



This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 21 December 2018

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: SAJ-2018-03425

C. PROJECT LOCATION AND BACKGROUND INFORMATION: This project is located at 5800 Southwest 106th Avenue, in Section 31, Township 50 South, Range 41 East, Copper City, Broward County, Florida.

State: Florida County/parish/borough: Broward City: Cooper City
Center coordinates of site (lat/long in degree decimal format): Lat. 26.046951° N, Long. -80.284437° W.
Universal Transverse Mercator: 17

Name of nearest waterbody: Un-named stormwater lake.
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Aquatic resource does not flow into a TNW.
Name of watershed or Hydrologic Unit Code (HUC): South New River Canal
[X] Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
[ ] Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

- [X] Office (Desk) Determination. Date: 21 December 2018
[X] Field Determination. Date(s): 12 December 2018

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There Are no "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

- [ ] Waters subject to the ebb and flow of the tide.
[ ] Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There Are no "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply): 1

- [ ] TNWs, including territorial seas
[ ] Wetlands adjacent to TNWs
[ ] Relatively permanent waters2 (RPWs) that flow directly or indirectly into TNWs
[ ] Non-RPWs that flow directly or indirectly into TNWs
[ ] Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
[ ] Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
[ ] Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
[ ] Impoundments of jurisdictional waters
[ ] Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: linear feet: width (ft) and/or acres.
Wetlands: acres.

c. Limits (boundaries) of jurisdiction based on: Pick List

Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):3

- [X] Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
Explain: Based on a site visit and subsequent desktop determination, it was determined that the 0.24 acre wetland area on site is isolated and therefore non-jurisdictional. The site features a slight depression with no roadside swales, culverts, or other means of surface water flow to support offsite drainage or connection to tributaries and TNWs.

1 Boxes checked below shall be supported by completing the appropriate sections in Section III below.
2 For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
3 Supporting documentation is presented in Section III.F.

**Additionally, the site is surrounded by a combination of roadways, developed residential lots, and an undeveloped upland parcel.**

### SECTION III: CWA ANALYSIS

#### A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”:

#### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: acres

Drainage area: acres

Average annual rainfall: inches

Average annual snowfall: inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.

Project waters are **Pick List** river miles from RPW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Project waters are **Pick List** aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW<sup>5</sup>: .

Tributary stream order, if known: .

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.



(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width): .
- Wetland fringe. Characteristics: .
- Habitat for:
  - Federally Listed species. Explain findings: .
  - Fish/spawn areas. Explain findings: .
  - Other environmentally-sensitive species. Explain findings: .
  - Aquatic/wildlife diversity. Explain findings: .

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size:        acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: N/A.

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain: .

Ecological connection. Explain: .

Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- Riparian buffer. Characteristics (type, average width): .
- Vegetation type/percent cover. Explain: .
- Habitat for:
  - Federally Listed species. Explain findings: .
  - Fish/spawn areas. Explain findings: .
  - Other environmentally-sensitive species. Explain findings: .
  - Aquatic/wildlife diversity. Explain findings: .

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately (        ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)      Size (in acres)      Directly abuts? (Y/N)      Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

### C. SIGNIFICANT NEXUS DETERMINATION

**A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.**

**Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:**

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

### D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- TNWs:      linear feet      width (ft), Or,      acres.  
 Wetlands adjacent to TNWs:      acres.

2. **RPWs that flow directly or indirectly into TNWs.**

- Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
- Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).  
 Other non-wetland waters: acres.  
Identify type(s) of waters: .

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet width (ft).  
 Other non-wetland waters: acres.  
Identify type(s) of waters: .

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.  
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .  
 Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or  
 Demonstrate that water meets the criteria for one of the categories presented above (1-6), or  
 Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.  
 from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.  
 which are or could be used for industrial purposes by industries in interstate commerce.  
 Interstate isolated waters. Explain: .  
 Other factors. Explain: .

**Identify water body and summarize rationale supporting determination:** .

<sup>8</sup>See Footnote # 3.

<sup>9</sup>To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup>Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters:        linear feet        width (ft).
- Other non-wetland waters:        acres.  
    Identify type(s) of waters:        .
- Wetlands:        acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:        .
- Other: (explain, if not covered above):        .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams):        linear feet        width (ft).
- Lakes/ponds:        acres.
- Other non-wetland waters:        acres. List type of aquatic resource:        .
- Wetlands: 0.24 acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams):        linear feet,        width (ft).
- Lakes/ponds:        acres.
- Other non-wetland waters:        acres. List type of aquatic resource:        .
- Wetlands:        acres.

**SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:        .
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: Two data points collected.
- Corps navigable waters' study:        .
- U.S. Geological Survey Hydrologic Atlas:        .
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name:        .
- USDA Natural Resources Conservation Service Soil Survey. Citation: 19 Margate Fine Sand.
- National wetlands inventory map(s). Cite name:        .
- State/Local wetland inventory map(s):        .
- FEMA/FIRM maps:        .
- 100-year Floodplain Elevation is:        (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Google Earth Imagery and LIDAR.  
    or  Other (Name & Date):        .
- Previous determination(s). File no. and date of response letter:        .
- Applicable/supporting case law:        .
- Applicable/supporting scientific literature:        .
- Other information (please specify): Maps and figures generated in Google Earth.

Site visit conducted on 7 February 2018.

**B. ADDITIONAL COMMENTS TO SUPPORT JD:** The entire site contains hydric soils, but does not hydrophytic vegetation and hydrology, with the exception of the 0.24 acre wetland. The westside adjacent to the property contains a non-jurisdictional conveyance system (swale) and a jurisdictional tributary across the road. 33 CFR 328.3(c) describes "adjacent" to mean bordering, contiguous, or neighboring. Wetlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes and

the like are “adjacent wetlands.” Additionally, Rapanos established 3 criteria to satisfy the adjacent (neighboring) definition. Any one these 3 criteria alone can justify an “adjacent” determination:

1. Abutting (bordering & contiguous)
2. Non-abutting (neighboring)
  - a) Unbroken surface or shallow sub-surface connection to jurisdictional waters.
  - b) Physically separated from jurisdictional waters by man-made dikes or barriers, natural river berms, beach dunes, and the like.
  - c) Their proximity to a jurisdictional water is reasonably close

The wetland is not adjacent to a tributary or navigable water because it is not bordering, contiguous or neighboring, as demonstrated below:

1. Abutting (bordering & contiguous). The wetland is over 1,000 feet from any tributary.
2. Non-abutting (neighboring)
  - a) Unbroken surface or shallow sub-surface connection to jurisdictional waters: There is no unbroken surface connection from the wetland to the tributary. The wetland is surrounded by an herbacious upland, roads to the north and west, a single family residence to the east, and an undeveloped upland parcel to the south. The non-jurisdictional conveyance system and the jurisdictional tributary are located on the west side of the Review Area. The non-jurisdictional conveyance system is approximately 1,100 feet from the wetland and does not have an unbroken surface connection. The tributary is 1,200 feet from the wetland and is located on the other side of a two-lane road. There is no evidence of a surface flow via a defined topographic feature. There is also no shallow sub-surface connection to jurisdictional waters because there is no known restrictive layer or highly transmissive shallow aquifer.
  - b) Physically separated from jurisdictional waters by man-made dikes or barriers, natural river berms, beach dunes, and the like: The wetland is separated from jurisdictional waters by over 1,000 feet of uplands and not merely separated by barriers and berms.
  - c) Their proximity to a jurisdictional water is reasonably close, however, lacks an ecological connection. The wetland in question is small and size and therefore does not contain resources that would support endageres speices or other fish and wildlife species aside from insects and other small animals. The jurisdictional tributary is a man made canal. The uplands between the wetland and jursidctional tributary are impacted and maintained herbacious uplands that also do not support wildlife.

Overall, based on a site visit conducted on 12 December 2018 and the subsequent desktop review it has been determined that this wetland is isolated and therefore non-jurisdictional .



Figure 1: Project site via Google Earth



**Legend**

- Project Boundary
- Streets
- Potential Wetland = 0.24 Acres
- Data Sampling Point

Data Sources:  
2015 BCPA .sid

0 65 130 260 390 520 Feet

Figure 2: Wetland delineation map provided by the applicant and concurred with by Corps







**WE LAND DE E MINA ION DA A FORM – Atlantic and Gulf Coastal Plain egion**

Project/Site: Cooper Cit Mixed Use evelopment W City/County: Cooper Cit /Broward W Sampling Date:  / /  
 Applicant/Owner: S land Management Inc W State: FL W Sampling Point: 2  
 Investigator(s): Matt ancho/William Mohler - Miller Legg W Section, Township, Range: Section , Township 5 S, Range 4 E  
 Land form (hill, terrace, etc.): terrace W Local relief (cave, convex, none): none W Slope (%):   
 Subregion (LRR or MLRA): LRR U Lat: 26 2'4 62"N Long: 7' "W Datum: NA W  
 Soil Map Unit Name: Margate fine sand NWI classification: None W

Are climatic / hydrologic conditions in the site typical for this time year? Yes  No  (If not, explain in Remark.)  
 Are Vegetation , Soil , or Hydrology  significantly disturbed? W Are "Normal Circumstance" present? Yes  No W  
 Are Vegetation , Soil , or Hydrology W naturally problematic? W (If needed, explain any answer in Remark.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <u></u> No <u>X</u> Hydric Soil Present? Yes <u>X</u> No <u></u> Wetland Hydrology Present? <u>W</u> Yes <u>W</u> No <u>X</u>	<b>Is the Sampled Area within a wetland? e</b> Yes <u></u> No <u>X</u>
Remark : See attached map of sample location point 2 This location was chosen as upland compared to point A. A visual difference of vegetation was observed as the area was dominated Bahia grass. Aerials as indicated this point is outside of the potential wet area. This point did not pass wetland hydrology or vegetation	

**HYDROLOGY**

Primary Hydrology Indicators (W or W)	Secondary Indicator (minimum two required)
<input type="checkbox"/> Surface Water (A1) <u>W</u> <input type="checkbox"/> High Water Table (A2) <u>W</u> <input type="checkbox"/> Saturation (A3) <u>W</u> <input type="checkbox"/> Water Mark (B1) <u>W</u> <input type="checkbox"/> Sediment Deposition (B2) <u>W</u> <input type="checkbox"/> Drift Deposit (B3) <u>W</u> <input type="checkbox"/> Algal Mat or Crust (B4) <u>W</u> <input type="checkbox"/> Iron Deposit (B5) <u>W</u> <input type="checkbox"/> Inundation Visible in Aerial Image (B7) <u>W</u> <input type="checkbox"/> Water-Stained Leaves (B9) <u>W</u>	<input type="checkbox"/> Surface Soil Crack (B6) <input type="checkbox"/> Sparingly Vegetated Concave Surface (B8) <u>W</u> <input type="checkbox"/> Drainage Pattern (B10) <input type="checkbox"/> Moisture Line (B16) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Crusty or Chalky (C8) <u>W</u> <input type="checkbox"/> Saturation Visible in Aerial Image (C9) <u>W</u> <input type="checkbox"/> Geomorphic Position (D2) <u>W</u> <input type="checkbox"/> Shallow Aquifer (D3) <input type="checkbox"/> FAC Neutral to Acidic (D5) <input type="checkbox"/> Significant Iron (D8) <u>W</u>
<b>Field Observations:</b> Surface Water Present? <u>W</u> Yes <u></u> No <u>X W</u> Depth (inches): <u></u> Water Table Present? <u>W</u> Yes <u></u> No <u>X W</u> Depth (inches): <u></u> Saturation Visible in Aerial Image (B7) <u>W</u> Yes <u>W</u> No <u>X W</u> Depth (inches): <u></u> Wetland Hydrology Present? <u>W</u> Yes <u>W</u> No <u>X W</u>	
Describe Recent Wetland Features (e.g., stream gauge, berm, ditch, canal, aerial photo, etc.) available: <u>W</u> <b>None</b>	
Remark <u>W</u> A hole was dug to inches deep and no surface water, water table or saturation was observed. A restricted layer of hard packed material prevented further digging. Area was sampled during the dry season and most recent rain was observed on October 22nd. During the site review no primary or secondary indicators of wetland hydrology were observed. Area outside of portion of property that ponds during heavy rainstorms. A distinct change in vegetation and more sandy soils was observed. No connections to water bodies or canal systems observed.	

EGETATION (Four Strata) – U e cienti ic name lant

Sampling P int: 2 V

<p>Tree Stratum (PI t ize: V ) V</p> <p>1. _____</p> <p>2. _____</p> <p>3. V _____</p> <p>4. V V V V V V V V V</p> <p>5. V _____</p> <p>6. V _____</p> <p>7. V _____</p> <p>8. W _____</p> <p style="text-align: right;">= V Val C Ver V</p> <p>V 50W t tll c Ver V V 20W t tll V Ver V</p> <p>Sa Vng/Shrb Stratum (PI V ze: W )</p> <p>1. V _____</p> <p>2. W _____</p> <p>3. V _____</p> <p>4. W V V V</p> <p>5. V _____</p> <p>6. V _____</p> <p>7. V _____</p> <p>8. W _____</p> <p style="text-align: right;">= V Val C Ver V</p> <p>V 50W t tll c Ver V V 20W t tll V Ver V</p> <p>Herb Stratum (PI V ze: 20W )</p> <p>1. V Rapa n notat W V 55 V YBS/V FACWV</p> <p>2. V V macoc V V c lllata V 35 V YBS/V NIV</p> <p>3. V V V ga n V fol V 20 V NOV FACW</p> <p>4. V V V ctyl V mb llata V 5 V NOV OBL</p> <p>5. V Macrop V l m lat yfo V s V 5 V NOV FACW</p> <p>6. V _____</p> <p>7. V _____</p> <p>8. V _____</p> <p>9. W _____</p> <p>10. W _____</p> <p>11. W _____</p> <p>12. W _____</p> <p style="text-align: right;">20W = V Val C Ver V</p> <p>V 50W t tll c Ver V V 20W t tll V Ver V<sup>24</sup></p> <p>Wo dy Stratum (PI V ze: W )</p> <p>1. V _____</p> <p>2. W _____</p> <p>3. V _____</p> <p>4. V _____</p> <p>5. W _____</p> <p style="text-align: right;">= V Val C Ver V</p> <p>V 50W t tll c Ver V V 20W t tll V Ver V</p>	<p><b>Dominance Test worksheet:</b></p> <p>Number D minant S ecie That Are OBL, FACW, r FAC: V<sup>0</sup> (A)V</p> <p>T Val Number V D V minant W S ecie V Act V All Strata: V 2 V (B)V</p> <p>Percent W D minant S ecie V V That Are OBL, FACW, r FAC: V<sup>0</sup>% (A/B)V</p> <p><b>Prevalence Index worksheet</b></p> <table style="width:100%;"> <tr> <td>T Val % C Ver V</td> <td>Multi V B/V</td> </tr> <tr> <td>OBL V ecie V 5 V</td> <td>x 1 = 5</td> </tr> <tr> <td>FACW ecie V 20 V V</td> <td>x 2 = 40 V V</td> </tr> <tr> <td>FAC ecie _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACW V ecie V 60 V</td> <td>x 4 = 240</td> </tr> <tr> <td>URL V ecie V _____</td> <td>x 5 = _____</td> </tr> <tr> <td>C V un T Val W 85 V</td> <td>(A)V 285 (B)V V</td> </tr> </table> <p>Prevalence Index V B/V V 3.35V</p> <p><b>Hydrophytic Vegetation Indicators: V</b></p> <p>___ 1 - R/V T/V V Hydr Vhytc Vegetat V V</p> <p>___ 2 - D V minant V Te V V 50W</p> <p>___ 3 - Prevalence Index V 3.0 V V</p> <p>___ Pr V nentat Hydr Vhytc Vegetat V V V V V</p> <p><sup>1</sup> Indat V V hydr V V il and V n d V V V V V V nu t be V V ent, u l e V d i t m bed W V nentat.</p> <p><b>Definitions of Poor Vegetation Strata</b></p> <p><b>Tree</b> - W o dy V n V excludng W ne V 3 W. (7.6 cm) r m or V n d i a m e t e r l a t b r e a w h e i g h t D B H V r e g i o n V V h e i g h t</p> <p><b>Sapling</b> - Shrb V W o dy V n t V excludng W ne V l e V that V 3 i n D B H V n g r e a t e r t h a n 3.28 V V ( m ) t a l l V</p> <p><b>Herb</b> - V n t V V V V n V - W V dy V n t V r e g i o n V V l e, a n d V dy V n t l e V t h a n 3.28 t a l l V</p> <p><b>Woody</b> - V n t V V V V dy V n t V g r e a t e r t h a n 3.28 V t i n h e i g h t V V</p> <p>V</p> <p><b>Hydrophytic V e g e t a t i o n V</b></p> <p>Pr V s e n t V V Yes W No V</p> <p>V</p>	T Val % C Ver V	Multi V B/V	OBL V ecie V 5 V	x 1 = 5	FACW ecie V 20 V V	x 2 = 40 V V	FAC ecie _____	x 3 = _____	FACW V ecie V 60 V	x 4 = 240	URL V ecie V _____	x 5 = _____	C V un T Val W 85 V	(A)V 285 (B)V V
T Val % C Ver V	Multi V B/V														
OBL V ecie V 5 V	x 1 = 5														
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FAC ecie _____	x 3 = _____														
FACW V ecie V 60 V	x 4 = 240														
URL V ecie V _____	x 5 = _____														
C V un T Val W 85 V	(A)V 285 (B)V V														
<p>Remark W V V b V r a d, l i v V V r W V g l a c V n a t i v V b e l W V V</p> <p>T V sampl locat V n V a s V n V n a t W V by V g r a s s V s p V c V s n t V r b a l W V V strat V. N o t r V s, s V n s V p l n g r W o o d y V V W V W V V V p l o t V V a r V. A r V a s W V s W V V t o a V V n t c V n g V V V e g e t a t i o n c o m p a r e V t o p o t V 1. W r V a s r o V n e l y m a i n t a i n e d V b y m o w i n g W V t o b e i n g V V o r s e p a r t V V</p>															

Profile Description (Describe to the best of your ability the soil in the field. Use the indicators to describe the soil from the presence of indicators.)

Depth (inches)	Matrix			Redox Features			Texture	Remarks
	C	M	%	C	M	%		
0-6	0 Y	99 S		0 Y			clay mineral	organic bodies
6-	0 Y	60 S		0 Y	40 S		Sandy	Sandy material
-	0 Y	7 S		0 Y	2 S		Sandy	Sandy material

<sup>1</sup>Type: C=SSC, R=SSR, D=SSD, S=SSS, M=SSM, MS=SSMS, G=SSG, L=SSL, S=SSL, T=SSL, U=SSL, V=SSL, W=SSL, X=SSL, Y=SSL, Z=SSL, A=SSA, B=SSB, C=SSC, D=SSD, E=SSS, F=SSS, G=SSG, H=SSS, I=SSS, J=SSS, K=SSS, L=SSL, M=SSM, N=SSS, O=SSS, P=SSP, Q=SSS, R=SSR, S=SSS, T=SSL, U=SSL, V=SSL, W=SSL, X=SSL, Y=SSL, Z=SSL. <sup>2</sup>L=SSS, P=SSS, S=SSS, M=SSM.

Hydric Soil Indicators: (Apply to all LRS unless otherwise noted.)

<input type="checkbox"/> Hit 1 (A) S <input type="checkbox"/> Hit 1 (A) S <input type="checkbox"/> Black Hiss (A) S <input type="checkbox"/> Hydric Soil Indicators (A) S <input type="checkbox"/> Stratified Layer (A) S <input type="checkbox"/> Organic B (A) S (LR, P, T, U) S <input type="checkbox"/> 5 in Mucky Mineral (A) S (LR, B, T, U) S <input type="checkbox"/> Muck Profile (A) S (LR, B, T, U) S <input type="checkbox"/> 1 in Muck (A) S (LR, B, T, U) S <input type="checkbox"/> Detrital (A) S (LR, B, T, U) S <input type="checkbox"/> Thick Dark (A) S (LR, B, T, U) S <input type="checkbox"/> C in Prairie (A) S (MLR, S, ST, U) S <input type="checkbox"/> Sandy Mucky Mineral (S) S (LR, B, T, U) S <input type="checkbox"/> Sandy Gleyed Matrix (S) S <input type="checkbox"/> Sandy (S) S <input type="checkbox"/> Stagnant Matrix (S) S <input type="checkbox"/> Dark (S) S (LR, B, T, U) S	<input type="checkbox"/> P value (S, ST, U) S <input type="checkbox"/> Th (S, ST, U) S <input type="checkbox"/> L amy Mucky Mineral (F1) (S) S <input type="checkbox"/> L amy Gleyed Matrix (F2) S <input type="checkbox"/> Detrital Matrix (F3) S <input type="checkbox"/> Red x Dark (F6) S <input type="checkbox"/> SD let (F7) S <input type="checkbox"/> Red D (F8) S <input type="checkbox"/> Marl (F10) (S) S <input type="checkbox"/> Detrital (F11) (MLR, S, ST, U) S <input type="checkbox"/> Ir (F12) (LR, B, T, U) S <input type="checkbox"/> Ubric Surface (F13) (LR, B, T, U) S <input type="checkbox"/> Detrital (F14) (MLR, S, ST, U) S <input type="checkbox"/> Red (F15) (MLR, S, ST, U) S <input type="checkbox"/> Piedmont (F16) (MLR, S, ST, U) S <input type="checkbox"/> Archaic Bright L (F20) (MLR, S, ST, U) S	<p>Indicators for Proboscitic Hydric Soils<sup>3</sup>:</p> <input type="checkbox"/> 1 in Muck (A9) (LR, B, T, U) S <input type="checkbox"/> 2 in Muck (A10) (LR, B, T, U) S <input type="checkbox"/> Red (F17) (MLR, S, ST, U) S <input type="checkbox"/> Piedmont (F18) (MLR, S, ST, U) S <input type="checkbox"/> Archaic Bright L (F20) (MLR, S, ST, U) S <input type="checkbox"/> Red (F17) (MLR, S, ST, U) S <input type="checkbox"/> Red (F17) (MLR, S, ST, U) S <input type="checkbox"/> V (F19) (TF) S <input type="checkbox"/> Other (S) S (mark S)
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<sup>3</sup>Indicator S S hydric vegetati r S S  
 w S h y r S t b e S S  
 u n S d i S b e d S S i S

Restrictive Layer if observed

Type: had material S

Depth (inches) \_\_\_\_\_

S

Hydric oil Present? Yes \_\_\_\_\_ No \_\_\_\_\_ S

Remarks

S



Soil profile S



0-6 inches S



6-8 inches S

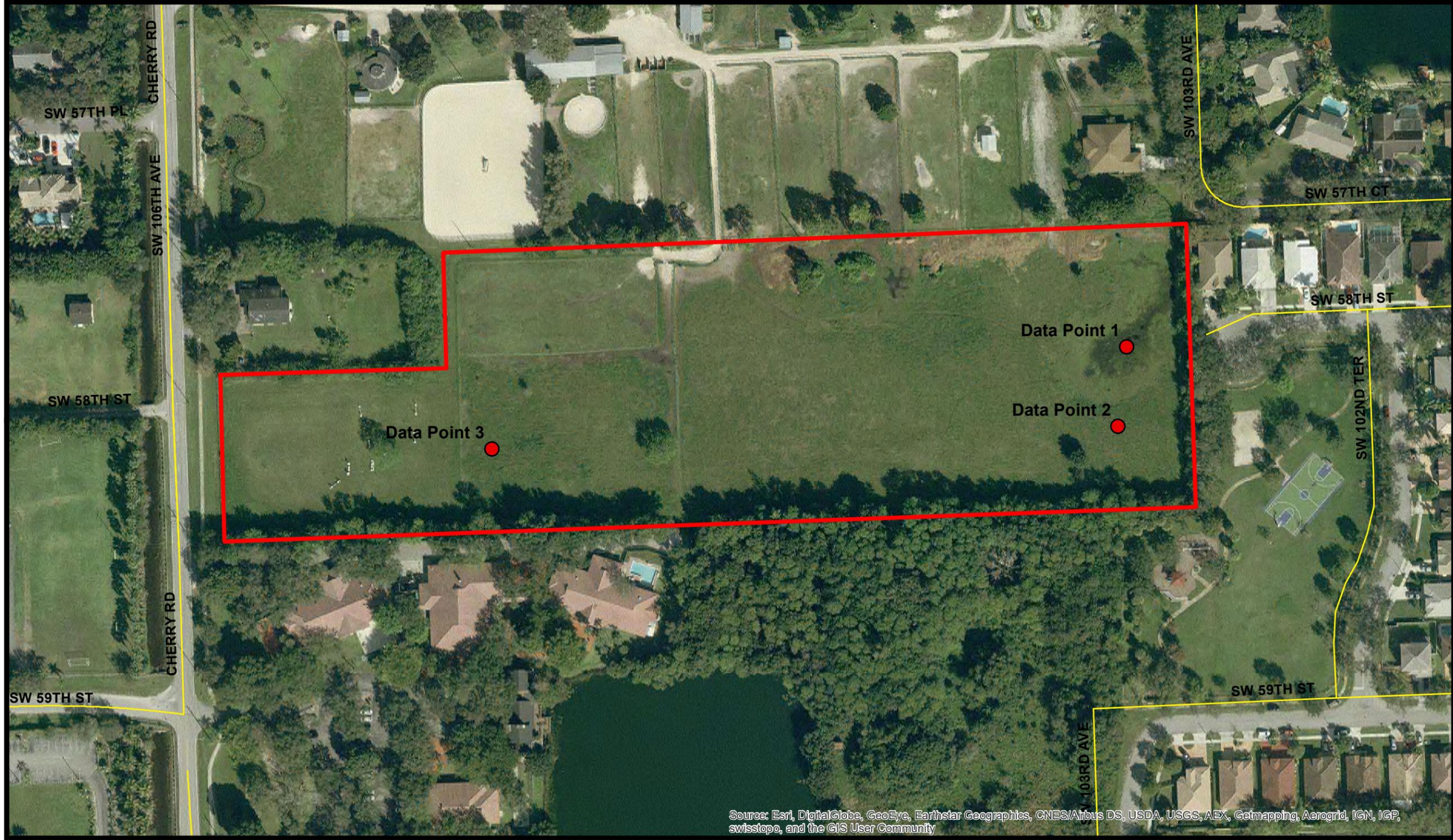


8-10 inches S







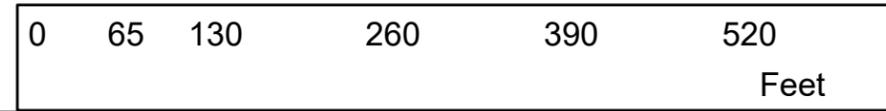


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

**Legend**

- Project Boundary
- Data Points
- Streets

Data Sources:  
2015 BCPA .sid



Project / File No.  
**18-00076**  
Section-Township-Range  
**31-50S-41E**  
Date Drawn  
**11-15-2018**



**DATA POINT MAP**  
FOR: Skyland Management, Inc.

BROWARD COUNTY, FLORIDA  
V:\Projects\2018\18-00076 - Cooper City Mixed Use Develop\Drawings\GIS

MAP DISCLAIMER: The information contained in this map is comprised of Geographic Information data obtained from the Public Records and/or historical information of record that is accessible to the general public through multiple government agencies and departments. The information is provided "AS IS" and for informational purposes only, and the authors of this map provide no warranty, either expressed or implied regarding the accuracy of such features.

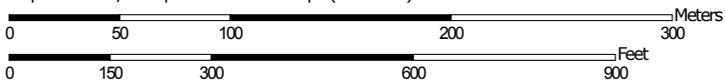
Data Projection = State Plane, Florida East Zone,  
NAD83, US Survey Feet



# Custom Soil Resource Report Soil Map



Map Scale: 1:3,400 if printed on A landscape (11" x 8.5") sheet.



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

### MAP LEGEND

**Area of Interest (AOI)**

 Area of Interest (AOI)

**Soils**

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

**Special Point Features**

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

**Water Features**

 Streams and Canals

**Transportation**

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

**Background**

 Aerial Photography

### MAP INFORMATION

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

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: Broward County, Florida, East Part  
 Survey Area Data: Version 14, Sep 17, 2018

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

Date(s) aerial images were photographed: Dec 17, 2014—Feb 11, 2015

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

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
4	Basinger fine sand, 0 to 2 percent slopes	6.2	11.7%
19	Margate fine sand, occasionally ponded, 0 to 1 percent slopes	37.1	69.7%
29	Pompano fine sand, 0 to 2 percent slopes	7.4	13.9%
99	Water	2.5	4.7%
<b>Totals for Area of Interest</b>		<b>53.2</b>	<b>100.0%</b>

## Map Unit Descriptions

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

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

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

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

## Custom Soil Resource Report

pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

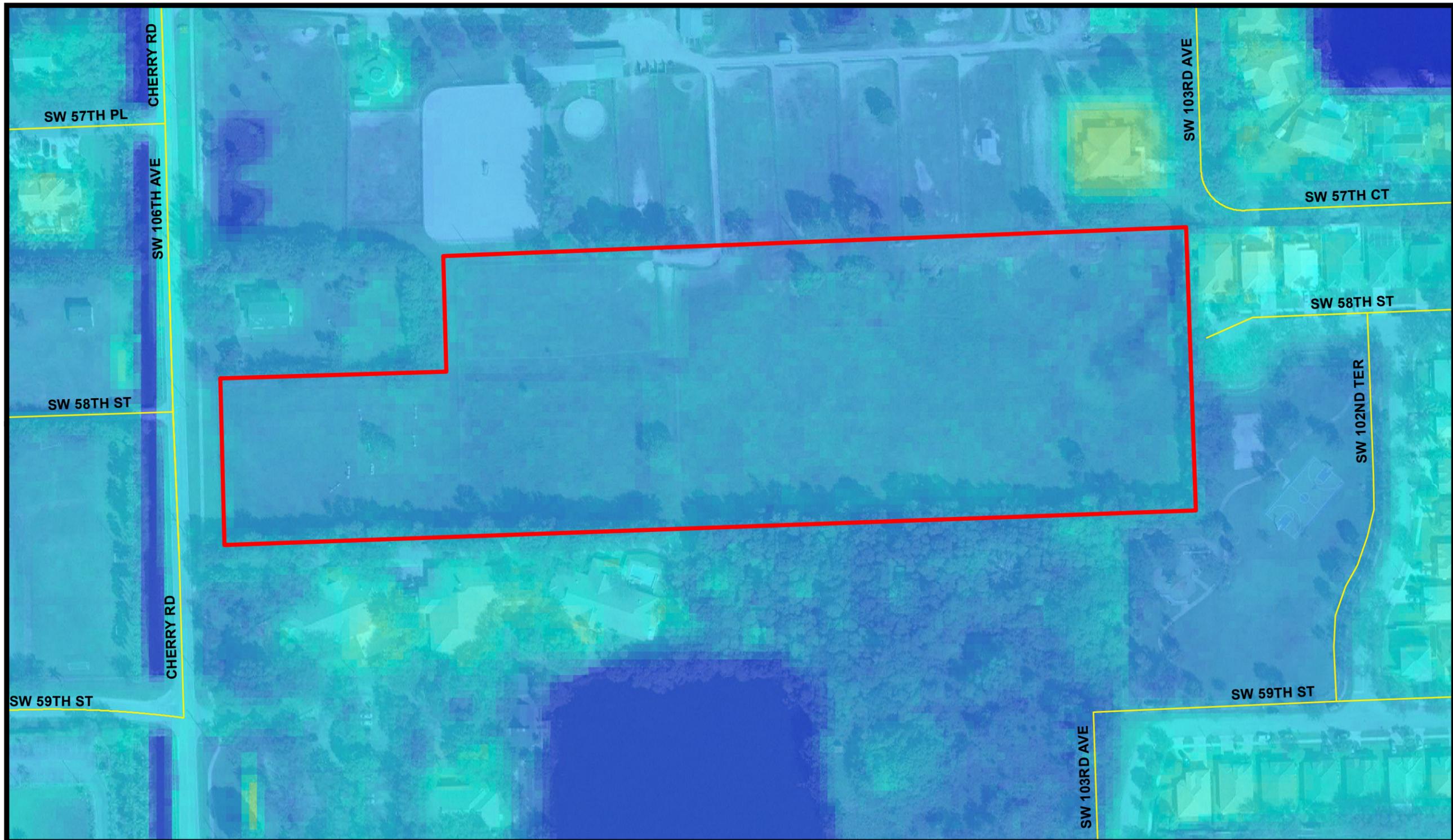
Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

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

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

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

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



**Legend**

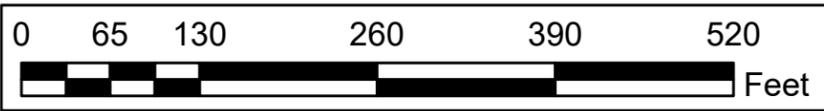
— Project Boundary

— Streets

**BROWARD COUNTY DEM VALUE**

High

Low



Data Sources:  
 2015 BCPA .sid  
 2009 LIDAR DEM

Project / File No.  
**18-00076**

Section-Township-Range  
**31-50S-41E**

Date Drawn  
**10-29-2018**



**Project LIDAR Map**  
**FOR: Skyland Management, Inc.**

BROWARD COUNTY, FLORIDA  
 V:\Projects\2018\18-00076 - Cooper City Mixed Use Develop\Drawings\GIS

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Data Projection = State Plane, Florida East Zone,  
 NAD83, US Survey Feet

NORTH

DRAWN BY:  
**WRM**



October 22, 2018

**Wetlands**

-  Estuarine and Marine Deepwater
-  Estuarine and Marine Wetland
-  Freshwater Emergent Wetland
-  Freshwater Forested/Shrub Wetland
-  Freshwater Pond
-  Lake
-  Other
-  Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.