

ENVIRONMENTAL SUPPLEMENT

RUSSELL SQUARE

AMENDED
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1.0 INTRODUCTION

The Russell Square project site is approximately 32.89 acres located in eastern Collier County, east of Santa Barbara Blvd and south of Davis Blvd. The property is located within Sections 9, Township 50 South, Range 26 East, Collier County, Florida. The project site is made up of seven smaller parcels individually identified as folio numbers 00407520002, 00407960002, 00407840009, 00408360009, 00408120003, 00407720006, and 00408200004 by the Collier County property appraiser's office. Access to the project is via Santa Barbara Blvd on the west boundary and from Sunset Blvd into the south boundary. A general location map is provided in the included exhibits.

The 4 westernmost parcels have been used in the past as pasture lands and also had a single-family residence until it was removed in 2003. Two of the eastern parcels contain existing single-family residences and have had horses in the past. The final parcel in the south east is undeveloped and forested. There is a mix of developed and undeveloped residential parcels to the east and south of the project site. Santa Barbara Blvd lies immediately to the west with higher density residential development to the northwest and southwest.

A majority of the site has been cleared and maintained clear for the agricultural and single family uses. The remaining undeveloped areas are infested to varying degrees by exotic vegetation including melaleuca and Brazilian pepper. The project site contains about 27.03 acres of upland habitats (82% of the project area) and 5.50 acres of wetland habitats (17% of the project area) as well as 0.36 acre of other surface waters (OSW) (1% of the project area).

The proposed project is occurring on a site which has been impacted by agricultural and construction activities. The proposed development does impact jurisdictional wetlands, though these impacts have been minimized to isolated wetlands that are not jurisdictional to the US Army Corps of Engineers (USACE). The wetlands proposed to be impacted are isolated, relatively low functioning wetlands due to surrounding development and exotic vegetation infestation. A wetland enhancement program is proposed which will improve the long-term viability prospect of the remaining on-site wetlands as well as provide increased functional value and wading bird foraging values to the local watershed while meeting the County's native vegetation retention requirements. The preserved wetlands meet the County hierarchy with respect to native vegetation preservation requirements for the project, though they are not interconnected with each other or to off-site preserve lands.

This document provides information concerning the proposed Russell Square project site as it relates to natural resources and environmental issues. It was compiled by Tim Hall, senior ecologist and vice-president of Turrell, Hall and Associates. It is submitted to Collier County in support of a Planned Unit Development zoning request.

2.0 WETLAND JURISDICTION AND PERMITTING HISTORY OVERVIEW

There have been three residences constructed on three of the parcels making up the project site. One of these was removed in 2003 while the other two are still remaining on parcels 00407720006 and 00408120003. There are also three distinct wetland areas on the project site. One is located immediately adjacent to Santa Barbara Blvd, one is in the northeast portion of the project site and the third in in the southeast portion of the project site. The southeast wetland area is jurisdictional to the State of Florida but is not jurisdictional to the USACE due to its isolation. A jurisdictional determination was made by the USACE on January 25, 2018, verifying that parcel 00408200004 did not fall under their jurisdiction.

The remaining two wetlands are jurisdictional to both the state of Florida and the USACE. Impacts proposed to the southeast wetland will require mitigation for the State. No impacts are proposed to the remaining two wetlands.

3.0 EXISTING CONDITIONS (PRE-DEVELOPMENT)

3.1 VEGETATION ASSOCIATIONS

3.1.1 Project Site

The existing habitat types (based on FLUCFCS codes) are shown in Table 1 below and Exhibit 2 (FLUCFCS Map).

Of the total 32.89 acres contained within the combined Russell Square property boundary, approximately 82% are considered uplands (27.03 ac.) and 18% are considered wetlands (5.50 ac. of wetlands and 0.36 ac. of OSW). Several portions of the property have been infested to some degree by noxious exotic vegetation; including melaleuca and Brazilian pepper.

Table 1- EXISTING HABITAT TYPES - FLUCFCS Codes & Acreages

| Wetland Habitat | FLUCCS Code | Project Acreage |
|------------------------------|--------------------|------------------------|
| | | |
| Cypress-Pine-Cabbage Palm | 624 (E2) | 2.44 |
| Mixed Wetland Forest | 630 (E1-2) | 3.06 |
| Total Wetland Habitat | | 5.50 |
| | | |
| OSW Habitat (Ponds)** | 520 | 0.36 |
| Total OSW Habitat | | 0.36 |
| | | |
| Upland Habitat | | |
| | | |
| Residential Low Density** | 111 | 5.40 |
| Unimproved Pasture** | 212 | 16.31 |
| Disturbed Cypress | 621E4D | 0.19 |
| Pine Flatwoods | 411 (E2) | 4.78 |
| Brazilian Pepper | 422 | 0.18 |
| Live Oak | 427 | 0.17 |
| Total Upland Habitat | | 27.03 |

** Habitats do not qualify as native habitat under Collier County guidelines as long as it can be demonstrated that they were legally cleared.

There are no rare or exceptional vegetation associations present on the project lands.

A list of plant species observed within each habitat type is found below.

C = Canopy M = Midstory G = Groundcover V = Vine E = Epiphyte * - Protected species

411(E2) – Pine Flatwoods, 4.78 acres

| | | | |
|------------------|--------------------------------|----------|------------|
| Slash pine | <i>Pinus elliotii</i> | C & M | Dominant |
| Cabbage palm | <i>Sabal palmetto</i> | C, M & G | Dominant |
| Brazilian pepper | <i>Schinus terebinthifolia</i> | C, M & G | Common |
| Melaleuca | <i>Melaleuca quinquinervia</i> | C, M & G | Common |
| Laurel oak | <i>Quercus laurifolia</i> | C | Occasional |
| Earleaf acacia | <i>Acacia auriculiformis</i> | C | Occasional |
| Myrsine | <i>Myrsine guianensis</i> | M & G | Common |
| Wax myrtle | <i>Myrica cerifera</i> | M & G | Occasional |
| Caesar weed | <i>Urena lobate</i> | G | Occasional |
| Wire grass | <i>Aristida stricta</i> | G | Common |
| Broom grass | <i>Andropogon virginicus</i> | G | Common |
| Saw palmetto | <i>Serenoa repens</i> | G | Occasional |
| Greenbriar | <i>Smilax spp.</i> | V | Occasional |
| Grapevine | <i>Vitis rotundifolia</i> | V | Occasional |

422(E2) – Brazilian Pepper, 0.18 acres

| | | | |
|------------------|--------------------------------|-------|----------|
| Brazilian pepper | <i>Schinus terebinthifolia</i> | M & G | Dominant |
|------------------|--------------------------------|-------|----------|

427 – Live Oak, 0.17 acres

| | | | |
|------------------|--------------------------------|----------|------------|
| Live Oak | <i>Quercus virginiana</i> | C, M & G | Dominant |
| Slash pine | <i>Pinus elliotii</i> | C & M | Occasional |
| Cabbage palm | <i>Sabal palmetto</i> | C, M & G | Occasional |
| Brazilian pepper | <i>Schinus terebinthifolia</i> | C, M & G | Common |
| Laurel oak | <i>Quercus laurifolia</i> | C | Occasional |

621(E4)(D) – Cypress, disturbed, 0.19 acres

| | | | |
|------------------|--------------------------------|----------|----------|
| Cypress | <i>Taxodium distichum</i> | C & M | Common |
| Brazilian pepper | <i>Schinus terebinthifolia</i> | C, M & G | Dominant |

624 – Cypress-Pine-Cabbage Palm – 2.44 acres

| | | | |
|--------------|--------------------------------|-----------|------------|
| Cypress | <i>Taxodium distichum</i> | C, M, & G | Dominant |
| Slash Pine | <i>Pinus elliotii</i> | C & M | Occasional |
| Melaleuca | <i>Melaleuca quinquenervia</i> | C, M & G | Common |
| Cabbage palm | <i>Sabal palmetto</i> | C & M | Common |
| Swamp fern | <i>Blechnum serrulatum</i> | G | Dominant |
| Sawgrass | <i>Cladium jamaicense</i> | G | Occasional |

| | | | |
|------------------|--------------------------------|-------|------------|
| Brazilian pepper | <i>Schinus terebinthifolia</i> | M & G | Common |
| Myrsine | <i>Myrsine guianensis</i> | M & G | Common |
| Wax myrtle | <i>Myrica cerifera</i> | M & G | Occasional |
| Laurel oak | <i>Quercus laurifolia</i> | C | Occasional |
| Coco plum | <i>Chrysobalanus icaco</i> | M | Rare |

630 – Mixed Wetland Forest – 3.06 acres

| | | | |
|------------------|--------------------------------|----------|------------|
| Cypress | <i>Taxodium distichum</i> | C & M | Common |
| Melaleuca | <i>Melaleuca quiquinervia</i> | C, M & G | Common |
| Carolina Willow | <i>Salix caroliniana</i> | M & G | Common |
| Pond apple | <i>Annona glabra</i> | M & G | Occasional |
| Brazilian Pepper | <i>Schinus terebinthifolia</i> | M | Common |
| Swamp fern | <i>Blechnum serrulatum</i> | G | Common |
| Alligator flag | <i>Thalia geniculata</i> | G | Occasional |

3.2 TOPOGRAPHY AND DRAINAGE PATTERNS

According to the SFWMD, the project lands as well as surrounding off-site lands are located within the West Collier drainage basin. The basin boundary (divide) to the north generally follows Immokalee Road (SR 846) east and west. The basin divide to the south generally follows the tidal boundary with Rookery Bay.

Historically, prior to extensive human development of the area, water generally flowed from northeast to southwest driven by the land elevations dropping toward the Gulf of Mexico. Water generally flows in this same direction but largely via the existing stormwater swales and ponds associated with the Lely Area Stormwater Improvement Plan (LASIP). Surface water within the project boundary is not tidally connected and will move towards the Gulf slowly via the overland flow through the stormwater management lakes, pipes, and swales south and west of the project site.

3.3 WETLANDS & OTHER SURFACE WATERS

Qualified Turrell, Hall & Associates, Inc. (THA) environmental staff inspected the project site for the purpose of delineating wetlands and other surface waters. The wetland delineation methodologies and criteria set forth by the state (in Chapter 62-340, FAC, Delineation of the Landward Extent of Wetlands and Surface Waters) and the Corps (in the 1987 Corps of Engineers Wetlands Delineation Manual) were followed in determining whether an area was considered as a wetland or other surface water and in delineating the limits (boundaries) of potential jurisdictional wetlands and other surface waters.

THA biologists flagged the boundaries of those areas which are considered wetlands according to the state and federal guidelines. There were very few cases where it appeared wetland lines established based on the state methodology would differ from those established based on the

federal (Corps) methodology. Where this did occur, the feature boundary was flagged based on the landward-most extent of the two methods – in other words, the methodology that produced the greatest extent of wetlands was used to flag the wetland line.

Sheet 02 of the enclosed exhibits depicts wetlands present on the project lands. Within the Russell Square property there are 3 distinct wetland areas that are not connected to each other either through drainage swales or via off-site wetlands. These "on-site" wetlands are individually identified and are treated as separate wetland systems. Additionally, there is a small remnant cypress area that no longer exhibits wetland characteristics and has been taken over by Brazilian pepper so was not included as a wetland area. All of the on-site wetlands are SFWMD jurisdictional while only two of them are jurisdictional to the USACE.

3.3.1 Wetland Seasonal High Water Table & Hydroperiod

The hydrologic regime on this property is extremely altered from historical levels and patterns by surrounding development and the LASIP stormwater system that has been put in place in the region. Seasonal high-water elevations were determined using water lines, lichen lines, adventitious rooting, and other hydrologic indicators. Nails were placed in several trees at the seasonal high-water level indicators and will be later surveyed to determine elevations and help establish final control elevations for the development. Water from adjacent properties is now mostly cut off as a result of construction (residences and roads) around the site. There is standing water in the ponds year-round, however the remainder of the site dries out seasonally before being inundated again during rainy season.

3.3.2 Jurisdictional Status of Wetlands

All of the on-site wetlands are SFWMD jurisdictional while only two of them are jurisdictional to the USACE.

3.3.3 Jurisdictional Status of Other Surface Waters

The other surface waters present on the property are man-made fill pit ponds excavated in the late -1980's and early 1990's for fill that was used on the residential construction. Due to the lack of connectivity with the wetlands and no surficial hydrologic connections to downstream navigable waters of the U.S. (tidal waters), these OSWs were assumed to not be jurisdictional with either the SFWMD or the Corps.

3.4 NATIVE HABITAT

Collier County Land Development Code regulations require that project preserve a portion of their on-site native habitat as part of their development proposal. Calculations are based on a percentage of the acreage of native habitat existing on the site. Lands within the County ROW are not included in this calculation. Since the Russell Square property is greater than 20 acres in size, it will be required to preserve 25% of the native vegetation on the site. The property is

32.89 acres in size and based on the FLUCFCS mapping pasture, residences, and other legally cleared lands do not count towards native vegetation totals. The sections below break out the overall property into the individual components to try and better explain the native vegetation calculations.

3.4.1 Pasture Parcel

Clearing of approximately $\frac{3}{4}$ of this parcel occurred in the early 1970's. The 1973 aerial shows the clearing for pasture use as well as a residence and a couple of small ponds. The wetland area along the west side of the property was not cleared and was contiguous with a larger wetland system to the west. Since the clearing was for pasture use and was done before the County Ordinance 76-42 it is exempt from the need for an ag clearing permit (LDC 10.02.06.C.1.d). By 2003 exotic vegetation had taken over large portions of the site and the grazing value of the site was much reduced. Extensive exotic removal was undertaken in 2004 and 2005. A bark beetle infestation also hit the property in 2005 which killed a good number of the pines which had been left as shade for the livestock. In 2009 and 2010, Santa Barbara Blvd was extended down past this property and the northern portion of the site was used as a storage and staging area for the road construction. Additional clearing on the site was done as part of that construction. The portions of the site cleared for this staging are also exempt from the native vegetation calculations per LDC 3.05.07.B.2. This information was provided to the County in 2014 as part of a due diligence investigation to build a small farm stand operation on this site. This 2014 coordination determined that all the pasture area except for 1.79 acres had been cleared legally. The 1.79 acres would need to be included in any native vegetation retention requirements for future development or agricultural use. An after the fact agricultural clearing permit (ACP-PL20140000566) was obtained to account for the clearing that had occurred within 0.56 acres in the extreme north east corner of the property.

Further coordination with County staff as a result of the current zoning submittal resulted in staff looking at the site differently than in 2014. The current review determined that in areas of the previously cleared pasture where the pines and palms had been allowed to grow to 8 inches dbh or greater and were present at densities greater than 8 trees per acre, then those trees would need to be included in the native vegetation calculations. A tree count conducted in those areas determined that there were 72 slash pine trees and 7 sabal palm trees which would meet the criteria specified. 25% of these will need to be retained or replaced. Development of the site will include fill and earthwork which will make it unlikely to be able to save any of the trees in place, so they will be replaced with minimum 10 foot tall trees. The 20 trees ($79 * 0.25$) will need to be located within an area at least 0.52 acre in size $\{[(18 \text{ trees} * 20' \text{radius}^2 * \pi)/43560] + [(2 \text{ trees} * 5' \text{radius}^2 * \pi)/43560]\}$ (LDC3.05.07.A.2). The proposed preserve area is greater than required so these trees will be located within the buffer area of the preserve which is in excess of the required acreage.

3.4.2 North Single-Family Parcel

It could not be determined definitively that all of the clearing associated with the northernmost single-family parcel was actually permitted. It is obvious from aerial

photograph investigations that the clearing and construction was all done at the same time in 1993 and 1995. A residence, barn, pond, and riding ring were all part of the original construction. The plans and drawings associated with the construction permits issued only show the house footprint though, not the entire property or accessory components (riding ring and pond) so it could not be determined if clearing done for those accessory uses was permitted. Both permits issued for this property in 1993 and 1995 were CO'ed and no violation noted. An additional structure was built in 2012 that encompassed 0.25 acre of the already previously cleared area. Collier Code (3.05.02.F.1) allows for up to 1 acre of clearing associated with single family residences without additional clearing authorizations needed. The County Code has an exemption from this provision for properties that were cleared prior to January 1989 but that didn't apply to this property since the permits were issued in 1993 and 1995. Since no additional authorizations were found, the clearing of the property over the 1.25 acres permitted was counted as native habitat for the preserve requirement calculations.

3.4.3 Central Single-Family Parcel

The center single family parcel was permitted and cleared in 1983 so is prior to the January 1989 exception date in the County LDC (3.05.07.B.2.a) and therefore not subject to the native vegetation calculations. More of the site was originally cleared than is depicted on the exhibits due to the regeneration of some trees that have been left to grow. Mowing of the understory is still done regularly. The majority of the trees on this single family parcel also fall below the 8" dbh requirement to be counted as native on maintained properties (LDC 3.05.07.A.2). There are 6 trees over 8" dbh which is less than the 8 trees/acre standard to meet the native vegetation requirement so none of this area was included in the native vegetation or native tree preservation calculations.

3.4.4 South Undeveloped Parcel

This parcel contains a mix of upland and isolated wetland communities almost all of which qualify as native habitat. A small area of Brazilian pepper has no canopy overstory and therefore does not qualify as native habitat per the County Code. All of the rest of this parcel was included in the native preservation calculations.

Taking all of the above into account, the native preservation calculation is based on the remaining acreage of 13.88 acres (see Native Vegetation Table Below). The project will be required to preserve 25% of this acreage or a minimum of 3.47 acres. The project will also be required to preserve 25% of the existing trees that are greater than 8 inches dbh and in densities greater than 8 trees per acre. The native tree preservation calculation is based on 72 slash pine trees and 7 palms which meet the preservation requirements. It will be impossible to retain these trees within the site plan, so replacements will be planted in additional lands that are added to buffer the required preserve acreage. A minimum of 0.52 additional acres (over and above the native preserve requirement) will be identified for planting of the native trees required.

The project is currently proposing to preserve 3.47 acres of native habitat onsite as well as an additional 0.54 acres for a total preserve area of 4.01 acres; therefore it is compliant with the County LDC preservation requirements of section 3.05.07. The proposed preserve lands will be in two different locations in order to preserve the higher quality wetland areas and so will need a deviation from LDC 3.05.07.A.5 to account for all of the preserve lands not being interconnected or contiguous.

Table 2- NATIVE VEGETATION ACREAGES

| Habitat | FLUCCS Code | Total Acreage | Native Vegetation Acreage |
|---|-------------|-------------------|---------------------------|
| Residential | 111 | 5.40 | 1.10 |
| Pasture | 212 | 16.31 | 1.85 |
| Pine Flatwoods | 411 | 4.78 | 4.78 |
| Brazilian Pepper | 422 | 0.18 | 0.00 |
| Oak | 427 | 0.17 | 0.17 |
| Disturbed Cypress | 621 | 0.19 | 0.19 |
| Cypress-Pine-Cabbage Palm | 624 | 2.44 | 2.44 |
| Mixed Wetland Forest | 630 | 3.06 | 3.06 |
| Ponds (OSW) | 520 | 0.36 | 0.29 |
| | | 32.89 | 13.88 |
| 25% Native Vegetation Retention | | | 3.47 |
| | | | |
| Native Tree Calculations | | | |
| Species | # present | Required Preserve | Acreage Equivalent |
| Slash Pine (>8" dbh + > 8 trees/acre) | 72 | 18 | 0.519 |
| Cabbage Palm (>8' trunk + > 8 trees/acre) | 7 | 2 | 0.004 |
| | | 20 | 0.52 |
| | | | |
| Proposed Onsite Preservation | | | 4.01 |

3.5 LISTED PLANT & ANIMAL SPECIES

A survey for listed animal and plant species has been conducted within the project area by THA biologists. This threatened and endangered species survey and its results are discussed in the attached Appendix B. The Threatened & Endangered Species report describes the approximate locations where listed animal species were observed on and near the project area during the course of the referenced survey. During the survey events white ibis (*Eudocimus albus*), snowy egret (*Egretta thula*), and little blue heron (*Egretta caerulea*) were observed. No other listed species were observed within the project area.

A few listed animal species in addition to those documented on the project lands by THA have some potential for occurring in certain habitats present on project lands. These species are

discussed in Appendix B and include; indigo snake, roseate spoonbill, limpkin, southeastern American kestrel, Big Cypress fox squirrel, Florida bonneted bat, and Florida black bear. The probability of these animals utilizing suitable habitats in project lands ranges from very low to moderate depending upon the particular species (see discussion in Appendix B). It is improbable that any of these species currently reside or nest on the project lands. These listed species records and the source of these records are also discussed in Appendix B.

It is highly unlikely that any federally listed plant species could be present on the project lands. Several butterfly orchids (*Encyclia tampensis*) were observed growing on cypress trees on the project site. These orchids are listed as "less rare" in the Collier County Land Development Code (LDC). The orchids were located within areas proposed to be preserves so no relocation will be required.

Due to isolation, exotic species encroachment, proximity to major roadways, and degradation of foraging habitat, it is apparent that this site offers only minimal value to local wildlife. The surrounding developments, and roads have partially isolated this property and made travel to it by larger terrestrial wildlife difficult.

3.6 HISTORICAL/ARCHAEOLOGICAL RESOURCES

The Florida Master Site File (MSF) is a database of the known historic and archaeological sites in the state of Florida. The MSF office was contacted and the response back indicated that there were no recorded archaeological sites in close proximity to the subject property. If a suspected archaeological or historical artifact is discovered during the course of site development activities (construction, clearing, etc.), the development activities at the specific site will be immediately halted and the appropriate agency notified. Development will be suspended for a sufficient length of time to enable the County or a designated consultant to assess the find and determine the proper course of action.

3.7 SOILS

Based on the National Resource Conservation Service (NRCS) "Soil Survey of Collier County Area, Florida" (NRCS, 1998) there are two (2) different soil types (soil map units) present on the project lands. Exhibit 05 provides a soils map for the project area as derived from the NRCS mapping. The following sub-sections provide a brief description of each soil map unit identified on the project lands. Information is provided about the soil's landscape position (i.e. it's typical location in the landscape on a county-wide basis), the soil's profile (i.e. textural composition and thickness or depth range of the layers or horizons commonly present in the soil), and the soil's drainage and hydrologic characteristics. The soils occurring on project lands are as follows:

(14) Pineda Fine Sand, Limestone Substratum

This nearly level poorly drained soil is in sloughs and poorly defined drainageways. Individual areas are elongated and irregular in shape and range from 20 to 300 acres. The slope is 0 to 2 percent.

Typically, the surface layer is dark grayish brown fine sand about 4 inches thick. The subsurface layer is light brownish gray fine sand to a depth of about 12 inches. The subsoil is to a depth of about 55 inches; the upper part is brownish yellow and very pale brown fine sand, the middle part is grayish brown sandy clay loam, and the lower part is light brownish gray and dark grayish brown fine sandy loam. Limestone bedrock is at a depth of about 55 inches.

In 95 percent of areas mapped as this soil, Pineda and similar soil make up 79 to 100 percent of the map unit. The characteristics of Holopaw and Riviera, limestone substratum soils are similar.

Soils of dissimilar characteristics included in this unit are small areas of Boca, Hallandale and Malabar soils on similar landscape positions. These soils make up about 11 percent or less of the unit.

The permeability of this soil is slow. The available water capacity is low. In most years, under natural conditions, the seasonal high water table is within 12 inches of the surface for 3 to 6 months. In other months, the water table is below 12 inches and recedes to a depth of more than 40 inches during extended dry periods. During periods of high rainfall, the soil is covered by shallow slowly moving water for periods of about 7 to 30 days.

Natural vegetation consists of South Florida slash pine, wax myrtle, chalky bluestem, blue maidencane and gulf muhly.

This soil is poorly suited to cultivated crops because of wetness and droughtiness. With good water-control measures and soil-improving measures, the soil can be made suitable for many fruit and vegetable crops. A water control system is needed to remove excess water in wet seasons and provide water through subsurface irrigation in dry season. Row crops should be rotated with cover crops. Seedbed preparations should include bedding of the rows. Fertilizer and lime should be added according to the need of the crops.

With proper water control, the soil is moderately suited to citrus. Water control systems that maintain good drainage to an effective depth are needed. Bedding the soil prior to planting provides good surface and internal drainage and elevates the trees above the seasonal high water table. A good grass cover crop between the trees helps to protect the soil from blowing when the trees are younger.

With good water control management, this soil is well suited to pasture. A water control system is needed to remove excess water during the wet season. It is well suited to pangolagrass, bahiagrass and clover. Excellent pastures of grass or grass-clover mixtures can be grown with good management. Regular applications of fertilizers and controlled grazing are needed for highest yields.

This soil is well suited for desirable range plant production. The dominant forage consists of blue maidencane, chalky bluestem and bluejoint panicum. Management practices should include deferred grazing. This Pineda soil is in the slough range site.

This soil has severe limitations for most urban uses because of the high water table. To overcome this limitation, building sites and septic tank absorption fields should be mounded. This soil also has severe limitations for recreational development because of wetness and sandy textures. Problems associated with wetness can be corrected by providing adequate drainage and drainage outlets to control the high water table. The sandy texture limitation can be overcome by adding suitable topsoil or by resurfacing the area.

This Pineda soil is in capability subclass IIIw.

(21) Boca Fine Sand

This nearly level, poorly drained soil is on the flatwoods. Individual areas are elongated and irregular in shape and range from 20 to 350 acres. The slope is 0 to 2 percent.

Typically, the surface layer is very dark gray fine sand about 4 inches thick. The subsurface layer is fine sand to a depth of about 26 inches; the upper part is light gray and the lower part is brown. The subsoil is dark grayish brown fine sandy loam to a depth of about 30 inches. Limestone bedrock is at a depth of about 30 inches.

In 95 percent of areas mapped as this soil, Boca and similar soils make up 79 to 93 percent of the map unit. The characteristics of Hallandale soils are similar.

Soils of dissimilar characteristics included in this map unit are small areas of Pineda and Riviera, limestone substratum soils in slough landscape positions. These soils make up about 7 to 21 percent of the unit.

The permeability of this soil is moderate. The available water capacity is very low. In most years, under natural conditions, the seasonal high water table is between 6 to 18 inches of the surface of 1 to 6 months. In other months, the water table is below 18 inches and recedes to a depth of more than 40 inches during extended dry periods. Rarely is it above the surface.

Natural vegetation consists mostly of South Florida slash pine, cabbage palm, sawpalmetto, wax myrtle, chalky bluestem and pineland threeawn.

This soil is poorly suited to cultivated crops because of wetness and droughtiness. The number of adapted crops is limited unless very intensive management practices are followed. With good water control and soil improving measures, the soil can be made suitable for many fruit and vegetable crops. A water control system is needed to remove excess water in wet season and provide water through subsurface irrigation in dry seasons. Row crops should be rotated with cover crops. Seedbed preparation should include bedding of the rows. Fertilizer and lime should be added according to the need of the crops.

With proper water control, the soil is well suited to citrus. Water control systems that maintain good drainage to an effective depth are needed. Bedding the soil prior to planting provides good surface and internal drainage and elevates the trees above the seasonal high water table. A good

grass cover crop between the trees helps to protect the soil from blowing when the trees are young.

With good water control management, this soil is well suited to pasture. A water control system is needed to remove excess water during the wet season. It is well suited to pangolagrass, bahiagrass and clover. Excellent pastures of grass or grass-clover mixtures can be grown with good management. Regular applications of fertilizers and controlled grazing are needed for highest yields.

This soil is moderately suited for desirable range plant production. The dominant forage is creeping bluestem, lopsided indiagrass, pineland threeawn and chalky bluestem. Management practices should include deferred grazing and brush control. This Boca soil is in the South Florida Flatwood range site.

This soil has severe limitations for most urban uses because of wetness. If this soil is used as septic tank absorption fields, it should be mounded to maintain the system well above the seasonal high water table. For recreational uses, this soil also has severe limitations because of wetness, but with proper drainage to remove excess surface water during wet periods, many of these limitations can be overcome.

This Boca soil is in capability subclass IIIw.

4.0 PROPOSED CONDITIONS (POST-DEVELOPMENT)

4.1 PROPOSED PROJECT

The purpose of the proposed Russell Square project is to develop a new residential community within the eastern Collier County area. The location of the project is in a region where there is currently a demand for home sites with access to community amenities such as found in the Collier County area (access to beaches, golf courses, shopping, etc.). Various acreage estimates for the proposed project are provided in Table 3 below.

| TABLE 4. RUSSELL SQUARE PROJECT CUMULATIVE ACREAGE SUMMARY | | | |
|---|--|--|-------------------|
| LAND TYPES | | | TOTAL |
| <u>PROPERTY ACREAGE EXISTING CONDITIONS</u> | | | |
| Total Area | | | 32.89 Acres |
| Existing Wetlands & Waters | | | |
| Wetlands | | | 5.50 Acres |
| OSW | | | 0.36 Acres |
| TOTAL Wetlands & Waters | | | 5.86 Acres |
| | | | |
| Uplands | | | 27.03 Acres |
| <u>PROPOSED PROJECT ACREAGE</u> | | | |
| Wetlands & Waters to be Impacted | | | |
| Wetland Impacts Direct | | | 2.44 Acres |
| Wetland Impacts Secondary | | | 0.00 Acres |
| TOTAL Wetlands & Waters to be Impacted | | | 2.44 Acres |
| | | | |
| Wetlands & Waters to be Enhanced and Preserved | | | |
| Wetlands | | | 3.06 Acres |
| | | | |
| Uplands to be Enhanced and Preserved | | | |
| Uplands | | | 0.95 Acres |
| TOTAL Lands Preserved | | | 4.01 Acres |

4.2 PROJECT IMPACTS TO WETLANDS

4.2.1 Direct, Permanent Impacts

Development of the proposed project will impact some wetlands though the wetlands to be impacted are isolated and are not jurisdictional to the USACE. The proposed development will result in direct, permanent impacts on the project site to a total of 2.44 acres of State jurisdictional wetlands. Please see attached Exhibit (Sheet 04) for more detail. As used herein, the term "direct impacts" refers to actions that will result in the complete elimination of jurisdictional areas (i.e. dredging and filling). The remainder of the existing wetlands on-site will be preserved (3.06 acres). The wetlands proposed to be impacted are relatively low functioning wetlands due to past impacts and exotic vegetation infestation.

UMAM score for the existing functional values of the wetland to be impacted is 0.43. The wetlands to be preserved on the northern side of the property are contiguous to off-site systems and are the least likely to be cut off by future surrounding development and development proposed on-site. The wetland to be preserved on the west side of the development is adjacent to the existing man-made swale along Santa Barbara Blvd. Transient use of these wetlands by wading birds will continue to be available within the preserves proposed.

4.2.2 Temporary Impacts

Minimal temporary impacts are expected with this development. Prior to construction commencement all preserved areas will be enclosed with siltation-prevention devices, which will remain in place until the adjacent construction is completed.

4.2.3 Secondary Impacts to Wetlands & Water Resources

The proposed layout of the project's development features will result in minor secondary impacts to the adjacent wetlands south of the project site. Secondary impacts are assessed when an average 25 foot and minimum 15 foot naturally vegetated upland buffer between the development and the wetland is not established. This is consistent with the State's Environmental Resource Permitting guidelines. The proposed wetland and upland preserves will prevent most secondary impacts to the off-site wetland areas but the one area the will be secondarily impacted will be mitigated through the purchase of off-site mitigation credits from an approved mitigation bank.

4.2.4 Cumulative Impacts to Wetlands

No cumulative impacts are expected as a result of this project. The development of this property will not increase the development likelihood of adjacent parcels and any wetland impacts associated with those parcels will have to be mitigated through the proper permitting channels.

4.3 PRESERVATION OF WETLANDS, OTHER SURFACE WATERS, AND UPLANDS

Development of the proposed Russell Square project will impact 2.44 acres of the State of Florida Jurisdictional wetlands. The proposed project will impact predominately disturbed, exotic infested habitat areas on the property. Higher quality native wetland areas will be preserved. All of the preserved areas will be enhanced through the removal of exotic vegetation and improvements to hydrology.

The proposed Russell Square project will include 2 preserve areas within the project boundaries which will contain preserved and enhanced wetlands and uplands. The attached Exhibits (Sheet 05) illustrate the location of the proposed conservation areas.

The preserve wetlands will maintain the hydrological connectivity that currently exists. No project stormwater will be routed through these wetlands.

All of the preserved areas will be placed under appropriate conservation easements as required, which will protect the future integrity of the wetland and upland habitats contained in these areas. Appropriate access easements will also be provided to insure future maintenance of the preserve areas can be undertaken.

All Preserve areas will be delineated and marked with appropriate signage identifying the preserve boundary and restrictions associated with the preserve. Signage will be placed at least 150 feet apart and no more than 300 feet apart along all interfaces with the development. Signage will not be placed along the shared borders with existing Conservation lands.

4.4 PROJECT IMPACTS TO LISTED SPECIES

A survey for listed animal and plant species was conducted on the project site by THA biologists in 2014 and updated in late 2017. The listed animals associated with this project site as observed directly or indirectly by THA included the white ibis, snowy egret, and little blue heron.

A few listed animal species, in addition to those documented, have the potential to occur in certain habitats present on-site. These species include but are not limited to the indigo snake (*Drymarchon couperi*), tricolor heron (*Egretta tricolor*), roseate spoonbill (*Platalea ajaja*), Big Cypress fox squirrel (*Sciurus niger*), and Florida bonneted bat (*Eumops floridanus*). The probability of these animals utilizing suitable on-site habitats ranges from high to low depending on the particular species. None of these species currently reside or nest on-site.

The following subsections provide an assessment of the proposed project's potential impacts to various listed animal species. The species addressed include those observed on or in close proximity to the subject property as well as certain species that could potentially occur on the Russell Square site or on nearby off-site parcels.

Wood Storks (*Mycteria americana*)

No wood stork nests, rookeries, or roosting sites have been found on the subject property though foraging in the freshwater marsh area along Santa Barbara Blvd is possible. The closest documented wood stork colony is located approximately 18 miles to the northeast at Corkscrew Swamp Sanctuary. The site is appropriate for foraging within the existing man-made fill pit ponds, and open wetland forest habitats. The open forest habitat adjacent to Santa Barbara Blvd will be preserved under the current project proposal.

The proposed project will impact 2.44 acres of wetlands on-site, however these areas are of lower value foraging habitat for the wood stork. The foraging opportunities provided can vary significantly during a given year due to a wide array of factors that include, but are not limited to: water levels present; variable abundance of prey species; and available access of prey species to wetland areas. The proposed wetland preserve area will result in the preservation and enhancement of suitable wood stork foraging habitats.

Proposed Determination of Effect: Given these considerations, use of the USFWS Wood Stork Key, outlined in the USFWS South Florida Programmatic Concurrence Letter dated January 25, 2010 and the May 18, 2010 addendum, to conduct a sequential effect determination for the species resulted in the following key sequential determination: A-B-C-E-NLAA and it is concluded that the proposed project “may affect, but is not likely to adversely affect” wood storks (MANLAA).

Various Listed Wading Birds

Snowy egrets (*Egretta thula*), little blue herons (*Egretta caerulea*), and white ibis (*Eudocimus alba*) have been documented in the wetlands on-site and within the vicinity of the site. No nests of these species have been observed within the project area. In addition to the observed species, other listed wading birds that could frequent appropriate habitats within the project area include roseate spoonbills (*Platalea ajaja*), tricolor herons (*Egretta tricolor*), and limpkins (*Aramus guarauna*).

Development of the project area will result in the loss of 2.44 acres of on-site wetlands that could be utilized by the wading birds mentioned, though it is important to note that this wetland is infested by exotic vegetation and does not have a sufficient hydrologic regime to provide high quality foraging opportunities. The on-site preserve will enhance and protect 3.06 acres of appropriate on-site habitats that could be utilized by foraging wading birds in addition to adding lake shoreline where foraging activities can be observed.

Eastern Indigo Snake (*Drymarchon corais couperi*)

No indigo snakes have been observed on-site, however the majority of the project area could provide some habitat for indigo snakes. Considering their elusive nature, their large home range, and the wide array of habitats they may utilize, there is potential that indigo snakes could occasionally frequent portions of the project area.

Proposed Determination of Effect: In consideration of these points and given the potential probability of any indigo snakes occurring on the project lands, use of the USFWS Eastern Indigo Snake Key outlined in the USFWS' North and South Florida Programmatic Concurrence Letter, dated January 25, 2010 and the August 13, 2013 Addendum, to conduct a sequential effect determination for the species resulted in the following key sequential determination: A-B-C-D-E-NLAA and results in a "May affect, not likely to adversely affect" determination for this species.

Florida Bonneted Bat (*Eumops floridanus*)

The Florida bonneted bat (FBB) utilizes habitats such as hardwoods and pinelands for foraging. The project area does contain some pine flatwoods and cypress-pine-palm habitats suitable for Florida bonneted bat foraging though it is important to note that much of this habitat is densely forested which would preclude bat flight through the forested areas. Much of this habitat will be impacted with the development of the proposed project, however, following the enhancement activities, the entire preserve area will consist of open forested habitat suitable for Florida bonneted bat foraging. The project site is located within the FBB consultation area but is not located within any of the Focal Areas that have been designated by FWS.

Surveys of the site have been conducted to search for potential roosts. Cavity trees observed were peeped to determine if any roosting was present. To date no evidence of any bat presence on the site has been observed.

Proposed Determination of Effect: Based on our analysis of the existing conditions of the site, the proposed, enhanced, open forested preserve areas, and the lack of any documented FBB presence, our proposed determination is that the proposed project "may affect, but is not likely to adversely affect" MANLAA the FBB.

Big Cypress Fox Squirrel (*Sciurus niger*)

The Big Cypress Fox Squirrel has not been observed on-site however they have been known to utilize habitats such as cypress, cypress-pine-cabbage palm, and pine flatwoods that do exist on the project site. Much of the habitat has been infested with exotic vegetation which limits fox squirrel use and foraging. The proposed project would result in impacts to 2.44 acres of cypress-pine-cabbage palm, and 2.54 acres of pine flatwoods. Fox squirrels have been shown in many locations to prefer suburban habitats including golf courses and low-density residential areas.

The preserve habitats will be enhanced for fox squirrel utilization through the elimination of exotic vegetation and the opening up of the site through said removal. However, the isolation of the site amidst other development and roadways makes the use of the site by fox squirrels unlikely. Little affect to the Big Cypress fox squirrel is expected.

4.5 PROJECT IMPACTS TO ARCHAEOLOGICAL/HISTORICAL RESOURCES

The Florida Master Site File (MSF) is a database of the known historic and archaeological sites in the state of Florida. The MSF office was contacted and the response back indicated that there were no recorded sites in close proximity to the proposed project.

Should any archaeological evidence be discovered during construction, the development activities at the specific site will be immediately halted and the appropriate agency notified. Development will be suspended for a sufficient length of time to enable the County or a designated consultant to assess the find and determine the proper course of action.

5.0 AVOIDANCE & MINIMIZATION OF WETLAND IMPACTS

Alternative Site Plans

The applicant has made all appropriate and practicable steps to minimize impacts to existing jurisdictional wetlands. The final site plan as presented in this document shows that all of the higher quality natural wetlands within the project boundary have been avoided. The wetland preserves will be avoided and remain connected to off-site flows as exists in the current conditions. The preservation of upland and wetland areas along the northeast boundary will provide a buffer between the development and the off-site adjacent wetlands to the north and east.

Avoidance During Construction

During construction, appropriate best management practices will be employed to help protect water quality and avoid the discharge of sediments and/or turbid water from the project site into both the on-site and off-site wetlands. The specific erosion/sediment/turbidity control methods and devices used will conform to applicable standards and criteria set forth in the "FDER Florida Development Manual," Sections 6-301 through 6-500 (FDER, 1988. "The Florida Development Manual: A Guide to Sound Land and Water Management," Chapter 6: "Storm Water and Erosion Control Best Management Practices for Developing Areas; Guidelines for Using Erosion and Sediment Control Practices," ES BMP 1.01-1.67. FDER, Tallahassee, FL.). These methods will also conform to applicable standards and guidelines set forth in the "Florida Stormwater, Erosion, and Sedimentation Control Inspector's Manual" (FDEP, 2002).

The boundaries of all the wetland areas adjacent to the construction activities will be delineated with silt fencing in order to clearly identify the wetland areas and to protect them from inadvertent impacts or encroachment by the machinery during project construction.

Preserve Management Plan

The Russell Square project has proposed to establish on-site preserve areas to minimize wetland impacts associated with the residential development. The project will also undertake enhancement activities within the preserve areas which will improve the functional value of the wetlands and insure that no long term impacts will occur as a result of the propose development activities. A Management Plan for the short and long-term enhancement and maintenance activities will be created and submitted for review at the time of site development plan approval.

6.0 PROJECT CONSISTENCY WITH CCME

The following Section outlines how the project is consistent with the Goals and Objectives of the Collier County Conservation and Coastal Management Element (CCME) of the Growth Management Plan (GMP). Each of the 13 Goals of the CCME is listed along with how that Goal is applicable to the proposed project. For those Goals that are not applicable, no further description is included.

GOAL 1: TO PLAN FOR THE PROTECTION, CONSERVATION, MANAGEMENT AND APPROPRIATE USE OF THE COUNTY'S NATURAL RESOURCES.

This Goal is more applicable to the County process in general than to any single project. The project has used data available from the County resources to plan the project and protect species, habitats, and resources to the greatest extent practicable.

GOAL 2: TO PROTECT THE COUNTY'S SURFACE AND ESTUARINE WATER RESOURCES.

The Project will undergo review by the South Florida Water Management District as part of the ERP process. The project will also be reviewed by County reviewers during the PUD and SDP applications. Surface water management, water quality concerns, and outfall quantities and locations will all undergo review and will be consistent with any regional or local Watershed Management Plans. The Project stormwater will meet all applicable State and Local water quality criteria.

GOAL 3: TO PROTECT THE COUNTY'S GROUND WATER RESOURCES TO ENSURE THE HIGHEST WATER QUALITY PRACTICAL.

The Project will undergo review by the South Florida Water Management District as part of the ERP process. Groundwater extractions for the purposes of irrigation may be permitted upon SFWMD review. Any irrigation use will be monitored to insure that adverse impacts to groundwater resources are not adversely impacted.

GOAL 4: TO CONSERVE, PROTECT AND APPROPRIATELY MANAGE THE COUNTY'S FRESH WATER RESOURCES.

The Project will undergo review by the South Florida Water Management District as part of the ERP process. Groundwater extractions for the purposes of irrigation may be permitted upon SFWMD review. If applicable and available, the Project will utilize treated effluent (re-use) water for irrigation.

GOAL 5: TO PROTECT, CONSERVE AND APPROPRIATELY USE THE COUNTY'S MINERAL AND SOIL RESOURCES.

No mineral extraction is contemplated on the Project property.

The Project will utilize appropriate BMPs to protect soils on the project site from erosion or disturbance during construction activities. Silt fencing, protective barriers, berms, and swales could all be used during construction activities on the site.

GOAL 6: TO IDENTIFY, PROTECT, CONSERVE AND APPROPRIATELY USE NATIVE VEGETATIVE COMMUNITIES AND WILDLIFE HABITAT.

The Project as proposed is consistent with Goal 6 and its objectives specifically;

Objective 6.1 – The Project will preserve a minimum of 25% of the existing native habitat on the project site. The property contains 12.49 acres of native vegetation and cannot account for an additional 1.39 acres of historic clearing that has been done. The project is therefore required to preserve a minimum of 3.47 acres. The project is also required to preserve 20 additional trees due to larger trees that were allowed to grow up in the pasture area. The preservation of these additional trees will require 0.52 acres of open space. While the code does not require that the lands used for native tree preservation be under conservation easement, these trees will be placed within CE area that is more than the required acreage to meet the native preservation requirement. As proposed, the project will preserve 4.01 acres of native habitats, which is more than required. In addition, the areas proposed for preservation meet the hierarchy standards of this Objective in that the areas are utilized by listed species and do include the higher functional wetlands. Because of the separation of the high quality areas by a roadway and pasture lands the preserves are not interconnected within the site. One of the preserve areas is contiguous with offsite lands to the north and east while the remaining preserve area is sandwiched between the development area and Santa Barbara Blvd.

Objective 6.2 – The Project will preserve higher quality functional wetlands within the project boundary and will appropriately mitigate for lost functions through purchase of mitigation credits from an approved wetland mitigation bank. Valuation of the functionality of the wetlands to be impacted and the mitigation requirements will be reviewed by both the SFWMD and the USACE as part of the ERP review process. Preservation of the higher quality wetland habitats will be a priority for the state and federal permitting agencies. Both proposed wetland areas are also located within Special Treatment overlays which the County had used to identify higher quality wetland areas.

Objective 6.5 – Appropriate buffers and setbacks from construction activities on the project site will be maintained from the existing adjacent wetlands to the north and east.

GOAL 7: TO PROTECT AND CONSERVE THE COUNTY'S FISHERIES AND WILDLIFE.

The Project as proposed is consistent with Goal 7 and its objectives specifically;

Objective 7.1 – The Project has conducted a Protected Species Survey over the Project lands. This survey will be updated periodically during the permitting process to insure that new species do not take up residence on the Project lands without knowledge. Lands known to be utilized by listed species, such as the wetland along Santa Barbara Blvd. have been proposed for preservation. Species Management Plans will be completed for the Project which will outline how the proposed project can move forward while minimizing the risk of adversely impacting any protected species. Coordination and review with the Florida Fish and Wildlife Conservation Commission (FFWCC) will be undertaken to insure that potential impacts to state and federally protected species are minimized.

GOAL 8: TO MAINTAIN COLLIER COUNTY'S EXISTING AIR QUALITY.

The Project will comply with all applicable State and Federal air quality standards. All site construction equipment will be maintained appropriately in terms of emissions standards and potential air pollution.

GOAL 9: TO APPROPRIATELY MANAGE HAZARDOUS MATERIALS AND WASTE TO PROTECT THE COUNTY'S POPULOUS AND NATURAL RESOURCES AND TO ENSURE THE HIGHEST ENVIRONMENTAL QUALITY.

This Goal is more applicable to County efforts than to individual projects. Consistent with Objective 9.3, the project will encourage resident participation in hazardous waste collection days to try and help insure that household hazardous wastes are disposed of properly in coordination with the County's efforts.

GOAL 10: TO PROTECT, CONSERVE, MANAGE, AND APPROPRIATELY USE THE COUNTY'S COASTAL BARRIERS INCLUDING SHORELINES, BEACHES AND DUNES AND PLAN FOR, AND WHERE APPROPRIATE, RESTRICT ACTIVITIES WHERE SUCH ACTIVITIES WILL DAMAGE OR DESTROY COASTAL RESOURCES.

This Project will not affect any coastal barriers, dunes, beaches, shorelines, or any other coastal resources.

GOAL 11: TO PROVIDE FOR THE PROTECTION, RESERVATION, AND SENSITIVE RE-USE OF HISTORIC RESOURCES.

This Project will not affect any historical or archaeological properties or resources.

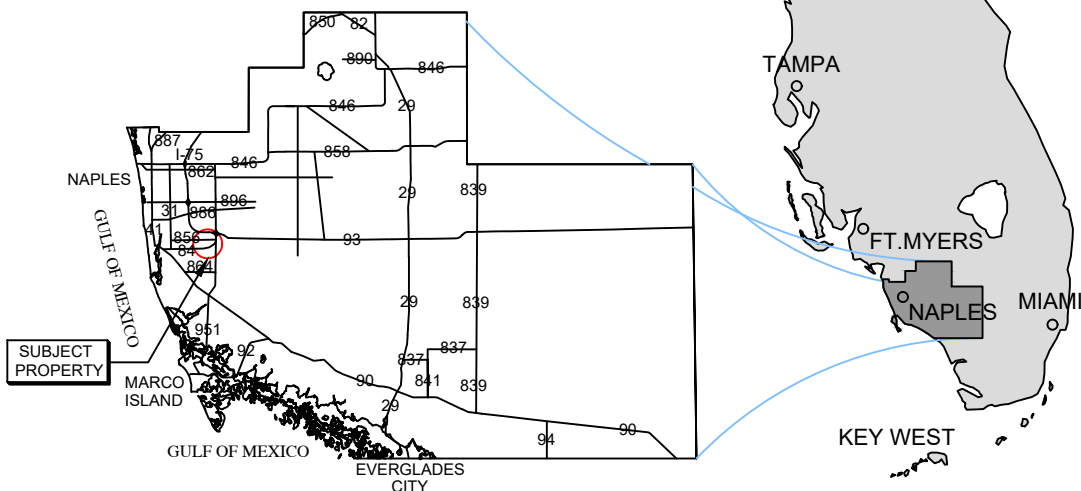
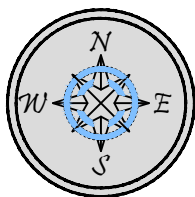
GOAL 12: TO MAKE EVERY REASONABLE EFFORT TO ENSURE THE PUBLIC SAFETY, HEALTH AND WELFARE OF PEOPLE AND PROPERTY FROM THE EFFECTS OF HURRICANE STORM DAMAGE.

The Project is not located within the County's Coastal High Hazard Area. All building construction on the Project will be subject to building code regulation and will adhere to construction standards with respect to wind loadings and hurricane protection. On-site construction will have a hurricane preparedness plan outlining steps to follow should a hurricane approach while site construction is under way.

GOAL 13: TO AVOID UNNECESSARY DUPLICATION OF EXISTING REGULATORY PROGRAMS.

The Project will undergo review by the SFWMD, and FWC. Review by USACE and FWS is not expected due to the fact that no federal jurisdictional areas will be impacted by the development. All correspondence and permitting undertaken with these agencies will be provided to the County upon request to assist with County review and minimize duplication of permitting efforts.

STATE OF FLORIDA



COLLIER COUNTY

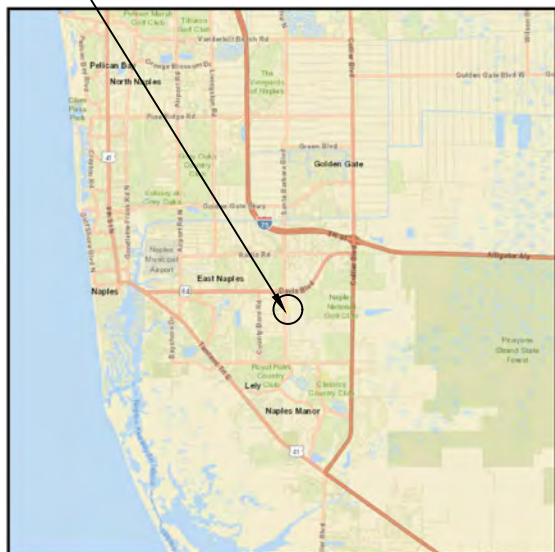
SITE ADDRESS:

▷ NAPLES
2505 SUNSET BLVD FL 34112

NOTES:

- ▷ THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.
- ▷ LATITUDE: N 26.131031
- ▷ LONGITUDE: W -81.716983

SUBJECT
PROPERTY



VICINITY MAP

SUBJECT
PROPERTY



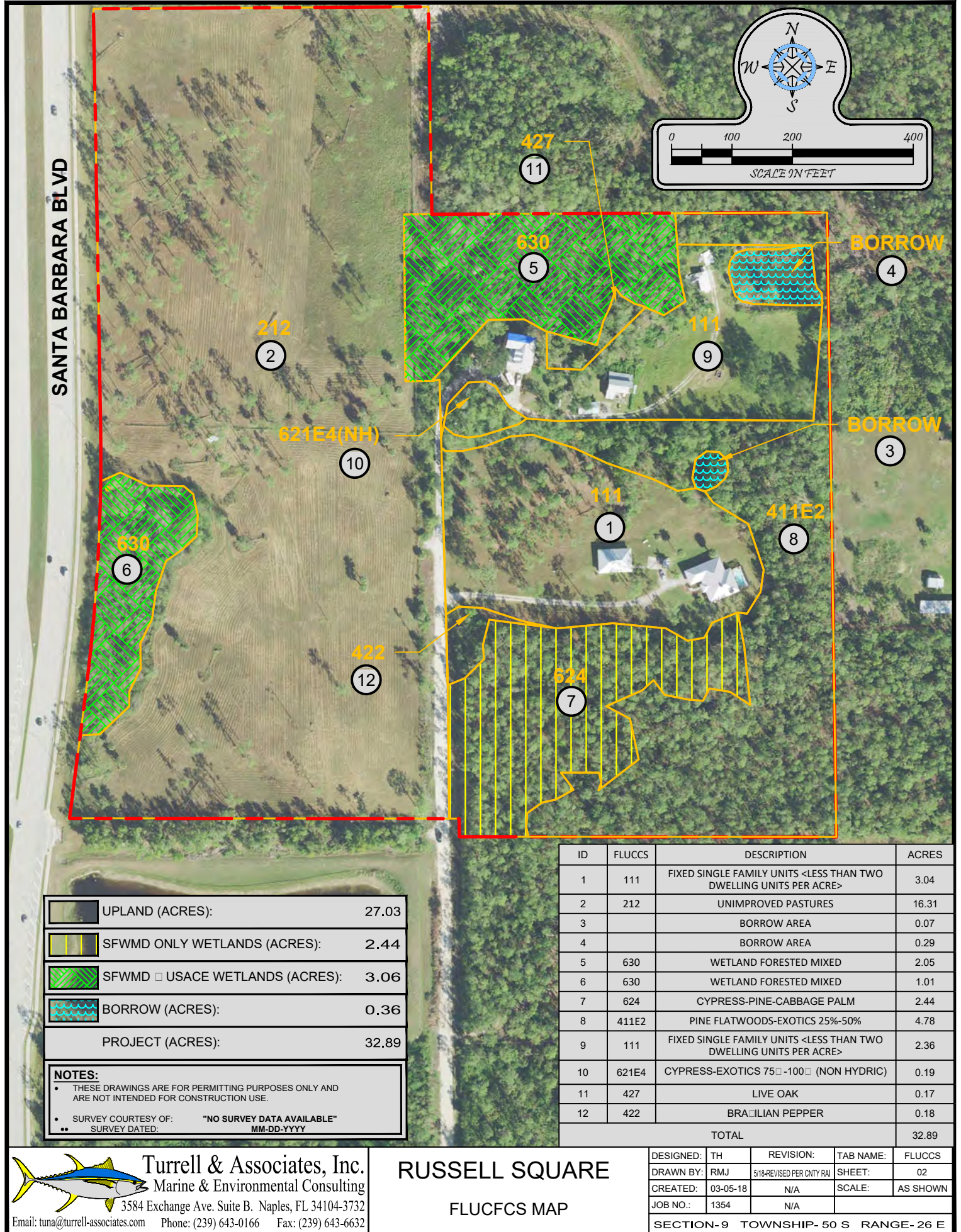
COUNTY AERIAL



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RUSSELL SQUARE LOCATION MAP

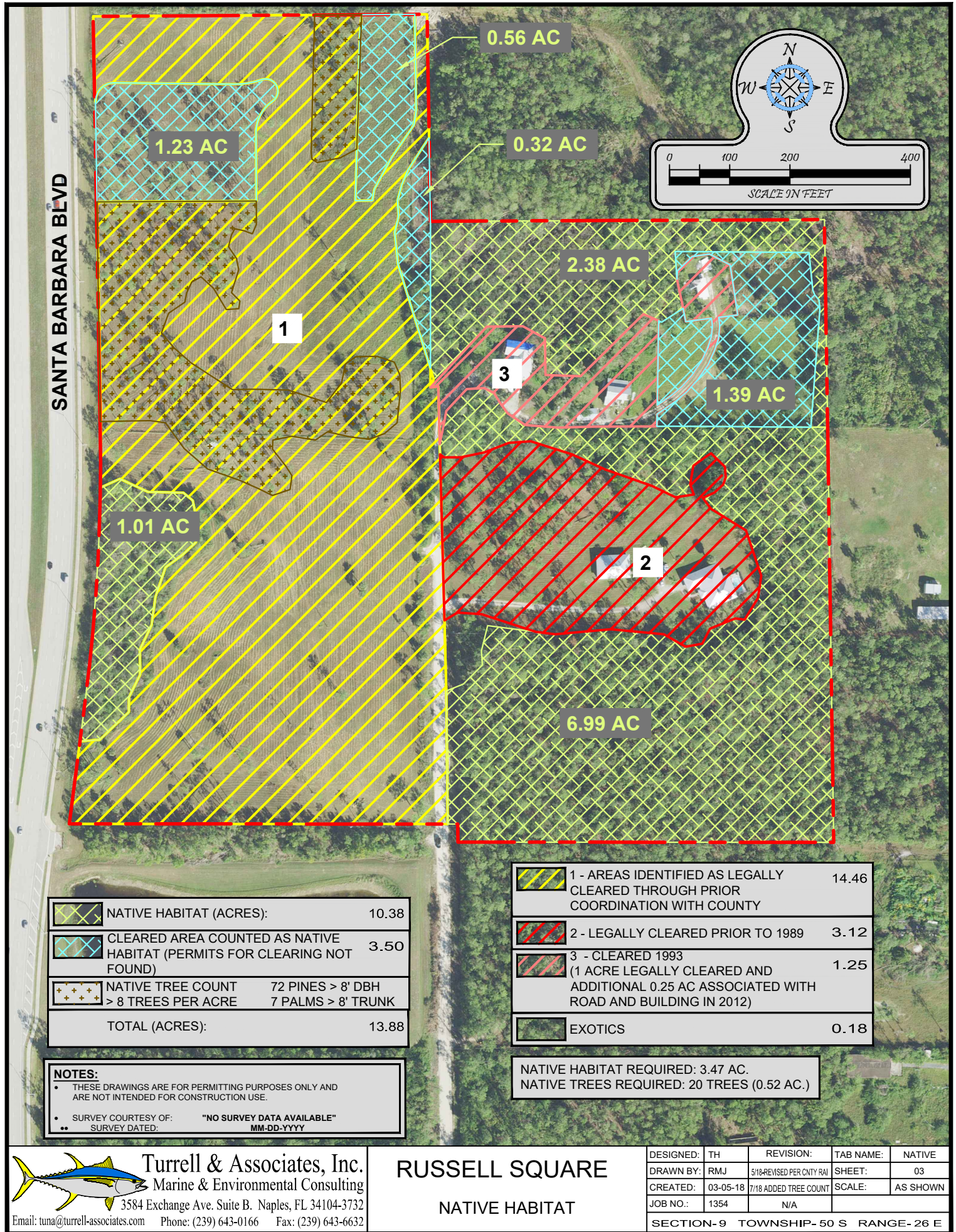
| | | | | |
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| DRAWN BY: | RMJ | N/A | SHEET: | 01 |
| CREATED: | 03-05-18 | N/A | SCALE: | AS SHOWN |
| JOB NO.: | 1354 | N/A | | |
| SECTION-9 TOWNSHIP- 50 S RANGE- 26 E | | | | |



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RUSSELL SQUARE **FLUCFCS MAP**



| | | |
|--|---|--------------------|
| | NATIVE HABITAT (ACRES): | 10.38 |
| | CLEARED AREA COUNTED AS NATIVE HABITAT (PERMITS FOR CLEARING NOT FOUND) | 3.50 |
| | NATIVE TREE COUNT | 72 PINES > 8' DBH |
| | > 8 TREES PER ACRE | 7 PALMS > 8' TRUNK |
| | TOTAL (ACRES): | 13.88 |

NOTES:

- THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.

- SURVEY COURTESY OF: "NO SURVEY DATA AVAILABLE"
- SURVEY DATED: MM-DD-YYYY

| | | |
|--|---|-------|
| | 1 - AREAS IDENTIFIED AS LEGALLY CLEARED THROUGH PRIOR COORDINATION WITH COUNTY | 14.46 |
| | 2 - LEGALLY CLEARED PRIOR TO 1989 | 3.12 |
| | 3 - CLEARED 1993 (1 ACRE LEGALLY CLEARED AND ADDITIONAL 0.25 AC ASSOCIATED WITH ROAD AND BUILDING IN 2012) | 1.25 |
| | EXOTICS | 0.18 |

NATIVE HABITAT REQUIRED: 3.47 AC.
NATIVE TREES REQUIRED: 20 TREES (0.52 AC.)

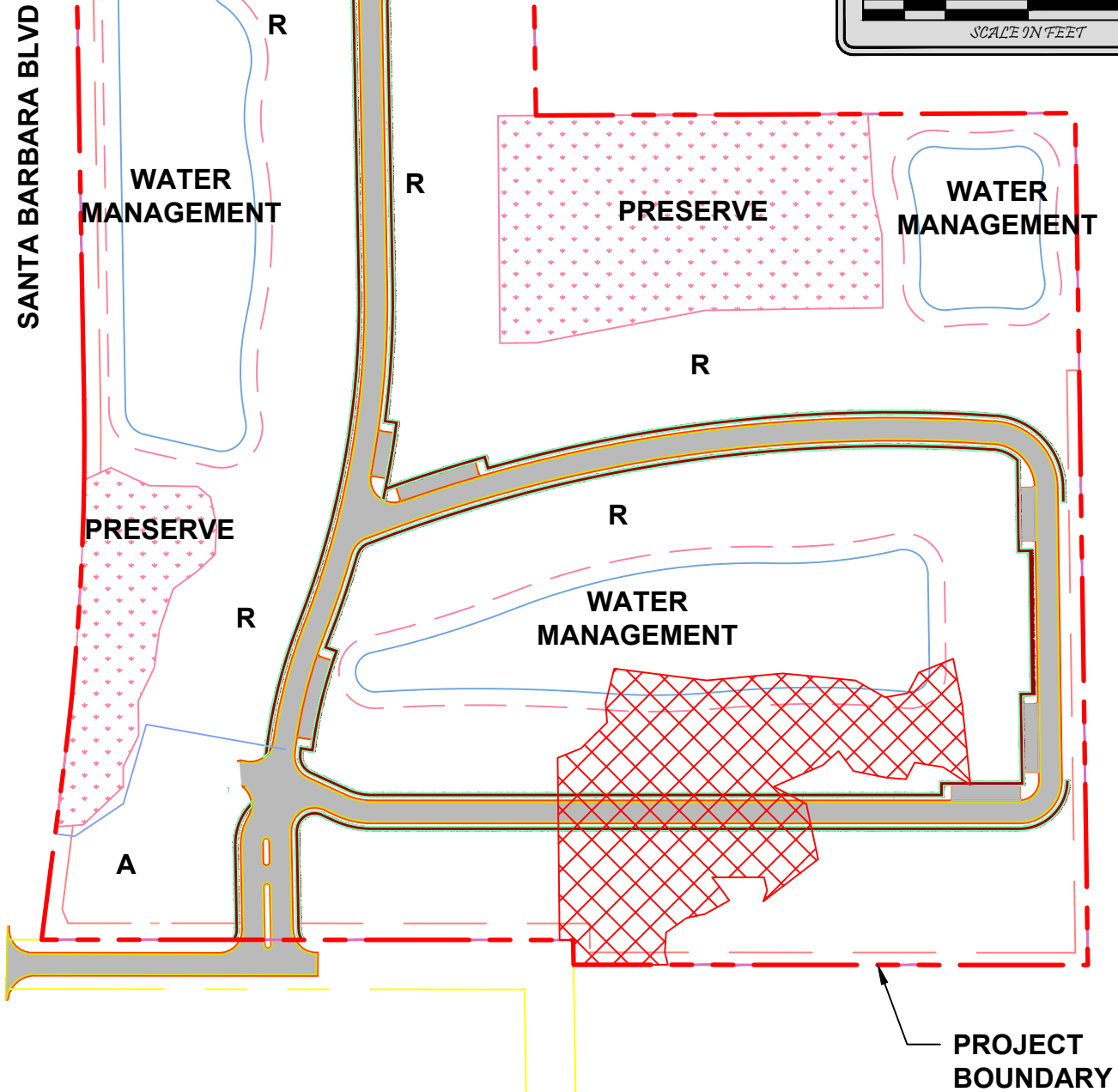
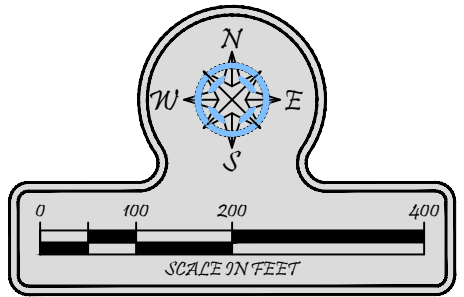



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RUSSELL SQUARE
NATIVE HABITAT

| | | |
|------------------------------------|---------------------------|------------------|
| DESIGNED: TH | REVISION: | TAB NAME: NATIVE |
| DRAWN BY: RMJ | 5/18-REVISED PER CNTY RAI | SHEET: 03 |
| CREATED: 03-05-18 | 7/18 ADDED TREE COUNT | SCALE: AS SHOWN |
| JOB NO.: 1354 | N/A | |
| SECTION-9 TOWNSHIP-50 S RANGE-26 E | | |



 WETLAND IMPACT (AC.) 2.44

NOTES:

- THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.

• SURVEY COURTESY OF: "NO SURVEY DATA AVAILABLE"
• SURVEY DATED: MM-DD-YYYY



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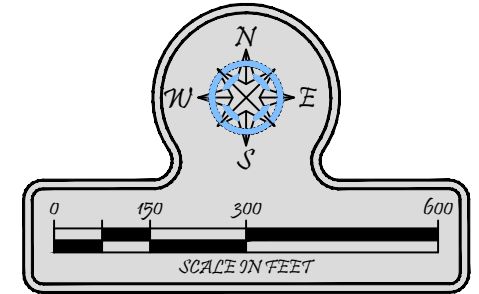
Email: tuna@turrell-associates.com Phone: (239) 643-0166 Fax: (239) 643-6632

RUSSELL SQUARE



IMPACTS MAP

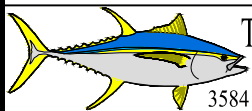
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| DRAWN BY: | RMJ | 5/18-ADDED IMPACT | SHEET: | 04 |
| CREATED: | 03-05-18 | N/A | SCALE: | AS SHOWN |
| JOB NO.: | 1354 | N/A | | |
| SECTION-9 TOWNSHIP- 50 S RANGE- 26 E | | | | |

SECTION-9 TOWNSHIP- 50 S RANGE- 26 E



| ID | WETLAND PRESERVE | ACRES |
|-------|------------------------|-------|
| 1 | WETLAND FORESTED MIXED | 2.05 |
| 2 | WETLAND FORESTED MIXED | 1.01 |
| TOTAL | | 3.06 |

| | | |
|--|---------------------------|------|
|  | UPLAND PRESERVE (ACRES): | 0.95 |
|  | WETLAND PRESERVE (ACRES): | 3.06 |
| TOTAL PRESERVE (ACRES): | | 4.01 |
| NOTES: <ul style="list-style-type: none"> THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE. SURVEY COURTESY OF: "NO SURVEY DATA AVAILABLE" SURVEY DATED: MM-DD-YYYY | | |

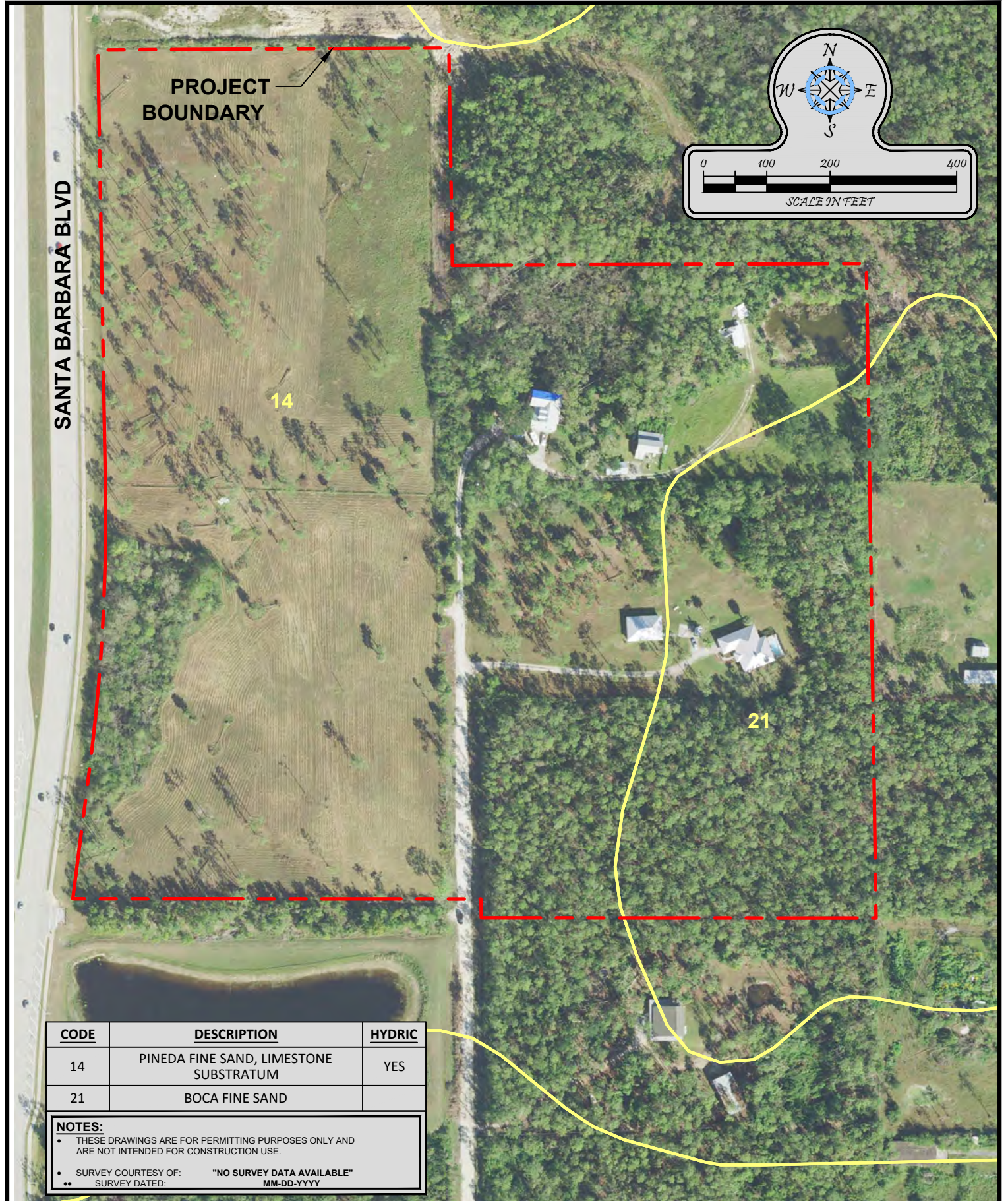


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Email: tuna@turrell-associates.com Phone: (239) 643-0166 Fax: (239) 643-6632

RUSSELL SQUARE PRESERVE MAP

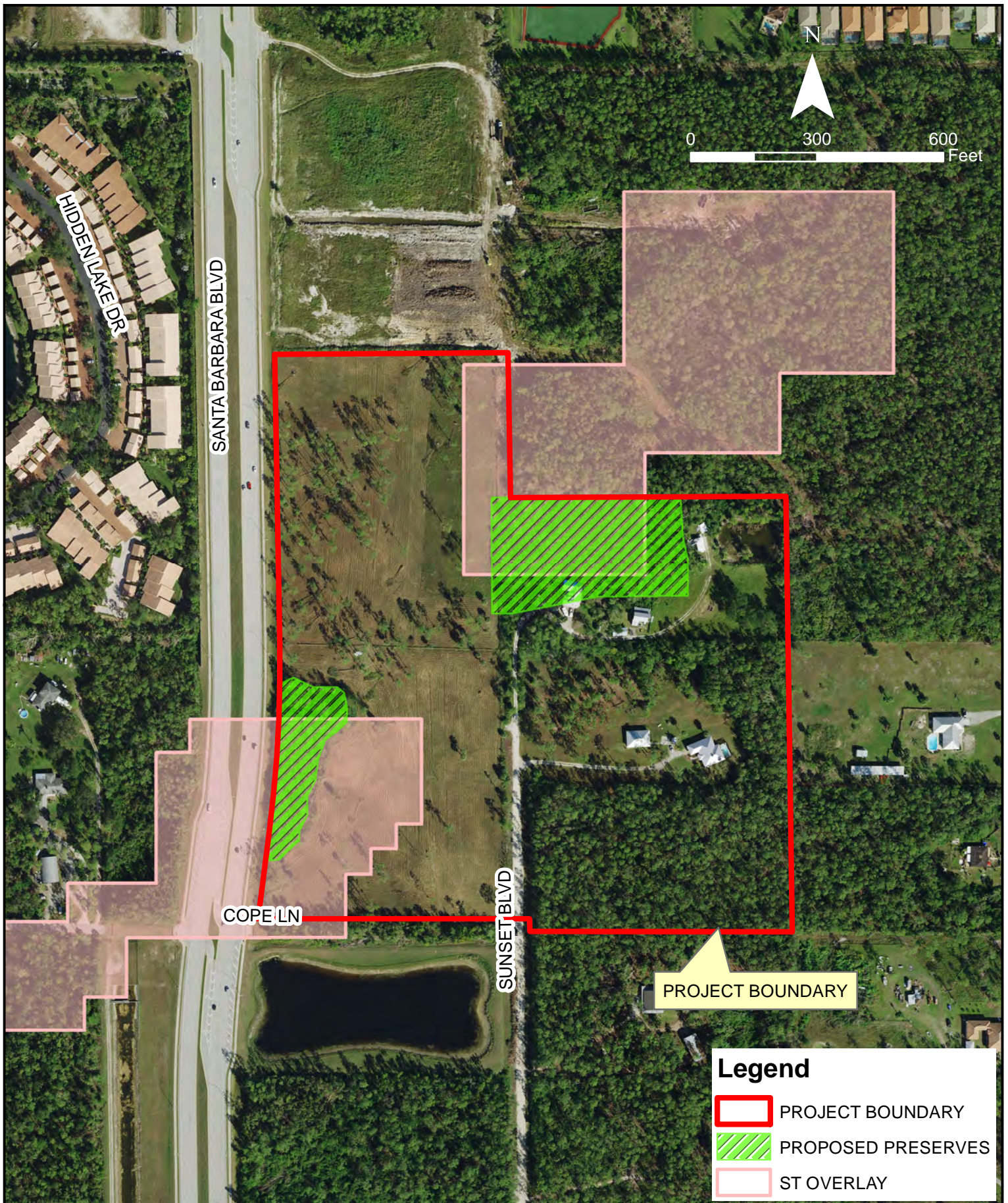
THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE.

| DESIGNED: | TH | REV | REV BY | DATE | CHK BY | CHANGED |
|------------|----------|---------------|--------|------------|--------|---------|
| DRAWN BY: | RMJ | 1. | - | - | - | - |
| CREATED: | 04-25-18 | 2. | - | - | - | - |
| JOB NO.: | 1354.1 | 3. | - | - | - | - |
| SHEET NO.: | 05 | 4. | - | - | - | - |
| | | 5. | - | - | - | - |
| SECTION- 9 | | TOWNSHIP- 50S | | RANGE- 26E | | |



| CODE | DESCRIPTION | HYDRIC |
|------|--|--------|
| 14 | PINEDA FINE SAND, LIMESTONE SUBSTRATUM | YES |
| 21 | BOCA FINE SAND | |

| | | |
|--|-----------------------------------|--|
| NOTES: | | |
| • THESE DRAWINGS ARE FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION USE. | | |
| • SURVEY COURTESY OF: | "NO SURVEY DATA AVAILABLE" | |
| • SURVEY DATED: | MM-DD-YYYY | |



Legend

- PROJECT BOUNDARY
- PROPOSED PRESERVES
- ST OVERLAY



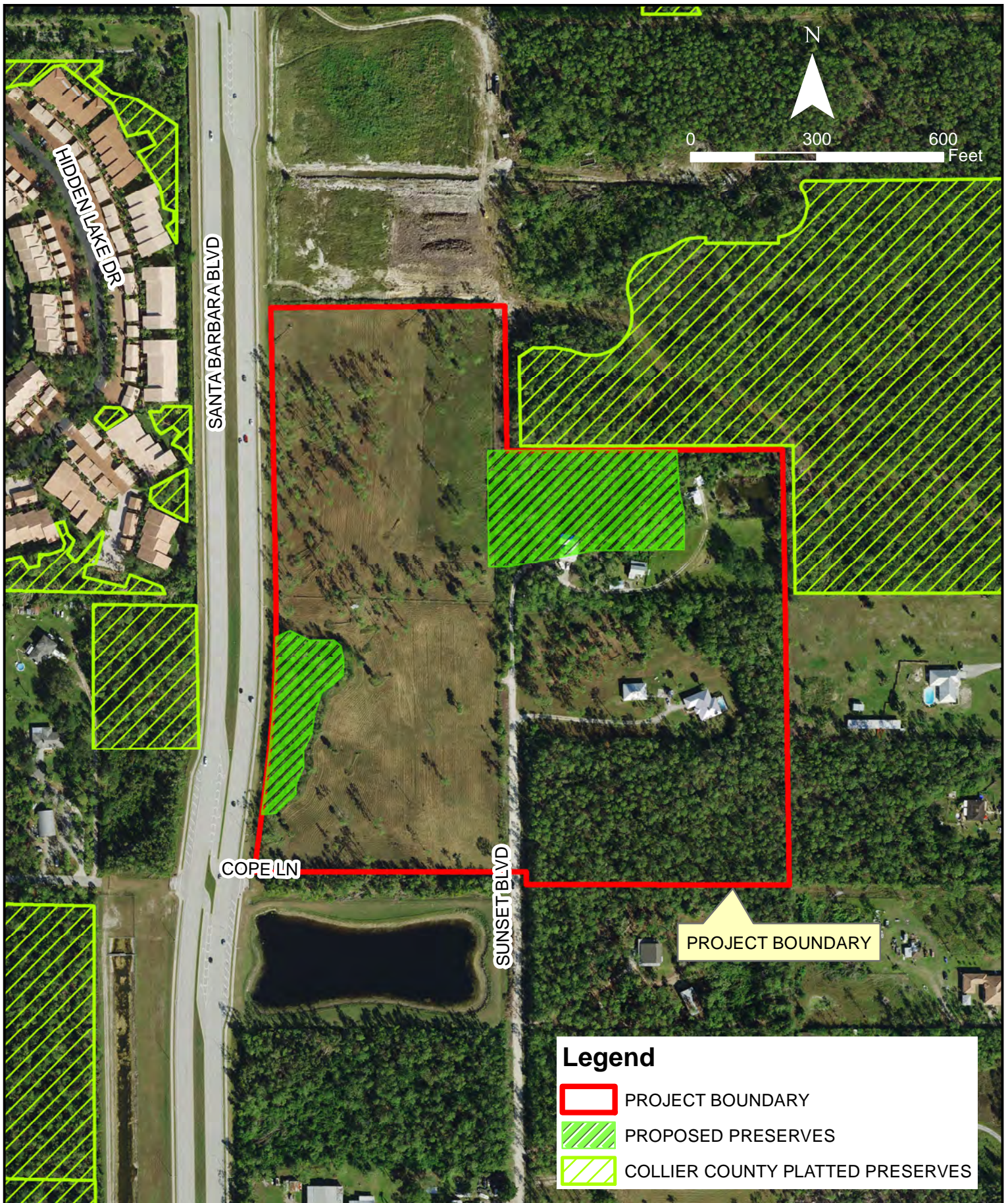
Turrell, Hall & Associates, Inc.
Marine & Environmental Consulting

3484 Exchange Ave. Suite B. Naples, FL 34104-3732

Email: tuna@turrell-associates.com Phone: (239) 643-0166 Fax: (239) 643-6632

RUSSELL SQUARE ST OVERLAY

| | | | | |
|----------------------------------|----------|-----------|--|---------|
| DRAWN BY: | RMJ | REVISION: | SCALE: | 1"=300' |
| CREATED: | 05-22-18 | N/A | FILE PATH: P:\1354-Sunset Blvd Property\GIS\1354-ST OVERLAY.mxd | |
| JOB NO.: | 1354 | N/A | | |
| SHEET: | 11 | N/A | | |
| SECTION-9 TOWNSHIP-50S RANGE-26E | | | | |



Legend

- PROJECT BOUNDARY
- PROPOSED PRESERVES
- COLLIER COUNTY PLATTED PRESERVES