given the observation of an active nest and this wildlife in 2010 and 2023 (respectively) within the analysis area;
11. Wading Bird Rookeries (little blue heron, reddish egret, roseate spoonbill and tricolored heron) – the wetlands within the analysis area have the potential to contribute to the nesting success of these birds particularly the little blue heron or tricolored heron; and
12. Wood Storks have a moderate likelihood of utilizing the analysis area for foraging (these birds were removed from the USFWS Federal List of Endangered and Threatened Wildlife but protected by the Migratory Bird Treaty Act and under review by the FWC).

Analysis: Listed Species have been observed within the analysis area. The only Listed Species observed by BDA during 2023-2025 analysis area investigations were gopher tortoise. Previously documented observations of Listed Species on the southwestern portion of the analysis area include American alligator, Florida Sandhill crane, gopher tortoise, little blue heron, southeastern American kestrel and a wood stork flying over and within the vicinity of the analysis area. Previously documented observations of Listed Species on the northwestern portion of the analysis area include gopher tortoise, little blue heron and tricolored heron.

Mitigation or protection of Listed Species within the analysis area will be per federal and/or state environmental resource permitting associated with development of the analysis area. To the extent any gopher tortoise within the analysis area will be adversely affected by the development of the analysis area, a relocation permit from the FWC will be required with relocation to an FWC Certified Gopher Tortoise Recipient Site.

In addition to the applicable Listed Species regulatory framework, the analysis area is proposed to contain an approximately 8,501 acre Greenway Overlay. The Greenway Overlay is proposed to provide a connection to the Florida Wildlife Corridor located outside the analysis area and a wildlife habitat corridor within the analysis area. In addition, a Habitat Conservation Management Plan(s) will be developed and implemented for the Greenway Overlay as part of the federal and state environmental permitting process.

FINDING: The FLUM amendment will not change the need to adhere to federal and state regulations related to Listed Species. The Greenway Overlay is proposed to provide interconnected greenways and a wildlife corridor for wildlife, including Listed Species. It is staff’s

determination that based on the BDA Report and the above, the FLUM amendment will have no adverse impact on Listed Species.

E. Groundwater Resource Protection

The analysis area includes active production well sites, all of which are within the area to be annexed. The analysis area does not include areas of high aquifer recharge. Most of the analysis area is within an area of low aquifer recharge.

Analysis: Development within the primary and secondary wellhead protection zones will be required to follow the regulations and requirements provided in LDC Section 10.03. None of the active production well sites are located within the more intensive Regional Activity Center and Employment Center sub-areas depicted on the companion zoning application, Master Plan Map Exhibit B. The amendment is not within an area of high aquifer recharge area and the FLUM amendment will not change the need to comply with the City's LDC Section 10.03 regarding wellhead protection zones.

FINDING: The land use change is not anticipated to impact groundwater resources.

F. Historical Resources

SEARCH prepared a Technical Memorandum, Cultural Resources Desktop Analysis and Reconnaissance Survey of the analysis area ("Search Technical Memo") which provides an overview of background research and results of a field reconnaissance survey for the analysis area.

Analysis: The Technical Memo identified one (1) National Register of Historic Places ("NRHP") listed property, the Old Dixie Highway (Old Brick Road), and twelve (12) NRHP eligible resources within the analysis area. If any portion of the analysis area is determined to have a potentially significant or significant cultural resource in areas of development, the applicant will conduct more detailed site specific cultural resource assessment(s) and adhere to any recommendations of the state historic preservation officer.

FINDING: The FLUM amendment will have no adverse impact on historical or cultural resources.

LAND USE COMPATIBILITY ANALYSIS

Policy 1.1.3.3 – At a minimum, compatibility with proximate uses and development patterns shall be considered when evaluating proposed FLUM amendments. "Compatibility" shall be as defined in Section 163.3164(9), Florida Statutes.

A. This policy shall not be construed to mean that different categories of uses are inherently incompatible. This policy is intended to promote the use of transitional areas where densities and intensities can be appropriately scaled.

B. Buffers are encouraged as an effective means of transition between areas where there is a greater difference between densities and intensities of the existing and proposed developments.

C. Impacts to the health, safety, and welfare of surrounding residents shall be considered.

D. An analysis shall be conducted of the proposed development, and how that will interface with existing abutting development, if approval is granted.

E. Neighborhood character shall be preserved and promoted by working toward maintaining compatibility of surrounding land uses when new abutting uses are introduced.

Surrounding Future Land Use Map Designation:

North: predominantly Flagler County Agriculture & Timberlands, DRI-MU, St. Johns County-Rural/Silviculture

South: predominantly Flagler County Agriculture & Timberlands, Espanola – FLUM designation of Low Density Residential-Rural Estate

East: DRI-MU, Industrial (County and City designation), and Residential

West: predominantly Flagler County Agriculture & Timberlands

Surrounding Zoning Designation:

North: predominantly Flagler County Agriculture, St. Johns County – Open/Rural

South: predominantly Flagler County Agriculture, Espanola – Rural Mobile Home

East: Master Planned Development, Industrial (County and City designation), Single-family residential

West: predominantly Flagler County Agriculture

Surrounding Property - Existing Uses:

North: Vacant, Silviculture/Timberlands

South: Espanola area, Timberlands, Industrial

East: Industrial Park, Single family, Florida East Coast Railroad

West: Mitigation bank, Silviculture/Timberlands

North

The area on the northern section of the proposed MPMU area are bounded by unincorporated Flagler County and St. Johns County. This area is currently vacant with a FLUM designation of Flagler County Agriculture & Timberlands and zoning of Agriculture. The St. Johns County area is designated Rural/Silviculture.

The northwest area of the proposed MPMU area bounds tracts that have a FLUM designation of Development of Regional Impact-Mixed Use (DRI-MU). These parcels are part of the Old Brick Township DRI but are not proposed to be part of the MPMU designation. These lands are proposed to become a mitigation bank.

East

The area to the east of the proposed MPMU area is mainly bounded by the Florida East Coast (FEC) Railroad tracks. The immediate area to the east of the FEC tracks are part of the Palm Coast Park DRI and are mainly slated for residential development. There are patches of industrial areas/uses along the FEC mostly concentrated to the southern portion of the proposed MPMU area.

South

Abutting the subject property to the south is the enclave of Espanola and unincorporated Flagler County. These properties are currently designated Flagler County Low Density Residential/Rural Estate, along with Agriculture & Timberlands, and Conservation. This area has a zoning of Rural Mobile Home as well as Agriculture. The development pattern ranges from single-family residential and vacant lands. There are areas along the southern boundary (mainly along the southeast quadrant) which are developed with industrial uses such as concrete plant, and industrial park. These areas found in both unincorporated Flagler County and the City of Bunnell are zoned Industrial.

West

Finally, the parcels to the west are bounded by lands in unincorporated Flagler County. These lands have a FLUM designation of Agriculture and Timberlands with zoning designations of Agriculture. The properties are currently vacant or are used for Silviculture activities. As previously stated, the northwest section of the proposed MPMU area is a mitigation bank.

Analysis: Overall, staff does not find any incompatibility with the proposed FLUM designation of Master Planned Mixed Use and the existing and potential uses in the vicinity of the subject property based on the following:

The proposed MPMU designation includes objectives and policies to recognize the uniqueness and the environmental sensitivity of the subject area. Although a large portion of the land is under silviculture activities, there exists in the subject area environmental features (wetlands and upland habitat) whose function needs to be maintained as part of the future plans for the subject area. As provided in the Comprehensive Plan, **Goal 1.7 Master Planned Mixed Use** is established to “*Create parameters for the development of a Master Planned Mixed Use community in a means that allows and promotes a mixture of uses with an integrated, interconnected transportation network, and guides development within the means of the natural environment*”.

A key feature of the MPMU Goal, Objectives, and Policies is **Policy 1.7.1.1** which calls for the depiction of a “Greenway Overlay” as part of the companion Master Planned Development zoning. The purpose of the Greenway Overlay is to serve as “*the primary defining component of the community form. This Overlay is created based on the regional context of planned conservation lands, adjacent public conservation lands, on-site environmentally sensitive lands, an assessment of wetland quality, and ecological linkages to avoid habitat fragmentation*”. As such, this policy calls for the protection of connection of habitat and other environmentally sensitive lands with lands that are beyond the borders of the proposed MPMU area.

In addition to the “Greenway Overlay”, **Policy 1.7.1.1** also creates an “Employment Center” sub area. The objective of this sub area which is to be located proximate to the regionally significant transportation network is to provide economic development opportunities and encourage the location of jobs proximate to the transportation network. As currently proposed, the Employment Centers are located proximate to existing employment centers found along US-1 and the FEC railroad tracks.

Additionally, Policies in the MPMU establish compatibility, design standards, and in-depth analysis to protect the long-term viability and multi-function of the Greenway Overlay. These policies are found in the following:

Policy 1.7.1.2 A. Compatibility

- *Minimize conflicting uses through site planning (e.g. placing stormwater ponds and trails adjacent to established Greenway Overlay instead of homes, etc.),*
- *Prohibition of structural obstructions that may adversely affect wildlife mobility (e.g. fencing or bulkhead revetments, etc.),*
- *Minimization of nuisance wildlife attractants (e.g. storage of household trash in wildlife-resistant containers, outside feeding of domesticated pets, etc.).*

Policy 1.7.1.2 B. Design Guidelines

- *Protection and/or enhancement of historic and cultural resources in conjunction with the State Historic Preservation Officer (SHPO) and in compliance with the National Historic Preservation Act,*
- *Retaining unique ecological linkages to avoid habitat fragmentation,*
- *Incorporating appropriate wildlife crossings where streets cross the Greenway Overlay.*

Policy 1.7.1.2 C. Conservation

- *Conservation easements will be developed and implemented as part of the federal and state environmental permitting process.*

Policy 1.7.1.2 D. Habitat Conservation Management Plan

- *Establishes the need to develop and implement a Habitat Conservation Management Plan as part of the federal and state environmental permitting process. This policy will help to ensure that existing habitat remain viable in the MPMU area.*

Policy 1.7.1.2 E. Monitoring and Enforcement

- *Establish within an MPD Development Agreement, enforcement provisions to ensure consistency with Policies found in 1.7.1.2.*

Policy 1.7.1.2 F. Public Access Provisions

- *Balance recreational use with the purpose and intent of the Greenway Overlay by planning for public access.*

Finally, the following directly provides a mandate for newly annexed areas to comply with the City's Concurrency Management System.

Policy 1.5.1.8 - *The City shall require developers of annexed lands that are seeking development approval to abide by the City's Concurrency Management System consistent with state law. This policy requires that any expansion into any newly annexed areas will still have to provide for the required public facilities.*

CONSISTENCY WITH COMPREHENSIVE PLAN

In addition to being consistent with Objective 1.1.3 and Policy 1.1.3.3 which establishes the criteria for review of Future Land Use Map Amendments as provided in the previous section. Staff's analysis finds the designation of the MPMU westward annexation area consistent with various Annexation and Economic Development Goals, Objectives, and Policies found in the Comprehensive Plan. These are highlighted as follows:

The proposed FLUM amendment recognizes the availability of an approximately 20,100 acre area for the potential implementation of various Annexation and Economic Development goals, objectives and policies identified within the Comprehensive Plan. It is important to recognize that there are other policies within the Comprehensive Plan that need to be addressed such as the provision of public infrastructure, facilities and services which are required as part of expanding a City's urban boundary. It is recognized that the provision of the required public infrastructure, facilities, and services are not comprehensively addressed as part of this FLUM amendment but are to be addressed when or should future phases of the westward expansion move forward. These processes may include the approval of a zoning map amendment, approval of a development agreement, and approval of agreements to specify responsibilities for the stated public infrastructure, facilities, and services. These policies are addressed below:

Consistency with the Future Land Use Element

Policy 1.1.4.3 – *Land use patterns will be required to be efficient and not disproportionately increase the cost of providing and maintaining public facilities, as well as providing housing and transportation strategies that will foster energy conservation.*

Analysis: The subject property encompasses approximately 20,100 acres located mainly west of the Florida East Coast (FEC) railroad tracks. As stated in the findings of the Comprehensive Plan Future Land Use Element Goal 1.7, *the City will encourage new development to (i) be composed of mixed-use communities and neighborhoods served by a regionally significant interconnected transportation network and public facilities, (ii) provides energy efficient and diverse housing opportunities, (iii) promote enhanced opportunities for further economic*

growth in the City, and (iv) establish a guide for protection of the natural environment. Currently, access to the subject area is very limited and will require significant improvements to the road network in order to accommodate the potential densities/intensities contemplated by the MPMU designation. There is approximately \$120 million allocated from the State of Florida to begin the extension of an existing roadway (Matanzas Woods Parkway) to serve the subject area, however, more resources are necessary to build a transportation network to accommodate the contemplated level of development.

In addition to the roadway network, other public infrastructure such as central water and sewer, schools, and parks will require extensive expansion to serve the contemplated development and subsequent population that are expected to occupy the MPMU area.

The total cost and provision of these improvements are currently not known at this time but will be the subject of a development agreement subject to approval by the City Council and the Developer.

Policy 1.3.1.3 - *The City shall encourage development to locate in the areas where public facilities, infrastructure, and services are available. Where there are deficiencies and where appropriate, the City shall require the developer to provide or extend the facilities as necessary to accommodate development provided such provision or extension is consistent with state law. Applicable impact fees shall be used by the City consistent with State law to offset the costs of the City providing facilities.*

Analysis: See analysis for Policy 1.1.4.3.

Consistency with the Housing Element

Objective 3.4.1 – *Diversity in Housing Opportunities - Increase the diversity of the housing types, prices, and opportunities*

Policy 3.4.1.1 – *Through the FLUM and the zoning district regulations of the LDC, the City shall make provisions to supply land that can be developed with various types of residential uses, including single-family homes of various sizes, duplexes, multi-family dwellings, and residential units in mixed use developments*

Analysis: The proposed MPD-DA includes a table of permitted uses which includes a variety of residential unit types ranging from fee simple Tiny Homes to multi-family units. The Lot and Site Development standards proposed within the MPD-DA also provide for a variety of lot sizes which results in the potential to have housing stock with a variety of sales price.

Consistency with the Infrastructure Element

Policy 5.1.3.2 – *The City shall designate urban densities or intensities on the Future Land Use Map only in areas that have sufficient existing or planned capacity for potable water facilities and wastewater facilities where connection is available consistent with Policies 1.1.1.2 and 1.1.3.2. For the purposes of this Plan, any residential density exceeding one (1) dwelling unit per acre shall be deemed to be an urban density.*

Analysis: There are currently no existing public facilities to accommodate development in the Master Planned Mixed Use (MPMU) area. The existing DRIs in the proposed MPMU area as part of their DO have an approved master utility agreement. Since the MPMU area will encompass areas that are not in the existing DRIs it is necessary to expand the scope and develop a new utility mitigation agreement to outline responsibilities for accommodating the potable water needs in the MPMU area. The approval of these agreements is necessary prior to the commencement of any development within the MPMU area.

Policy 5.2.2.3 – *The City shall designate urban densities or intensities on the Future Land Use Map only in areas that have sufficient existing or planned capacity for sanitary sewer facilities and where connection is available as set forth in State law and City regulations. The City shall minimize the use of septic tanks in accordance with the provisions of Objective 5.2.3 and policies implementing that objective. For the purpose of this Plan, any residential density exceeding one (1) dwelling unit per acre shall be deemed to be an urban density.*

Analysis: There are currently no existing public facilities to accommodate development in the Master Planned Mixed Use (MPMU) area. The existing DRIs in the proposed MPMU area as part of their DO have approved master utility agreements. Since the MPMU area will encompass areas that are not in the existing DRIs it is necessary to expand the scope and develop a new master utility agreement to outline responsibilities for accommodating the sanitary sewer impact in the MPMU area. The approval of these agreements is necessary prior to the commencement of any development within the MPMU area.

Consistency with the Future Land Use Element – Annexation Goal, Objectives, and Policies

GOAL 1.5: ANNEXATION

Promote economic development and provide sufficient housing diversity, recreational opportunities, and natural resource protection through the adoption of an annexation policy.

Objective 1.5.1 - Develop an Annexation Plan and Policies

Explore opportunities for annexation of properties that can be used for commercial, industrial, and residential uses, particularly those that can help to diversify the housing stock and diversifying the City's tax base.

Policy 1.5.1.1 – *Identify land that is appropriate for annexation and meets the City's adopted Goals that focus on increasing commercial and industrial development.*

Policy 1.5.1.5 - *Identify and annex land appropriate for all types of housing.*

Policy 1.5.1.7 – *For any lands proposed for future annexation, the Conservation Future Land Use designation, or if within a MPMU designation a Greenway Overlay designation may be assigned to environmentally sensitive lands in order to provide protection of large interconnected optimal wetland systems and other high quality environmentally sensitive areas that are located within the proposed annexation area.*

Policy 1.5.1.8 - *The City shall require developers of annexed lands that are seeking development approval to abide by the City's Concurrency Management System consistent with state law.*

Analysis: Since approximately 7,000 acres are proposed to be annexed to become part of the MPMU area, staff reviewed this action for consistency with the Comprehensive Plan Goal, Objective, and Policies for Annexation. Staff finds that the annexation will provide opportunities for the expansion of diversifying the housing stock (through the creation of identified areas as Villages, Village Centers, Regional Activity Center, and Employment Centers as part of the Community Form for the MPMU area - **Policy 1.7.1.1 A-E**), the recreational opportunities (at least 50% of total lands within MPMU shall be planned for recreation and open space uses – **Policy 1.7.2.1**), and protecting the natural resources found in the annexation area (these policies were identified previously in the analysis of **Policy 1.7.1.2 A-F**). (**See text in italics below for full text of MPMU Policies**).

Additionally, **Annexation Policy 1.5.1.7** calls for the assignment of a Greenway Overlay for environmentally sensitive lands in the MPMU area. **MPMU Policy 1.7.1.1 A** creates a Greenway Overlay sub area for the protection of connection of habitat and other environmentally sensitive lands with lands that are beyond the borders of the proposed MPMU area. (**Full text of MPMU Policy 1.7.1.1A are shown below in italics**).

Policy 1.7.1.1 – *The Master Planned Mixed Use (MPMU) FLU designation shall only be implemented through one or more applications for rezoning to the Master Planned Development (MPD) zoning district. Due to the large size of MPMU FLU designation, applications for MPD zoning districts may be submitted in multiple phases for all or a portion of the sub areas listed below. MPD Master Plans will depict the sub-areas for the overall MPMU FLU designation as described below except for Neighborhood Centers, which may be depicted at the time of final development plan review.*

- A. *Greenway Overlay: The Greenway Overlay will be the primary defining component of the community form. The Greenway Overlay will be created based on the regional context of planned conservation lands, any adjacent public conservation lands, on-site environmentally sensitive lands (as defined herein), an assessment of wetland quality, and ecological linkages to avoid habitat fragmentation. The Overlay will consist of a system of interconnected greenways to be depicted on MPD Master Plans. At least 15% of the Greenway Overlay within one or more MPD zoning designations will consist of upland buffers or other upland open space. Each MPD will address the general location, minimum size of the Greenway Overlay within its boundaries, and design standards to ensure development is compatible with the Greenway Overlay. Permitted uses within the Greenway Overlay include passive recreation such as trails and campgrounds, roadway and utility crossings, utilities and support facilities, ecotourism and agritourism related uses, public facilities, stormwater harvesting, water supply uses, and other similar uses as may be further defined in each MPD zoning designation. The Greenway Overlay will serve as a critical tool for providing ecological connectivity and recreational opportunities compatible with surrounding natural resources. Given this, lands within a Greenway Overlay will not be designated with a Conservation FLU designation or subject to the various related Comprehensive Plan regulations and instead will be subject to the Master Planned Mixed Use regulations. To ensure the long-term viability of the Greenway Overlay, Policy 1.7.1.2 sets forth elements to be addressed during each applicable MPD rezoning process.*

- B. Villages: Neighborhoods are the basic building block of a community and will be designed to be compatible with the Greenway Overlay. One or more neighborhoods may make up a Village. Villages will consist of one or more residential neighborhoods with edges defined by the Greenway Overlay and/or the interconnected transportation network. Villages will be designed in a clustered and compact form and contain at least two different housing styles and types. At least 10 percent of the area within each Village shall be retained in open space and recreation. All types of residential uses and ancillary type uses are permitted.*

Each Village shall have a centrally located Neighborhood Center to allow for civic, recreation and open space, institutional, neighborhood commercial, and public uses and facilities to create an identity and sense of place. At a minimum, Neighborhood Centers will include a central public gathering place such as a park, village green, square, plaza, community center or similar public spaces. Neighborhood Centers may also include residential, schools, places of worship, public buildings, office and personal service uses designed to serve the applicable Village.

- C. Village Centers: Village Centers are mixed use districts designed to serve the retail, service and civic needs of the surrounding Villages. These areas are intended to encourage a fine-grained mix of land uses either centrally located within a Village or at the entrances to a Village and/or located around the intersection of streets classified/defined in the LDC as collectors or higher. The Village Centers will vary in size depending upon the surrounding population served, but in no case will a Village Center exceed 200 acres in size. A wide range of land uses are permitted in Village Centers with the highest density and intensity of uses located near the center with decreasing density and intensity of uses proceeding outward from the center toward the adjacent Villages. The Master Planned Mixed Use Village Center area is different from and not subject to any other village center standards in the Comprehensive Plan, and those village centers depicted on Map CP-1.5 (Future Land Use), the LDC and/or other City regulations.*

- D. Regional Activity Center: Each Master Planned Mixed Use project will include a Regional Activity Center that will serve as a regional destination for employment, shopping, recreation, entertainment, civic, institutional, health care, education, hospitality, and/or residential. A Regional Activity Center will be located on or proximate to the regionally significant transportation network to provide easy, convenient access and high visibility. Regional Activity Centers will be a minimum of 200 acres in size. Mixed-use areas within a Regional Activity Center shall provide a range of housing types, recreational amenities, diverse retail and services, entertainment, and/or employment opportunities as well as an integrated multi-modal transportation system for the area. The conceptual location of a Regional Activity Center will be depicted on the Recreation Service Areas Map 4.2 of the Comprehensive Plan Map Series. The final location of any Regional Activity Center shall be determined at the time of construction plan approval without the need to modify the Comprehensive Plan Map Series provided the Regional Activity Center is consistent with the Master Planned Mixed Use Future Land Use designation and applicable MPD zoning.*

E. Employment Center(s): An Employment Center proximate to the regionally significant transportation network will provide economic development opportunities and encourage the location of jobs within proximity to the multi-modal transportation network and residential uses, thereby resulting in shorter commuting distances and a reduction in vehicle miles travelled (VMT) and greenhouse gas (GHG) emissions. The Employment Center shall include a mixture of office, civic, institutional, industrial, warehouse, supporting retail, supporting residential and/or other similar uses.

Policy 1.7.1.2 - *To effectively maintain the multi-functional Greenway Overlay and ensure its long-term viability, the following elements shall be addressed during the MPD rezoning review:*

- A. Compatibility: Specific guidelines within the MPD will be established for development outside and adjacent to the Greenway Overlay to minimize edge effects. Such guidelines may include:*
- i. Establishment of setbacks, transition zones, and buffer zones;*
 - ii. Minimization of conflicting uses through site planning (e.g., placing stormwater ponds and trails adjacent to established Greenway Overlay instead of homes, etc.);*
 - iii. Prohibition of structural obstructions that may adversely affect wildlife mobility (e.g., fencing or bulkhead revetments, etc.);*
 - iv. Pursuing FWC Lighting Certification;*
 - v. Minimization of nuisance wildlife attractants (e.g., storage of household trash in wildlife-resistant containers, outside feeding of domesticated pets, etc.); and/or*
 - vi. Locating Hamlets within transition zones.*
- B. Design Guidelines: Guidelines will be established for design elements within and adjacent to the Greenway Overlay. Such guidelines will include:*
- i. Connection to any adjacent regional greenway(s); and internal community elements;*
 - ii. Protection and/or enhancement of historic and cultural resources in conjunction with the State Historic Preservation Officer (SHPO) and in compliance with the National Historic Preservation Act;*
 - iii. Incorporating water conservation strategies to minimize use of potable water;*
 - iv. Incorporating energy conservation strategies;*
 - v. Retaining unique ecological linkages to avoid habitat fragmentation;*
 - vi. Incorporating appropriate wildlife crossings where streets cross the Greenway Overlay;*
 - vii. Protection and management for environmentally sensitive areas (as defined below);*
 - viii. Locating Hamlets:*
 - 1. The conceptual location of transition zones will be shown on the MPD Master Plan. Hamlets will be located within the transition zones.*
 - 2. Hamlets shall be located outside of the Greenway Overlay.*
 - 3. The maximum number of units within hamlets is limited to no more than 1 unit per 20 acres of the Greenway Overlay.*
 - 4. The MPD will describe lot size and width, impervious surface ratio, setbacks and residential uses within Hamlets.*
- C. Conservation: The entire Greenway Overlay will not be encumbered by conservation easements, nor will any portion be designated with a Conservation*

- FLU designation. Notwithstanding this, conservation easements shall be established within portions of the Greenway Overlay in accordance with federal and state permits obtained for the applicable MPMU project or portion thereof.*
- D. Habitat Conservation Management Plan: A Habitat Conservation Management Plan(s) (HCMP) will be developed and implemented as part of the federal and state environmental permitting process. The HCMP is intended to be a living document and as such will be modified as the final boundaries of the Greenway Overlay are established as set forth in the applicable MPD.*
 - E. Monitoring and Enforcement: The applicable MPD Development Agreement will include enforcement provisions to ensure consistency with the elements in this Policy 1.7.1.2. In addition, monitoring and enforcement will be conducted in relation to any applicable federal and state environmental or regulatory permit issued for lands within the Greenway Overlay.*
 - F. Public Access Provisions: Where appropriate, the MPD should include provisions for public access to the Greenway Overlay, balancing recreational use with the purpose and intent of the Greenway Overlay as set forth in Policy 1.7.1.1.*

Policy 1.7.2.1 - *At least 50% of the total lands within a Master Planned Mixed Use designation shall be planned for recreation and open space uses and such uses within the Greenway Overlay will count toward this percentage. In addition, any open space and recreation lands within each Village (located outside the Greenway Overlay) that satisfy the minimum 10% condition in Policy 1.7.1.1.B above will also satisfy this 50% minimum condition.*

Consistency with the Economic Development Element

As detailed in the discussion of Annexation Goals, Objectives, Policies (GOPs) above, the MPMU designation furthers the implementation of the Annexation GOPs. Additionally, the MPMU designation is consistent with implementing the Economic Development Goals, Objectives, and Policies found in the Comprehensive Plan.

GOAL 11.1: ECONOMIC DEVELOPMENT

Foster a sustainable economic environment to create employment opportunities, business growth, and diversified tax base.

Objective 11.1 – Robust, Diversified, and Resilient Local Economic Environment

Foster a dynamic and robust economic environment that targets industry sectors, anticipates future industry trends, and leverages local strengths to build a diversified and resilient economy.

Policy 11.1.1.2 - *Prioritize the creation of opportunities for, expansion of, and retention of industry sectors that support the creation of a resilient and diverse economy and tax base by recruiting investments in targeted industries related to Advanced Manufacturing, Corporate Headquarters, Aviation & Aerospace, Logistics & Warehousing, and Healthcare Training & Research.*

Policy 11.1.1.5 – *Establish a site development process that ensures the City has an inventory of shovel-ready economic employment center sites ready to meet the needs of potential business and industry.*

Objective 11.1.2 – Targeted Economic Employment Centers and Jobs

Create a thriving economic environment that attracts new industries, enables existing business to expand, and creates workforce opportunities by implementing strategic land use planning, infrastructure enhancement, and community development practices in targeted locations and sites.

Policy 11.1.2.1 – Maintain an inventory of targeted economic employment hubs that have available, development-ready sites, and suitable land uses for industrial, office professional, and commercial development. Ensure the targeted economic employment hubs have adequate land resources strategically located with access to transportation and utility infrastructure available for future business attraction and expansion.

Policy 11.1.2.2 – Create incentives and leverage funding for the development of economic employment center through the establishment of incentive zones that prioritize capital investments that develop infrastructure critical to economic development—such as reliable transportation networks, rail, multi-modal transportation, and utilities, which will support the development of employment centers and attract new businesses.

Policy 11.1.2.3 – Utilize private and public partnerships to allocate specific zones within the City for the establishment of significant economic employment hubs capable of hosting diverse businesses and industries. The City shall focus its economic development efforts and incentives within these economic employment hubs.

Policy 11.1.2.4 – Promote the creation of mixed-use developments integrating housing, commerce, and office spaces to foster economic employment hubs where the workforce can live, work, and enjoy recreational activities, thus minimizing the necessity for extensive commuting.

Objective 11.1.3 – Investment in Infrastructure

Improve and extend the capacity of City infrastructure, public services, and related facilities to accommodate the attraction and expansion of industries and businesses.

Policy 11.1.3.3 Ensure public utility infrastructure services—potable water, sanitary sewer, electric, natural gas, and others—extend to lands targeted as economic employment hubs. Future expansion of services should be prioritized through the City’s capital improvement efforts.

Policy 11.1.3.4 Utilize the City’s transportation planning efforts to support the City’s economic priorities by (1.) determining economic facility needs, (2.) identifying deficiencies, and (3.) scheduling capital improvements and facility expansions through the City’s Capital Improvement Plan and Long Range Transportation Plan.

Objective 11.1.4 – Business Attraction and Retention

Implement strategies to market, recruit, and support new and expanding businesses to (1.) create sustained economic growth and enhanced quality of life for its residents, (2.) promote the City of Palm Coast as a premier destination for business and investment, (3.) attract industries that offer well-paying jobs and contribute to economic diversification.

Policy 11.1.4.1 – Create a regional brand to market Palm Coast as a premier destination for targeted industries and site selection consultants. The branding initiative shall consider materials that show the City as a competitor in attracting new businesses and investments.

Policy 11.1.4.4 – Develop incentive programs and streamline the permitting processes to encourage the relocation and expansion of businesses job opportunities and contribute to a robust local economy.

Objective 11.1.6 - Support Workforce Development Opportunities

Attract, retain, and support Palm Coast’s diverse workforce by creating a comprehensive environment that addresses housing, employment, education, community engagement,

and quality of life factors, resulting in a vibrant community that offers a range of opportunities for personal and professional growth.

Policy 11.1.6.7 – The City shall support the development of vibrant, walkable neighborhoods with a mix of residential, commercial, and entertainment options that attract entry-level workforce, families, and working age adults.

Analysis: As stated in the Comprehensive Plan, the MPMU FLUM designation was created to properly plan for long term potential growth in the annexed areas west of US-1 and the railroad. The City will encourage new development to (i) be composed of mixed-use communities and neighborhoods served by a regionally significant interconnected transportation network and public facilities, (ii) provides energy efficient and diverse housing opportunities, (iii) promote enhanced opportunities for further economic growth in the City, and (iv) establish a guide for protection of the natural environment.

The Goals, Objectives, and Policies from the Economic Development element of the Comprehensive Plan highlighted above establishes a strategy on creating employment opportunities, business growth, and diversifying the tax base in the city. Though these policies apply to all areas of the city, the expansion of the city boundaries to include an additional 21,000 acres provides opportunities not available within the existing urbanized areas of Palm Coast due to limited availability of vacant commercial and industrial land.

The MPMU Policies (specifically **MPMU Policies 1.7.1.1D-E**) include the creation of Employment Centers and a Regional Activity Center through which the Economic Development GOPs can be implemented. Additionally, **MPMU Policies 1.7.2.2 and 1.7.2.3** call for a development program to ensure that the MPMU will have a mix of uses at buildout that will be consistent with creating the comprehensive community envisioned in the Comprehensive Plan. (**Full text of MPMU Policies 1.7.2.2 and 1.7.2.3 are shown in italics below**).

Policy 1.7.2.2 - The MPD(s) for a Master Planned Mixed Use FLU designation will include a development program to demonstrate compliance with the following non-residential space standards:

- A. *Retail/Service* - At a minimum, 50 square feet of retail and service space per dwelling unit shall be planned for in a Regional Activity Center, Village Centers, and/or Neighborhood Centers with this standard measured in the aggregate across these areas. Retail uses shall be located and designed to encourage alternate transportation through urban design, such as sidewalks and related streetscaping. Retail within Neighborhood Centers shall be of limited scale and intensity to ensure compatibility with the low intensity character of the predominantly residential Villages.
- B. *Workplace/Employment Center* - At a minimum, 100 square feet of workplace space per dwelling unit designed to serve the development shall be planned for in Neighborhood Centers, Village Centers, Employment Center, and/or Regional Activity Center with this standard measured in the aggregate across these areas. Workplace space can include office, health care, industrial and similar uses. Industrial uses shall compose a minimum of 50% of the workplace space.

Policy 1.7.2.3 – For purposes of implementing Objective 1.7.1.2, the mixed use percentages and nonresidential space square footage will be measured and tracked in each MPD application to demonstrate compliance and consistency with the Master

Planned Mixed Use FLU designation and to demonstrate that the MPD development program at buildout will consist of a mix of uses.

Objective 11.1.8 – Maintaining a High Quality of Life

The City of Palm Coast is dedicated to maintaining a thriving, sustainable, and engaged community.

Policy 11.1.8.1 - The City shall continue to focus on one of our greatest assets by expanding and maintaining green spaces, parks, and recreational areas.

Policy 11.1.8.7 – The City shall promote alternative transportation modes, such as biking and walking, by creating safe and well-maintained pedestrian and cycling pathways.

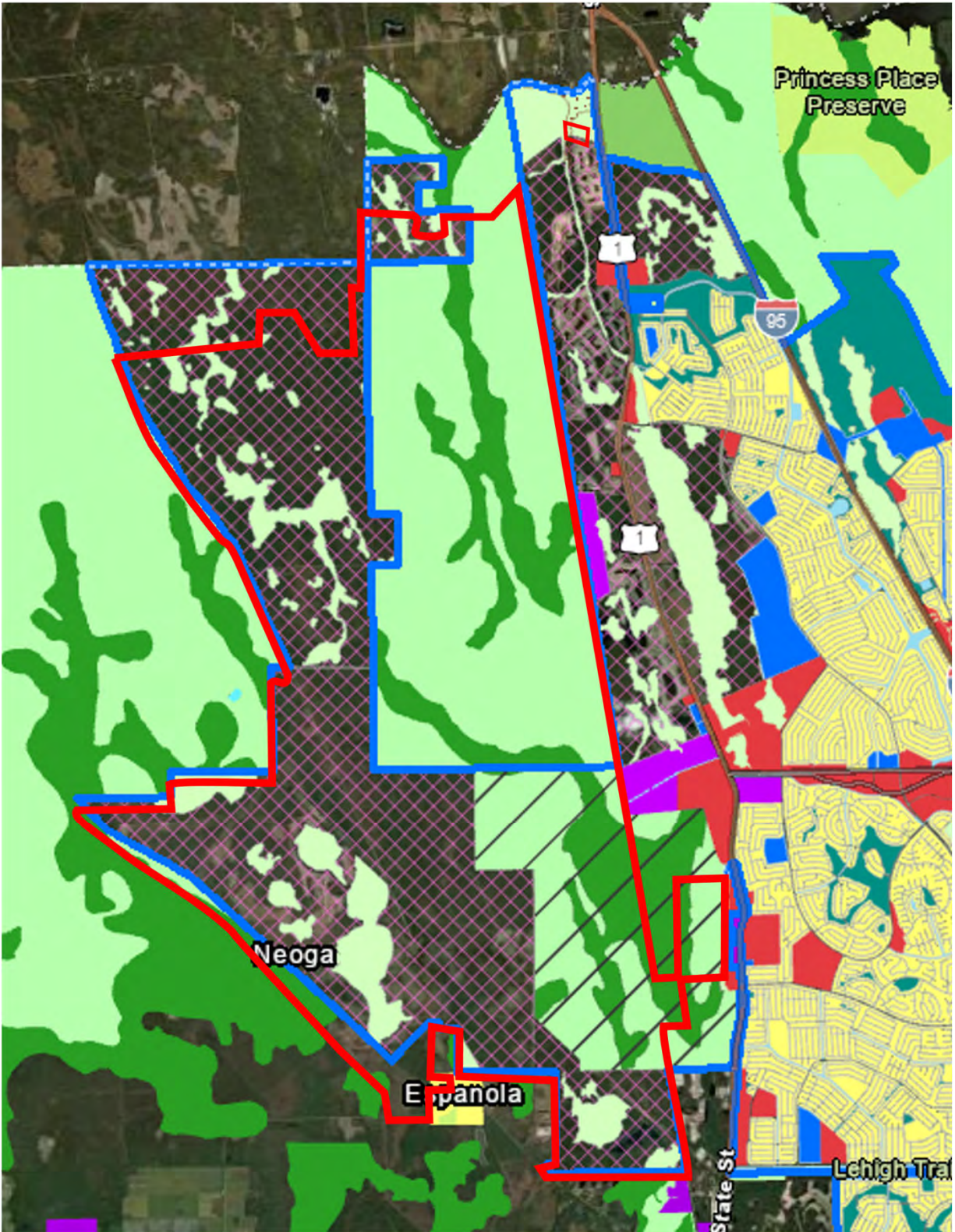
Analysis: The Economic Development GOPs of the Comprehensive Plan recognizes the importance of quality of life in maintaining a thriving, sustainable, and engaged community. The Policies cited above relates to maintaining open space and recreational areas along with promoting alternative transportation modes (biking and walking) by providing safe pathways. MPMU Policies previously cited above, specifically Policies 1.7.1.1, 1.7.1.2, and 1.7.2.1 highlight the use of approximately 50% of the lands in the MPMU area for recreation and open space. Additionally, MPMU Policy 1.7.1.3 envisions the development of a regionally significant transportation network that encompasses all modes of transportation including a trail network. MPMU Policy 1.7.1.3 reads as follows:

The MPD will include a regionally significant transportation network providing internal and external multi-modal interconnectivity. When designing the transportation network, equal consideration shall be given to all modes of transportation including a trail network to provide access between the various land uses and access to the greenways.

RECOMMENDATION




Staff recommends that the Planning and Land Development Regulation Board (PLDRB) find Application #6681 consistent with the Comprehensive Plan and recommend that City Council APPROVE the FLUM amendment.

Current Future Land Use Map – Westward Expansion Area



 Westward Expansion Area

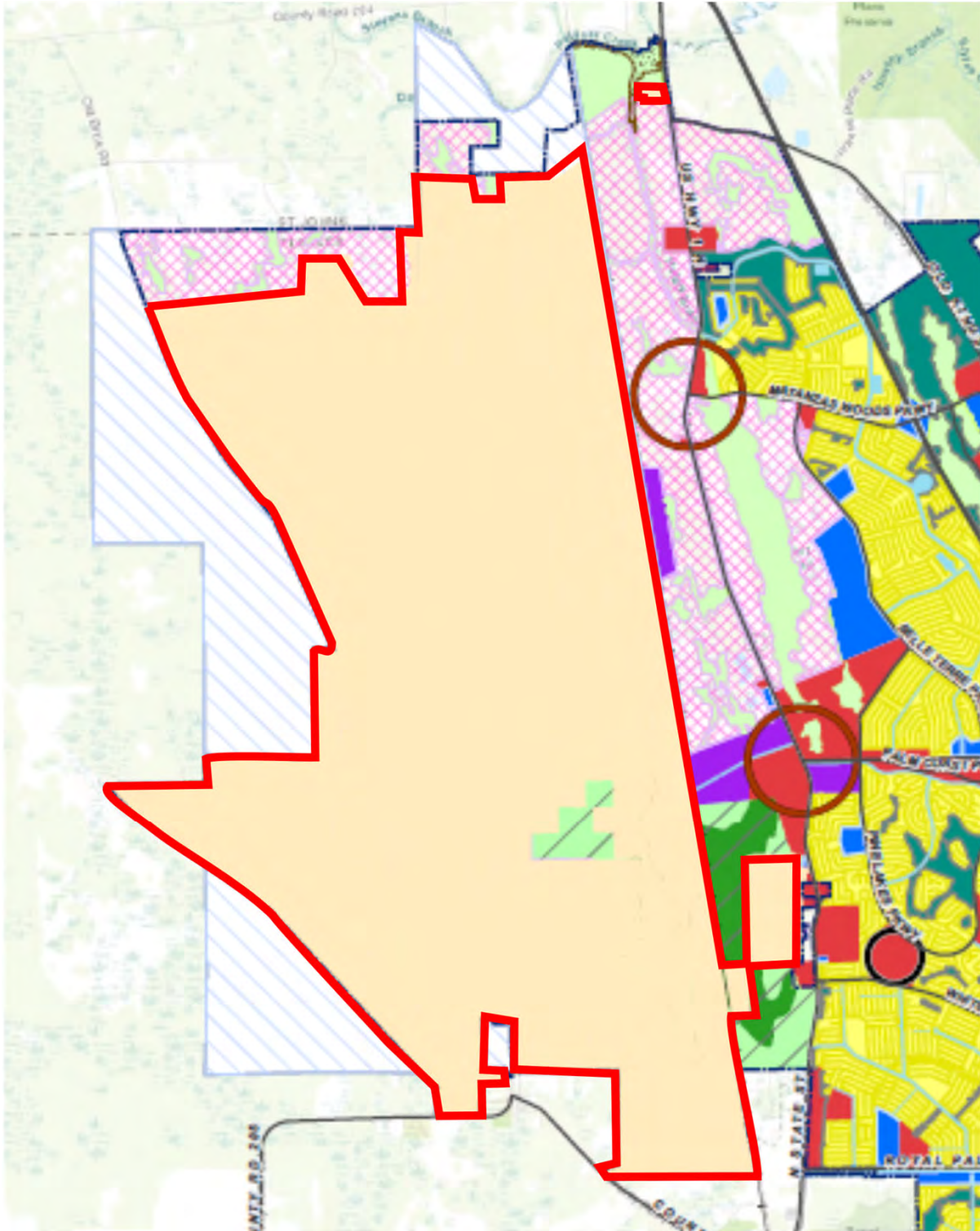
Flagler County Designations

-  RESIDENTIAL: LOW DENSITY / RURAL ESTATE
-  CONSERVATION
-  AGRICULTURE & TIMBERLANDS

Palm Coast Designations

-  DRI-Mixed Use
-  Mixed Use
-  Conservation

Proposed Future Land Use Map – Westward Expansion Area

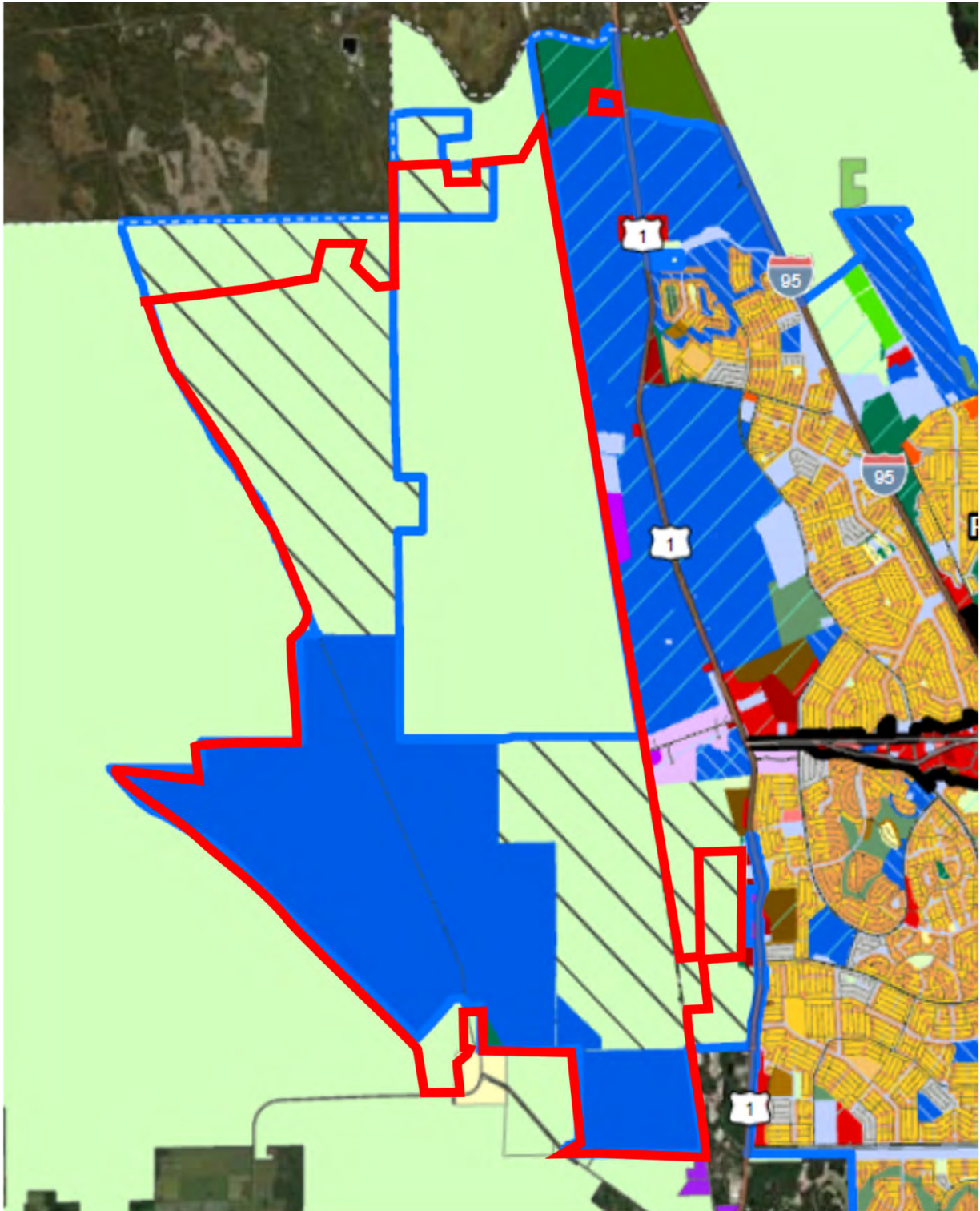


 Westward Expansion Area

Proposed
Designation


 Master Planned Development

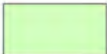
Current Zoning Map – Westward Expansion Area



 Westward Expansion Area

Flagler County Designations

 MH-1

 AC

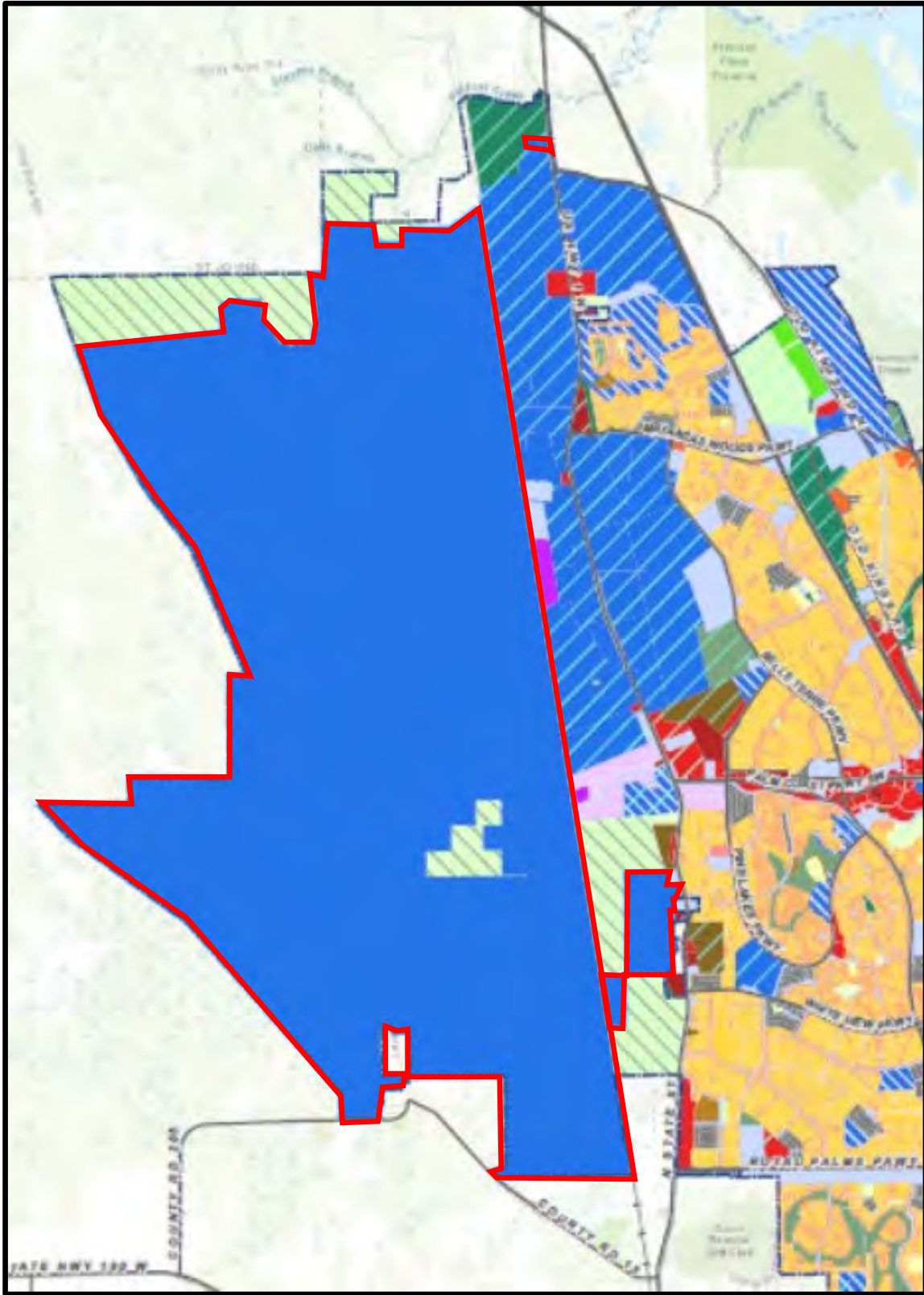
Palm Coast Designations

 COM-3

 PRS

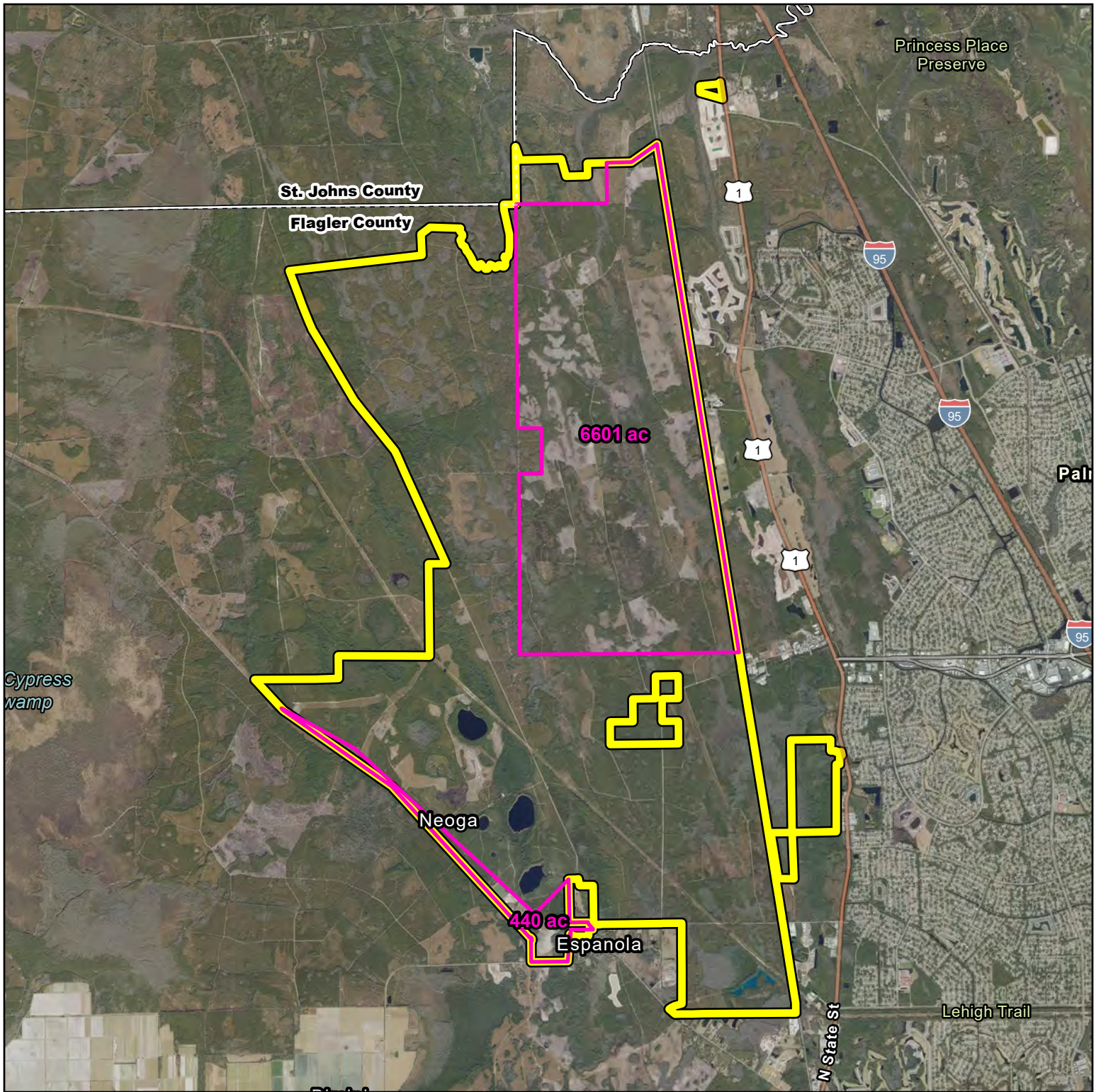
 MPD

Proposed Zoning Map – Westward Expansion Area



 Westward Expansion Area

Proposed Designation  **MPD** Master Planned Development

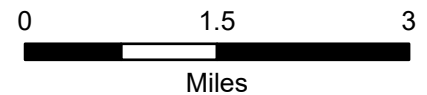


MPMU Palm Coast

Annexed Lands - Acreage

Source: ETM, Flagler County, St. Johns County, Esri

- MPMU
- Annexed Lands (7,041 ac)



ETM
 ENGLAND-THIMS & MILLER
 14775 Old St. Augustine Road, Jacksonville, Florida 32258
 904.642.8990 | www.etmgeo.com | www.etminc.com
 Date: 6/26/2026

**Preliminary Environmental Site Assessment
of the Palm Coast Master Plan Development Site,
City of Palm Coast, Flagler County, Florida**

Introduction

Breedlove, Dennis & Associates, Inc. (BDA) conducted an environmental assessment of the Palm Coast Master Plan Development (MPD) Site (Site). Dr. W. Michael Dennis, City of Palm Coast Qualified Environmental Professional No. 19466, directed the assessment. The Site is approximately 20,144 acres located within Sections 22-27, and 35-36, Township 10 South, and Range 29 East; Sections 9, 17-20 and 29-33, Township 10 South, Range 30 East; Sections 1-2, 12-15, and 23-25, Township 11 South, Range 29 East, and Sections 4-9, 16-22, and 27-34, Township 11 South, Range 30 East located in Flagler County, Florida (Exhibit 1). The Site is generally located west of U.S. Highway 1, north of County Road 13 and County Road 205, and south of County Road 204. The majority of the Site is located within the City of Palm Coast. An aerial photograph of the Site is included as Exhibit 2.

The purpose of the review was to provide a summary of the existing environmental conditions of the Site. The environmental assessment included a desktop database review, site investigations, and review of previously compiled site data to document the existing ecological conditions and assess the potential for occurrence of species of wildlife or plants listed for protection by the U.S. Fish and Wildlife Service (USFWS) and Florida Fish and Wildlife Conservation Commission (FWC) (Listed Species).

Ecological Communities

Wetlands depicted within the boundaries of the previous Old Brick Township Development of Regional Impact (DRI) project have been approved by the St. Johns River Water Management District (SJRWMD) pursuant to Formal Wetland Determination (FWD) No. 118954-5 issued on April 11, 2025. Surveyed wetlands associated with Conceptual Environmental Resource Permit (ERP) No. 123802-1 issued November 23, 2011, and construction ERP issued May 3, 2017, for the previous Neoga Lakes project are SJRWMD-approved. The remaining wetlands and surface waters on the Site have been photo-interpreted with selective ground truthing. The Site contains approximately 10,513 acres of uplands, 9,468 acres of wetlands, and 233 acres of surface water (Exhibit 3).

The on-site vegetative communities and land use types were classified by BDA scientists based on aerial photointerpretation, ground-truthing, and delineations to characterize the habitats present and provide the basis for an assessment of the occurrence or likelihood of occurrence for Listed Species (Exhibit 4). The characterization of the vegetative communities and land use types was based on the *Florida Land Use*,

Cover and Forms Classification System (FDOT, 1999). Conditions were documented during previous on-site reconnaissance, and botanical nomenclature (scientific names) is per Wunderlin and Hansen (2003).

The majority of wetlands on the Site exist within large contiguous strands associated with tributaries of Pellicer Creek on the east side and surrounding the natural lakes on the west side. The vast majority of the upland communities and more than half of the Site are dominated by pine plantations. The ecological conditions of the Site have been influenced by the underlying physical template (i.e., topography, hydrology, soils). However, the historical and current silvicultural land use on the Site may have a more significant impact on the ecological character and functioning of the landscape. The Site has been managed for timber and turpentine production since the late 1870s, with intensive timber production starting in the late 1940s and continuing to the present day. Historical and present-day construction of ditches, roads, canals, and planting beds have changed the topography, hydrology, and drainage characteristics, altering the natural structure and function of both uplands and wetlands. Specific vegetation and land use types are described below.

Surface Waters

Ditches (516)

Surface waters on the Site include numerous roadside Ditches (516) that are periodically maintained. These areas either lacked a canopy or included scattered canopy trees and shrubs on the berms consisting of Carolina willow (*Salix caroliniana*), Peruvian primrosewillow (*Ludwigia peruviana*), and wax myrtle (*Myrica cerifera*). The groundcover species included blue maidencane (*Amphicarpum muhlenbergianum*), maidencane (*Panicum hemitomon*), common buttonbush (*Cephalanthus occidentalis*), maple (*Acer* sp.) seedlings, sweetgum (*Liquidambar styraciflua*) seedlings, arrowhead (*Sagittaria graminea*), clustered bushmint (*Hyptis alata*), blue waterhyssop (*Bacopa caroliniana*), Peruvian primrosewillow, cattail (*Typha* sp.), and torpedograss (*Panicum repens*).

Lakes (520)

Four natural Lakes (520) are located in the western portion of the Site, including three large lakes (Speckled Perch Lake, Black Lake, and Tank Lake) and one small lake (Neoga Lake).

Reservoirs larger than 10 acres (533)

Three Reservoirs larger than 10 acres (533) are located on the southwest portion of the Site. These reservoirs were formerly borrow pit areas.

Reservoirs less than 10 acres (534)

There is one Reservoir less than 10 acres (534) located on the eastern portion of the Site (<1 acre). Perimeter groundcover vegetation included scattered cattail, wax myrtle, and anglestem primrosewillow (*Ludwigia leptocarpa*).

Wetlands

Bay Swamps (611)

The canopy in the Bay Swamps (611) community was dominated by loblolly bay (*Gordonia lasianthus*), sweetbay (*Magnolia virginiana*), and swamp bay (*Persea palustris*) interspersed with cypress (*Taxodium* sp.), loblolly pine (*Pinus taeda*), red maple (*Acer rubrum*), and slash pine (*Pinus elliottii*). Dominant shrub and understory species noted within this cover type included saw palmetto (*Serenoa repens*), cypress, sweetgum, red maple, fetterbush (*Lyonia lucida*), wax myrtle, rusty staggerbush (*Lyonia ferruginea*), cinnamon fern (*Osmunda cinnamomea*), chain fern (*Woodwardia* sp.), greenbrier (*Smilax* sp.), grape (*Vitis* sp.) vine, and highbush blueberry (*Vaccinium corymbosum*).

Mixed Wetland Hardwoods (617)

The canopy of the Mixed Wetland Hardwoods (617) community included a mixture of sweetbay, swamp bay, loblolly bay, red maple, and sweetgum with scattered live oaks (*Quercus virginiana*). The shrub stratum included loblolly bay, red maple, sweetgum, common buttonbush, fetterbush, wax myrtle, and highbush blueberry. The groundcover was dominated by Carolina redroot (*Lachnanthes carolina*) and Virginia chain fern (*Woodwardia virginica*).

Cypress (621)

Cypress (621) swamps were dominated by bald-cypress (*Taxodium distichum*) or pond-cypress (*Taxodium ascendens*) with swamp tupelo (*Nyssa sylvatica* var. *biflora*) and occasionally slash pine in the canopy layer. The subcanopy was comprised of dahoon (*Ilex cassine* var. *cassine*) and cabbage palm (*Sabal palmetto*) with sweetbay or loblolly bay in some areas. The shrub layer in some areas is comprised of fetterbush and gallberry (*Ilex glabra*), while in other areas there is a mixture of wax myrtle, swamp bay, and sweetbay. Ground cover in some areas included Virginia chain fern, cinnamon fern, royal fern (*Osmunda regalis* var. *spectabilis*), maidencane, dotted smartweed (*Polygonum punctatum*), pickerelweed (*Pontederia cordata*), soft rush (*Juncus effusus*), lizard's tail (*Saururus cernuus*), manyflower marshpennywort (*Hydrocotyle umbellata*), blue waterhyssop, and spadeleaf (*Centella asiatica*). In other areas the ground cover was characterized by blue maidencane, broomsedge bluestem (*Andropogon virginicus*), meadowbeauty (*Rhexia* sp.), beaksedge (*Rhynchospora* sp.), and sand cordgrass (*Spartina bakeri*).

Hydric Pine Flatwoods (625)

Hydric Pine Flatwoods (625) were dominated by a canopy of loblolly pine or slash pine with sweetbay. The shrub stratum species included pines (*Pinus* spp.), myrtle dahoon (*Ilex cassine* var. *myrtifolia*), wax myrtle, gallberry, fetterbush, and loblolly bay. The groundcover was dominated by sandweed (*Hypericum fasciculatum*) with additional species consisting of fascicled beaksedge (*Rhynchospora fascicularis*), blue maidencane, cinnamon fern, Virginia chain fern, yelloweyed grass (*Xyris* sp.), loblolly pine, beaked

panicum (*Panicum anceps*), loblolly bay, Virginia chain fern, dahoon, purple bluestem (*Andropogon glomeratus* var. *glaucopsis*), spadeleaf, clustered mille grains (*Oldenlandia uniflora*), sphagnum (*Sphagnum* sp.), flattened pipewort (*Eriocaulon compressum*), Mohr's thoroughwort (*Eupatorium mohrii*), Nuttall's meadowbeauty (*Rhexia nuttallii*), whitehead bogbutton (*Lachnocaulon anceps*), and savannah meadowbeauty (*Rhexia alifanus*).

Wetland Forested Mixed (630)

The canopy in the Wetland Forested Mixed (630) communities was dominated by a mixture of cypress, with additional species including red maple, sweetgum, swamp tupelo, swamp bay, sweetbay, loblolly bay, loblolly pine, slash pine, dahoon, and myrtle dahoon. Scattered occurrences of water oak (*Quercus nigra*) and laurel oak (*Quercus laurifolia*) were also noted within the canopy stratum. The shrub stratum was dominated by wax myrtle with additional species including red maple, cabbage palm, common buttonbush, Carolina willow, loblolly pine, myrtle dahoon, gallberry, loblolly bay, swamp bay, wax myrtle, pond-cypress, bald-cypress, swamp tupelo, fetterbush, and highbush blueberry on hummocks. The herbaceous groundcover was dominated by Virginia chain fern or St. John's-wort (*Hypericum* sp.), with additional species including red maple saplings, eastern poison ivy (*Toxicodendron radicans*), pond-cypress, sphagnum, swamp fern (*Blechnum serrulatum*), clustered bushmint, Virginia willow (*Itea virginica*), sawtooth blackberry (*Rubus pensilvanicus*), laurel greenbrier (*Smilax laurifolia*), climbing hempvine (*Mikania scandens*), narrowfruit horned beaksedge (*Rhynospora inundata*), taperleaf waterhorehound (*Lycopus rubellus*), lizard's tail, pond-cypress, cinnamon fern, swamp bay, woolly witchgrass (*Dichantheium scabriusculum*), flatsedge (*Cyperus* sp.), bogbutton (*Lachnocaulon* sp.), Carolina redroot, blue maidencane, bushy bluestem (*Andropogon glomeratus*), yelloweyed grass, fetterbush, purple bluestem, dotted smartweed, and bracken fern (*Pteridium aquilinum*) on hummocks. Some of these communities included saw palmetto, wax myrtle, and gallberry throughout the cover type.

Freshwater Marshes (641)

Freshwater Marshes (641) included a scattered canopy of slash pine, loblolly pine, and pond-cypress. The shrub stratum included common buttonbush, swamp tupelo, loblolly pine, cabbage palm, slash pine, willow (*Salix* sp.), and wax myrtle. The herbaceous groundcover included swamp sawgrass (*Cladium* sp.), narrow plumegrass (*Saccharum baldwinii*), pickerelweed, Mohr's thoroughwort, fireflag (*Thalia geniculata*), woolgrass (*Scirpus cyperinus*), Virginia chain fern, maidencane, yelloweyed grass, soft rush, and red maple seedlings.

Wet Prairies (643)

There was no canopy stratum present in the Wet Prairies (643), and the shrub stratum consisted of scattered occurrences of wax myrtle, red maple, and loblolly pine. This cover type was prevalent in the powerline easements. The groundcover included beaksedge (*Rhynospora* spp.), blue maidencane, Carolina redroot, grassleaf rush (*Juncus marginatus*), Nuttall's meadowbeauty, pale meadowbeauty (*Rexia mariana*), pond-cypress, purple bluestem, sand cordgrass, sandweed, savannah meadowbeauty, smallfruit beggarticks

(*Bidens mitis*), St. John's wort (*Hypericum spp.*), Virginia buttonweed (*Diodia virginiana*), Virginia chain fern, and yelloweyed grass.

Mixed Scrub-Shrub Wetland (646)

Mixed Scrub-Shrub Wetland (646), the dominant wetland cover type, represents areas of past disturbance and harvesting. The canopy typically consisted of a few scattered loblolly bay, sweetgum, slash pine, and swamp bay with a shrub stratum dominated by loblolly bay, wax myrtle, dahoon, saw palmetto, highbush blueberry, and fetterbush. The groundcover consisted of Virginia chain fern, saw palmetto seedlings, sandweed, Carolina redroot, and bluestem (*Andropogon sp.*).

Wet Coniferous Plantation (W441)

Wet Coniferous Plantation (W441) was dominated by densely planted slash or loblolly pine of various stand age. Subcanopy/shrub species included cabbage palm, cypress, loblolly bay, loblolly pine, large gallberry (*Ilex coriacea*), myrtle dahoon, saw palmetto, slash pine, and wax myrtle. Groundcover species included beaksedge, blackberry, blackroot (*Pterocaulon pycnostachyum*), blue maidencane, bogbutton, camphorweed (*Pluchea sp.*), Carolina redroot, cinnamon fern, dogfennel (*Eupatorium capillifolium*), eastern poison ivy, greenbrier, maidencane, mermaidweed (*Proserpinaca sp.*), Mohr's thoroughwort, muscadine (*Vitis rotundifolia*), pine (*Pinus sp.*) seedlings, pipewort (*Eriocaulon sp.*), purple bluestem, spadeleaf, St. John's-wort, Virginia chain fern, Virginia creeper (*Parthenocissus quinquefolia*), woolly witchgrass, and yelloweyed grass.

Uplands

Upland Coniferous Forests (410)

Upland Coniferous Forests (410) were characterized by a canopy dominated by slash pine. Portions of this cover type had an understory dominated by saw palmetto, with bracken fern, bushy bluestem, and grape vine throughout the understory. An upland coniferous forest encircles Lake Neoga in the western part of the Site. The canopy in this area was dominated by slash pine, with a subcanopy comprised primarily of loblolly bay and scattered occurrences of shrub-sized myrtle oak (*Quercus myrtifolia*) and sand live oak (*Quercus geminata*). The shrub layer was generally characterized by gallberry, while the ground cover was typically comprised of broomsedge bluestem, dogfennel, greenbrier, saw palmetto, and slender flattop goldenrod (*Euthamia caroliniana*).

Pine Flatwoods (411)

Pine Flatwoods (411) typically exist on the Site as upland islands within the swamp systems. This cover type was characterized by a canopy dominated by longleaf pine (*Pinus palustris*) or slash pine, with lesser occurrences of laurel oak, live oak, loblolly bay, and water oak. The subcanopy/shrub layer consisted of dahoon, fetterbush, gallberry, live oak, rusty staggerbush, saw palmetto, sweetbay, and wax myrtle. The groundcover was dominated by saw palmetto and fetterbush, with minor occurrences of blackroot, bracken

fern, broomsedge bluestem, oak (*Quercus* sp.) seedlings, dogfennel, greenbrier, and reindeer lichen (*Cladonia* sp.).

Sand Pine (413)

Small areas of Sand Pine (413) on the southwestern portion of the Site were dominated by sand pine (*Pinus clausa*) and the subcanopy was primarily comprised of sand live oak. The shrub layer included Chapman's oak (*Quercus chapmanii*), myrtle oak, sand pine, and rusty staggerbush. The ground cover was composed of bracken fern, broomsedge bluestem, gallberry, greenbrier, gopher apple (*Licania michauxii*), reindeer lichen, shiny blueberry (*Vaccinium myrsinites*), and saw palmetto.

Regenerating Sand Pine/Xeric Oak Scrub (417)

The canopy stratum in the Regenerating Sand Pine/Xeric Oak Scrub (417) areas was characterized by sand pine, myrtle oak, Chapman's oak, and sand live oak. The understory was comprised of saplings of these species as well. The shrub and groundcover also included croton (*Croton* sp.), nutrush (*Scleria* sp.), pricklypear (*Opuntia humifusa*), rusty staggerbush, shiny blueberry, gopher apple, saw palmetto, silk bay (*Persea borbonia* var. *humilis*), tall jointweed (*Polygonella gracilis*), and vanillaleaf (*Carphephorus odoratissimus* var. *odoratissimus*).

Live Oak (427)

Live Oak (427) forest is primarily found adjacent to Pringle Branch. This community was characterized by a canopy dominated by live oak with scattered laurel oak and sand pine. The shrub stratum consisted of cabbage palm, holly (*Ilex* sp.), saw palmetto, and wax myrtle. The groundcover species included blackberry (*Rubus* sp.), bracken fern, cabbage palm, dogfennel, greenbrier, and saw palmetto.

Upland Scrub, Pine and Hardwoods (436)

The canopy stratum of the Upland Scrub, Pine and Hardwoods (436) community was characterized by species such as Chapman's oak, myrtle oak, sand live oak, and sand pine. Understory and groundcover species observed within this cover type included croton, gopher apple, nutrush, pricklypear, rusty staggerbush, saw palmetto, shiny blueberry, silk bay, tall jointweed, and vanillaleaf.

Coniferous Plantations (441)

The majority of the upland cover on the Site is characterized by Coniferous Plantations (441), which are typically dominated by high densities of slash pine or loblolly pine that have been planted in rows for timber production. Stand ages throughout the Site range from 2 to >20 years. Shrub stratum species included American beautyberry (*Callicarpa americana*), cabbage palm, gallberry, loblolly bay, loblolly pine, red maple, saw palmetto, and shiny blueberry. Groundcover species included bracken fern, cinnamon fern, dogfennel, Elliott's milkpea (*Galactia elliotii*), muscadine, sawtooth blackberry, saw palmetto, and yankeeweed (*Eupatorium compostifolium*). Some coniferous plantations in xeric areas had an understory

of Chapman’s oak, myrtle oak, and sand live oak, with a groundcover of gallberry, gayfeather (*Liatris* sp.), shiny blueberry, and saw palmetto.

Sand Pine Plantations (4411)

Sand Pine Plantations (4411) were generally characterized by species such as bracken fern, Chapman’s oak, Elliott’s milkpea, Florida rosemary (*Ceratiola ericoides*), gopher apple, live oak, myrtle oak, reindeer lichen, rusty staggerbush, sand pine, sand live oak, saw palmetto, shiny blueberry, and silk bay.

Railroads (812)

The Railroads (812) classification is found in the southeastern portion of the Site and borders the eastern edge of the majority of the Site. The species present in the canopy and shrub stratum of the berm included loblolly pine. The groundcover included camphorweed (*Herteotheca subaxillaris*), southern crabgrass (*Digitaria ciliaris*), torpedograss, and smutgrass (*Sporobolus indicus*).

Communication Facilities (822) and Electrical Power Transmission Lines (832)

Communication Facilities (822) and Electrical Power Transmission Lines (832) are found in various locations on the Site.

Soils

The U.S. Department of Agriculture (USDA) National Technical Committee for Hydric Soils (NTCHS) defines a hydric soil as a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (USDA, 1994). The NTCHS and Natural Resources Conservation Service (NRCS) have generated a National Hydric Soils List using selected soil properties indicative of hydric soils. The hydric classification listed within this table is based on the properties of all soil types which comprise a map unit. Soils are classified as hydric, predominantly hydric, partially hydric, predominantly nonhydric, and nonhydric. A classification of “partially hydric” indicates the map unit is comprised of both hydric and nonhydric soils. “Partially hydric” soils require field verification to determine the presence or absence of hydric soil indicators.

According to the USDA NRCS Soil Survey Geographic database (USDA, 2016) for Flagler County, Florida, the following soil types occur within the project Site (Exhibit 5).

Soil Map Unit	Number	Hydric Classification	Percent of Map Unit	General Description
Riviera fine sand, 0 to 2 percent slopes	2	Predominantly hydric	86	Poorly drained, 0 to 2% slope, drainageways and flats.
Samsula and Hontoon soils, depressional	3	Hydric	100	Very poorly drained, 0 to 2% slope, floodplains.

Soil Map Unit	Number	Hydric Classification	Percent of Map Unit	General Description
Wabasso fine sand, 0 to 2 percent slopes	4	Predominantly nonhydric	10	Poorly drained, 0 to 2% slope, floodplains and drainageways.
Pineda-Wabasso complex	5	Predominantly nonhydric	6	Poorly drained, 0 to 2% slope, flats.
Favoretta, Chobee, and Winder soils, frequently flooded	7	Hydric	100	Very poorly drained, 0 to 2% slope, floodplains.
Hicoria, Riviera, and Gator soils, depressional	8	Predominantly hydric	95	Very poorly drained, 0 to 21% slope, depressions.
EauGallie fine sand, 0 to 2 percent slopes	9	Predominantly nonhydric	3	Poorly drained, 0 to 2% slope, flatwoods.
Winder fine sand, 0 to 2 percent slopes	10	Predominantly hydric	96	Poorly drained, 0 to 2% slope, flats and drainageways.
Myakka-Myakka, wet, fine sands, 0 to 2 percent slopes	11	Predominantly nonhydric	25	Poorly drained, 0 to 2% slope, flatwoods.
Placid, Basinger, and St. Johns soils, depressional	12	Hydric	100	Very poorly drained, 0 to 1% slope, depressions.
Immokalee fine sand, 0 to 2 percent slopes	13	Predominantly nonhydric	6	Poorly drained, 0 to 2% slope, flatwoods.
Pineda-Pineda, wet, fine sand, 0 to 2 percent slopes	14	Partially hydric	52	Poorly drained, 0 to 2% slope, drainageways and flatwoods.
Pomello fine sand, 0 to 5 percent slopes	15	Nonhydric	0	Moderately well drained, 0 to 5% slope, ridges and knolls.
Malabar fine sand, 0 to 2 percent slopes	16	Predominantly hydric	96	Poorly drained, 0 to 2% slope, drainageways and flats.
Valkaria-Smyrna complex	18	Partially hydric	59	Poorly drained, 0 to 2% slope, drainageways.
Valkaria fine sand, 0 to 2 percent slopes	19	Predominantly hydric	93	Poorly drained, 0 to 2% slope, drainageways on flats.
Orsino fine sand, 0 to 5 percent slopes	20	Predominantly nonhydric	1	Moderately well drained, 0 to 5% slopes, knolls and ridges.
Smyrna fine sand, 0 to 2 percent slopes	21	Predominantly nonhydric	6	Poorly drained, 0 to 2% slopes, flatwoods.
Astatula fine sand, 0 to 8 percent slopes	22	Nonhydric	0	Excessively drained, 0 to 8% slopes, ridges and hills.

Soil Map Unit	Number	Hydric Classification	Percent of Map Unit	General Description
Adamsville fine sand, 0 to 2 percent slopes	23	Predominantly nonhydric	2	Somewhat poorly drained, 0 to 2% slopes, rises and knolls.
Samsula and Placid soils, frequently flooded	24	Hydric	100	Very poorly drained, 0 to 2% slopes, flood plains.
Tavares fine sand, 0 to 5 percent slopes	25	Nonhydric	0	Moderately well drained, 0 to 5% slopes, flats, hills, ridges, and knolls.
Cassia fine sand, 0 to 2 percent slopes	27	Nonhydric	0	Somewhat poorly drained, 0 to 2% slopes, rises and knolls on flatwoods.
Udarents, moderately wet	29	Nonhydric	0	Somewhat poorly drained, 0 to 2% slopes, flats.
Pits	30	Predominantly nonhydric	30	0 to 2% slopes, depressions.
Paola fine sand, 0 to 8 percent slopes	38	Nonhydric	0	Excessively drained, 0 to 8% slopes, ridges and knolls.
Pomona fine sand, 0 to 2 percent slopes	40	Predominantly nonhydric	7	Poorly drained, 0 to 2% slopes, flatwoods.
Water	99	Nonhydric	0	—

Listed Species

The Site was previously inspected during field investigations to assess the occurrence or likelihood of occurrence for species of wildlife or plants listed for protection by the USFWS and FWC (Listed Species) under provisions of the Endangered Species Act (ESA) of 1973, as amended and the Florida Rule (FWC, 2023b). Listed species known to occur within Flagler County, Florida are summarized in Exhibit 6.

The likelihood of occurrence for Listed Species is based on a comparison of known general habitat requirements by these species with the habitats found on or near the Site; the quantity, quality, and adjacency of these habitats; historical records; as well as any observations of these species during field investigations. The likelihood of occurrence for Listed Species referenced in this report was rated as high, moderate, low, unlikely, or not applicable based on knowledge of a species' habitat preference and site conditions. A likelihood of occurrence given as "unlikely" indicates that no, or very limited, suitable habitat for this species exists onsite, but the Site is within the documented range of the species; "not applicable" indicates that the habitat for this species does not exist on or immediately adjacent to the Site. These

likelihood of occurrence ratings are generally consistent with Section 3.01(A)(1)(e) of the *City of Palm Coast Technical Manual Section VII Environmental Standards and Specifications*.

Amphibians and Reptiles

American Alligator (Alligator mississippiensis) (Threatened [T], USFWS):

The American alligator is listed as “Threatened” by the USFWS due to its similarity of appearance. The similarity of appearance designation reflects that, while the American alligator is fully recovered and is not itself threatened, its close resemblance to other crocodylian species that are endangered or threatened requires that the American alligator also be regulated. American alligators are found throughout Florida in permanent water bodies of freshwater including marshes, swamps, lakes, reservoirs, and rivers. Suitable habitat is present on the site and American alligators are often observed in the small reservoirs. There is a high likelihood of occurrence of alligators on the Site.

Eastern Indigo Snake (Drymarchon couperi) (T, USFWS):

Eastern indigo snakes are found in a variety of habitats throughout Florida, from mangrove swamps and wet prairies to sandhill and scrub habitats, and they often winter in the burrows of gopher tortoises (*Gopherus polyphemus*). Eastern indigo snakes have not been observed on the Site, but they have the potential to occur based on the presence of gopher tortoise burrows. Based on the FWC and USFWS habitat models (FWC, 2009; FWC, 2014; USFWS, 2018), the Site contains primarily secondary habitat/moderate potential for the eastern indigo snake to occur on the Site. Currently, the USFWS uses a 1.70-mile radius from a documented occurrence to assess probability of occurrence on a project site in the North Ecological region. Based on various databases, there are no occurrence records of eastern indigo snakes on or within a 1.7-mile radius of the Site. Eastern indigo snakes were not observed on the Site and there is a low to moderate potential for the eastern indigo snakes to occur on the Site.

Florida Pine Snake (Pituophis melanoleucus mugitus) (T, FWC):

The Site is located within the range of the Florida pine snake (Franz, 1992). Florida pine snakes typically occur in sandhills and former sandhills (including old fields and pastures, sand pine scrub, and scrubby flatwoods) with relatively open canopies and dry sandy soils. Occurrence databases contain no records of Florida pine snakes on or near the Site (FWC, 2016). FWC habitat models (Cox et al., 1994) indicate approximately 5% of the Site in the northeast portion was mapped as potentially suitable habitat for Florida pine snakes. The FWC Integrated Wildlife Habitat Ranking System Model (FWC, 2009) indicates approximately 10% of potential habitat for the Florida pine snake on the northeast and southwest portions of the Site. Soils and land cover data indicate that the sandhill xeric habitats preferred by this species only occur in the northeast and southwest portion of the Site. The Florida pine snake has a low potential for occurrence on the Site based on the historical silvicultural use of the Site and the limited amount of potential habitat for the Florida pine snake.

Gopher Tortoise (Gopherus polyphemus) (State Threatened [ST], FWC):

BDA scientists observed potentially occupied gopher tortoise burrows on the Site. FWC potential habitat models (Cox et al., 1994; FWC, 2016) indicate that approximately 5% of the Site, primarily in the southwestern portion of the Site, contain habitats potentially suitable for gopher tortoises. Gopher tortoises typically inhabit sites with soils that support sandhill, scrub, and pine flatwoods habitats (Enge et al., 2006). A 100% survey of all areas of suitable gopher tortoise habitat will be conducted prior to the start of any Site development activities (including silt fence installation, clearing, or grading) for the portion of the Site undergoing development activities in accordance with the FWC *Gopher Tortoise Permitting Guidelines* (Guidelines) (FWC, 2023a) to determine the population size and distribution of gopher tortoises currently on the Site and evaluate management options available for this species. A relocation permit from the FWC will be required to relocate any gopher tortoises that are adversely affected by proposed development to an off-site FWC Certified Gopher Tortoise Recipient Site.

Striped Newt (Notophthalmus perstriatus) (T, FWC):

The eastern portion of the Site is located within the range of the striped newt as mapped by the FWC *Striped Newt Species Conservation Measures and Permitting Guidelines* (2022). The preferred habitat of striped newts is longleaf pine – turkey oak sandhills with an intact groundcover containing wiregrass (*Aristida stricta*), but this species is also found in scrub and scrubby flatwoods habitats (Christman and Means, 1992; USFWS, 2011). Striped newts have long life spans (approximately 12-15 years) and a complex life cycle that requires both uplands and wetlands (USFWS, 2011). They breed exclusively in small (typically less than 12.4 acres), isolated, ephemeral ponds that lack predaceous fish and are interspersed in and surrounded by xeric upland habitats (USFWS, 2011).

There are no database records of striped newt occurrence on the Site (FNAI, 2023). The Site does contain xeric soil types that typically support the sandhill and scrubby flatwood habitats preferred by this species; however, the majority of these areas have been converted to silviculture. Based on the absence of sandhill habitat on the Site and the historical management of pine plantations on the Site, there is a low likelihood that striped newts occur on the Site.

Birds

Bald Eagle (Haliaeetus leucocephalus):

The bald eagle is protected by the USFWS under provisions of the Bald and Golden Eagle Protection Act (BGEPA) (1972) and the Migratory Bird Treaty Act (1995). Recovery goals have been achieved for this species; therefore, the bald eagle is no longer listed or protected as a “Threatened” species under the ESA of 1973, as amended. The FWC revised the state bald eagle rule (FWC, 2017a) to remove the need for a state permit to impact bald eagles or their nests. The USFWS has implemented National Guidelines (USFWS, 2007) to assist private landowners and others to plan land-use activities in proximity (within 660 feet) of active bald eagle nests that will minimize the likelihood of causing “disturbance” to nesting bald

eagles, as defined under the BGEPA. Coordinating with the USFWS for guidance prior to undertaking any activity that may result in “disturbance” of nesting bald eagles is recommended.

The FWC bald eagle nest database (FWC, 2017b) and Audubon EagleWatch database (Audubon, 2025) were reviewed to determine the locations of all documented nests on or in close proximity to the Site. The nearest recorded bald eagle nest is No. FL009, located approximately 2.28 miles northeast of the Site (Exhibit 7). The nest was last surveyed and recorded as active in 2013. There are no bald eagle nests reported within 660 feet of the Site boundary and none were observed on or adjacent to the Site during site investigations; therefore, consistent with the National Guidelines, it is unlikely that development activities on the Site would adversely affect bald eagles. As individual portions of the Site are proposed for development, the area will be inspected to determine if any bald eagle nests have been newly established.

Florida Sandhill Crane (Antigone canadensis pratensis) (ST, FWC):

Florida sandhill cranes nest in shallow, emergent palustrine wetlands, particularly those dominated by pickerelweed and maidencane. They feed in a variety of open, upland habitats, mostly prairies, but also human-manipulated habitats such as sod farms, ranchlands, pastures, golf courses, airports, and suburban subdivisions (Nesbitt, 1996; Stys, 1997; Wood, 2001). Home ranges of individual pairs overlap with those of adjacent pairs and average approximately 1,100 acres. Core nesting territories within home ranges vary from approximately 300 acres to 625 acres and are aggressively defended from other cranes (Wood, 2001).

The FWC potential habitat model (Cox et al., 1994) indicates the Site is not mapped as potentially suitable habitat for Florida sandhill cranes. However, during field investigations in 2010 associated with the Neoga Lakes DRI, BDA scientists observed an active Florida sandhill crane nest along the northern portion of Tank Lake. The Site is located within the current range of Florida sandhill cranes, and the northeast portion of the Site is located within a Breeding Bird Atlas (BBA) (Kale et al., 1992) block in which Florida sandhill cranes have been observed nesting. This information indicates that there is a high potential for Florida sandhill cranes to forage and nest on the Site, primarily in the southwestern portion of the Site where the natural lakes are located.

Florida Scrub-jay (Aphelocoma coerulescens) (T, USFWS):

The Site is located within the USFWS consultation area for Florida scrub-jays. However, available databases contain no records of Florida scrub-jay territories within the Site. Based on the Flagler County Florida Natural Areas Inventory (FNAI) data (2023), the nearest occurrence record for scrub-jays is approximately 4.8 miles east of the Site within the Guana Tolomato Matanzas National Estuarine Research Reserve. This occurrence record is from 1981. Although 85% of documented Florida scrub-jay dispersal is within two miles of the natal territory, scrub-jays may occasionally disperse up to five miles to establish territories of their own (Fitzpatrick et al., 1991; Stith, 1999). Recolonization of vacant patches of habitat rarely occurs beyond about 7.4 miles (Stith et al. 1996). Florida scrub-jay territories that are within 7.4 miles of one another are considered to be members of the same metapopulation (35, Stith, 1999). Based on

the FWC habitat models (Cox et al., 1994;; Endries et al., 2009), approximately 2% of the Site in the northeastern portion contains potential habitat for the Florida scrub-jays on the Site. During the October 2023 site inspections of this area, scrubby flatwood communities were noted but no scrub-jays were observed.

Based on the historical silvicultural use of the Site, Florida scrub-jays have a low likelihood for occurrence within the Site due to poor on-site habitat conditions.

Least Tern (Sternula antillarum) (ST, FWC):

The least tern is a migratory bird that is a breeding summer resident in Florida (Gore, 1996). Least terns are typically found in coastal areas, including beaches, lagoons, bays, and estuaries, but they increasingly are nesting in inland areas near large bodies of water. Historically, least terns nested along the coast on broad, sparsely vegetated, sandy beaches. Typical nesting habitat has been characterized as open bare sand or gravel with vegetation covering <20% of the Site (Gore, 1996). However, the loss of natural nesting habitats has resulted in least terns nesting in a variety of artificial habitats, including gravel rooftops, dredge spoil islands or other dredged material deposits, construction sites, causeways, and mine lands.

The Site is within the current range of the least tern as depicted by the FWC Imperiled Species Management Plan (ISMP) (2016). The likelihood of least terns nesting on the Site is unlikely based on the lack of open bare substrate, extended distance from the coast, and the Site's location west of Interstate 95 and US-1.

Florida Burrowing Owl (Athene cunicularia floridana) (ST, FWC):

The Site is located within the current range of the Florida burrowing owl as depicted by the FWC ISMP (2016). The Site is not located within a BBA (Kale et al., 1992) block in which Florida burrowing owls have been observed nesting. The nearest BBA record of confirmed nesting by Florida burrowing owls is approximately 27 miles southeast of the Site. Burrowing owls typically occur in open, well-drained treeless areas where herbaceous groundcover is low and sparse. Burrowing owls historically occurred primarily in the dry prairies of central Florida, but land clearing and drainage of wetlands have greatly expanded the range and habitats used by burrowing owls (Millsap, 1996). Burrowing owls are found in a variety of open well-drained habitats including improved pastures, golf courses, school campuses, athletic fields, airports, cemeteries, and industrial/residential complexes (Millsap, 1996; Wood, 2001). Burrowing owls construct burrows in well-drained soils but will also adopt abandoned gopher tortoise burrows or will nest in polyvinyl chloride pipes, culverts, and under the eaves of buildings (Wood, 2001).

FWC habitat models Cox et al., 1994;; Endries et al., 2009) indicate that the Site does not contain potential habitat for burrowing owls and there are no documented occurrence records on the Site (FNAI, 2023; FWC, 2016); therefore, there is a low likelihood for this species to occur on the Site.

Southeastern American Kestrel (Falco sparverius paulus) (ST, FWC):

Two subspecies of American kestrels (*Falco sparverius*) occur in Florida, the eastern American kestrel (*Falco sparverius sparverius*) and the southeastern American kestrel. The eastern American kestrel winters in Florida, arriving in September and leaving in March or April (Stys, 1993; Wood, 2001). The southeastern American kestrel is a permanent resident in Florida. Southeastern American kestrels and eastern American kestrels are both found in Florida during the winter and are virtually indistinguishable in the field. Surveys intended to determine the presence of resident southeastern American kestrels should be conducted between April and August, and surveys for nesting American kestrels ideally would be conducted in April or May (Stys, 1993; Wood, 2001). Southeastern American kestrels are secondary cavity nesters, typically using cavities excavated by other species in trees or snags. They will occasionally nest in human structures such as utility poles (Wood, 2001). American kestrels feed in open areas, such as croplands, pasture, and open pine flatwoods that are adjacent to nest sites. Home ranges around nest sites range in size from 125 to 800 acres (Stys, 1993; Wood, 2001).

According to the FWC ISMP (2016), the Site is not located within or near a population eclipse or a primary management unit. The Site is not located within the range for southeastern American kestrels (Collopy, 1996). Available databases including the Flagler County FNAI data (2023) and the Florida BBA (Kale et al., 1992) contain no occurrence records of southeastern American kestrels on or near the Site. The nearest Florida BBA block is located approximately 8.4 miles southwest of the Site. The FWC habitat model (Cox et al., 1994) indicates that approximately 1% of the southern portion of the Site was mapped as potentially suitable for southeastern American kestrels. During field investigations in 2010 associated with the Neoga Lakes DRI, BDA scientists observed an active southeastern American kestrel nest along a powerline easement on the eastern portion of the Neoga Lakes DRI. During the October 2023 field investigations on the eastern portion of the Site, an American kestrel was observed. Based on this information, there is a moderate to high likelihood that southeastern American kestrels utilize the Site, most likely in areas that have open pasture-like habitat such as powerline easements.

Wading Bird Rookeries (1999):

There are four State Threatened wading birds: the little blue heron (*Egretta caerulea*), reddish egret (*Egretta rufescens*), roseate spoonbill (*Platalea ajaja*), and tricolored heron (*Egretta tricolor*). All four occur throughout the state, although the reddish egret occurs almost exclusively in coastal areas. Wading birds typically nest in multi-species colonies, although reddish egrets and tricolored herons may nest in small, single species groups or build solitary nests.

During field investigations in 2010 associated with the Neoga Lakes DRI, BDA scientists observed a little blue heron and tricolored heron. These same wading birds were also observed during the Old Brick Township DRI field investigations. The FWC wading bird rookery database (FWC, 1999) from the 1999 statewide survey contain no records of rookeries used by other species of wading birds on the Site, but the database contains records of one wading bird rookery within 9.3 miles of the Site (Exhibit 7). The closest

active wading bird rookery (No. 6606109) is located approximately 5.89 miles north of the Site and was last known active in 1999 (FWC, 1999). Listed species of wading birds will fly up to approximately 9.3 miles from the nesting site to forage in wetlands and return food to incubating adults and nestlings (Cox et al., 1994). Wetlands within 9.3 miles of wading bird colonies that provide foraging or sheltering are considered important to wading bird nesting success (Cox et al., 1994). Based on the proximity of at least one known active rookery within normal foraging distances of the Site and that wading bird species were previously observed in the Neoga Lakes DRI, there is a potential for these wetlands to contribute to the nesting success of listed species of wading birds, particularly the little blue heron or tricolored heron.

Wood Stork (Mycteria americana) (Under Review, FWC):

Surveys were conducted for wood storks during the nesting season in 2010 within potentially suitable nesting habitats in accordance with USFWS guidance. No wood stork nests were observed. Two wood storks were observed during preliminary field investigations. There are no records of a wood stork colony on the Site based on the most recent USFWS wood stork data.

Effective March 9, 2026, the USFWS removed the Southeast U.S. distinct population segment of the wood stork from the Federal List of Endangered and Threatened Wildlife. While no longer protected under the ESA, the wood stork remains protected by the Migratory Bird Treaty Act. The wood stork is currently under review with the FWC. According to 68A-27.0012 Florida Administrative Code (F.A.C.), before species that have been removed from the ESA are removed from the Florida Endangered and Threatened Species rule, they shall receive a biological status review to determine if the species warrants listing as a state-designated species. Prior to any species being removed from the Florida Endangered and Threatened Species list, the Commission shall develop a management plan that is intended to maintain or enhance the conservation of that species.

Previously, the USFWS used a regulatory tool known as the Core Foraging Area (CFA) to determine the potential effects of project activities on wood stork colonies that have been active within ten years of initiation of consultation. The CFA in Flagler County, Florida, was determined as a circle, 13 miles in radius, around a nesting colony (USFWS, 2020). The area included within the circle represents an area used extensively by adult and juvenile wood storks for foraging during the nesting season. The Site is not located within the 13-mile CFA of any known wood stork colonies that have been active in the last ten years (Exhibit 7). The closest wood stork colony, Lake Disston Colony, is located approximately 14.69 miles southwest of the Site and was surveyed and last documented as active in 2019. Wood storks typically return to the same rookery sites each year to nest (Ogden, 1996). Wood storks will travel up to 18.6 miles from rookeries to forage in wetlands and return food to incubating adults and nestlings during the nesting season (Cox et al., 1994). Wetlands within this distance are considered critical to nesting success and are considered by the USFWS to comprise core foraging areas for known wood stork colonies.

The USFWS previously described suitable wood stork foraging habitat (SFH) as “...any area containing open (<25% aquatic vegetation), calm water, and having a permanent or seasonal water depth between 2 and 15 inches (5 to 38 cm) deep. SFH supports and concentrates, or is capable of supporting and concentrating small fish, frogs, and other aquatic prey. Examples of SFH include, but are not limited to, freshwater marshes and stock ponds, shallow, seasonally flooded roadside or agricultural ditches, narrow tidal creeks or shallow tidal pools, managed impoundments, and depressions in cypress heads and swamp sloughs” (USFWS, 2020). The Site’s forested wetlands are not considered suitable foraging habitat for wood storks due to canopy closure and density of understory vegetation in the cypress and mixed forested wetlands and insufficient water depths in the hydric pine flatwoods and wet prairies to support fish populations. Although wood storks consume other prey, fish are the primary prey species and field investigations of the Site provided little evidence that sufficient fish populations occur within on-site wetlands for wood stork foraging.

Minimal suitable foraging habitat within and adjacent to the proposed project, compared with the amount of potential foraging habitat available for wood storks within the CFAs surrounding the nesting colonies, suggests that there is a moderate likelihood that wood storks utilize the Site for foraging based on the presence of freshwater marshes, lakes, and ditches.

Wildlife Observations

The only listed species observed during 2023 - 2025 Site investigations were gopher tortoises. General wildlife species documented during 2023 and 2024 site investigations included American crow (*Corvus brachyrhynchos*), American kestrel, barred owl (*Strix varia*), belted kingfisher (*Megaceryle alcyon*), black racer (*Coluber constrictor*), black vulture (*Coragyps atratus*), blue jay (*Cyanocitta cristata*), brown anole (*Anolis sagrei*), Carolina wren (*Thryothorus ludovicianus*), common ground-dove (*Columbina passerina*), common yellowthroat (*Geothlypis trichas*), cottonmouth (*Agkistrodon piscivorus*), downy woodpecker (*Dryobates pubescens*), eastern ribbon snake (*Thamnophis saurita saurita*), great egret (*Ardea alba*), green anole (*Anolis carolinensis*), mourning dove (*Zenaida macroura*), nine-banded armadillo (*Dasypus novemcinctus*), oak toad (*Anaxyrus quercicus*), palm warbler (*Setophaga palmarum*), pileated woodpecker (*Dryocopus pileatus*), raccoon (*Procyon lotor*), red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*), six-lined racerunner (*Cnemidophorus sexlineatus*), southern leopard frog (*Lithobates sphenoccephalus*), toad (*Bufo* sp.), turkey vulture (*Cathartes aura*), white-tailed deer (*Odocoileus virginianus*), wild turkey (*Meleagris gallopavo*), yellow-bellied sapsucker (*Sphyrapicus varius*), and yellow-billed cuckoo (*Coccyzus americanus*). Previously documented observations of listed species on the southwestern portion of the Site included American alligators, Florida sandhill cranes, gopher tortoises, little blue herons, southeastern American kestrels, and a wood stork flying over and within the vicinity of the Site. Previously documented observations of listed species on the northwestern portion of the Site included gopher tortoises, little blue herons, and tricolored herons.

Watersheds

The Site is located within two watersheds (Exhibit 8). The northern two thirds of the Site is located within the Pellicer Creek and Matanzas River Watershed. Water generally flows in a northern direction toward the sub-basins of the Pellicer Creek and Matanzas River Watershed (to include Dave Branch, Pringle Branch, and Hulett Branch). Dave Branch, Pringle Branch, and Hulett Branch are tributaries of Pellicer Creek, and extend south into the northeastern portion of Site. Pellicer Creek, located offsite to the northeast of the Site, serves to connect headwaters and tributaries to the downstream Matanzas River. The southern third of the Site is located within the Crescent Lake Watershed with water generally flowing towards the southwest.

100-Year Floodplain

FEMA floodplain mapping is depicted on Exhibit 9. No base flood elevations have been determined for this area. A small area of Zone AE occurs in the northeasternmost parcel, associated with Hulett Branch.

Water Quality

The portion of Pellicer Creek near the Matanzas River upstream to U.S. Highway 1 (located northeast of the Site) has been designated by the State of Florida as an Aquatic Preserve and an Outstanding Florida Water (OFW) (Exhibit 10). None of the Site directly abuts the Aquatic Preserve or OFW. However, the north/south wetland strands in the northeastern portion of the Site are associated with Pringle Branch and Hulett Branch, both tributaries of Pellicer Creek which contribute downstream flow to the OFW.

The northern two thirds of the Site is located within the Florida Department of Environmental Protection (FDEP) Pellicer Creek Planning Unit. FDEP utilizes Waterbody Identification Numbers (WBIDs) for their assessment of water quality impairment. Each WBID represents a receiving waterbody or stream segment according to the U.S. Geological Survey National Hydrography Dataset. The Pellicer Creek Planning Unit includes WBIDs 2598 in the northwestern portion of the Site associated with Dave Branch, WBID 2577 associated with Pringle Branch, WBID 2597 in the northeastern portion of the Site associated with Hulett Branch. The southeastern portion of the Site falls within WBID 2609A associated with the St. Joe Canal. Based on the FDEP's 2022-2024 Biennial Assessment (BA) adopted in August 2024, WBID 2609A remained impaired for nutrients (including macrophytes, algal mats, and total phosphorus) and remained on the State's Study List for chlorophyll-a. In the draft 2024-2026 BA released in November 2025, WBIDs 2577 and 2609A were determined to be impaired for *Escherichia coli*. The draft BA lists are expected to be finalized for adoption by the FDEP Secretary in August 2026.

The southern one third of the Site is located within the FDEP Crescent Lake Planning Unit. A small portion of the north central portion of the Site falls within WBID 2545 associated with the Salt Creek Ditches. The

southwestern portion of the Site falls within WBID 2612 associated with the Tank Lake Outlet with Tank Lake identified as a stand-alone WBID (2612A), the majority of the remaining Site falls within WBID 2610 associated with an unnamed canal. Small portions of the western and southwestern extent of the Site overlaps WBID 2608 (Unnamed Canal), WBID 2615 (Bull Creek Ditches), and WBID 2618 associated with Espanola Drain. Based on the FDEP's adopted 2022-2024 BA for water quality standards, WBID 2615 remained impaired for nutrients (total phosphorus and macrophytes), metals (iron), and was determined to be impaired for *Escherichia coli*. WBID 2545 remained on the State's Study List for dissolved oxygen. In the draft 2024-2026 BA, WBID 2615 was added to the State's Planning List for specific conductance, WBID 2610 was added to the State's Planning List for nutrients (Total Nitrogen, Total Phosphorus), and WBID 2545 was added to the State's Planning List for alkalinity, pH, and metals (iron). All of these WBIDs are part of a 2008 FDEP-approved Statewide Surface Water Basin Management Action Plan (BMAP) associated with the Lower St. Johns Mainstem Project. BMAPs represent water quality restoration plans prepared pursuant to Section 403.067(7), Florida Statutes to reduce pollutant loadings in an effort to achieve the limitations in an adopted Total Maximum Daily Load (TMDL). The FDEP identified several segments of the main stem of the Lower St. Johns River Basin to be impaired by nutrients and adopted TMDLs for Total Nitrogen (TN) and Total Phosphorus in the freshwater section and adopted a TMDL for TN in the marine section of the river. The majority of the southwest portion of the Site is located within the BMAP.

Environmental Context

Regional environmental studies have been conducted since the previous Neoga Lakes and Old Brick Township DRIs were approved. These studies and additional databases were reviewed and evaluated for the entire Site (Exhibit 11). Previous field studies and recent site inspections provided additional data and insights into the location and extent of environmentally sensitive features.

The following list of regional studies were evaluated during environmental assessments of the Site:

- Florida Wildlife Corridor
- Location of offsite mitigation banks, conservation lands, and Florida Forever Lands
- Proposed Matanzas to Ocala Conservation Corridor
- Florida Ecological Greenways Network
- FWC Florida Landscape Assessment Model (2020)
- FWC Cooperative Conservation Blueprint (2019)
- Southeast Conservation Adaptation Strategy Southeast Conservation Blueprint (2025)

- FNAI, University of Florida, FWC Critical Lands and Waters Identification Project (CLIP) 4.0 (2016)
 - Rare Species Habitat Conservation Priorities
 - Biodiversity Resource Priorities
 - Landscape Resource Priorities
 - Surface Water Resource Priorities
 - Aquifer Recharge Priorities
 - Aggregated Priorities

Regulatory Jurisdiction

St. Johns River Water Management District

The SJRWMD regulates the development and construction of stormwater management systems pursuant to the environmental resource permitting rules and regulations, the criteria contained in Chapter 62-330 F.A.C., and the Environmental Resource Permitting Applicant's Handbook, Volume I and Volume II. Development of the project Site will require a General Permit or Individual ERP depending on the scope of potential development activities. Wetland impacts will be reviewed during the permitting process to determine if practicable design modifications have been incorporated to reduce and/or eliminate wetland impacts. The SJRWMD requires an upland buffer of minimum width of 15 feet and an average width of 25 feet around wetlands remaining on the Site post-development in order to minimize secondary impacts. In accordance with the Applicant's Handbook, impacts to wetlands less than 0.5 acre in size, not of critical state concern, not used by a Listed Species, and not connected to other water such that the total acreage is > 0.5 acre will not require mitigation. The SJRWMD will consult with the FWC regarding Listed Species during the permitting process. As previously discussed, portions of the Site are the subject of valid SJRWMD permits including the Neoga Lakes Conceptual ERP (No. 123802-3 and 123802-4), Old Brick Township FWD (No.118954-3), and the western portion of the Matanzas Woods Parkway Extension (102595-42).

Florida Department of Environmental Protection

In December 2020, the U.S. Environmental Protection Agency granted a partial assumption of the Clean Water Act Section 404 implementation to the FDEP. This grant of assumption to FDEP has been vacated, reverting federal wetland jurisdiction to the Department of the Army, Corps of Engineers (ACOE). Existing ACOE permits remain valid, including an Individual Permit (No. SAJ-2009-03286) that was issued for Neoga Lakes and Approved Jurisdictional Determination (No. SAJ-2024-01723) issued for the Matanzas Woods Parkway Extension.



In accordance with current regulatory policy, future development within the Site will require inspection and approval of federal wetland jurisdictional limits and permit authorization. In general, a project will require an Individual Permit if proposed impacts to federally jurisdictional wetlands exceed a total of 0.5 acre. The regulatory process for an Individual Permit requires submittal of an alternatives analysis, which examines other properties that could have been purchased to yield a net reduction of wetland impact acreage for the proposed project. The applicant must demonstrate that wetland impacts have been avoided and minimized to the greatest extent practicable and that the proposed project is the most feasible alternative. Once the above criteria are met, a compensatory mitigation plan for wetland impacts can be proposed.

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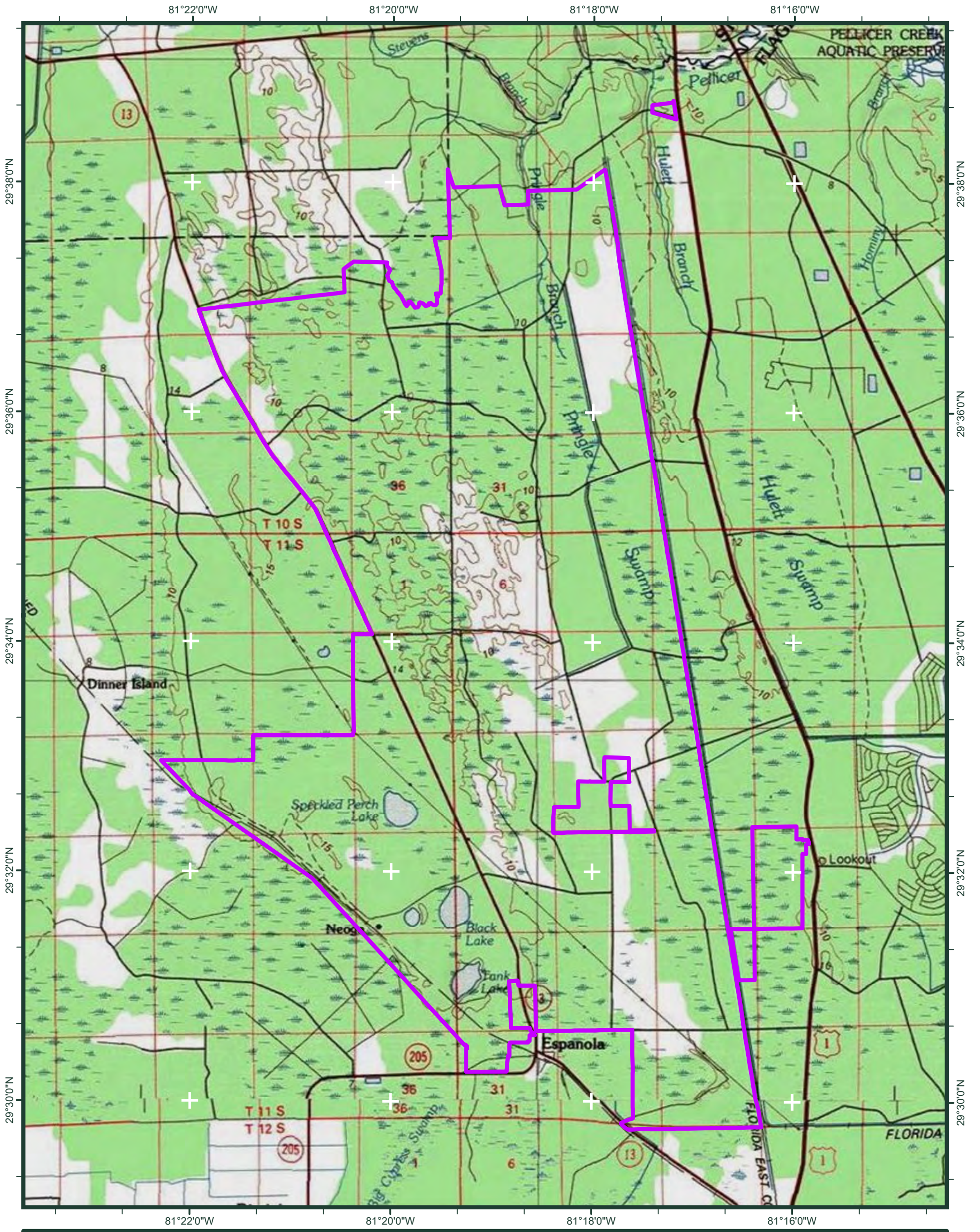
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EXHIBIT 1

**LOCATION OF THE PALM COAST MPD SITE,
FLAGLER COUNTY, FLORIDA**



Legend

- Palm Coast MPD Boundary (20,214 ac)
- USGS Bunnell, Dinner Island NE and Espanola, Fla. Quadrangle (7½ Minute Topographic Map)
- Sections 22-27 and 35-36, Township 10 South, Range 29 East
- Sections 9, 17-20 and 29-33, Township 10 South, Range 30 East
- Sections 1-2, 12-15 and 23-25, Township 11 South, Range 29 East
- Sections 4-9, 16-22 and 27-34, Township 11 South, Range 30 East

Source: Project boundary provided by England-Thims & Miller, Inc., 2026/03/23. USA Topographic Maps © 2013 National Geographic Society, i-cubed.

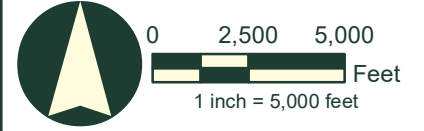
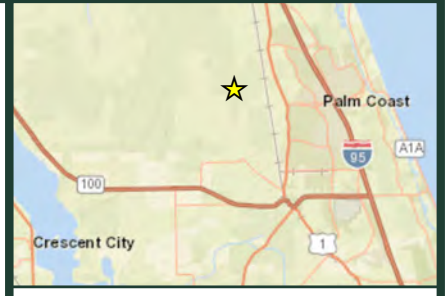
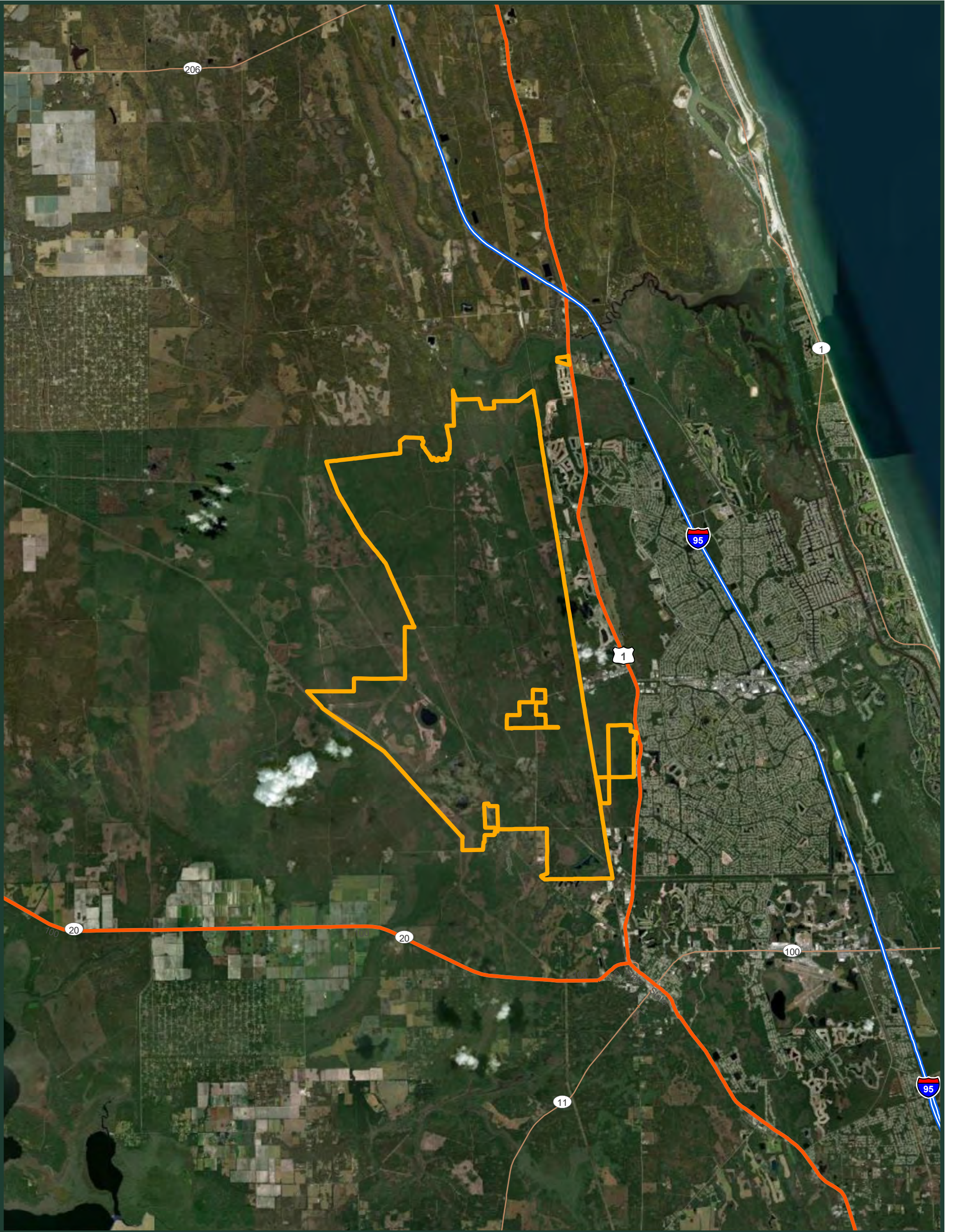


EXHIBIT 1
LOCATION OF THE PALM COAST MPD SITE,
FLAGLER COUNTY, FLORIDA


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 Environmental Consultants
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EXHIBIT 2

**AERIAL PHOTOGRAPH OF THE
PALM COAST MPD SITE,
FLAGLER COUNTY, FLORIDA**



Legend

 Palm Coast MPD Boundary (20,214 ac)

Source: Project boundary provided by England-Thims & Miller, Inc., 2026/03/23. ArcGIS Online World Imagery, © ESRI, 2023/09/19 - 2025/11/04.

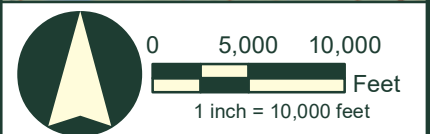
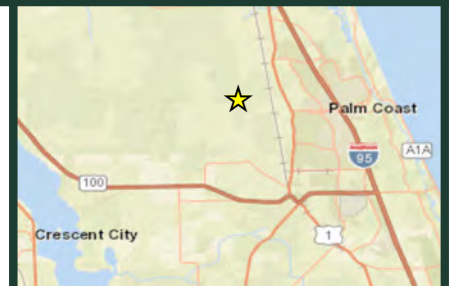
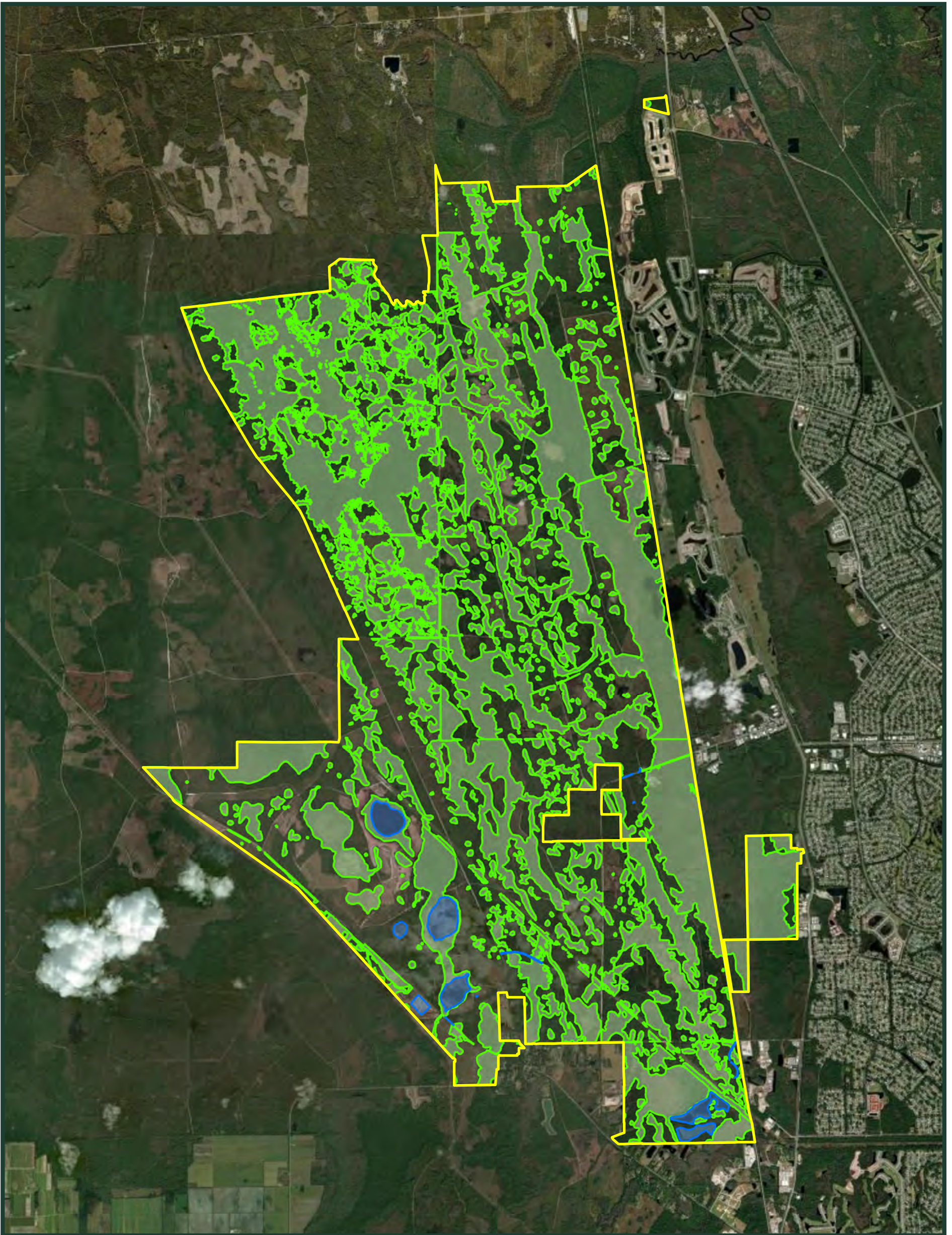


EXHIBIT 2
AERIAL PHOTOGRAPH OF THE PALM COAST MPD SITE,
FLAGLER COUNTY, FLORIDA

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 Environmental Consultants
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EXHIBIT 3

**WETLANDS WITHIN THE PALM COAST MPD SITE,
FLAGLER COUNTY, FLORIDA**



Legend

- ▭ Palm Coast MPD Boundary (20,214 ac)
- ▭ Surface Waters (233 ac)
- ▭ Wetlands (9,468 ac)

Source: Project boundary provided by England-Thims & Miller, Inc., 2026/03/23. Neoga Lakes Phase 1 wetlands provided by LD Bradley Land Surveyors, 2010/03/30. Neoga Lakes Phase 2 wetlands provided by LD Bradley Land Surveyors, 2016/11/14. Neoga Lakes remaining area wetlands based on photointerpretation and selective groundtruthing by BDA 2008-2010. Old Brick Township surveyed wetlands provided by LD Bradley Land Surveyors, 2019/07/15. Remaining area wetlands based on photointerpretation and selective groundtruthing by BDA, 2021/06 and 2023/10. ArcGIS Online World Imagery, © ESRI, 2023/09/19 - 2025/11/04.

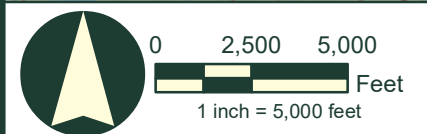
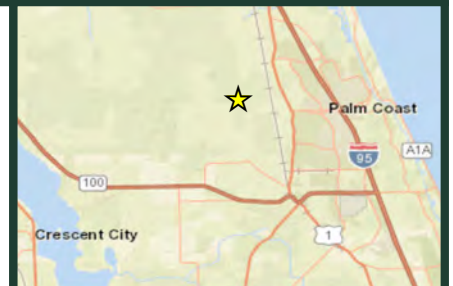


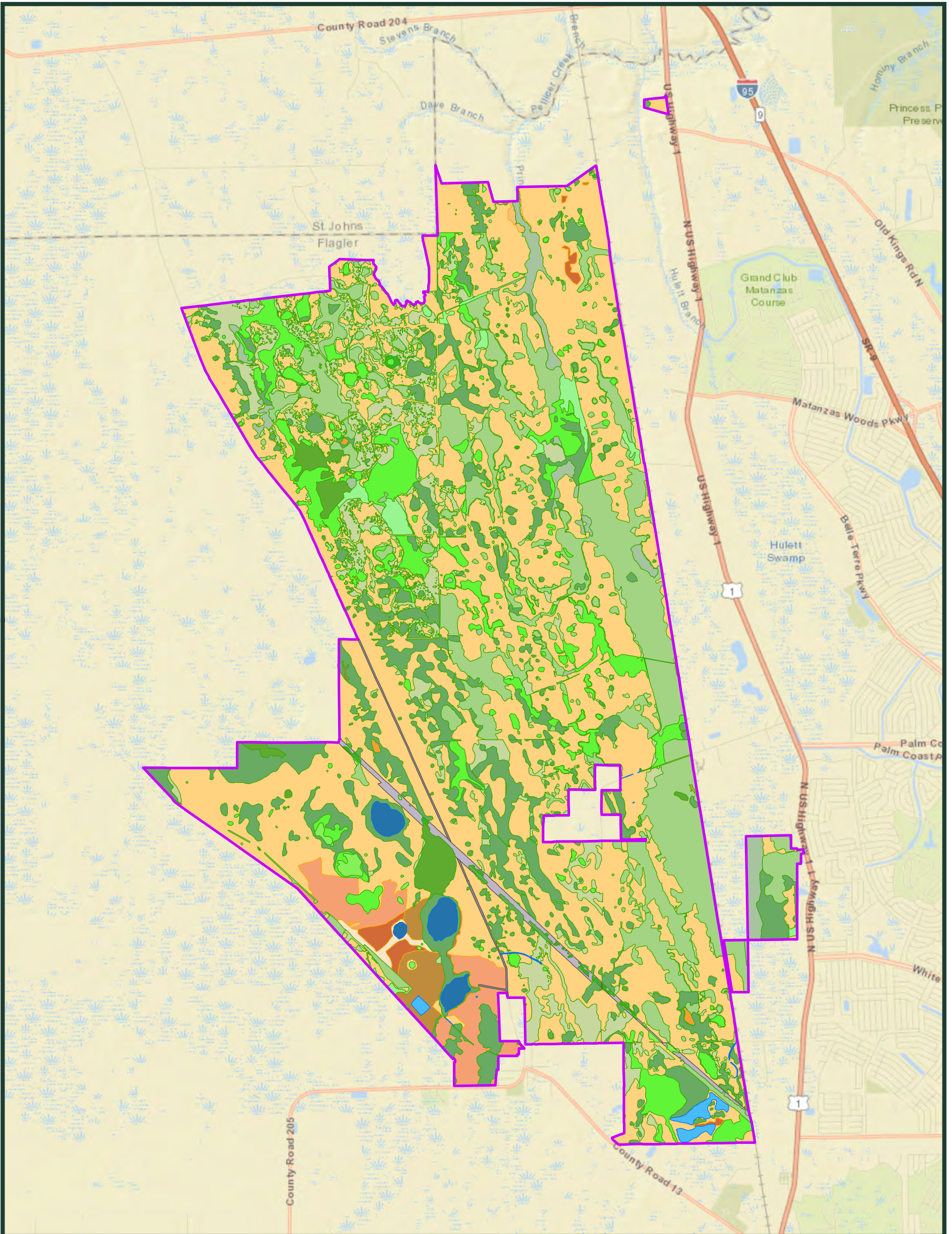
EXHIBIT 3
WETLANDS WITHIN THE PALM COAST MPD SITE,
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EXHIBIT 4

FLORIDA LAND USE, COVER AND FORMS CLASSIFICATION SYSTEM MAP OF THE PALM COAST MPD SITE, FLAGLER COUNTY, FLORIDA

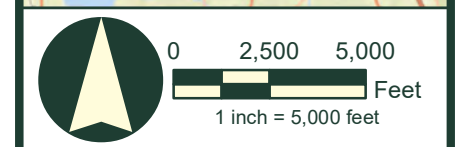
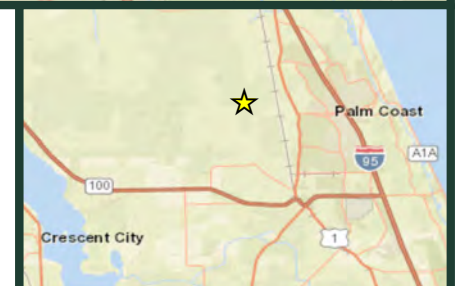


Legend

Palm Coast MPD Boundary (20,214 ac)

Land Cover Classification

- | | |
|--|--|
| 410 - Upland Coniferous Forests (14 ac) | 534 - Reservoirs less than 10 acres (<1 ac) |
| 411 - Pine Flatwoods (18 ac) | 611 - Bay Swamps (253 ac) |
| 413 - Sand Pine (48 ac) | 617 - Mixed Wetland Hardwoods (311 ac) |
| 417 - Regenerating Sand Pine / Xeric Oak scrub (97 ac) | 621 - Cypress (1,308 ac) |
| 427 - Live Oak (17 ac) | 625 - Hydric Pine Flatwoods (181 ac) |
| 436 - Upland Scrub, Pine and Hardwoods (181 ac) | 630 - Wetland Forested Mixed (2,492 ac) |
| 441 - Coniferous Plantations (9,481 ac) | 641 - Freshwater Marshes (56 ac) |
| 4411 - Sand Pine Plantations (477 ac) | 643 - Wet Prairies (26 ac) |
| 516 - Ditches (3 ac) | 646 - Mixed Scrub-shrub Wetland (2,972 ac) |
| 520 - Lakes (160 ac) | W441 - Wet Coniferous Plantations (1,869 ac) |
| 533 - Reservoirs larger than 10 acres (70 ac) | 812 - Railroads (<1 ac) |
| | 822 - Communication Facilities (38 ac) |
| | 832 - Electrical Power Transmission Lines (142 ac) |



Source: Project boundary provided by England-Thims & Miller, Inc., 2026/03/23. Vegetative delineation based on photointerpretation and selective groundtruthing by BDA, 2024/01/18.

EXHIBIT 4
FLORIDA LAND USE, COVER AND FORMS CLASSIFICATION SYSTEM (FLUCFCS) MAP OF THE PALM COAST MPD SITE,
FLAGLER COUNTY, FLORIDA

BDA BREEDLOVE, DENNIS & ASSOCIATES, INC.
 Environmental Consultants
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EXHIBIT 5

NATURAL RESOURCES CONSERVATION SERVICE SOILS MAP OF THE PALM COAST MPD SITE, FLAGLER COUNTY, FLORIDA

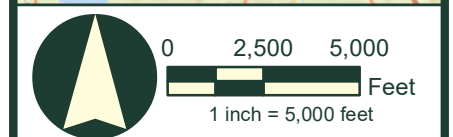
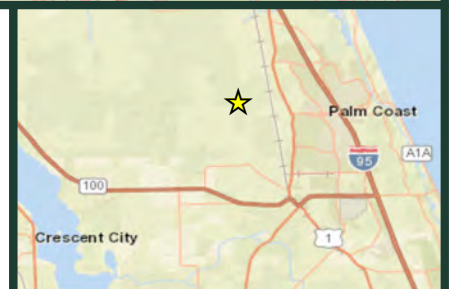


Legend

Palm Coast MPD Boundary (20,214 ac)

Soils (Flagler County)

- | | | |
|---|---|---|
| 2 - Riviera fine sand, 0 to 2 percent slopes (28 ac) | 11 - Myakka-Myakka, wet, fine sands, 0 to 2 percent slopes (2,113 ac) | 21 - Smyrna fine sand, 0 to 2 percent slopes (698 ac) |
| 3 - Samsula and Honton soils, depressional (1,047 ac) | 12 - Placid, Basinger, and St. Johns soils, depressional (1,231 ac) | 22 - Astatula fine sand, 0 to 8 percent slopes (9 ac) |
| 4 - Wabasso fine sand, 0 to 2 percent slopes (870 ac) | 13 - Immokalee fine sand, 0 to 2 percent slopes (1,900 ac) | 23 - Adamsville fine sand, 0 to 2 percent slopes (140 ac) |
| 5 - Pineda-Wabasso complex (855 ac) | 14 - Pineda-Pineda, wet, fine sand, 0 to 2 percent slopes (949 ac) | 24 - Samsula and Placid soils, frequently flooded (88 ac) |
| 7 - Favoretta, Chobee, and Winder soils, frequently flooded (31 ac) | 15 - Pomello fine sand, 0 to 5 percent slopes (614 ac) | 25 - Tavares fine sand, 0 to 5 percent slopes (96 ac) |
| 8 - Hicoria, Riviera, and Gator soils, depressional (4,622 ac) | 16 - Malabar fine sand, 0 to 2 percent slopes (1,285 ac) | 27 - Cassia fine sand, 0 to 2 percent slopes (239 ac) |
| 9 - EauGallie fine sand, 0 to 2 percent slopes (349 ac) | 18 - Valkaria-Smyrna complex (113 ac) | 29 - Udarents, moderately wet (1 ac) |
| 10 - Winder fine sand, 0 to 2 percent slopes (61 ac) | 19 - Valkaria fine sand, 0 to 2 percent slopes (204 ac) | 30 - Pits (7 ac) |
| | 20 - Orsino fine sand, 0 to 5 percent slopes (250 ac) | 38 - Paola fine sand, 0 to 8 percent slopes (129 ac) |
| | | 40 - Pomona fine sand, 0 to 2 percent slopes (2,122 ac) |
| | | 99 - Water (163 ac) |



Source: Project boundary provided by England-Thims & Miller, Inc., 2026/03/23. USDA, NRCS, SSURGO database for Flagler County, FL, V. 2.2, pub. 2018/09/12.

**EXHIBIT 5
NATURAL RESOURCES CONSERVATION SERVICE (NRCS) SOILS MAP OF THE PALM COAST MPD SITE,
FLAGLER COUNTY, FLORIDA**

BDA BREEDLOVE, DENNIS & ASSOCIATES, INC.
Environmental Consultants
330 W. Canton Ave., Winter Park, FL 32789 • 407-677-1882

EXHIBIT 6

**LISTED SPECIES WITH POTENTIAL FOR OCCURRENCE ON
THE PALM COAST MPD SITE,
FLAGLER COUNTY, FLORIDA**

Exhibit 6

Listed Species with Potential for Occurrence on the Palm Coast MPD Site, Flagler County, Florida.

Species	Habitat of Occurrence	Likelihood of Occurrence	Designated Status ¹	
			USFWS ²	FWC ^{3,4}
AMPHIBIANS				
<i>Notophthalmus perstriatus</i> striped newt	Isolated ephemeral ponds, longleaf pine, turkey oak sandhill, scrub, scrub flatwoods, xeric oak scrub, sand pine scrub, sandhill, pine flatwoods.	Low	—	ST
REPTILES				
<i>Alligator mississippiensis</i> American alligator	Freshwater marsh, cypress swamp, mixed hardwood swamp, shrub swamp, bottomland hardwoods, lakes, ponds, rivers, streams.	High	T(S/A)	FT(S/A)
<i>Caretta caretta</i> loggerhead sea turtle	Marine coastal and oceanic waters, beaches.	Not Applicable	T	FT
<i>Chelonia mydas</i> green sea turtle	Estuarine and marine coastal and oceanic waters, beaches.	Not Applicable	T	FT
<i>Dermochelys coriacea</i> leatherback sea turtle	Oceanic waters, beaches.	Not Applicable	E	FE
<i>Drymarchon couperi</i> eastern indigo snake	Xeric oak scrub, sand pine scrub, sandhill, pine flatwoods, pine rocklands, torpical hardwood hammock, hydric hammock, wet prairie, mangrove swamp.	Low to Moderate	T	FT
<i>Eretmochelys imbricata</i> hawksbill sea turtle	Oceanic waters, beaches.	Not Applicable	E	FE
<i>Gopherus polyphemus</i> gopher tortoise	Sandhill, sand pine scrub, xeric oak scrub, coastal strand, xeric hammock, dry prairie, pine flatwoods, mixed hardwood-pine forests, ruderal.	High	—	ST

Exhibit 6 Continued.

Species	Habitat of Occurrence	Likelihood of Occurrence	Designated Status ¹	
			USFWS ²	FWC ^{3,4}
<i>Lepidochelys kempii</i> Kemp's ridley sea turtle	Marine coastal waters.	Not Applicable	E	FE
<i>Pituophis melanoleucus mugitus</i> Florida pine snake	Xeric oak scrub, sand pine scrub, sandhill, scrubby pine flatwoods, old fields on former sandhill and scrub sites.	Low	—	ST
BIRDS				
<i>Antigone canadensis pratensis</i> Florida sandhill crane	Dry prairie, freshwater marsh, pasture.	High	—	ST
<i>Aphelocoma coerulescens</i> Florida scrub-jay	Xeric oak scrub.	Low	T	FT
<i>Athene cunicularia floridana</i> Florida burrowing owl	Sandhill, dry prairie, pastures, ruderal.	Low	—	ST
<i>Calidris canutus rufa</i> rufa red knot	Coastal sandy beaches, saltmarshes, lagoons, mudflats of estuaries and bays, and mangrove swamps.	Unlikely	T	FT
<i>Charadrius melodus</i> piping plover	Beaches, tidal mud flats.	Unlikely	T	FT
<i>Dryobates (=Picoides) borealis</i> red-cockaded woodpecker	Sandhill, pine flatwoods.	Unlikely	T	FT
<i>Egretta caerulea</i> little blue heron	Freshwater marsh, various types of forested wetlands, lakes, steams, salt marsh, mangrove swamp, tidal mud flats.	High	—	ST
<i>Egretta tricolor</i> tricolored heron	Salt marsh, mangrove swamp, tidal mud flats, tidal creeks, tidal dtiches, freshwater marsh, various types of forested wetlands, lakes, and ponds.	High	—	ST

Exhibit 6 Continued.

Species	Habitat of Occurrence	Likelihood of Occurrence	Designated Status ¹	
			USFWS ²	FWC ^{3,4}
<i>Falco sparverius paulus</i> southeastern American kestrel	Sandhill, pine flatwoods, dry prairie, pasture, old field.	Moderate to High	—	ST
<i>Haematopus palliatus</i> American oystercatcher	Beaches, sandbars, tidal mud flats, shellfish beds.	Low	—	ST
<i>Laterallus jamaicensis jamaicensis</i> eastern black rail	Dense overhead vegetation cover with shallow inundation in salt, brackish, and freshwater wetlands.	Unlikely	T	FT
<i>Mycteria americana</i> wood stork	Freshwater marsh, various types of forested wetlands, ponds, salt marsh, mangrove swamp, tidal mud flats, lagoons, flooded pastures.	Moderate	—	Under Review
<i>Rhynchops niger</i> black skimmer	Beaches, tidal mud flats, sandbars, tidal creeks, estuarine bays and lagoons.	Unlikely	—	ST
<i>Rostrhamus sociabilis plumbeus</i> Everglade snail kite	Freshwater marsh, lakes.	Unlikely	E	FE
<i>Sternula antillarum</i> least tern	Beaches, tidal mud flats, estuarine and marine waters, lakes.	Unlikely	—	ST
MAMMALS				
<i>Trichechus manatus latirostris</i> Florida manatee	Estuarine bays and lagoons, seagrass beds, rivers, spring runs.	Not Applicable	T	FT

¹ Federal Designations: E = Endangered; T = Threatened; T(S/A) = Threatened Due to Similarity of Appearance; State Designations: ST = State-designated Threatened; ST(S/A) = State-designated Threatened Due to Similarity of Appearance; FE = Federally-designated Endangered; FT = Federally-designated Threatened; FT(S/A) = Federally-designated Threatened Due to Similarity of Appearance.

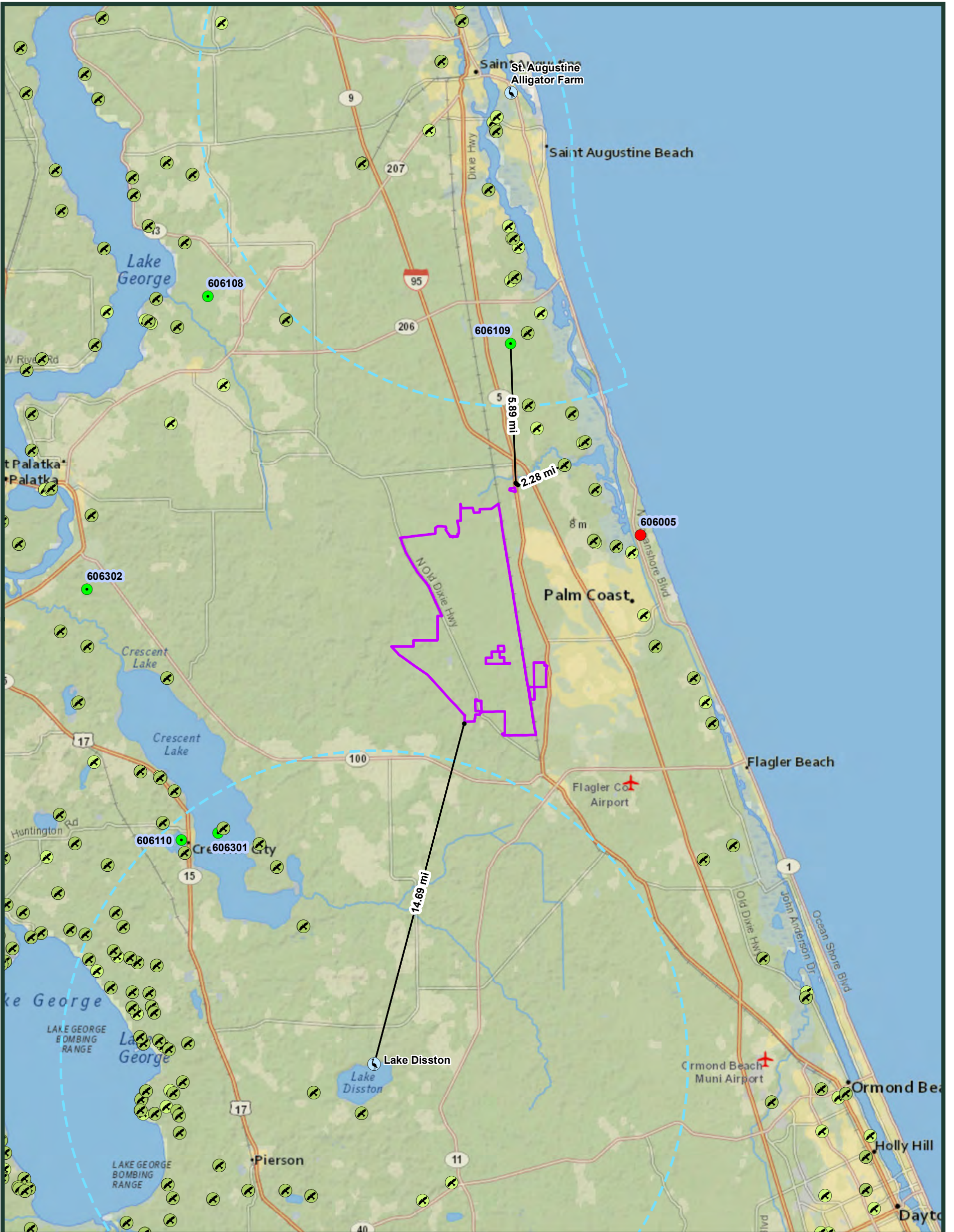
² U.S. Fish and Wildlife Service.

³ Florida Fish and Wildlife Conservation Commission.

⁴ Species are listed as “Federally-designated endangered or threatened species” on the Florida Endangered and Threatened Species list; however, regulatory authorizations for take are only provided by the federal agency administering the species under the Endangered Species Act of 1973, as amended.

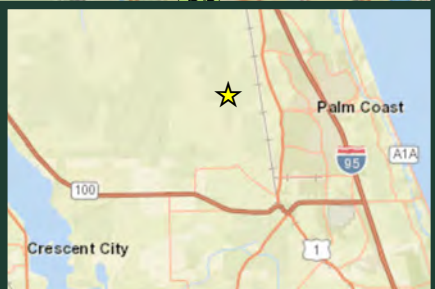
EXHIBIT 7

**BALD EAGLE NESTS, WOOD STORK COLONIES,
AND WADING BIRD ROOKERIES IN THE VICINITY OF THE
PALM COAST MPD SITE,
FLAGLER COUNTY, FLORIDA**



Legend

- Palm Coast MPD Boundary (20,214 ac)
- Wading Bird Rookeries (1999) - Active
- Wading Bird Rookeries (1999) - Inactive
- ▲ Wading Bird Rookeries (1999) - Not checked
- Bald Eagle Nests (FWC, 2017)
- Bald Eagle Nests (EagleWatch, Jan 2026)
- Wood Stork Colonies (2019)
- Wood Stork Foraging Areas (2019)



Source: Project boundary provided by England-Thims & Miller, Inc., 2026/03/23. Florida Fish and Wildlife Conservation Commission (FWC) Caracara and Eagle nests, Wood Stork colonies and wading bird rookeries. Audubon Eaglewatch Program nest sites, 2026/01.

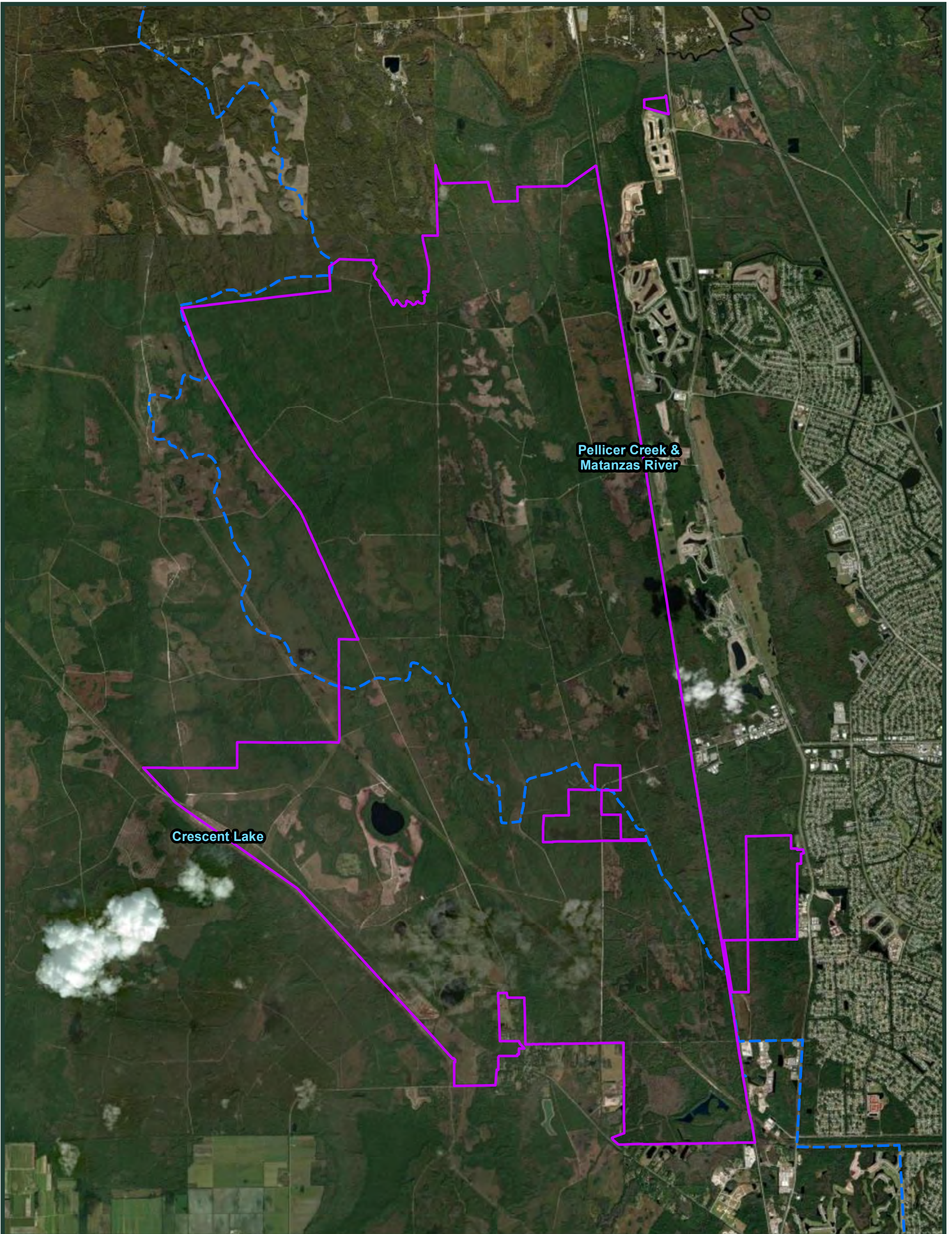
EXHIBIT 7
BALD EAGLE NESTS, WOOD STORK COLONIES, AND WADING BIRD ROOKERIES IN THE VICINITY
OF THE PALM COAST MPD SITE, FLAGLER COUNTY, FLORIDA

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 Environmental Consultants
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EXHIBIT 8

**FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
WATERSHEDS IN THE VICINITY OF THE PALM COAST MPD SITE,
FLAGLER COUNTY, FLORIDA**



Legend

- Palm Coast MPD Boundary (20,214 ac)
- Watersheds (FDEP)

Source: Project boundary provided by England-Thims & Miller, Inc., 2026/03/23. FDEP Cumulative Impact Basins, 2015/11/20. ArcGIS Online World Imagery, © ESRI, 2023/09/19 - 2025/11/04.

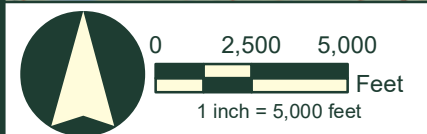
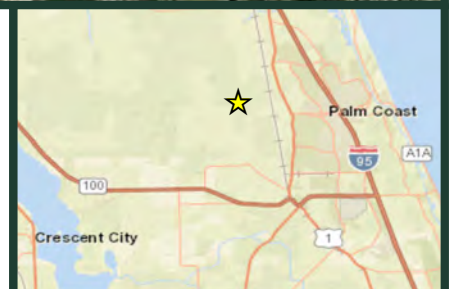


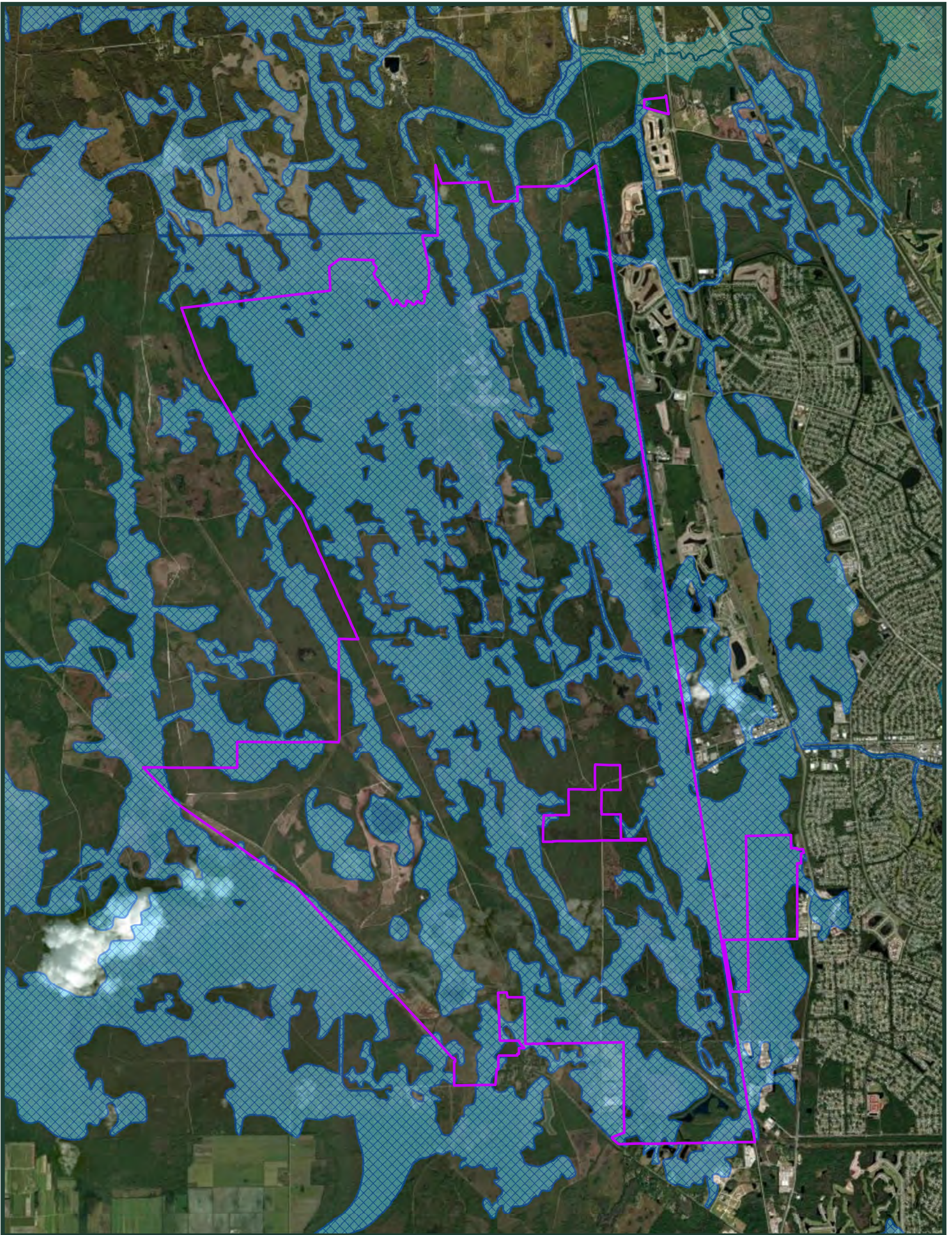
EXHIBIT 8
FDEP WATERSHEDS IN THE VICINITY OF THE PALM COAST MPD SITE,
FLAGLER COUNTY, FLORIDA

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 Environmental Consultants
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EXHIBIT 9

FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD DATA FOR THE PALM COAST MPD SITE, FLAGLER COUNTY, FLORIDA



Legend

- Palm Coast MPD Boundary (20,214 ac)
- Area Located Within Special Flood Hazard Area
- Zone A
- Zone AE

Source: Project boundary provided by England-Thims & Miller, Inc., 2026/03/23. FGDL, Version 3.0, July 2000; FEMA, Q3 Flood data, 1996. ArcGIS Online World Imagery, © ESRI, 2023/09/19 - 2025/11/04.

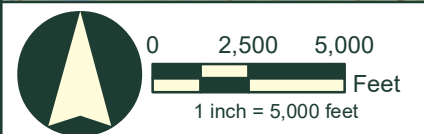
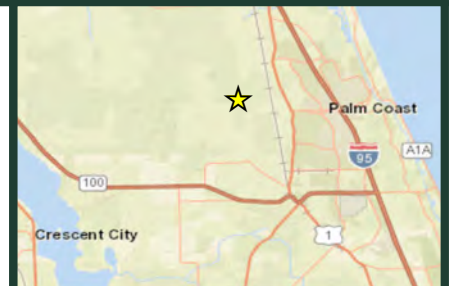


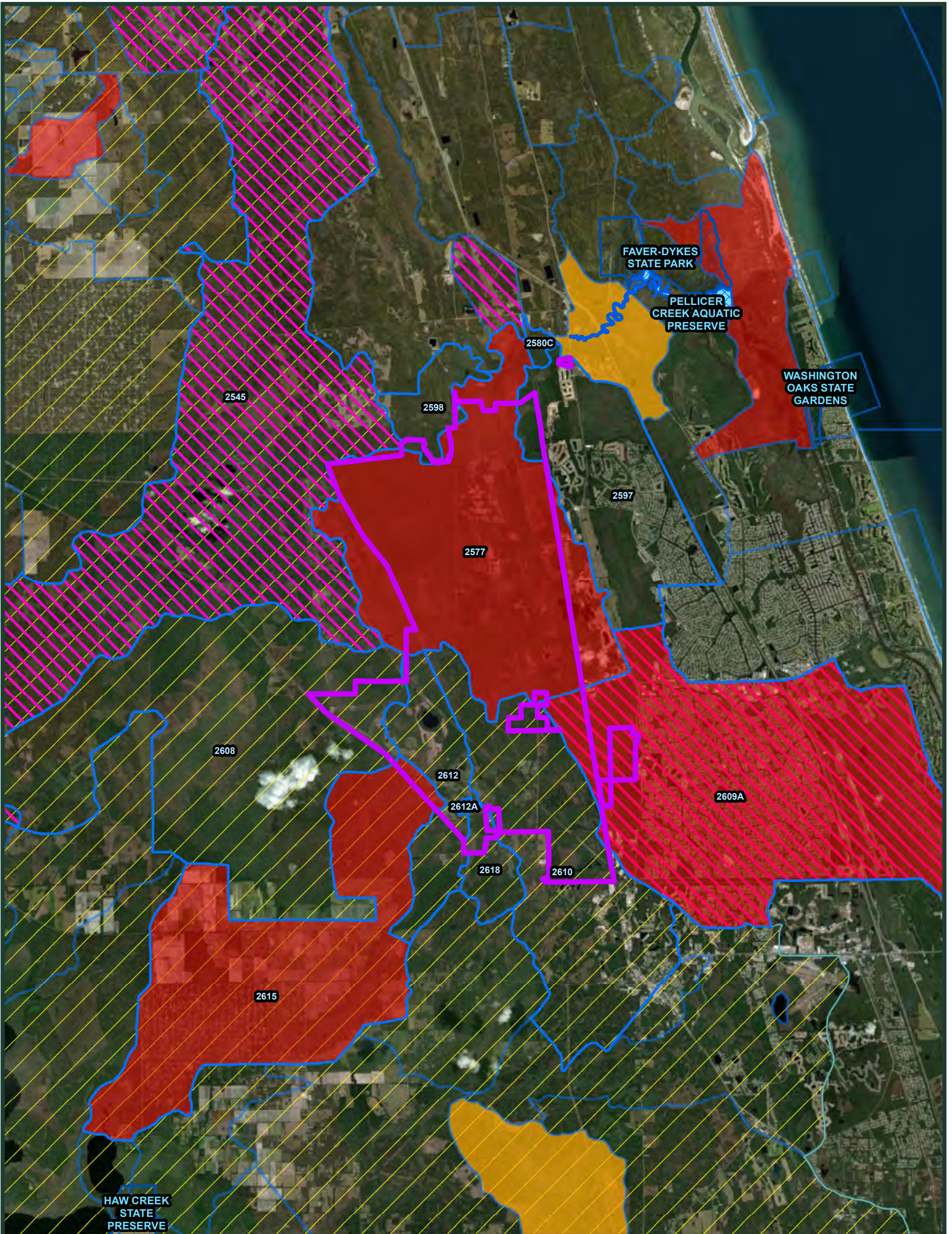
EXHIBIT 9
FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD DATA FOR THE PALM COAST MPD SITE,
FLAGLER COUNTY, FLORIDA

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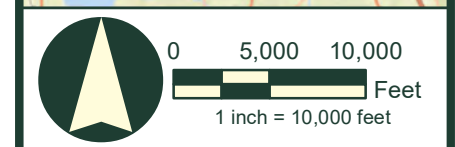
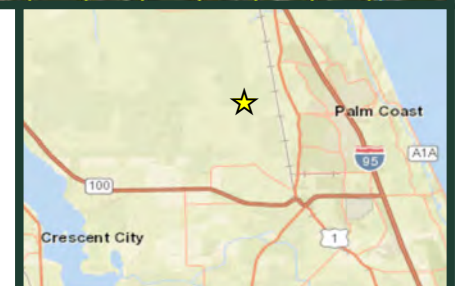
EXHIBIT 10

WATER QUALITY IN THE VICINITY OF THE PALM COAST MPD SITE, FLAGLER COUNTY, FLORIDA



Legend

- | | |
|---|---|
| Palm Coast MPD Boundary (20,214 ac) | Draft 2024-2026 Biennial Assessment
Impaired |
| Florida Aquatic Preserves | Delist |
| Outstanding Florida Waters | Study List |
| Statewide Basin Management Action Plan (BMAP) | |



Source: Project boundary provided by England-Thims & Miller, Inc., 2026/03/23. FDEP Biennial Assessment 2024 2026 Draft Lists, 2025/11/17. FDEP Florida Aquatic Preserves, 2025/06/26. FDEP Outstanding Florida Waters, 2026/02/24. FDEP Statewide Basin Management Action Plan (BMAP), 2025/10/08.

EXHIBIT 10
WATER QUALITY IN THE VICINITY OF THE PALM COAST MPD SITE,
FLAGLER COUNTY, FLORIDA

BDA BREEDLOVE, DENNIS & ASSOCIATES, INC.
 Environmental Consultants
 330 W. Canton Ave., Winter Park, FL 32789 • 407-677-1882



EXHIBIT 11

**ENVIRONMENTAL GEOGRAPHIC INFORMATION SYSTEM DATA
REVIEWED FOR THE PALM COAST MPD SITE,
FLAGLER COUNTY**

Exhibit 11 Environmental Geographic Information System Data Reviewed for the Palm Coast MPD Site, Flagler County, Florida.

Statewide
2022-2024 Biennial Assessment (FDEP)
2024-2026 Draft Biennial Assessment (FDEP)
Bald eagle nests (FWC, Audubon)
Basin Management Action Plan Areas (FDEP)
Biodiversity hot spots (FWC)
Breeding Bird Atlas (FWC)
CLIP (FNAI, USFWS)
Cooperative Conservation Blueprint (FWC)
Cooperative Land Cover (FNAI)
Critical Linkages (FEGN)
Ecological Regions of North America (USEPA)
Florida black bear records (FWC)
Florida Conservation Lands (FNAI)
Florida Forever Acquisitions (FNAI)
Florida Forever BOT projects (FNAI)
Florida scrub-jay territories (FWC)
Florida Wildlife Corridor (FNAI)
Focal Natural Communities (FNAI)
Integrated Wildlife Habitat Ranking System (FWC)
Land Use Intensity Index (FWC)
Mitigation Banks (FDEP)
Outstanding Florida Waters (FDEP)
Panther habitat and models (USFWS)
Physiography (Puri and Vernon 1964, Brooks 1981)
Potential habitat models for rare & imperiled wildlife (FWC)
Priority wetlands for listed species of wetland-dependent wildlife (FWC)
Species richness for rare & imperiled wildlife (FWC)
Strategic Habitat Conservation Areas (Cox et al. 1994)
Topography (FGDL)
Wildlife Observation Database (FWC)
Wood stork colonies (USFWS)
Regional
100-yr Floodplain (FEMA)
Aquifer Recharge (SJRWMD 2015)
Drainage Basins (FDEP)
Land use/land cover (SJRWMD)
National Hydrography Database (USGS)
Regulatory easements (SJRWMD)
Southeast Conservation Blueprint (SECAS 2025)
Watersheds (USGS)

Exhibit 11 Continued.

Local/Site Specific
Culverts/bridges/ditches (Rayonier, BDA)
Element Occurrence Flagler County (FNAI)
Field reconnaissance (BDA)
Neoga Lakes DRI Conservation (BDA)
Old Brick Township DRI Conservation (BDA)
Old Brick Township SJRWMD FWD (BDA)
Photo-interpretation, delineation (BDA)
SSURGO (NRCS)
Stand data (Rayonier)
T&E occurrence records (BDA)
Timber timeline (Rayonier)



TECHNICAL MEMORANDUM

CULTURAL RESOURCES DESKTOP ANALYSIS AND RECONNAISSANCE SURVEY OF THE FRONTIER/PALM COAST PROJECT, FLAGLER COUNTY, FLORIDA

CONSULTANT: SEARCH
8298 Bayberry Road, Suite 1
Jacksonville, FL 32256

PROJECT MANAGER: Greg Hendryx, MA

PRINCIPAL INVESTIGATOR: Michael Whitehead, MA

DOCUMENT PREPARER: Betsy Carlson, PhD

CLIENT: Rayonier, Inc.

DATE: January 2024

SEARCH PROJECT NUMBER: 230349

The proposed Frontier/Palm Coast Project is located on a 20,493-acre (ac) parcel west of the community of Palm Coast in Flagler County, Florida (**Figure 1**). This document was prepared for Rayonier, Inc. and the project team for planning purposes for this commercial development.

This document provides a synthesis of background research and the results of a field reconnaissance survey. The background information includes a review of the environment, historic maps and aerial photographs, previously conducted cultural resources studies, and previously recorded resources within and immediately adjacent to the project area. The National Register of Historic Places (NRHP) eligibility of these resources is also discussed. A LiDAR relative digital elevation map (DEM) was created to identify relatively elevated landforms within this generally low and flat landscape, and guide testing to locate possible precontact habitation sites. The field investigation was performed to visually inspect the condition of the property and assess the likelihood for cultural resources to be present, particularly within the areas where background research indicated the greatest likelihood. The combined background review and reconnaissance investigation will assist in estimating the level of effort required to perform a Phase I Cultural Resources Assessment Survey (CRAS) of the property.

PROJECT LOCATION AND ENVIRONMENT

The over 20,000-ac project area is composed of adjacent tracts in northern Flagler County, and generally falls west of US Highway 1 (US 1), south of County Road 204 (CR 204), and north of State Road 100 (SR 100). The eastern boundary of the project is the historic Florida East Coast (FEC) Railroad. In two locations the project area extends east of this rail line up to US 1. County Road 13 (CR 13) crosses the project area from northwest to southeast and is the historic Old Dixie County Highway. A second historic railroad bed of the FEC Railroad is adjacent to a portion of the southwest project boundary. The community of Espanola is adjacent to the southern project boundary and the City of Bunnell is 1.5 km to the southeast.

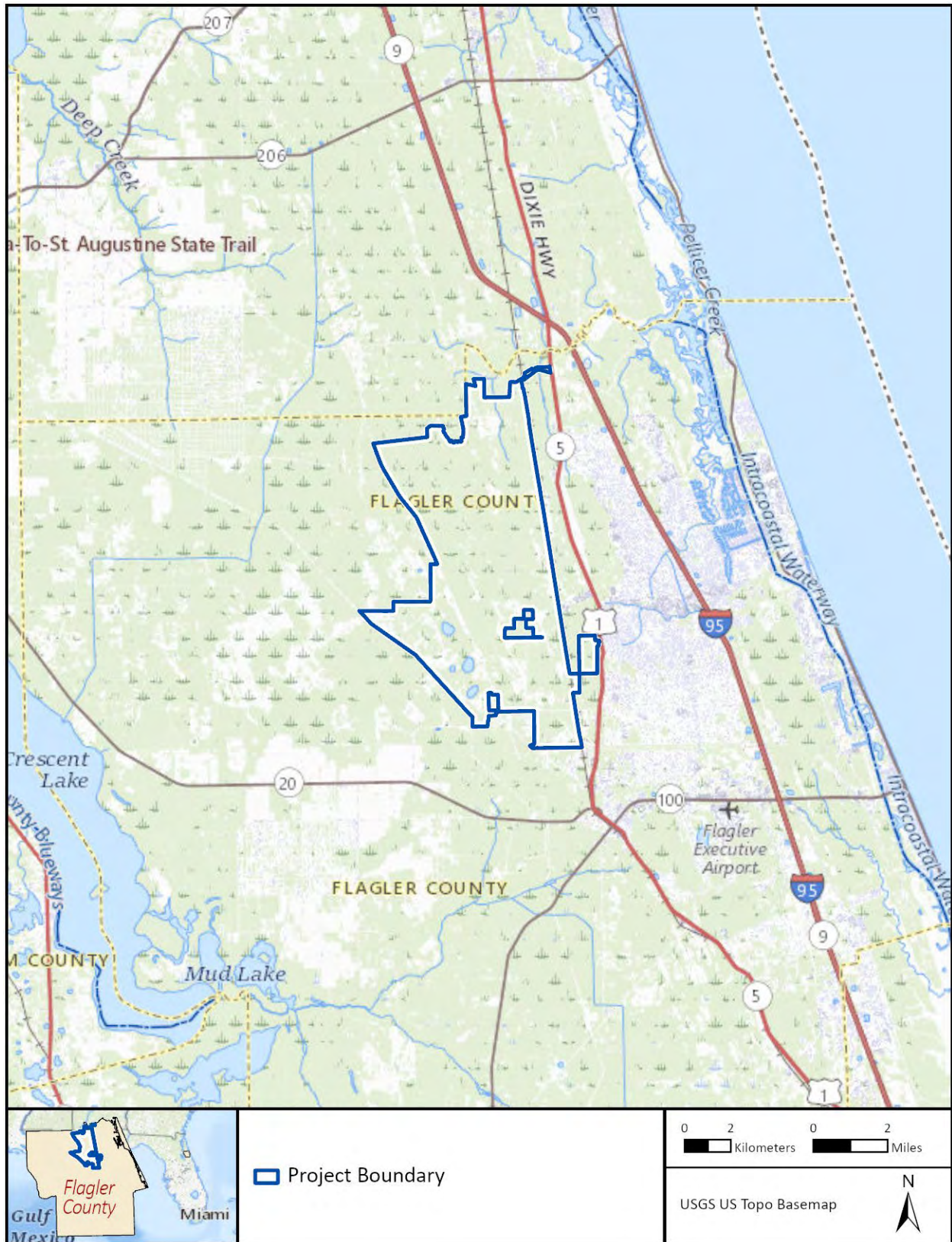


Figure 1. Project location.

Numerous improved and unimproved roads cross the project area. The north-central portion of the property was drained with a canal system in the 1950s with more ditches dug in the 1960s when significant cultivation of the property began. Most of the project area is undeveloped and currently used for silviculture (planted pine forest). The higher portions of the project support oak hammock vegetation and the lower areas include cypress domes.

The project area is within the Eastern Flatwoods District physiographic region, also called the Coastal Lowlands (Brooks 1981; White 1970). This region was formerly composed of barrier islands and lagoons of Plio-Pleistocene and more recent age, and contains Late Pleistocene-age sediments deposited through estuarine and lagoonal processes (Brooks 1981). The majority of the project area is within the St. Augustine Ridge Sets Subdistrict, which is an area of low, relic beach ridges. Flatwoods vegetation is found on the ridges and the swales contain cypress stands. The western portion of the project area is part of the Palatka Anomalies Subdistrict which includes limestone solution geology. The Roy Divide Subdivision marks the northwestern edge of the project area and is a poorly drained low ridge.

Terrain within the project area is mostly flat to undulating, but elevations range from 56 to 180 ft above mean sea level (asml). The most dramatic rise in elevation is in the southwest part of the project area (**Figure 2**). The soils identified in the project area are provided in **Figure 3** and **Table 1**, 91% of which are poorly drained and very poorly drained types. The remaining 9% of the project area are somewhat poorly drained, moderately well drained, and excessively drained soils, which are isolated in the northeast and southwest corners of the property. There are 26 soil types across the property, but only three types contribute more than 10% of the acreage. These three main soil types are: the poorly drained Pomono fine sand; poorly drained Myakka-Myakka wet, fine sands; and the very poorly drained Hicoria, Riviera, and Gator depressional soils. Together these three types make up 43% of the project area. All of these soils have slopes of less than 2%.

The poorly drained Pomona and Myakka series consists of very deep soils that formed in sandy marine sediments and have rapid permeability and low runoff. These soils are found on flats and flatwoods on marine terraces. Depth to seasonal high water table is a maximum of 30 cm in the wet season and between 30 and 100 cm of the surface for the dry season. These soils can be used for commercial forest production or native range. With adequate water control measures, these soils can be used for citrus, improved pasture, and truck crops. Native vegetation includes longleaf and slash pine with an undergrowth of saw palmetto, wax myrtle, gallberry, bluestem, and pineland threeawn.

The very poorly drained Hicoria, Riviera, and Gator depressional soils are very deep and slowly permeable. These soils are found in ponded depressions on flood plains, broad low flats, or in marsh or swamp wetlands, and can be flooded for a long duration. Natural vegetation consists of cypress, willow, sweetbay, red bay, pickerel weed, sawgrass, waxmyrtle, and other water tolerant plants.

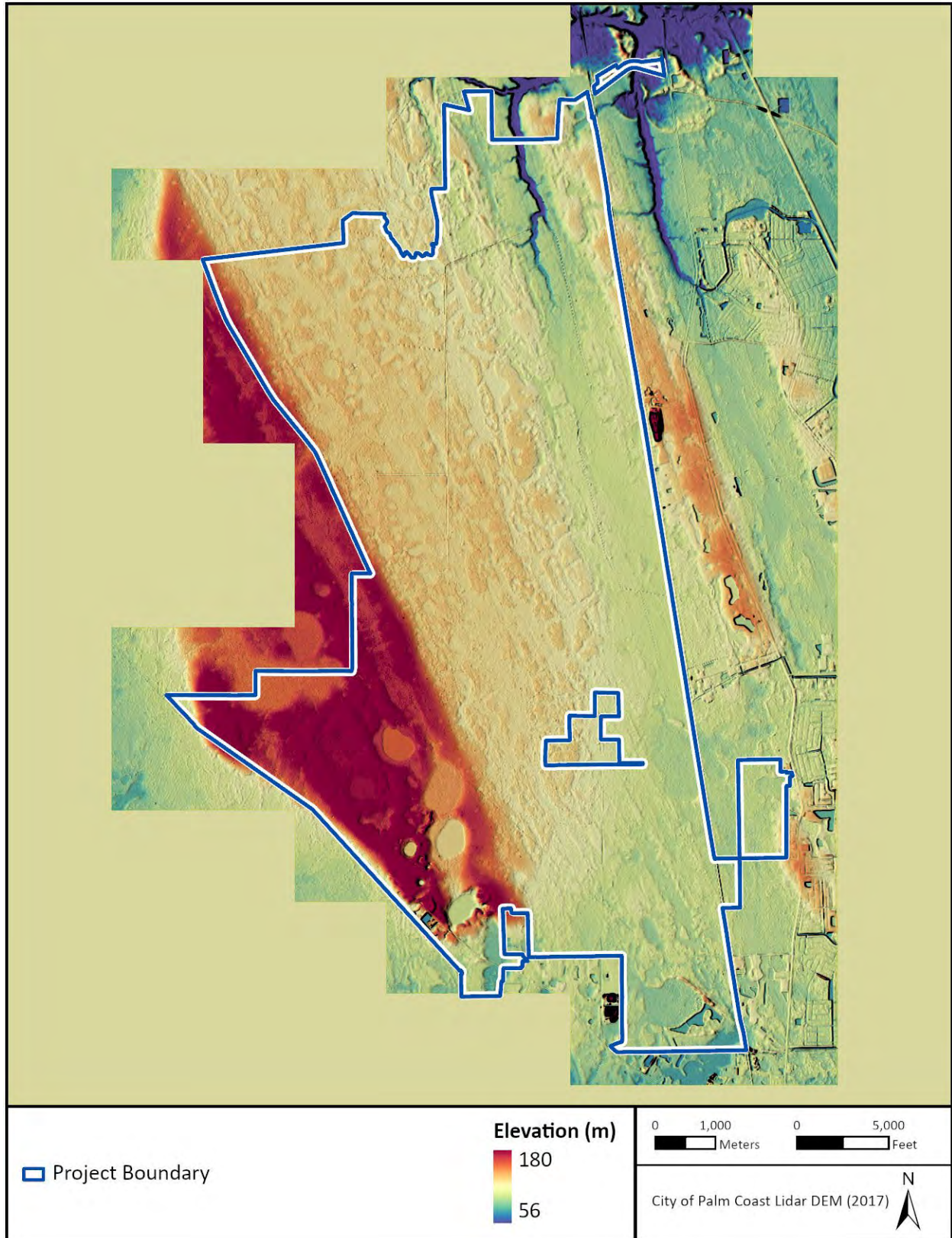


Figure 2. Elevation model of the project area.

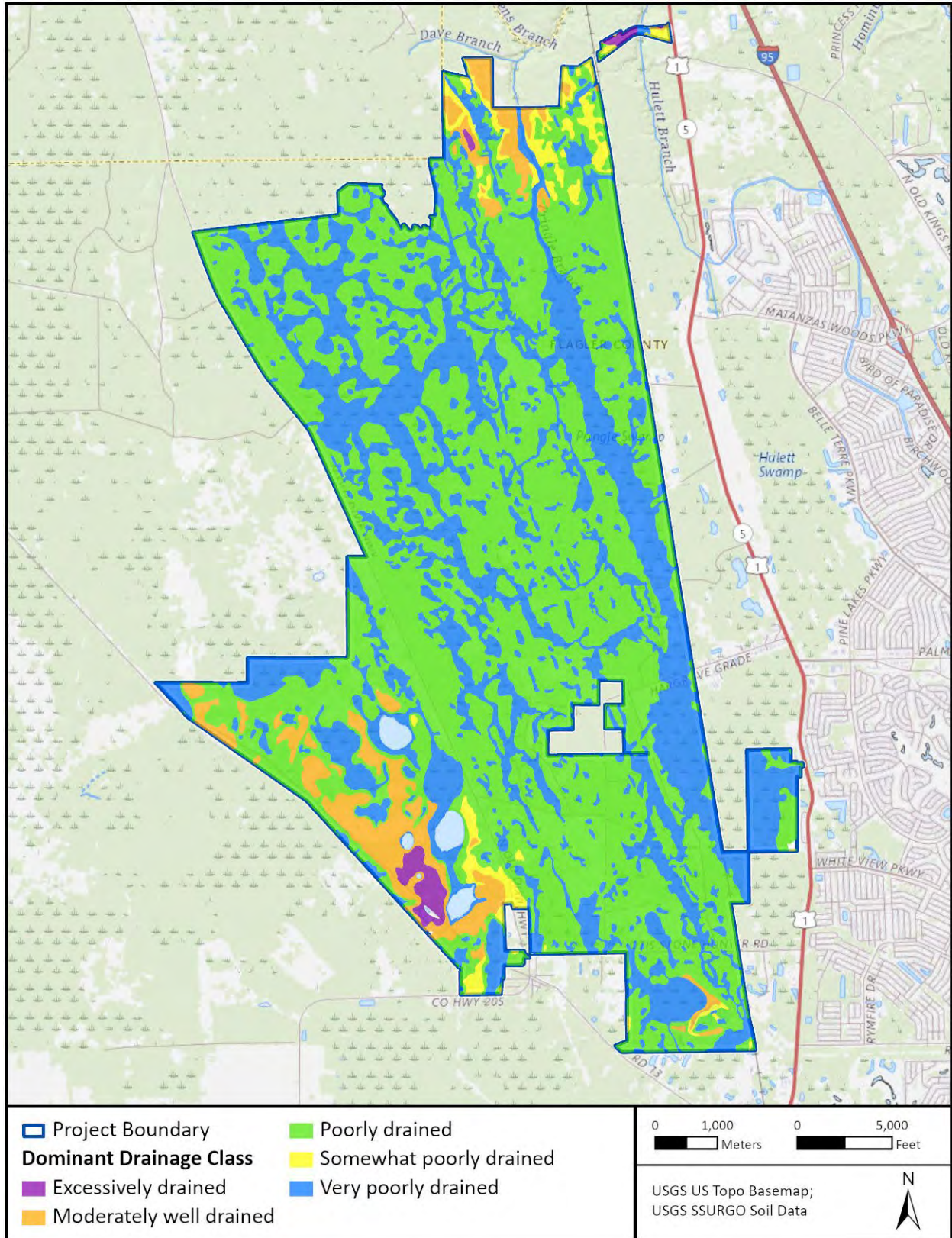


Figure 3. Soils within the project area.

Table 1. Soil Types within the Project Area.

Soil Type	Drainage Class	Area (acres)	Area (%)	Acres by Drainage	% by Drainage
Paola fine sand, 0–8% slopes	Excessively drained	128.5	0.6%	156.7	0.8%
Astatula fine sand, 0–8% slopes		28.2	0.1%		
Pomello fine sand, 0–5% slopes	Moderately well drained	620.2	3.0%	1,057.9	5.1%
Orsino fine sand, 0–5% slopes		249.7	1.2%		
Tavares fine sand, 0–5% slopes		188.0	0.9%		
Cassia fine sand, 0–2% slopes	Somewhat poorly drained	264.7	1.3%	456.7	2.2%
Adamsville fine sand, 0–2% slopes		192.0	0.9%		
Pomona fine sand, 0–2% slopes	Poorly drained	2,121.7	10.3%	11,607.4	56.6%
Myakka-Myakka, wet, fine sands, 0–2% slp		2,117.2	10.3%		
Immokalee fine sand, 0–2% slopes		1,926.4	9.4%		
Malabar fine sand, 0–2% slopes		1,285.0	6.3%		
Pineda-Pineda, wet, fine sand, 0–2% slopes		949.3	4.6%		
Wabasso fine sand, 0–2% slopes		870.4	4.2%		
Pineda-Wabasso complex		855.0	4.2%		
Smyrna fine sand, 0–2% slopes		726.3	3.5%		
EauGallie fine sand, 0–2% slopes		348.8	1.7%		
Valkaria fine sand, 0–2% slopes		205.6	1.0%		
Valkaria-Smyrna complex		113.1	0.5%		
Winder fine sand, 0–2% slopes		60.8	0.3%		
Hicoria, Riviera, & Gator soils, depressional		Very poorly drained	4,586.8		
Placid, Basinger, & St. Johns soils, depress.	1,277.0		6.2%		
Samsula and Hontoon soils, depressional	1,049.6		5.1%		
Samsula and Placid soils, frequently flooded	98.8		0.5%		
Favoretta, Chobee, and Winder soils, frequently flooded	30.9		0.1%		
Pits	N/A	7.4	0.0%	7.4	0.0%
Water		162.6	0.8%	162.6	0.8%
Total		20,492.0	100.0%	20,492.0	100.0%

Of the better drained soils, Pomello fine sand (620.2 ac) is the most common, and is found on flatwoods ridges, hills, and knolls with slopes up to 5%. Vegetation consists of oaks and pines with saw palmetto undergrowth. Given the Tertiary age of upland soils and Pleistocene age of lower terrace deposits, deeply buried sites are unlikely in the project area.

The 1918 USDA Soils Map of Flagler County (**Figure 4**) provides an overview of the project area environment and early cultural features. The project includes the Pellicer Creek basin, although Pellicer Creek itself flows from west to east outside the northern project boundary. Pringle Branch flows south from Pellicer Creek across the eastern portion of the project area, merging into Pringle Swamp and then Matanzas Swamp. Other drainages in the vicinity include Dave Branch, located just to the north of the northeast project boundary, and Hulett Branch, located east of the northeast project boundary. The property includes part of the Little Fishtail Swamp and Big Cypress Swamp on the west side of the project. The rest of the project area does not contain named streams, but the drainage has been improved by a series of canals and ditches, including several that flow into Pringle Branch.

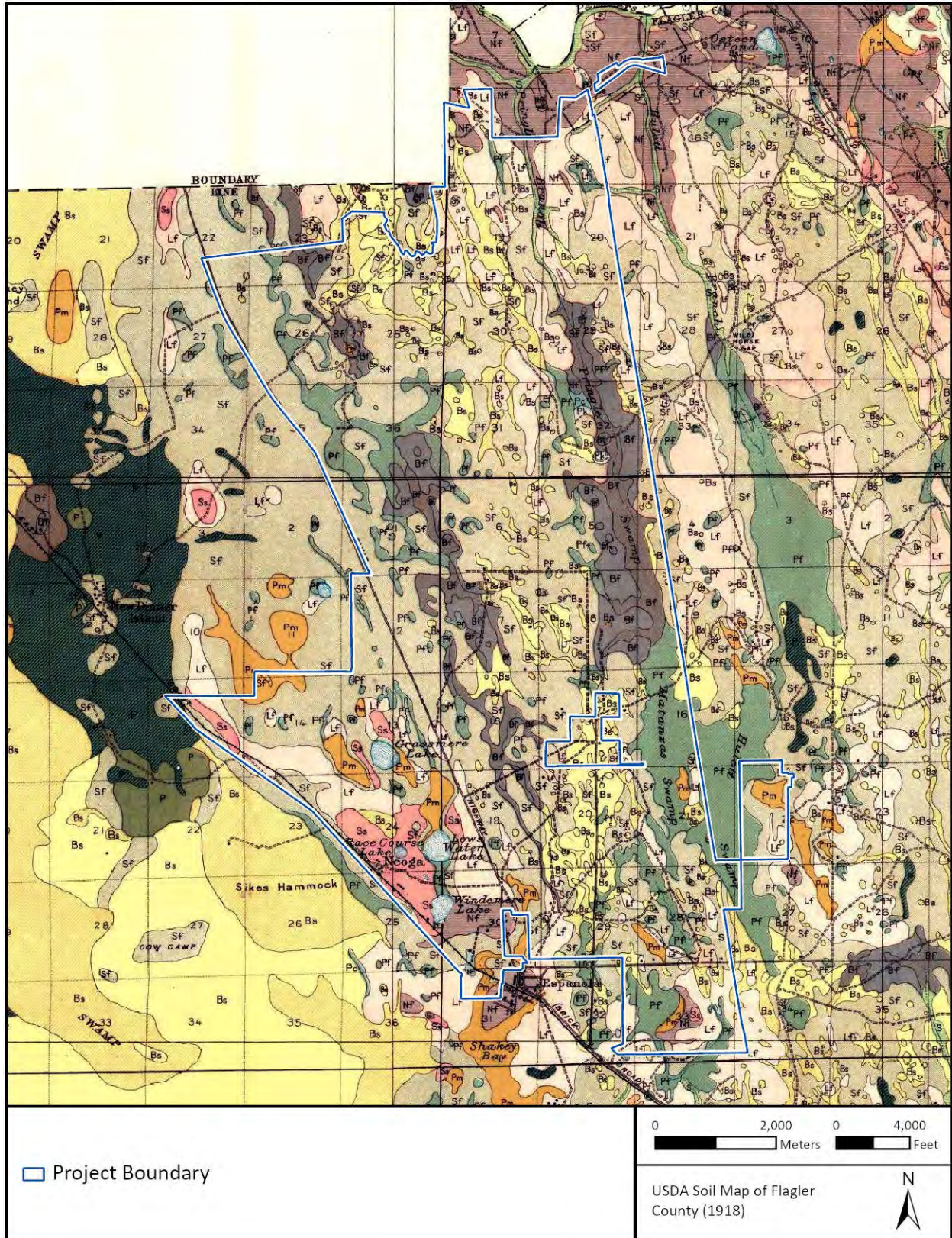


Figure 4. 1918 USDA Soil Map of Flagler County.

Several ponds and lakes are located in the southwest part of the project area. The current names of these lakes are Black Lake, Tank Lake, Neoga Lake, and Speckled Perch Lake. Neoga Lake is close to the historic community of Neoga, and this lake was known historically as Racecourse Lake. Black Lake was historically called Low Water Lake, Tank Lake was called Windemere Lake, and Speckled Perch Lake was called Grassmere Lake.

BACKGROUND RESEARCH

SEARCH conducted background research using Florida Master Site File (FMSF) data (October 2023) to identify previously conducted cultural resource surveys and previously recorded cultural resources within and directly adjacent to the project area. Six previously conducted cultural resource surveys have been completed within or immediately adjacent to the project area, which have recorded numerous historic cultural resources including resource groups, linear resources (roads, railroads, and canals), structures, bridges, and both historic and precontact archaeological sites. There is one NRHP-listed property within the project area, the Old Dixie Highway (8FL00155), and there are 12 NRHP-eligible resources (one structure, five linear resources, and six historic sites). One eligible resource group, the British Period Hewitt’s Mill Archaeological Complex (8FL00262) is just outside the northeast portion of the project area.

Previous Surveys

Table 2 summarizes the six previously conducted surveys within or immediately adjacent to the project area, which were completed between 2004 and 2010. Two of the surveys (FMSF Survey Nos. 10663 and 17277) are entirely within the project area and one survey (FMSF Survey No. 15621) mostly coincides with the northwest portion of the project area (**Figure 5**). The other three surveys are adjacent to portions of the project boundary. Five of these previous surveys

Table 2. Previous Surveys that Cross or are Immediately Adjacent to the Current Project.

FMSF Survey No.	Survey Report Title	Year	Consultant
10663	An Intensive Cultural Resource Assessment Survey of the Sand Box Borrow Pit Tract, Flagler County, Florida	2004	Environmental Services, Inc.
10747	Cultural Resource Assessment Survey of the West Palm Coast Development, Flagler County, Florida	2004	Heritage Services, Inc.
14712	A Cultural Resource Reconnaissance Survey of the Pellicer-Pringle Transmission Line Right-Of-Way (ROW), St. Johns and Flagler Counties, Florida	2007	Environmental Services, Inc.
15088	Archaeological Monitoring of the Sawmill Park Construction, Palm Coast, Florida	2008	Heritage Services, Inc.
15621	An Intensive Cultural Resource Assessment Survey of the Old Brick Township DRI Property, Flagler County, Florida	2008	Environmental Services, Inc.
17277	Cultural Resource Assessment Survey of the Neoga Lakes DRI	2010	Heritage Services, Inc.

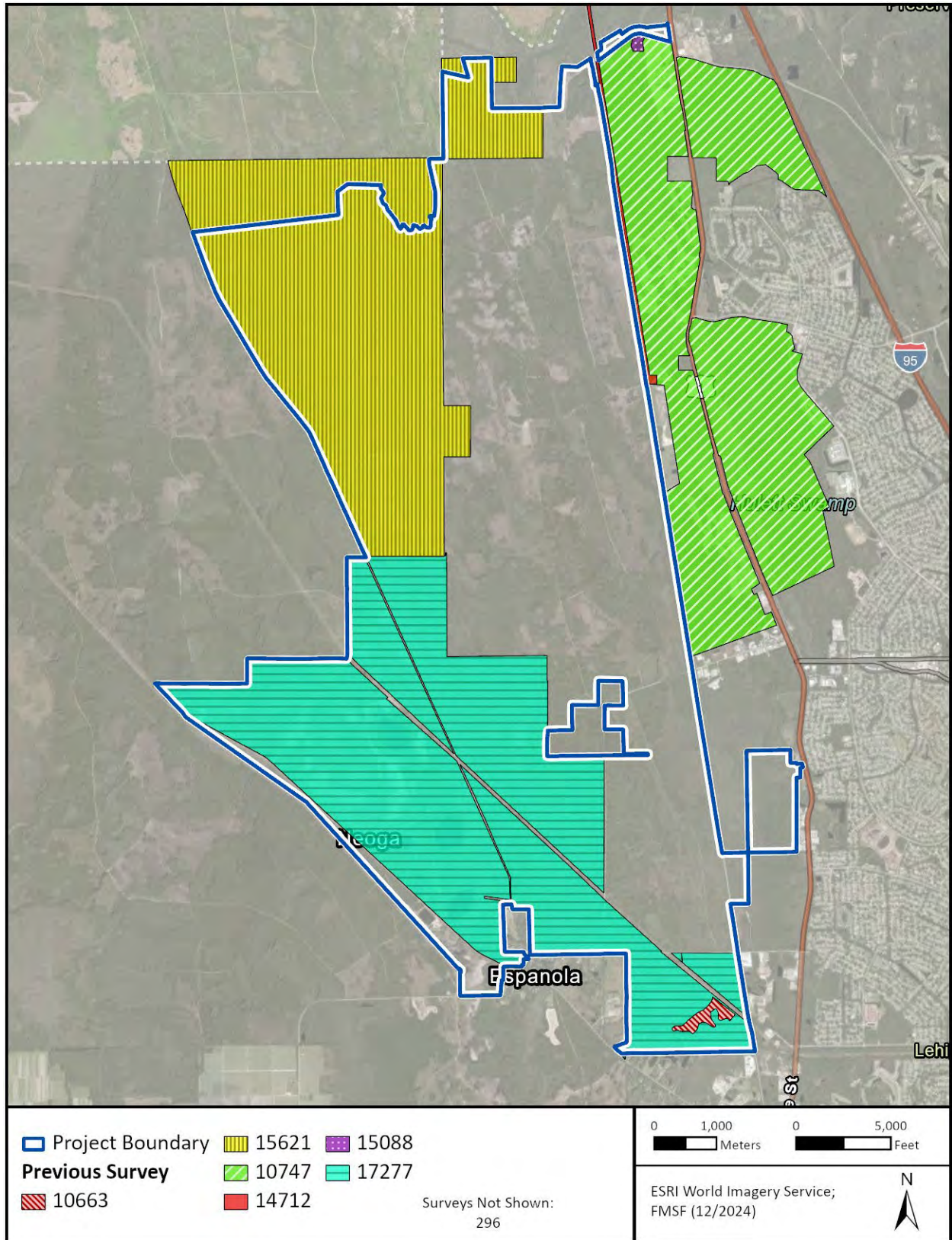


Figure 5. Previous surveys within and adjacent to the current project area.

involved walkover inspection and subsurface testing within the survey areas and resulted in the documentation of previously recorded and/or newly recorded cultural resources. One survey is a monitoring report. Brief descriptions of these surveys are provided.

Survey #10663 was conducted in 2004 by Environmental Services, Inc. (ESI) and covered 41.5 ac of a proposed mining borrow pit (Sand Box Borrow Pit). This Phase I survey falls within the southern part of the current project. Pedestrian survey found previous mining activities that had stripped soils up to five feet below the natural ground surface. One previously recorded St. Johns pottery site, 8FL00156, was found to be destroyed. A total of 11 shovel tests were dug in the more intact eastern portion of the survey area. No new cultural resources were found (ESI 2004).

Survey #10747, the West Palm Coast Development, was conducted in 2004 by Heritage Services, Inc. (HSI) and covered 4,740 ac immediately east of the FEC Railroad and encompassing US 1 south of Pellicer Creek. This survey area is directly adjacent to the northeast and east-central edges of the current project. Focused high-probability shovel testing was conducted along the Hulett Branch waterway with moderate and low probability testing across much of the remainder of the survey area. The survey resulted in the identification of 14 new archaeological sites (one precontact, 13 historic), and two previously recorded sites were evaluated. Both the previously recorded sites are eligible for the NRHP: 8FL00014 (Hewitt's Mill Complex), and the Old King's Road (8FL00186) (HSI 2004). The Hewitt's Mill Complex is a British Period sawmill that falls approximately 28 m outside the current project's northeast boundary.

Survey #14712, the Pellicer-Pringle Transmission Line survey, was conducted by ESI in 2007 and is located adjacent to the northeast part of the project area, extending along its eastern boundary. The corridor was subjected to pedestrian survey and the excavation of 49 shovel tests placed judgmentally and at pole locations. This corridor runs parallel to the FEC Railroad (8FL00298), which is a NRHP eligible resource. No other cultural resources were identified (ESI 2007). In general, the corridor was flat, low, and poorly drained, with disturbance from trail construction and ditch excavation.

Survey #15088 documented the archaeological monitoring by HSI associated with the construction of Sawmill Park in 2008, a 12-acre interpretive park encompassing the British Period Hewitt's Mill Archaeological Complex (8FL00262) (HSI 2008).

Survey #15621, the Old Brick Township DRI, was conducted in 2008 by ESI and covered approximately 5,200 ac, the majority of which overlaps with the current northwest part of the project area. The property was tested at high and moderate probability (25 and 50 m) intervals in the northeast portion where soils were moderately and excessively well drained (called Area A, 520 ac, 411 tests). The remainder of the parcel (Area B) where soils were poorly and very poorly drained was tested at low probability (100 m intervals; 175 tests), except near the Old Brick Road (8FL00155, Old Dixie Highway) and Flagler City (8FL00154). Generally, pedestrian survey and subsurface testing in Area B found heavy disturbance from silviculture activities and areas of standing water. A total of 586 shovel tests were excavated, with 78 tests following the Old Dixie Highway. Two St. Johns campsites with precontact pottery were identified from 11

positive tests adjacent to Pringle Branch; artifacts were recovered from 15 to 100 centimeters below surface (cmbs) with most found below 60 cmbs. Historic resources included two bridges, a canal, the remains of Flagler City, and the Old Dixie Highway/Old Brick Road. Except for the NRHP-listed Old Brick Road (8FL00155), the resources were recommended ineligible for the NRHP. ESI recommended a 50-foot (ft) preservation buffer, starting at the road's centerline. They noted that much of the brick today is covered by sand to protect the original brick and oyster construction. ESI also recommended that the natural vegetation parallel to the roadway should be maintained to provide a viewshed screen to the historic property from any adjacent development (ESI 2008). This 2008 survey included a pedestrian survey and shovel testing within the Boom time development called Flagler City along the Old Dixie Highway; 33 tests were excavated. The surveyors identified a concrete wall foundation on the east side of the highway, and a concrete pad and mortar fragments (old filing station) on the west side. Artifacts consisted of a spike, two cut nails, a piece of window glass, and a piece of whiteware (ESI 2008).

Survey #17277, the Neoga Lakes DRI, was conducted by Heritage Services, Inc. (HSI) in 2010 and covered approximately 6,410 ac, the majority of which overlaps with the southwest and southernmost portion of the current project area. The survey identified 45 new resources, several of which have been found eligible for the NRHP, and assessed five previously recorded resources. The majority of the sites were organized into four resource groups including the Neoga Settlement and Turpentine Enterprises (8FL00823), Racecourse Lake (8FL00844), the FEC Railway Corridor (8FL00853), and the Old Dixie Highway Heritage Corridor (8FL00155) (HSI 2010).

Previously Recorded Cultural Resources

The review of FMSF recorded resources identified numerous archaeological sites, resource groups, bridges, and structures within and immediately adjacent to the project area. No cemeteries are known within the project area, with the closest recorded cemetery (8FL01052) mapped 200 m outside the northeast project boundary; however, its location has not been confirmed. The previously recorded resources are detailed in **Table 3** and shown in **Figure 6**. Several of these resources are listed or eligible for listing on the NRHP.

Precontact Sites

There are six precontact sites recorded within the project area, all of which have been recommended ineligible for the NRHP. Two sites are demolished from mining activity (8FL00156 and 8FL00871) (ESI 2004; HSI 2010). The remaining four sites are low-density artifact scatters, primarily of St. Johns pottery. One site is in the northern portion of the project area, and the remainder are in the south, mostly in the lakes region.

Bridges

There are three bridges within the project area, all of which have been recommended ineligible for the NRHP. Two of the bridges date to the 1950s (8FL00300 and 8FL00301), and cross over the OBT Canal in the northern portion of the project area. One bridge is possibly associated with the

Table 3. Previously Recorded Sites within and Immediately Adjacent to the Project Area.

Site File #	Site Name	Description	Culture/Time Period	NRHP Status
Archaeological Sites -- Precontact				
8FL156	NN (Sand Box Borrow Pit)	Artifact scatter-low density; precontact ceramics	St. Johns II, unspecified, 700 BC–AD 1500	Ineligible (destroyed by mining activity)
8FL303	Old Brick Township South	Campsite (precontact); 6 positive tests w/ 18 artifacts	St Johns II, AD 800–1500	Ineligible
8FL850	Neoga Lakeshore	Artifact scatter; ceramic-precontact (4 sherds)	St Johns, 700 BC–AD 1500	Ineligible
8FL868	Tank Grade	Campsite (precontact), ceramic scatter (3 sherds)	St Johns, 700 BC–AD 1500	Ineligible
8FL869	Black Lake	Campsite (precontact), ceramic scatter (7 sherds)	St Johns, 700 BC–AD 1500	Ineligible
8FL871	Sycamore Grove	Surface artifact scatter; St. Johns plain and check stamped, Orange pottery, heat-treated debitage and projectile points	Late Archaic; Middle Archaic; St. Johns, 700 BC–AD 1500	Ineligible (site demolished by sand mining)
Archaeological Sites -- Historic				
8FL140	Fort Fulton	Second Seminole War Fort	Ca. 1835–1842	Not Evaluated
8FL152 (part of Resource Group 8FL853)	Tank Lake (FEC Water Tank #1)	Cement foundation and wooden water tower	American-19th c. (1821–1899, American-20th c.	Eligible
8FL154/8FL867 (part of RG 8FL862)	Flagler City (subdivision on Dixie Hwy)	Broken cement foundations and sidewalks	1925	Ineligible
8FL845 (part of RG 8FL844)	Racecourse Lake	Horse racing site on sandy edges of lakeshore	Late 1800s	Eligible
8FL846 (part of RG 8FL844)	Neoga Sawmill	Building remains on west side of lake and related earthworks (dams, berms, borrow pits)	1890s to early 1900s (burned down)	Eligible
8FL854 (part of RG 8FL853)	FEC Pumphouse	Cement reservoir and wooden structure	American-19th c. (1821–1899, American-20th c.	Eligible
8FL856 (part of RG 8FL853)	FEC Water Tank #2	Cement foundation and wooden water tower	American-19th century (1821-1899)	Eligible
8FL857 (part of RG 8FL853)	FEC Water Tank Pier	Part of railroad aqueduct system; displaced pier from 8FL152.	American-19th century (1821-1899)	Ineligible
8FL858 (part of RG 8FL853)	Neoga Depot	Railroad depot no longer extant; metal and ceramics found in survey	American-19th c. (1821–1899, American-20th c.	Ineligible
8FL863 (just outside project area to south)	Live and Let Live Tourist Camp	Brick fragments, wire nails, and terracotta pottery, no above ground remnants	1920s	Ineligible
8FL865 (part of RG 8FL862)	Pappy Ortega Filling Station	Glass and metal fragments, no above ground remnants	1920s	Ineligible

Site File #	Site Name	Description	Culture/Time Period	NRHP Status
8FL866 (part of RG 8FL862)	Flagler Heights (subdivision on Dixie Hwy)	Never developed; no evidence of buildings remains (2010 survey)	1925	Ineligible
8FL870	Neoga Town Hunt Club	Archaeological remnants only	Ca. 1950s	Ineligible
Structures				
8FL824	Neoga #1, the Stiller's House (Joe Moore)	Part of Neoga Turpentine Settlement and Resource Group 8FL823; collapsed	Ca. 1900 to 1930s	Ineligible
8FL840	Neoga Worker's House	Part of Neoga Turpentine Settlement and Resource Group 8FL823; standing as of 2010	Ca. 1900 to 1930s	Eligible
8FL864	Hunter Homestead	Private residence, 2-story frame vernacular	Ca. 1915 build date	Ineligible (demolished)
Bridges				
8FL250	King's Road Bridge	Wood piers present in water, but current bridge is steel and concrete	Ca. 1770, but bridge was replaced in 1990s	Ineligible
8FL300	OBT Bridge 1	precast concrete and wooden pilings over canal	Ca. 1952	Ineligible
8FL301	OBT Bridge 2	precast concrete and wooden pilings over canal	Ca. 1952	Ineligible
Linear Resources				
8FL155 (NR)	Old Brick Road/Old Dixie Highway	Currently CR 13, part of Dixie Highway District (8FL862)	Constructed 1914 to 1916; used until 1926	NRHP Listed (in 2005)
8FL186	Old King's Road	Exact location of road is often unknown	1762–1950	Eligible
8FL239	Hulett Colonial Road	Part of Hewitt's Mill Resource Group 8FL262	1763–1940	Eligible
8FL291 (outside project area)	US-1	Historic road	1915–1959	Eligible
8FL298	FEC Railroad	Rail line, parallels US 1	1892–1957	Eligible
8FL299	OBT Canal	Drainage canal, 5 km long, 5 m wide, terminus at Pringle Branch	1950s	Ineligible
8FL855	FEC Aqueduct	Iron pipeline, removed in 1970s when railroad was taken up (demolished)	19 th and 20 th c.	Ineligible
8FL861	FEC Railway	Rail line	Ca. 1885 to 1970	Eligible
Resource Groups				
8FL262 (includes 8FL14, 8FL238, 8FL239, and 8FL1007)	Hewitt Colonial Complex	Archaeological district with sawmill and colonial road	1763–1821	Eligible

Site File #	Site Name	Description	Culture/Time Period	NRHP Status
8FL823 (includes 8FL135, and 8FL824–8FL843)	Neoga Settlement and Turpentine Enterprise	21 resources: 17 turpentine worker’s houses (8FL824-8FL840), a warehouse (8FL841), commissary (8FL842), a dump site (8FL843), and a turpentine still (8FL135).	Late 1890s to 1940	Ineligible (except for 8FL840)
8FL844 (includes 8FL151, 8FL845-8FL852)	Racecourse Lake	Location of horse races and “cracker” gathering, with sawmill and worker’s camp, public pool, boarding house, fallout shelter, turpentine cup wash station, and precontact site	Late 1800s	Ineligible (except for 8FL845 and 8FL846)
8FL853 (includes 8FL152, and 8FL854–8FL861)	FEC Railway	Linear railway district	American-19th century (1821–1899)	Ineligible (except for 8FL152, 8FL854, 8FL856, and 8FL861)
8FL862 (includes 8FL155, and 8FL863–8FL867)	Dixie Highway Resource Group	Old Dixie Highway and associated subdivisions, filling stations, & tourist camps	Ca. 1916–1925	Ineligible (except for 8FL155 which is listed)

Old King’s Road (8FL00250), but the prior wooden bridge in this location was replaced in the 1990s with a steel and concrete bridge (HSI 2004). Wooden pier remnants of the old bridge were noted in the waters of Hulett Branch below the bridge in the 2004 survey.

Resource Groups

There are five resource groups that are within or adjacent to the project area. Each is introduced briefly.

The **Hewitt Colonial Complex** (8FL00262) falls just outside the northeast project boundary, with the mapped GIS boundary for the colonial complex only 28 m outside the current project (**Figure 7**). This resource group consists of Hewitt’s Mill (8FL00014), which dates between 1763 and 1821, and includes numerous earthworks associated with a former milling operation. In addition, the resource group includes the tabby and coquina Hewitt’s Mill House (8FL00238), the Hulett Colonial Road (8FL00239), and a colonial refuse area (8FL01007) (HSI 2004). The resource group was recommended eligible for the NRHP by HSI in 2004, at which time they recommended a 100-m buffer be placed around the site for its preservation. The resource is currently protected as part of Sawmill Park, which has walkways and interpretative signage (HSI 2008). This resource illustrates that British Period and early Second Spanish Period activity is present very close to the northeast portion of the current project.

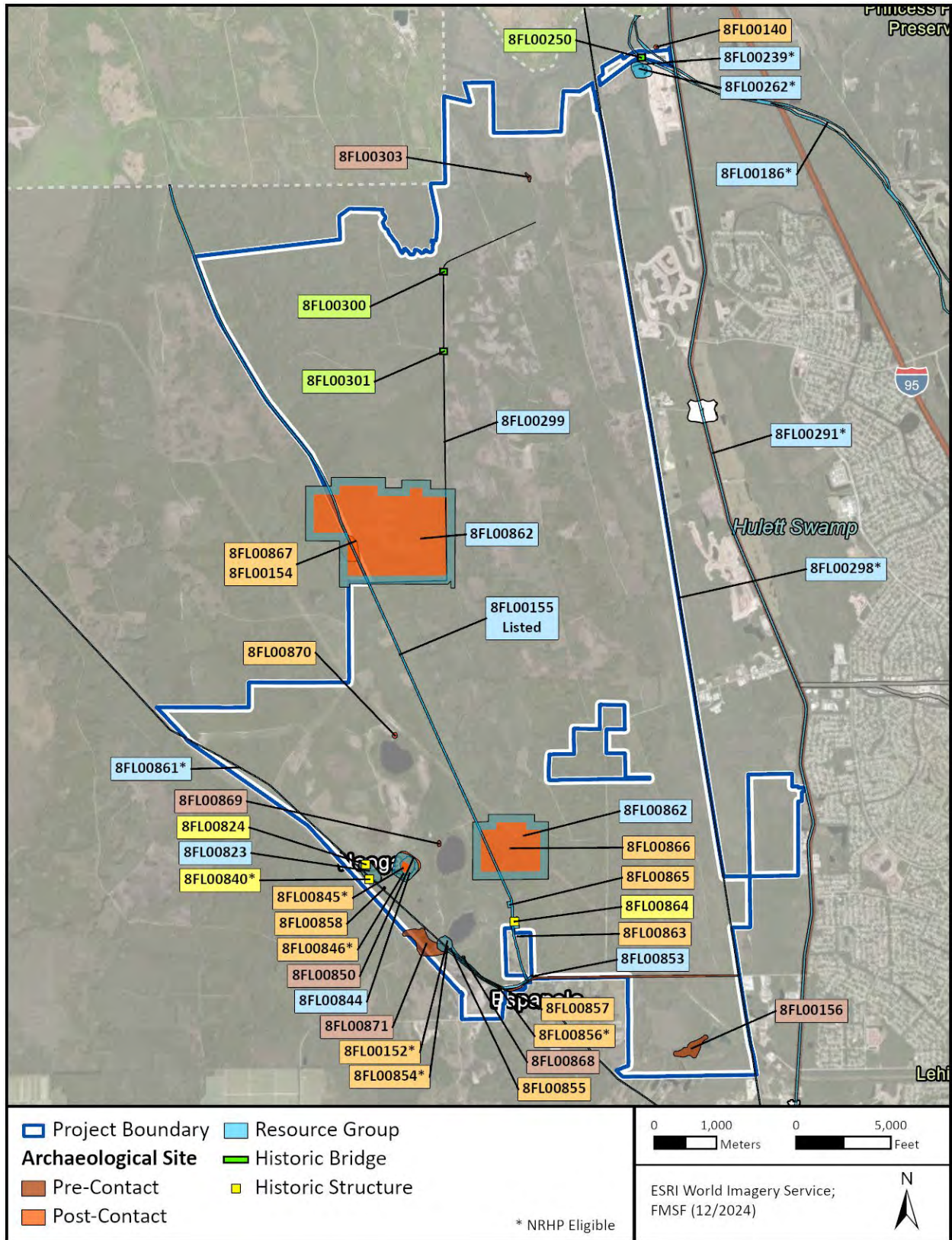


Figure 6. Previously recorded cultural resources within and immediately adjacent to the project area.

The **Neoga Turpentine Settlement** (8FL00823) is an early twentieth century turpentine camp located southwest of Neoga Lake. This resource group falls within the current project boundary and is made up of 21 cultural resources: 15 turpentine worker's houses (8FL00826–8FL00840), two other cabins (8FL00824 and 8FL00825), a warehouse (8FL00841), a commissary (8FL00842), a dump site (8FL00843), and a turpentine still (8FL00135) (**Figure 8** and **Figure 9**) (HSI 2010). The structures are spread out along the adjacent historic railroad (8FL00861). The turpentine camp dates from the 1890s to the early 1940s. The community was a cluster of cabins, two of which were occupied by the foreman and the stiller, who were both white men; these two cabins were at the north end of the camp. Fifteen of the remaining cabins were occupied by the African American turpentine workers. Only two structures were standing at the time of the 2010 survey -- 8FL00840 (worker's cabin) and 8FL00824 (stiller's cabin). The remainder of the settlement consisted of collapsed structural debris and associated artifacts, as most of the settlement was bulldozed prior to 2010. The resource group as a whole was recommended not eligible for the NRHP, with concurrence from the State Historic Preservation Office (SHPO). However, the SHPO disagreed on the eligibility for the worker's cabin, 8FL00840, finding it NRHP eligible. This eligible structure is located on the west side of the railroad track.

A leader of the settlement, Hiram Favors, was reported to have been buried behind one of the cabins that had been modified as a church. His grave was said to be 200 ft back in the woods off a trail to Neoga Lake (between the turpentine camp and the lake). The grave was said to be covered and lined with "old brown whiskey flask bottles" (HSI 2010:69). The Phase I survey by HSI in 2010 concluded that this grave was likely destroyed or displaced by tree farming activity, as the grave could not be located. As a result, the site file number associated with this burial site, 8FL00151 (Neoga Lake, GV Cemetery), was closed by the FMSF. There is no cemetery associated with Neoga Lake or the turpentine camp.

The **Racecourse Lake Resource Group** (8FL00844) surrounds the current Neoga Lake and consists of nine archaeological sites dating to the late 1800s (**Figure 10**, see **Figure 8**). The resource group as a whole has been recommended not eligible for the NRHP, but two of its contributing resources are eligible. The Neoga Sawmill (8FL00846) and its associated earthworks is mapped on the southwest shore of the lake and operated from the late 1890s to the early 1900s when the operation burned down. The second eligible site is Racecourse Lake (8FL00845), which consists of the lake itself and the uses of its historic banks. Deadhead logs are present in the shallow lake and the lake shore was once the site of horse races and "cracker" gatherings in the early 1900s (HSI 2010:70).

The **FEC Railway Corridor Group** (8FL00853) consists of the FEC Railway (8FL00861) and seven additional contributing archaeological features (**Figure 10**, see **Figure 8**). The resource group as a whole has been found not eligible for the NRHP, but the FEC Railway (8FL00861) and three of its contributing resources are eligible. The eligible contributing resources are: two water tanks (8FL00152, 8FL00856), and a pump house and cement reservoir (8FL00854) that drew water from Tank Lake. These three features are part of a late nineteenth century aqueduct system that pumped water to the steam locomotives of the railway. The FEC Aqueduct (8FL00855) connected

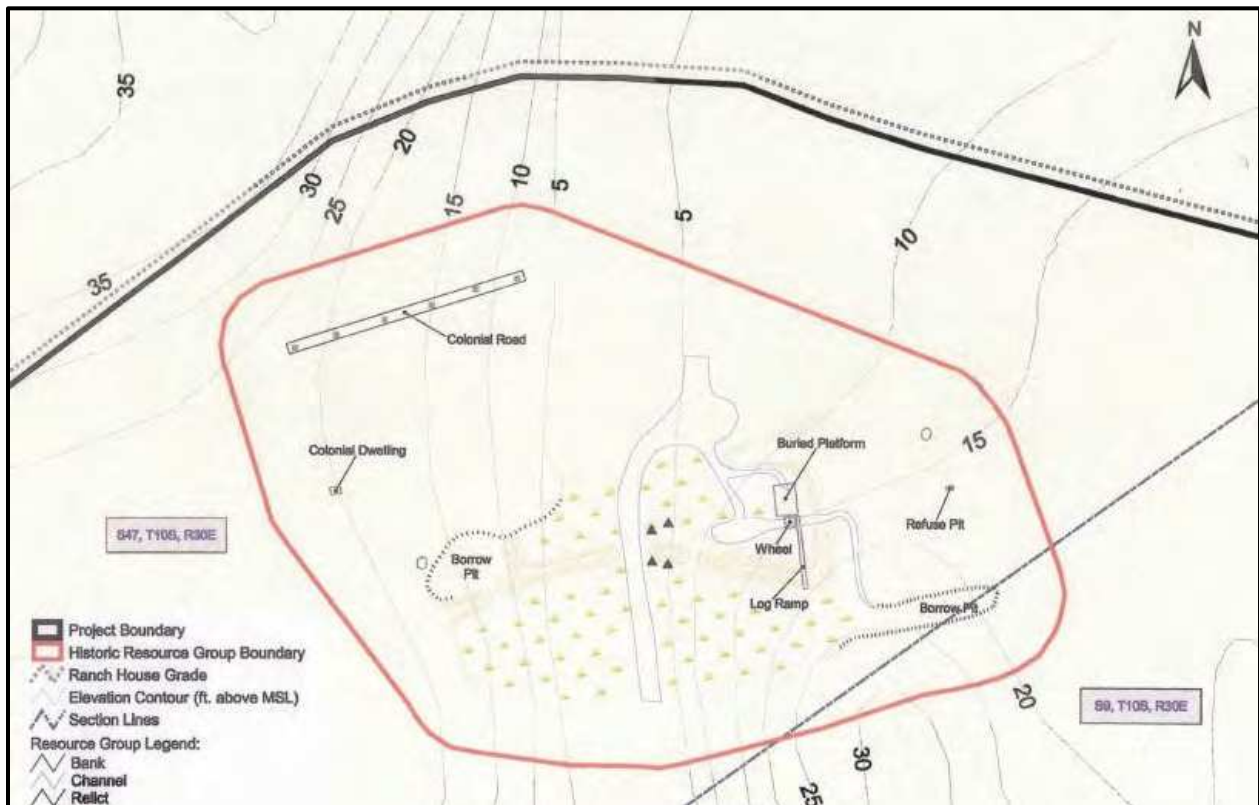
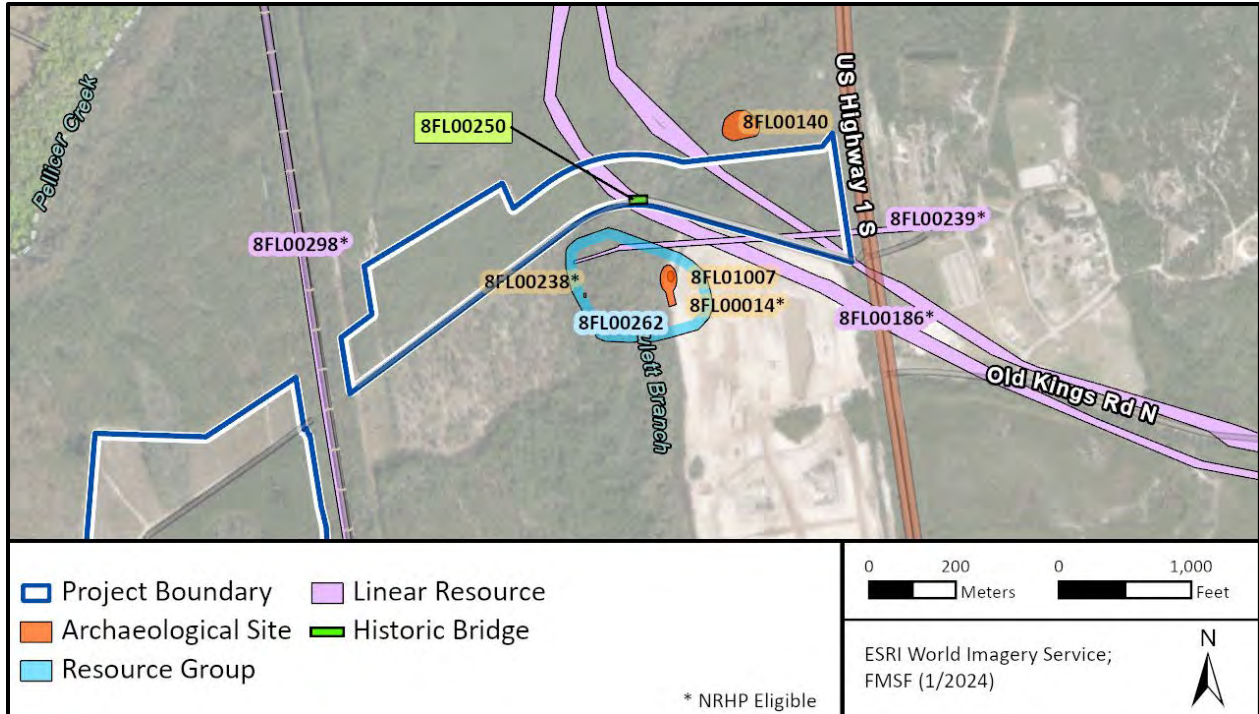


Figure 7. Detail of the Hewitt Colonial Complex (8FL00262) just outside the northeast segment of project area with previously recorded resources (above) and drawing from Survey 15088 showing Hewitt's Mill (8FL00014), a colonial dwelling (8FL00238), and a colonial road (8FL00239) (HSI 2010). Note 8FL01007 is a colonial dump site.

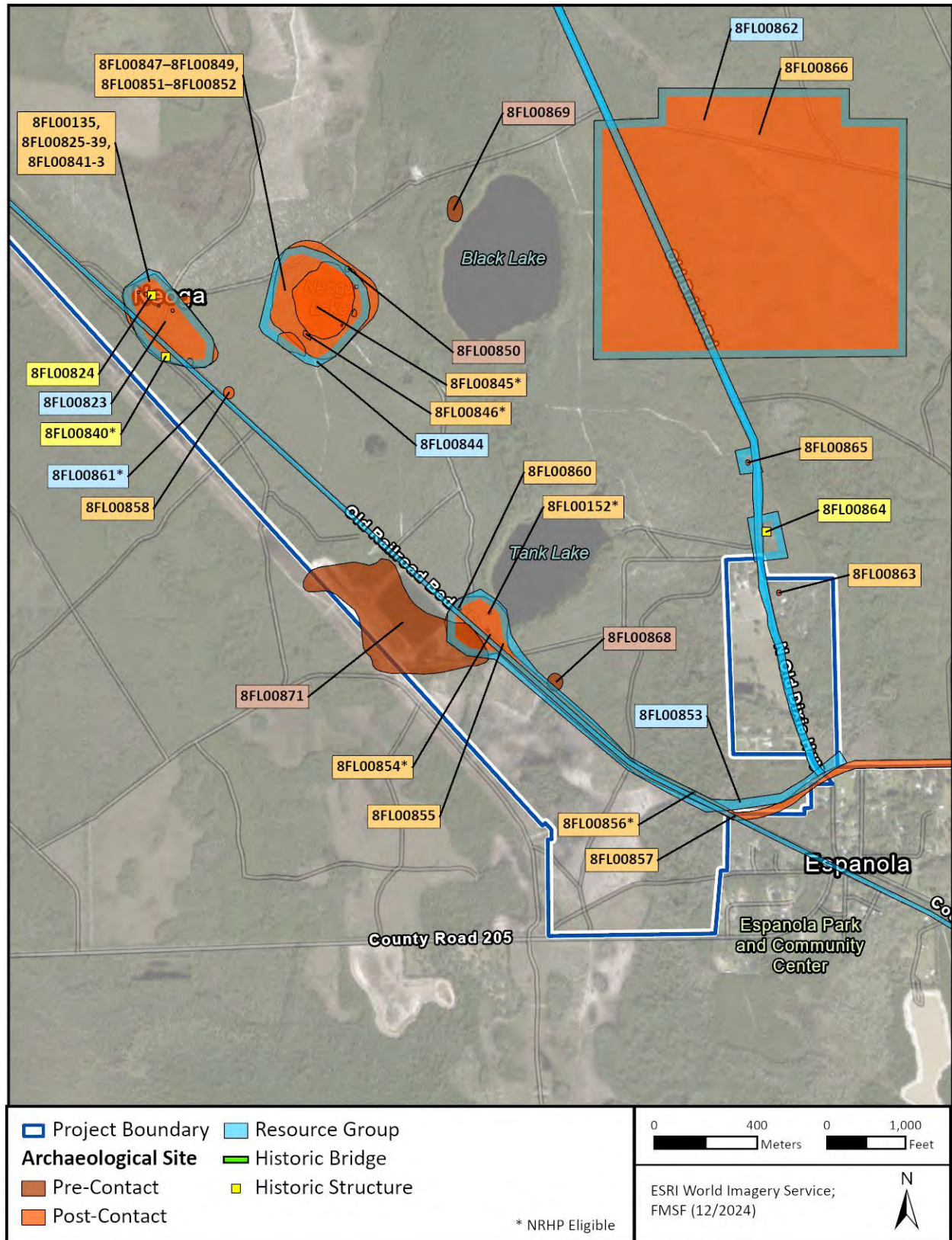


Figure 8. Detail of recorded resources in the southern portion of project area.

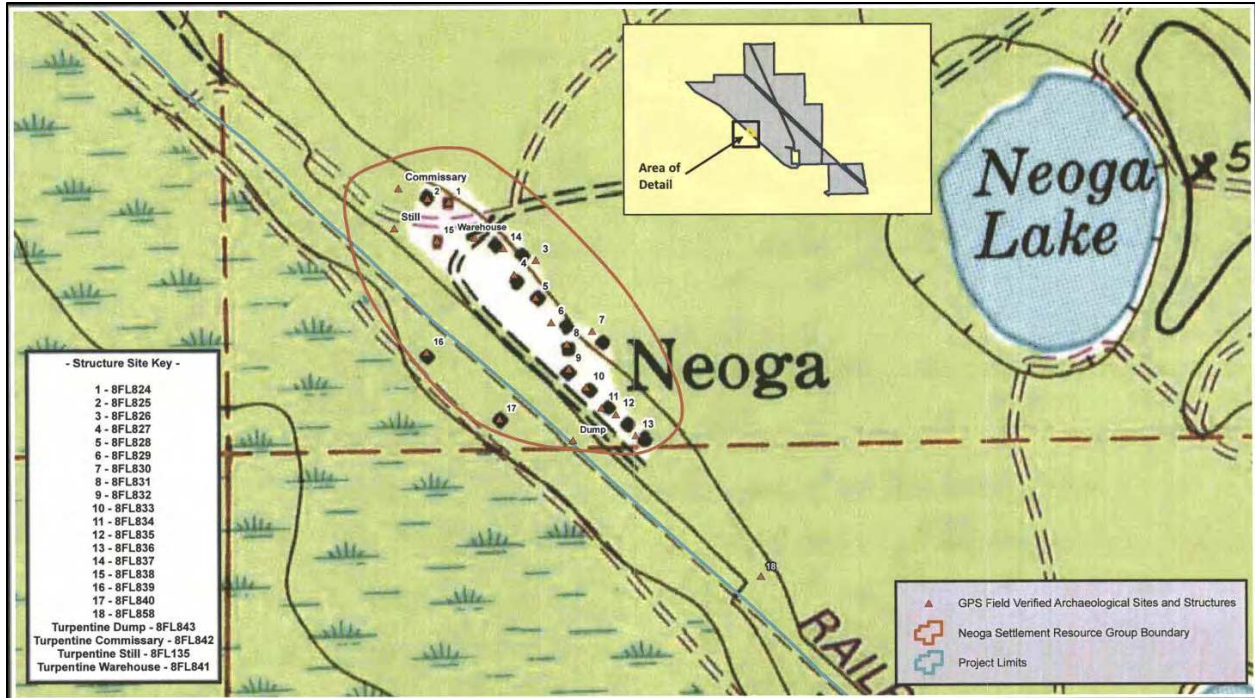


Figure 9. Detail of Neoga Settlement (8FL00823) with 21 associated resources mapped.
 Source: HSI 2010:Figure 10. Note Structure #17 on west side of railroad track (8FL00840) is NRHP eligible.
 Structure 18, the Neoga Depot (8FL00858) is outside the resource group.

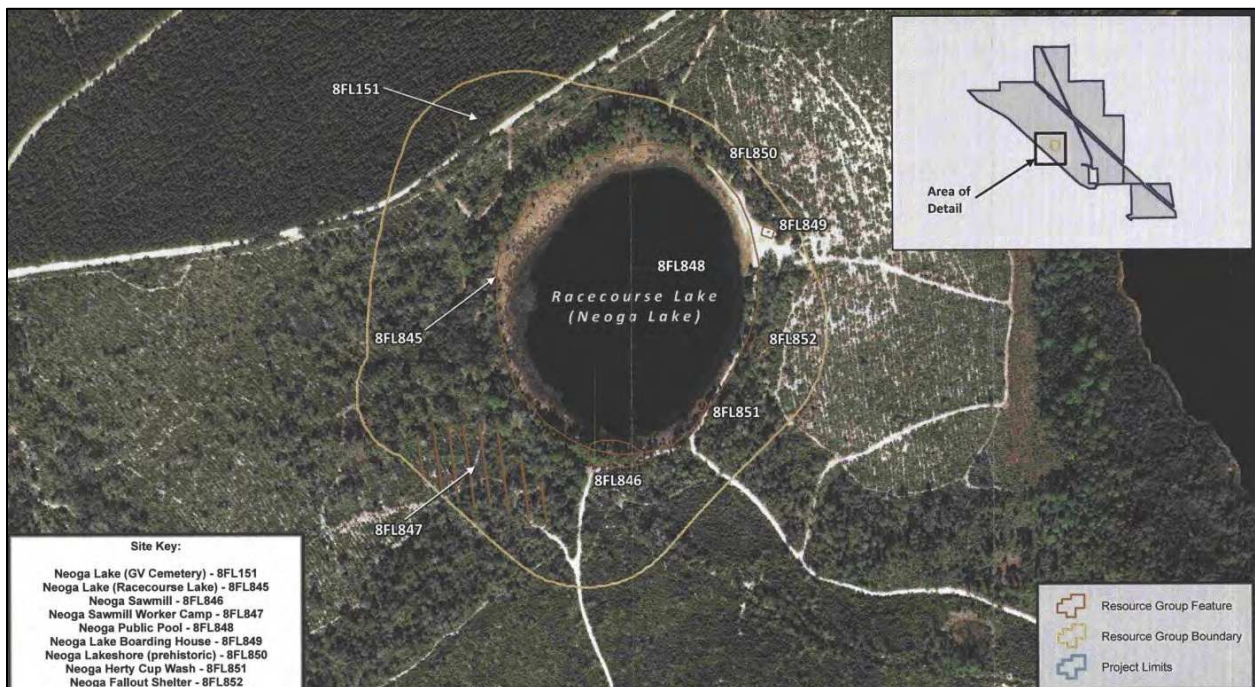


Figure 10. Detail of Racecourse Resource Group (8FL00844) with nine associated resources mapped. Source: HSI 2010:Figure 11). Note the lakeshore (8FL00845) and the sawmill (8FL00846) are NRHP eligible. 8FL00151 (Neoga Lake GV Cemetery) does not exist and the site number has been removed from the FMSF database.



Figure 11. FEC Railway Corridor (8FL00853) with the FEC Railway Line (8FL00861) and seven other associated resources mapped. Source: HSI 2010:Figure 12. Note the Railway (8FL00861), the Tank Lake Water Tank (8FL00152), the FEC Pump House (8FL00854), and the FEC Water Tank #2 (8FL00856) are NRHP eligible.

the two water tanks and the pump house. The iron piping of the aqueduct was removed in the 1970s when the railroad was dismantled, and as such, this resource was found to no longer retain its significance (HSI 2010:81). Lastly, the Neoga Railway Depot (8FL00858) is part of this resource group. It is no longer standing and testing of its reported location recovered only metal fragments and a piece of porcelain (HSI 2010:82).

The **Dixie Highway Heritage Corridor** (8FL00862) consists of the Old Dixie Highway/Old Brick Road (8FL00155) and five associated resources (**Figure 12**, see **Figure 8**). The five resources consist of the subdivision plats for the proposed development of Flagler City (8FL00866) and Flagler Heights (8FL00867), the Pappy Ortega Filling Station (8FL00865), the Live and Let Live Tourist Camp (8FL00863), and the Hunter Homestead (8FL00864) (HSI 2010). The Old Brick Road (8FL00155) is listed on the NRHP, but all the associated resources have been determined to not retain their significance and are not eligible for the NRHP. Additional background is provided for the NRHP listed resource.

The original Dixie Highway was constructed across Florida between 1916 and 1925 and provided the primary route for motorists along Florida's east coast in this period until ca. 1926. The Dixie Highway is unique for being the first brick paved road. Prior to introducing brick as a paver, the roads were typically improved with oyster shell. The 66-mile stretch between Duval and Volusia County lines was paved with vitrified bricks, made specifically for street and road construction. The road was flanked by concrete curbing, and oyster shell was used to reinforce the shoulders



Figure 12. Dixie Highway Resource Group (8FL00862) with the Old Dixie Highway (8FL00155) and five other associated resources mapped. Source: HSI 2010:Figure 13. The Old Dixie Highway is listed on the NRHP.

(ESI 2008). Paving began in Flagler County in 1914 to link Bunnell and Espanola to Hastings with the road completed in 1916. The 10-mi stretch between Espanola and CR 204 in St. Johns County is the portion that is NRHP listed and recorded as 8FL00155. A 50-foot preservation buffer, starting at the road's centerline was recommended by ESI in 2008.

The town of Espanola intersected both the Dixie Highway and the FEC Railway. The town was founded in 1888 (called Raulerson until 1894). In 1920, the census listed 385 people in the Espanola precinct. Two other developments were planned along this portion of the Dixie Highway during the 1920s Florida Land Boom and the collapse that followed: Flagler City (8FL00867) and Flagler Heights (8FL00866). The archaeological remnants of Flagler City are located 4 miles north of Espanola, and the platted location of Flagler Heights is located approximately 1 mile north of Espanola. The town plan for Flagler City was laid out in 1926 on 800 acres. Some streets and sidewalks were built to encourage plot sales, but the town was abandoned in 1928 with very minimal development (ESI 2008). US 1 (New Dixie Highway) was built in the mid-1920s, and as a result the Old Dixie Highway fell into disuse. According to the 1988 Archaeological Survey of Flagler County (Survey #1769, Historic Property Associates [HPA] 1988), Flagler City once supported three houses and a gas station, but the 2008 survey by ESI identified only concrete foundations and no standing structures. Neither the 1988 or 2008 surveys found any evidence of Flagler Heights, and it appears this subdivision was never developed.

The other resources associated with the Old Dixie Highway, the gas station (8FL00865), the tourist camp (8FL00863), and the 1915 homestead (8FL00864), have been destroyed. There are no above ground remnants of any of these resources.

Linear Resources -- Roadways, Railroads, and Canals/Aqueducts

In addition to the Old Dixie Highway and Hulett Road (discussed above), there are six linear resources that cross or are adjacent to the project area and consist of two roads, two railroads, and two canals or aqueducts. The King's Road (8FL00186) is mapped as crossing the project area in the northeast parcel, and US 1 (8FL00291) is just outside the current project's eastern boundary in two locations. Both these resources have been found eligible for the NRHP. However, the portion of the King's Road surveyed in 2004 by HSI (Survey #10747, see **Figure 5**) was found ineligible for the NRHP, reporting that the SHPO concurred that land improvements had compromised the road across Flagler County to such an extent that it was no longer eligible in this area (HSI 2004:69).

There are two NRHP eligible railroads that cross the project area. 8FL00298 is one of the FEC railroads that runs north-south parallel to US 1. A small portion of this rail line crosses the project area at the central-east point. The resource as a whole was found eligible for the NRHP by the SHPO in 2023, even though every segment of the rail line has not been surveyed. The small segment within the project area should be evaluated for its integrity.

The portion of the FEC Railway that runs along the southwest portion of the project area is Resource 8FL00861. This resource was surveyed by HSI in 2010 and is recommended not eligible for the NRHP because this section of railroad grade was converted to a forestry service road in the 1970s, but the SHPO disagreed with the recommendation, saying the FEC Railway Line should be considered eligible and preserved.

There are two other linear resources within the project area: the 1950s OBT drainage canal (8FL00299) in the north-central portion of the project; and the FEC Aqueduct (8FL00855) in the southwest portion of the project, associated with the FEC Railway Line (8FL00861). Both resources have been found ineligible for the NRHP.

Historic Buildings

There are three buildings within the project area that were originally recorded as historic structures rather than archaeological sites (HSI 2010), because at the time of survey they were at least partially still standing. Two of these buildings were part of the Neoga Turpentine Settlement. Resource 8FL00824 was the house of Joe Moore, who was the stiller for the camp. The house was partially collapsed and found ineligible for the NRHP. Resource 8FL00840 is one of the worker's houses, and it was still standing as of 2010. This SHPO determined this building to be NRHP eligible. The third building is the ca. 1915 Hunter Homestead (8FL00864) which was found ineligible for the NRHP and has since been demolished.

Historic Sites

One historic site, Fort Fulton (8FL00140), was recorded in 1988 on the south side of Pellicer Creek near Hulett Branch and the Old King's Road. This Second Seminole War (ca. 1835—1842) fort was

just northwest of Hewitt's Mill, and falls just outside the current northeast project area. The fort is said to have been a log blockhouse. No formal survey of the archaeological deposits has been conducted, and the site has not been evaluated for NRHP eligibility. Archaeological material from this fort may extend into the northeast corner of the current project area.

The remaining historic sites have been discussed above as part of the resource groups, except for the Neoga Town Hunt Club (8FL00870), which is a 1950s hunt camp on Speckled Perch Lake; the site is ineligible for the NRHP.

HISTORIC MAPS AND AERIAL PHOTOGRAPH REVIEW

A selection of historical maps and aerial photographs were reviewed to gain an understanding of past land use, events, and other features of the project and adjacent areas. The General Land Office (GLO) maps were reviewed, and the only map that shows cultural features is the 1851 map of Township 10S Range 28E, which covers the northeast portion of the project (**Figure 13**). Section 47 is the land grant of Martin Hernandez which includes Pellicer Creek and Hulett Branch. "Hewitt's Old Mill" is depicted on Hulett Branch near the crossing of the Old King's Road. Fort Fulton is not shown on this map. A dotted line crosses the project parallel to Hulett Branch, labeled "Spring Garden Trail". This trail leads to some agricultural plots on Martin Hernandez's parcel and intersects with the King's Road.

The 1918 USDA Soils Map of Flagler County (see **Figure 4**) shows the Old Dixie Highway (Brick Road), which was completed in this area in 1916. Several unimproved roads cross the project area especially in the southern area near the communities of Neoga and Espanola. Some roads cross into the swamps from the Old Dixie Highway. One road follows the west side of Pringle Branch, crossing the creek in Section 32, and heading east. The FEC Railway Line (8FL00861) is the only railroad shown on this map and it crosses the southern portion of the project. The Neoga Community is shown along the railroad. A few other isolated buildings are shown in the area surrounding Espanola.

A USGS topographic map from 1937 shows a mostly undeveloped and wet region within the project area, although numerous roads cross the area between the Old Dixie Highway, which is now labelled State Highway No. 189, and US 1 (labeled State Highway No. 4) (**Figure 14**). Old King's Road is shown leading to US 1. The FEC Railway (8FL00298) is depicted following the east boundary of the project area. The Neoga Settlement is now labelled Neoga Station, as the railroad depot had been built by this time.

The USGS topographic map from 1943 is similar to the 1937 map; however, in addition to the Neoga Settlement, several additional buildings are depicted within the project area (**Figure 15**). There are two structures along the west side of the FEC Railroad that follows the eastern boundary of the project, and there are two structures in the north-central project area along an old unimproved road. In the southern portion of the project there are approximately 12 buildings around the outskirts of Espanola. The Old Dixie Highway is now labeled Road No. 189, and State Highway US 1 is labeled.

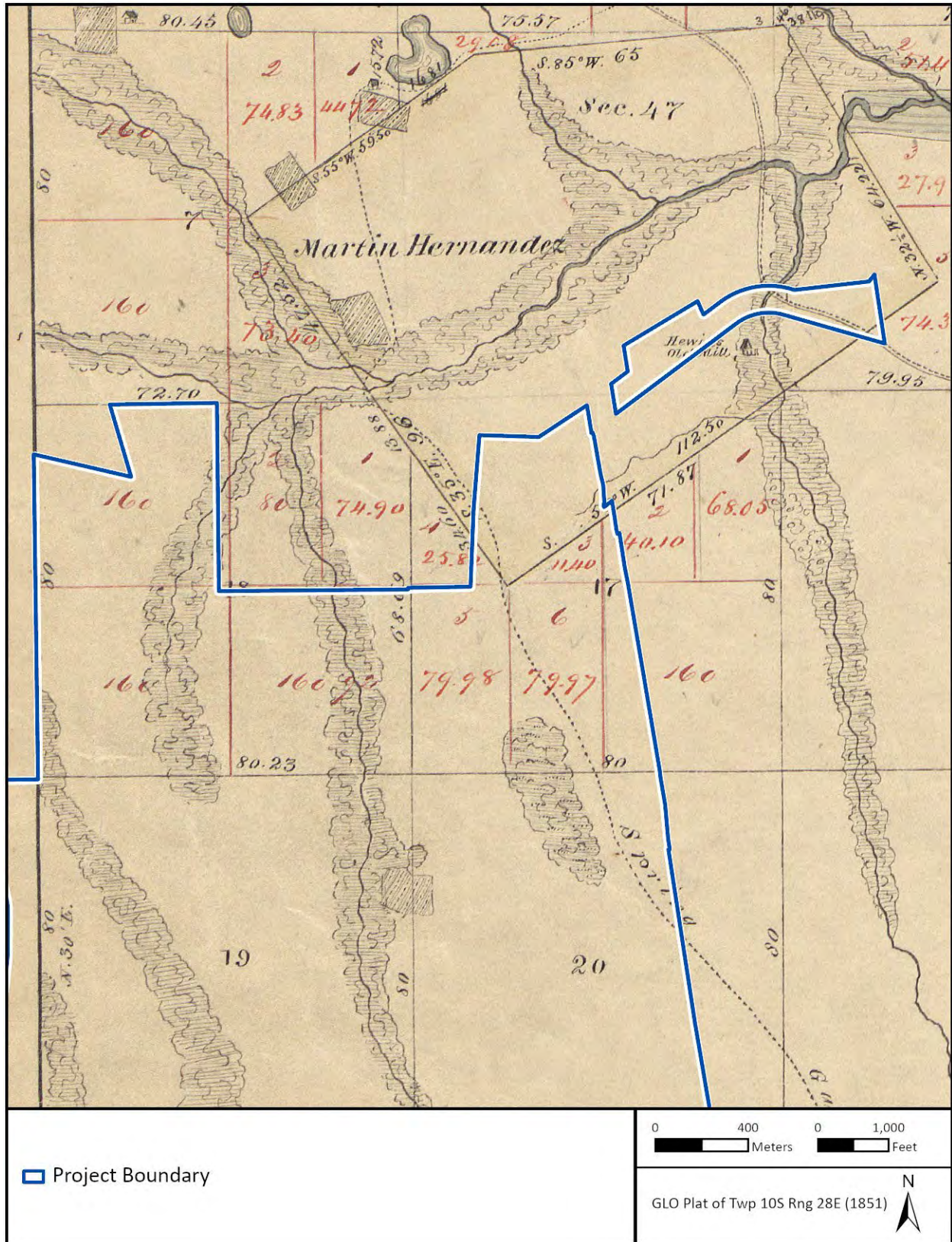


Figure 13. 1851 General Land Office (GLO) map of northeast project area.

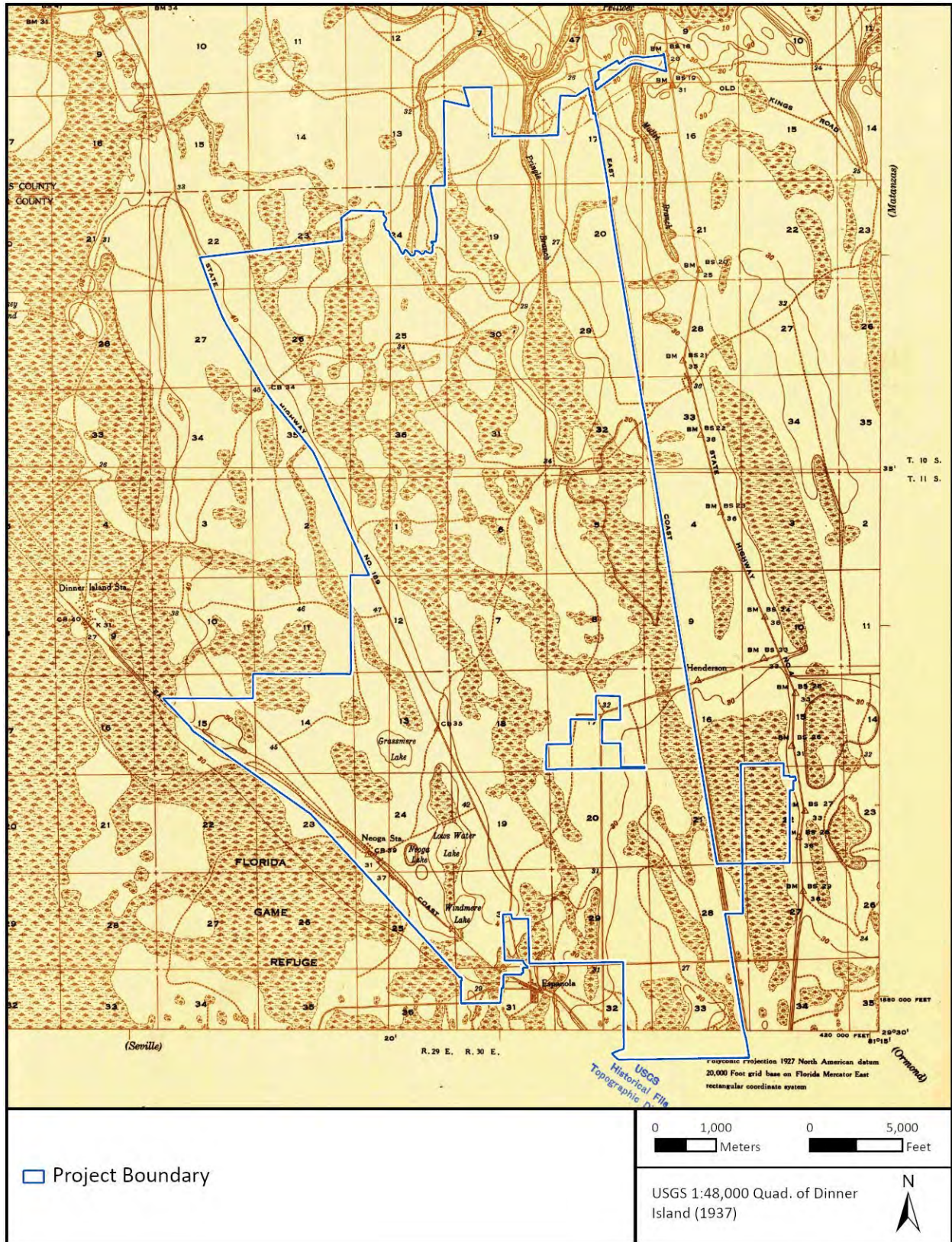


Figure 14. 1937 topographic map of the project area.

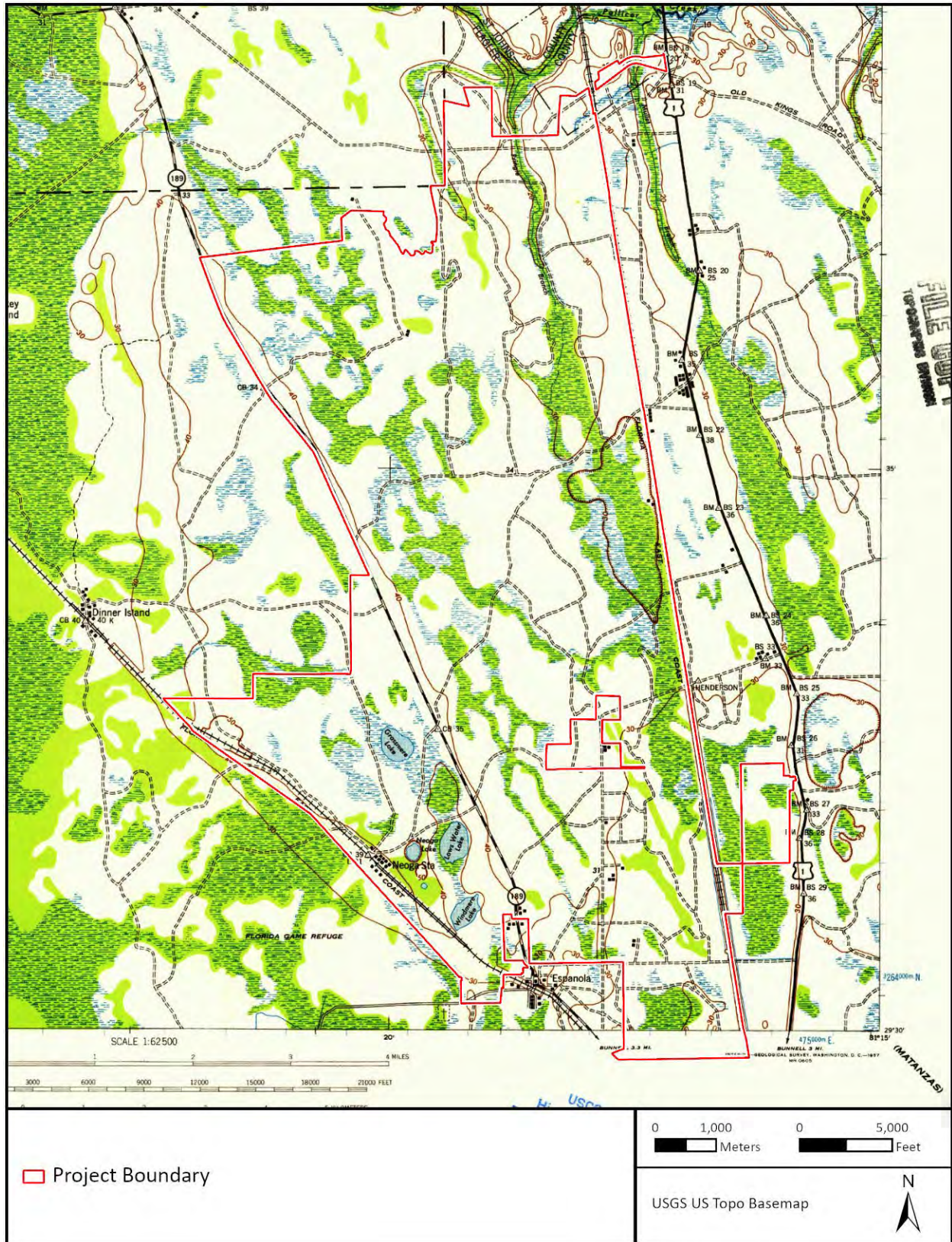


Figure 15. 1943 topographic map of the project area.

The 1943 aerial shows some road traces and cleared land north and northeast of Espanola (**Figure 16**). The area around the Neoga Community is cleared and some structures are still visible. The low resolution of this imagery does not allow smaller structures to be identified.

RELATIVE LIDAR AND DEVELOPMENT OF SURVEY STRATEGY

Because the project is approximately 20,493 ac, SEARCH will develop a survey strategy to guide preliminary archaeological testing. The survey strategy will consider analyses of previously recorded archaeological sites, soil drainage and landform characteristics, vegetation, absolute and relative elevation, and comparisons to historic aerials and maps. As shown in **Figure 2**, above, an absolute digital elevation model (DEM) of the project area does not effectively show the relatively higher areas adjacent to natural waterways. To normalize elevation values across the overall project area, a relative DEM was created (**Figure 17**). The relative DEM is suitable for predicting higher probability areas in low areas with poor drainage. In such environments, slight elevation differences matter as people targeted higher ground for habitation in the past. The relative DEM highlights landforms that are comparatively higher and successfully predicts where archaeological sites could be located.

The relative DEM model converts USGS LiDAR point data to a 1 m resolution DEM raster file. A second raster is created representing the mean elevation based on a 200 m radius of every point created in the first raster. The final product represents the difference between the first and second rasters, showing point elevation compared to the surrounding 200 m area. In other words, the relative DEM displays how much higher or lower a location is in reference to its immediate surrounding, rather than to the entire survey area. The 200 m radius is a practical and project-specific determination, and is designed to capture small elevation changes in the project area.

In the project area, the relatively higher landforms are slightly elevated terraces on the edges of the waterways and the area surrounding the lakes in the southwest. For the testing strategy, other variables, including the location of previously identified sites (see **Figure 6**), soil classes (see **Figure 3**), and resources identified on historic maps and imagery, will be incorporated to establish higher and lower probability areas for archaeological deposits.

Previous Testing and Anticipated Phase I Work

The project area is largely flat and most of the project is undeveloped poorly drained agricultural land. Previous shovel testing has occurred in approximately half of the project area, with testing occurring mostly in 2008 and 2010. The area around Neoga Lake was tested at 25 and 50 m intervals with approximately 200 tests excavated (HSI 2010) (**Figure 18**). Also, a portion of the northeast part of the project area was tested at 25 and 50 m intervals with 411 shovel tests excavated (ESI 2008) (**Figure 19**). These two areas of the parcel appear to have been tested more intensively than other portions of the parcel, and it is anticipated that the prior survey results may minimize the need for intensive survey within these areas.

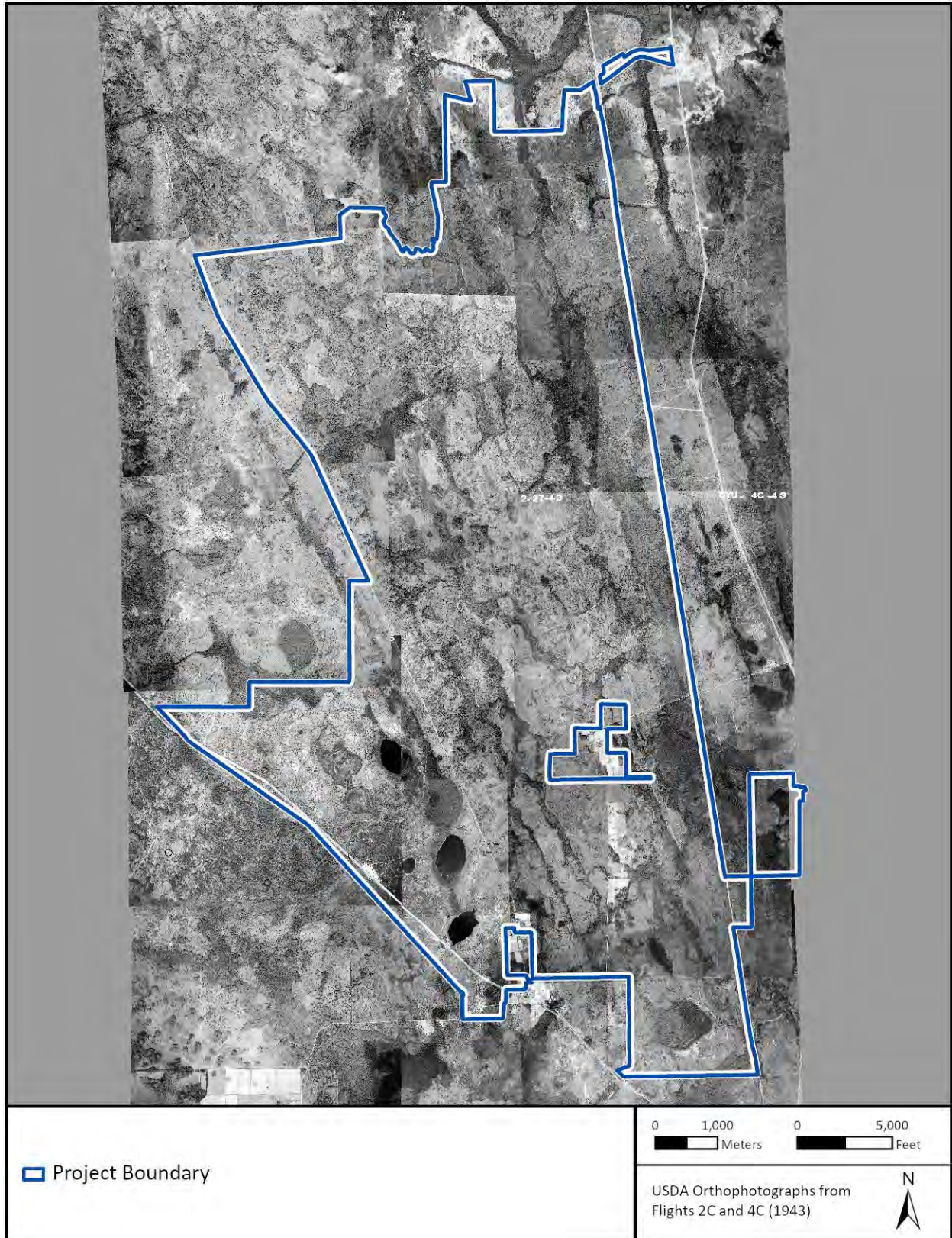


Figure 16. 1943 USDA aerial photography of the project area.

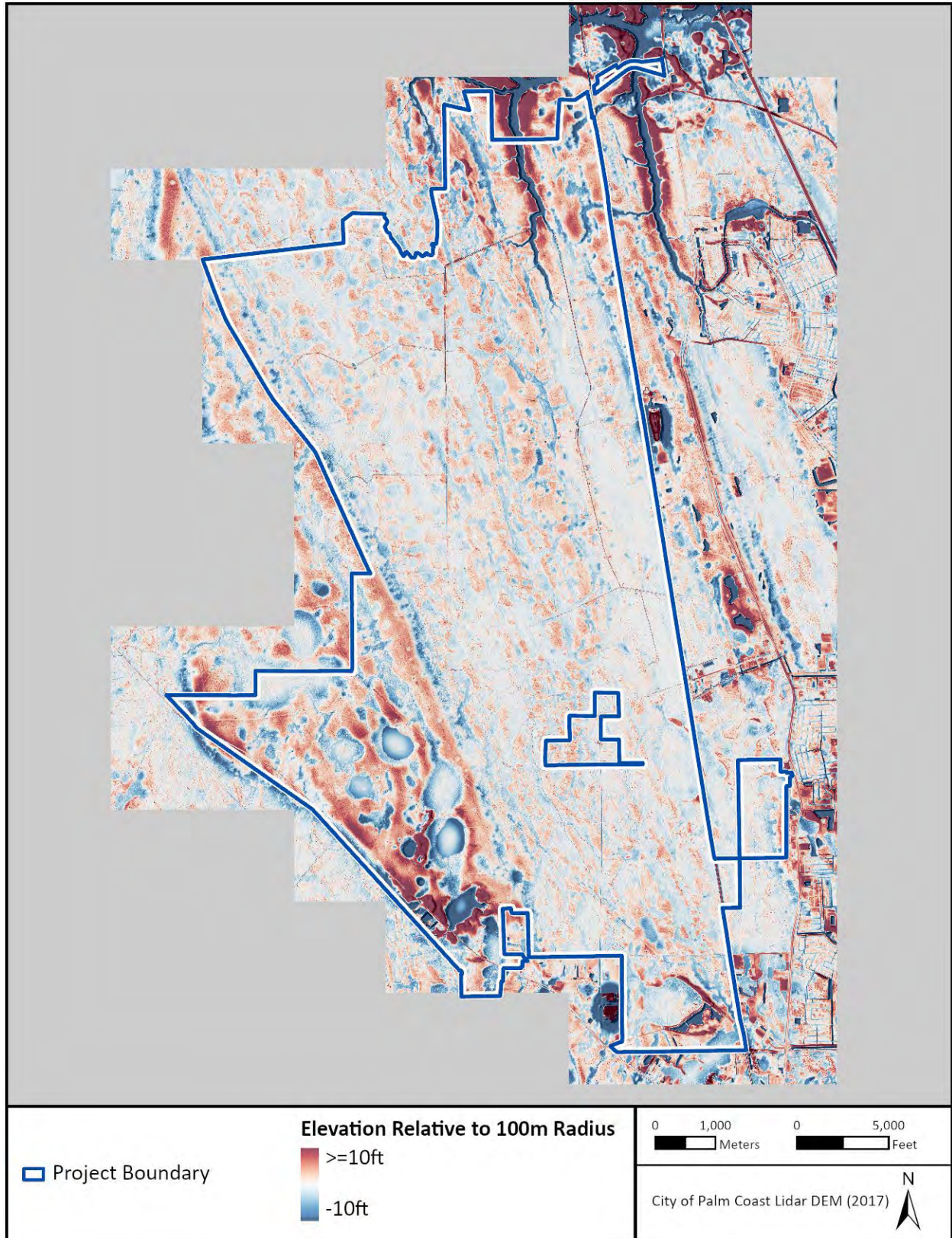


Figure 17. Relative DEM of project area.

The northeast parcel near the Old King's Highway, Fort Fulton, and Hewitt's Mill has not been previously tested and should be considered a high to moderate probability area with testing at 25 and 50 m intervals. Also, the area around the lakes in the southwest project area (with the exception of Neoga Lake) should also be tested at high and moderate probability levels. This southwest area has the highest elevation and best drained soils within the project area.

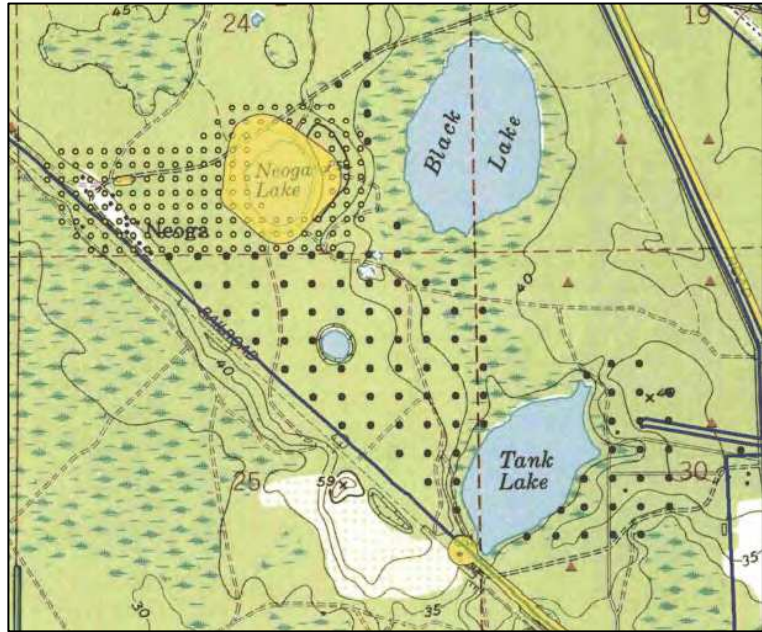


Figure 18. Previous testing during Survey 17277. Source: HSI 2010:43.

The area around the southern FEC Railway between Neoga and Tank Lakes was tested at 100 m intervals with approximately 100 tests excavated (HSI 2010) (see **Figure 19**). All the remainder of the previous testing within the project area was done judgmentally or at 100 m or 500 m intervals. The eastern half of the project area has not been previously tested at all, but much of this area is swampland.

In sum, the majority of the project area should be subjected to additional archaeological survey and subsurface testing based on the relative DEM and the background research presented above. Based on historic map and aerial photograph review, there is the potential for buildings older than 50 years to be present within the project area; therefore, an architectural history survey of the project area will be required. Additionally, structures such as bridges, culverts, canals, and other resources could be older than 50 years and still be located within the project.

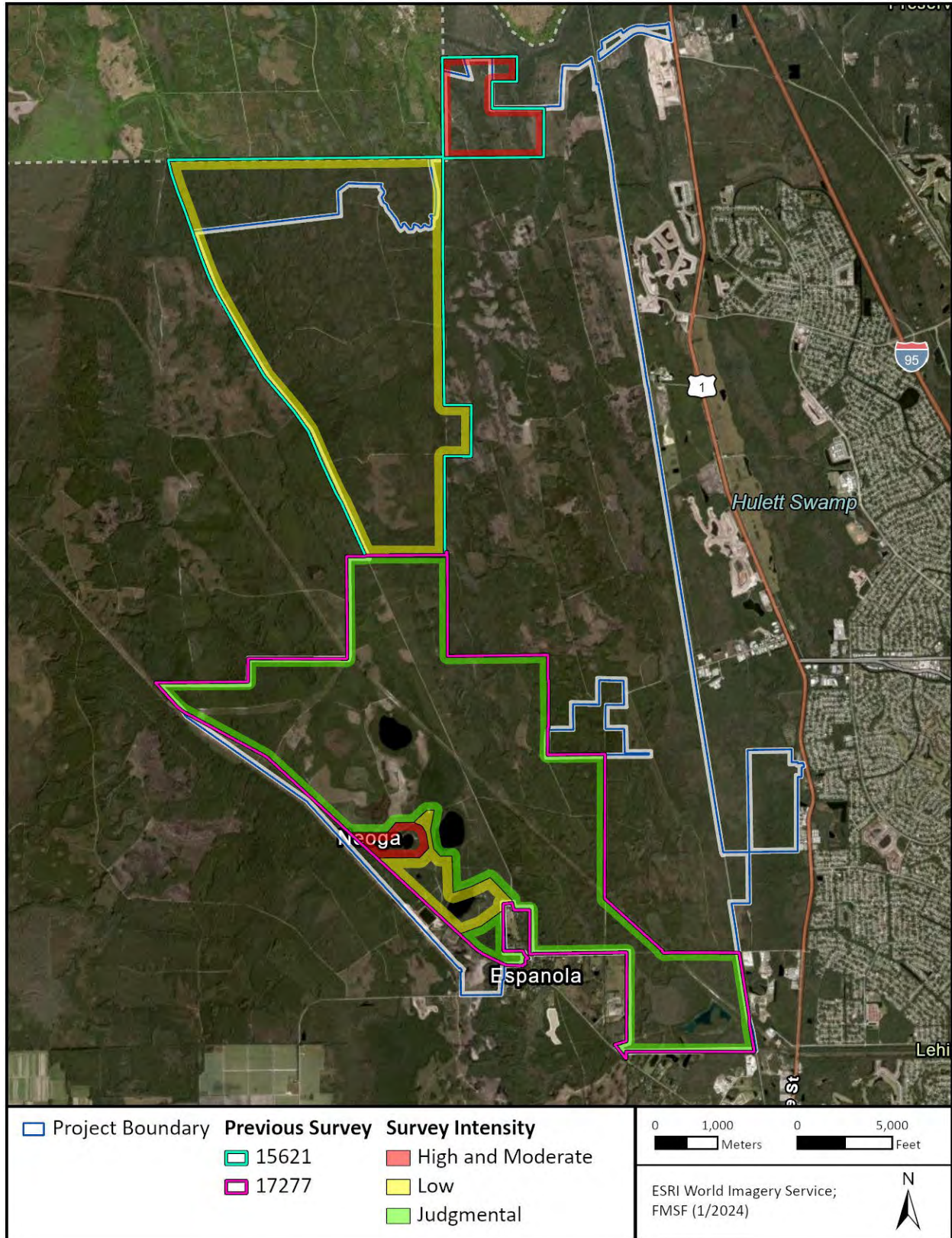


Figure 19. Areas with previous testing. Sources: ESI 2008, HSI 2010.

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**Raydient Palm Coast – Westward Expansion
Public Facilities Impact Analysis**

DENSITY/INTENSITY AND POPULATION

Note: The analysis for this future land use map amendment will take into consideration the maximum development potential as proposed by the applicant in their zoning map amendment (proposed designation of Master Planned Development with a proposed land use program).

The application proposes to change the future land use map designation of the Property from DRI - Mixed Use and Conservation within two DRI’s and Flagler County Agriculture and Timber Lands and Conservation to Master Planned Mixed Use (MPMU) with a companion MPD zoning. The proposed number of dwelling units in the companion MPD zoning is 21,920 and the two DRI’s are approved for up to 12,000 dwelling units for a net increase of 9,920 dwelling units. Table 1 below lists the net change in permissible development between the existing and proposed future land use designations. The existing land use designation includes development as currently allowed within the Old Brick Township DRI and Neoga Lakes DRI Development Orders. The proposed future land use designation is based upon the proposed development program in the companion MPD rezoning application. As part of the City’s 2050 update to its Comprehensive Plan the net change in development (and the overall Westward Expansion) was contemplated in the Data and Analysis to meet the City’s goals and vision to provide economic development, housing diversity and overall sustainability within the City.

**Table 1
Net Change in Permissible Development**

Raydient Palm Coast Westward Expansion		Old Brick Township DRI and Neoga Lakes DRI		Net Change	
Residential (du)	21,920 DU	Residential (du)*	12,000 DU	Residential	9,920 DU
Single Family	15,440 DU	Single Family	11,075	Single Family	4,365 DU
Multi-Family	6,480 DU	Multi-Family/Life Care	925	Multi-Family	5,555 DU
Commercial (sf)	1,876,000 SF	Commercial (sf)	454,000 SF	Commercial	1,422,000 SF
Office (sf)	738,000 SF	Office (sf)	656,000 SF	Office	82,000 SF
Industrial (sf)	3,235,000 SF	Industrial (sf)	2,309,000 SF	Industrial	926,000 SF
Hotel (Rooms)	1,035	Hotel (Rooms)	0	Hotel (Rooms)	1035
Hospital (Beds)	100	Hospital (Beds)	0	Hospital (Beds)	100
Golf Course (Holes)	18	Golf Course (Holes)	0	Golf Course (Holes)	18
20214 Ac.±		11683 Ac.±		8531 Ac.±	

Notes. 1. Table 1 excludes the City initiated sports activity park-related land uses.

Objective 1.1.3-Evaluation of Amendments to the FLUM

Review proposed amendments to the Future Land Use Map (FLUM) based upon environmental conditions, the availability of facilities and services, school capacity, compatibility with surrounding uses, and other generally accepted land use planning principles.

Policy 1.1.3.2 - *At a minimum, infrastructure availability and capacity, specified as follows, shall be considered when evaluating proposed FLUM amendments:*

A. Existing and future capacity of roadways based on functional classifications and best available data for traffic modeling. For the purposes of evaluating capacity, roadway improvements programmed in the FDOT 5-year Work Plan or listed in either the City or the County 5-year Capital Improvement Program shall be considered.

B. Large-scale, high-intensity commercial projects shall be concentrated at intersections of the following arterials

- C. Existing and future availability and capacity of central utility systems.
- D. Availability and capacity of receiving watercourses and drainage systems to convey design storm events.

Transportation

Mitigation for transportation impacts due to residential and nonresidential development of the Property will be consistent with the MPD Agreement. It is anticipated that the applicant will enter into one (1) or more Chapter 163, Florida Statutes, development agreement(s) to provide any identified transportation/mobility mitigation. The regional roadway network consistent with the MPD zoning has already been adopted on the 2050 Transportation Facilities Map (CP 2.13) as new roads.

Potable Water

The proposed FLUM amendment will have a maximum potential net increase in demand for potable water of 2.755 MGD. The applicant will continue to work with the City and enter into one or more utility agreements with the City as stated in the MPD Agreement. The utility agreement will address the provision of potable water, sewer and reuse water to the Property, including without limitation, contributions-in-aid-of-construction, payment of construction fees, dedication of lift stations, the potential conveyance of well sites, plant sites and other ancillary sites within the Property. The attached conceptual MPD Public Facilities Map depicts the conceptual location of a utility site. And as part of the technical site plan/plat review process, the property owner and/or developer will coordinate with the City of Palm Coast Utility Department to determine the appropriate engineering requirements (size of water line, pump stations, etc.) for potable water service consistent with any utility agreement.

**Table 2
Potable Water Demand**

Buildout Potable Water Demand Palm Coast West		
Land Use	Development Amount	Potable Water Demand (MGD)
Single Family (DU)	4,365	1.037
Multi Family (DU)	5,555	1.319
Retail (S.F.)	1,422,000	0.213
Office (S.F.)	82,000	0.012
Hospital (Beds)	100	0.000
Hotel (Rooms)	1,035	0.104
Light Industrial (S.F.)	926,000	0.069
Golf Course (Holes)	18	0.010
Total:		2.755

Wastewater

The proposed FLUM amendment will have a maximum potential net increase in demand for sanitary sewer treatment of 2.462 MGD. The applicant will continue to work with the City and enter into one or more utility agreements with the City as stated in the MPD Agreement. The utility agreement will address the provision of potable water, sewer and reuse water to the Property, including without limitation, contributions-in-aid-of-construction, payment of construction fees, dedication of lift stations, the potential conveyance of well sites, plant sites and other ancillary sites within the Property. The attached conceptual

MPD Public Facilities Map depicts the conceptual location of a utility site. And as part of the site plan/plat review process, the property owner and/or developer will coordinate with the City of Palm Coast Utility Department to determine the appropriate engineering requirements (size of sewer line, lift stations, etc.) for wastewater service.

**Table 3
Wastewater Demand**

Buildout Wastewater Generation Palm Coast West		
Land Use by Phase	Development Amount	Wastewater Generation (MGD)
Single Family (DU)	4,365	0.895
Multi Family (DU)	5,555	1.139
Retail (S.F.)	1,422,000	0.213
Office (S.F.)	82,000	0.012
Hospital (Beds)	100	0.020
Hotel (Rooms)	1,035	0.104
Light Industrial (S.F.)	926,000	0.069
Golf Course (Holes)	18	0.010
Total:		2.462

Solid Waste

The proposed FLUM amendment will have a potential net increase of over 315,000 lbs. of solid waste per day. Non-residential uses are subject to contracting with a provider for solid waste disposal. The solid waste generation can vary widely for certain land uses such as the commercial and industrial uses.

**Table 4
Solid Waste Demand**

Land Use by Phase	Development Amount	Generation Rate Per Day	Solid Waste
Buildout			
Single Family (DU)	4,365	21.5 lbs. per DU	93,848
Multi Family (DU)	5,555	21.5 lbs. per DU	119,433
Retail (SF)	1,422,000	5.5 lbs per 100 s.f.	78,210
Office (SF)	82,000	1 lb. per 100 s.f.	820
Golf Course (Holes)	18	300 lbs. per 18 holes	300
Hotel (Rooms)	1,035	2.5 lbs. per room	2,588
Hospital (Rooms)	100	15 lbs per room	1,500
Light Industrial (SF)	926,000	2 lbs. per 100 s.f.	18,520
Buildout Total			315,218

Public Schools

The proposed FLUM amendment will have a potential net increase in demand of 1,364 student stations. Table 5 lists the student generation by school type and the estimated number of schools that the projected population increase would need at buildout. The net increase in residential units will result in 1,364 students based on the current student generation rates of the School District: 572 elementary students, 308

middle school students, and 484 high school students. The additional residential units would result in a need for less than one school at all levels. At the current school impact fee rates, the proposed residential units for the entire Westward Expansion mix of uses in Table 1 would generate over \$111 million in school impact fees at buildout. Note that the school public facility analysis assumes all residential units proposed within the project are non-age restricted. Development of the project may contain age restricted units which are not subject to school concurrency and school impact fees, and nothing herein waives this exemption.

The attached conceptual MPD Public Facilities Map depicts conceptual locations for future school sites within the Property. The applicant intends to continue working with the School District to obtain a school concurrency determination and enter into one or more proportionate share mitigation agreements. Proportionate share agreements currently exists for the existing DRIs and are anticipated to be terminated.

**Table 5
Student Population by School Type**

SCHOOL REQUIREMENTS - Based on Population & Dwelling Units								
Total Units	9,920							
Single Family Units	4,365							
Multi-Family Units	5,555							
Age Restricted Units	0							
Student Population by School Type								
Elementary								
Single Family Elementary School Demand			367		572			
Multi-Family Elementary School Demand			206					
Middle								
Single Family Middle School Demand			214		308			
Multi-Family Middle School Demand			94					
High School								
Single Family High School Demand			345		484			
Multi-Family High School Demand			139					
			1,364					
Elementary School			Middle School			High School		
Students	Students / School type	Schools Required	Students	Students / School type	Schools Required	Students	Students / School type	Schools Required
572	1000	0.6	308	1,500	0.2	484	2,000	0.2

Public Recreation and Open Space

The residential development of the Property will create a demand for recreation and open space/park based on the City’s adopted levels of service for activity-based and resource-based recreation acreage as listed in Table 6. The MPD Agreement provides for the landowner to dedicate to the City up to 180 acres of land for recreational purposes. It is anticipated there will be additional recreation and open space/park acreage to satisfy the remaining adopted LOS as the new community develops. The proposed FLUM amendment will have a potential net increase in demand of 195 acres of park facilities.

**Table 6
Park Demand**

RECREATION AND OPEN SPACE/PARK LEVEL OF SERVICE				
Dwelling Units	Population (2.46 PPH)¹	Overall LOS Standard 8 acres/1000 population	Resource Based 3 acres/1000 population	Activity Based 5 acres/1000 population
9,920	24,403	195	73	122

¹ U.S. Census Bureau, 2020-2024 American Community Survey Estimates.

Stormwater

Stormwater treatment facilities are reviewed for consistency with LOS during site plan review. The LOS standards for stormwater quantity and quality, at a minimum, shall be the requirement established by the SJRWMD and other applicable regulatory requirements.

