

Prepared For:

Villa Richey, LLC

ENVIRONMENTAL AND ECOLOGICAL ASSESSMENT



EXCELSIOR
Environmental Consultants

**'4210 Madison Street' Development Project
4206/4210 Madison Street
New Port Richey, Florida 34652**

**Report Date: March 18th, 2022
EEC Project Number J9ETV1**

**Prepared By
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1. PURPOSE AND EXECUTIVE SUMMARY

Excelsior Environmental Consultants, LLC (hereinafter called “Excelsior”) was authorized by Villa Richey, LLC (hereinafter called the “Client” or “User”) on March 9th, 2022 to conduct an Environmental and Ecological Assessment (“EEA”) of the Subject Property, located at 4206/4210 Madison Street, New Port Richey, Florida 34652 (hereinafter called the “Site” or “Subject Property”) (**Figure 1**).

The purpose of this assessment is to satisfy the requirements of Pasco County Ordinance 803.2, which states that all development applications *“shall include a preliminary habitat assessment, which at a minimum, shall include: identification of on-site habitats, soils maps, survey methods and/or transects, and direct observations of any listed and protected species”*.

The Subject Property is a parcel of real estate approximately 6.20 acres in size zoned MF-1 (Multiple Family Medium Density) by Pasco County. It is bounded on the north by the Meadowlawn Funeral Home and Memorial Gardens, on the south by the Cedar Pointe Condominiums, on the east by the Meadowlawn Funeral Home and Memorial Gardens, followed by the Virginia City residential neighborhood, and on the west by Madison Street, followed by the Sunshine Park residential neighborhood. The entirety of the Site consists of upland that is dominated by well-drained sandy soils and urban woodland landcover.

No state- or federally-listed floral species were observed on the Subject Property during the site survey. However, one state-listed faunal species, the gopher tortoise (*Gopherus polyphemus*), was observed to be active on the Subject Property. Although the Site is located within both a wood stork (*Mycteria americana*) Nesting Colony Core Foraging Area and the Florida Scrub Jay (*Aphelocoma coerulescens*) Consultation Area, the land cover and vegetation present on the Subject Property are not optimal for either species. Consequently, neither wood storks nor Florida scrub jays are likely to forage or nest on the Site. Similarly, although bald eagles (*Haliaeetus leucocephalus*) are present throughout the State, there are no documented bald eagle nests within one mile of the Site.

This summary does not contain all the information that is found in the full report. Detailed information regarding these findings is provided in the corresponding sections of the text of the report. The report should be reviewed in its entirety to obtain a more complete understanding of the information provided.

2. TOPOGRAPHY

The Subject Property is located within the gulf coastal lowlands area of Pasco County, which itself lies between the coastal swamps area to the west, and the Brooksville Ridge and Western Valley areas to the east (Stankey 1982). Based on topographic data available from the United States Geological Survey (USGS), elevations on the Subject Property range from approximately 45 feet above sea level (ASL) along the southern parcel boundary, to approximately 40 feet ASL along the northern parcel boundary, sloping markedly towards the north-northeast (**Figure 2, Map 1**).

3. SOILS

According to the US Department of Agriculture (USDA) National Resource Conservation Service (NRCS), only one (1) soil type, **Tavares series sand, 0-5% slopes (Map 2)**, occurs on the Subject Property.

Tavares series sands are very deep (i.e., 99 inches or greater), moderately well drained soils that formed in sandy marine or eolian deposits, and are typically located on hills, ridges and knolls in the lower Coastal Plain of the United States. As sandy entisols (i.e., “psammments”), Tavares series soils lack distinct, diagnostic soil horizons. The surface layer of this soil type generally consists of very dark grayish-brown sand (Munsell value 10YR 3/2) approximately five inches thick, with subsurface layers approaching very pale brown (Munsell values from 10YR 7/4 to 10YR 8/2) through the remainder of the soil profile.

Tavares series sands are not considered hydric by the NRCS, and are not included on the list of hydric soils present in Pasco County (Hurt 2007). In most years, the seasonal high water table for this soil type is 42 to 72 inches (average 57 inches) below the ground surface for more than 6 to 10 months, but can recede to depths greater than 72 inches during dry periods. Permeability for this soil type is rapid to very rapid.

4. LAND USE AND VEGETATIVE COMMUNITIES

According to the Florida Fish and Wildlife Commission (Florida FWC) Cooperative Land Cover (CLC) map, only one (1) landcover type, **High Intensity Urban (1822)**, occurs on the Subject Property (**Map 3**). This is an upland, non-natural landcover type, characterized by residential densities of more than two dwellings per acre, and commercial, industrial, and institutional uses.

Vegetation observed on the Site during the assessment was typical of disturbed woodlands in urban areas, and included a mixed canopy of **native trees** such as red cedar (*Juniperus virginiana*), slash pine (*Pinus elliottii*), black cherry (*Prunus serotina*), laurel oak (*Quercus laurifolia*), live oak (*Quercus virginiana*), and sabal palm (*Sabal palmetto*), and **non-native trees** such as bamboo (*Bambusa* spp.), camphor (*Cinnamomum camphora*), ear pod tree (*Enterolobium contortisiliquum*), flamegold (*Koelreuteria elegans*), chinaberry (*Melia azedarach*), and Brazilian pepper (*Schinus terebinthifolia*).

Ground vegetation included immature specimens of tree species listed above, **native species** such as beggarticks (*Bidens* spp.), beautyberry (*Callicarpa americana*), blackberry (*Rubus* spp.), saw palmetto (*Serenoa repens*), St. Augustine grass (*Stenotaphrum secundatum*), and wild grape (*Vitis rotundifolia*), and **non-native species** such as common asparagus fern (*Asparagus setaceus*), lantana (*Lantana camara*), bahiagrass (*Paspalum notatum*), Johnsongrass (*Sorghum halepense*), and caesarweed (*Urena lobata*).

5. PROTECTED SPECIES

An assessment for “listed” (i.e., “Rare”, “Endangered”, “Threatened”, or “Of Special Concern”) floral and faunal species was conducted on the Subject Property on 14 March 2022. This survey consisted of pedestrian transects spaced 15-20 feet apart and covered approximately 100% of the Subject Property. Particular attention was given to those listed floral and faunal species which have the potential to occur in Pasco County (**Table 1** and **Section 5.2**, respectively).

5.1 Floral Species Assessment

No plant species listed as “endangered” or “threatened” by either the Florida Department of Agriculture (FDA) or US Fish and Wildlife Service (USFWS) were identified on the Site during the assessment. However, one (1) species, saw palmetto (*Serenoa repens*), was identified that is listed as “commercially exploited” by the Florida Department of Agriculture and Consumer Services (FDACS). Although the harvesting of saw palmetto or saw palmetto berries for commercial purposes is illegal, the listing of this species, by itself, poses no restrictions towards the development of the Subject Property.

5.2 Faunal Species Assessment

The scope of listed faunal species with a probability of occurring on or near the Subject Property was determined using the USFWS Information for Planning and Consultation (IPaC) tool (United States Fish and Wildlife Service 2022). The species identified by IPaC as being likely to occur on the Subject Property included:

- Bald eagle (*Haliaeetus luciocephalids*)
- Eastern black rail (*Laterallus jamaicensis*)
- Wood stork (*Mycteria americana*)

- Eastern indigo snake (*Drymarchon corais couperi*)
- Gopher tortoise (*Gopherus polyphemus*)
- Loggerhead sea turtle (*Caretta caretta*)

- Monarch butterfly (*Danaus plexippus*)

The faunal assessment included direct observation, as well as evidence of a particular species' presence such as tracks, nests, burrows, and calls. The presence of the following wildlife species was observed on the Subject Property during the assessment:

Amphibians and Reptiles:

- Brown anole (*Anolis sagrei*)
- Black racer (*Coluber constrictor constrictor*)
- **Gopher tortoise (*Gopherus polyphemus*)**

Birds:

- Northern cardinal (*Cardinalis cardinalis*)
- American crow (*Corvus brachyrhynchos*)
- Laughing gull (*Leucophaeus atricilla*)
- Common mockingbird (*Mimus polyglottos*)
- Mourning dove (*Zenaida macroura*)

Mammals:

- Nine-banded armadillo (*Dasypus novemcinctus*)
- Domestic cat (*Felix catus*)
- Raccoon (*Procyon lotor*)
- Gray squirrel (*Sciurus carolinensis*)

Insects:

- Bumble bee (*Bombus variabilis*)
- Wolf spider (*Hogna lenta*)
- Eastern black swallowtail (*Papilio polyxenes*)
- Yellow jacket (*Vespula squamosa*)

5.3 Protected Species Observed on the Subject Property

Of the listed wildlife species described in **Section 5.2**, only one, the gopher tortoise (*Gopherus polyphemus*), was identified on the Subject Property.

Currently the gopher tortoise is listed by the Florida FWC as “Threatened” and is also classified as a “Candidate” species for federal protection by the USFWS. The basis of the “Threatened” classification for the gopher tortoise by the Florida FWC is due to habitat loss and destruction of burrows. Gopher tortoises are commonly found in areas with well-drained soils and access to sunlight, such as pine flatwoods, pastures, and abandoned orange groves.

A 100% area belt transect gopher tortoise burrow survey was conducted at the Subject Property on 14 March 2022. The burrow survey consisted of 29 pedestrian transects, each approximately 15 to 25 feet wide depending on ground cover (**Figure 3**). Survey coverage also extended 25 feet outside the Subject Property boundaries where feasible, as required by the Florida FWC gopher tortoise permitting guidelines.

The presence of a gopher tortoise burrow is determined by characteristics including, but not limited to, a hole with a crescent-shaped cross-section that descends at a 10- to 45-degree angle, and an ‘apron’ of excavated soil surrounding the burrow entrance. Active, potentially occupied burrows are typically, but not always, greater than six feet in depth and possess characteristics such as fresh claw and plastron tracks near the burrow apron. Abandoned burrows typically appear unused and dilapidated, with entrances that are partially or completely collapsed and that are partially or completely filled with leaves or soil.

Excelsior identified and flagged a total of 15 gopher tortoise burrows (**Figure 3, Table 2**) on or within 25 feet of the Subject Property. Of the 15 total gopher tortoise burrows identified during the survey, **9 burrows were determined to be active (potentially occupied), and 6 burrows were determined to be abandoned.** Potentially occupied burrows were marked with labeled orange and green-stripe flagging, and abandoned burrows were marked with labeled blue flagging. Aside from active burrow characteristics, Excelsior directly observed several gopher tortoises on burrow aprons during the survey.

The Florida FWC considers a 50% occupancy rate for each burrow (i.e., there are two burrows for every one gopher tortoise) in a given area. **Consequently, there are estimated to be 4 to 5 gopher tortoises active on, or within the vicinity of, the Subject Property.**

Options for dealing with gopher tortoise burrows that are located within 25 feet of the proposed development footprint include:

- Avoidance (i.e., minimum 25-foot radius, non-isolated buffer zone around burrow)
- On-site relocation to a designated recipient area (if there are 10 or fewer active burrows and requisite space)
- Off-site relocation to an FWC-permitted gopher tortoise recipient site

All gopher tortoise relocation activities must be permitted by the Florida FWC and conducted by an FWC authorized gopher tortoise agent.

Based on Excelsior’s understanding of the Client’s development plan for the Subject Property, at least three of the potentially occupied burrows (GT1, GT5, GT6) are located within either a proposed neighborhood park area, or one of two proposed dry stormwater management areas. Potentially, these three burrows can be left in place provided that they are excluded from the development area for the duration of construction with well-maintained silt fencing buried at least 8 inches into the ground, per Florida FWC recommendations. The remainder of the active burrows within 25 feet of the development footprint must be permitted for removal to either a designated on-site recipient area, or an FWC-permitted recipient site.

Several other protected species known to occur in Pasco County also have a possibility of occurring on the Site, as they are gopher tortoise commensal species (i.e., they utilize gopher tortoise burrows). These species include the eastern indigo snake (*Drymarchon corais couperi*), Florida mouse (*Podomys floridanus*) and the gopher frog (*Rana capito*). However, none of these species were observed during the wildlife assessment survey.

5.4 Protected Species with Ranges Overlapping the Subject Property

Based on a review of Florida FWC and USFWS databases, the following species have ranges that overlap the Subject Property:

Wood Stork (*Mycteria americana*)

USFWS listed as “Threatened”, Florida FWC listed as “Federally-designated Threatened”

According to the USFWS, the Subject Property falls within a Wood Stork Nesting Colony Core Foraging Area (**Figure 4**). Wood storks are large, long-legged wading birds, three to four feet tall, with a wingspan of approximately five feet. Their plumage is white except for black primaries and secondaries and a short black tail. The head and neck are largely unfeathered and dark gray in color. The bill is black, thick at the base, and slightly decurved. Wood storks inhabit both freshwater and estuarine wetlands, primarily nesting in cypress or mangrove swamps. They feed in freshwater marshes, narrow tidal creeks, or flooded tidal pools as well as roadside ditches. Particularly attractive feeding sites are depressions in marshes or swamps where fish become concentrated during periods of falling water levels.

Based on Excelsior’s review of available state and federal databases, there is no record of a wood stork rookery on, or within proximity to, the Subject Property. Furthermore, as there is no appropriate nesting or foraging habitat located on, or adjacent to, the Subject Property, it is unlikely that the proposed development will impact the local wood stork population in any appreciable way.

Bald Eagle (*Haliaeetus leucocephalus*)

State protected by F.A.C. 68A-16.002 and federally protected by both the 1918 Migratory Bird Treaty Act and the 1940 Bald and Golden Eagle Protection Act

In August of 2007, the USFWS removed the bald eagle from the list of federally endangered and threatened species. Additionally, the bald eagle was removed from Florida FWC imperiled species list in April of 2008. Although the bald eagle is no longer protected under the US Endangered Species Act, it is still protected under the Bald and Golden Eagle Protection Act, the Migratory Bird Treaty Act, and the Florida FWC’s Bald Eagle rule (Florida Administrative Code 68A-16.002).

In November of 2017, the Florida FWC issued “A Species Action Plan for the Bald Eagle” in response to the expiration of the 2008 Bald Eagle Management Plan. Significantly, this update removed the requirement to obtain both state and federal permits for activities with the potential to take or disturb bald eagles or their nests; only a federal permit is now required.

Under the USFWS management plan, buffer zones are recommended based on the nature and magnitude of the proposed project or activity. The recommended buffer zone is 660 feet or less from the nest tree, depending on preexisting activities or structures near the nest. A USFWS Bald Eagle “Non-Purposeful Take Permit” is not needed for any activity occurring outside of the 660-foot buffer zone. No activities are permitted within 330 feet of a nest without a USFWS permit.

Excelsior conducted a review for any Florida FWC documented bald eagle nests on, or within the vicinity of, the Subject Property. The nearest recorded bald eagle nests (PS003, PS021, PS024, and PS028) are all more than one mile away from the Subject Property (**Figure 4**). Consequently, the proposed development does not pose an immediate threat to any existing bald eagle nests in the area.

6. USFWS THREATENED AND ENDANGERED CONSULTATION AREAS REVIEW

The USFWS has established “consultation areas” for certain listed species. Generally, these consultation areas only come into consideration if USFWS consultation is required as part of a permit application to the U.S. Army Corps of Engineers. Even in these cases, additional review is often determined by the USFWS to be unnecessary early in the permit review process due to the absence of appropriate habitat or other conditions.

Consultation areas are typically regional in size, spanning multiple counties where the species in question is known to exist. Consultation areas by themselves do not indicate the presence of a listed species. They only indicate an area where there is a potential for a listed species to occur, and that additional information may be necessary to confirm or rule-out the species’ presence. This information might consist of a simple review of critical habitat types in the area. In other cases, it might be necessary to conduct species-specific surveys using established methodologies that have been approved by the USFWS.

Based on Excelsior’s review of USFWS maps and data, the Subject Property is located within a consultation area for the following species (**Figure 5**):

Florida Scrub Jay (*Aphelocoma coerulescens*)

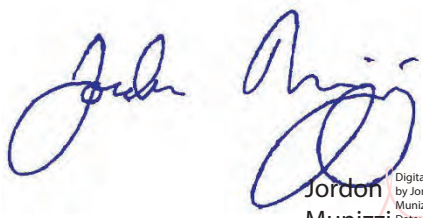
USFWS listed as “Threatened”, Florida FWC listed as “Federally-designated Threatened”

The Florida scrub jay is the only bird species that is endemic to Florida, and is largely restricted to scattered, often small and isolated patches of sand pine scrub, xeric oak, scrubby flatwoods, and scrubby coastal stands in peninsular Florida (Woolfenden 1978, Fitzpatrick et al. 1991). They avoid wetlands and forests, including canopied sand pine stands. Optimal scrub jay habitat is composed of shrubby scrub species, live oaks, myrtle oaks, or sand live oaks from 3 to 10 feet tall, covering 50% to 90% of the area; bare ground or sparse vegetation less than 6 inches tall covering 10% to 50% of the area; and scattered trees with no more than 20% canopy cover (Fitzpatrick et al. 1991).

No scrub jays were observed or heard on the Subject Property during the pedestrian survey conducted by Excelsior. Further, the vegetative community present on the Subject Property are not optimal for scrub jays.

7. DISCLAIMERS

The environmental and ecological findings described in this document are based on observations and technical information available at the time of writing. This report is for general planning purposes only. Although Excelsior believes that the surveys conducted on the Subject Property were appropriate and thorough, it is possible that certain listed species are present on the Site, but were not observed due to seasonal growth, migration, or activity patterns, weather conditions during the site visit, or other factors. This document does not constitute authorization to proceed with any clearing, filling, grading, or other development activities. All assessments are subject to regulatory review. Please refer any questions directly to Jordon Munizzi at **(855) 720-2333** or jsm@excelsiorflorida.com.



Digitally signed
by Jordon
Munizzi
Date: 2022.03.18
18:22:34 -04'00'

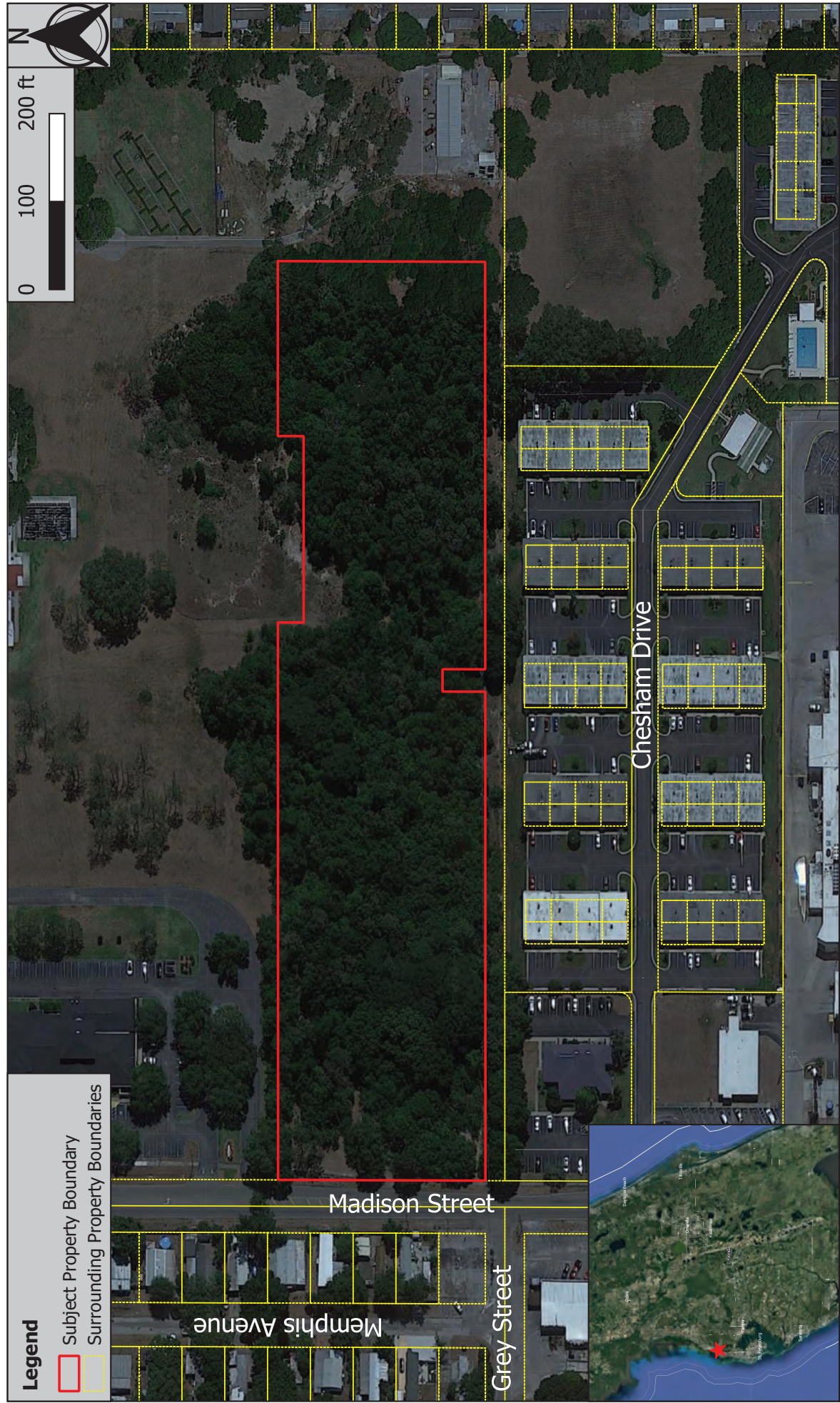
Principal Field Scientist
Excelsior Environmental Consultants, LLC

8. REFERENCES

- Fitzpatrick JW, Woolfenden GE, Kopeny MT. 1991. *Ecology and Development-related Habitat Requirements of the Florida Scrub Jay (Aphelocoma coerulescens coerulescens)*. Florida Game and Freshwater Fish Commission. Nongame Wildlife Program Technical Report Number 8. Tallahassee, Florida.
- Hurt GW (editor). 2007. *Hydric Soils of Florida Handbook, Fourth Edition*. Florida Association of Environmental Soil Scientists. 223 pages.
- Stankey DL. 1982. *Soil Survey of Pasco County, Florida*. United States Department of Agriculture Soil Conservation Service. 231 pages.
- United States Fish and Wildlife Service. 2022. IPaC: Information for Planning and Consulting (WWW program). Available from: <https://ipac.ecosphere.fws.gov>.
- Woolfenden GE. 1978. *Growth and Survival of Young Florida Scrub Jays*. Wilson Bulletin 90: 1-18.

FIGURES

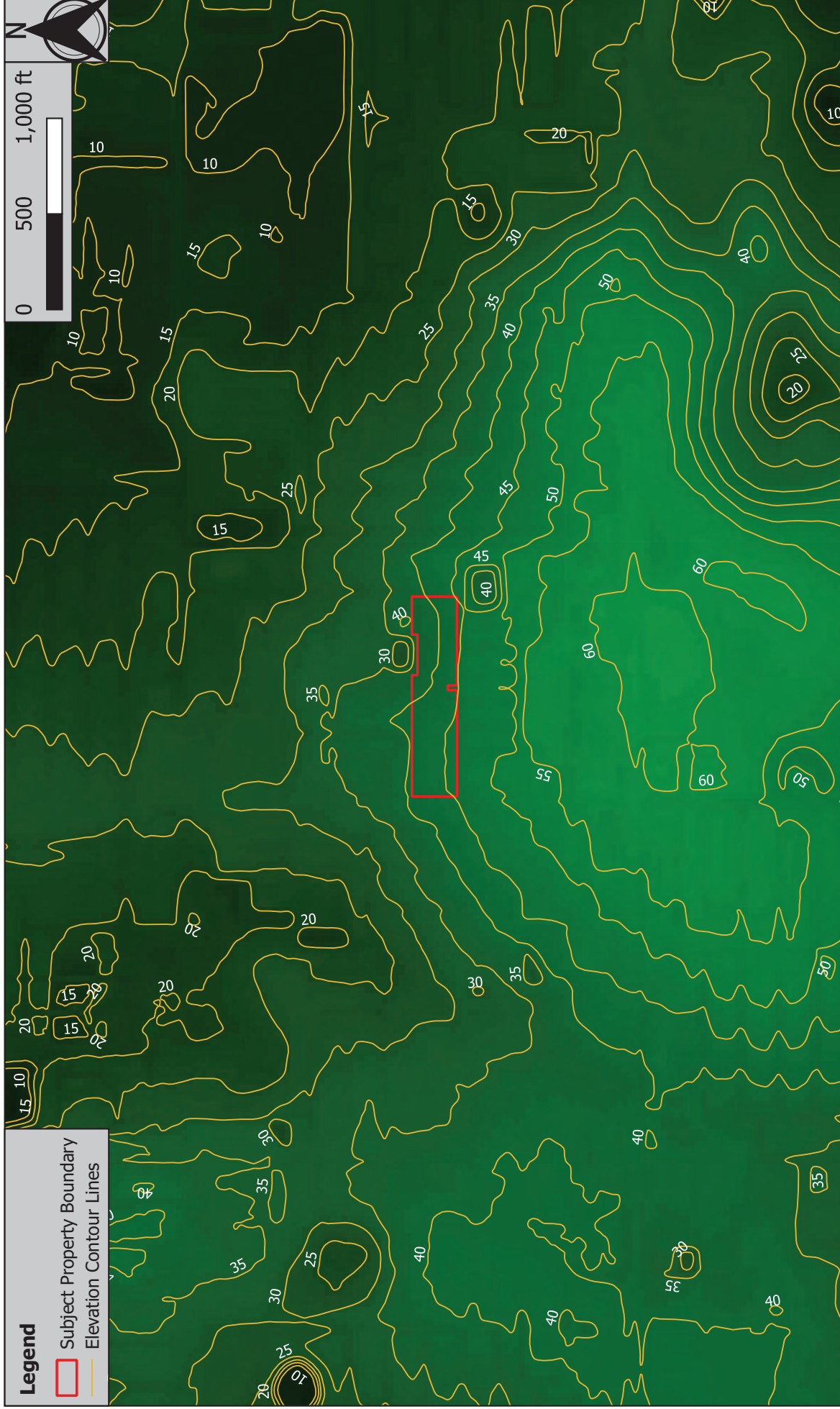
Figure 1: Location Map of Subject Property



Pasco County Parcel ID 16-26-16-0010-06100-0010
4206/4210 Madison Street
New Port Richey, Florida 34652

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Figure 2: Elevation Map of Subject Property



Prepared By:



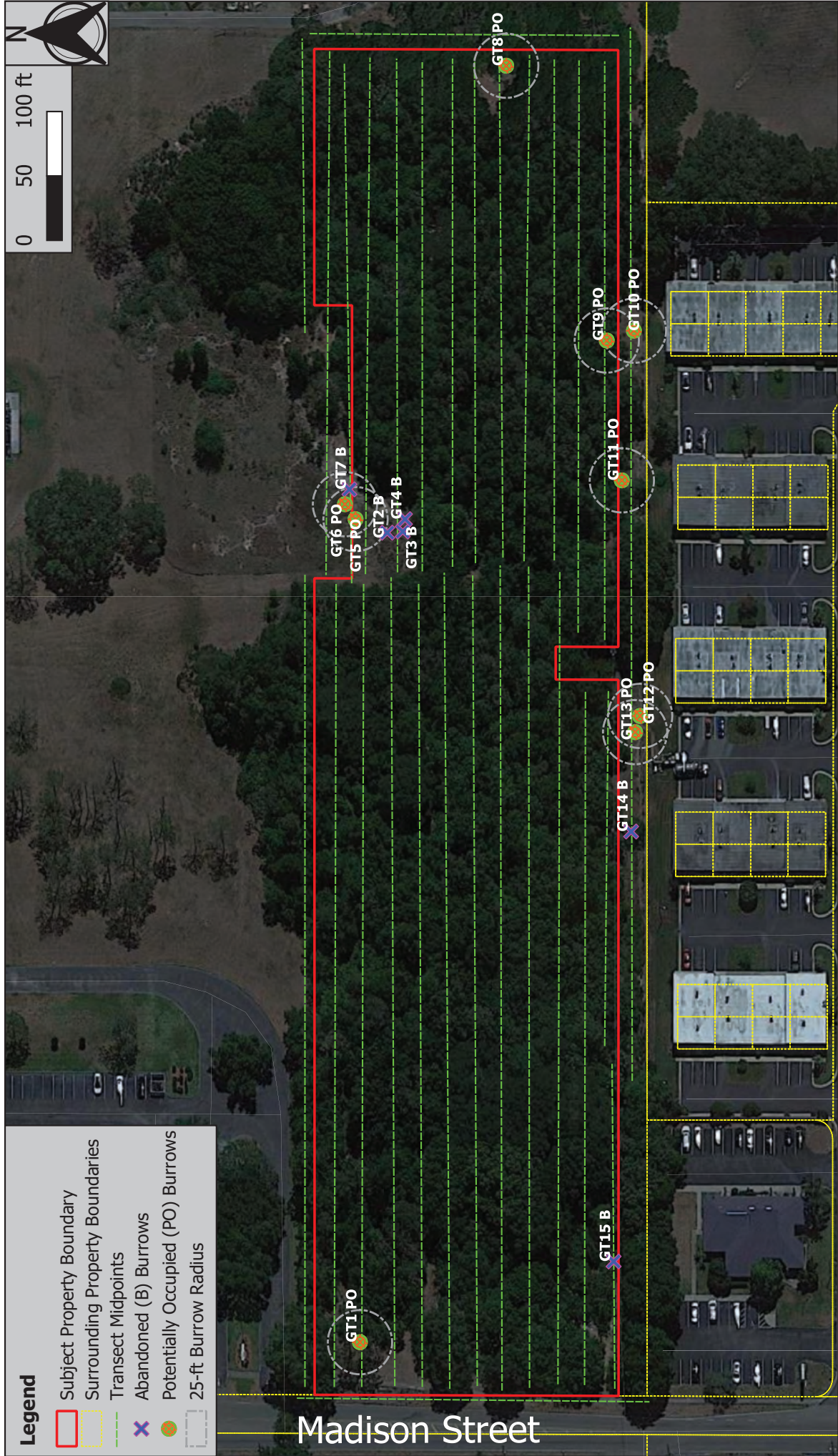
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Pasco County Parcel ID
16-26-16-0010-06100-0010

4206/4210 Madison Street
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Figure 3: Gopher Tortoise Burrow Survey Map



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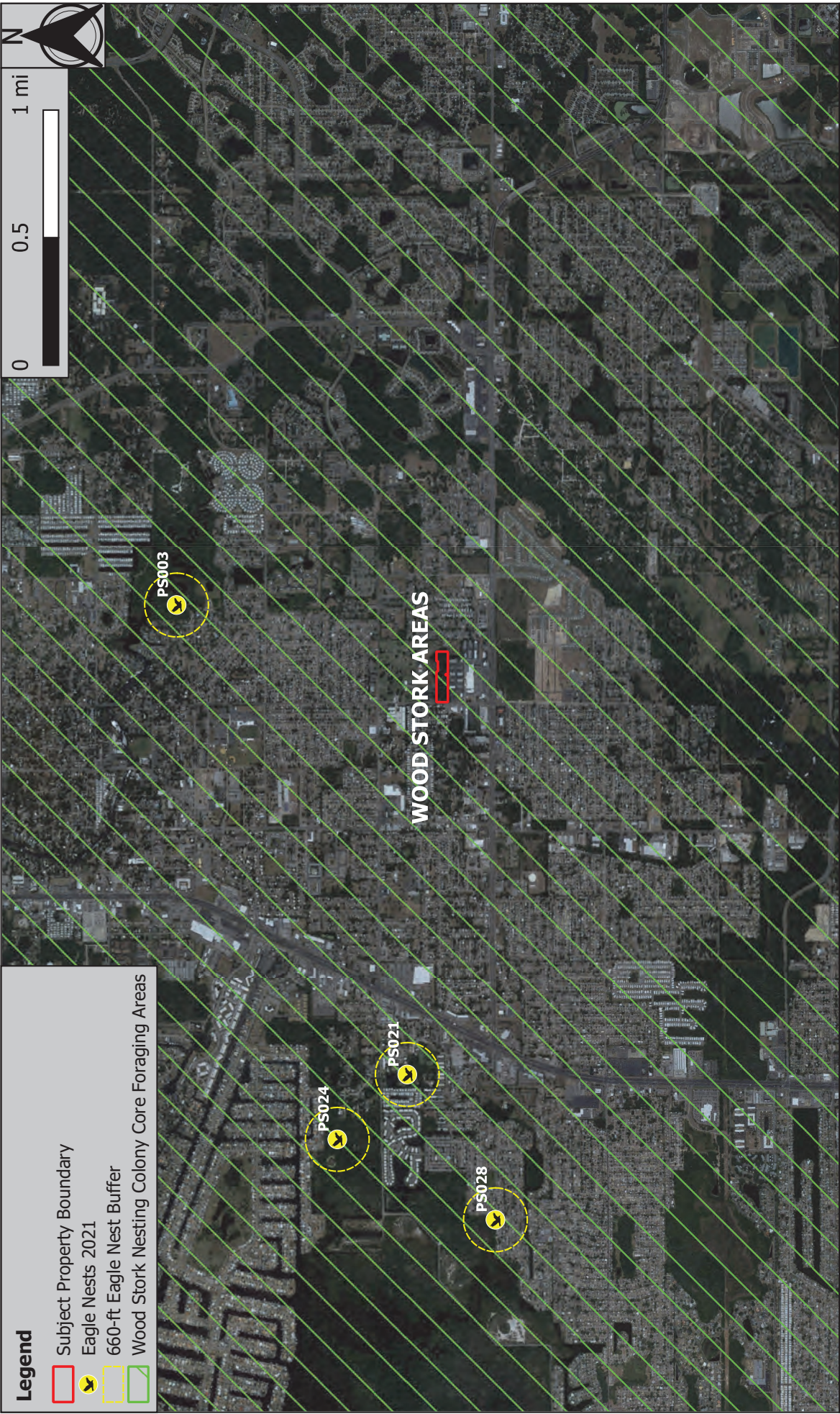
Notes:

1. Survey date: 14 March 2022.
2. Transect lines as shown represent midpoints, actual transect widths = 15-25 ft.
3. Burrow locations as shown are from GNSS data and are approximate (+/- 30 in [0.8 m]).
4. Burrows are marked with stakes and color-coded flagging.

Pasco County Parcel ID
16-26-16-0010-06100-0010

4206/4210 Madison Street
New Port Richey, Florida 34652

Figure 4: Wildlife Proximity Map



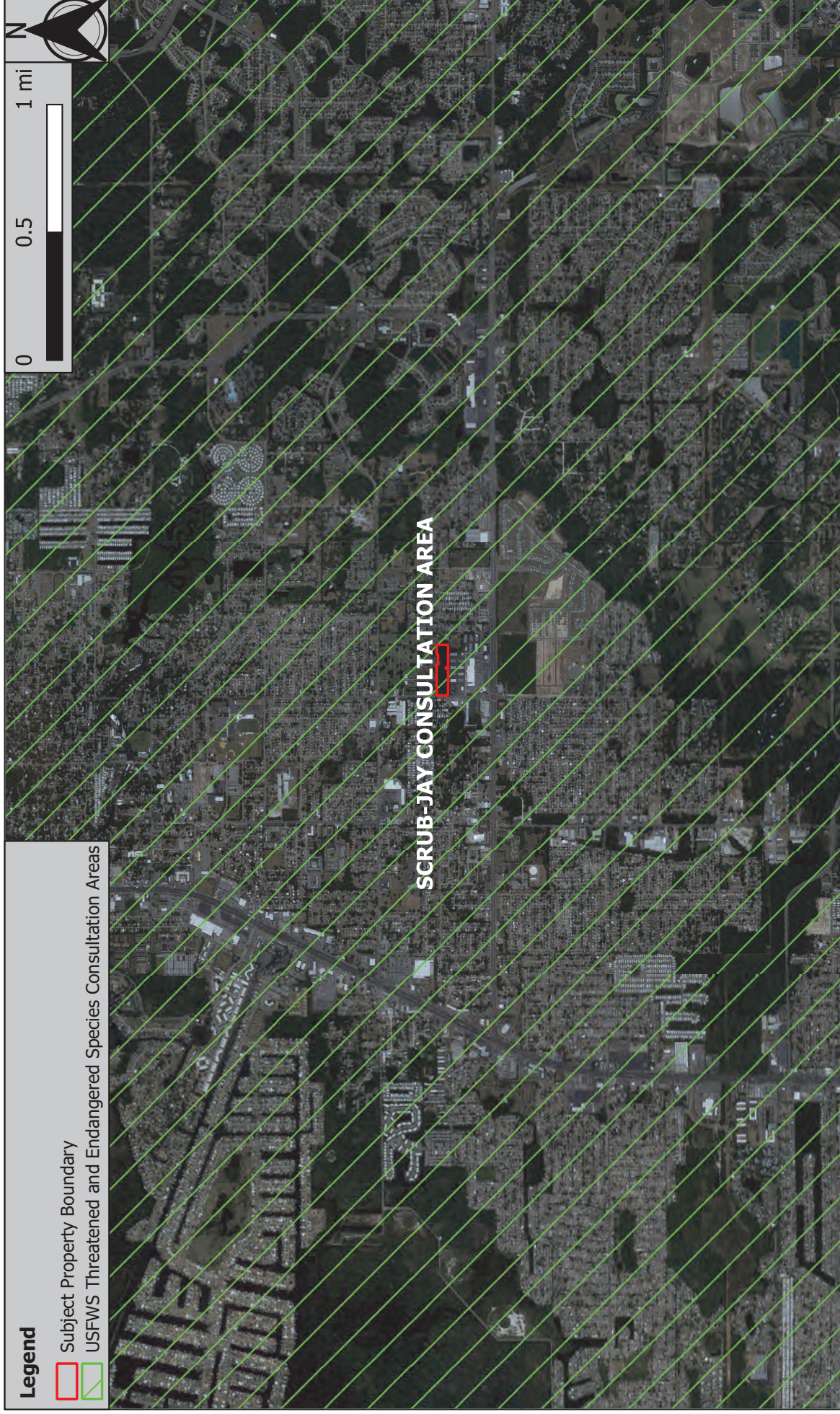
Notes:

- 1. Eagle nest data source: https://gis.myfwc.com/Data/KMZ_files/Wildlife - Eagle Nest Territory - FL.kmz.
- 2. Wood stork data source: Florida Wood Stork Nesting Colony Core Foraging Areas - 2019, <https://www.fws.gov/northflorida/WoodStorks/wood-storks.htm>.

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Figure 5: USFWS Consultation Area Map



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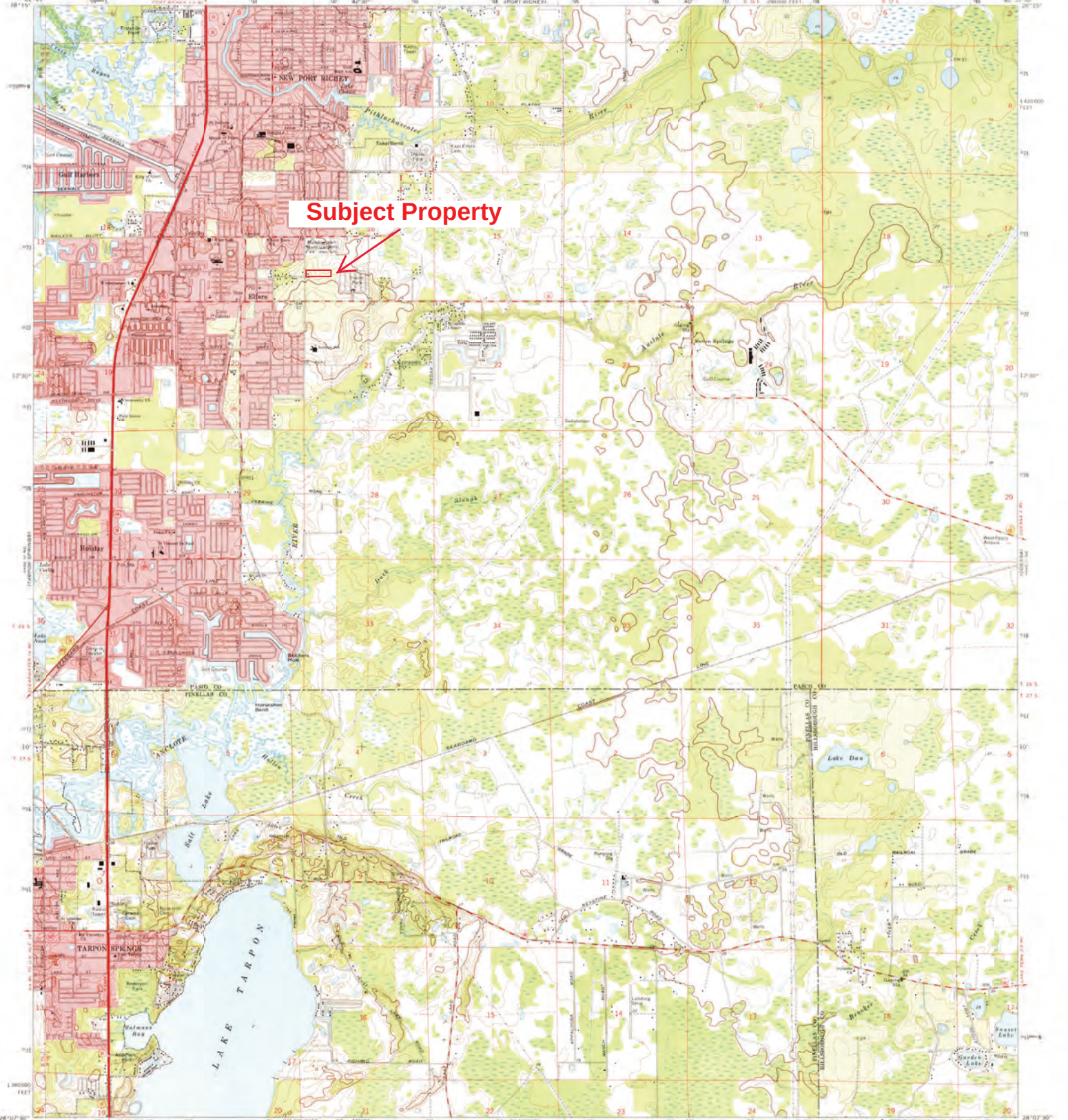
4206/4210 Madison Street
New Port Richey, Florida 34652

Notes:

1. Consultation area data source:
OpenData_USACE_SAJ111_Permit_Review,
<http://www.sjrwmd.com/gisdevelopment/docs/OpenData/metadata/>
USFWS_Threatened_and_Endangered_Consultation_Areas.xml.

MAPS

Subject Property



Maped, edited, and published by the Geological Survey
Control by USGS, NOAA and Florida Geologic Survey
Topography by photogrammetric methods from aerial photographs
taken December 1971. Field checked 1974
Superseding Army Map Service map dated 1948
Projection and 10,000-foot grid ticks: Florida coordinate
system, west zone (Transverse Mercator)
100,000-foot Universal Transverse Mercator grid ticks,
zone 17, shown on sheet 1927 North American Datum
Time and dashed lines indicate selected fence and field lines where
available relative to aerial photograph areas. Time information in enclosure
Red text indicates areas in which utility landmarks buildings are shown

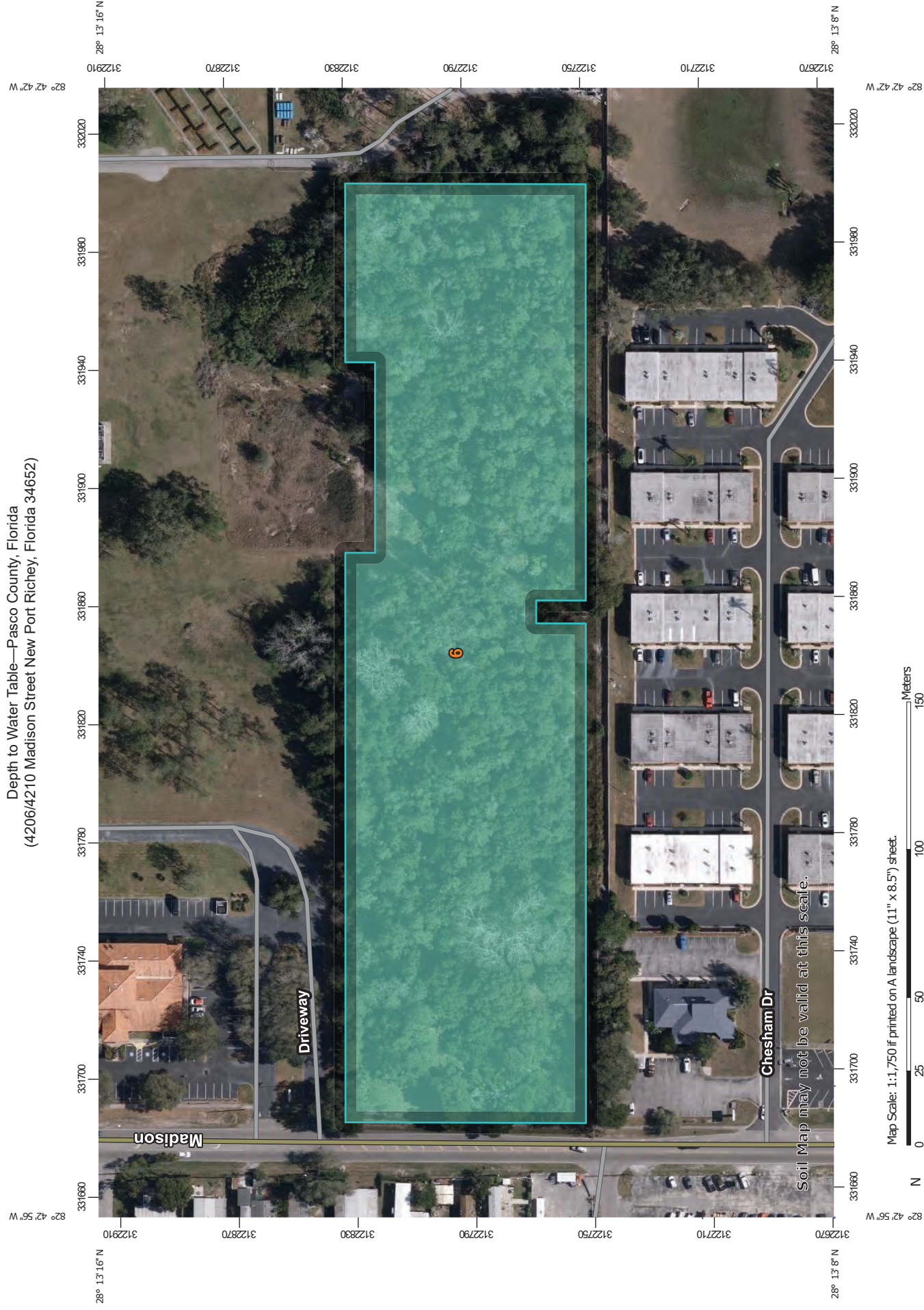


SCALE 1:24,000
CONTOUR INTERVAL 5 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929



ROAD CLASSIFICATION
Primary highway, hard surface
Secondary highway, hard surface
Light duty road, hard surface
Improved surface
Unimproved road
Intermediate Road, U.S. Route, State Road
ELFERS, FLA.
N2807.5-W8237.5/7.5
1974
AMS 440 © NW-88338 (REV)

Depth to Water Table—Pasco County, Florida
(4206/4210 Madison Street New Port Richey, Florida 34652)



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



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



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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: Pasco County, Florida
Survey Area Data: Version 20, Aug 27, 2021

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 LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

0 - 25

25 - 50

50 - 100

100 - 150

150 - 200

> 200

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

Soil Rating Lines

0 - 25

25 - 50

50 - 100

100 - 150

150 - 200

> 200

Not rated or not available

Soil Rating Points

0 - 25

25 - 50

50 - 100

100 - 150

150 - 200

> 200

Depth to Water Table

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
6	Tavares sand, 0 to 5 percent slopes	145	6.2	100.0%
Totals for Area of Interest			6.2	100.0%

Description

"Water table" refers to a saturated zone in the soil. It occurs during specified months. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Rating Options

Units of Measure: centimeters

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Interpret Nulls as Zero: No

Beginning Month: January

Ending Month: December

CLC Cooperative Land Cover Version 3.4



Legend

-  Subject Property Boundary
-  1822 - High Intensity Urban

Map Details

<https://flcpa.databasin.org/datasets/2dfb2327594946bea4ee0b6645387ee8/>

TABLES

Table 1: Endangered, Threatened, and Commercially Exploited Species

Species	Common Name	Habitat	Distribution in Pasco County?	Federal Listing
Florida Endangered Plants				
<i>Asplenium auritum</i>	auricled spleenwort	On trunks of large trees in mesic hammocks and strand swamps	Y	
<i>Blechnum occidentale</i>	sinkhole fern	Sinkholes in forests	Y	
<i>Hexalectris spicata</i>	crested coral-root	Pine-hickory woods, calcareous hammocks	Y	
<i>Litsea aestivalis</i>	pond-spice	Pond margins, bayheads, cypress swamps	Y	
<i>Monotropsis reynoldsiae</i>	pygmy-pipes	On roots of <i>Cornus florida</i>	Y	
<i>Nemastylis floridana</i>	celestial lily	Marshes, wet flatwoods	Y	
<i>Nolina brittoniana</i>	Britton's bear-grass	Dry pinewoods, sand pine scrub	Y	Federally Endangered
<i>Ophioglossum palmatum</i>	hand fern	On cabbage palms in hydric hammocks, strand swamps	Y	
<i>Polypodium dispersum</i>	widespread polypody	Hammocks	Y	
<i>Polypodium plumula</i>	plume polypody	Hammocks	Y	
<i>Polypodium ptilodon</i>	swamp plume polypody	Hammocks, swamps	Y	
<i>Verbena tamensis</i>	Tampa vervain	Flatwoods, hammocks	Y	
Florida Threatened Plants				
<i>Maytenus phyllanthoides</i>	Florida mayten	Hammocks, dunes	Y	
Commercially Exploited Plants				
<i>Epidendrum conopseum</i>	green-fly orchid	On trees in moist hammocks, cypress and hardwood swamps	Northern and Central FL	
<i>Lycopodium cernuum</i>	nodding club-moss	Wet depressions, ditches	Throughout FL, except for the Keys	
<i>Osmunda cinnamomea</i>	cinnamon fern	Swamps, wetlands	Throughout FL	
<i>Osmunda regalis</i>	royal fern	Swamps, wetlands	Throughout FL	
<i>Rhapidophyllum hystrix</i>	needle palm	River bluffs, hammocks, bottomlands	Northern and Central FL	
<i>Rhododendron canescens</i>	pink azalea	Wet to well-drained woodlands	Northern and Central FL	
<i>Serenoa repens</i>	saw palmetto	Wet to dry flatwoods and hammocks	Throughout FL	
<i>Zamia</i> spp.	coontie	Oak hammocks, pinelands	Throughout peninsular FL	

Table 1: Gopher Tortoise Burrow Coordinates

Burrow ID	Status	Coordinates*
GT1 PO	Active, Potentially Occupied (PO)	28.220512N, 82.715111W
GT2 B	Abandoned (B)	28.220446N, 82.71316W
GT3 B	Abandoned (B)	28.220409N, 82.713157W
GT4 B	Abandoned (B)	28.220404N, 82.713127W
GT5 PO	Active, Potentially Occupied (PO)	28.220523N, 82.713127W
GT6 PO	Active, Potentially Occupied (PO)	28.220548N, 82.713091W
GT7 B	Abandoned (B)	28.220538N, 82.713055W
GT8 PO	Active, Potentially Occupied (PO)	28.22016N, 82.712034W
GT9 PO	Active, Potentially Occupied (PO)	28.219917N, 82.712696W
GT10 PO	Active, Potentially Occupied (PO)	28.219852N, 82.712673W
GT11 PO	Active, Potentially Occupied (PO)	28.219881N, 82.713034W
GT12 PO	Active, Potentially Occupied (PO)	28.219837N, 82.713602W
GT13 PO	Active, Potentially Occupied (PO)	28.219849N, 82.713641W
GT14 B	Abandoned (B)	28.219859N, 82.71388W
GT15 B	Abandoned (B)	28.219901N, 82.714917W

*Coordinates are provided in WGS84 (Decimal Degrees); accuracy is ± 30 inches (0.8 meters).

Total Active, Potentially Occupied: 9

Total Abandoned: 6