FINAL

PRELIMINARY ENGINEERING REPORT

Hays Road Roadway Improvements
From Anclote Harbor Apartments to North Jasmine Avenue

Prepared for:

City of Tarpon Springs

Public Works Department

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JUNE 2021

PROFESSIONAL ENGINEER CERTIFICATION

PRELIMINARY ENGINEERING REPORT

Project: Hays Road Roadway Improvements from Anclote Harbor Apartments to North Jasmine Avenue

This preliminary engineering report contains engineering information that fulfills the purpose and need for the Hays Road Roadway Improvement Preliminary Engineering Report in Tarpon Springs, Florida. I acknowledge that the procedures and references used to develop the results contained in this report are standard to the professional practice of transportation engineering as applied through professional judgment and experience.

I hereby certify that I am a registered professional engineer in the State of Florida practicing with Cardno, and that I have prepared or approved the evaluation, findings, opinions, conclusions or technical advice for this project.

This item has been digitally signed and sealed by Jason Y. Yam, PE 62449 on the date adjacent to the seal.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

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1.0 PROJECT SUMMARY

1.1 Project Description

The project consists of the preliminary design and study for implementing Roadway Improvements and Complete Streets elements along Hays Road from the proposed Anclote Harbor Apartments to North Jasmine Avenue in Tarpon Springs, Florida. The Hays Road corridor is an east/west roadway facility, servicing surrounding residential properties and runs perpendicular to US19 and North Jasmine Avenue. A project location map is shown in **Figure 1** on the next page.

This 900-foot section of roadway is within an undeveloped corridor within 40 feet of right-of-way. This segment of Hays Road is under the jurisdiction of Pinellas County.

As part of the Preliminary Engineering Report (PER) analysis/study, the following five factors will be considered:

- Alternate design concepts
- Safety
- Drainage
- Multimodal accommodations
- Costs

This PER was prepared to document the engineering and environmental analysis performed to support the decision related to project alternatives. The preliminary design concepts will establish the functional or conceptual requirements that will be used as the starting point of the final design phase.

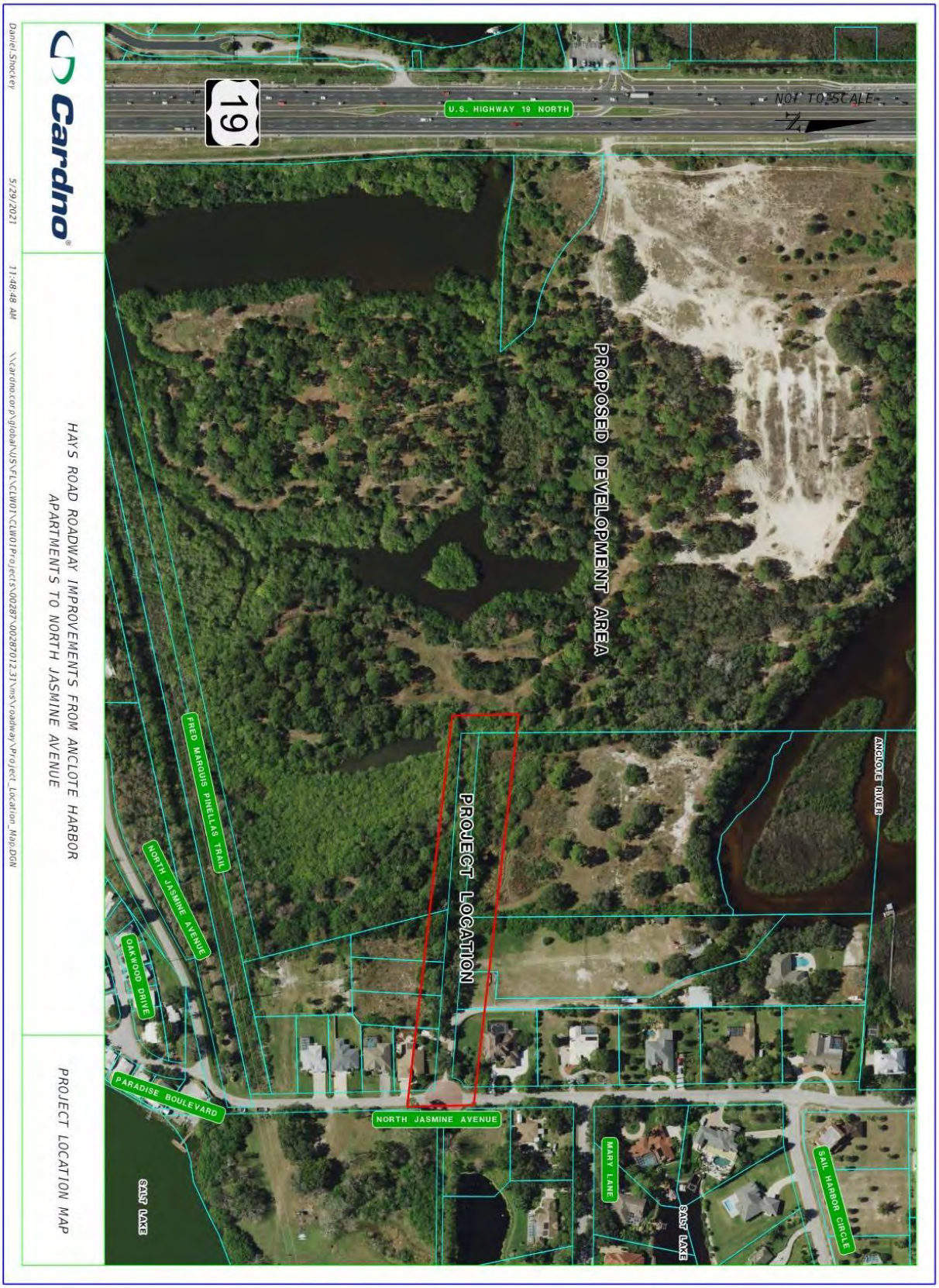


Figure 1 – PROJECT LOCATION MAP

1.2 Purpose and Need

The purpose of this project is to identify preferred roadway improvements to enhance safety and mobility for all modes of transportation including motor vehicles, pedestrians, and bicyclists. A preferred alternative typical section will be developed with improvement recommendations for the Hays Road corridor from Anclote Harbor Apartments to North Jasmine Avenue. Currently, the corridor is undeveloped with no facilities for pedestrians, cyclists, or vehicles.

This study evaluates the feasibility of providing the following proposed improvements on Hays Road:

- Roadway with one travel lane in each direction.
- Sidewalks along both sides of the roadway.
- Bike lanes along both sides of the roadway.
- Stormwater collection and conveyance.
- ADA improvements at the intersections.

1.3 Alternatives Analysis Summary

The City of Tarpon Springs has requested design alternatives for the development of Hays Road within the project limits. Four build alternative configurations were considered for engineering, environmental, and economic factors. It is desirable that the proposed improvements adhere to Complete Streets principles and practices.

The design criteria for the proposed improvements to Hays Road are governed by the Florida Department of Transportation (FDOT) Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways (Florida "Greenbook", 2018 Draft Edition). The design criteria used for this corridor study are listed in **Appendix A**. The corridor was evaluated using the latest draft version even though it is not fully adopted. The updated criteria set forth may have future impacts to the design if not incorporated from the beginning of the project. Conceptual Plans for the Preferred Alternative can be found in **Appendix B**.

A standard Pinellas County 2-lane roadway requires 5-foot sidewalks with curb and gutter within a 50-foot right-of-way. The available right-of-way for this project is only just over 40 feet. A lesser section might be accepted (with multiple waivers required) if usage is limited to occasional or emergency use only.

Descriptions of the four alternative typical sections are described in full detail as part of Section 3.0. The conceptual Alternatives consider various multi-modal enhancements such as roadway and sidewalk improvements.

A "No-Build" Alternative, which consists of postponing improvements, will remain under consideration throughout the alternatives evaluation process. The Alternatives were evaluated on a number of factors including cost and engineering issues. The engineering issues evaluated were based on safety, natural, and social environmental factors. An evaluation matrix is included in Section 4.1.10, *Cost Estimates*.

1.4 Description of Preferred Alternative

The preferred typical section is an urban typical section which includes two 10-foot lanes, one 6-foot sidewalk, curb and gutter on both sides of the road, and requires gravity walls to avoid impacts to adjacent private properties. This corridor is on a 40-foot wide section of publicly owned right-of-way, which makes wider, standard, roadway typical sections not practical. The specific features of the preferred alternative are:

- Construct one new 10-foot travel lane in each direction.
- Construct one new 6-foot sidewalk on the north side of the roadway with ADA-compliant ramps at intersections.
- Install new Type “F” curb and gutter along both sides of Hays Road.
- Construct gravity and/or MSE walls along both sides of the roadway.
- Meets the requirements of Ordinance 2020-34

Alternative 2, shown in Figure 2, was selected as the Preferred Alternative and is shown in the Conceptual Plans found in **Appendix B.**

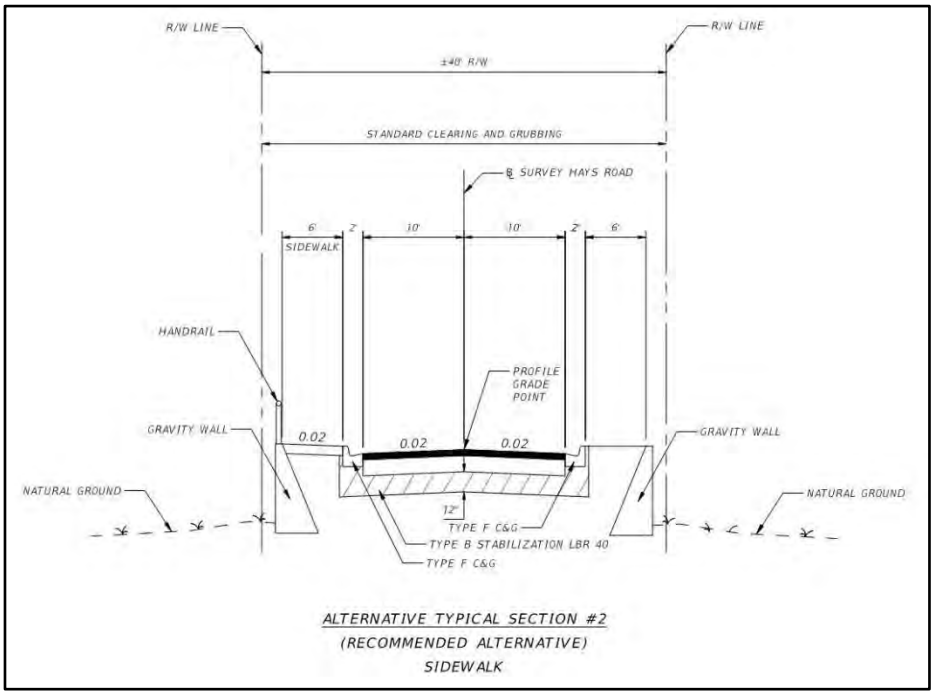


Figure 2 – PREFERRED ALTERNATIVE (ALTERNATIVE 2)

2.0 EXISTING CONDITIONS

2.1 Roadway

Hays Road is an undeveloped east-west corridor within an existing right-of-way width of just over 40 feet. The study corridor is approximately 900 feet in length. The proposed improvements could have as much as 2.77 acres of wetland impacts depending on the level of development.

The study area has a relatively large vertical elevation change. Especially compared to the proposed elevation of the adjacent development, which is more than 6 feet above the existing grade. Based on the surveyed alignment, which is a straight line from North Jasmine Avenue to the proposed development, there should be no sight restraints associated with horizontal or alignment. The vertical alignment is going to be drastically changed both by the proposed roadway vertical alignment and by the proposed elevation at the entrance to the proposed development.

There is no existing pavement since it is an undeveloped corridor. Currently, a shared driveway occupies a short portion of the corridor and connects to Jasmine Avenue at a brick-pattern pavement, circular intersection as shown in **Figure 4**. The driveway appears to be a mixture of asphalt and gravel. But, later becomes mostly dirt and gravel.

Figure 4 – EXISTING DRIVEWAY

2.2 Right-of-Way

Right-of-way widths are estimates based on measurements from available survey data. The existing right-of-way width is approximately 40 feet. One of the parcels required for the road construction is not County's right-of-way but is fee owned by the County.

2.3 Roadway Classification

The roadway is under the jurisdiction of Pinellas County and is assumed to be classified as a Local Road and/or Residential Street. The Florida “Greenbook” defines a Local Road as having primary characteristics of direct property access to residential and commercial land uses with pedestrian and bicycle travel. A Residential Street is defined as a street primarily serving residential access to commercial, social, and recreational needs of the community. They generally are lower volume and lower speed facilities than other routes of the local system.

Based on the FDOT Context Classification Guide categories (July 2020), the study area is assumed as C3R – Suburban Residential. The features of this classification according to Figure 2 of the FDOT Context Classification Guide include “mostly residential uses set within large blocks with a disconnected or sparse roadway network”.

2.4 Adjacent Land Use

The adjacent land uses include single-family residences, multi-family residences, and the Anclote Harbor Apartments. The Pinellas County Zoning / Land Use Map, shown in **Figure 5**, identifies the following zoning categories within the study area:

- R-2: Single Family – 7500 – 9500 lot size
- R-A: Residential Agricultural – Single-family detached, accessory uses, agriculture and livestock for personal use, commercial agriculture with special approval.
- R-E: Residential Estate – Single-family detached, accessory uses, agriculture and livestock for personal use.

The Pinellas County Zoning / Land Use Map, shown in **Figure 5**, identifies the following land use within the study area:

- RS: Residential Suburban; Primary Uses – Residential; Agricultural

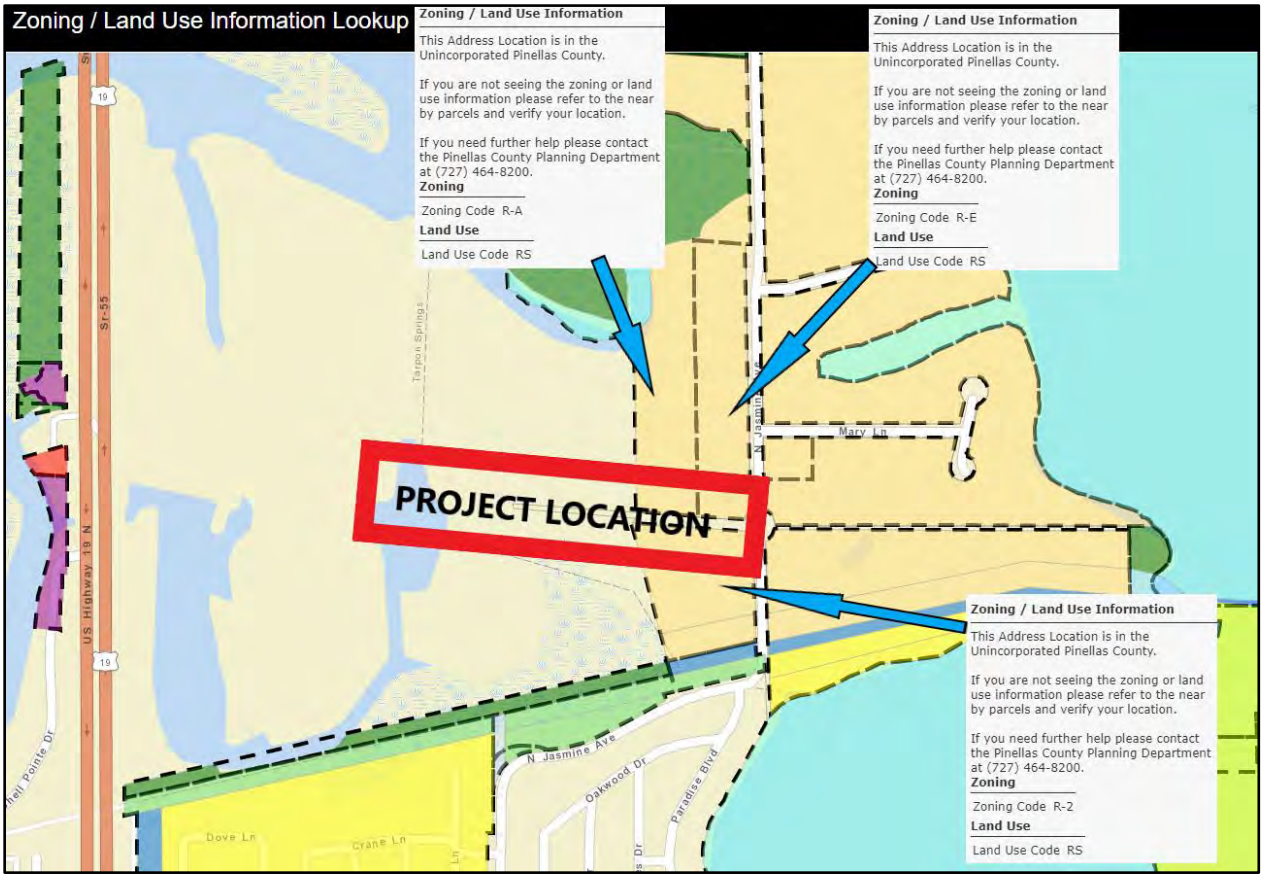


Figure 5 – PINELLAS COUNTY ZONING / LAND USE MAP

The City of Tarpon Springs Zoning Map, shown in **Figure 6**, identifies the following zoning categories within the study area:

- R-100A: Single Family District
- RPD: Residential Planned Development District

Figure 6 – CITY OF TARPON SPRINGS ZONING MAP

The study area also falls within FEMA Flood Zone AE. Portions of a few parcels on the east side of the roadway are not entirely within Zone AE. See **Appendix C** for FEMA Flood Insurance Rate Map.

There are four residential parcels along the south side of this project that currently has access to Hays Road right-of-way. At the time of the field investigation (05/25/21), two properties were completely developed into single-family dwellings and a third property was under construction. On the north side, three larger residential parcels currently access Hays Road, with one of the parcels undeveloped. Raising the profile over the existing grade may make it difficult for these parcels to effectively access the proposed roadway.

2.5 Geotechnical

Soils were generally found to be suitable for supporting the proposed roadway with estimated total settlements of 2.5 inches. Slopes steeper than 2H:1V are not recommended. Groundwater was encountered at depths of 2 feet below grade and may impact construction, requiring dewatering during construction activities. See **Appendix D** for the Geotechnical Report and **Appendix K** for the Soil Survey Report.

2.6 Environmental

The study area lies partially in a residential area and partially within urban open land, pine flatwoods, and freshwater marshes. Approximately 2.77 acres of the project area lies within Flood Zone AE. See **Appendix E** for the Environmental Report.

2.7 Design and Posted Speeds

There is no posted speed in this undeveloped corridor. The proposed posted speed is 25 MPH with a design speed of 30 MPH to be used throughout the project limits.

2.8 Pedestrian Accommodations

There are no sidewalks within the study corridor. Additionally, North Jasmine Avenue does not have any sidewalks adjacent to the project area.

2.9 Bicycle Facilities

There are no bicycle facilities, striped or signed, within the study area. Additionally, North Jasmine Avenue does not have any designated bicycle facilities adjacent to the project area. Bicyclist considerations will be further discussed in Section 4.0.

2.10 Traffic Volumes and Operational Conditions

There were no traffic count stations in the study area based on the Florida Traffic Online website. There are no traffic count station in the study area based on the Pinellas County AADT Map (2017). However, residential local roads are generally considered low volume facilities. During our field reviews, no pedestrians and bicyclists were observed using the facilities adjacent to the project area (North Jasmine Avenue). A detailed traffic impact study would be required to evaluate the impacts of the project to North Jasmine Avenue and Like Oak Street. Additionally, a traffic study is required per condition 10 of the City of Tarpon Springs Ordinance 2020-34, **Appendix M**.

The study area also has no Pinellas Suncoast Transit Authority bus stops. However, there are a few schools nearby that may have bus routes servicing students near the project limits.

2.11 Crash Data and Safety Analysis

Crash data was collected from Signal Four Analytics, University of Florida for the years 2016 to 2020 as seen in **Appendix F**. There are no crashes along Hays Road because it is currently an undeveloped corridor. There are no crashes along N. Jasmine Ave. in the vicinity of Hays Road.

2.12 Drainage

SWFMD, in **Appendix I**, provides no information specifying a watershed for the project location. However, Pinellas County describes the project location as the Anclote River Watershed Area as seen in **Appendix J**. The existing corridor is undeveloped and has no stormwater conveyance system. The predominant flow pattern throughout the area is from north to south.

The existing corridor does not consist of any water quality features, such as low impact development, and is located within a coastal floodplain.

2.13 Utilities

A preliminary Sunshine 811 design ticket for the project limits was pulled on April 28, 2021, and identified the following Utility Agencies/Owners (UAOs): Charter Communications, City of Tarpon Springs, Duke Energy – St. Petersburg, Clearwater gas System, Frontier Communications, and Knology Broadband of FL.

UAO contact information is as follows:

Company	Contact	Telephone Numbers
Charter Communications (Cable, Fiber, Telephone)	Jeremy Cornette	(863) 581-5734
City of Tarpon Springs (Sewer, Water)	Willie Williams	(727) 937-2557x2601
Duke Energy – St Petersburg (Electric)	Stephanie Olmo	(407) 905-3376
Clearwater Gas System (Gas)	Jacinta Garcia Corcoba	(727) 422-9998
Frontier Communications (CATV, Communication Lines)	Toni Cannon	(813) 875-1014
Knology Broadband of FL (DBA Wide Open West – WOW) (Fiber)	Richard Laganga	(727) 422-8040

A copy of the Utility Design Ticket can be found in **Appendix G**.

2.14 Lighting

The undeveloped corridor has no existing street lighting. And there is no lighting on North Jasmine Avenue where it intersects the corridor. Similarly, there is no nearby lighting on North Jasmine Avenue

3.0 ALTERNATIVES ANALYSIS

3.1 Previous Planning Studies

The developer of the Anclote Harbor Apartments provided preliminary graphics and a cost estimate for proposed improvements of Hays Road. This analysis included two potential typical sections, an access exhibit, and an opinion of probable cost have been included in **Appendix L**.

3.2 No-Build (No-Action) Alternative

The No-Build Alternative consists of postponing improvements. As a baseline, the No-Build Alternative would maintain the existing undeveloped corridor and relative features. Several advantages and disadvantages are associated with implementing the No-Build Alternative.

Advantages of the No-Build Alternative include:

- No new construction, design, or right-of-way costs.
- No disruption to the motoring public on adjacent facilities due to construction activities.
- No inconveniences to the adjacent property owners due to construction activities.
- No disturbance to the natural environment or private property.

Disadvantages of the No-Build Alternative include:

- No undertaking of safety, drainage or ADA improvements
- No provisions for vehicles desiring to access Anclote Harbor Apartments.
- No provisions for bicyclists desiring to access Anclote Harbor Apartments.
- No provisions for pedestrians desiring to access Anclote Harbor Apartments.
- Inconsistent with City of Tarpon Springs redevelopment plans for the area, i.e. direct access to Anclote Harbor Apartments

Due to escalation of construction and right-of-way costs, postponement of the project may jeopardize future economic feasibility. The No-Build Alternative will remain under consideration throughout the alternatives evaluation process but would suffice for neither the project's purpose nor the city's needs.

3.3 Build Alternative(s)

The City of Tarpon Springs has requested design alternatives for the development of Hays Road within the project limits. Four build alternative configurations were considered for engineering, environmental, and economic factors. It is desirable that the proposed improvements adhere to Complete Streets principles and practices. Information and data were collected at the beginning of the study to develop and evaluate the conceptual design and alternatives analysis for the study. Relevant data evaluated included the environmental, socioeconomic, and land use features for the areas as well as operational and safety characteristics of the corridor.

Advantages of the Build Alternatives include:

- Completion of a multi-modal corridor servicing drivers, cyclists, and pedestrians.
- Direct access to Anclote Harbor Apartments.
- ADA compliant features.

Disadvantages of the Build Alternatives include:

- Temporary construction inconvenience and delays.
- Property, drainage, and environmental impacts.

The following subsections describe the proposed improvements to the study area.

3.3.1 Alternative 1

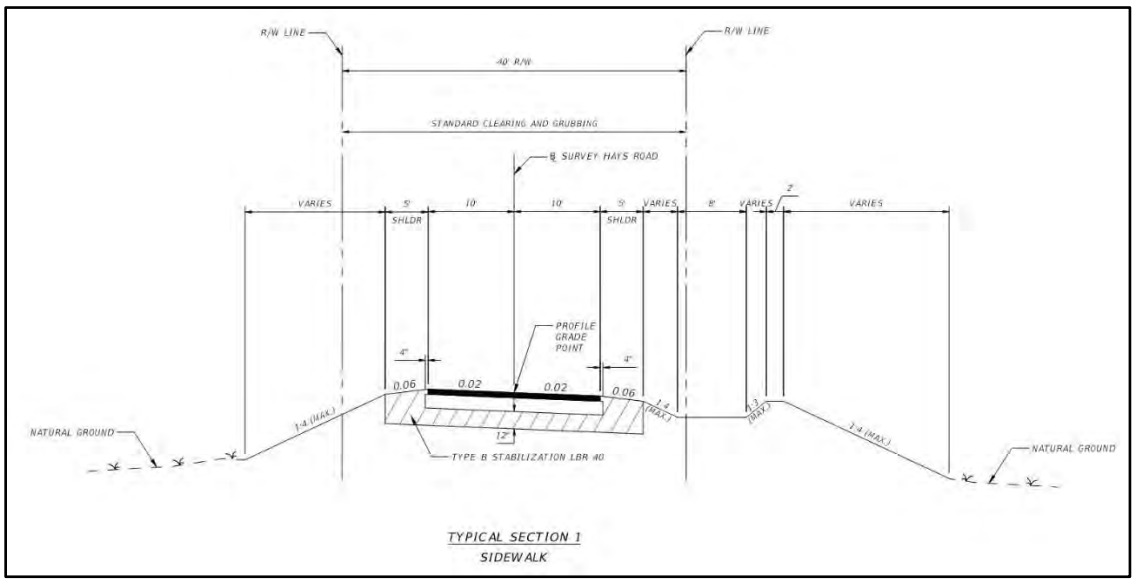


Figure 7 – ALTERNATIVE 1 TYPICAL SECTION

Includes a rural typical section with no sidewalk. (see **Figure 7**):

- Construct one new 10-foot travel lane in each direction. (reverse crown for drainage)
- Construct one new 5-foot unpaved shoulder on each side of the roadway.
- Construct one new linear pond for new collection, conveyance, and treatment along the south side of the roadway.

The proposed horizontal and vertical alignments will result in a significant elevation increase from the existing ground to the proposed roadway, which will result in impacts to private property on the north and south sides of the proposed roadway. License agreements or slope easements with property owners will be needed in order to construct acceptable slopes down to existing ground. Costs associated with License agreements, right-of-way takes, or slope easements may make this alternative cost-prohibitive. The proposed 10-foot lane width is permitted per the Florida Greenbook when there are significant right-of-way restrictions present as there are on this corridor with its less than 41-foot width.

This rural alternative lacks pedestrian facilities and separate bicycle lane facilities; Bicycles will instead be directed onto the roadway to establish a shared lane condition. This alternative results in a roadway corridor that appears more natural with the use of a linear pond and with the exclusion of gravity wall, curb, and handrail. Treatment swales are typically not permitted in Pinellas County Right-of-Way. As such, there may need to be an agreement with Pinellas County, or treatment facilities may need to be located on private property.

3.3.2 Alternative 2

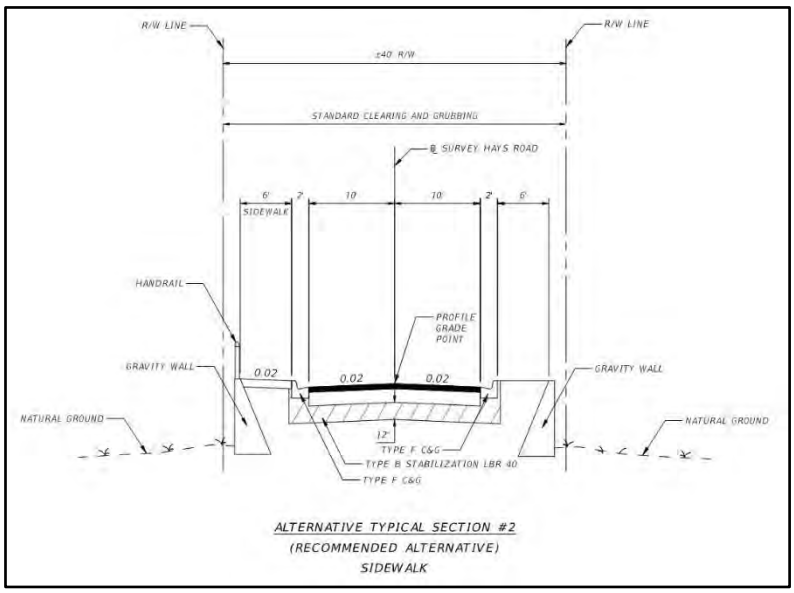


Figure 8– ALTERNATIVE 2 TYPICAL SECTION

Includes an urban typical section with sidewalk. (see **Figure 8**):

- Construct one new 10-foot travel lane in each direction.
- Construct one new 6-foot sidewalk on the north side of the roadway with ADA-compliant ramps at intersections/driveways.
- Construct new Type “F” curb and gutter along both sides of Hays Road.
- Construct new curb inlets and an underground exfiltration system for stormwater treatment
- Construct Gravity wall along the north and south side of the roadway.

The proposed horizontal and vertical alignments will result in a significant elevation increase from the existing ground to the proposed roadway. To avoid impacts to private property on the north and south sides of the proposed roadway, gravity walls are proposed on both sides of the road.

An optional design for this alternative to reduce costs would be to negotiate with the property owners for the right-of-way to eliminate the gravity walls.

This urban alternative lacks separate bicycle lane facilities; Cyclists will instead be directed onto the roadway to establish a shared lane condition. However, this alternative provides a sidewalk to increase the safety of pedestrians traveling this public way. This alternative results in a more narrow roadway corridor by utilizing both curb and gravity walls. While these roadway elements are more expensive and unnatural in appearance, they assist in avoiding impacts to nearby properties which is a requirement of Ordinance 2020-34.

3.3.3 Alternative 3

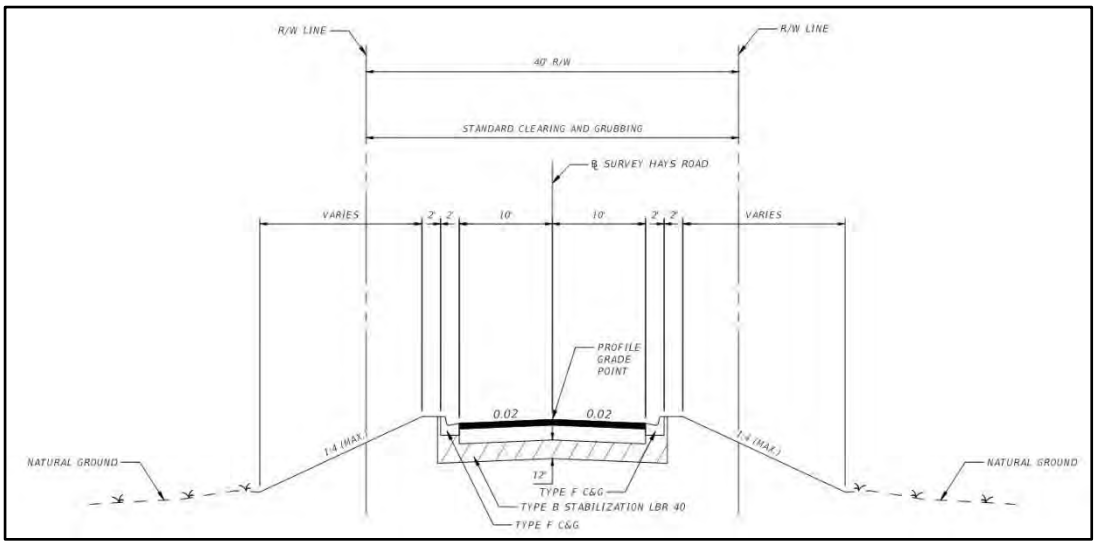


Figure 9 – ALTERNATIVE 3 TYPICAL SECTION

Includes an urban typical section without sidewalk. (see **Figure 9**):

- Construct one new 10-foot travel lane in each direction.
- Construct new Type “F” curb and gutter along both sides of Hays Road.
- Construct new curb inlets and an underground exfiltration system for stormwater treatment

The proposed horizontal and vertical alignments will result in a significant elevation increase from the existing ground to the proposed roadway, which will result in impacts to private property on the north and south sides of the proposed roadway. License agreements or slope easements with property owners will be needed in order to construct acceptable slopes down to existing ground. Costs associated with License agreements, right-of-way takes, or slope easements may make this alternative cost-prohibitive.

This urban alternative typical section lacks pedestrian facilities and separate bicycle lane facilities; Bicycles will instead be directed onto the roadway to establish a shared lane condition.

3.3.4 Alternative 4

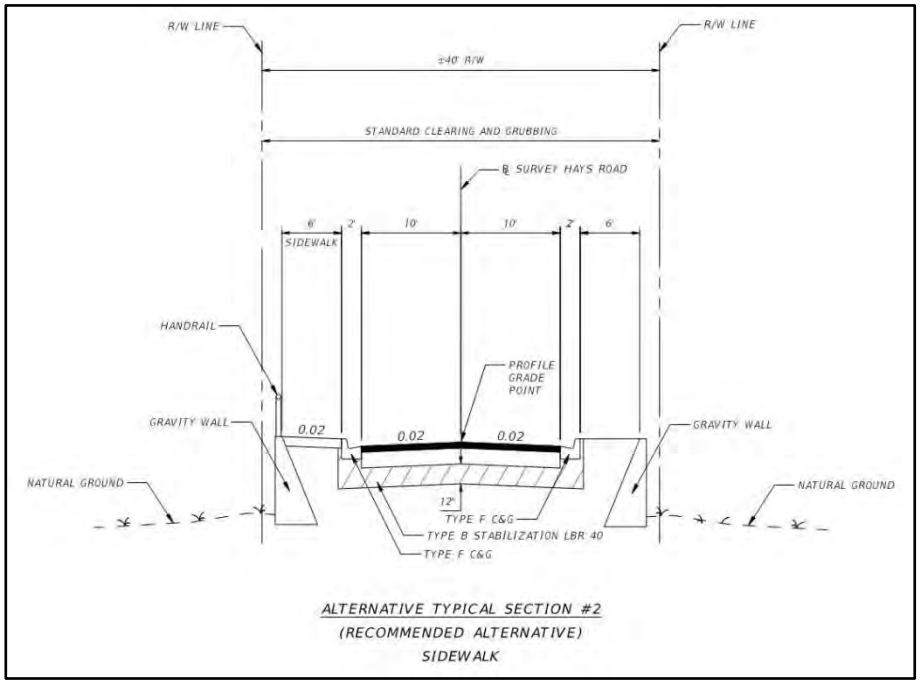


Figure 10 – ALTERNATIVE 4 TYPICAL SECTION

Includes a reduced (one-lane) urban typical section with sidewalk. (see **Figure 10**):

- Construct one new 17-foot travel lane.
- Construct new Type “F” curb and gutter along both sides of Hays Road.
- Construct one new 6-foot sidewalk on the north side of the roadway with ADA-compliant ramps at intersections/driveways.
- Construct new curb inlets and an underground exfiltration system for stormwater treatment
- Considered less than full access, but allowed under Ordinance 2020-34.

The proposed horizontal and vertical alignments will result in a significant elevation increase from the existing ground to the proposed roadway. To avoid impacts to private property on the north and south sides of the proposed roadway, gravity walls are proposed on both sides of the road.

Similar to Alternative 2, an optional design for this alternative to reduce costs would be to negotiate with the property owners for the right-of-way to eliminate the gravity walls.

This urban alternative lacks separate bicycle lane facilities; Bicycles will instead be directed onto the roadway to establish a shared lane condition. This single-lane option will restrict two-way traffic, but allow for a vehicle to pass if one is disabled. However, this alternative provides a sidewalk to increase the safety of pedestrians traveling this public way. This alternative results in the smallest cross-sectional footprint of the 4 alternatives by utilizing a single lane with a closed drainage system, and gravity wall.

3.4 Selection of the Preferred Alternative

The “No Build” Alternative was considered but deemed infeasible because it does not meet the project purpose and need.

Alternatives 1 and 3 were rejected primarily due to the fact that both roadway footprints encroach on the private properties on the north side of the roadway in violation of condition 22 of the City of Tarpon Springs Ordinance 2020-34, **Appendix M**.

The acceptance of Alternative 4 was considered for the event that the roadway was intended to provide only emergency access to the property as well as daily access to the properties which currently utilize a small portion of the corridor as a shared driveway. However, this roadway would be prohibitively narrow and would likely be used as a one-lane-two-way road or driveway similar to the existing asphalt, gravel, and dirt driveway. The extremely limited use and design variations or waivers necessary to permit this roadway to be constructed eliminated this option from consideration.

To optimize user safety and multi-modal utility along the corridor of the project, Alternative 2 was selected as the Preferred Alternative and is shown in the Conceptual Plans found in **Appendix B**. A typical section is provided in **Figure 2**.

Alternative 2 was selected because it satisfies the purpose and meets needs of the project by providing a multi-modal corridor with safety improvements, and sidewalk connectivity throughout the neighborhood. The following features along the corridor are included, but not limited to:

- Continuous connectivity from Anclote Harbor Apartments to North Jasmine Avenue to accommodate vehicles, pedestrians, and bicyclists,
- ADA-compliant sidewalk features, i.e. curb ramps, detectable warning surfaces,
- Pedestrian facilities on one side of the road.
- Stormwater improvements for collection and conveyance.
- Exfiltration system for water quality treatment,
- Alleviates the burden on the Applicant to provide a secondary, emergency-only access connection to U.S. Highway 19 per Condition 22 of the City of Tarpon Springs Ordinance 2020-34, **Appendix M**.

Objectives of this alternative are to offer enhanced mobility and safety for all users. The next section will further discuss this Preferred Alternative in more detail.

4.0 DESIGN FEATURES OF THE PREFERRED ALTERNATIVE

4.1 Engineering Details of the Preferred Alternative

4.1.1 Typical Sections

The Preferred Alternative typical section is an undivided two-lane urban roadway. A 6-foot concrete sidewalk is proposed along the roadway at the back of the curb.

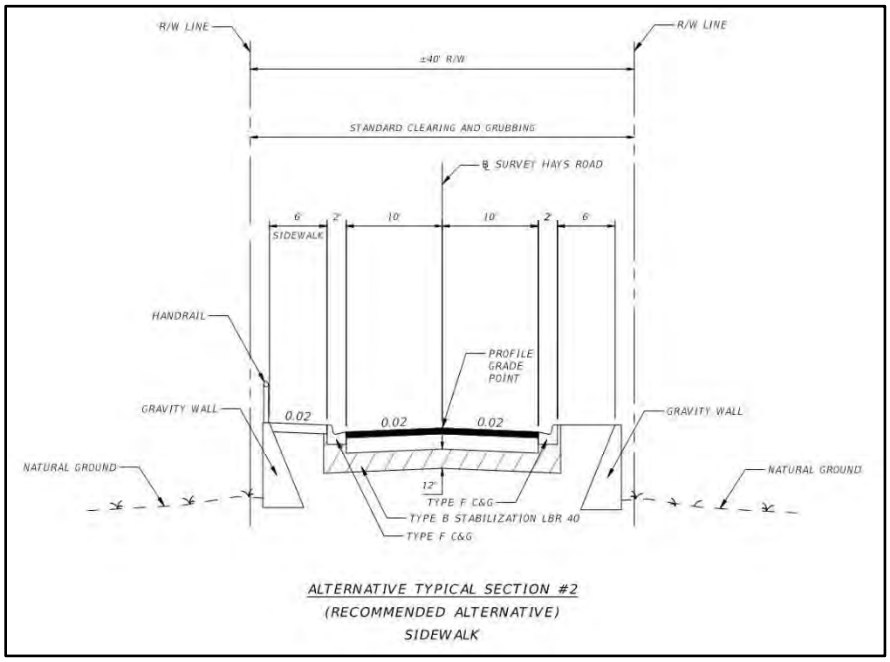


Figure 2 *(repeated)* – PREFERRED ALTERNATIVE (ALTERNATIVE 2)

4.1.2 Right-of-Way

Properties along Hays Road are generally privately owned. No relocations are required. One primary objective of the proposed alternatives is to minimize right-of-way impacts. The City of Tarpon Springs has indicated that they will not use eminent domain to acquire right-of-way. See **Appendix M** for more information. However, impacts may exist on the south side of the roadway if the gravity wall on the south side of the roadway is eliminated. These may be acceptable along the southwest side of the roadway where the property is part of the overall property being developed for the Anclote Harbor Apartments. Additionally, there may be driveway improvements necessary on the north side of the roadway where the proposed roadway elevation and wall make modifications necessary to provide access to the proposed roadway. There is some evidence that an easement exists along the corridor that will need to be further investigated during final design.

Treatment swales are not typically used within Pinellas County right-of-way. The preferred alternative handles the treatment via an exfiltration system to eliminate the need for treatment swales on Pinellas County Right-of-way. Otherwise, treatment swales or a pond for the newly added impervious surface would need to be located on private property. Floodplain compensation

facilities could be constructed on either the developer's property or the property on the south side owned by Walmart and is discussed more thoroughly in a later section.

Horizontal and Vertical Geometry

Figure 11 – PROPERTIES ALONG THE PROJECT CORRIDOR

The horizontal geometry of the proposed roadway simply follows the existing corridor baseline of survey which is straight and merits no special consideration.

The vertical alignment is going to be drastically changed both by the proposed roadway vertical alignment and by the proposed elevation at the entrance to the proposed development. The proposed vertical alignment should be engineered to reduce the elevation difference between the existing grade and the proposed roadway while still providing a safe and comfortable facility to provide access the Anclote Harbor Apartments and the properties adjacent to the corridor. There are several driveways on both sides of the roadway which will need new access built to accommodate the new roadway. One driveway in particular on the north side of the roadway will likely need significant modifications to access the roadway since the roadway elevation is drastically different from the existing dirt driveway elevation currently in the existing corridor. There are four residential parcels along the south side of this project that currently has access to Hays Road right-of-way. At the time of the field investigation (05/25/21), two properties were completely developed into single-family dwellings and a third property was under construction. The increase in the roadway profile is minimal at these residential properties but will need further evaluation of impacts during final design.

4.1.3 Bicycle and Pedestrian Accommodations

As part of the Preferred Alternative, providing pedestrian walkways throughout the study area will greatly improve safety and mobility for its users. Pinellas County typically requires 5-foot sidewalks and utility grass strips with curb and gutter roadway which would necessitate 50 feet of right-of-way while this corridor has only 40 feet. This reduced width can be accommodated by the preferred alternative since it provides only one 6-foot sidewalk which reduces pedestrian access, while still providing a safe facility.

Bicycle lanes would improve safety for cyclists and add to the useful recovery area to contribute to the clear zone for motorists. However, bike lanes are not necessary since the roadway adjacent to Hays Road does not have bike lanes. It is sufficient to simply indicate that cyclists should share the roadway with motorists using signage or roadway symbols. This allows for more room for pedestrian facilities and/or tie-downs within the right-of-way.

4.1.4 Multi-Modal Accommodations

There is limited truck traffic through the neighborhood, mostly weekly garbage and recycling services provided on a regular basis, and the occasional single unit vehicle. There were no bus stops located in the area, but any future planned stops should be discussed with PSTA.

4.1.5 Utilities

The horizontal alignment of the Preferred Alternative is likely to avoid utilities. As an undeveloped corridor, conflicts are unlikely. However, there are existing easements and expired easements which may have active or abandoned facilities underground which should be surveyed and accounted for with final design.

4.1.6 Drainage and Stormwater Management Facilities

The proposed project improvements will necessitate a completely new storm sewer system to collect, convey, and treat runoff from the new road which is on a currently undeveloped corridor.

In addition to the new storm sewer system, the preferred drainage design alternative uses an exfiltration system to improve water quality for the stormwater runoff, in lieu of an offsite pond.

4.1.7 Floodplain Compensation Sites

The Floodplain Compensation (FPC) sites will be designed to compensate for the loss of the floodplain volume due to the proposed roadway construction within the 100-year storm.

The 100-year floodplain elevation (9.0 ft) was extracted from the FEMA FIRM Map 12103C0036G (**Appendix C**). In order to assure that this project would not have any adverse impact upstream and downstream of the system; the impacted 100-year floodplain volume will be compensated for based on the cup-for-cup replacement within the FPC.

4.1.7.1 Floodplain Impacts

Portions of the project fall within the FEMA 100-year floodplain limits and will incur floodplain impacts due to the proposed construction of the roadway. Estimated floodplain impacts (~0.53 ac-ft) were calculated using the average end area method with the cross sections along the length of roadway shown within the floodplain limits (using the FEMA maps as reference).

4.1.7.2 Floodplain Compensation Area

A potential Floodplain Compensation Area is be located adjacent to the south right-of-way line of the proposed roadway, between Stations 2+20 and 5+00 (see Figure 12). The approximate size of this alternative is 1.0 acre. The predominant soil types are Astatula soils and Myakka soils (Appendix D). The soil is characterized as Hydrological Soil Group A. The current land use for this alternate is classified as open land. The groundwater table was measured at depths of 2 feet below existing grades by the design geotechnical engineer. This FPC is adjacent to the Salt Lake for easy connection.

Figure 12 – PROPOSED FLOODPLAIN COMPENSATION AREA

4.1.8 Maintenance Responsibility

Pinellas County has indicated that if the road is permitted, the City of Tarpon Springs will need to assume the responsibility for future maintenance.

Pinellas County has stated that a lesser section (less that 50-foot right-of-way) may be accepted with multiple waivers required if the usage is limited to occasional, emergency, or one-way traffic only.

4.1.9 Environmental Impacts

Potential wetland impacts to the approximately 2.77 acres of the project area that lies within Flood Zone AE require authorization from both SWFWMD and the FDEP State 404 Program.

The project has the potential to impact threatened species of birds and reptiles such as the Florida Sandhill Crane, Wood Stork, Eastern Indigo Snake, and Gopher Tortoise and warrants consultation with ESFWS and FWC.

The project poses no risk of impacts to state listed plant species.

If the project were to impact the entirety of the 0.32 acres of wetland within the project boundary, the functional loss would probably be somewhere in the neighborhood of 0.25 Uniform Mitigation Assessment Method (UMAM) units.

Cardno recommends in the Environmental Report (**Appendix E**) that a complete ecological assessment be performed on the project including a formal wetland delineation to ascertain the

extent of wetlands and other surface waters occurring and a species survey and habitat assessment to determine the likelihood of species utilization within the project's impact area.

4.1.10 Cost Estimates

The Alternatives included a "No-Build" alternative and were evaluated on both cost and engineering issues which were based on safety, natural, and social environment factors. Project impacts were ranked by "Low," "Medium," and "High". The evaluation matrix comparing alternatives is displayed in **TABLE 1**.

Evaluation Criteria	No Build	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Engineering Considerations					
Vehicular Accommodations	None	Full Corridor	Full Corridor	Full Corridor	One-Lane Only
Pedestrian Accommodations	None	None	Medium	None	Medium
Bicycle Accommodations	None	Shared Lane	Shared Lane	Shared Lane	Shared Lane
Drainage Impacts	None	Medium to High	Medium to High	Medium to High	Medium to High
Flood Plain Impacts	None	High	Medium	High	Medium
Environmental Impacts	None	Low	Low	Low	Low
Right-of-Way Impacts	None	High	None	High	None
Estimated Right-of-Way Costs	$ -	$ 388,344	$ 210,440	$ 304,539	$ 210,440
Est. Wetland Mitigation Costs	$ -	$ 53,000	$ 53,000	$ 53,000	$ 53,000
Estimated Construction Cost	$ -	$ 548,567	$ 1,479,400	$ 896,493	$ 1,333,045
Estimated Design Cost	$ -	$ 109,713	$ 295,880	$ 179,299	$ 266,609
Total Estimated Cost	$ -	$ 1,099,625	$ 2,038,720	$ 1,433,331	$ 1,863,094

Table 1 – EVALUATION MATRIX

Optimizing the roadway typical section to address the purpose and need of the project resulted in the selection of Alternative 2 as the Preferred Alternative, primarily due to the least impact to R/W and private property while still providing facilities for motorists, cyclists, and pedestrians.

The preliminary estimated construction cost for the recommended alternative is $1,479,400 which could be reduced by $97,641 if right-of-way is acquired on the south where the property is a part of the overall property being developed for the Anclote Harbor Apartments. This does not include any design, right-of-way, wetland mitigation, or CEI costs associated with the concept. Unit costs used for the estimate are based on FDOT Historical Costs Current 6 Month Moving Averages. The preliminary construction cost estimate for each alternative can be found in **Appendix H**. The recommended alternative is also the most costly alternative. This is due to the cost of the features designed to reduce impacts to private property on the north side of the roadway.

The Preferred Alternative addresses the purpose and need of this project as described by the following areas:

- Provides connectivity to Anclote Harbor Apartments
- Enhances safety with sidewalk.
- Provides connectivity for motorists, cyclists, and pedestrians.
- Minimizes right-of-way impacts as practically as possible.

5.0 APPENDICES

Appendix A: DESIGN CRITERIA

ROADWAY STANDARD DESIGN CRITERIA for Hays Road from Anclote Harbor Apartments to North Jasmine Avenue

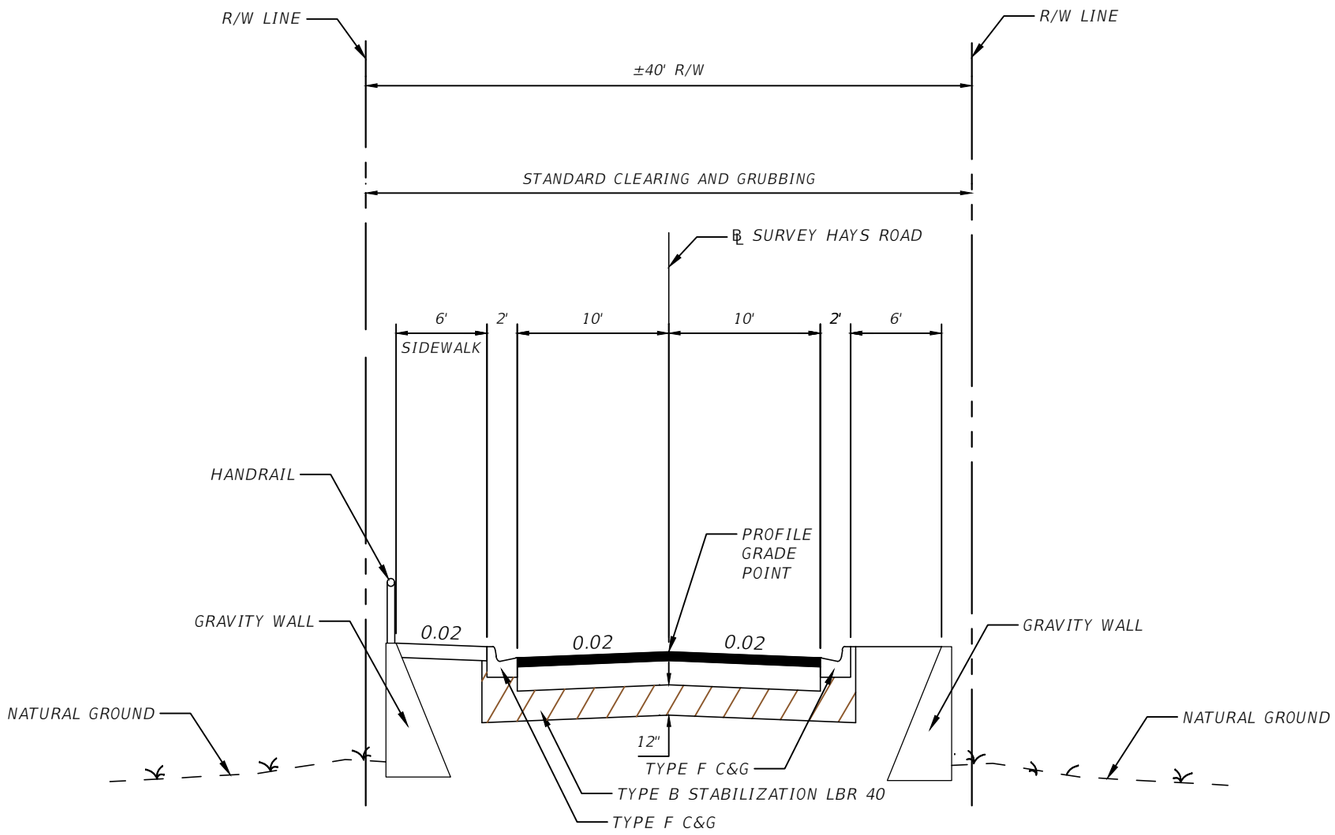
Controlling Design Elements (Local Road)

Design Element	Florida Greenbook (Proposed 2018)		Notes
	Urban	Source	
Speed		Google Street View	
Posted Speed	30 mph		
Design Speed	30 mph		
Lane Width (Minimum)	11 ft.	FGB, Table 3-20	12 ft. if high truck volume
Auxilary Lane	11 ft.	FGB, Table 3-20	10 ft. turn lane allowed if R/W constrains
Shoulder Width		FGB, Section 3C.7.c.1	
Outside	N/A	FGB, Table 3-21	
Median	N/A		
Bridge Width	N/A		
Structural Capacity	N/A		
Vertical Clearance	16 ft. 6 in.	FGB, Sect. 3C.7.j.4.(b)	
Grades			
Maximum Longitudinal Grade	7.0%	FGB, Table 3-16	
Minimum Gutter Grade	0.3%	FGB, Section 3C.5.b	
Max. Change w/out Vertical Curve	1.0%	FGB, Table 3-17	
Cross Slopes			
Travel Lanes	0.015 - 0.04 ft./ft.	FGB, Section 3C.7.b.2	
Max. Change b/t Adjacent Through Travel Lanes	N/A	FGB, Section 3C.7.b.2	
Shoulder	N/A	FGB, Table 3-21	Turf 6-8%
Max. Difference b/t Traveled Way and Adjacent Shoulder	N/A	FGB, Section 3C.7.c.2	
Median	N/A	FGB, Section 3C.7.e.3	
Superelevation			
e_{max}	0.05 ft./ft.	FGB, Table 3-11	Low-Speed
Minimum Radius	240 ft.	FGB, Table 3-12	
Transition Rate	1:100	FGB, Table 3-13	Low-Speed
Horizontal Alignment			
Maximum Deflection without Horiz. Curve	2°00'00"	FGB, Section 3C.4.b	
Max. Deflection thru Intersection	8°00'00"	FGB, Table 3-7	
Minimum Length of Curve	450 ft.	FGB, Table 3-8	
Minimum Radius (without superelevation)	333 ft.	FGB, Table 3-12	
Vertical Alignment (Minimum K Values)			
Crest Curves	19	FGB, Table 3-18	
Sag Curves	37	FGB, Table 3-18	
Min. Length of Vertical Curve	90 ft.	FGB, Table 3-18	L = 3V, where V = design speed (mph)
Stopping Sight Distance			
Level (≤ 2%)	200 ft.	FGB, Table 3-4	
Downgrades at 3%	205 ft.	FGB, Table 3-4	
Upgrades at 3%	200 ft.	FGB, Table 3-4	
Decision Sight Distance			On urban roads
Avoidance Maneuver B: Stop	490 ft.	FGB, Table 3-5	Provide advance warning signs of conditions
Avoidance Maneuver E: Speed/Path/Direction Change	620 ft.	FGB, Table 3-5	where alignment constraints exist
Minimum Width of Clear Zone	10 ft.	FGB, Table 4-1	1500 > AADT > 750 & 1:6 or flatter
Aux Lane Clear Zone	10 ft.	FGB, Table 4-1	7 ft. if AADT < 750

Other Design Elements (Local Road)

Design Element	Florida Greenbook (Proposed 2018)		Notes
	Value	Source	
Functional Classification	Local		C/o Tampa - Functional Class of Roadway Map
Design Vehicle	Passenger Car	FGB, Tables 3-2 & 3-3	23.8 ft. minimum turning radius
Intersection Sight Distance	330 ft.	FGB, Figure 3-19	Left turn across 1 opposing lane
Turn Lanes			
Total Decel	135 ft.	FGB, Table 3-31	
Min. Total Storage Length (w/ Queue)	100 ft.	FGB, Section 3C.9.c.4(b)	100' min. in absence of turning movement study
Median Width			Where R/W constraints exist:
Urban Arterials ≤ 45 mph	N/A	FGB, Table 3-22	19.5 ft. minimum
Paved and Painted for Left Turns	N/A	FGB, Table 3-22	10 ft. minimum
Turning Radii	25 ft. (minimum)	FGB, Section 3C.9.e.1	Or Design Vehicle Radius
Bicycle Facilicies Minimum Width			
Minimum On-Roadway Lane Width	4 ft.	FGB, Figure 9-1	4 ft. - 7 ft. preferred
Minimum Shared Use Path Roadway Separation	5 ft.	FGB, Section 9C.2	Railing or Barrier required if less than 5 ft.
Minimum Shared Use Path Adjacent Clear Area	2 ft.	FGB, Section 9C.1	3 ft. preferred; 1:6 slope max
Minimum Shared Use Path Width	10 ft.	FGB, Section 9C.1	10 ft. - 14 ft. preferred, 8 ft. min with restrictions
Sidewalk (ADA Requirements)			
Minimum Sidewalk Width	5 ft.	FGB, Section 8B.1	2 ft. min. separation from back of curb
Minimum Sidewalk Width (Adjacent to Curb)	6 ft.	FGB, Section 8B.1	
Curb Ramp Width	4 ft. (minimum)	FGB, Section 3C.10.a.4	
Minimum Shared Use Path Width	10 ft.	FGB, Section 4C.1	
Minimum Pedestrian Crossing Width in Refuge Island	6 ft.	FGB, Figure 3-14	
Maximum Cross Slope	0.02 ft./ft.	FGB, Section 8B.1	
Maximum Longitudinal Grade	0.05 ft./ft.	FGB, Section 8B.1	
Maximum Longitudinal Slope (Ramps)	1:12	FGB, Section 8G.2	

Appendix B: CONCEPTUAL PLANS



ALTERNATIVE TYPICAL SECTION #2

(RECOMMENDED ALTERNATIVE)

SIDEWALK

* OPTIONAL DESIGN IS TO CONSTRUCT GRAVITY WALL TO AVOID EASEMENT

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
----	----		

JASON Y. YAM, P.E.
P.E. LICENSE NUMBER 62449
CARDNO, INC.
380 PARK PLACE BOULEVARD, SUITE 300
CLEARWATER, FL 33759

CITY OF TARPON SPRINGS

ROAD	COUNTY
HAYS ROAD	PINELLAS COUNTY

RECOMMENDED ALTERNATIVE TYPICAL SECTION

SHEET NO. 1

CONNECT TO EXIST. ROAD (BY OTHERS)

BEGIN MSE RETAINING WALL

END MSE RETAINING WALL
STA. 2+15.00 18.67' LT.

BEGIN GRAVITY WALL
STA. 2+15.00 18.67' LT.

GRAVITY WALL

6' SIDEWALK

END GRAVITY WALL
STA. 5+50.00 18.67' LT.

EXIST. R/W

PARCEL LINES, TYP.

1" = 60'

N JASMINE AVE

0 1 2 3 4 5 6 7 8

20' 20' 20' 20'

R25' R25'

HAYS ROAD

END MSE RETAINING WALL
STA. 2+05.00 16.67' RT.

EXIST. R/W

BEGIN GRAVITY WALL
STA. 2+05.00 16.67' RT.

℄ SURVEY HAYS ROAD

END GRAVITY WALL
STA. 3+60.00 16.67' RT.

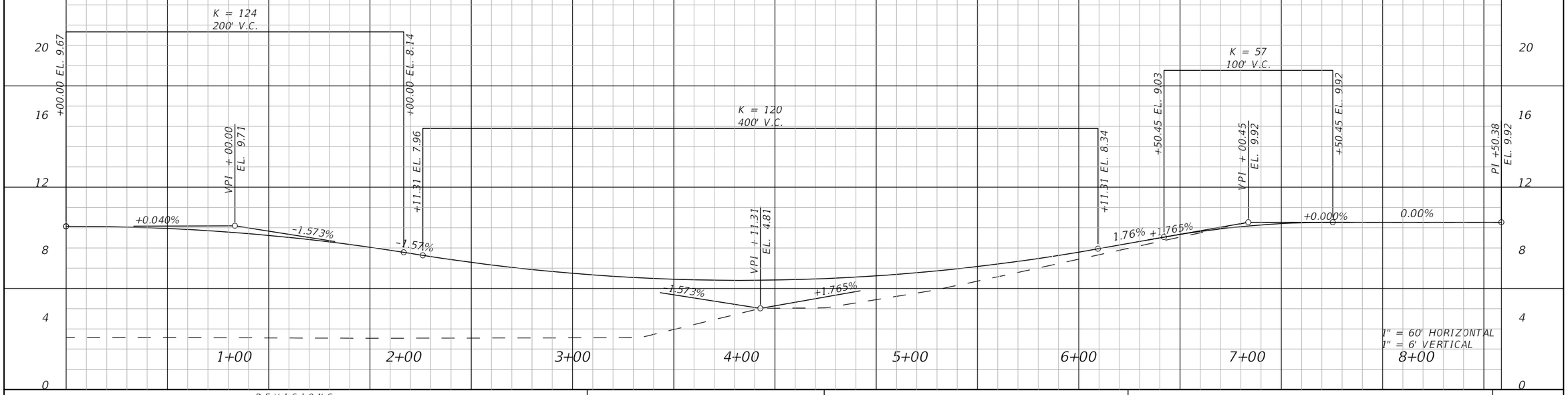
TYPE F C&G

EXISTING INTERSECTION

PARCEL LINES, TYP.

N JASMINE AVE

KEY MAP



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
----	----		

JASON Y. YAM, P.E.
P.E. LICENSE NUMBER 62449
CARDNO, INC.
380 PARK PLACE BOULEVARD, SUITE 300
CLEARWATER, FL 33759

CITY OF TARPON SPRINGS

ROAD	COUNTY
HAYS ROAD	PINELLAS

RECOMMENDED ALTERNATIVE PLAN AND PROFILE

SHEET NO. 2

Neal Jenkins 6/17/2021 4:14:16 PM

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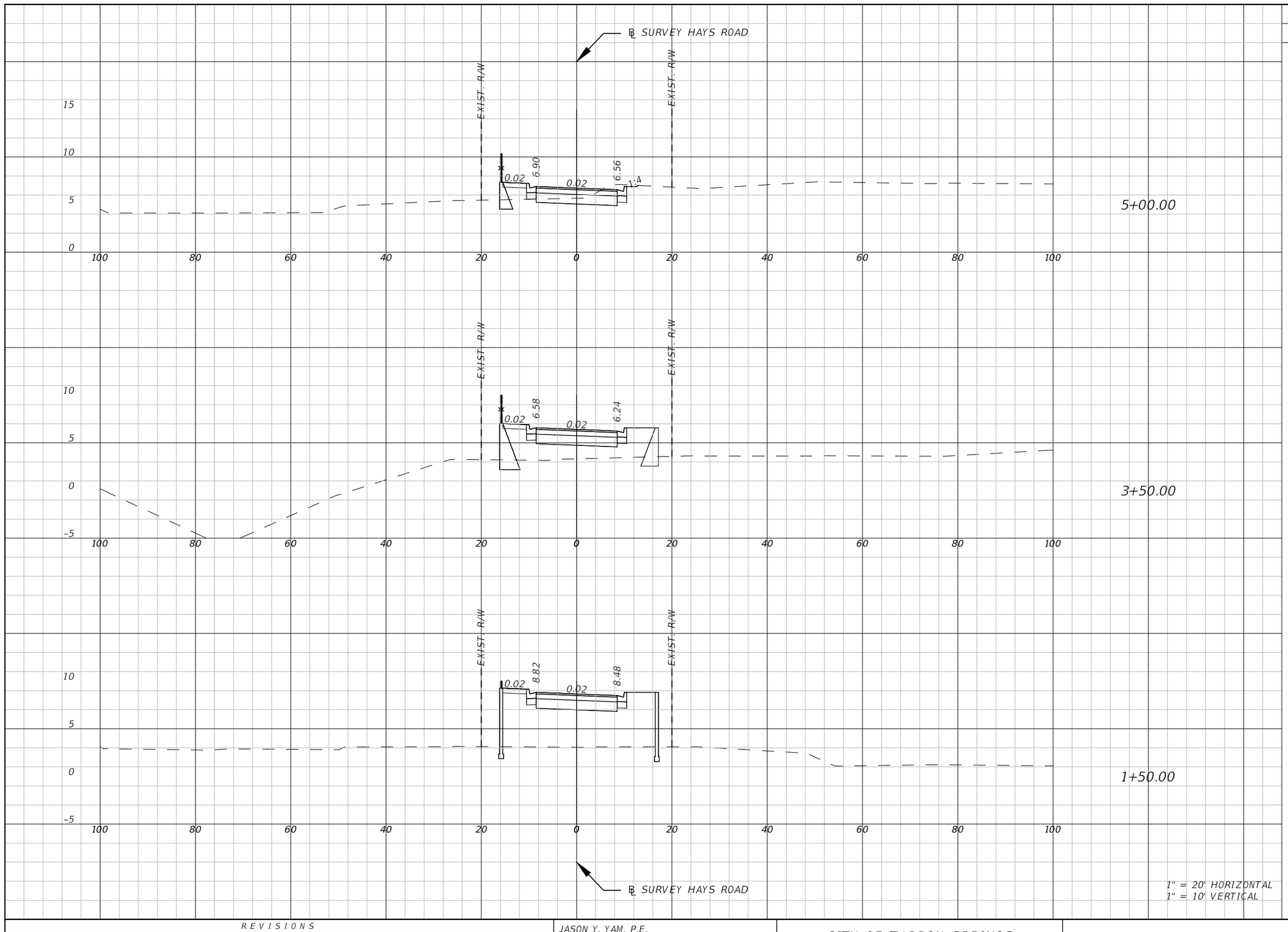


Regular Exc.		Embankment	
A(sf)	V(cy)	A(sf)	V(cy)

REVISIONS

DATE	DESCRIPTION	DATE	DESCRIPTION
----	----		

JASON Y. YAM, P.E.
P.E. LICENSE NUMBER 62449
CARDNO, INC.
380 PARK PLACE BOULEVARD, SUITE 300
CLEARWATER, FL 33759

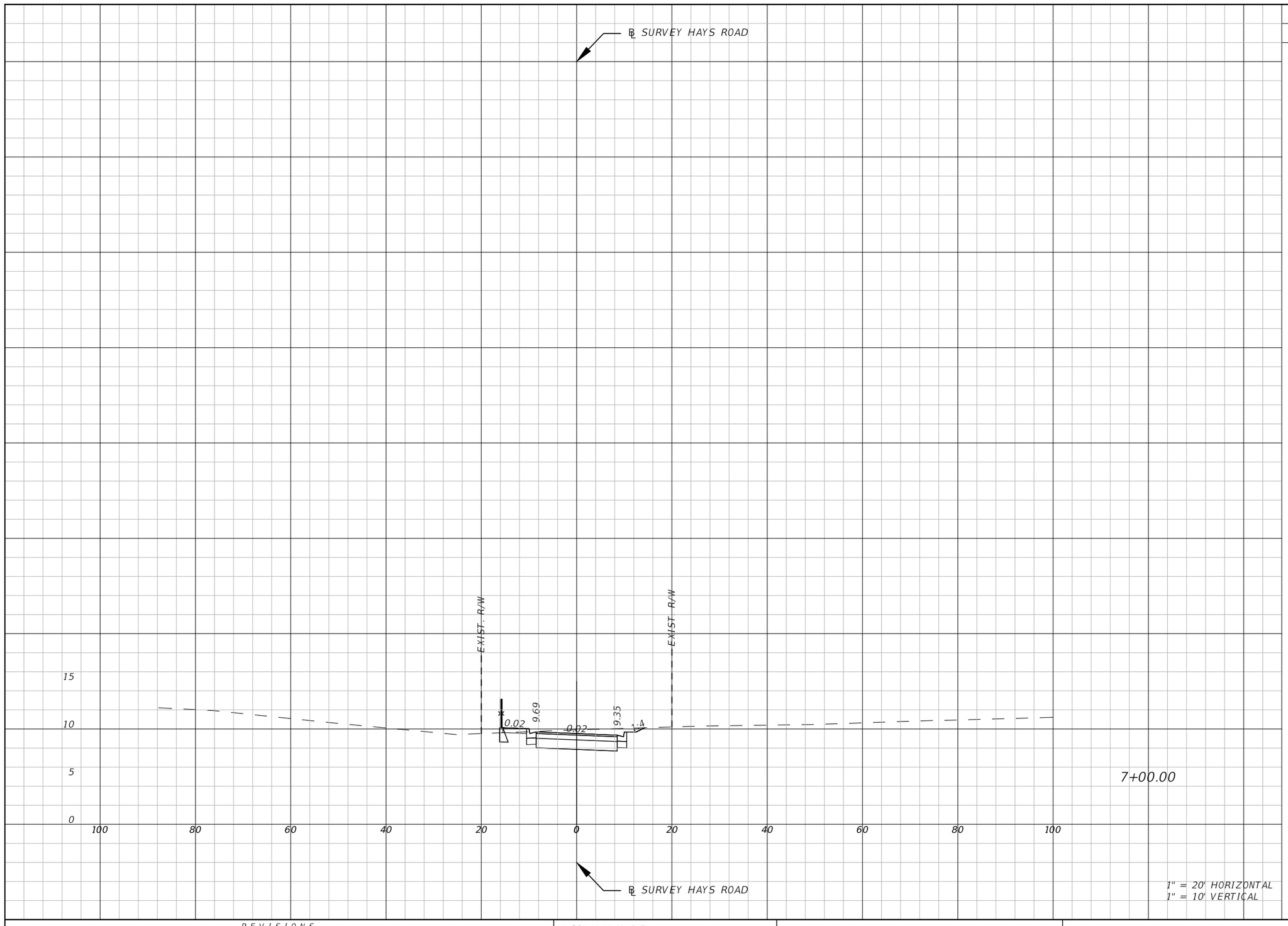
CITY OF TARPON SPRINGS

ROAD	COUNTY
HAYS ROAD	PINELLAS COUNTY

CROSS SECTIONS (1)

SHEET NO. 1

Regular Exc.		Embankment	
A(sf)	V(cy)	A(sf)	V(cy)



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
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JASON Y. YAM, P.E.
P.E. LICENSE NUMBER 62449
CARDNO, INC.
380 PARK PLACE BOULEVARD, SUITE 300
CLEARWATER, FL 33759

CITY OF TARPON SPRINGS

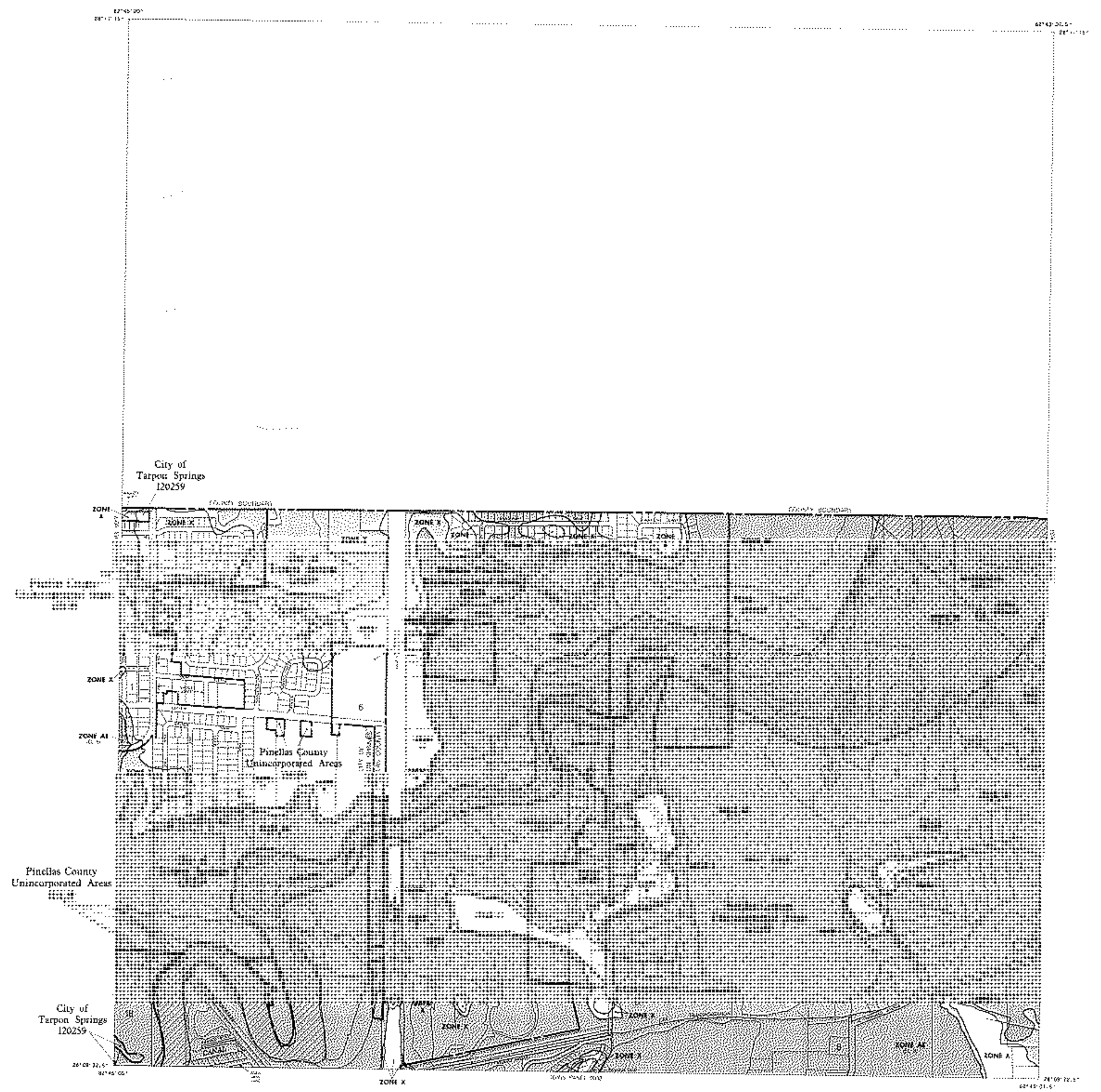
ROAD	COUNTY
HAYS ROAD	PINELLAS COUNTY

CROSS SECTIONS (2)

SHEET NO. 2

Appendix C: FEMA FLOOD INSURANCE RATE MAPS

S TO USERS



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FLORIDA
AND INCORP

PANEL 36 OF 3

Federal Emerge

Appendix D: GEOTECHNICAL REPORT

Revised May 20, 2021

CARDNO
380 Park Place Blvd., Ste. 300
Clearwater, FL 33759

Attn: Jason Yam, P.E.
Project Manager

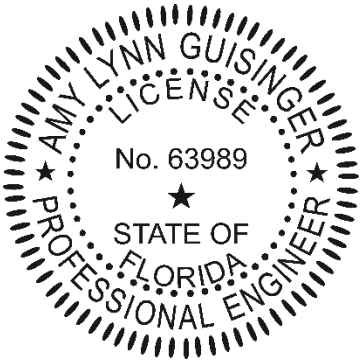
RE: **Geotechnical Services Report**
Hays Road
City of Tarpon Springs, Florida
TSF Project No.: 7511-21-165

Tierra South Florida, Inc. (TSF) has completed a geotechnical study for the above reference project. The study was performed in general accordance with our proposal dated March 11, 2021 and Subconsultant Agreement dated April 13, 2021. The results of our geotechnical exploration program and subsequent recommendations are presented in this report.

If you have any questions or comments regarding this report, please contact our office at your earliest convenience.

Sincerely,

TIERRA SOUTH FLORIDA, INC.
This item has been digitally signed and sealed by:



Amy L. Guisinger, P.E.
Principal Engineer
FL Registration No. 63989
On the date adjacent to the seal.
Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Ramakumar Vedula, P.E.
Principal Engineer
FL Registration No. 54873

1.0 PROJECT DESCRIPTION

The project consists of a new roadway alignment for Hays Road in City of Tarpon Springs, Florida. The proposed alignment is east of the traffic circle on N. Jasmine Avenue. It is understood, based on information provided by CARDNO that the proposed profile grade is approximately 6 feet higher than the existing grade. The purpose of this study was to provide geotechnical and groundwater table information to the design team to assist in evaluation of the proposed roadway alignment.

2.0 SCOPE OF SERVICES

The study was performed to obtain information on the existing subsurface conditions at locations requested along the project alignment. The following services were provided:

- Reviewed readily available published topographic and soils information. This information was obtained from the "Soil Survey of Pinellas County, Florida" published by the United States Department of Agriculture (USDA) Natural Resources Conservation Services (NRCS).
- Performed two (2) Standard Penetration Test (SPT) borings to depths of 25 feet.
- Classified soil samples using the Unified Soil Classification System (USCS) and performed a laboratory testing program to establish the soil properties. The laboratory testing included grain-size analysis (ASTM C136), moisture content (ASTM D 2216), and organic content (ASTM D 2974).
- Prepared this Geotechnical Services Report.

3.0 RESULTS OF SUBSURFACE EXPLORATION

3.1 Review of USDA Soil Survey, Pinellas County, Florida

Based on a review of the Pinellas County Soil Survey, there are four (4) soil units identified within the project corridor.

The USDA soil survey of the project area is provided in the Appendix.

3.2 Field Explorations

The subsurface conditions were explored by two (2) Standard Penetration Test (SPT) borings to depths of 25 feet. The borings were located in the field by TSF personnel using a hand-held GPS system and in general accordance with the requested locations.

The SPT borings were drilled using a track-mounted BR2500 drill rig and mud rotary procedures. In the borings, samples of the in-place materials were obtained continuously in the upper 10 feet. The SPT sampling was performed in accordance ASTM D 1586.

Approximate locations of the borings are presented in the Boring Location Plan included in the Appendix. The soil samples were returned to our laboratory for classification by a Geotechnical Engineer. The soil samples were visually classified in general accordance with the Unified Soil Classification System (USCS).

3.3 General Soil Conditions

The soils encountered in the borings was very loose to medium dense slightly silty sands to silty sand (SP-SM, SM) to depths of 13 ½ to 23 ½ feet, weathered to highly weathered limestone was then encountered to the boring termination depth of 30 feet. Organic to slightly organic silty sands were encountered to depths of 4 feet.

A Geotechnical Engineer bases soil stratification on a visual review of the recovered samples, laboratory testing, and interpretation of the field boring logs. The boring stratification lines represent approximate boundaries between soil types of significantly different engineering properties; however, the actual transition may be gradual. In some cases, small variations in properties not considered pertinent to our engineering evaluation may have been abbreviated or omitted for clarity. The boring profiles represent the conditions at the boring location, variations do occur, and should be expected among the borings.

The soil profiles encountered in the borings are graphically presented in the Appendix.

3.4 Groundwater

The groundwater table was measured at depths of 2 feet below existing grades. Encountered groundwater depths measured in the borings are presented on the soil profiles in the Appendix. Groundwater conditions will vary with environmental variations and seasonal conditions, such as the frequency and magnitude of rainfall patterns, as well as man-made influences (i.e. existing canals, swells, drainage ponds, under drains, and areas of covered soils, like paved parking lots and sidewalks). Fluctuation should be anticipated.

The seasonal high groundwater table (SHGWT) is the highest average depth of soil saturation during the wet season during a normal year. The SHGWT is determined based on review of the USDA Soil Survey, field observations and soil profile indicators. The SHGWT at the boring locations is estimated at within ½-foot of the existing ground surface.

4.0 ENGINEERING EVALUATIONS AND RECOMMENDATIONS

4.1 General

In general, the existing shallow subsurface soils encountered in the borings are suitable for supporting the proposed roadway after proper subgrade preparation. However, organic silty sands, with an organic content of less than 6%, were encountered in the upper 4 feet of boring B-2. Soils with organic contents less than 6% do not require removal. However, based on the USDA soil survey muck may be encountered at depths up to 3 feet as the embankment approaches the wetland area on the southwest portion of the proposed alignment.

The removal of topsoil where required should be accomplished in accordance with the Florida Department of Transportation (FDOT) Standard Specifications Section 110 – Clearing and Grubbing.

Currently, there are vegetated areas throughout the proposed alignment, so deeper pockets of roots or organic material should be expected and require removal before placing the fill. All tree/deep root pocket, trash, and debris removal areas should be properly backfilled and compacted as discussed herein. Buried organic soils, plastic soils, debris, or unsuitable fills encountered during construction, which are not shown on the boring profiles should be removed and replaced with properly compacted suitable fill. The removal organic soils and plastic soils where required should be accomplished in accordance with FDOT Standard Plans Index 120-002. Backfill should consist of materials conforming to FDOT Standard Plans Index 120-001 and compacted in accordance with Section 120-9 of the Standard Specification for Road and Bridge Construction, latest edition.

4.2 Embankment Fill

Embankment fill should be placed under close observation and testing by TSF or other materials testing firm. The material should be placed and conform to the requirements shown on the FDOT Standard Plans Index 120-001.

4.3 Embankment Settlement

Given site and soil preparation is completed per the FDOT Road and Bridge Standard Specifications, we estimate approximate total settlements of 2 ½ inches. Since the soils at the site are granular, the settlement should occur as the embankment load is applied and mostly complete by the time the roadway construction is finished.

4.4 Permanent Cut and Fill Slopes

Assuming proper subgrade preparation, we recommend that all proposed permanent side slopes be constructed on 2.0 horizontal to 1.0 vertical (2H:1V) or flatter. To prevent minor sloughing at the surface, we recommend that the slopes be seeded, mulched and maintained to enhance slope stability soon after being completed.

4.5 Excavations

All excavations should be performed in accordance with FDOT Standard Plans 120-002, the latest Standard Specifications for Road and Bridge Construction, and in accordance with OSHA Standards. We recommend that sides of temporary excavations be sloped to 2H:1V or flatter or supported by temporary shoring.

4.6 Groundwater Control

Groundwater may impact the proposed roadway construction. Depending upon groundwater levels at the time of construction, some form of dewatering may be required for utility excavations.

4.7 Pavement Design Considerations

We anticipate that the proposed pavement structure will be a semi-flexible asphaltic concrete section. Soils existing along the project alignment should have adequate subgrade strength for pavement support.

For a stabilized subgrade, we recommend a sand-gravel mixture, 12-inch-thick, with a minimum design LBR of 40. Base course should consist of limerock, shellrock or coquina, meeting the minimum requirements of the FDOT "Standard Specifications for Road and Bridge Construction," Sections 911, 913 or 915, respectively. The limerock should have a minimum LBR value of 100. Both the base and stabilized subgrade should be compacted to at least 98 percent of maximum dry density (AASHTO T-180).

Asphalt thickness should be determined considering the anticipated traffic loading conditions and expected life expectancy of the pavement section.

5.0 REPORT LIMITATIONS

Our Geotechnical engineering evaluation of the site and subsurface conditions with respect to the planned project and our recommendations for site preparation and construction are based upon the followings: (1) site observations, (2) the field exploratory test data obtained during the geotechnical study, and (3) our understanding of the project information and anticipated final grades as presented in this report.

If the final grades vary considerably from those stated, or when final cross-sectional data becomes available, please contact our offices so that we can review our recommendations. Furthermore, upon the discovery of any site or subsurface conditions during construction, which appears to deviate from the data obtained during this geotechnical exploration, please contact us immediately so that we may visit the site, observe the differing conditions, and evaluate the new information with regards to our evaluation and recommendations contained herein.

The recommendations presented previously represent design and construction techniques that we feel are both applicable and feasible for the planned construction. We recommend, however, that we be provided the opportunity to review the final construction plans and the earthwork/roadway embankment construction specifications to evaluate whether our recommendations have been properly interpreted and implemented.

APPENDIX

USDA Soil Survey
Boring Location Plan and Soil Profiles
Summary of Laboratory Test Results

Custom Soil Resource Report
Soil Map

Map Scale: 1:1,750 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 25 50 100 150

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
4	Astatula soils and Urban land, 0 to 5 percent slopes	3.1	50.4%
5	Astatula soils and Urban land, 5 to 12 percent slopes	0.5	7.7%
17	Myakka soils and Urban land	1.5	24.5%
32	Wulfert muck, tidal, 0 to 1 percent slopes	1.1	17.4%
Totals for Area of Interest		**6.2**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate

Pinellas County, Florida

4—Astatula soils and Urban land, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 134cw
Elevation: 10 to 150 feet
Mean annual precipitation: 48 to 56 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 335 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Astatula and similar soils: 50 percent
Urban land: 45 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Astatula

Setting

Landform: Ridges on marine terraces, hills on marine terraces
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Eolian or sandy marine deposits

Typical profile

A - 0 to 3 inches: fine sand
C - 3 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Very high (20.00 to 50.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water capacity: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Forage suitability group: Forage suitability group not assigned (G154XB999FL)
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

Description of Urban Land

Setting

Landform: Marine terraces
Landform position (three-dimensional): Interfluve, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: No parent material

Interpretive groups

Land capability classification (irrigated): None specified
Forage suitability group: Forage suitability group not assigned (G154XB999FL)
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: Unranked

Minor Components

Adamsville

Percent of map unit: 3 percent
Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (three-dimensional): Interfluve, talf
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

Tavares

Percent of map unit: 2 percent
Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

5—Astatula soils and Urban land, 5 to 12 percent slopes

Map Unit Setting

National map unit symbol: 134c2
Elevation: 10 to 150 feet
Mean annual precipitation: 48 to 56 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 335 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Astatula and similar soils: 50 percent
Urban land: 45 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Astatula

Setting

Landform: Ridges on marine terraces, hills on marine terraces
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Eolian or sandy marine deposits

Typical profile

A - 0 to 3 inches: fine sand
C - 3 to 80 inches: fine sand

Properties and qualities

Slope: 5 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Very high (20.00 to 50.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water capacity: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Forage suitability group: Forage suitability group not assigned (G154XB999FL)
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

Description of Urban Land

Setting

Landform: Marine terraces
Landform position (three-dimensional): Interfluve, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: No parent material

Interpretive groups

Land capability classification (irrigated): None specified
Forage suitability group: Forage suitability group not assigned (G154XB999FL)
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)

Hydric soil rating: Unranked

Minor Components

Adamsville

Percent of map unit: 3 percent
Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (three-dimensional): Interfluve, talf
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

Tavares

Percent of map unit: 2 percent
Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

17—Myakka soils and Urban land

Map Unit Setting

National map unit symbol: 134cc
Elevation: 0 to 100 feet
Mean annual precipitation: 48 to 56 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 335 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Myakka and similar soils: 50 percent
Urban land: 45 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Myakka

Setting

Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 4 inches: fine sand
E - 4 to 22 inches: fine sand
Bh - 22 to 36 inches: fine sand
C - 36 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water capacity: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Forage suitability group: Forage suitability group not assigned (G154XB999FL)
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

Description of Urban Land

Setting

Landform: Marine terraces
Landform position (three-dimensional): Interfluve, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: No parent material

Interpretive groups

Land capability classification (irrigated): None specified
Forage suitability group: Forage suitability group not assigned (G154XB999FL)
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: Unranked

Minor Components

Adamsville

Percent of map unit: 3 percent
Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (three-dimensional): Interfluve, talf
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

Pomello

Percent of map unit: 2 percent
Landform: Ridges on marine terraces, rises on marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

32—Wulfert muck, tidal, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2x9d2
Elevation: 0 to 10 feet
Mean annual precipitation: 45 to 54 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 360 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Wulfert, tidal, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wulfert, Tidal

Setting

Landform: Tidal marshes on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Herbaceous organic material over sandy marine deposits

Typical profile

Oan1 - 0 to 12 inches: muck
Oan2 - 12 to 36 inches: muck
Cn - 36 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Very frequent
Frequency of ponding: None

Maximum salinity: Slightly saline to strongly saline (4.0 to 24.0 mmhos/cm)
Sodium adsorption ratio, maximum: 50.0
Available water capacity: Very high (about 15.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Hydrologic Soil Group: A/D
Forage suitability group: Forage suitability group not assigned (G155XB999FL)
Other vegetative classification: Salt Marsh (R155XY009FL), Forage suitability group not assigned (G155XB999FL)
Hydric soil rating: Yes

Minor Components

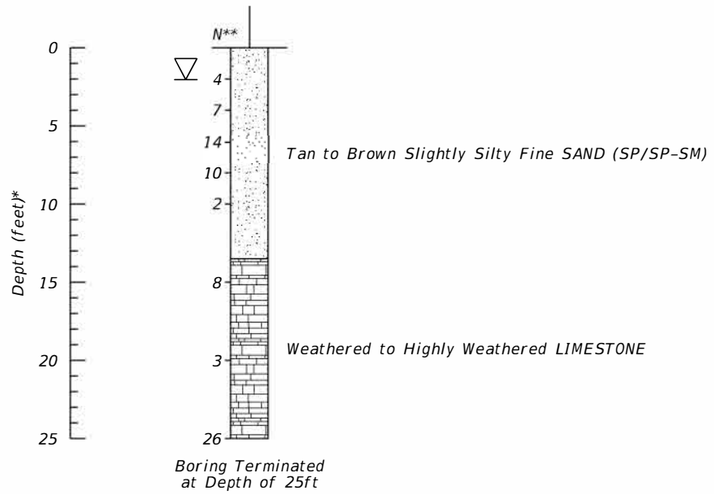
Kesson, tidal

Percent of map unit: 10 percent
Landform: Tidal marshes on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Other vegetative classification: Salt Marsh (R155XY009FL), Forage suitability group not assigned (G155XB999FL)
Hydric soil rating: Yes

BORINGS LOCATION PLAN

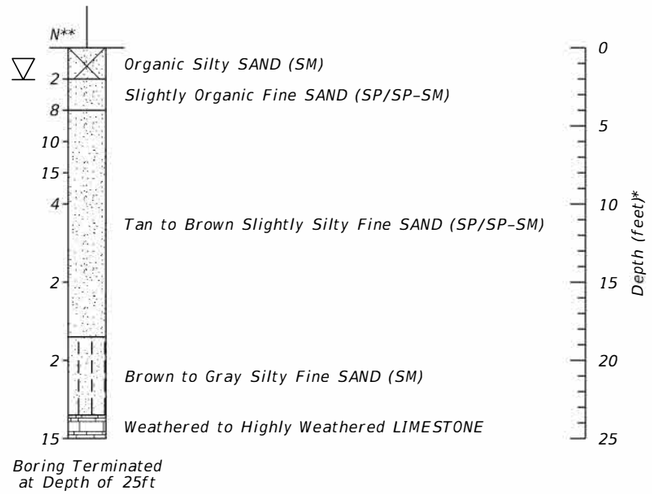
Approximate Location of SPT Boring

BOR # B-1
DATE 4/30/2021
HAMMER Auto
RIG BR2500
***LATITUDE 28.15921
***LONGITUDE -82.73544



Boring Terminated at Depth of 25ft

BOR # B-2
DATE 4/30/2021
HAMMER Auto
RIG BR2500
***LATITUDE 28.15911
***LONGITUDE -82.73507



Boring Terminated at Depth of 25ft

Legend

- Encountered Groundwater Table
- Sand
- Silty Sand
- Limestone Soft****
- Sand Organic

NOTES

* DENOTES DEPTH IN FEET FROM EXISTING GROUND SURFACE

** SPT N-VALUES SHOWN ABOVE WERE OBTAINED USING AUTOMATIC HAMMERS. GENERALLY DESIGN CORRELATIONS AND PROGRAMS USE SAFETY HAMMER N-VALUES. HENCE, THE ABOVE N-VALUES NEED TO BE MULTIPLIED BY 1.24 TO OBTAIN EQUIVALENT SAFETY HAMMER N-VALUES FOR DESIGN PURPOSE.

*** LATITUDE AND LONGITUDE ARE APPROXIMATE, BASED ON HANDHELD GPSMap GARMIN 78s. ACTUAL BORING LOCATIONS COULD VARY

**** THE LIMESTONE STRATA ENCOUNTERED WITHIN THE PROJECT SITE CORRESPOND TO ROCK FORMATION THAT TYPICALLY OFFER HIGH RESISTANCE TO EXCAVATION AND DRILLING. SPECIAL EQUIPMENT AND BREAKING TOOLS ARE TYPICALLY REQUIRED TO EXCAVATE AND DRILL WITHIN THESE LIMESTONE LAYERS. THESE LIMESTONE LAYERS ARE ALSO DIFFICULT TO DEWATER DUE TO ITS HIGH POROSITY AND PERMEABILITY.

DRAWN BY: NG CHECKED BY: KV	APPROVED BY: RK DATE: 5/14/2021	ENGINEER OF RECORD: AMY GUISINGER, P.E. FLORIDA LICENSE NO.: 63989	TIERRA SOUTH FLORIDA 6011 BENJAMIN RD SUITE 106 TAMPA, FL 33634 STATE OF FLORIDA REGISTRATION 28073	SCALE: NTS	PROJECT NUMBER: 7511-21-165	BORING LOCATION PLAN / SOIL PROFILES HAYS ROAD TARPON SPRINGS, FLORIDA	Sheet: 1

SUMMARY OF LABORATORY TESTS
Hays Road
Pinellas County, FL
TSF Project No. 7511-21-165

Boring Number	Sample Depth (ft)	USCS Soil Type	Sieve Analysis, Percentage Passing								Atterberg Limits			Organic Content (%)	Natural Moisture Content (%)
			3/4"	3/8"	#4	#10	#40	#60	#100	#200	Liquid Limit	Plastic Limit	Plasticity Index		
B-1	4.0-6.0	SP	---	---	---	---	---	---	---	2	---	---	---	1	25
B-2	0.0-2.0	SM	---	---	---	---	---	---	---	---	---	---	---	5	61
B-2	2.0-4.0	SP	100	100	100	99	95	82	35	4	---	---	---	---	30
B-2	18.5-20	SM	---	---	---	---	---	---	---	18	---	---	---	---	28

Appendix E: ENVIRONMENTAL REPORT

Anclote Harbor Secondary Access – Hays Road Project

Critical Issues Analysis

May 2021

Cardno®

Document Information

Prepared for	City of Tarpon Springs
Prepared by	Monica Downer, MS
Review by	Jason Hunt, PWS
	Jason Sean Lancaster, CEP, CE, PWS, TN-QHP
Project Name	Anclote Harbor Secondary Access – Hays Road Project Critical Issues Analysis
Cardno Project No.	00287-012-31
Project Manager	Jason Yam, PE
Date	May 2021

Prepared by:

Cardno,Inc.
3905 Crescent Park Drive, Riverview, Florida 33578

Table of Contents

Tables

Appendices

Acronyms

1987 Manual	Army Corps of Engineers Wetlands Delineation Manual
AGTA	Authorized Gopher Tortoise Agent
Cardno	Cardno, Inc.
Client	City of Tarpon Springs
ERP	Environmental Resource Permit
ESA	Endangered Species Act
FAC	Florida Admnistrative Code
FEMA	Federal Emergency Management Agency
FLUCFCS	Florida Land Use, Cover and Forms Classification System
FNAI	Florida Natural Areas Inventory
FWC	Florida Fish and Wildlife Conservation Commission
IPaC	Information and Planning and Consultation
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
OSL	Official Species List
Project	Anclote Harbor Secondary Access – Hays Road Project
SDA	Soil Data Access
USACE	United States Army Corps of Enginners
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WOTUS	Waters of the United States

1 Introduction

1.1 Project Description

The City of Tarpon Springs (Client) retained Cardno, Inc. (Cardno) to conduct a Critical Issues Analysis (CIA) for the Anclote Harbor Secondary Access – Hays Road Project (Project). The Project is located northwest of 1188 N Jasmine Avenue, Tarpon Springs, FL 34689. The property is located in Section 07, Township 27S, Range 16E.

The general location of the Project is shown in **Appendix A** - Figure 1 (Location Map), Figure 2 (Aerial Map), and Figure 3 (USGS Quadrangle Map). Please note that the Aerial Map includes a 30-foot buffer around the project boundary to ensure that all potential impacts are considered.

1.2 Study Area

The study area for this Project is assumed to be the ±1.79-acre project boundary and 30-foot buffer identified on the enclosed Aerial Map (Figure 2).

1.3 Critical Issues Assessment

Cardno's CIA summarized in this report consisted of the following activities:

- Wetlands and Waterbodies (Other Surface Waters) Desktop Assessment;
- Federal and State Listed Species Desktop Assessment;
- Regulatory Considerations; and
- Recommendations

2 Desktop Assessment

Cardno performed a desktop evaluation of the study area that focused on identifying certain signatures and contours suggestive of potential jurisdictional Waters of the United States (WOTUS), waters of the State of Florida, wetlands, waterbodies, floodplains, and habitat within the study area. The evaluation also aided in establishing the presence or absence of a physical connection used to determine the jurisdictional nature of identified features. Sources used to complete the evaluation included:

- United States Geological Survey (USGS): 7.5-minute topographic quadrangle maps;
- Color infrared and natural color digital aerial images;
- United States Fish and Wildlife Service (USFWS): National Wetland Inventory (NWI) Maps;
- USGS National Hydrography Dataset (NHD);
- Federal Emergency Management Agency (FEMA): Flood Insurance Rate Maps;
- United States Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS): Soil Survey of Pinellas County, Florida;
- NRCS State Soil Data Access (SDA) Hydric Soil List for Florida;
- USFWS Information for Planning and Consultation (IPaC) database;
- Florida Fish and Wildlife Conservation Commission (FWC) *Florida's Imperiled Species Management Plan*;
- FWC Bald Eagle Nest Locator;
- FWC Water Bird Locator;
- USFWS Wood Stork Florida Nesting Colonies Maps;
- Florida Natural Areas Inventory (FNAI); and

Appendix A - Figure 4 (NRCS Soils Map), Figure 5 (FEMA Flood Zones Map), Figure 6 (Southwest Florida Water Management District Land Use Map, Figure 7 (USFWS NWI Wetlands Map), Figure 8 (Wading Bird Rookeries Map), Figure 9 (Bald Eagle Nest Locations Map), and Figure 10 (Wood Stork Core Foraging Areas Map), were produced based upon information obtained during the desktop review.

A FNAI Biodiversity Matrix Query (**Appendix B**) and USFWS Official Species List (OSL) (**Appendix C**) were also obtained as part of the desktop review.

The remainder of the report discusses the results of the desktop evaluation.

3 Wetland and Waterbodies

3.1 Desktop Assessment

A Cardno ecologist reviewed **Appendix A** - Figure 2 (Aerial Map), Figure 3 (USGS Quadrangle Map), Figure 4 (NRCS Soils Map), Figure 5 (FEMA Flood Zones Map), Figure 6 (USFWS NWI Map), and Figure 7 (SWFWMD Land Use Map) to determine if and where wetland and waterbodies might be present on the site.

Examination of the aerial imagery and the land use map (Figures 2 and 7, respectively) indicated the study area lies partially in a residential area and partially within urban open land, pine flatwoods, and freshwater marshes.

The USGS Quadrangle Map (Figure 3) indicated the presence of wetlands or swamp land within and in the vicinity of the Project area. The Project area lies approximately 0.21 mile southwest of Salt Lake.

Four soil types, (4) Astatula Soils and Urban Land, 0 to 5 Percent Slopes (1.56 ± ac) and (5) Astatula Soils and Urban Land, 5 to 12 Percent Slopes (0.05 ± ac), (17) Myakka Soils and Urban Land (1.01 ± ac), and (32) Wulfert Muck, Very Frequently Flooded (0.61 ± ac) were identified on the NRCS Soils Map (Figure 4). Soil unit (32) Wulfert Muck, Very Frequently Flooded is considered a hydric soil in Pinellas County (Figure 4).

Approximately 2.77 acres of the Project area lies within Flood Zone AE (Figure 5). The USFWS NWI Map (Figure 6) shows Palustrine Unconsolidated Bottom Permanently Flooded Excavated (PUBHx) wetlands in portions of the Project area.

Five land uses (Figure 7) were identified by desktop in the study area. The land uses Florida Land Use, Cover and Forms Classification System (FLUCFCS) identified within the Project area are as follows: (110) Residential Low Density <2 Dwelling Units (0.45± ac); (190) Open Land (1.54 ± ac); (411) Pine Flatwoods (0.89 ± ac); (520) Lakes (0.03 ± ac); and (641) Freshwater Marshes (0.32 ± ac).

The desktop analysis strongly suggests that wetlands or waterbodies exist within the Project area. Figure 8 attached is the Project boundary relative to the FDEP State 404 Program Retained Waters. As depicted, the Project does not fall within the boundary of Retained Waters. However, based on aerial interpretation, it is probable there is a direct hydrological connection to the Retained Waters rendering the wetlands within the Project as “adjacent” pursuant to the definition in the 2020 Navigable Waters Protection Rule. Therefore, the Project wetlands would be considered “Assumed Waters” and subject to jurisdiction under the FDEP State 404 Program.

4 Federal and State Protected Species

4.1 Desktop Assessment

Table 4-1 presents a summary of the federal and state wildlife listed species identified by the FNAI Biodiversity Matrix and on the USFWS OSL.

Table 4-1 Potential Federal and State Listed Wildlife Species for the Anclote Harbor Secondary Access – Hay Road Project

Common Name	Scientific Name	Federal Status	State Status	Source	Preferred Habitat	Occurrence in Project Boundary
Birds						
Eastern black rail	*Laterallus jamaicensis ssp. jamaicensis*	Threatened	Federally Threatened	USFWS OFL	Salt and brackish marshes	Not Likely
Florida sandhill crane	*Grus Canadensis patensis*	Not Listed	Threatened	FNAI Biodiversity Matrix	Nests in freshwater ponds and marshes	Possible
Red-cockaded woodpecker	*Picoides borealis*	Endangered	Federally Endangered	FNAI Biodiversity Matrix	Inhabits old slash, longleaf and loblolly pine ecosystems	Not Likely
Red knot	*Calidris canutus rufa*	Threatened	Federally Threatened	USFWS OFL	Sandy beaches, saltmarshes, lagoons, mudflats of estuaries and bays, and mangrove swamps	Not Likely
Wood stork	*Mycteria americana*	Threatened	Federally Threatened	USFWS OFL, FNAI Biodiversity Matrix	Inhabits estuarine or freshwater wetlands; nest in tops of trees in cypress or mangrove swamps.	Possible. Study Area is within six Core Foraging Areas.
Reptiles						
Eastern indigo snake	*Drymarchon corais couperi*	Threatened	Federally Threatened	USFWS OFL, FNAI Biodiversity Matrix	Wide variety of terrestrial habitats types throughout Florida. Utilizes gopher tortoise	Possible. Adherence to the USFWS Standard Protective Measures for the Eastern Indigo Snake is recommended as a

Common Name	Scientific Name	Federal Status	State Status	Source	Preferred Habitat	Occurrence in Project Boundary
					burrows as refugia	conservative measure.
Gopher tortoise	*Gopherus polyphemus*	Candidate	State Threatened	USFWS OFL, FNAI Biodiversity Matrix	Inhabits sandhills, xeric oak scrub, sand pine scrub, and scrubby flatwoods.	Possible. Consultation and possible permitting may be required with FWC if land clearing/construction are to take place.
Mammals						
Florida bonneted bat	*Eumops floridanus*	Endangered	Endangered	FNAI Biodiversity Matrix	Roosts in palms and hollow trees and in buildings.	Not Likely

Table 4-2 presents a summary of the federal and state plant listed species identified by the FNAI Biodiversity Matrix and on the USFWS OSL.

Table 4-2 Potential Federal and State Listed Plant Species for the Anclote Harbor Secondary Access – Hay Road Project

Common Name	Scientific Name	Federal Status	State Status	Source	Suggested Future Actions
Celestial Lily	*Nemastylis floridana*	Not Listed	Endangered	FNAI Biodiversity Matrix	None—harvesting is not proposed
Cutthroat Grass	*Panicum abscissum*	Not Listed	Endangered	FNAI Biodiversity Matrix	None—harvesting is not proposed
Florida Beargrass	*Nolina atopocarpa*	Not Listed	Threatened	FNAI Biodiversity Matrix	None—harvesting is not proposed
Florida Golden Aster	*Chrysopsis floridana*	Endangered	Not Listed	USFWS OFL	None—harvesting is not proposed
Florida Spiny-pod	*Matelea floridana*	Not Listed	Endangered	FNAI Biodiversity Matrix	None—harvesting is not proposed
Giant Orchid	*Pteroglossaspis ecristata*	Not Listed	Threatened	FNAI Biodiversity Matrix	None—harvesting is not proposed
Godfrey's Swampprivet	*Forestiera godfreyi*	Not Listed	Endangered	FNAI Biodiversity Matrix	None—harvesting is not proposed
Many-flowered Grass-pink	*Calopogon multiflorus*	Not Listed	Threatened	FNAI Biodiversity Matrix	None—harvesting is not proposed
Nodding Pinweed	*Lechea cernua*	Not Listed	Threatened	FNAI Biodiversity Matrix	None—harvesting is not proposed
Pondspice	*Litsea aestivalis*	Not Listed	Endangered	FNAI Biodiversity Matrix	None—harvesting is not proposed
Sand Butterfly Pea	*Centrosema arenicola*	Not Listed	Endangered	FNAI Biodiversity Matrix	None—harvesting is not proposed

The Wading Bird Rookeries Map (Figure 9), data last updated by FWC in 1999, did not indicate any known historical colonies within 1 mile of the study area.

The Bald Eagle Map (Figure 10), data last updated by FWC and reported by Audubon for 2018-2019, identified one eagle nest (Nest PI041) approximately 0.25 miles (1,320 feet) northwest of the Project area. The next closest documented bald eagle nest “Nest PI034” is approximately 1.3 miles south of the Project area.

The study area is within the USFWS Core Foraging Area of six wood stork colonies (Figure 11) according to the USFWS Wood Stork Florida Nesting Colonies and Core Foraging Areas (2010-2019).

5 Regulatory Considerations

5.1 Wetlands and Waterbodies

Based on the desktop assessment, Cardno is confident that the Project area intersects with wetlands and/ or OSW's. These features appear to be within the Assumed Waters pursuant to the State 404 Program's "Retained Waters Screening Tool". As such, if impacts are proposed to these features authorization from both SWFWMD and the FDEP State 404 Program will be required.

If impacts to jurisdictional wetlands and/or OSW's exceed 0.5 acres the Project would require an individual Environmental Resource Permit (ERP) from the SWFWMD and an individual permit from the FDEP State 404 Program. If impacts to such features can be minimized and reduced to less than 0.5 acres, general permits from said agencies may be applicable.

Compensatory mitigation will be required for any loss to State or State 404 Program wetlands. The Project falls within the Nature Coast, Old Florida, and Upper Coastal Mitigation Bank Service Areas.

5.2 State and Federal Listed Species

Given that potential habitat was identified for the Eastern indigo snake, gopher tortoise, wood stork, and Florida sandhill crane, consultations with USFWS and FWC may be warranted during the permitting of the Project, depending on the activities proposed by the Client. Habitat does not appear to be present for any federally listed plants and development should therefore have no effect on these species.

6 Recommendations

To determine the level of permitting required for the Project, Cardno recommends a complete ecological assessment be performed on the Project including a formal wetland delineation to determine the extent of wetlands and OSW's occurring within the Project boundary to assist in the planning and design of the Project. In addition to the wetland delineation, a general listed species survey and habitat assessment should be conducted to ascertain the occurrence or likelihood of occurrence of state and or federal listed species utilization of the Project area.

7 References

FWC (Florida Fish and Wildlife Conservation Commission). 2016. Florida's Imperiled Species Management Plan. Available at: https://myfwc.com/media/2030/imperiled-species-management-plan.pdf. Accessed May 2021.

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USFWS (United States Fish and Wildlife Service). 2007. National Bald Eagle Management Guidelines. Available at: https://www.fws.gov/southdakotafieldoffice/NationalBaldEagleManagementGuidelines.pdf. Accessed May 2021.

———. 2013. Standard Protection Measures for the Eastern Indigo Snake. Available at: https://www.fws.gov/northflorida/IndigoSnakes/20130812_EIS%20Standard%20Protection%20Measures_final.pdf. Accessed May 2021.

APPENDIX A

FIGURES

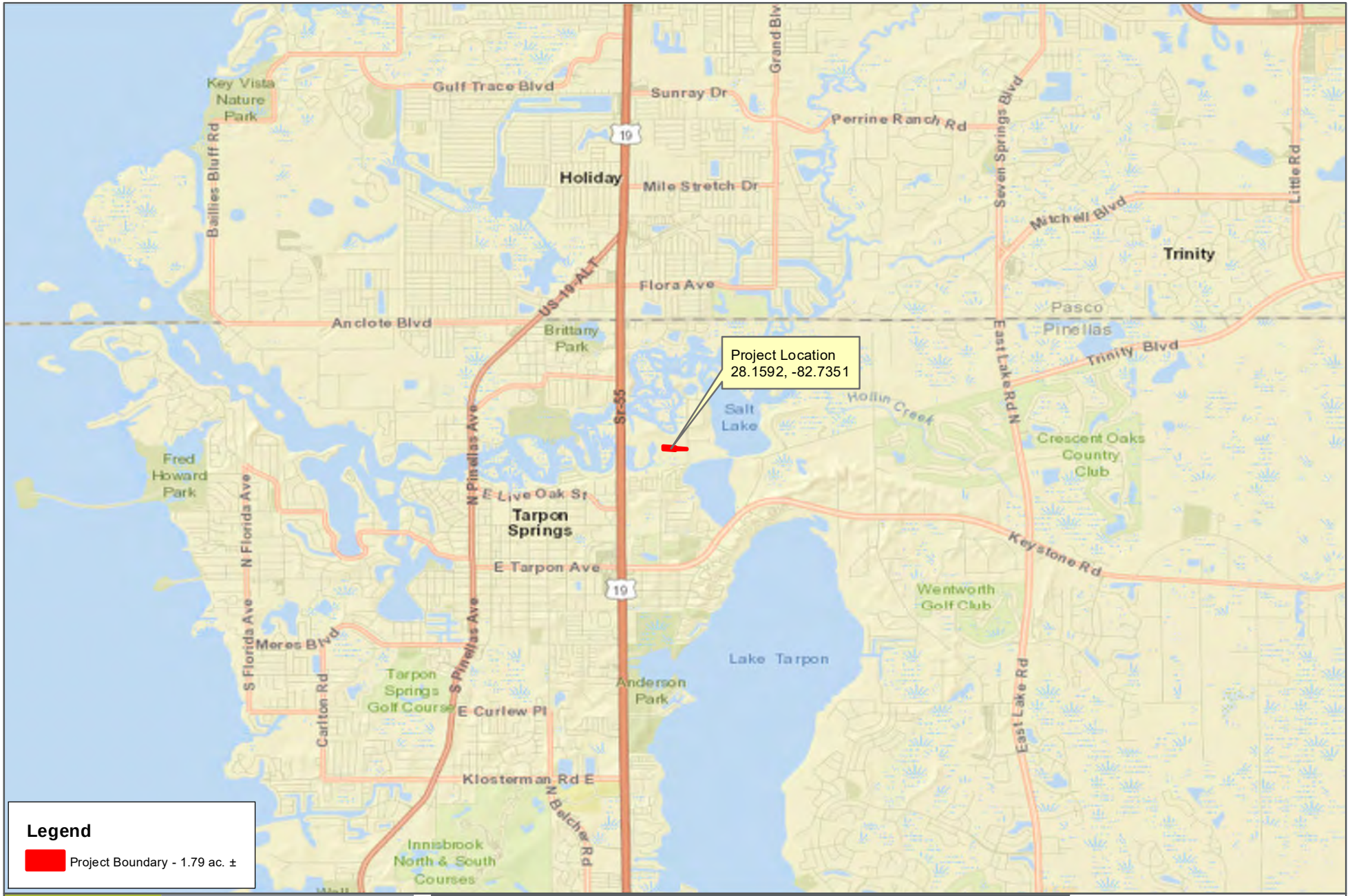

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Figure 1: Location Map

Anclote Harbor Secondary Access - Hays Road
Pinellas County, Florida

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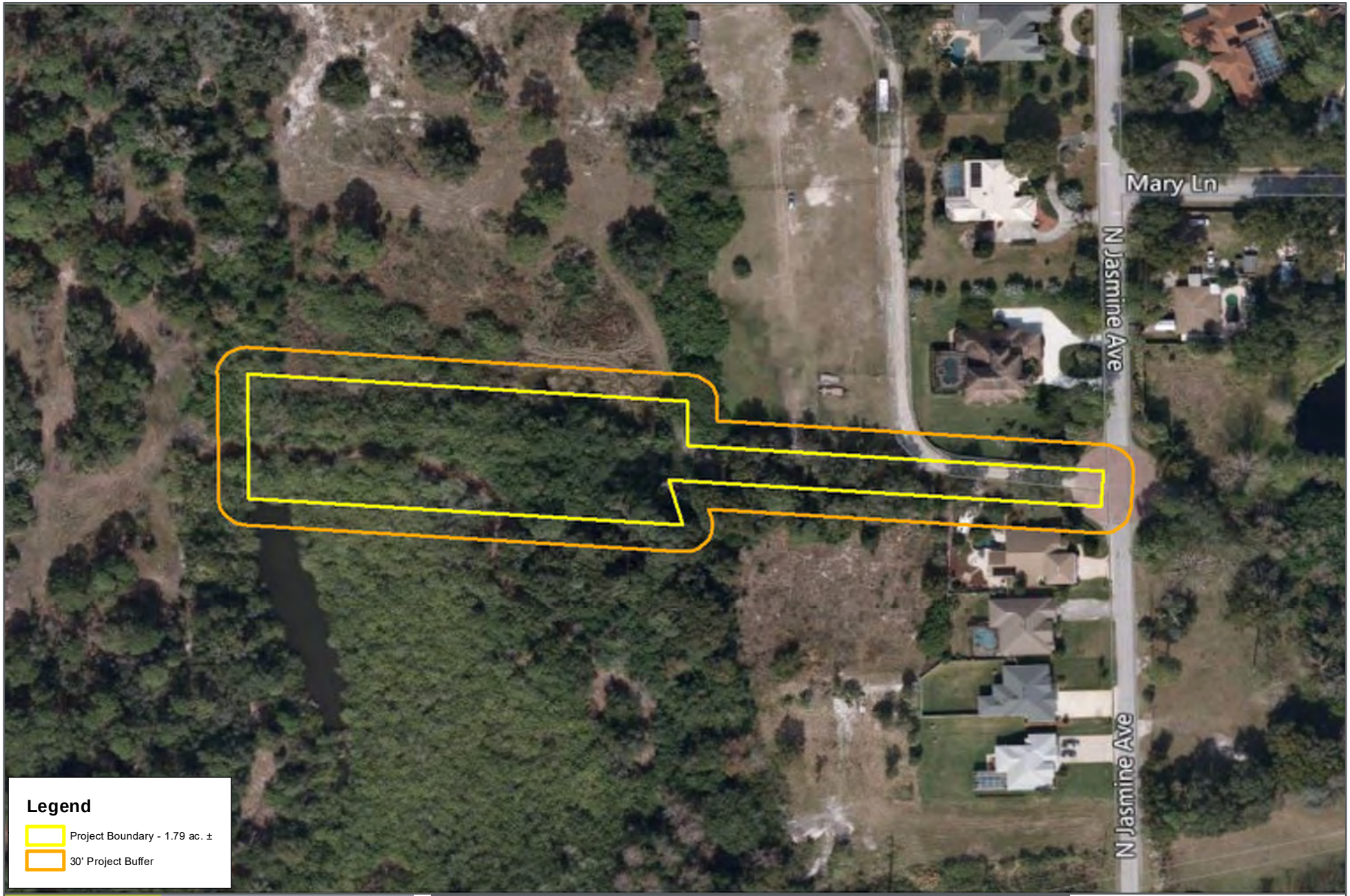
Phone (+1) 813-664-4500 Fax (+1) 813-664-0440
www.cardno.com

Date Created: 5/21/2021 Date Revised: 5/21/2021 File Path: Q:\UnitedStates\Florida\Tampa\City_of_Tarpon_Springs\Hays_Road\working\arcmap\Fig1_Location_Map_A_1_20210521.mxd
GIS Analyst: James.Bottiger



N

Image:Bing

Sec 07
Twp 27 S
Rng 16 E

Figure 2: Aerial Map

Anclote Harbor Secondary Access - Hays Road
Pinellas County, Florida

0 150 300 Feet
0 45 90 Meters

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GIS Analyst: James.Bottiger

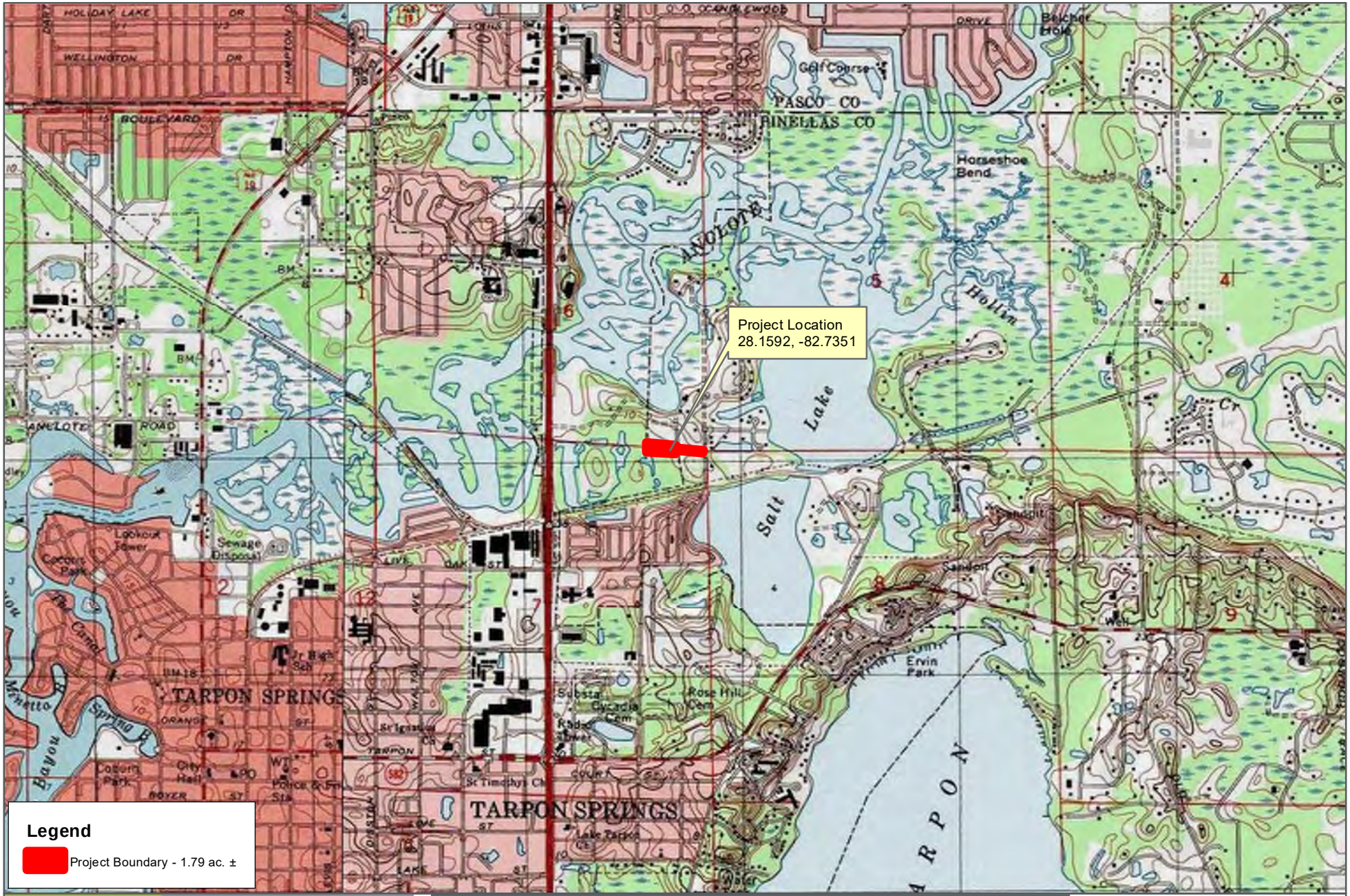

Image:ESRI

Sec 07
Twp 27 S
Rng 16 E

Figure 3: USGS Quad Map

Anclote Harbor Secondary Access - Hays Road
Pinellas County, Florida

0 2,000 4,000 Feet
0 600 1,200 Meters

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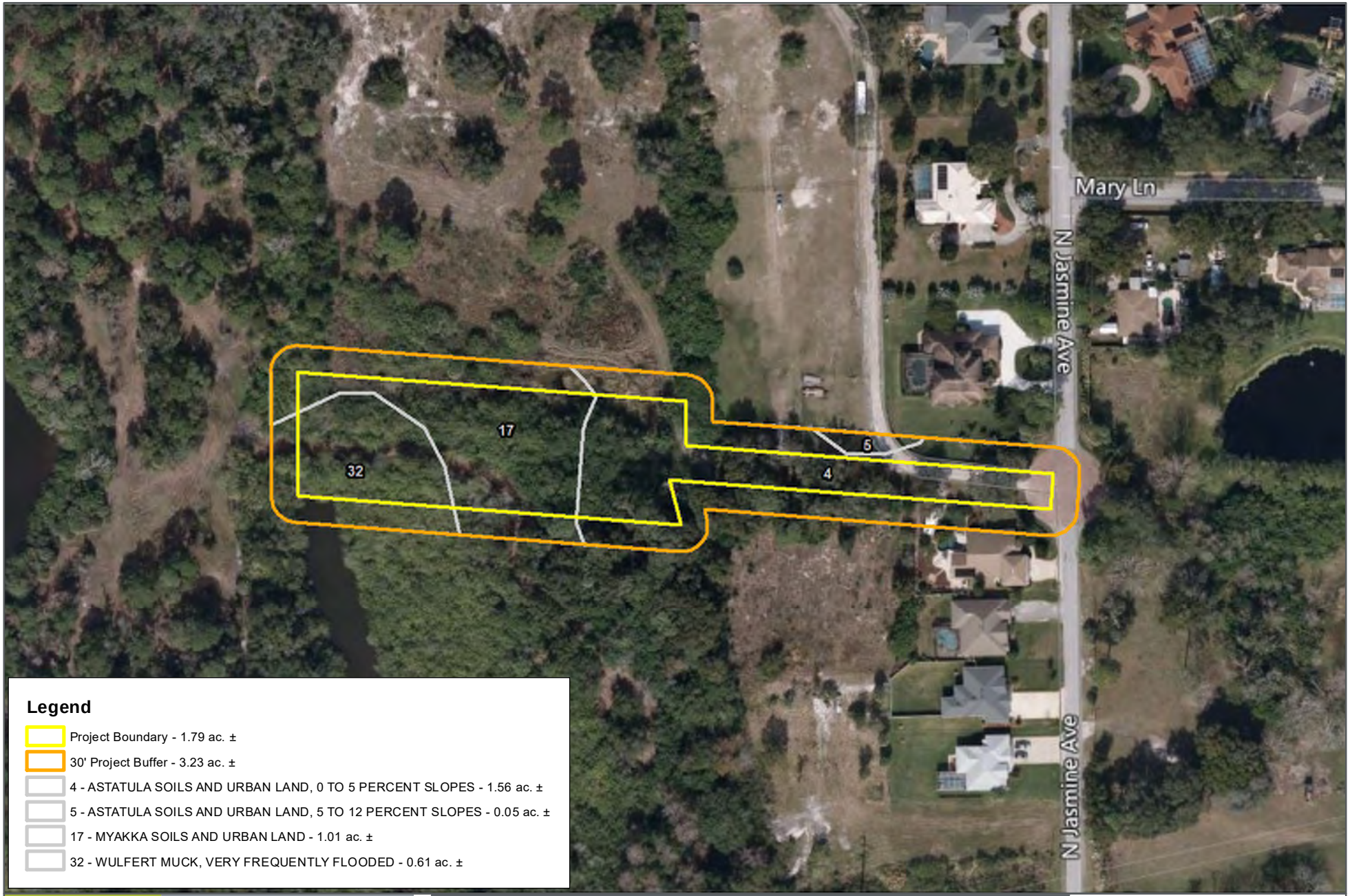
GIS Analyst: James.Bottiger



N

Image:Bing

Sec 07
Twp 27 S
Rng 16 E

Figure 4: NRCS Soils Map

Anclote Harbor Secondary Access - Hays Road
Pinellas County, Florida

0 150 300 Feet
0 45 90 Meters

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GIS Analyst: James.Bottiger

Figure 5: FEMA Floodplain Map

Anclote Harbor Secondary Access - Hays Road
Pinellas County, Florida

0 150 300 Feet
0 45 90 Meters

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GIS Analyst: James.Bottiger

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Figure 6: USFWS NWI Map

Anclote Harbor Secondary Access - Hays Road
Pinellas County, Florida

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GIS Analyst: James.Bottiger

Legend

- Project Boundary - 1.79 ac. ±
- 30' Project Buffer - 3.23 ac. ±
- 110 - RESIDENTIAL LOW DENSITY < 2 DWELLING UNITS - 0.45 ac. ±
- 190 - OPEN LAND - 1.54 ac. ±
- 411 - PINE FLATWOODS - 0.89 ac. ±
- 520 - LAKES - 0.03 ac. ±
- 641 - FRESHWATER MARSHES - 0.32 ac. ±

N

Image:Bing

Sec 07
Twp 27 S
Rng 16 E

Figure 7: SWFWMD Land Use Map

Anclote Harbor Secondary Access - Hays Road
Pinellas County, Florida

0 150 300 Feet
0 45 90 Meters

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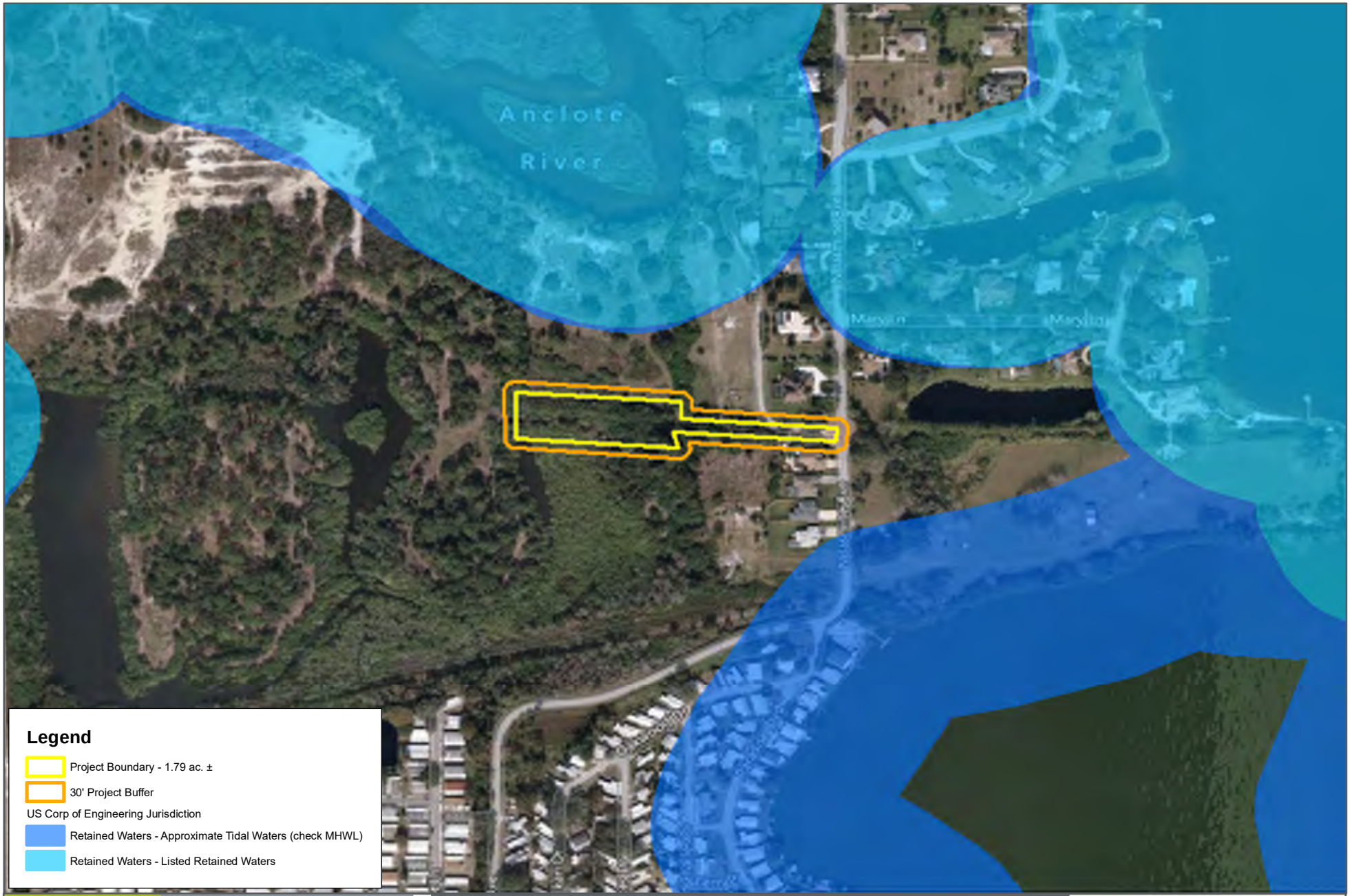
GIS Analyst: James.Bottiger



N

Image:Bing

Sec 07
Twp 27 S
Rng 16 E

Figure 8: Retained Waters

Anclote Harbor Secondary Access - Hays Road
Pinellas County, Florida

0 400 800 Feet

0 122 244 Meters

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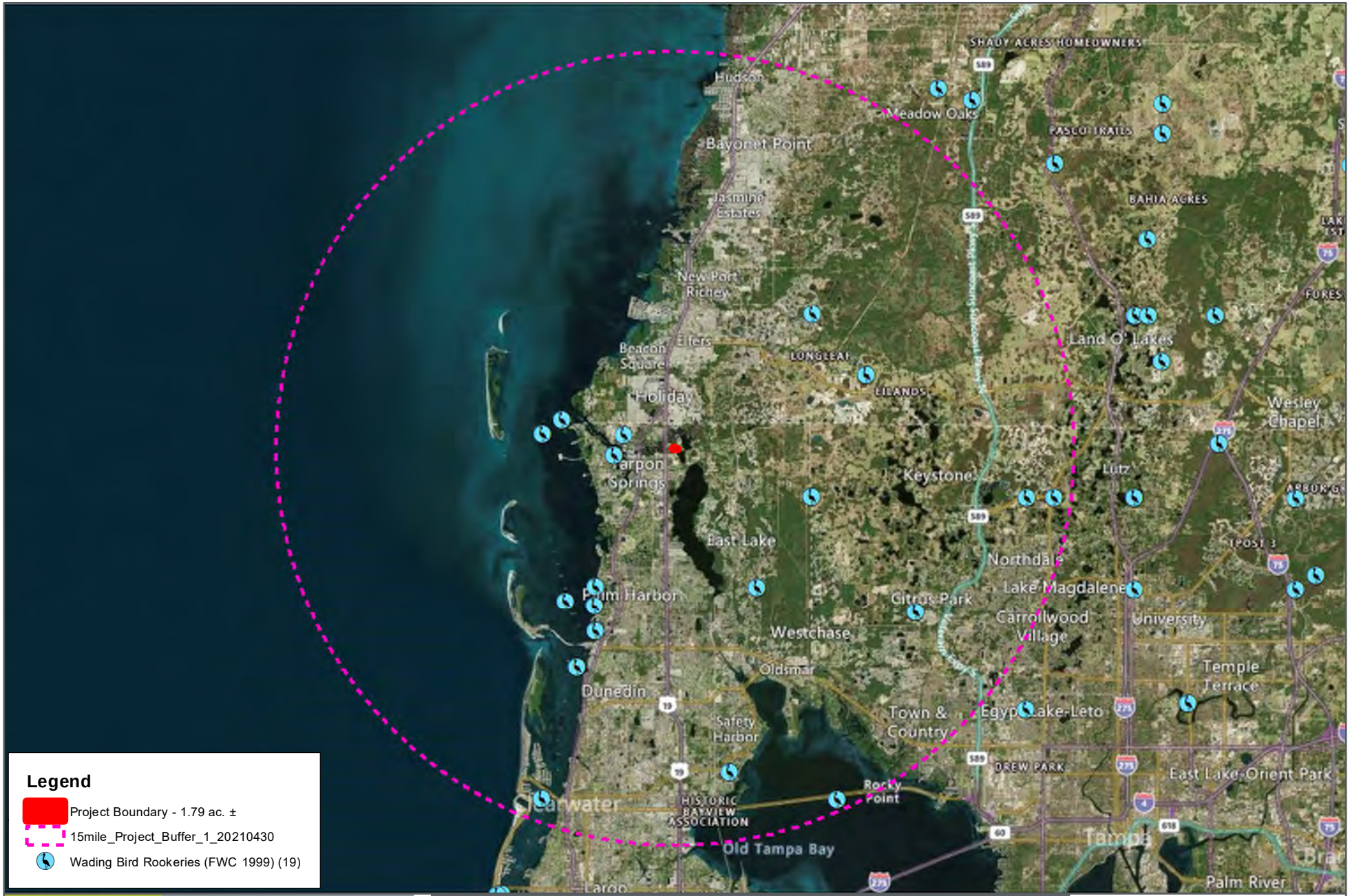
Date Created: 5/21/2021 Date Revised: 5/24/2021 File Path: Q:\UnitedStates\Florida\Tampa\City_of_Tarpon_Springs\Hays_Road\working\arcmap\RetainedWaters_Map_A_1_20210521.mxd
GIS Analyst: Lauren.Federsel



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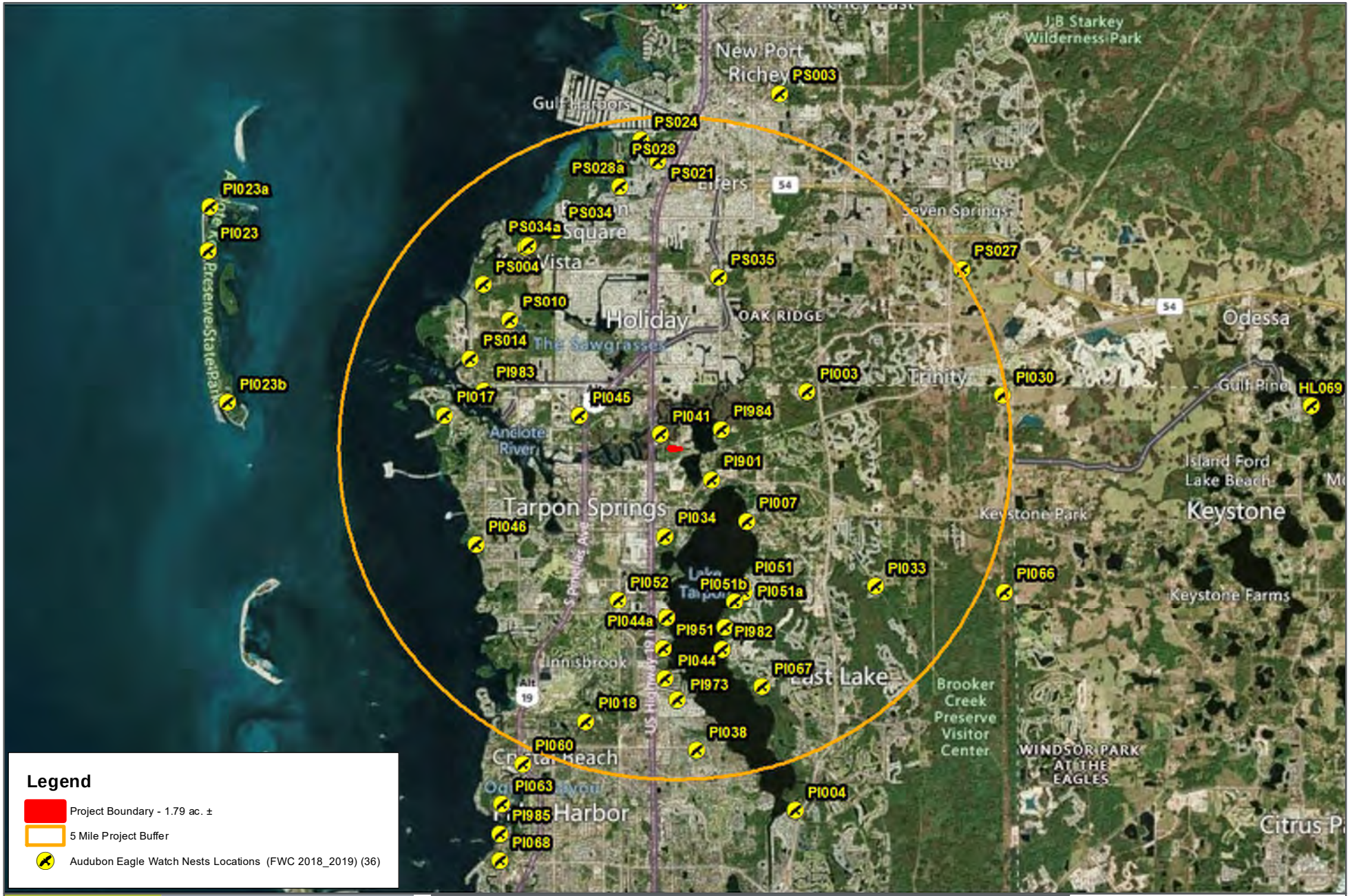
GIS Analyst: James.Bottiger



Legend

- Project Boundary - 1.79 ac. ±
- 5 Mile Project Buffer
- Audubon Eagle Watch Nests Locations (FWC 2018_2019) (36)

N

Image:Bing

Sec 07
Twp 27 S
Rng 16 E

Figure 10: Bald Eagle Map

Anclote Harbor Secondary Access - Hays Road
Pinellas County, Florida

0 2 4 Miles
0 3,200 6,400 Meters

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GIS Analyst: James.Bottiger

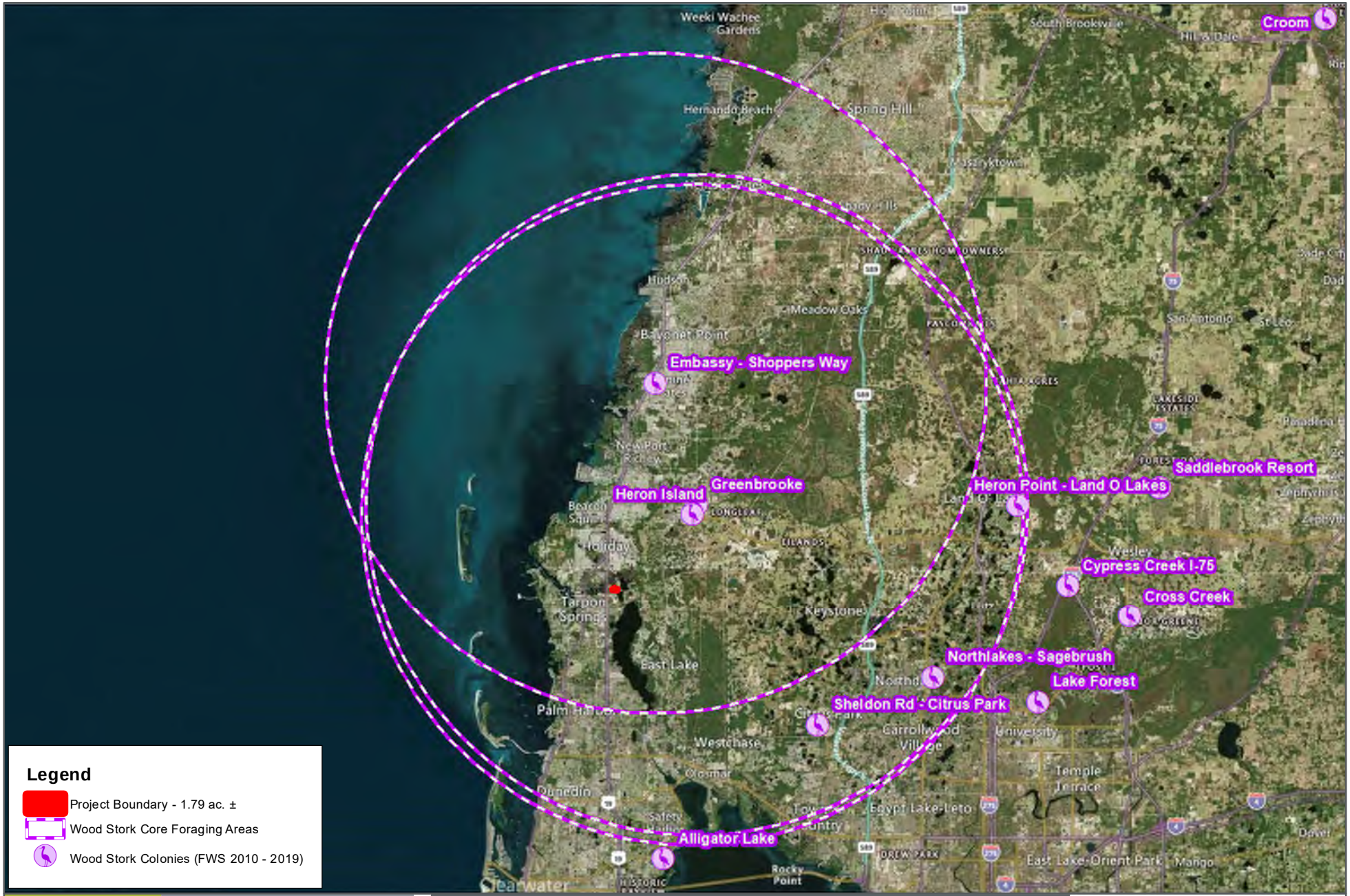

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Figure 11: Wood Stork Map

Anclote Harbor Secondary Access - Hays Road
Pinellas County, Florida

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GIS Analyst: James.Bottiger

APPENDIX B

FNAI BIODIVERSITY MATRIX

1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
850-224-8207
850-681-9364 fax
www.fnai.org

Florida Natural Areas Inventory

Biodiversity Matrix Query Results

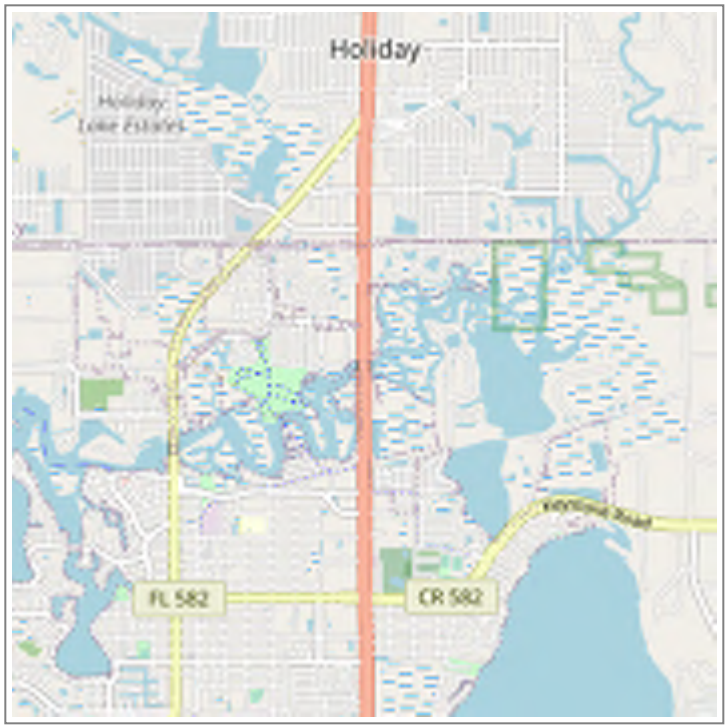
UNOFFICIAL REPORT

Created 5/18/2021

(Contact the FNAI Data Services Coordinator at 850.224.8207 or kbrinegar@fnai.fsu.edu for information on an official Standard Data Report)

NOTE: The Biodiversity Matrix includes only rare species and natural communities tracked by FNAI.

Report for 1 Matrix Unit: 21273



Descriptions

DOCUMENTED - There is a documented occurrence in the FNAI database of the species or community within this Matrix Unit.

DOCUMENTED-HISTORIC - There is a documented occurrence in the FNAI database of the species or community within this Matrix Unit; however the occurrence has not been observed/reported within the last twenty years.

LIKELY - The species or community is *known* to occur in this vicinity, and is considered likely within this Matrix Unit because:

1. documented occurrence overlaps this and adjacent Matrix Units, but the documentation isn't precise enough to indicate which of those Units the species or community is actually located in; *or*
2. there is a documented occurrence in the vicinity and there is suitable habitat for that species or community within this Matrix Unit.

POTENTIAL - This Matrix Unit lies within the known or predicted range of the species or community based on expert knowledge and environmental variables such as climate, soils, topography, and landcover.

Matrix Unit ID: 21273

0 **Documented** Elements Found

1 **Documented-Historic** Element Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Chamaesyce cumulicola Sand-dune Spurge	G2	S2	N	E

3 **Likely** Elements Found

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Mesic flatwoods	G4	S4	N	N
Mycteria americana Wood Stork	G4	S2	LT	FT
Trichechus manatus	G2	S2	LE	FE

West Indian Manatee

Matrix Unit ID: 21273

30 **Potential** Elements for Matrix Unit 21273

Scientific and Common Names	Global Rank	State Rank	Federal Status	State Listing
Acipenser oxyrinchus desotoi Gulf Sturgeon	G3T2	S2	LT	FT
Ammodramus maritimus peninsulae Scott's Seaside Sparrow	G4T3Q	S3	N	SSC
Athene cunicularia floridana Florida Burrowing Owl	G4T3	S3	N	SSC
Calopogon multiflorus Many-flowered Grass-pink	G2G3	S2S3	N	T
Caretta caretta Loggerhead Sea Turtle	G3	S3	T	FT
Centrosema arenicola Sand Butterfly Pea	G2Q	S2	N	E
Chelonia mydas Green Sea Turtle	G3	S2S3	LE	FE
Cistothorus palustris marianae Marian's Marsh Wren	G5T3	S3	N	SSC
Drymarchon couperi Eastern Indigo Snake	G3	S3	LT	FT
Eretmochelys imbricata Hawksbill Sea Turtle	G3	S1	LE	FE
Eumops floridanus Florida bonneted bat	G1	S1	LE	FE
Forestiera godfreyi Godfrey's Swampprivet	G2	S2	N	E
Gopherus polyphemus Gopher Tortoise	G3	S3	C	ST
Grus canadensis pratensis Florida Sandhill Crane	G5T2T3	S2S3	N	ST
Heterodon simus Southern Hognose Snake	G2	S2	N	N
Lechea cernua Nodding Pinweed	G3	S3	N	T
Lithobates capito Gopher Frog	G3	S3	N	SSC
Litsea aestivalis Pondspice	G3?	S2	N	E
Matelea floridana Florida Spiny-pod	G2	S2	N	E
Mustela frenata peninsulae Florida Long-tailed Weasel	G5T3	S3	N	N
Nemastylis floridana Celestial Lily	G2	S2	N	E
Nolina atopocarpa Florida Beargrass	G3	S3	N	T
Panicum abscissum Cutthroat Grass	G3	S3	N	E
Picoides borealis Red-cockaded Woodpecker	G3	S2	LE	FE
Podomys floridanus Florida Mouse	G3	S3	N	SSC
Pteroglossaspis ecristata Giant Orchid	G2G3	S2	N	T
Rallus longirostris scottii Florida Clapper Rail	G5T3?	S3?	N	N
Sciurus niger shermani Sherman's Fox Squirrel	G5T3	S3	N	SSC
Setophaga discolor paludicola	G5T3	S3	N	N

Florida Prairie Warbler				
Ursus americanus floridanus Florida Black Bear	G5T2	S2	N	N

Disclaimer

The data maintained by the Florida Natural Areas Inventory represent the single most comprehensive source of information available on the locations of rare species and other significant ecological resources statewide. However, the data are not always based on comprehensive or site-specific field surveys. Therefore, this information should not be regarded as a final statement on the biological resources of the site being considered, nor should it be substituted for on-site surveys. FNAI shall not be held liable for the accuracy and completeness of these data, or opinions or conclusions drawn from these data. FNAI is not inviting reliance on these data. Inventory data are designed for the purposes of conservation planning and scientific research and are not intended for use as the primary criteria for regulatory decisions.

Unofficial Report

These results are considered unofficial. FNAI offers a Standard Data Request option for those needing certifiable data.

APPENDIX C

USFWS OFFICAL SPECIES LIST

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Pinellas County, Florida

Local office

North Florida Ecological Services Field Office

(904) 731-3336
(904) 731-3045

7915 Baymeadows Way, Suite 200
Jacksonville, FL 32256-7517

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS

Eastern Black Rail Laterallus jamaicensis ssp. jamaicensis — Threatened
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/10477

Red Knot Calidris canutus rufa — Threatened
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/1864

Wood Stork Mycteria americana — Threatened
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/8477

Reptiles

NAME	STATUS

Eastern Indigo Snake Drymarchon corais couperi — Threatened
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/646

Gopher Tortoise Gopherus polyphemus — Candidate
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/6994

Hawksbill Sea Turtle Eretmochelys imbricata — Endangered
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/3656

Leatherback Sea Turtle Dermochelys coriacea — Endangered
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/1493

Loggerhead Sea Turtle Caretta caretta — Threatened
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/1110

Flowering Plants

NAME	STATUS

Florida Golden Aster Chrysopsis floridana Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/5352

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
American Kestrel Falco sparverius paulus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9587	Breeds Apr 1 to Aug 31
American Oystercatcher Haematopus palliatus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8935	Breeds Apr 15 to Aug 31
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31
Black Skimmer Rynchops niger This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Clapper Rail Rallus crepitans This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 10 to Oct 31
Common Ground-dove Columbina passerina exigua This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Feb 1 to Dec 31

Dunlin Calidris alpina arcticola This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
King Rail Rallus elegans This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8936	Breeds May 1 to Sep 5
Least Tern Sterna antillarum This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 20 to Sep 10
Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Limpkin Aramus guarauna This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 15 to Aug 31
Magnificent Frigatebird Fregata magnificens This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Oct 1 to Apr 30
Prairie Warbler Dendroica discolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Prothonotary Warbler Protonotaria citrea This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Reddish Egret Egretta rufescens This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/7617	Breeds Mar 1 to Sep 15
Ruddy Turnstone Arenaria interpres morinella This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere

Semipalmated Sandpiper Calidris pusilla This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Short-billed Dowitcher Limnodromus griseus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Short-tailed Hawk Buteo brachyurus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8742	Breeds Mar 1 to Jun 30
Swallow-tailed Kite Elanoides forficatus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8938	Breeds Mar 10 to Jun 30
Whimbrel Numenius phaeopus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5
Wilson's Plover Charadrius wilsonia This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Aug 20
Yellow Warbler Dendroica petechia gundlachi This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 20 to Aug 10

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

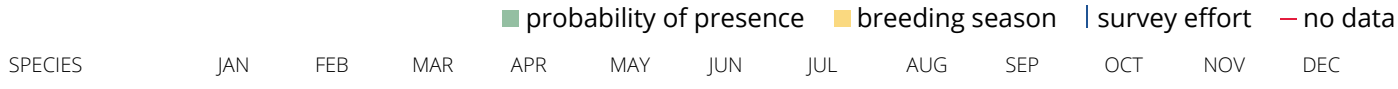
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

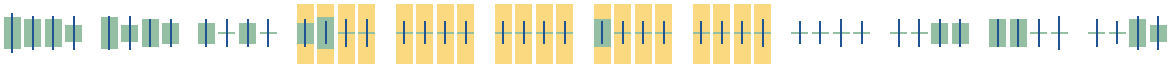
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

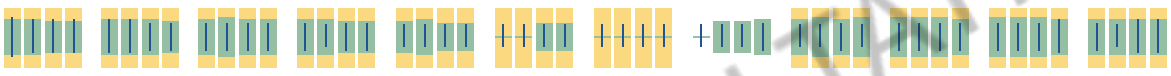


American Kestrel BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



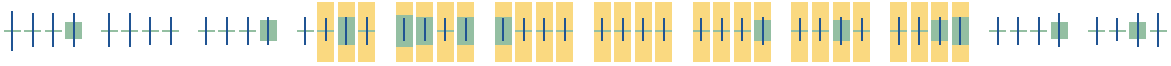
American Oystercatcher BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Bald Eagle Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

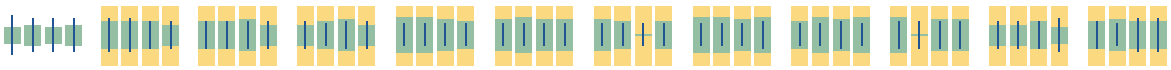


Black Skimmer BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Clapper Rail BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

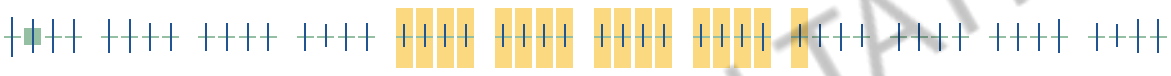


Common Ground-dove
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



Dunlin
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

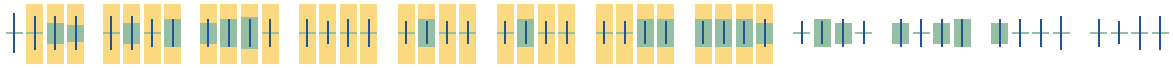
King Rail
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Least Tern
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Lesser Yellowlegs
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

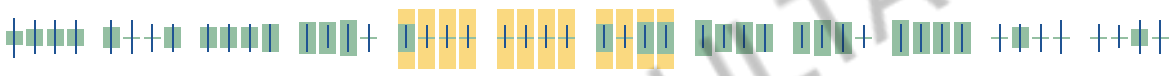
Limpkin BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Magnificent Frigatebird BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

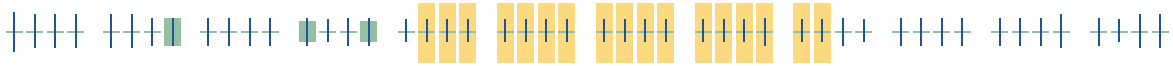
SPECIES JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

Prairie Warbler BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

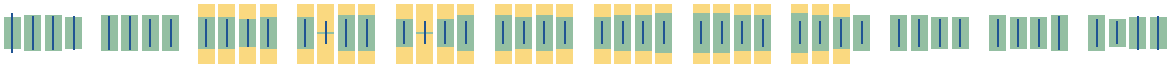


Prothonotary Warbler BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Red-headed Woodpecker BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Reddish Egret BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Ruddy Turnstone BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Semipalmated Sandpiper BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Short-billed Dowitcher BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Short-tailed Hawk BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and

avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird

impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

PEM1C

FRESHWATER POND

PUBHx

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

About Cardno

Cardno is an ASX-200 professional infrastructure and environmental services company, with expertise in the development and improvement of physical and social infrastructure for communities around the world. Cardno's team includes leading professionals who plan, design, manage, and deliver sustainable Projects and community programs. Cardno is an international company listed on the Australian Securities Exchange [ASX:CDD].

Cardno Zero Harm

Cardno ZERO HARM EVERY JOB. EVERY DAY.

At Cardno, our primary concern is to develop and maintain safe and healthy conditions for anyone involved at our Project worksites. We require full compliance with our Health and Safety Policy Manual and established work procedures and expect the same protocol from our subcontractors. We are committed to achieving our Zero Harm goal by continually improving our safety systems, education, and vigilance at the workplace and in the field. Safety is a Cardno core value and through strong leadership and active employee participation, we seek to implement and reinforce these leading actions on every job, every day.

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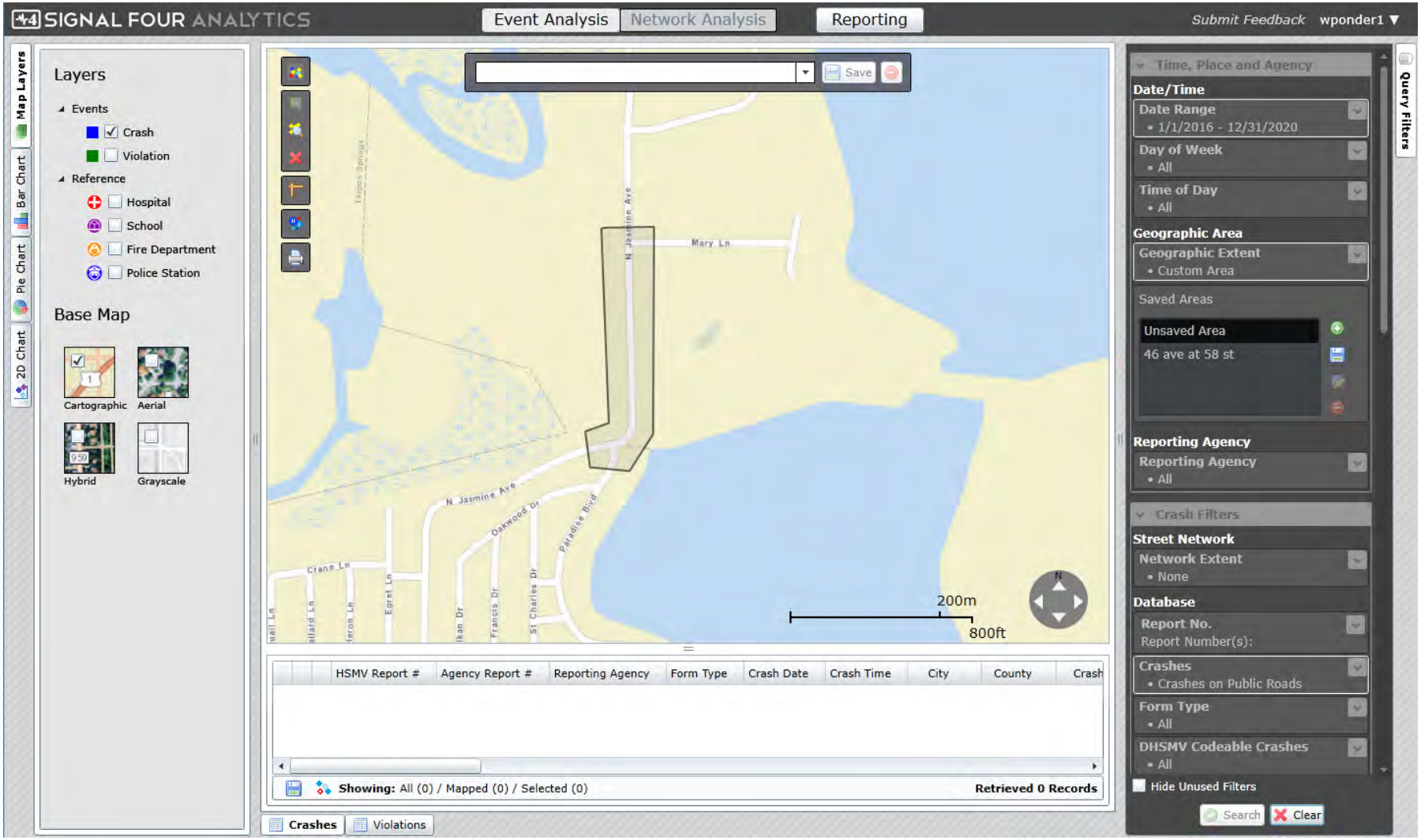
Appendix F: CRASH REPORTS


SIGNAL FOUR ANALYTICS
Event Analysis
Network Analysis
Reporting
Submit Feedback
wponder1
Map Layers
Bar Chart
Pie Chart
2D Chart
Layers
Events
Crash
Violation
Reference
Hospital
School
Fire Department
Police Station
Base Map
Cartographic
Aerial
Hybrid
Grayscale
Save
Mary Ln
N Jasmine Ave
Oakwood Dr
Paradise Blvd
Crane Ln
Egret Ln
Francis Dr
St Charles Dr
200m
800ft
HSMV Report #
Agency Report #
Reporting Agency
Form Type
Crash Date
Crash Time
City
County
Crash
Showing: All (0) / Mapped (0) / Selected (0)
Retrieved 0 Records
Crashes
Violations
Time, Place and Agency
Date/Time
Date Range
• 1/1/2016 - 12/31/2020
Day of Week
• All
Time of Day
• All
Geographic Area
Geographic Extent
• Custom Area
Saved Areas
Unsaved Area
46 ave at 58 st
Reporting Agency
Reporting Agency
• All
Crash Filters
Street Network
Network Extent
• None
Database
Report No.
Report Number(s):
Crashes
• Crashes on Public Roads
Form Type
• All
DHSMV Codeable Crashes
• All
Hide Unused Filters
Search
Clear
Query Filters

Appendix G: UTILITY DESIGN TICKET

CONFRM 00000 CALL SUNSHINE 04/28/21 11:42:19ET 118103663-000 DESIGN GRID HAYS ROAD PER DESIGN TICKET Ticket : 118103663 Rev:000 Taken: 04/28/21 11:41ET

State: FL Cnty: PINELLAS GeoPlace: TARPON SPRINGS
CallerPlace: TARPON SPRINGS
Subdivision:

Address : 1188
Street : N JASMINE AVE
Cross 1 : MARY LN
Within 1/4 mile: Y
Locat: DO NOT LOCATE
:
Remarks : DESIGN ONLY
IN RESPONSE TO RECEIPT OF A DESIGN TICKET, SSOCOF PROVIDES THE ORIGINATOR OF THE DESIGN TICKET WITH A LIST OF SSOCOF MEMBERS IN THE VICINITY OF THE DESIGN PROJECT. SSOCOF DOES NOT NOTIFY SSOCOF MEMBERS OF THE RECEIPT BY SSOCOF OF A DESIGN TICKET. IT IS THE SOLE RESPONSIBILITY OF THE DESIGN ENGINEER TO CONTACT SSOCOF MEMBERS TO REQUEST INFORMATION ABOUT THE LOCATION OF SSOCOF MEMBERS'
UNDERGROUND FACILITIES. SUBMISSION OF A DESIGN TICKET WILL NOT SATISFY THE REQUIREMENT OF CHAPTER 556, FLORIDA STATUTES, TO NOTIFY SSOCOF OF AN INTENT TO EXCAVATE OR DEMOLISH. THAT INTENT MUST BE MADE KNOWN SPECIFICALLY TO SSOCOF IN THE MANNER REQUIRED BY LAW. IN AN EFFORT TO SAVE TIME ON FUTURE CALLS, SAVE YOUR DESIGN TICKET NUMBER IF YOU INTEND TO BEGIN EXCAVATION WITHIN 90 DAYS OF YOUR DESIGN REQUEST. THE DESIGN TICKET CAN BE REFERENCED, AND THE INFORMATION ON IT CAN BE USED TO SAVE TIME WHEN YOU CALL IN THE EXCAVATION REQUEST.
*** LOOKUP BY MANUAL ***
:
Grids : 2809B8243A 2809B8244D

Work date: 04/28/21 Time: 11:16ET Hrs notc: 000 Category: 6 Duration: UNKNOWN Due Date : 04/30/21 Time: 23:59ET Exp Date : 05/28/21 Time: 23:59ET Work type: DESIGN Boring: N White-lined: N
Ug/Oh/Both: U Machinery: N Depth: UNK Permits: N N/A Done for : DESIGN

Company : CARDNO Type: CONT
Co addr : 380 PARK PLACE BLVD
Co addr2: SUITE 300
City : CLEARWATER State: FL Zip: 33759
Caller : DANIEL SHOCKEY Phone: 727-431-1579
BestTime: 8-5
Mobile : 727-686-4715
Fax : 813-886-1234
Email : DANIEL.SHOCKEY@CARDNO.COM

Submitted: 04/28/21 11:41ET Oper: DAN Chan: WEB Mbrs :
CLWGAS JACINTA GARCIA CORCOBA 727-422-9998
    CLEARWATER GAS SYSTEMS

777 MAPLE ST
CLEARWATER, FL 33765
Level 1: NO FEE
Level 2: SERVICES NOT PROVIDED BY MEMBER
Level 3: SERVICES NOT PROVIDED BY MEMBER
Level 4: SERVICES NOT PROVIDED BY MEMBER

CTS878 WILLIE WILLIAMS 727-937-2557 Ext: 2601
CITY OF TARPON SPRINGS
1624 L & R INDUSTRIAL BLVD
TARPON SPRINGS, FL 34689
Level 1: .25 $ PER 8 X 11 SHEET
Level 2: .25 $ PER 8 X 11 SHEET, $ 1.00 PER 11 X 17 SHEET, $ 5.00 PER BLUEPRINT SHEET
Level 3: $ 5.00 PER ASBUILT SHEET
Level 4: SERVICES NOT PROVIDED BY MEMBER

FPC314 STEPHANIE OLMO 407-905-3376
DUKE ENERGY
452 E CROWN POINT RD
WINTER GARDEN, FL 34787
Level 1: SERVICES NOT PROVIDED BY MEMBER
Level 2: SERVICES NOT PROVIDED BY MEMBER
Level 3: SERVICES NOT PROVIDED BY MEMBER
Level 4: SERVICES NOT PROVIDED BY MEMBER

GT1722 TONI CANNON 813-875-1014
FRONTIER COMMUNICATIONS
3712 W WALNUT ST
TAMPA, FL 33607
Level 1: $200 ADMIN FEE $45 PER HR FOR CAD SVCS ONE HR INCL IN ADMIN FEE
Level 2: LEVEL D RATES PLUS FIELD FEE OF $45 PER HR WITH 4 HR MIN
Level 3: LEVEL D RATES PLUS FIELD FEE OF $45 PER HR WITH 4 HR MIN
Level 4: SERVICES NOT PROVIDED BY MEMBER

GTE431 RICHARD LAGANGA 727-422-8040
KNOLOGY BROADBAND OF FLORIDA DBA WIDE O
3001 GANDY BLVD N
PINELLAS PARK, FL 33782
Level 1: N/A
Level 2: N/A
Level 3: N/A
Level 4: N/A

NB1805 JEREMY CORNETTE 863-581-5734
CHARTER COMMUNICATIONS
700 CARILLON PKWY SUITE 6
ST PETERSBURG, FL 33716
Level 1: SERVICES NOT PROVIDED BY MEMBER
Level 2: SERVICES NOT PROVIDED BY MEMBER
Level 3: SERVICES NOT PROVIDED BY MEMBER
Level 4: SERVICES NOT PROVIDED BY MEMBER

Appendix H: PRELIMINARY CONSTRUCTION COST ESTIMATE

PROJECT NAME:
Hays Road Roadway Improvements from Anclote Harbor Apartments to North Jasmine Avenue

PROJECT ID:
00287-012-31

Alternative 1

DATE:
May-21

PAY ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	COST
101-1	MOBILIZATION (10%)	LS	1	$37,832	$37,832
102-1	MAINTENANCE OF TRAFFIC (10%)	LS	1	$37,832	$37,832
104-10-3	SEDIMENT BARRIER	LF	1,690	$1	$2,450
110-1-1	CLEARING & GRUBBING	LS	1	$15,200	$15,200
120-1	REGULAR EXCAVATION	CY	1,273	$30	$37,705
120-6	EMBANKMENT	CY	2,250	$25	$57,306
160-4	STABILIZATION, Type B, LBR 60, 12" Min. Thickness	SY	2,817	$15	$43,643
285-706	OPTIONAL BASE,BASE GROUP 06	SY	1,941	$24	$46,460
334-1-52	SUPERPAVE ASPHALTIC CONC, TRAFFIC B, FC-12.5, PG 76-22 (2.0")	TN	206.6	$152	$31,389
425-1-521	INLETS, DITCH BOTTOM, TYPE C, <10'	EA	1	$5,541	$5,541
430-174-118	PIPE CULVERT, OPTIONAL MATERIAL, OTHER, 18" SD	LF	900	$125	$112,243
430-982-125	MITERED END SECTION, OPTIONAL ROUND, 18" CD	EA	4	$2,374	$9,496
570-1-2	PERFORMANCE TURF, SOD	SY	3,756	$3	$12,387
700-1-50	SINGLE POST SIGN, RELOCATE	EA	4	$240	$962
706-1-1	RAISED PAVEMENT MARKER, TYPE B WITHOUT FINAL SURFACE MARKINGS	EA	40	$6	$256
710-11-101	STANDARD - OTHER SURFACES, WHITE, SOLID, 6"	GM	0.3	$5,094	$1,631
710-11-201	STANDARD - OTHER SURFACES, WHITE, YELLOW, 6"	GM	0.3	$5,166	$1,654
	CONTINGENCY (25%)	LS	1	$94,581	$94,581
	TOTAL COST ESTIMATE				**$548,567**

PROJECT NAME:
Hays Road Roadway Improvements from Anclote Harbor Apartments to North Jasmine Avenue

PROJECT ID:
00287-012-31

Alternative 2

DATE:
May-21

PAY ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	COST
101-1	MOBILIZATION (10%)	LS	1	$98,627	$98,627
102-1	MAINTENANCE OF TRAFFIC (10%)	LS	1	$98,627	$98,627
104-10-3	SEDIMENT BARRIER	LF	1,690	$1	$2,450
110-1-1	CLEARING & GRUBBING	LS	1	$15,200	$15,200
120-1	REGULAR EXCAVATION	CY	860	$30	$25,472
120-6	EMBANKMENT	CY	1,500	$25	$38,204
160-4	STABILIZATION, Type B, LBR 60, 12" Min. Thickness	SY	2,316	$15	$35,889
285-706	OPTIONAL BASE,BASE GROUP 06	SY	1,878	$24	$44,954
334-1-52	SUPERPAVE ASPHALTIC CONC, TRAFFIC B, FC-12.5, PG 76-22 (2.0")	TN	206.6	$152	$31,389
400-1-11	CONCRETE CLASS I, RETAINING WALLS (NORTH)	CY	125.7	$1,000	$125,741
400-1-11	CONCRETE CLASS I, RETAINING WALLS (SOUTH)	CY	40.2	$1,000	$40,185
425-1-351	INLETS, CURB, TYPE P-5, <10'	EA	4	$7,792	$31,167
425-1-361	INLETS, CURB, TYPE P-6, <10'	EA	2	$8,237	$16,473
430-174-118	PIPE CULVERT, OPTIONAL MATERIAL, OTHER, 18" SD	LF	900	$125	$112,243
443-70-3	FRENCH DRAIN, 18"	LF	600	$266	$159,600
515-1-1	PIPE HANDRAIL - GUIDERAIL, STEEL	LF	827	$93	$76,642
520-1-10	CONCRETE CURB & GUTTER, TYPE F	LF	1,690	$35	$59,721
522-2	CONCRETE SIDEWALK AND DRIVEWAYS, 6" THICK	SY	563	$76	$42,774
548-12	RETAINING WALL SYSTEM, PERMANENT, EXCLUDING BARRIER (NORTH)	SF	1,410	$43	$60,010
548-12	RETAINING WALL SYSTEM, PERMANENT, EXCLUDING BARRIER (SOUTH)	SF	1,350	$43	$57,456
570-1-2	PERFORMANCE TURF, SOD	SY	1,878	$3	$6,194
700-1-50	SINGLE POST SIGN, RELOCATE	EA	4	$240	$962
706-1-1	RAISED PAVEMENT MARKER, TYPE B WITHOUT FINAL SURFACE MARKINGS	EA	40	$6	$256
710-11-101	STANDARD - OTHER SURFACES, WHITE, SOLID, 6"	GM	0.3	$5,094	$1,631
710-11-201	STANDARD - OTHER SURFACES, WHITE, YELLOW, 6"	GM	0.3	$5,166	$1,654
	CONTINGENCY (25%)	LS	1	$295,880	$295,880
	TOTAL COST ESTIMATE				**$1,479,400**

PROJECT NAME:
Hays Road Roadway Improvements from Anclote Harbor Apartments to North Jasmine Avenue
PROJECT ID:
00287-012-31
DATE:
May-21

Alternative 3

PAY ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	COST
101-1	MOBILIZATION (10%)	LS	1	$59,766	$59,766
102-1	MAINTENANCE OF TRAFFIC (10%)	LS	1	$59,766	$59,766
104-10-3	SEDIMENT BARRIER	LF	1,690	$1	$2,450
110-1-1	CLEARING & GRUBBING	LS	1	$15,200	$15,200
120-1	REGULAR EXCAVATION	CY	1,020	$30	$30,211
120-6	EMBANKMENT	CY	1,750	$25	$44,572
160-4	STABILIZATION, Type B, LBR 60, 12" Min. Thickness	SY	2,316	$15	$35,889
285-706	OPTIONAL BASE,BASE GROUP 06	SY	1,878	$24	$44,954
334-1-52	SUPERPAVE ASPHALTIC CONC, TRAFFIC B, FC-12.5, PG 76-22 (2.0")	TN	206.6	$152	$31,389
425-1-351	INLETS, CURB, TYPE P-5, <10'	EA	4	$7,792	$31,167
425-1-361	INLETS, CURB, TYPE P-6, <10'	EA	2	$8,237	$16,473
430-174-118	PIPE CULVERT, OPTIONAL MATERIAL, OTHER, 18" SD	LF	900	$125	$112,243
443-70-3	FRENCH DRAIN, 18"	LF	600	$266	$159,600
520-1-10	CONCRETE CURB & GUTTER, TYPE F	LF	1,690	$35	$59,721
570-1-2	PERFORMANCE TURF, SOD	SY	2,817	$3	$9,290
700-1-50	SINGLE POST SIGN, RELOCATE	EA	4	$240	$962
706-1-1	RAISED PAVEMENT MARKER, TYPE B WITHOUT FINAL SURFACE MARKINGS	EA	40	$6	$256
710-11-101	STANDARD - OTHER SURFACES, WHITE, SOLID, 6"	GM	0.3	$5,094	$1,631
710-11-201	STANDARD - OTHER SURFACES, WHITE, YELLOW, 6"	GM	0.3	$5,166	$1,654
	CONTINGENCY (25%)	LS	1	$179,299	$179,299
	TOTAL COST ESTIMATE				**$896,493**

PROJECT NAME:
Hays Road Roadway Improvements from Anclote Harbor Apartments to North Jasmine Avenue

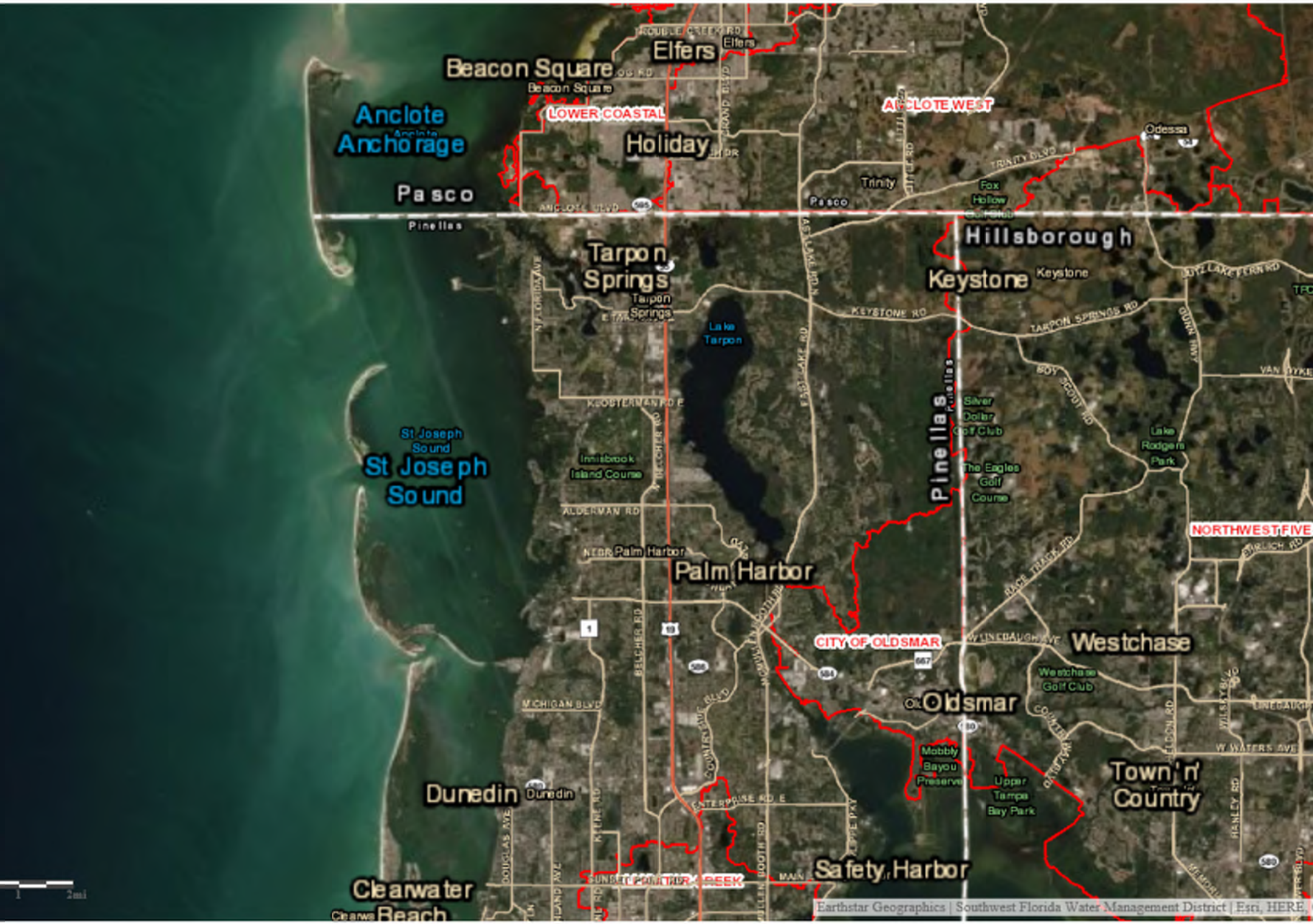
PROJECT ID:
00287-012-31

Alternative 4

DATE:
May-21

PAY ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	COST
101-1	MOBILIZATION (10%)	LS	1	$88,870	$88,870
102-1	MAINTENANCE OF TRAFFIC (10%)	LS	1	$88,870	$88,870
104-10-3	SEDIMENT BARRIER	LF	1,690	$1	$2,450
110-1-1	CLEARING & GRUBBING	LS	1	$15,200	$15,200
120-1	REGULAR EXCAVATION	CY	860	$30	$25,472
120-6	EMBANKMENT	CY	1,500	$25	$38,204
160-4	STABILIZATION, Type B, LBR 60, 12" Min. Thickness	SY	2,035	$15	$31,525
285-706	OPTIONAL BASE,BASE GROUP 06	SY	1,596	$24	$38,211
334-1-52	SUPERPAVE ASPHALTIC CONC, TRAFFIC B, FC-12.5, PG 76-22 (2.0")	TN	175.6	$152	$26,681
400-1-11	CONCRETE CLASS I, RETAINING WALLS (NORTH)	CY	121.9	$1,000	$121,852
400-1-11	CONCRETE CLASS I, RETAINING WALLS (SOUTH)	CY	41.5	$1,000	$41,481
425-1-351	INLETS, CURB, TYPE P-5, <10'	EA	4	$7,792	$31,167
425-1-361	INLETS, CURB, TYPE P-6, <10'	EA	2	$8,237	$16,473
430-174-118	PIPE CULVERT, OPTIONAL MATERIAL, OTHER, 18" SD	LF	900	$125	$112,243
443-70-3	FRENCH DRAIN, 18"	LF	600	$266	$159,600
515-1-1	PIPE HANDRAIL - GUIDERAIL, STEEL	LF	827	$93	$76,642
520-1-10	CONCRETE CURB & GUTTER, TYPE F	LF	1,690	$35	$59,721
522-2	CONCRETE SIDEWALK AND DRIVEWAYS, 6" THICK	SY	563	$76	$42,774
548-12	RETAINING WALL SYSTEM, PERMANENT, EXCLUDING BARRIER (NORTH)	SF	540	$43	$22,982
548-12	RETAINING WALL SYSTEM, PERMANENT, EXCLUDING BARRIER (SOUTH)	SF	360	$43	$15,322
570-1-2	PERFORMANCE TURF, SOD	SY	1,878	$3	$6,194
700-1-50	SINGLE POST SIGN, RELOCATE	EA	4	$240	$962
706-1-1	RAISED PAVEMENT MARKER, TYPE B WITHOUT FINAL SURFACE MARKINGS	EA	40	$6	$256
710-11-101	STANDARD - OTHER SURFACES, WHITE, SOLID, 6"	GM	0.3	$5,094	$1,631
710-11-201	STANDARD - OTHER SURFACES, WHITE, YELLOW, 6"	GM	0.3	$5,166	$1,654
	CONTINGENCY (25%)	LS	1	$266,609	$266,609
	TOTAL COST ESTIMATE				**$1,333,045**

Appendix I: SWFWMD WATERSHED MAP


Elfers
Beacon Square
Anclote Anchorage
LOWER COASTAL
Holiday
ANCLOTE WEST
Odessa
Trinity
Fox Hollow
Pasco
Pinellas
Hillsborough
Tarpon Springs
Keystone
Lake Tarpon
St Joseph Sound
Innisbrook Island Course
Silver Dollar Golf Club
The Eagles Golf Course
Lake Rodgers Park
NORTHWEST FIVE
Palm Harbor
CITY OF OLDSMAR
Westchase
Westchase Golf Club
Oldsmar
Mobbly Bayou Preserve
Upper Tampa Bay Park
Town 'n' Country
Dunedin
Safety Harbor
Clearwater
Clearwater Beach
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Earthstar Geographics | Southwest Florida Water Management District | Esri, HERE

Appendix J: PINELLAS COUNTY WATERSHED MAP

Pinellas County Watershed Boundaries

1, Anclote River
2, Klosterman Bayou
3, Lake Tarpon
3, Lake Tarpon Basin
4, Brooker Creek
5, Oldsmar
6, South Creek
7, Sutherland Bayou
8, Smith Bayou
9, Cedar Creek
10, Curlew Creek
11, Possum Branch
12, Bishop Creek
13, Mullet Creek
14, Alligator Creek
15, Spring Branch
16, Coastal Zone 4
17, Coastal Zone 1
18, Stevensons Creek
19, Allen's Creek
20, Coastal Zone 2
21, Coastal Zone 3
22, Long Branch
23, Roosevelt
24, Cross Bayou
25, Starkey Road
26, Lake Seminole Basin
26, Lake Seminole
27, McKay Creek
28, Coastal Zone 5
29, Pinellas Park Ditch #1
30, Sawgrass Lake
31, Tinney Creek
32, NE St. Petersburg
33, 70th Ave North Canal
34, 54th Ave East Canal
35, Joe's Creek
36, Long Bayou
37, Pasadena Lake
38, SW St. Petersburg
39, Bear Creek
40, Booker Creek
41, North Coffee Pot Bayou
42, 45th Ave North East Canal
43, Coffee Pot Bayou
44, Albert Whitted
45, 34th Street
46, Clam Bayou
47, Gulfport
48, Frenchman's Creek
49, Lake Maggiore
49, Lake Maggiore / Salt Creek
50, Big Bayou
51, Little Bayou Creek
52, Pinellas Point
53, St. Joeseph Sound
54, Clearwater Harbor North
55, Hillsborough County
56, Salt Lake

Pasco County
Hillsborough County
Tarpon Springs
Dunedin
Clearwater
Oldsmar
Safety Harbor
Belleair Shore
Redington Beach
Treasure Island
St. Petersburg
St. Pete Beach
Old Tampa Bay
Gulf of Mexico
Tampa Bay

N PINELLAS AVE
KEYSTONE RD
EAST LAKE RD
US 19A
CAUSEWAY BLVD
CR 611
CURLEW RD
TAMPA RD SR 580
EDGEWATER DR
BAYSHORE BLVD
MAIN ST
SR 580
MEMORIAL CSWY
N BELCHER RD
US HIGHWAY 19 N
GULF TO BAY BLVD
S MISSOURI AVE
GULF BLVD
WEST BAY DR
EAST BAY DR
ROOSEVELT BLVD
I-275
RIDGE RD SW
SEMINOLE BLVD
ULMERTON RD
WALSINGHAM RD
CR 296
CR 296
GANDY BLVD
4TH ST N
113TH ST N
DUHME RD
BELCHER RD
66TH ST N
PARK BLVD N
54TH AVE N
49TH ST N
38TH AVE N
22ND AVE N
5TH AVE N
CENTRAL AVE
1ST AVE S
I-175
8TH ST S
34TH ST S
22ND AVE S
PASS-A-GRILLE
GULF BLVD

Watch this video that explains about Watersheds

http://youtu.be/dUIAANVBYHM
or scan the code below

For more information from Pinellas County about Watershed Management visit our website at:

http://www.pinellascounty.org/environment/watershed
or scan the code below

Map Author: JGB
Path: H:\Application Services\Production Services\GIS Services\EGIS\Watershed_Project\PC_Watershed.mxd

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Pinellas County eGIS BUREAU

Date Created: 11/9/2012

Appendix K: SOIL REPORT

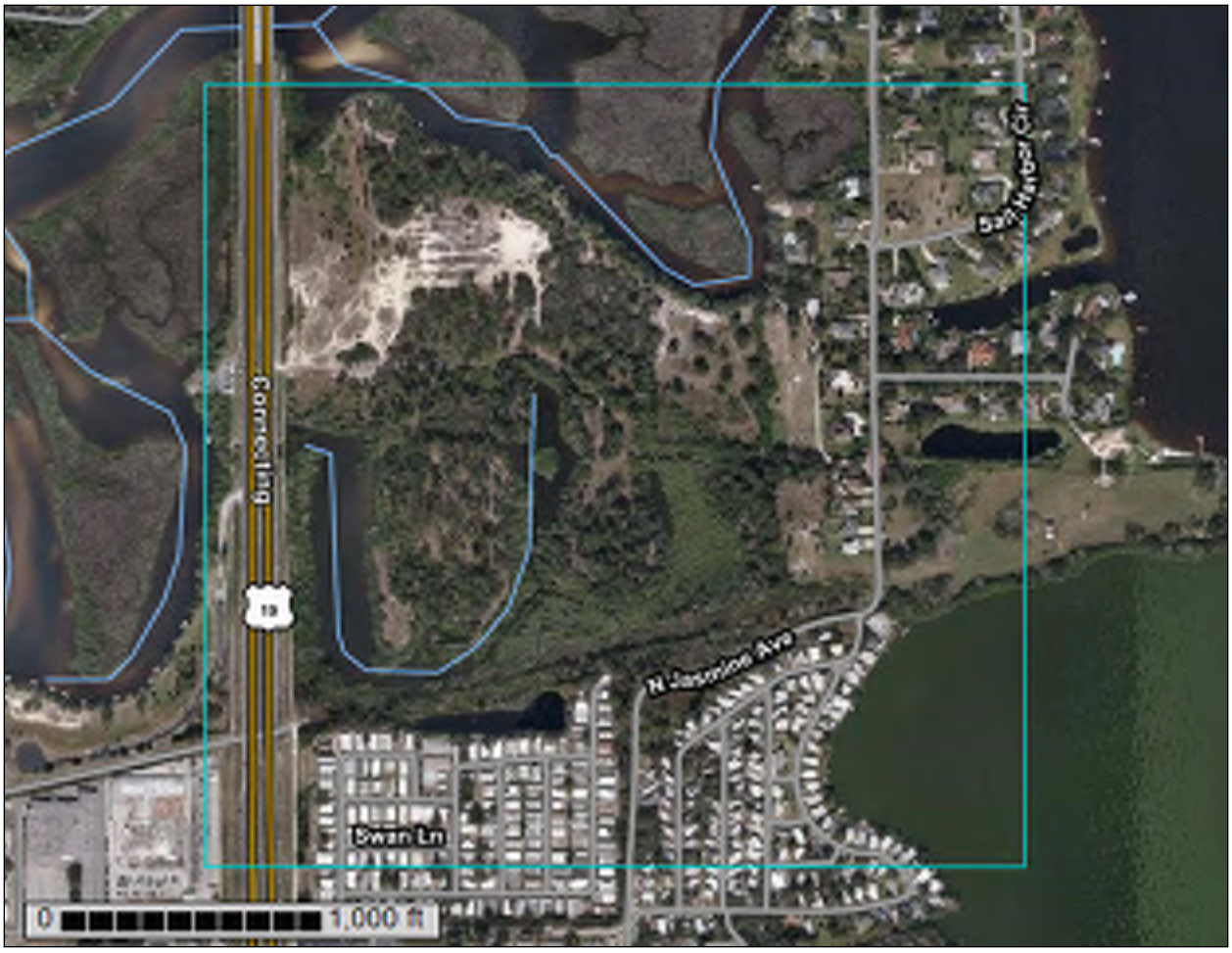
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Pinellas County, Florida



May 26, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:7,710 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 350 700 1400 2100

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Pinellas County, Florida
Survey Area Data: Version 17, Jun 9, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 8, 2020—Jan 27, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
4	Astatula soils and Urban land, 0 to 5 percent slopes	66.0	30.7%
5	Astatula soils and Urban land, 5 to 12 percent slopes	12.7	5.9%
16	Matlacha and St. Augustine soils and Urban land	12.2	5.7%
17	Myakka soils and Urban land	28.1	13.1%
24	Pits	12.3	5.7%
32	Wulfert muck, tidal, 0 to 1 percent slopes	52.7	24.5%
99	Water	31.0	14.4%
Totals for Area of Interest		**215.1**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it

was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Pinellas County, Florida

4—Astatula soils and Urban land, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 134cw
Elevation: 10 to 150 feet
Mean annual precipitation: 48 to 56 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 335 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Astatula and similar soils: 50 percent
Urban land: 45 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Astatula

Setting

Landform: Ridges on marine terraces, hills on marine terraces
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Eolian or sandy marine deposits

Typical profile

A - 0 to 3 inches: fine sand
C - 3 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Very high (20.00 to 50.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water capacity: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Forage suitability group: Forage suitability group not assigned (G154XB999FL)
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

Description of Urban Land

Setting

Landform: Marine terraces
Landform position (three-dimensional): Interfluve, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: No parent material

Interpretive groups

Land capability classification (irrigated): None specified
Forage suitability group: Forage suitability group not assigned (G154XB999FL)
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: Unranked

Minor Components

Adamsville

Percent of map unit: 3 percent
Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (three-dimensional): Interfluve, talf
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

Tavares

Percent of map unit: 2 percent
Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

5—Astatula soils and Urban land, 5 to 12 percent slopes

Map Unit Setting

National map unit symbol: 134c2
Elevation: 10 to 150 feet
Mean annual precipitation: 48 to 56 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 335 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Astatula and similar soils: 50 percent
Urban land: 45 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Astatula

Setting

Landform: Ridges on marine terraces, hills on marine terraces
Landform position (three-dimensional): Interfluve, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Eolian or sandy marine deposits

Typical profile

A - 0 to 3 inches: fine sand
C - 3 to 80 inches: fine sand

Properties and qualities

Slope: 5 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Very high (20.00 to 50.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water capacity: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Forage suitability group: Forage suitability group not assigned (G154XB999FL)
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

Description of Urban Land

Setting

Landform: Marine terraces
Landform position (three-dimensional): Interfluve, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: No parent material

Interpretive groups

Land capability classification (irrigated): None specified
Forage suitability group: Forage suitability group not assigned (G154XB999FL)
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)

Hydric soil rating: Unranked

Minor Components

Adamsville

Percent of map unit: 3 percent
Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (three-dimensional): Interfluve, talf
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

Tavares

Percent of map unit: 2 percent
Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

16—Matlacha and St. Augustine soils and Urban land

Map Unit Setting

National map unit symbol: 134ch
Elevation: 0 to 80 feet
Mean annual precipitation: 48 to 56 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 335 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Matlacha and similar soils: 33 percent
St. augustine and similar soils: 32 percent
Urban land: 31 percent
Minor components: 4 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Matlacha

Setting

Landform: Ridges on marine terraces
Landform position (three-dimensional): Interfluve, rise
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy mine spoil or earthy fill

Typical profile

C - 0 to 42 inches: sand
A/Eb - 42 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 24 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water capacity: Low (about 3.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B
Forage suitability group: Forage suitability group not assigned (G154XB999FL)
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

Description of St. Augustine

Setting

Landform: Ridges on marine terraces, rises on marine terraces
Landform position (three-dimensional): Interfluve, rise
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy mine spoil or earthy fill

Typical profile

A - 0 to 8 inches: sand
C1 - 8 to 33 inches: loamy fine sand
C2 - 33 to 48 inches: fine sand
C3 - 48 to 63 inches: sandy loam
C4 - 63 to 80 inches: sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (2.00 to 20.00 in/hr)
Depth to water table: About 18 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum: 4.0
Available water capacity: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Forage suitability group: Forage suitability group not assigned (G154XB999FL)
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

Description of Urban Land

Setting

Landform: Marine terraces
Landform position (three-dimensional): Interfluve, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: No parent material

Interpretive groups

Land capability classification (irrigated): None specified
Forage suitability group: Forage suitability group not assigned (G154XB999FL)
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: Unranked

Minor Components

Wulfert

Percent of map unit: 2 percent
Landform: Tidal marshes on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: Yes

Kesson

Percent of map unit: 2 percent
Landform: Tidal marshes on marine terraces
Landform position (three-dimensional): Interfluve, talf
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: Yes

17—Myakka soils and Urban land

Map Unit Setting

National map unit symbol: 134cc
Elevation: 0 to 100 feet
Mean annual precipitation: 48 to 56 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 335 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Myakka and similar soils: 50 percent
Urban land: 45 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Myakka

Setting

Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 4 inches: fine sand
E - 4 to 22 inches: fine sand
Bh - 22 to 36 inches: fine sand
C - 36 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water capacity: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Forage suitability group: Forage suitability group not assigned (G154XB999FL)
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

Description of Urban Land

Setting

Landform: Marine terraces
Landform position (three-dimensional): Interfluve, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: No parent material

Interpretive groups

Land capability classification (irrigated): None specified
Forage suitability group: Forage suitability group not assigned (G154XB999FL)
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: Unranked

Minor Components

Adamsville

Percent of map unit: 3 percent
Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (three-dimensional): Interfluve, talf
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

Pomello

Percent of map unit: 2 percent
Landform: Ridges on marine terraces, rises on marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

24—Pits

Map Unit Setting

National map unit symbol: 134d0
Elevation: 10 to 100 feet

Mean annual precipitation: 48 to 56 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 335 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Pits: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pits

Setting

Landform: Flats on marine terraces, ridges on marine terraces
Landform position (three-dimensional): Interfluve, talf, dip
Down-slope shape: Convex, linear
Across-slope shape: Linear
Parent material: Altered marine deposits

Interpretive groups

Land capability classification (irrigated): None specified
Forage suitability group: Forage suitability group not assigned (G154XB999FL)
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

Minor Components

Pinellas

Percent of map unit: 1 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

Myakka

Percent of map unit: 1 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

Immokalee

Percent of map unit: 1 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

Adamsville

Percent of map unit: 1 percent
Landform: Ridges on marine terraces, knolls on marine terraces
Landform position (three-dimensional): Interfluve, talf
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: No

Pineda

Percent of map unit: 1 percent
Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: Yes

32—Wulfert muck, tidal, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2x9d2
Elevation: 0 to 10 feet
Mean annual precipitation: 45 to 54 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 360 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Wulfert, tidal, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wulfert, Tidal

Setting

Landform: Tidal marshes on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Herbaceous organic material over sandy marine deposits

Typical profile

Oan1 - 0 to 12 inches: muck
Oan2 - 12 to 36 inches: muck
Cn - 36 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Very frequent
Frequency of ponding: None
Maximum salinity: Slightly saline to strongly saline (4.0 to 24.0 mmhos/cm)
Sodium adsorption ratio, maximum: 50.0
Available water capacity: Very high (about 15.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Hydrologic Soil Group: A/D
Forage suitability group: Forage suitability group not assigned (G155XB999FL)
Other vegetative classification: Salt Marsh (R155XY009FL), Forage suitability group not assigned (G155XB999FL)
Hydric soil rating: Yes

Minor Components

Kesson, tidal

Percent of map unit: 10 percent
Landform: Tidal marshes on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex, linear
Across-slope shape: Linear
Other vegetative classification: Salt Marsh (R155XY009FL), Forage suitability group not assigned (G155XB999FL)
Hydric soil rating: Yes

99—Water

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Interpretive groups

Land capability classification (irrigated): None specified
Forage suitability group: Forage suitability group not assigned (G154XB999FL)
Other vegetative classification: Forage suitability group not assigned (G154XB999FL)
Hydric soil rating: Unranked

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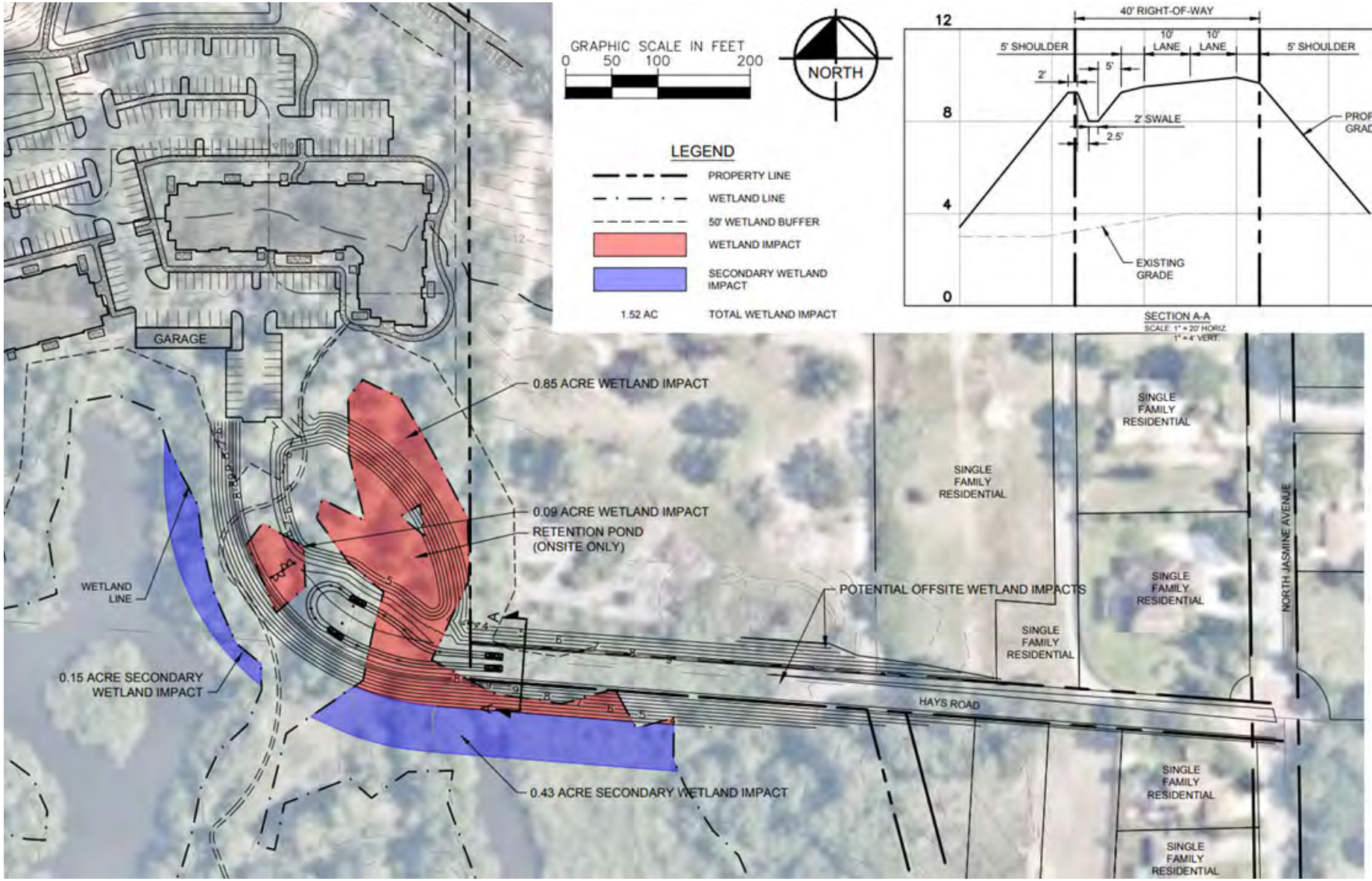
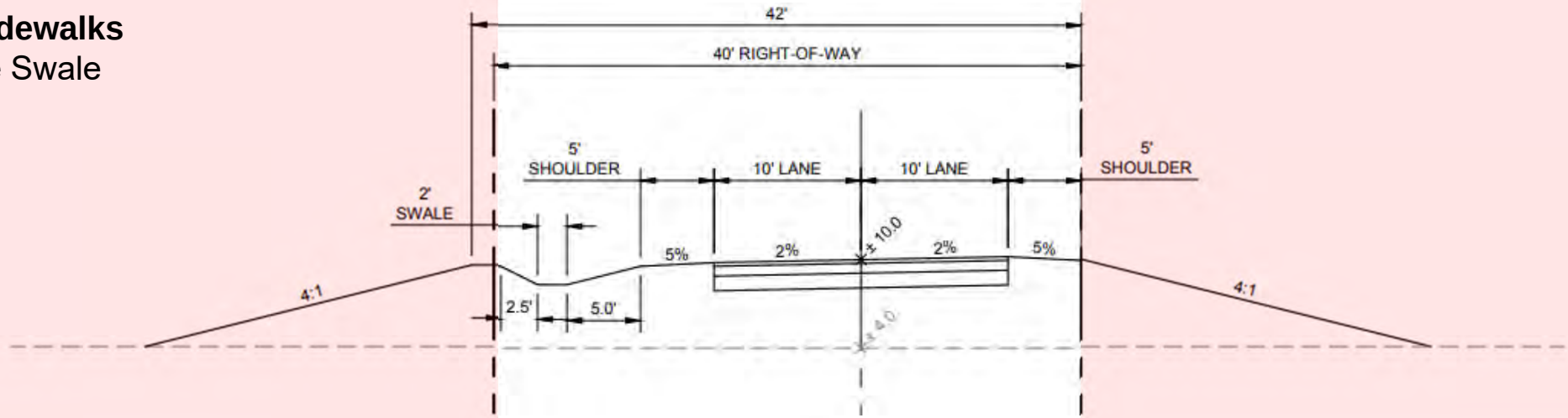
Appendix L: DEVELOPER'S ANALYSIS



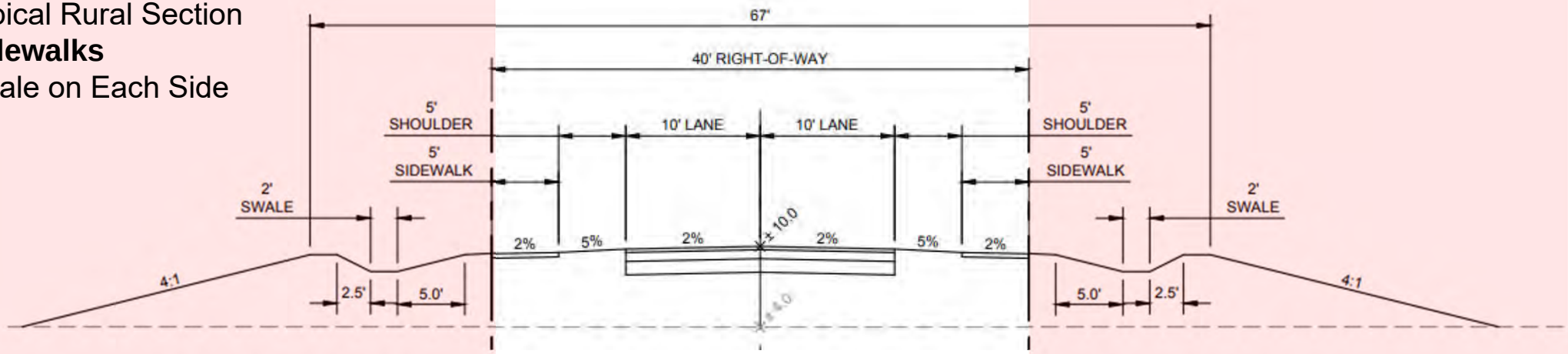
ANCLOTE HARBOR SECONDARY ACCESS EXHIBIT

Kimley»Horn

Typical Rural Section
No Sidewalks
Single Swale



Typical Rural Section
Sidewalks
Swale on Each Side



Kimley»Horn

Anclote Harbor - Rural Secondary Access OPC:

Phase	Road Type	Length (mile)	Total Cost per Mile	Total
Off-site - Secondary Rural Access	2-Lane Undivided w/ 40' ROW	0.17	$ 2,996,000	$ 509,000
			Total:	$ 509,000

NOTES:

This opinion of probable cost was prepared using some interpretation and approximation to further define the proposed improvements. Therefore, there may be instances where the proposed estimates will deviate from the planning documents in order to efficiently define the intended scope of work.

- It is assumed the right-of-way is maintained by the City of Tarpon Springs.
- The contingency for the individual roadway types was assumed to be 30% for this planning level assessment. Also, this will help account somewhat for construction cost escalation, but there is no way to predict the future.
- Mobilization was assumed to 10% of the estimated construction cost.
- Signalization and lighting costs are not accounted for and are excluded from this estimate.
- Design and Construction Engineering Inspection (CEI) services were assumed to be 15% of the estimated construction cost.
- These estimates do not include utilities such as water, sewer, telecom, gas, electric, etc.
- These estimates do not include the cost of excavating pond sites, mitigating existing soil conditions, or wetland permitting and impacts. These items may need to be provided as part of the proposed improvements.
- This estimate doesn't include costs or time involved to obtain temporary construction and/or permanent easements to complete the improvements.

The attached spreadsheet showing the planning level roadway construction cost estimates were derived using best available FDOT unit model roadway costs for similar roadways. These unit models were revised as necessary to address the typical sections as proposed in the planning documents. However, these roadway estimates are strictly planning level and should only be used to determine an order of magnitude cost for the proposed improvements. These estimates do not take into consideration an accurate determination of construction cost escalation, as it is difficult to predict when these improvements would actually be constructed.

Kimley-Horn does not control the cost of labor, materials, equipment or services furnished by others, methods of determining prices, or competitive bidding or market conditions, any opinions rendered as to costs, including but not limited to opinions as to the costs of construction and materials, shall be made on the basis of its experience and represent its judgment as an experienced and qualified professional, familiar with the industry. Kimley-Horn cannot and does not guarantee that proposals, bids or actual costs will not vary from its opinions of cost. If the Client wishes greater assurance as to the amount of any cost, it shall employ an independent cost estimator.

Kimley»Horn

Local Roadway - Minimum 40' ROW (2 Lane)
Per FDOT Project NUR2LN-R-01-BB dated July 2020

Description	Total Quantity	Unit	Weighted Average Price	Total Amount
Maintenance of traffic (5% of construction cost)	1	LS	-	$ 87,123
Mobilization (10% of construction cost)	1	LS	-	$ 174,246
SEDIMENT BARRIER	13,728.00	LF	$1.70	$ 23,338
FLOATING TURBIDITY BARRIER	250.00	LF	$10.00	$ 2,500
SOIL TRACKING PREVENTION DEVICE	1.00	EA	$2,500.00	$ 2,500
LITTER REMOVAL	1.20	EA	$20.00	$ 24
MOWING	1.20	AC	$34.00	$ 41
CLEARING & GRUBBING	14.12	AC	$18,000.00	$ 254,160
REGULAR EXCAVATION	19,360.00	CY	$6.50	$ 125,840
EMBANKMENT	54,493.51	CY	$10.00	$ 544,935
TYPE B STABILIZATION	25,813.33	SY	$3.80	$ 98,091
OPTIONAL BASE,BASE GROUP 09	14,467.20	TN	$19.00	$ 274,877
SUPERPAVE ASPH CONC, TRAF C, PG76-22	2,645.87	TN	$100.00	$ 264,587
ASPH CONC FC,INC BIT,FC-5,PG76-22	594.18	CY	$140.00	$ 83,185
PERFORMANCE TURF, SOD	16,250.67	SY	$2.60	$ 42,252
SINGLE POST SIGN, F&I GM,	2.00	SY	$340.00	$ 680
SINGLE POST SIGN, F&I GM, 12-20 SF	20.00	SY	$1,200.00	$ 24,000
RAISED PAVMT MARK, TYPE B W/O FINAL SURF	135.00	LF	$4.40	$ 594
PAINTED PAVT MARK,STD,WHITE,SKIP, 6"	2.00	LF	$430.00	$ 860
Contingency (30% of total cost)	1	LS	-	$ 601,150
Design services and CEI (15% of total cost)				$ 390,747
			Total Cost Per Mile	$ 2,996,000

NOTES:

This opinion of probable cost was prepared using some interpretation and approximation to further define the proposed improvements. Therefore, there may be instances where the proposed estimates will deviate from the planning documents in order to efficiently define the intended scope of work.

- It is assumed the right-of-way is maintained by the City of Tarpon Springs.
- The contingency for the individual roadway types was assumed to be 30% for this planning level assessment. Also, this will help account somewhat for construction cost escalation, but there is no way to predict the future.
- Mobilization was assumed to 10% of the estimated construction cost.
- Signalization and lighting costs are not accounted for and are excluded from this estimate.
- Design and Construction Engineering Inspection (CEI) services were assumed to be 15% of the estimated construction cost.
- These estimates do not include utilities such as water, sewer, telecom, gas, electric, etc.
- These estimates do not include the cost of excavating pond sites, mitigating existing soil conditions, or wetland permitting and impacts. These items may need to be provided as part of the proposed improvements.
- This estimate doesn't include costs or time involved to obtain temporary construction and/or permanent easements to complete the improvements.

The attached spreadsheet showing the planning level roadway construction cost estimates were derived using best available FDOT unit model roadway costs for similar roadways. These unit models were revised as necessary to address the typical sections as proposed in the planning documents. However, these roadway estimates are strictly planning level and should only be used to determine an order of magnitude cost for the proposed improvements. These estimates do not take into consideration an accurate determination of construction cost escalation, as it is difficult to predict when these improvements would actually be constructed.

Kimley-Horn does not control the cost of labor, materials, equipment or services furnished by others, methods of determining prices, or competitive bidding or market conditions, any opinions rendered as to costs, including but not limited to opinions as to the costs of construction and materials, shall be made on the basis of its experience and represent its judgment as an experienced and qualified professional, familiar with the industry. Kimley-Horn cannot and does not guarantee that proposals, bids or actual costs will not vary from its opinions of cost. If the Client wishes greater assurance as to the amount of any cost, it shall employ an independent cost estimator.

Appendix M: CITY OF TARPON SPRINGS ORDINANCE 2020-34

ORDINANCE 2020-34

AN ORDINANCE OF THE CITY OF TARPON SPRINGS, FLORIDA AMENDING THE OFFICIAL ZONING MAP OF THE CITY OF TARPON SPRINGS, FLORIDA, FOR 72.62 ACRES, MORE OR LESS, OF REAL PROPERTY LOCATED AT 42501 U.S. HIGHWAY 19 NORTH, ON THE EAST SIDE OF U.S. HIGHWAY 19 NORTH, FROM ZONING DESIGNATION GB (GENERAL BUSINESS) TO ZONING DESIGNATION RPD (RESIDENTIAL PLANNED DEVELOPMENT); APPROVING PRELIMINARY PLANNED DEVELOPMENT FOR ANCLOTE HARBOR RESIDENTIAL PLANNED DEVELOPMENT; PROVIDING FOR WAIVERS OF DESIGN REQUIREMENTS OF THE RPD DISTRICT; PROVIDING FOR FINDINGS; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the property owner of record of said parcel has requested to amend to the zoning district designation of said parcel from General Business (GB) district to Residential Planned Development (RPD) district; and,

WHEREAS, the Applicant is also requesting approval of a Preliminary Planned Development under the RPD (Residential Planned Development) zoning district; and,

WHEREAS, the Applicant is also requesting approval of a conditional use to allow for establishment of a residential use on the property in the Commercial General (CG) Future Land Use Map (FLUM) category; and,

WHEREAS, the proposed RPD, Residential Planned Development, zoning district is consistent with the Commercial General (CG) and Residential/Office General (R/OG) Future Land Use Map category designations of the subject property; and,

WHEREAS, the planned uses within the RPD District are compatible with surrounding and existing land uses; and,

WHEREAS, the Planning and Zoning Board conducted a public hearing on this rezoning Ordinance on November 16, 2020; and

WHEREAS, published legal notice of this Ordinance has been provided pursuant to the requirements of Chapter 166.041, F.S. and Section 206.00 of the Tarpon Springs Comprehensive Zoning and Land Development Code.

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF COMMISSIONERS OF THE CITY OF TARPON SPRINGS, FLORIDA:

Section 1. FINDINGS

1. That the Board of Commissioners finds that this Ordinance is consistent with the Tarpon Springs Comprehensive Plan.

2. That available uses to which the property may be put are appropriate to the property in question and are compatible with the existing and planned uses in the area.

3. That the amendment shall provide for efficient and orderly development considering the impact upon growth patterns and the cost to the City to provide public facilities.

4. That the amendment will not adversely impact nor exceed the capacity or the fiscal ability of the City to provide public facilities including transportation, water and sewer, solid waste, drainage, recreation, education, fire protection, library service and other similar public facilities.

Section 2. MAP AMENDMENT

That the Official Zoning Atlas of the City of Tarpon Springs is hereby amended to be Residential Planned Development (RPD) for property legally described in Exhibit A, attached hereto.

Section 3. PRELIMINARY PLANNED DEVELOPMENT APPROVAL

The Preliminary Planned Development for Anclote Harbor multifamily residential development is hereby approved with the following waiver of design requirements:

1. Allowance of a maximum building height of 53 feet.

and with the following conditions:

1. Details of the proposed method of wetland enhancement and preliminary coordination with the Southwest Florida Water Management District (SWFWMD) showing approval of the jurisdictional determination shall be submitted with the Final Development Plan. Final permits from the SWFWMD may be submitted prior to issuance of a building permit for site work.
2. A conceptual plan detailing the approach for eradication and future management of Brazilian pepper tree (*Schinus terebinthifolius*) for each habitat area of the site shall be submitted with the Final Development Plan. The final plan shall be submitted at the time of application for a building permit for site work in conjunction with the arborist's report and the final tree protection and mitigation

plan. The City recognizes that it may be appropriate in some areas of the site to address the tree protection requirements of Section 133.04(d) of the Land Development Code on an area-wide basis for habitats being preserved rather than using crown spread for individual trees.

3. A landscape plan with a site-specific planting schedule shall be submitted with the Final Planned Development and shall include appropriately sized species for driveway medians within the site.
4. The 50-foot buffer adjacent to the Anclote River shall remain and be managed as undisturbed uplands (hardwood conifer mix) and shall not be graded within the 25-foot wetland buffer required by the Southwest Florida Water Management District.
5. A plan for proposed lighting with shielded lighting and decorative poles shall be submitted with the Final Development Plan.
6. On site signs and sign poles shall be designed to match City of Tarpon Springs specifications for the downtown/Community Redevelopment Area (CRA). Details shall be included with the Final Development Plan.
7. The Applicant will be responsible for addressing the provision of Public Art pursuant to Article XVII of the Land Development Code as part of the Final Development Plan.
8. A detailed drainage plan meeting the requirements of Section 141.00 of the Land Development Code and requirements of the Southwest Florida Water Management District shall be submitted with the Final Development Plan.
9. Detailed plans for utilities connections and infrastructure, including wastewater force main construction shall be submitted with the Final Development Plan along with documented coordination from all applicable agencies and landowners affected by the construction. A Final Development Plan submittal that includes on-site infrastructure only may be scheduled for review by the Technical Review Committee (TRC). The submittal of the plans for the off-site (public) infrastructure will be required to be submitted and reviewed prior to scheduling for review by the Board of Commissioners.
10. The final traffic study shall be submitted with the Final Development Plan along with Florida Department of Transportation approval of the proposed roadway and access configuration.
11. An updated letter from the Florida Department of State documenting review of archeological resources on the site shall be provided with the Final Development Plan.
12. An application for Future Land Use Map amendment to Recreation Open Space (ROS) for the upland preserve area shall be submitted prior to, or at the time of, Final Development Plan submittal.
13. A map adjustment to the Preservation (P) area on the City's Future Land Use Map will be required to match the category designation to the delineated wetlands on site. The City will process the map adjustment concurrently with the Final Planned Development.
14. The design of the residential buildings and clubhouse submitted for Final Development Plan approval shall be substantially similar to the architectural elevations that are a part of the Preliminary Development Plan application;

however, minor revisions to the architectural features of these buildings may occur without requiring a new Preliminary Development Plan Review. Minor revisions to the architectural features shall include but are not limited to changes to the color palette, the window pattern, siding and roofing materials and other similar features.

15. The proposed boat dock located adjacent to the Anclote River is subject to all applicable permitting requirements; and, upon the issuance of the applicable permits, the timing of construction of the dock will be determined by the Applicant in his sole discretion. The boat dock will contain a maximum of ten (10) slips which shall be for the sole benefit of the residents of the project.
16. A construction management and mitigation plan as required by the applicable jurisdictional agencies to avoid/address listed species impacts including bald eagle, indigo snake and gopher tortoises shall be submitted with the application for a building permit for site work.
17. The developer is responsible for obtaining applicable permits from all other agencies, for meeting the minimum requirements of the Comprehensive Zoning and Land Development Code, and for payment of all requisite fees.
18. The Applicant shall complete the process for a Final Development Plan pursuant to Section 82.00 of the Land Development Code. The Final Development Plan shall be submitted within one year of approval of the Preliminary Planned Development.
19. The Applicant will discuss with FDOT the feasibility of a signal or arrow at the Offset Median Openings on US Highway 19 and determine if the signal or arrow can be tied to the existing signals at US Highway 19' intersections with Spruce Street and Beckett Way.
20. The Applicant commits to designing and constructing the project consistent with the Bronze level of the National Green Building Standards and will pursue the certification of the project at the Bronze level.
21. The Applicant agrees to replace *Viburnum odaratissimum* with *Viburnum suspensum* and to replace Dahoon Holly with Yaupon Upright or Weeping. These landscape material changes will be reflected on the Final Development Plan when submitted to the City.
22. Should the City elect to build Hays Road, the Applicant will connect the project to the new Hays Road, pay transportation impact fees estimated at $573,680, and will contribute an additional $509,000 to the City's Transportation Fund to defray the City's cost of construction of Hays Road east to Jasmine Avenue. The City agrees to notify the Applicant in writing of its decision to build, or not build, Hays Road within 90 days of Final Development Plan approval. Upon approval of the Preliminary Planned Development, Sixty-Five Thousand Dollars ($65,000) of the $509,000 contribution will be provided to the City of Tarpon Springs to conduct a preliminary analysis and design to improve Hays Road within the existing 40' right of way. This amount shall be non-refundable. The remaining contribution ($444,000) shall be utilized by the City and County to design and construct improvements to Hays Road limited to what may be provided within the existing 40' right of way (which may include less than full access based upon preliminary analysis and design). The City will not use eminent domain for the Anclote

Harbor project. If the City and County decide to build Hays Road and require the project to connect to Hays Road, the Applicant may provide for the connection through the site construction plan amendment process without further action by the City of Tarpon Springs Board of Commissioners. Should the City of Tarpon Springs or Pinellas County determine that it is unfeasible or undesirable to connect the project to Hays Road in any manner the Applicant shall provide an emergency-only access connection to U.S. Highway 19 and shall deposit the remaining contribution of $444,000 to the City's Land Preservation Fund. The Applicant shall provide evidence of FDOT approval of the U.S. Highway 19 emergency access and shall provide for the emergency access design during the site construction plan approval and amendment process without further action by the City of Tarpon Springs Board of Commissioners.

23. The Applicant will extend the existing reclaimed water line to the project, at the Applicant's cost, subject to the City's commitment to provide the requisite amount of reclaimed water to serve the project.
24. The Applicant will install solar panels to serve the main Clubhouse building.
25. The Applicant will install underground conduit at each building location to enable the future installation of additional Electric Vehicle Charging Stations as demand for these Charging Stations increases.
26. The Applicant will continue to work with Pasco County Public Transportation to determine if a bus shelter is needed at the project entrance.
27. The Applicant will investigate planting additional trees at the project entrance, subject to review and approval of Duke Energy who have approval authority on all trees and landscape material within their easement along the site's US 19 frontage.

Section 4. EFFECTIVE DATE

This Ordinance shall be effective upon approval and in conjunction with approval of Resolution 2020-72.

PASSED and ADOPTED this 15th day of January, 2021.

CHRIS ALAHOUZOS, MAYOR

JACOB KARR, VICE MAYOR

TOWNSEND TARAPANI, COMMISSIONER

CONNOR DONOVAN, COMMISSIONER

COSTA S. VATIKIOTIS, COMMISSIONER

MOTION BY: VICE MAYOR KARR
SECOND BY: COMMISSIONER DONOVAN

VOTE ON MOTION

COMMISSIONER VATIKIOTIS	No
COMMISSIONER DONOVAN	Yes
COMMISSIONER TARAPANI	Abstained
VICE-MAYOR KARR	Yes
MAYOR ALAHOUZOS	Yes

ATTEST:

IRENE S. JACOBS, CMC
CITY CLERK & COLLECTOR

APPROVED AS TO FORM:

THOMAS J. TRASK, B.C.S.
CITY ATTORNEY

FIRST READING: December 8, 2020

SECOND READING: December 15, 2020*
(*Continuation: January 7, 2021 and January 5, 2021)

Ordinance 2020-34. Exhibit A

ANCLOTE HARBOR
LEGAL DESCRIPTION:

A TRACT OF LAND BEING A PORTION OF TAMPA AND TARPON SPRINGS LAND COMPANY AS RECORDED IN PLAT BOOK H-1, PAGE 116 OF THE PUBLIC RECORDS OF PINELLAS (FORMERLY HILLSBOROUGH) COUNTY, FLORIDA, LYING IN AND BEING A PART OF THE SOUTHEAST 1/4 OF SECTION 6, TOWNSHIP 27 SOUTH, RANGE 16 EAST, PINELLAS COUNTY FLORIDA AND A PORTION OF THE OFFICIAL MAP OF THE TOWN OF TARPON SPRINGS AS RECORDED IN PLAT BOOK 4, PAGE 79 OF THE PUBLIC RECORDS OF PINELLAS COUNTY, FLORIDA LYING IN AND BEING A PART OF THE NORTHEAST 1/4 OF SECTION 7, TOWNSHIP 27 SOUTH, RANGE 16 EAST, PINELLAS COUNTY, FLORIDA; BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTHEAST CORNER OF SECTION 6, TOWNSHIP 27 SOUTH, RANGE 16 EAST, PINELLAS COUNTY, FLORIDA; AND RUN NORTH 85° 40' 26" WEST ALONG THE SOUTH LINE OF THE SOUTHEAST 1/4 OF SAID SECTION 6 FOR A DISTANCE OF 885.46 FEET TO THE POINT OF BEGINNING BEING AT THE SOUTHEAST CORNER OF LOT 42 OF THE TAMPA AND TARPON SPRINGS LAND COMPANY AS RECORDED IN PLAT BOOK H-1, PAGE 116 OF THE PUBLIC RECORDS OF PINELLAS (FORMERLY HILLSBOROUGH) COUNTY, FLORIDA; THENCE RUN NORTH 00° 09' 16" WEST ALONG THE EAST LINE OF THE AFORESAID LOT 42 AND THE EAST LINE OF THE WEST 1/3 OF LOT 41 FOR A DISTANCE OF 1319.40 FEET TO A POINT ON THE NORTH LINE OF SAID LOT 41; THENCE RUN N 85° 42' 06" W ALONG THE NORTH LINE OF LOTS 41 AND 45 FOR A DISTANCE OF 1380.36 FEET TO A POINT ON THE EAST RIGHT OF WAY LINE OF STATE ROAD 55 (US HIGHWAY 19), RIGHT OF WAY WIDTH VARIES, AS SHOWN ON FLORIDA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP SECTION NO. 15150-2548; THENCE RUN SOUTH 00° 02' 56" WEST ALONG SAID EAST RIGHT OF WAY LINE FOR A DISTANCE OF 1543.63 FEET; THENCE CONTINUE SOUTHERLY ALONG THE RIGHT OF WAY LINE AS PER THE ORDER OF TAKING AS RECORDED IN OFFICIAL RECORDS BOOK 6222, PAGE 2159 OF THE PUBLIC RECORDS OF PINELLAS COUNTY, FLORIDA FOR THE FOLLOWING TWO COURSES; THENCE RUN SOUTH 03° 40' 12" EAST FOR DISTANCE OF 308.34 FEET; THENCE RUN SOUTH 00° 02' 56" WEST FOR A DISTANCE OF 504.19 FEET; THENCE DEPARTING SAID EAST RIGHT OF WAY LINE AND RUN NORTH 77° 42' 54" EAST ALONG THE NORTHERLY RIGHT OF WAY LINE AS RECORDED IN OFFICIAL RECORDS BOOK 3268, PAGE 99 AND VACATED PER ORDINANCE 84-07 RECORDED IN OFFICIAL RECORDS BOOK 5746, PAGE 1209, ALL OF THE PUBLIC RECORDS OF PINELLAS COUNTY, FLORIDA FOR A DISTANCE OF 1956.89 FEET TO A POINT ON THE EAST LINE OF BLOCK 96 OF THE AFORESAID OFFICIAL MAP OF THE TOWN OF TARPON SPRINGS AS RECORDED IN PLAT BOOK 4, PAGE 79 OF THE PUBLIC RECORDS OF PINELLAS COUNTY, FLORIDA, THENCE RUN NORTH 14° 38' 46" WEST ALONG THE EAST LINE OF BLOCK 96 AND BLOCK 90 OF THE AFORESAID OFFICIAL MAP OF THE TOWN OF TARPON SPRINGS FOR A DISTANCE OF 474.10 FEET TO A POINT ON THE SOUTH RIGHT OF WAY LINE OF A 25 FOOT ROAD RIGHT OF WAY AS DESCRIBED IN THAT CERTAIN DEED RECORDED IN OFFICIAL RECORDS BOOK 2, PAGE 227 OF THE PUBLIC RECORD OF PINELLAS COUNTY, FLORIDA; THENCE

RUN NORTH 85° 40' 26" WEST ALONG SAID SOUTH RIGHT OF WAY LINE FOR A DISTANCE OF 431.33 FEET; THENCE RUN NORTH 00° 09' 16" WEST ALONG A SOUTHERLY EXTENSION OF THE EAST LINE OF LOT 42 OF THE TAMPA AND TARPON SPRINGS LAND COMPANY AS RECORDED IN PLAT BOOK H-1, PAGE 116 OF THE PUBLIC RECORDS OF PINELLAS COUNTY, FLORIDA FOR A DISTANCE OF 25.08 FEET TO THE POINT OF BEGINNING.

LESS AND EXCEPT LAND CONVEYED PURSUANT TO THAT CERTAIN SPECIAL WARRANTY DEED RECORDED IN OFFICIAL RECORDS BOOK 14238, PAGE 1044 OF THE PUBLIC RECORDS OF PINELLAS COUNTY, FLORIDA.

0000118468-01

Tampa Bay Times
Published Daily

STATE OF FLORIDA
COUNTY OF Pinellas, Hillsborough, Pasco, Hernando Citrus } ss

Before the undersigned authority personally appeared **Virginia Marshall** who on oath says that he/she is **Legal Advertising Representative** of the **Tampa Bay Times** a daily newspaper printed in St. Petersburg, in Pinellas County, Florida; that the attached copy of advertisement, being a Legal Notice in the matter **RE: City of Tarpon Springs - ORDINANCE NO. 2020-34** was published in **Tampa Bay Times: 10/28/20** in said newspaper in the issues of **Tampa Bay Times\Local B\Full Run**

Affiant further says the said **Tampa Bay Times** is a newspaper published in Pinellas, Hillsborough, Pasco, Hernando Citrus County, Florida and that the said newspaper has heretofore been continuously published in said Pinellas, Hillsborough, Pasco, Hernando Citrus County, Florida each day and has been entered as a second class mail matter at the post office in said Pinellas, Hillsborough, Pasco, Hernando Citrus County, Florida for a period of one year next preceding the first publication of the attached copy of advertisement, and affiant further says that he/she neither paid not promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Signature Affiant

Sworn to and subscribed before me this .**10/28/2020**

Signature of Notary Public

Personally known X or produced identification

Type of identification produced

Notary Public State of Florida
Jill A Harrison
My Commission GG 166212
Expires 12/06/2021

LEGAL NOTICE

NOTICE OF PROPOSED AMENDMENT TO THE OFFICIAL ZONING ATLAS OF THE CITY OF TARPON SPRINGS

The City of Tarpon Springs, Florida, proposes to adopt the following Ordinance:

ORDINANCE NO. 2020-34

AN ORDINANCE OF THE CITY OF TARPON SPRINGS, FLORIDA AMENDING THE OFFICIAL ZONING MAP OF THE CITY OF TARPON SPRINGS, FLORIDA, FOR 72.62 ACRES, MORE OR LESS, OF REAL PROPERTY LOCATED AT 42501 U.S. HIGHWAY 19 NORTH, ON THE EAST SIDE OF U.S. HIGHWAY 19 NORTH, FROM ZONING DESIGNATION GB (GENERAL BUSINESS) TO ZONING DESIGNATION RPD (RESIDENTIAL PLANNED DEVELOPMENT); APPROVING PRELIMINARY PLANNED DEVELOPMENT FOR ANCLOTE HARBOR RESIDENTIAL PLANNED DEVELOPMENT; PROVIDING FOR DIMENSIONAL STANDARDS; PROVIDING FOR WAIVERS OF DESIGN REQUIREMENTS OF THE RPD DISTRICT; PROVIDING FOR FINDINGS; AND PROVIDING AN EFFECTIVE DATE.

Public Hearings on the proposed ordinances will be held before the **Planning & Zoning Board** on

Monday, November 16, 2020 at 7:00 P.M., and

before the **Board of Commissioners** on:

Tuesday, December 8, 2020 at 6:30 P.M. (1st Reading)
Tuesday, December 15, 2020 at 6:30 P.M. (2nd Reading)

THE PLANNING AND ZONING BOARD AND THE BOARD OF COMMISSIONERS PUBLIC HEARINGS WILL BE HELD IN THE CITY HALL AUDITORIUM, 324 EAST PINE STREET, TARPON SPRINGS, FLORIDA. TO REDUCE EXPOSURE TO THE CORONAVIRUS-2019 AND PURSUANT TO THE GOVERNOR'S EXECUTIVE ORDER 20-69, THE TARPON SPRINGS CITY HALL IS CURRENTLY CLOSED TO THE PUBLIC AND THEREFORE THE ABOVE LISTED PUBLIC HEARINGS MAY BE HELD USING REMOTE CONFERENCING SERVICES PROVIDED BY ZOOM. MORE INFORMATION AND INSTRUCTIONS FOR PARTICIPATION IN THE HEARING ARE AVAILABLE BY CONTACTING THE CITY AS PROVIDED BELOW.

Said hearings may be continued from time to time pending Adjournment. All interested parties are invited to attend these meetings to express your views or to present facts in the case. If a person decides to appeal any decision made by the Board of Commissioners with respect to any matter considered at these meetings or hearings, he will need a record of the proceedings, and that, for such purposes, he may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based.

Written comments may be addressed to the Planning & Zoning Department, (Phone (727) 942-5611), City of Tarpon Springs, P.O. Box 5004, Tarpon Springs, Florida 34688-5004. Written comments will become a part of the record. Materials related to this ordinance, including the complete legal description of the subject property by metes and bounds, are available for inspection. Persons wishing to participate in the hearing or receive more information may contact the Planning & Zoning Department during City Hall business hours at (727) 942-5611, or visit the City's web site at www.ctsfl.us. Any person with a disability requiring reasonable accommodation in order to participate in these meetings should call (727) 942-5611 or FAX a written request to (727) 943-4651.

PLEASE REFERENCE APPLICATION #20-107

10/28/2020 0000118468-01

0000125583-01

Tampa Bay Times
Published Daily

STATE OF FLORIDA
COUNTY OF Pinellas, Hillsborough, Pasco, Hernando Citrus } ss

Before the undersigned authority personally appeared **Virginia Marshall** who on oath says that he/she is **Legal Advertising Representative** of the **Tampa Bay Times** a daily newspaper printed in St. Petersburg, in Pinellas County, Florida; that the attached copy of advertisement, being a Legal Notice in the matter **RE: City of Tarpon Springs - ORDINANCE NO. 2020-34** was published in **Tampa Bay Times: 12/ 2/20** in said newspaper in the issues of **Tampa Bay Times\Local B\Full Run**

Affiant further says the said **Tampa Bay Times** is a newspaper published in Pinellas, Hillsborough, Pasco, Hernando Citrus County, Florida and that the said newspaper has heretofore been continuously published in said Pinellas, Hillsborough, Pasco, Hernando Citrus County, Florida each day and has been entered as a second class mail matter at the post office in said Pinellas, Hillsborough, Pasco, Hernando Citrus County, Florida for a period of one year next preceding the first publication of the attached copy of advertisement, and affiant further says that he/she neither paid not promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Virginia M Marshall

Signature Affiant

Sworn to and subscribed before me this **12/02/2020**

Signature of Notary Public

Personally known X or produced identification

Type of identification produced _____

Notary Public State of Florida
Jill A Harrison
My Commission GG 166212
Expires 12/06/2021

LEGAL NOTICE

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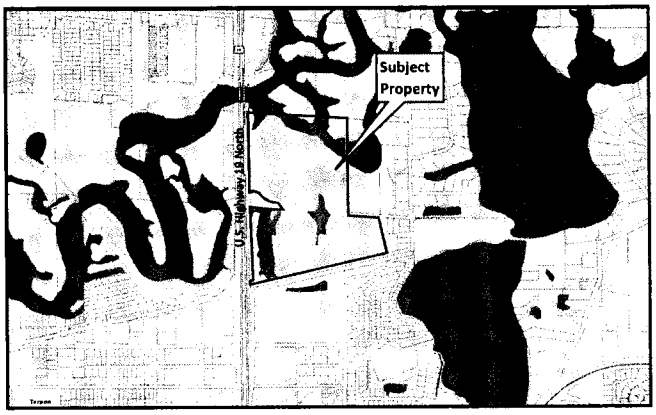

Public Hearings on the proposed ordinance will be held before the **Board of Commissioners** on:

Tuesday, December 8, 2020 **@ 6:30 P.M. (1st Reading)**
Tuesday, December 15, 2020 **@ 6:30 P.M. (2nd Reading)**

THE BOARD OF COMMISSIONERS PUBLIC HEARINGS WILL BE HELD IN THE CITY HALL AUDITORIUM, 324 EAST PINE STREET, TARPON SPRINGS, FLORIDA. TO REDUCE EXPOSURE TO THE CORONAVIRUS-2019, THE TARPON SPRINGS CITY HALL IS CURRENTLY CLOSED TO THE PUBLIC AND THEREFORE THE ABOVE LISTED PUBLIC HEARINGS MAY BE HELD USING REMOTE CONFERENCING SERVICES PROVIDED BY ZOOM. MORE INFORMATION AND INSTRUCTIONS FOR PARTICIPATION IN THE HEARING ARE AVAILABLE BY CONTACTING THE CITY AS PROVIDED BELOW.

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PLEASE REFERENCE APPLICATION #20-107

12/02/2020 0000125583-01