



Reach 1 - Little Fishhawk Creek

US Army Corps of Engineers

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

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): July 18, 2018

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Jacksonville District, Tampa Office, SAJ-2017-03497-RGH (DARSEY, JUDITH / B AND D RANCH / 12620 BALM BOYETTE RD / HILLSBOROUGH)

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: FL County/parish/borough: Hillsborough City: Lithia
Center coordinates of site (lat/long in degree decimal format): Lat. 27.8126° N, Long. 82.2301° W.
Universal Transverse Mercator:

Name of nearest waterbody: Fishhook Creek

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Alafia River

Name of watershed or Hydrologic Unit Code (HUC): Little Fishhawk Creek - 031002040303

[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: 04/18/2018

[X] Field Determination. Date(s): 04/19/2018

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 "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
[X] 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
[X] 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 0.13 acres.
Wetlands: 1.8 acres.

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual

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: upland-cut ditches that do not connect wetlands to WOTUS.

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.

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 waterbody⁴ 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: 13098 acres

Drainage area: 1.0 square miles

Average annual rainfall: 48 inches

Average annual snowfall: 0 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through 3 tributaries before entering TNW.

Project waters are 5-10 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 2-5 aerial (straight) miles from TNW.

Project waters are 1 (or less) aerial (straight) miles from RPW.

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

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

Identify flow route to TNW⁵: Water from Wetland A flow north through Ditch 3, across Boyette Road and through a series of wetland and ditches to Colemand Hammock and into Fishhawk Creek; then north to the Alafia River and then west to Tampa Bay.

Tributary stream order, if known: 1st Order.

(b) General Tributary Characteristics (check all that apply):

Tributary is: Natural
 Artificial (man-made). Explain: Earliest aerial photos show systems that were visibly saturated and over the decades were artificially ditched to existing natural drains.
 Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):

Average width: 4 feet
Average depth: 1 feet
Average side slopes: **3:1**.

Primary tributary substrate composition (check all that apply):

Silts Sands Concrete
 Cobbles Gravel Muck
 Bedrock Vegetation. Type/% cover: herbacious, 85% cover
 Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Stable; minimal flows onsite.

Presence of run/riffle/pool complexes. Explain: No.

Tributary geometry: **Relatively straight**

Tributary gradient (approximate average slope): 2 %

(c) Flow:

Tributary provides for: **Seasonal flow**

Estimate average number of flow events in review area/year: **11-20**

Describe flow regime: Light flow after rain events.

Other information on duration and volume:

Surface flow is: **Confined**. Characteristics: Sheetflow/groundwater to ditch.

Subsurface flow: **Unknown**. Explain findings:

Dye (or other) test performed:

Tributary has (check all that apply):

Bed and banks
 OHWM⁶ (check all indicators that apply):
 clear, natural line impressed on the bank the presence of litter and debris
 changes in the character of soil destruction of terrestrial vegetation
 shelving the presence of wrack line
 vegetation matted down, bent, or absent sediment sorting
 leaf litter disturbed or washed away scour
 sediment deposition multiple observed or predicted flow events
 water staining abrupt change in plant community
 other (list):
 Discontinuous OHWM.⁷ Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by: Mean High Water Mark indicated by:
 oil or scum line along shore objects survey to available datum;
 fine shell or debris deposits (foreshore) physical markings;
 physical markings/characteristics vegetation lines/changes in vegetation types.
 tidal gauges
 other (list):

(iii) **Chemical Characteristics:**

⁵ 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.

⁶ A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: Clear to tanic.

Identify specific pollutants, if known: The State and EPA have not assessed this waterbody yet, however significant agricultural fields are adjacent to this waterbody so it is highly likely that, nutrients, herbicides, and pesticides are also within this waterbody.

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

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics: 25-50 marginal fringe.
- Habitat for:
 - Federally Listed species. Explain findings: Potential habitat for wood storks.
 - 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: 1.8 acres

Wetland type. Explain: Marshes connected by ditches and swales.

Wetland quality. Explain: Moderate.

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Intermittent flow**. Explain:

Surface flow is: **Confined**

Characteristics:

Subsurface flow: **No**. 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 **5-10** river miles from TNW.

Project waters are **2-5** aerial (straight) miles from TNW.

Flow is from: **Wetland to navigable waters**.

Estimate approximate location of wetland as within the **50 - 100-year** 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: Clear to tannic.

Identify specific pollutants, if known: The State and EPA have not assessed this waterbody yet, however significant agricultural fields are adjacent to this waterbody so it is highly likely that, nutrients, herbicides, and pesticides are also within this waterbody.

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

- Riparian buffer. Characteristics (type, average width):
- Vegetation type/percent cover. Explain: Herbaceous, 80%.
- Habitat for:
 - Federally Listed species. Explain findings: Wood Stork Habitat.
 - Fish/spawn areas. Explain findings:
 - Other environmentally-sensitive species. Explain findings:
 - Aquatic/wildlife diversity. Explain findings: Fair.

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

All wetland(s) being considered in the cumulative analysis: **2**

Approximately (10.3) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
Wetland A - Y	1.8		
Adjacent Downstream wetlands Y	8.5		

Summarize overall biological, chemical and physical functions being performed: Storage of flood waters; reduction of downstream peak discharges and volumes; recharge of aquifers; maintenance of seasonal/baseflows; maintenance of groundwater supplies; removal of sediments and nutrients; provision of breeding grounds and wildlife habitat (e.g. feeding/foraging, nesting, spawning, rearing of young); supports diverse community of benthic invertebrates, a major food source for vertebrates.

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: Wetland A has connection to Coleman Hammock/ Fishhawk Creek via Ditch 3, which goes under Boyette Road into wetland and ditch system (connection visible since 1938) and also verified in field and on FIRM maps.
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-RPWs⁸ 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: **0.13** acres.

Identify type(s) of waters: **Agricultural Ditch, D-3.**

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.⁹

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):¹⁰

- which are or could be used by interstate or foreign travelers for recreational or other purposes.

⁸See Footnote # 3.

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

¹⁰ 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.

- 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: .

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: 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: SW-2, 0.15 acres.
- Other non-wetland waters: 0.18 acres. List type of aquatic resource: D-1.
- 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: .
- Corps navigable waters' study: .
- U.S. Geological Survey Hydrologic Atlas: Fishhook Creek - 031002040303.
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: 1:24,000; Gibsonton, FL.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Florida Soils Map digital data from the Natural Resources Conservation Service. Date (1 June 2018). Web Soil Survey website. U.S. Department of Agriculture, Natural Resources Conservation Service, Washington, D.C.
- National wetlands inventory map(s). Cite name: Wetland digital data from U. S. Fish and Wildlife Service. Date (1 June 2018). National Wetlands Inventory website. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C.
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: 12057C0530H .
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): 1938, 1948, 1957, 1968, 1975, 2017.
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): .

B. ADDITIONAL COMMENTS TO SUPPORT JD:

SIGNIFICANT NEXUS:

As the project site is being evaluated in the area within the Eleventh Circuit Court, the Corps has provided a significant nexus analysis for the Non-RPW and its adjacent wetlands. The findings are included as follows:

Non-RPW and Adjacent Wetlands to the Non-RPW:

Physical: The project site contains 0.93 acres of surface waters classified as Non-RPW's which flow seasonally. Of the 0.93 acres of surface waters classified as Non-RPW's, only 0.13 acres is within Reach 1, which flows towards Fishhook Creek. This Non-RPW connects to offsite RPW's and discharge into Fishhawk Creek an RPW that flows to the Alifia River (TNW). The project site contains 7.09 acres of wetlands which are adjacent to the Non-RPW's. Of the 7.09 acres, only 1.8 acres is within Reach 1. These wetlands provide storage of flood waters and maintenance of groundwater supplies, and therefore directly affect the duration, frequency and volume of flow in the tributaries and the downstream TNW.

Biological: The Non-RPW's are man-made agricultural ditches which provide a conveyance of waters from wetlands to RPW's on-site. These Non-RPW's also provide wildlife corridors for species movement from wetland to tributary and vice versus. The wetlands adjacent to the Non-RPW's provide breeding grounds for species that cannot reproduce in faster-moving water and move between wetlands and uplands over their lifecycle, and provide habitat for a variety of species. The subject wetlands provide functional habitat in an altered landscape and resting and wading habitats for birds.

Chemical: The Non-RPW's transfer nutrients and organic carbon that supports food webs in the Little Fishhawk Creek, as well as transfer potential pollutants to the downstream TNW, which could negatively affect aquatic resources and contribute to algal blooms. The wetlands provide important denitrification and pollutant storage to increase water quality downstream.



Reach 2 - Bell Creek

US Army Corps of Engineers

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

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SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): July 18, 2018

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Jacksonville District, Tampa Office, SAJ-2017-03497-RGH (DARSEY, JUDITH / B AND D RANCH / 12620 BALM BOYETTE RD / HILLSBOROUGH)

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: FL County/parish/borough: Hillsborough City: Lithia
Center coordinates of site (lat/long in degree decimal format): Lat. 27.8126° N, Long. 82.2301° W.
Universal Transverse Mercator:

Name of nearest waterbody: Bell Creek

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Alafia River

Name of watershed or Hydrologic Unit Code (HUC): Bell Creek - 31002040305

[X] Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

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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 "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

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

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Wetlands: 5.29 acres.

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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 waterbody⁴ 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: 13489 acres

Drainage area: 1.3 square miles

Average annual rainfall: 48 inches

Average annual snowfall: 0 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through 2 tributaries before entering TNW.

Project waters are 5-10 river miles from TNW.

Project waters are 1 (or less) river miles from RPW.

Project waters are 2-5 aerial (straight) miles from TNW.

Project waters are 1 (or less) aerial (straight) miles from RPW.

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

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

Identify flow route to TNW⁵: Water from Wetlands B, 7, C, D, and SW-18 flow south through Ditch 26, across the powerline and through a ditch to a small tributary of Bell Creek; then north to the Alafia River and then west to Tampa Bay.

Tributary stream order, if known: 1st Order.

(b) General Tributary Characteristics (check all that apply):

Tributary is: Natural
 Artificial (man-made). Explain: Earliest aerial photos show systems that were visibly saturated and over the decades were artificially ditched to existing natural drains.
 Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):

Average width: 4 feet
Average depth: 1 feet
Average side slopes: **3:1**.

Primary tributary substrate composition (check all that apply):

Silts Sands Concrete
 Cobbles Gravel Muck
 Bedrock Vegetation. Type/% cover: herbacious, 85% cover
 Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Stable; minimal flows onsite.

Presence of run/riffle/pool complexes. Explain: No.

Tributary geometry: **Relatively straight**

Tributary gradient (approximate average slope): 2 %

(c) Flow:

Tributary provides for: **Seasonal flow**

Estimate average number of flow events in review area/year: **11-20**

Describe flow regime: Light flow after rain events.

Other information on duration and volume:

Surface flow is: **Confined**. Characteristics: Sheetflow/groundwater to ditch.

Subsurface flow: **Unknown**. Explain findings:

Dye (or other) test performed:

Tributary has (check all that apply):

Bed and banks
 OHWM⁶ (check all indicators that apply):
 clear, natural line impressed on the bank the presence of litter and debris
 changes in the character of soil destruction of terrestrial vegetation
 shelving the presence of wrack line
 vegetation matted down, bent, or absent sediment sorting
 leaf litter disturbed or washed away scour
 sediment deposition multiple observed or predicted flow events
 water staining abrupt change in plant community
 other (list):
 Discontinuous OHWM.⁷ Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by: Mean High Water Mark indicated by:
 oil or scum line along shore objects survey to available datum;
 fine shell or debris deposits (foreshore) physical markings;
 physical markings/characteristics vegetation lines/changes in vegetation types.
 tidal gauges
 other (list):

(iii) Chemical Characteristics:

⁵ 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.

⁶ A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: Clear to tannic.

Identify specific pollutants, if known: The State and EPA have not assessed this waterbody yet, however significant agricultural fields are adjacent to this waterbody so it is highly likely that, nutrients, herbicides, and pesticides are also within this waterbody.

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

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics: 25-50 marginal fringe.
- Habitat for:
 - Federally Listed species. Explain findings: Potential habitat for wood storks.
 - 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: 5.2 acres

Wetland type. Explain: Marshes connected by ditches and swales.

Wetland quality. Explain: Moderate.

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Intermittent flow**. Explain:

Surface flow is: **Confined**

Characteristics:

Subsurface flow: **No**. 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 **5-10** river miles from TNW.

Project waters are **2-5** aerial (straight) miles from TNW.

Flow is from: **Wetland to navigable waters**.

Estimate approximate location of wetland as within the **50 - 100-year** 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: Clear to tannic.

Identify specific pollutants, if known: The State and EPA have not assessed this waterbody yet, however significant agricultural fields are adjacent to this waterbody so it is highly likely that, nutrients, herbicides, and pesticides are also within this waterbody.

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

- Riparian buffer. Characteristics (type, average width):
- Vegetation type/percent cover. Explain: Herbaceous, 80%.
- Habitat for:
 - Federally Listed species. Explain findings: Wood Stork Habitat.
 - Fish/spawn areas. Explain findings:
 - Other environmentally-sensitive species. Explain findings:
 - Aquatic/wildlife diversity. Explain findings: Fair.

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

All wetland(s) being considered in the cumulative analysis: **5**

Approximately (5.2) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>	<u>Directly abuts? (Y/N)</u>	<u>Size (in acres)</u>
Wetland B - Y	3.24	Wetland SW-18- Y	0.49
Wetland C - Y	0.77		
Wetland D - Y	0.56		
Wetland 7 -	0.23		

Summarize overall biological, chemical and physical functions being performed: Storage of flood waters; reduction of downstream peak discharges and volumes; recharge of aquifers; maintenance of seasonal/baseflows; maintenance of groundwater supplies; removal of sediments and nutrients; provision of breeding grounds and wildlife habitat (e.g. feeding/foraging, nesting, spawning, rearing of young); supports diverse community of benthic invertebrates, a major food source for vertebrates.

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: Wetland B and Wetland 7 has connection via a swale with connection to Ditch 8, which connects to Wetland D. Wetland C is connected via Ditch 13A to Wetland D. Wetland D has connection via Ditch 26 to Bell Creek. Wetland SW-18 has connection via Ditch 22, 10, 23, and intermittent swale connections.
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-RPWs⁸ 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: **0.783** acres.

Identify type(s) of waters: **Agricultural Ditches 13A, 16, 17, 22/23, 26.**

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: **5.29** acres.

7. Impoundments of jurisdictional waters.⁹

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):¹⁰

- which are or could be used by interstate or foreign travelers for recreational or other purposes.

⁸See Footnote # 3.

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

¹⁰Prior 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.

- 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:

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: 0.15 acres. List type of aquatic resource: SW-2, Cattle Pond/Preamble Water.
- Wetlands: 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: 1.51 acres. List type of aquatic resource: D-4-9, 11-12, 13B-15, 19-21, 24-25 .
- 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: .
- Corps navigable waters' study: .
- U.S. Geological Survey Hydrologic Atlas: Bell Creek - 31002040305.
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: 1:24,000; Gibsonton, FL.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Florida Soils Map digital data from the Natural Resources Conservation Service. Date (1 June 2018). Web Soil Survey website. U.S. Department of Agriculture, Natural Resources Conservation Service, Washington, D.C.
- National wetlands inventory map(s). Cite name: Wetland digital data from U. S. Fish and Wildlife Service. Date (1 June 2018). National Wetlands Inventory website. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C.
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: 12057C0530H and 12057C0540H .
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): 1938, 1948, 1957, 1968, 1975, 2017.
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): .

B. ADDITIONAL COMMENTS TO SUPPORT JD:

As the project site is being evaluated in the area within the Eleventh Circuit Court, the Corps has provided a significant nexus analysis for the Non-RPW and its adjacent wetlands. The findings are included as follows:

Non-RPW and Adjacent Wetlands to the Non-RPW:

Physical: The project site contains 0.93 acres of surface waters classified as Non-RPW's which flow seasonally. Of the 0.93 acres of surface waters classified as Non-RPW's, only 0.55 acres is within Reach 2, which flows towards Bell Creek. These Non-RPW's connect to offsite RPW's and discharge into Bell Creek an RPW that flows to the Alifia River (TNW). The project site contains 7.0 acres of wetlands which are adjacent to the Non-RPW's. Of the 7.09 acres, only 5.29 acres is within Reach 2. These wetlands provide storage of flood waters and maintenance of groundwater supplies, and therefore directly affect the duration, frequency and volume of flow in the tributaries and the downstream TNW.

Biological: The Non-RPW's are man-made agricultural ditches which provide a conveyance of waters from wetlands to RPW's on-site. These Non-RPW's also provide wildlife corridors for species movement from wetland to tributary and vice versus. The wetlands adjacent to the Non-RPW's provide breeding grounds for species that cannot reproduce in faster-moving water and move between wetlands and uplands over their lifecycle, and provide habitat for a variety of species. The subject wetlands provide functional habitat in an altered landscape and resting and wading habitats for birds.

Chemical: The Non-RPW's transfer nutrients and organic carbon that supports food webs in Bell Creek, as well as transfer potential pollutants to the downstream TNW, which could negatively affect aquatic resources and contribute to algal blooms. The wetlands provide important denitrification and pollutant storage to increase water quality downstream..

Wetland and Ditch ID Size (Ac)	Size (Ac)	COE Jurisd. Status	Type	Acres of Impact	UMAM Value	Functional Loss	Watershed	General Comments
Ditches								
D-1	0.18	No	Preamble Water	0.18		NA*	Little Fishhawk Creek - 031002040303	Agr. ditch that does not connect wetlands to WOTUS
D-3	0.13	No	Non-RPW	0.13		NA*	Little Fishhawk Creek - 031002040303	Agr. ditch that connects Wetland A to WOTUS
D-4	0.07	No	Preamble Water	0.07		NA*	Bell Creek - 31002040305	Agr. ditch that does not connect wetlands to WOTUS
D-5	0.09	No	Preamble Water	0.09		NA*	Bell Creek - 31002040305	Agr. ditch that does not connect wetlands to WOTUS
D-6	0.04	No	Preamble Water	0.04		NA*	Bell Creek - 31002040305	Agr. ditch that does not connect wetlands to WOTUS
D-8	0.06	No	Preamble Water	0.06		NA*	Bell Creek - 31002040305	Agr. ditch that does not connect wetlands to WOTUS
D-9	0.06	No	Preamble Water	0.06		NA*	Bell Creek - 31002040305	Agr. ditch that does not connect wetlands to WOTUS
D-11	0.05	No	Preamble Water	0.05		NA*	Bell Creek - 31002040305	Agr. ditch that does not connect wetlands to WOTUS
D-12	0.12	No	Preamble Water	0.12		NA*	Bell Creek - 31002040305	Agr. ditch that does not connect wetlands to WOTUS
D-13A	0.32	Yes	Non-RPW	0.32		NA*	Bell Creek - 31002040305	Agr. ditch that connects Wetland C to WOTUS
D-13B	0.12	No	Preamble Water	0.12		NA*	Bell Creek - 31002040305	Agr. ditch that does not connect wetlands to WOTUS
D-14	0.34	No	Preamble Water	0.34		NA*	Bell Creek - 31002040305	Agr. ditch that does not connect wetlands to WOTUS
D-15	0.37	No	Preamble Water	0.37		NA*	Bell Creek - 31002040305	Agr. ditch that does not connect wetlands to WOTUS
D-16	0.22	Yes	Non-RPW	0		NA*	Bell Creek - 31002040305	Larger agr. ditch that seems to connect to WOTUS
D-17	0.03	Yes	Non-RPW	0		NA*	Bell Creek - 31002040305	Larger agr. ditch that seems to connect to WOTUS
D-19	0.02	No	Preamble Water	0.02		NA*	Bell Creek - 31002040305	Agr. ditch that does not connect wetlands to WOTUS
D-20	0.04	No	Preamble Water	0.04		NA*	Bell Creek - 31002040305	Agr. ditch that does not connect wetlands to WOTUS
D-21	0.04	No	Preamble Water	0.04		NA*	Bell Creek - 31002040305	Agr. ditch that does not connect wetlands to WOTUS
D-22/23	0.06	No	Non-RPW	0.06		NA*	Bell Creek - 31002040305	Agr. ditch that does connect wetlands SW-18 to WOTUS
D-24	0.01	No	Preamble Water	0.01		NA*	Bell Creek - 31002040305	Agr. ditch that does not connect wetlands to WOTUS
D-25	0.08	No	Preamble Water	0.08		NA*	Bell Creek - 31002040305	Agr. ditch that does not connect wetlands to WOTUS
D-26	0.17	Yes	Non-RPW	0.17		NA*	Bell Creek - 31002040305	Agr. ditch that connects Wetlands C and D to WOTUS
Subtotal	2.62			2.37				
Non-exempt Ditch Total	0.93			0.68				
Preamble Water				1.69				



Upland-Cut Surface Water

Wetland and Ditch ID Size (Ac)	Size (Ac)	COE Jurisd. Status	Type	Acres of Impact	UMAM Value	Functional Loss	Watershed	General Comments
SW-2	0.15	No	Preamble Water	0.15		NA*	Bell Creek - 31002040305	SW-2 is not visible in 1957. The surface water first appears in 1968 with no apparent connection to adjacent ditches or wetlands. Old cattle watering pond cut in uplands. Preamble water.
Wetlands								
A	1.8	Yes	Wetland abutting an non-RPW	0			Little Fishhawk Creek - 031002040303	Connection with Coleman Hammock/Fishhawk Creek via Ditch 3, which goes under Boyette road into wetland (connection visible since 1938)
B	3.24	Yes	Wetland adjacent to a non-RPW	0			Bell Creek - 31002040305	Freshwater marsh connected via Swale to Ditch 8
C	0.77	Yes	Wetland abutting an non-RPW	0			Bell Creek - 31002040305	WL C connected by Ditch 13A to WL D to Ditch 26 to Bell Creek downstream WOTUS. Connection visible in 1948 Aerial forward.
D	0.56	Yes	Wetland abutting an non-RPW	0			Bell Creek - 31002040305	Marsh dug into a cattle water pond
S-18	0.49	Yes	Wetland abutting an non-RPW	0			Bell Creek - 31002040305	Isolated cattle water pond dug in former marsh, connected via Ditch 22, 10, and 23
7	0.23	Yes	Wetland adjacent to a non-RPW	0			Bell Creek - 31002040305	Excavated pond in edge of Wetland B; adjacent to freshwater marsh connected via Swale to Ditch 8
Subtotal	7.09							
Non-Exempt Wetland Total	7.09							
Overall Total	9.86							

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: B and D Ranch Subdivision City/County: Hillsborough Sampling Date: 01/24/2018
 Applicant/Owner: Band D Ranch, LLC State: FL Sampling Point: A - UP
 Investigator(s): John Goolsby (Clearview Land Design) Section, Township, Range: 5 / 31 / 21
 Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Flat Slope (%): 2
 Subregion (LRR or MLRA): LRR U, MLRA 155 Lat: 27.8126 Long: -82.2301 Datum: _____
 Soil Map Unit Name: 33 - Ona NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: Marginally Dominated by Hydrophytic Vegetation	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum Moss (D8) (LRR T,U)
--	--

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
---	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Sample at Palmetto Edge

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: A - UP

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
	_____ = Total Cover		
	50% of total cover: _____	20% of total cover: _____	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u> 50 </u>	x 1 = <u> 50 </u>
FACW species <u> 2 </u>	x 2 = <u> 4 </u>
FAC species <u> 51 </u>	x 3 = <u> 153 </u>
FACU species <u> 93 </u>	x 4 = <u> 372 </u>
UPL species <u> 0 </u>	x 5 = <u> 0 </u>
Column Totals: <u> 196 </u> (A)	<u> 579 </u> (B)
Prevalence Index = B/A = <u> 2.95 </u>	

Sapling/Shrub Stratum (Plot size: 10' x 10')

1. <i>Serenoa repens</i>	93	Yes	FACU
2. <i>Morella cerifera</i>	5	No	FAC
3. <i>Ilex glabra</i>	1	No	FACW
4. <i>Acer rubrum</i>	1	No	FAC
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
	<u> 100 </u> = Total Cover		
	50% of total cover: <u> 50 </u>	20% of total cover: <u> 20 </u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

 2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Herb Stratum (Plot size: 10' x 10')

1. <i>Andropogon virginicus</i>	20	Yes	FAC
2. <i>Rubus pensilvanicus</i>	10	No	FAC
3. <i>Axonopus furcatus</i>	50	Yes	OBL
4. <i>Euthamia caroliniana</i>	10	No	FAC
5. <i>Xyris</i>	5	No	_____
6. <i>Solidago fistulosa</i>	5	No	FAC
7. <i>Rhynchospora fascicularis</i>	1	No	FACW
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
	<u> 101 </u> = Total Cover		
	50% of total cover: <u> 51 </u>	20% of total cover: <u> 21 </u>	

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Woody Vine Stratum (Plot size: _____)

1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
	_____ = Total Cover		
	50% of total cover: _____	20% of total cover: _____	

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: A - UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	7.5YR 3/1	80					Sandy	Masked Grains 30%, Organic Nodes
	7.5YR 7/1	20						
4-9	7.5YR 3/1	40					Sandy	
	7.5YR 6/1	60						
9-14	7.5YR 2.5/2	100					Sandy	
14-20	7.5YR 4/2	100					Sandy	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) **(LRR, P, T, U)**
- 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- Muck Presence (A8) **(LRR U)**
- 1 cm Muck (A9) **(LRR P, T)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) **(MLRA 150A)**
- Sandy Mucky Mineral (S1) **(LRR O, S)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**
- Polyvalue Below Surface (S8) **(LRR S, T, U)**
- Thin Dark Surface (S9) **(LRR S, T, U)**
- Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- Loamy Mucky Mineral (F1) **(LRR O)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR U)**
- Depleted Ochric (F11) **(MLRA 151)**
- Iron-Manganese Masses (F12) **(LRR O, P, T)**
- Umbric Surface (F13) **(LRR P, T, U)**
- Delta Ochric (F17) **(MLRA 151)**
- Reduced Vertic (F18) **(MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR O)**
- 2 cm Muck (A10) **(LRR S)**
- Coast Prairie Redox (A16) **(outside MLRA 150A)**
- Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(LRR P, T)**
- Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No _____

Remarks:

This data form is revised from Atlantic and Gulf Coastal Plain Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.1, 2017.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: B and D Ranch Subdivision City/County: Hillsborough Sampling Date: 01/24/2018
 Applicant/Owner: Band D Ranch, LLC State: FL Sampling Point: A - WET
 Investigator(s): John Goolsby (Clearview Land Design) Section, Township, Range: 5 / 31 / 21
 Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Flat Slope (%): 2
 Subregion (LRR or MLRA): LRR U, MLRA 155 Lat: 27.8126 Long: -82.2301 Datum: _____
 Soil Map Unit Name: 5 - Basinger NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: Marsh Upper Edge	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Aquatic Fauna (B13) _____ High Water Table (A2) _____ Marl Deposits (B15) (LRR U) <u>X</u> Saturation (A3) _____ Hydrogen Sulfide Odor (C1) <u>X</u> Water Marks (B1) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Sediment Deposits (B2) _____ Presence of Reduced Iron (C4) _____ Drift Deposits (B3) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Algal Mat or Crust (B4) _____ Thin Muck Surface (C7) _____ Iron Deposits (B5) _____ Other (Explain in Remarks) _____ Inundation Visible on Aerial Imagery (B7) _____ Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Sparsely Vegetated Concave Surface (B8) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) <u>X</u> FAC-Neutral Test (D5) _____ Sphagnum Moss (D8) (LRR T,U)
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Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>14</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Dry Throughout, But gets wet at 1 ft deep.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: A - WET

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
	_____ = Total Cover		
	50% of total cover: _____	20% of total cover: _____	

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
	_____ = Total Cover		
	50% of total cover: _____	20% of total cover: _____	

Herb Stratum (Plot size: <u> 10' x 10' </u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u> Ludwigia arcuata </u>	<u> 60 </u>	<u> Yes </u>	<u> OBL </u>
2. <u> Micranthemum glomeratum </u>	<u> 20 </u>	<u> No </u>	<u> OBL </u>
3. <u> Bacopa monnieri </u>	<u> 10 </u>	<u> No </u>	<u> OBL </u>
4. <u> Hydrocotyle umbellata </u>	<u> 10 </u>	<u> No </u>	<u> OBL </u>
5. <u> Cynodon dactylon </u>	<u> 15 </u>	<u> No </u>	<u> FACU </u>
6. <u> Oclemena reticulata </u>	<u> 1 </u>	<u> No </u>	<u> FAC </u>
7. <u> Eupatorium capillifolium </u>	<u> 1 </u>	<u> No </u>	<u> FACU </u>
8. <u> Salvia lyrata </u>	<u> 1 </u>	<u> No </u>	<u> FACU </u>
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
	<u> 118 </u> = Total Cover		
	50% of total cover: <u> 59 </u>	20% of total cover: <u> 24 </u>	

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
	_____ = Total Cover		
	50% of total cover: _____	20% of total cover: _____	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u> 100 </u>	x 1 = <u> 100 </u>
FACW species <u> 0 </u>	x 2 = <u> 0 </u>
FAC species <u> 1 </u>	x 3 = <u> 3 </u>
FACU species <u> 17 </u>	x 4 = <u> 68 </u>
UPL species <u> 0 </u>	x 5 = <u> 0 </u>
Column Totals: <u> 118 </u> (A)	<u> 171 </u> (B)
Prevalence Index = B/A = <u> 1.45 </u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: A - WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	7.5YR 3/1	30					Sandy	
	7.5YR 6/1	70						
6-14	7.5YR 4/1	100					Sandy	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) **(LRR, P, T, U)**
- 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- Muck Presence (A8) **(LRR U)**
- 1 cm Muck (A9) **(LRR P, T)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) **(MLRA 150A)**
- Sandy Mucky Mineral (S1) **(LRR O, S)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**
- Polyvalue Below Surface (S8) **(LRR S, T, U)**
- Thin Dark Surface (S9) **(LRR S, T, U)**
- Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- Loamy Mucky Mineral (F1) **(LRR O)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR U)**
- Depleted Ochric (F11) **(MLRA 151)**
- Iron-Manganese Masses (F12) **(LRR O, P, T)**
- Umbric Surface (F13) **(LRR P, T, U)**
- Delta Ochric (F17) **(MLRA 151)**
- Reduced Vertic (F18) **(MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR O)**
- 2 cm Muck (A10) **(LRR S)**
- Coast Prairie Redox (A16) **(outside MLRA 150A)**
- Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(LRR P, T)**
- Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No _____

Remarks:

This data form is revised from Atlantic and Gulf Coastal Plain Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.1, 2017.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: B and D Ranch Subdivision City/County: Hillsborough Sampling Date: 01/24/2018
 Applicant/Owner: Band D Ranch, LLC State: FL Sampling Point: B - UP
 Investigator(s): John Goolsby (Clearview Land Design) Section, Township, Range: 5 / 31 / 21
 Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Flat Slope (%): 2
 Subregion (LRR or MLRA): LRR U, MLRA 155 Lat: 27.8126 Long: -82.2301 Datum: _____
 Soil Map Unit Name: 46 - St. Johns Fine Sand NWI classification: UP

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Aquatic Fauna (B13) ___ High Water Table (A2) ___ Marl Deposits (B15) (LRR U) ___ Saturation (A3) ___ Hydrogen Sulfide Odor (C1) ___ Water Marks (B1) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Sediment Deposits (B2) ___ Presence of Reduced Iron (C4) ___ Drift Deposits (B3) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Algal Mat or Crust (B4) ___ Thin Muck Surface (C7) ___ Iron Deposits (B5) ___ Other (Explain in Remarks) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ FAC-Neutral Test (D5) ___ Sphagnum Moss (D8) (LRR T,U)
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Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Sample at Palmetto Edge

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: B - UP

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
	_____ = Total Cover		
	50% of total cover: _____	20% of total cover: _____	

Sapling/Shrub Stratum (Plot size: <u>10' x 10'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Serenoa repens</u>	<u>50</u>	<u>Yes</u>	<u>FACU</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
	<u>50</u> = Total Cover		
	50% of total cover: <u>25</u>	20% of total cover: <u>10</u>	

Herb Stratum (Plot size: <u>10' x 10'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Panicum hemitomon</u>	<u>10</u>	<u>Yes</u>	<u>OBL</u>
2. <u>Spartina bakeri</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>
3. <u>Juncus effusus</u>	<u>2</u>	<u>No</u>	<u>OBL</u>
4. <u>Sonchus</u>	<u>1</u>	<u>No</u>	_____
5. <u>Eclipta prostrata</u>	<u>1</u>	<u>No</u>	<u>FACW</u>
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
	<u>24</u> = Total Cover		
	50% of total cover: <u>12</u>	20% of total cover: <u>5</u>	

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
	_____ = Total Cover		
	50% of total cover: _____	20% of total cover: _____	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>12</u>	x 1 = <u>12</u>
FACW species <u>11</u>	x 2 = <u>22</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>50</u>	x 4 = <u>200</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>73</u> (A)	<u>234</u> (B)
Prevalence Index = B/A = <u>3.21</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: B - UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	7.5YR 3/1	80					Sandy	Masked Grains 30%, Organic Nodes
	7.5YR 6/1	20						
5-14	7.5YR 7/1	80	7.5YR 4/4	15	RM	M	Sandy	
	7.5YR 2.5/1	20						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) **(LRR, P, T, U)**
- 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- Muck Presence (A8) **(LRR U)**
- 1 cm Muck (A9) **(LRR P, T)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) **(MLRA 150A)**
- Sandy Mucky Mineral (S1) **(LRR O, S)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**
- Polyvalue Below Surface (S8) **(LRR S, T, U)**
- Thin Dark Surface (S9) **(LRR S, T, U)**
- Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- Loamy Mucky Mineral (F1) **(LRR O)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR U)**
- Depleted Ochric (F11) **(MLRA 151)**
- Iron-Manganese Masses (F12) **(LRR O, P, T)**
- Umbric Surface (F13) **(LRR P, T, U)**
- Delta Ochric (F17) **(MLRA 151)**
- Reduced Vertic (F18) **(MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR O)**
- 2 cm Muck (A10) **(LRR S)**
- Coast Prairie Redox (A16) **(outside MLRA 150A)**
- Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(LRR P, T)**
- Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

This data form is revised from Atlantic and Gulf Coastal Plain Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.1, 2017.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: B and D Ranch Subdivision City/County: Hillsborough Sampling Date: 01/24/2018
 Applicant/Owner: Band D Ranch, LLC State: FL Sampling Point: B - WET
 Investigator(s): John Goolsby (Clearview Land Design) Section, Township, Range: 5 / 31 / 21
 Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Flat Slope (%): 2
 Subregion (LRR or MLRA): LRR U, MLRA 155 Lat: 27.8126 Long: -82.2301 Datum: _____
 Soil Map Unit Name: 5 - Basinger NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators</u> (minimum of one is required; check all that apply)	<u>Secondary Indicators</u> (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) _____ Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) _____ Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) _____ Hydrogen Sulfide Odor (C1) _____ Water Marks (B1) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Sediment Deposits (B2) _____ Presence of Reduced Iron (C4) _____ Drift Deposits (B3) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Algal Mat or Crust (B4) _____ Thin Muck Surface (C7) _____ Iron Deposits (B5) _____ Other (Explain in Remarks) <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) _____ Water-Stained Leaves (B9)	_____ Surface Soil Cracks (B6) _____ Sparsely Vegetated Concave Surface (B8) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ FAC-Neutral Test (D5) _____ Sphagnum Moss (D8) (LRR T,U)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>10</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Water in Center; Saturated Near Outer Edges

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: B - WET

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
=Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>60</u> x 1 = <u>60</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>65</u> (A) <u>70</u> (B) Prevalence Index = B/A = <u>1.08</u>
50% of total cover: _____		20% of total cover: _____		
Sapling/Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
=Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: _____		20% of total cover: _____		
Herb Stratum (Plot size: <u>10' x 10'</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height.
1. <u>Ludwigia arcuata</u>	25	Yes	OBL	
2. <u>Micranthemum glomeratum</u>	25	Yes	OBL	
3. <u>Hydrocotyle umbellata</u>	5	No	OBL	
4. <u>Panicum repens</u>	5	No	FACW	
5. <u>Pontederia cordata</u>	5	No	OBL	
6. <u>Polygonum</u>	1	No	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
66 =Total Cover				
50% of total cover: <u>33</u>		20% of total cover: <u>14</u>		
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
=Total Cover				
50% of total cover: _____		20% of total cover: _____		

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: B - WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	7.5YR 3/1	20					Sandy	Organic Nodes, Masked Grains 70%
	7.5YR 7/1	80						
2-5	7.5YR 7/1	100					Sandy	
5-12	7.5YR 6/1	90					Sandy	
	7.5YR 2.5/1	10						
12-14	7.5YR 4/3	90					Sandy	
	7.5YR 2.5/1	10						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) **(LRR, P, T, U)**
- 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- Muck Presence (A8) **(LRR U)**
- 1 cm Muck (A9) **(LRR P, T)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) **(MLRA 150A)**
- Sandy Mucky Mineral (S1) **(LRR O, S)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**
- Polyvalue Below Surface (S8) **(LRR S, T, U)**
- Thin Dark Surface (S9) **(LRR S, T, U)**
- Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- Loamy Mucky Mineral (F1) **(LRR O)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR U)**
- Depleted Ochric (F11) **(MLRA 151)**
- Iron-Manganese Masses (F12) **(LRR O, P, T)**
- Umbric Surface (F13) **(LRR P, T, U)**
- Delta Ochric (F17) **(MLRA 151)**
- Reduced Vertic (F18) **(MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR O)**
- 2 cm Muck (A10) **(LRR S)**
- Coast Prairie Redox (A16) **(outside MLRA 150A)**
- Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(LRR P, T)**
- Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No _____

Remarks:

This data form is revised from Atlantic and Gulf Coastal Plain Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.1, 2017.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: B and D Ranch Subdivision City/County: Hillsborough Sampling Date: 01/24/2018
 Applicant/Owner: Band D Ranch, LLC State: FL Sampling Point: C-UP
 Investigator(s): John Goolsby (Clearview Land Design) Section, Township, Range: 5 / 31 / 21
 Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Flat Slope (%): 2
 Subregion (LRR or MLRA): LRR U, MLRA 155 Lat: 27.8126 Long: -82.2301 Datum: _____
 Soil Map Unit Name: 33 - Ona Fine Sand NWI classification: UP

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Not a wetland, although wetland vegetation is dominant.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Aquatic Fauna (B13) ___ High Water Table (A2) ___ Marl Deposits (B15) (LRR U) ___ Saturation (A3) ___ Hydrogen Sulfide Odor (C1) ___ Water Marks (B1) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Sediment Deposits (B2) ___ Presence of Reduced Iron (C4) ___ Drift Deposits (B3) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Algal Mat or Crust (B4) ___ Thin Muck Surface (C7) ___ Iron Deposits (B5) ___ Other (Explain in Remarks) ___ Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ FAC-Neutral Test (D5) ___ Sphagnum Moss (D8) (LRR T,U)
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Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: C-UP

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
	_____ = Total Cover		
50% of total cover: _____	20% of total cover: _____		

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
	_____ = Total Cover		
50% of total cover: _____	20% of total cover: _____		

Herb Stratum (Plot size: <u>10' x 10'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Axonopus fissifolius</u>	50	Yes	FACW
2. <u>Cynodon dactylon</u>	1	No	FACU
3. <u>Paspalum notatum</u>	20	Yes	FACU
4. <u>Axonopus furcatus</u>	20	Yes	OBL
5. <u>Hydrocotyle umbellata</u>	2	No	OBL
6. <u>Juncus effusus</u>	1	No	OBL
7. <u>Euthamia caroliniana</u>	1	No	FAC
8. <u>Sporobolus indicus</u>	2	No	FACU
9. <u>Cirsium nuttallii</u>	1	No	FAC
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
	98 = Total Cover		
50% of total cover: <u>49</u>	20% of total cover: <u>20</u>		

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
	_____ = Total Cover		
50% of total cover: _____	20% of total cover: _____		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>23</u>	x 1 = <u>23</u>
FACW species <u>50</u>	x 2 = <u>100</u>
FAC species <u>2</u>	x 3 = <u>6</u>
FACU species <u>23</u>	x 4 = <u>92</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>98</u> (A)	<u>221</u> (B)
Prevalence Index = B/A = <u>2.26</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: C-UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	7.5YR 3/1	100					Sandy	Organic Nodes, Masked Grains 70%
2-10	7.5YR 4/1	50						
	7.5YR 3/1	50						
10-14	7.5YR 4/2	90						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) **(LRR, P, T, U)**
- 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- Muck Presence (A8) **(LRR U)**
- 1 cm Muck (A9) **(LRR P, T)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) **(MLRA 150A)**
- Sandy Mucky Mineral (S1) **(LRR O, S)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**
- Polyvalue Below Surface (S8) **(LRR S, T, U)**
- Thin Dark Surface (S9) **(LRR S, T, U)**
- Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- Loamy Mucky Mineral (F1) **(LRR O)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR U)**
- Depleted Ochric (F11) **(MLRA 151)**
- Iron-Manganese Masses (F12) **(LRR O, P, T)**
- Umbric Surface (F13) **(LRR P, T, U)**
- Delta Ochric (F17) **(MLRA 151)**
- Reduced Vertic (F18) **(MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR O)**
- 2 cm Muck (A10) **(LRR S)**
- Coast Prairie Redox (A16) **(outside MLRA 150A)**
- Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(LRR P, T)**
- Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No _____

Remarks:

This data form is revised from Atlantic and Gulf Coastal Plain Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.1, 2017.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: B and D Ranch Subdivision City/County: Hillsborough Sampling Date: 01/24/2018
 Applicant/Owner: Band D Ranch, LLC State: FL Sampling Point: C-WET
 Investigator(s): John Goolsby (Clearview Land Design) Section, Township, Range: 5 / 31 / 21
 Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Flat Slope (%): 2
 Subregion (LRR or MLRA): LRR U, MLRA 155 Lat: 27.8126 Long: -82.2301 Datum: _____
 Soil Map Unit Name: 46 - St. Johns Fine Sand NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: Freshwater Shallow Marsh	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Aquatic Fauna (B13) ___ High Water Table (A2) ___ Marl Deposits (B15) (LRR U) ___ Saturation (A3) ___ Hydrogen Sulfide Odor (C1) ___ Water Marks (B1) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Sediment Deposits (B2) ___ Presence of Reduced Iron (C4) ___ Drift Deposits (B3) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Algal Mat or Crust (B4) ___ Thin Muck Surface (C7) ___ Iron Deposits (B5) ___ Other (Explain in Remarks) <u>X</u> Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ FAC-Neutral Test (D5) ___ Sphagnum Moss (D8) (LRR T,U)
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Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: C-WET

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
	_____ = Total Cover		
	50% of total cover: _____	20% of total cover: _____	

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
	_____ = Total Cover		
	50% of total cover: _____	20% of total cover: _____	

Herb Stratum (Plot size: <u>10' x 10'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Juncus effusus</u>	40	Yes	OBL
2. <u>Axonopus fissifolius</u>	20	Yes	FACW
3. <u>Hydrocotyle umbellata</u>	15	No	OBL
4. <u>Polygonum</u>	1	No	
5. <u>Eupatorium capillifolium</u>	1	No	FACU
6. <u>Ludwigia arcuata</u>	20	Yes	OBL
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
	97 = Total Cover		
	50% of total cover: 49	20% of total cover: 20	

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
	_____ = Total Cover		
	50% of total cover: _____	20% of total cover: _____	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>75</u>	x 1 = <u>75</u>
FACW species <u>20</u>	x 2 = <u>40</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>1</u>	x 4 = <u>4</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>96</u> (A)	<u>119</u> (B)
Prevalence Index = B/A = <u>1.24</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: C-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	7.5YR 2.5/1	100					Sandy	Organic Nodes, Coated Grains 70%
6-14	7.5YR 7/1	70					Sandy	
	7.5YR 2.5/1	50						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) **(LRR, P, T, U)**
- 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- Muck Presence (A8) **(LRR U)**
- 1 cm Muck (A9) **(LRR P, T)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) **(MLRA 150A)**
- Sandy Mucky Mineral (S1) **(LRR O, S)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**
- Polyvalue Below Surface (S8) **(LRR S, T, U)**
- Thin Dark Surface (S9) **(LRR S, T, U)**
- Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- Loamy Mucky Mineral (F1) **(LRR O)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR U)**
- Depleted Ochric (F11) **(MLRA 151)**
- Iron-Manganese Masses (F12) **(LRR O, P, T)**
- Umbric Surface (F13) **(LRR P, T, U)**
- Delta Ochric (F17) **(MLRA 151)**
- Reduced Vertic (F18) **(MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR O)**
- 2 cm Muck (A10) **(LRR S)**
- Coast Prairie Redox (A16) **(outside MLRA 150A)**
- Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(LRR P, T)**
- Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No _____

Remarks:

This data form is revised from Atlantic and Gulf Coastal Plain Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.1, 2017.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: B and D Ranch Subdivision City/County: Hillsborough Sampling Date: 01/24/2018
 Applicant/Owner: Band D Ranch, LLC State: FL Sampling Point: D-UP
 Investigator(s): John Goolsby (Clearview Land Design) Section, Township, Range: 5 / 31 / 21
 Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Flat Slope (%): 2
 Subregion (LRR or MLRA): LRR U, MLRA 155 Lat: 27.8126 Long: -82.2301 Datum: _____
 Soil Map Unit Name: 33 - Ona Fine Sand NWI classification: UP

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Aquatic Fauna (B13) _____ High Water Table (A2) _____ Marl Deposits (B15) (LRR U) _____ Saturation (A3) _____ Hydrogen Sulfide Odor (C1) _____ Water Marks (B1) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Sediment Deposits (B2) _____ Presence of Reduced Iron (C4) _____ Drift Deposits (B3) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Algal Mat or Crust (B4) _____ Thin Muck Surface (C7) _____ Iron Deposits (B5) _____ Other (Explain in Remarks) _____ Inundation Visible on Aerial Imagery (B7) _____ Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Sparsely Vegetated Concave Surface (B8) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ FAC-Neutral Test (D5) _____ Sphagnum Moss (D8) (LRR T,U)
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Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: D-UP

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u> 1 </u> (A) Total Number of Dominant Species Across All Strata: <u> 3 </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u> 33.3% </u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
_____ = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u> 41 </u></td> <td>x 1 = <u> 41 </u></td> </tr> <tr> <td>FACW species <u> 0 </u></td> <td>x 2 = <u> 0 </u></td> </tr> <tr> <td>FAC species <u> 12 </u></td> <td>x 3 = <u> 36 </u></td> </tr> <tr> <td>FACU species <u> 35 </u></td> <td>x 4 = <u> 140 </u></td> </tr> <tr> <td>UPL species <u> 0 </u></td> <td>x 5 = <u> 0 </u></td> </tr> <tr> <td>Column Totals: <u> 88 </u> (A)</td> <td><u> 217 </u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u> 2.47 </u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u> 41 </u>	x 1 = <u> 41 </u>	FACW species <u> 0 </u>	x 2 = <u> 0 </u>	FAC species <u> 12 </u>	x 3 = <u> 36 </u>	FACU species <u> 35 </u>	x 4 = <u> 140 </u>	UPL species <u> 0 </u>	x 5 = <u> 0 </u>	Column Totals: <u> 88 </u> (A)	<u> 217 </u> (B)	Prevalence Index = B/A = <u> 2.47 </u>	
Total % Cover of:	Multiply by:																			
OBL species <u> 41 </u>	x 1 = <u> 41 </u>																			
FACW species <u> 0 </u>	x 2 = <u> 0 </u>																			
FAC species <u> 12 </u>	x 3 = <u> 36 </u>																			
FACU species <u> 35 </u>	x 4 = <u> 140 </u>																			
UPL species <u> 0 </u>	x 5 = <u> 0 </u>																			
Column Totals: <u> 88 </u> (A)	<u> 217 </u> (B)																			
Prevalence Index = B/A = <u> 2.47 </u>																				
50% of total cover: _____ 20% of total cover: _____																				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain)																
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
50% of total cover: _____ 20% of total cover: _____																				
<u>Herb Stratum</u> (Plot size: <u> 10' x 10' </u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height.																
1. <u><i>Eupatorium capillifolium</i></u>	15	Yes	FACU																	
2. <u><i>Euthamia caroliniana</i></u>	10	No	FAC																	
3. <u><i>Axonopus furcatus</i></u>	40	Yes	OBL																	
4. <u><i>Paspalum notatum</i></u>	15	Yes	FACU																	
5. <u><i>Dichanthelium aciculare</i></u>	5	No	FACU																	
6. <u><i>Andropogon virginicus</i></u>	2	No	FAC																	
7. <u><i>Juncus effusus</i></u>	1	No	OBL																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
88 = Total Cover																				
50% of total cover: <u> 44 </u> 20% of total cover: <u> 18 </u>																				
<u>Woody Vine Stratum</u> (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No <u> X </u>																
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
_____ = Total Cover																				
50% of total cover: _____ 20% of total cover: _____																				

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: D-UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	7.5YR 2.5/1	100					Sandy	
2-5	7.5YR 2.5/1	90	7.5YR 5/6	10	RM	PL	Sandy	
5-14	7.5YR 5/1	60	7.5YR 5/6	25	RM	PL	Sandy	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1) ? Thin Dark Surface (S9) **(LRR S, T, U)**
- Histic Epipedon (A2) Barrier Islands 1 cm Muck (S12)
- Black Histic (A3) **(MLRA 153B, 153D)**
- Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) **(LRR O)**
- Stratified Layers (A5) Loamy Gleyed Matrix (F2)
- Organic Bodies (A6) **(LRR, P, T, U)** Depleted Matrix (F3)
- 5 cm Mucky Mineral (A7) **(LRR P, T, U)** Redox Dark Surface (F6)
- Muck Presence (A8) **(LRR U)** Depleted Dark Surface (F7)
- 1 cm Muck (A9) **(LRR P, T)** Redox Depressions (F8)
- Depleted Below Dark Surface (A11) Marl (F10) **(LRR U)**
- Thick Dark Surface (A12) Depleted Ochric (F11) **(MLRA 151)**
- Coast Prairie Redox (A16) **(MLRA 150A)** Iron-Manganese Masses (F12) **(LRR O, P, T)**
- Sandy Mucky Mineral (S1) **(LRR O, S)** Umbric Surface (F13) **(LRR P, T, U)**
- Sandy Gleyed Matrix (S4) Delta Ochric (F17) **(MLRA 151)**
- Sandy Redox (S5) Reduced Vertic (F18) **(MLRA 150A, 150B)**
- Stripped Matrix (S6) Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- Dark Surface (S7) **(LRR P, S, T, U)** Anomalous Bright Floodplain Soils (F20)
- Polyvalue Below Surface (S8) **(MLRA 149A, 153C, 153D)**
- (LRR S, T, U)** Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR O)**
- 2 cm Muck (A10) **(LRR S)**
- Coast Prairie Redox (A16) **(outside MLRA 150A)**
- Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(LRR P, T)**
- Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No _____

Remarks:

This data form is revised from Atlantic and Gulf Coastal Plain Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.1, 2017.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: B and D Ranch Subdivision City/County: Hillsborough Sampling Date: 01/24/2018
 Applicant/Owner: Band D Ranch, LLC State: FL Sampling Point: D-WET
 Investigator(s): John Goolsby (Clearview Land Design) Section, Township, Range: 5 / 31 / 21
 Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Flat Slope (%): 2
 Subregion (LRR or MLRA): LRR U, MLRA 155 Lat: 27.8126 Long: -82.2301 Datum: _____
 Soil Map Unit Name: 46 - St. Johns Fine Sand NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Aquatic Fauna (B13) ___ High Water Table (A2) ___ Marl Deposits (B15) (LRR U) <u>X</u> Saturation (A3) ___ Hydrogen Sulfide Odor (C1) <u>X</u> Water Marks (B1) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Sediment Deposits (B2) ___ Presence of Reduced Iron (C4) ___ Drift Deposits (B3) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Algal Mat or Crust (B4) ___ Thin Muck Surface (C7) ___ Iron Deposits (B5) ___ Other (Explain in Remarks) <u>X</u> Inundation Visible on Aerial Imagery (B7) ___ Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Sparsely Vegetated Concave Surface (B8) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ FAC-Neutral Test (D5) ___ Sphagnum Moss (D8) (LRR T,U)
---	--

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>10</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: D-WET

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
=Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>36</u> x 1 = <u>36</u> FACW species <u>25</u> x 2 = <u>50</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>25</u> x 4 = <u>100</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>86</u> (A) <u>186</u> (B) Prevalence Index = B/A = <u>2.16</u>
50% of total cover: _____		20% of total cover: _____		
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
=Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: _____		20% of total cover: _____		
Herb Stratum (Plot size: <u>10' x 10'</u>)				
1. <u>Axonopus fissifolius</u>	<u>25</u>	<u>Yes</u>	<u>FACW</u>	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height.
2. <u>Paspalum notatum</u>	<u>25</u>	<u>Yes</u>	<u>FACU</u>	
3. <u>Eleocharis baldwinii</u>	<u>30</u>	<u>Yes</u>	<u>OBL</u>	
4. <u>Axonopus furcatus</u>	<u>5</u>	<u>No</u>	<u>OBL</u>	
5. <u>Juncus effusus</u>	<u>1</u>	<u>No</u>	<u>OBL</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
86 =Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
50% of total cover: <u>43</u>		20% of total cover: <u>18</u>		
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
=Total Cover				
50% of total cover: _____		20% of total cover: _____		

Remarks: (If observed, list morphological adaptations below.)

SOIL

Sampling Point: D-WET

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	7.5YR 3/1	100					Sandy	
3-5	7.5YR 5/1	100					Sandy	
5-8	7.5YR 5/1	60	7.5YR 5/6	20	RM	PL	Sandy	
	7.5YR 3/1	40						
8-14	7.5YR 3/1	100					Sandy	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1) ? Thin Dark Surface (S9) **(LRR S, T, U)**
- Histic Epipedon (A2) Barrier Islands 1 cm Muck (S12)
- Black Histic (A3) **(MLRA 153B, 153D)**
- Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) **(LRR O)**
- Stratified Layers (A5) Loamy Gleyed Matrix (F2)
- Organic Bodies (A6) **(LRR, P, T, U)** Depleted Matrix (F3)
- 5 cm Mucky Mineral (A7) **(LRR P, T, U)** Redox Dark Surface (F6)
- Muck Presence (A8) **(LRR U)** Depleted Dark Surface (F7)
- 1 cm Muck (A9) **(LRR P, T)** Redox Depressions (F8)
- Depleted Below Dark Surface (A11) Marl (F10) **(LRR U)**
- Thick Dark Surface (A12) Depleted Ochric (F11) **(MLRA 151)**
- Coast Prairie Redox (A16) **(MLRA 150A)** Iron-Manganese Masses (F12) **(LRR O, P, T)**
- Sandy Mucky Mineral (S1) **(LRR O, S)** Umbric Surface (F13) **(LRR P, T, U)**
- Sandy Gleyed Matrix (S4) Delta Ochric (F17) **(MLRA 151)**
- Sandy Redox (S5) Reduced Vertic (F18) **(MLRA 150A, 150B)**
- Stripped Matrix (S6) Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- Dark Surface (S7) **(LRR P, S, T, U)** Anomalous Bright Floodplain Soils (F20)
- Polyvalue Below Surface (S8) **(MLRA 149A, 153C, 153D)**
- (LRR S, T, U)** Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR O)**
- 2 cm Muck (A10) **(LRR S)**
- Coast Prairie Redox (A16) **(outside MLRA 150A)**
- Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(LRR P, T)**
- Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

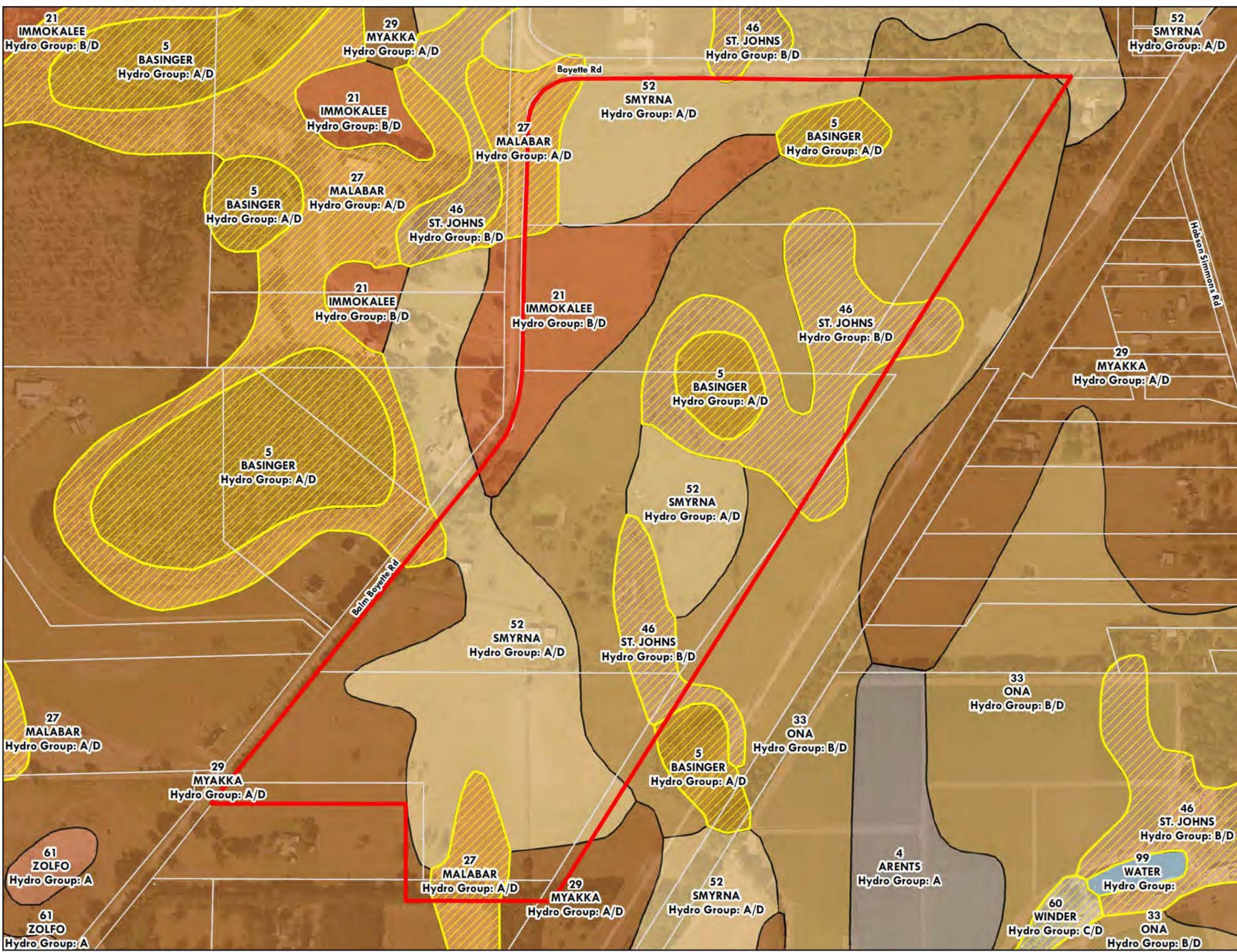
Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

This data form is revised from Atlantic and Gulf Coastal Plain Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.1, 2017.



Legend

- Darsey Property - 136.7 +/- Acres
- Parcel Boundary
- Hydric Soils

NRCS SSURGO Soils

- 4, ARENTS
- 5, BASINGER
- 21, IMMOKALEE
- 27, MALABAR
- 29, MYAKKA
- 33, ONA
- 46, ST. JOHNS
- 52, SMYRNA
- 60, WINDER
- 61, ZOLFO
- 99, WATER



S: 05 T: 31 R: 21

Notes:

Clearview Land Design, or SWFWMD make no warranty, representation or guaranty as to the content, sequence, accuracy, timeliness, or completeness of any of the geodata information provided herein. Aerial: SWFWMD, 2017

Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

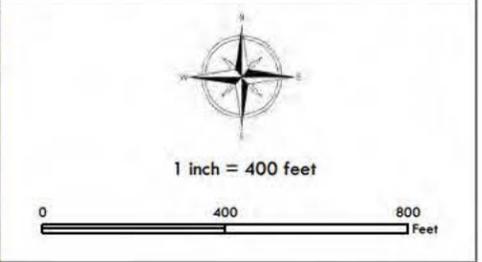


Figure: NRCS SSURGO Soils	
Project: Darsey Property	
Hillsborough County	
Filename: Darsey_Soils_20180119_11x17_wcs	
Map Date: 1/25/2018	Map Prepared By: Cory Swales

Legend

 Darsey Property - 136.7 +/- Acres

Vicinity Map



S: 05 T: 31 R: 21

Notes:

Clearview Land Design, or USGS make no warranty, representation or guaranty as to the content, sequence, accuracy, timeliness, or completeness of any of the geodata information provided herein.

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 Copyright: © 2013 National Geographic Society, i-cubed



1 inch = 3,000 feet

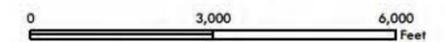


Figure: USGS Quad Map

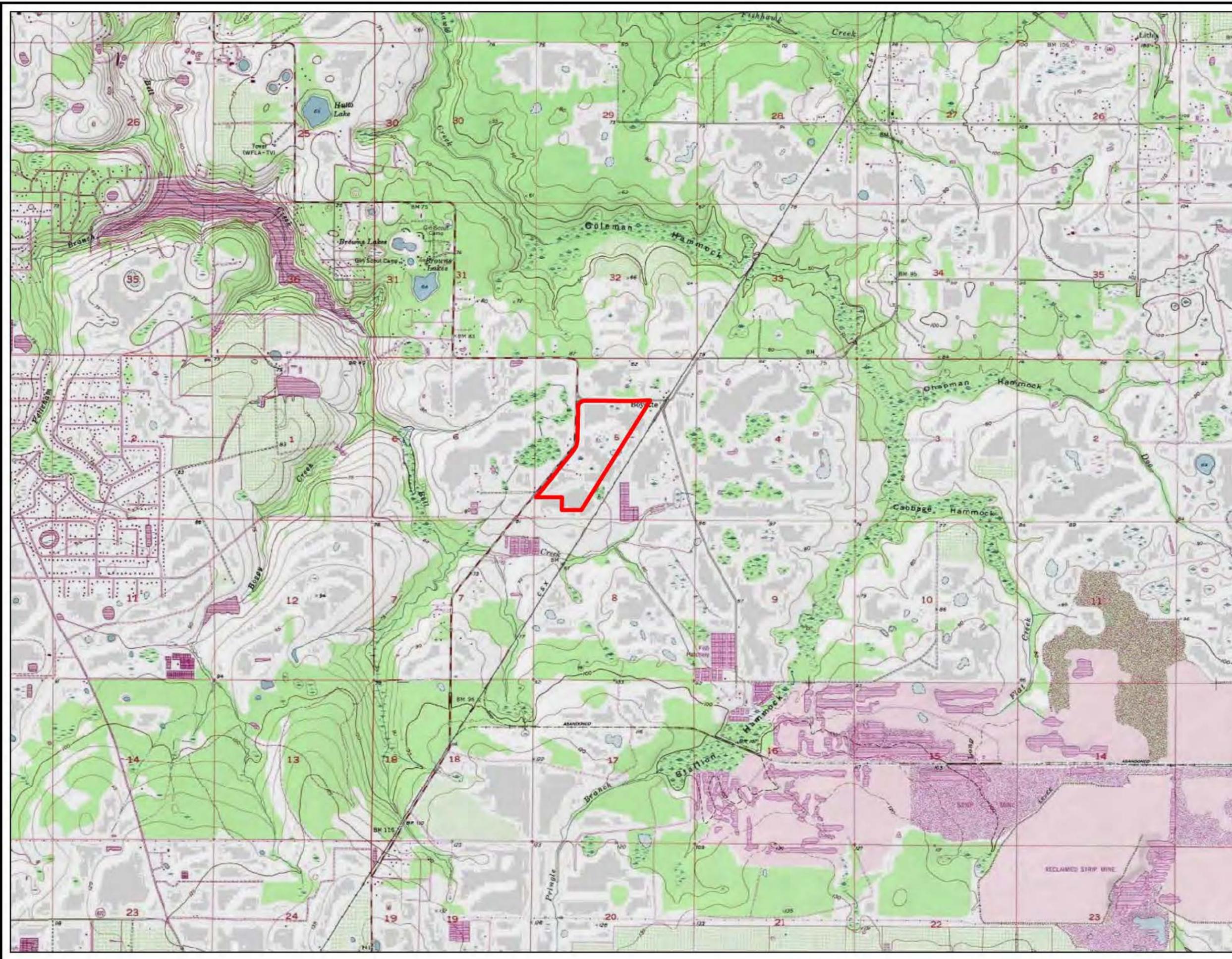
Project: Darsey Property

Hillsborough County

Filename:
 Darsey_Quad_20171106_11x17_wcs

Map Date:
 1/19/2018

Map Prepared By:
 Cory Swales



Legend

- Darsey Property - 136.7 +/- Acres
- Parcel Boundary

Vicinity Map



S: 05 T: 31 R: 21

Notes:

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1 inch = 400 feet

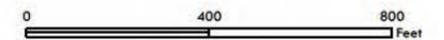


Figure: 2017 Aerial Map

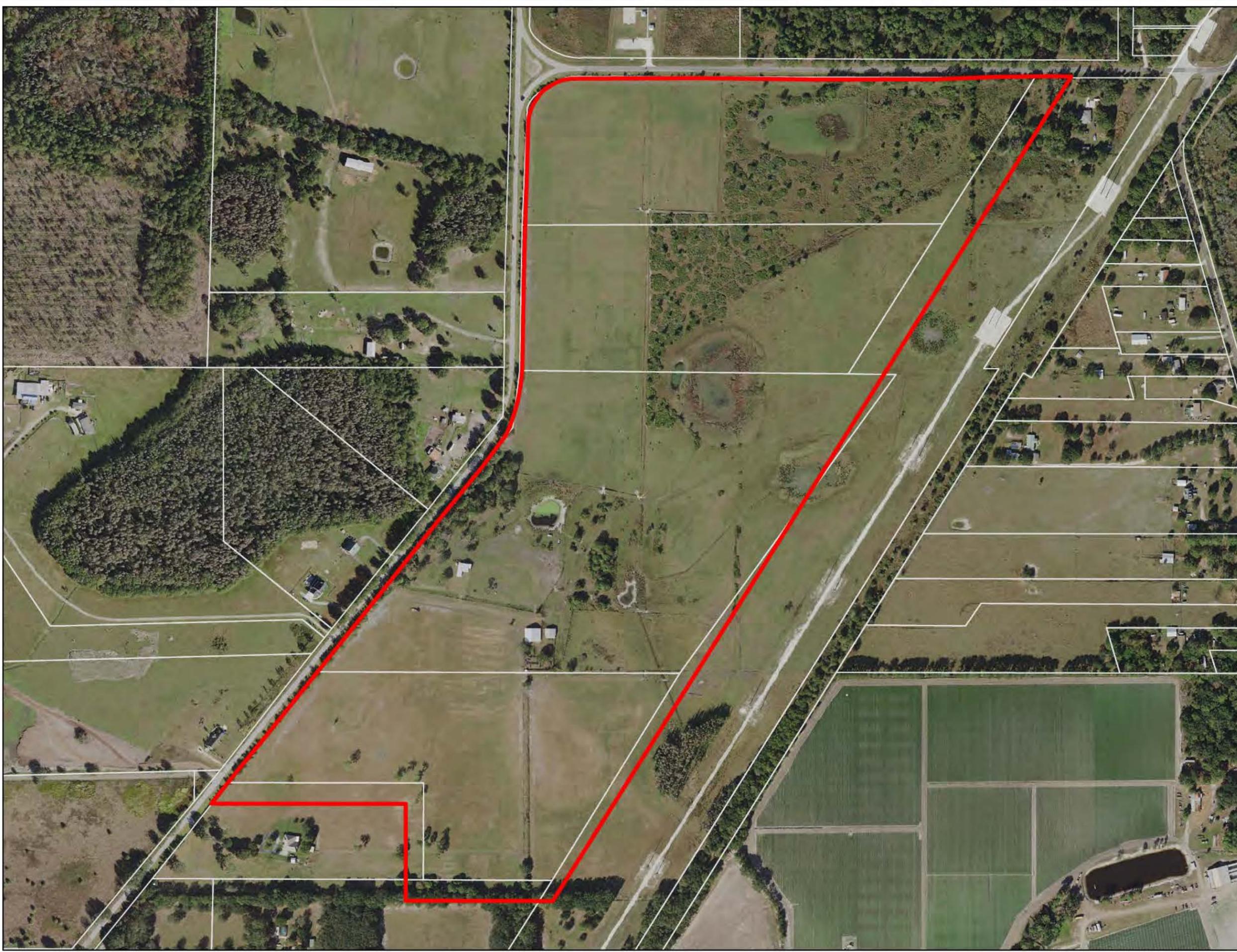
Project: Darsey Property

Hillsborough County

Filename:
 Darsey_Aerial_20180119_11x17_wcs

Map Date:
 1/25/2018

Map Prepared By:
 Cory Swales



National Wetlands Inventory

surface waters and wetlands

ABOUT

GET DATA

PRINT

FIND LOCATION

BASEMAPS >



Measure

MAP LAYERS >

Wetlands



Wetland



Wetland Mapping Areas



Wetland Source



Wetland Source Type

Wetland Image Scale

Wetland Image Year

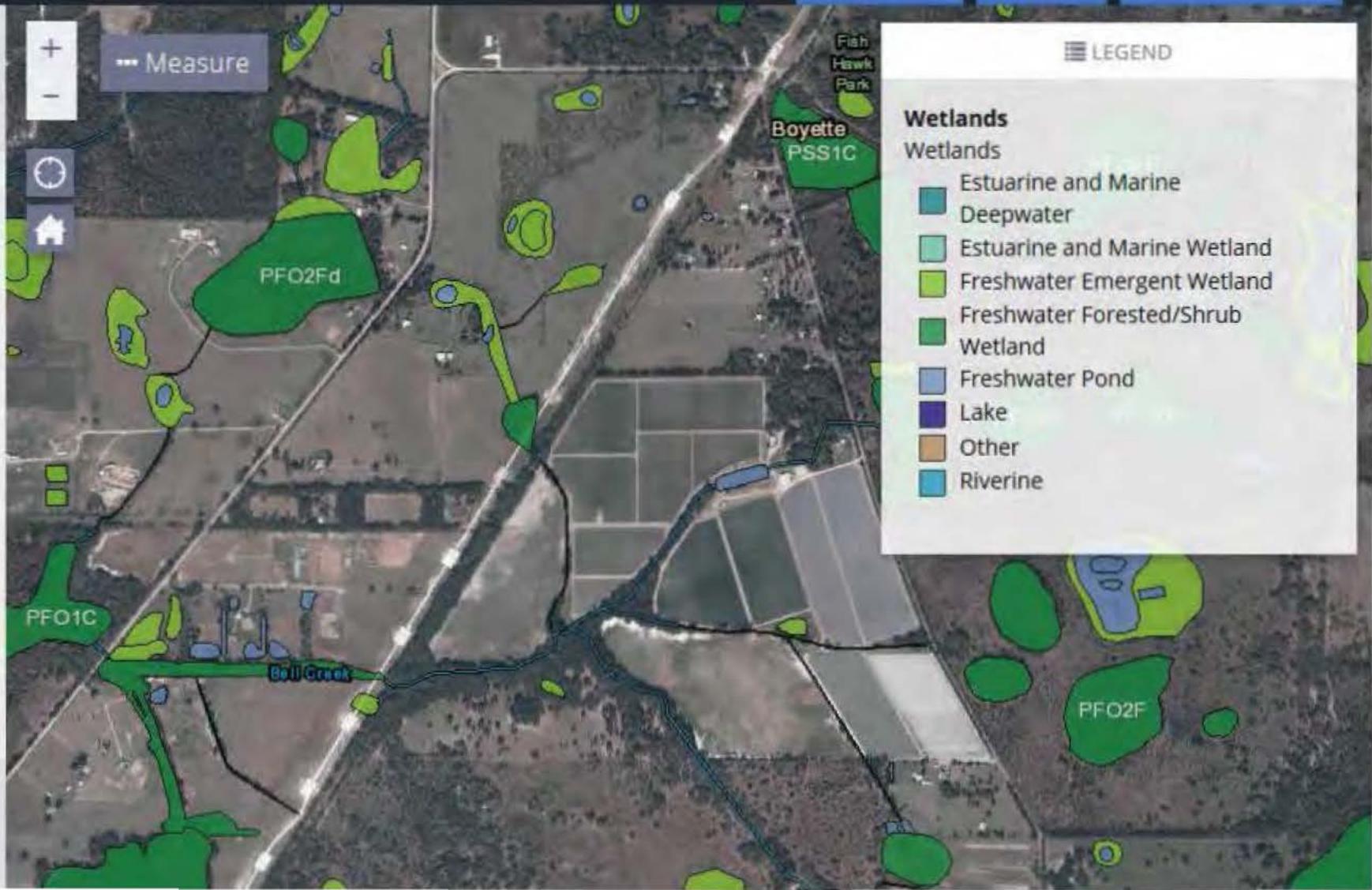
Wetland Area of Interest



Wetland Managed Lands



Wetland Historic Wetland Data



LEGEND

Wetlands

Wetlands

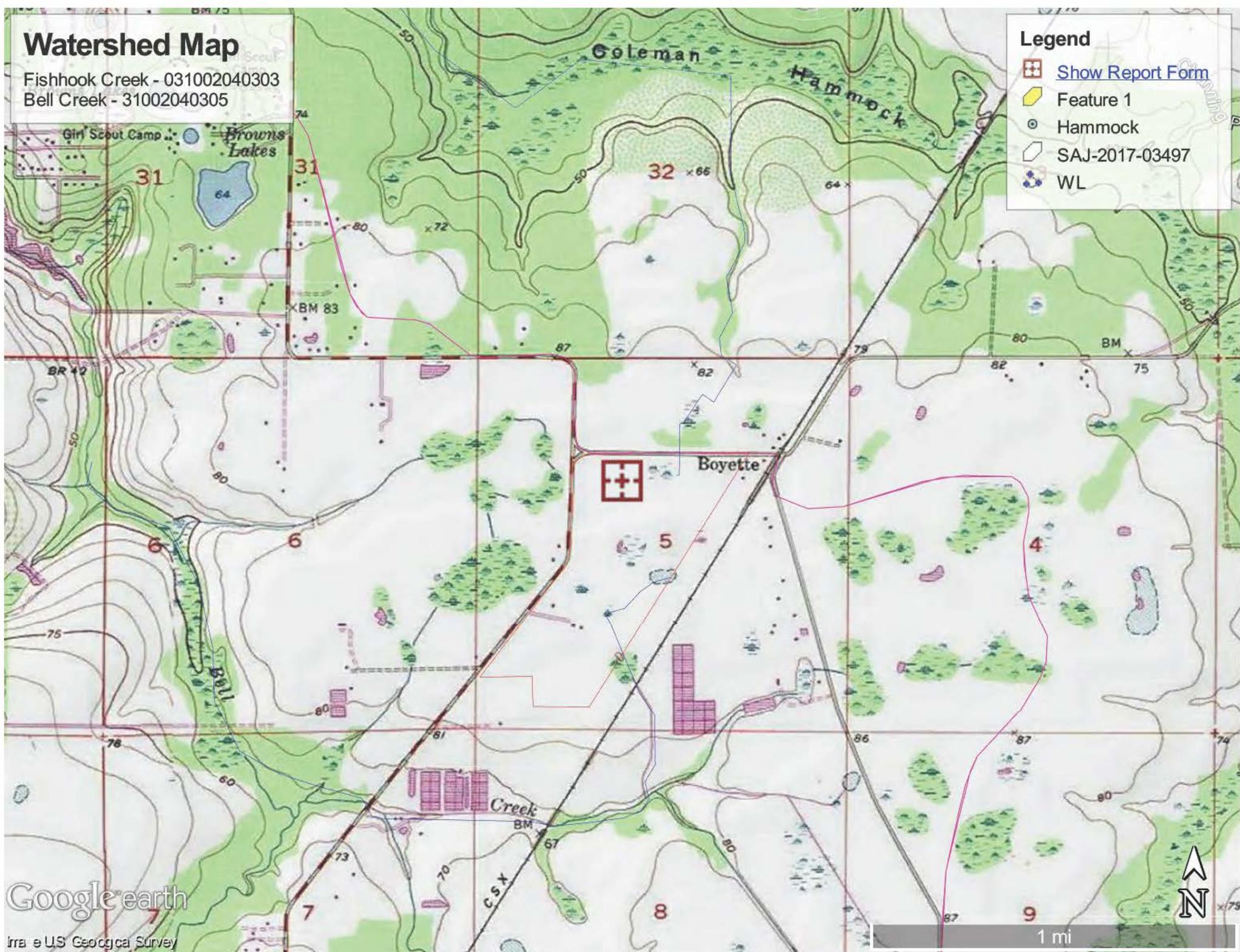
- Estuarine and Marine
- Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Watershed Map

Fishhook Creek - 031002040303
Bell Creek - 31002040305

Legend

-  [Show Report Form](#)
-  Feature 1
-  Hammock
-  SAJ-2017-03497
-  WL



Google earth

Irre © US Geological Survey

Legend

- B & D Ranch - 136.7 +/- Acres
- Surveyed Wetlands

Vicinity Map



S: 05 T: 31 R: 21

Notes:

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1 inch = 400 feet

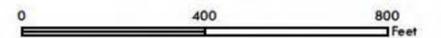


Figure: Surveyed Wetlands

Project: B & D Ranch

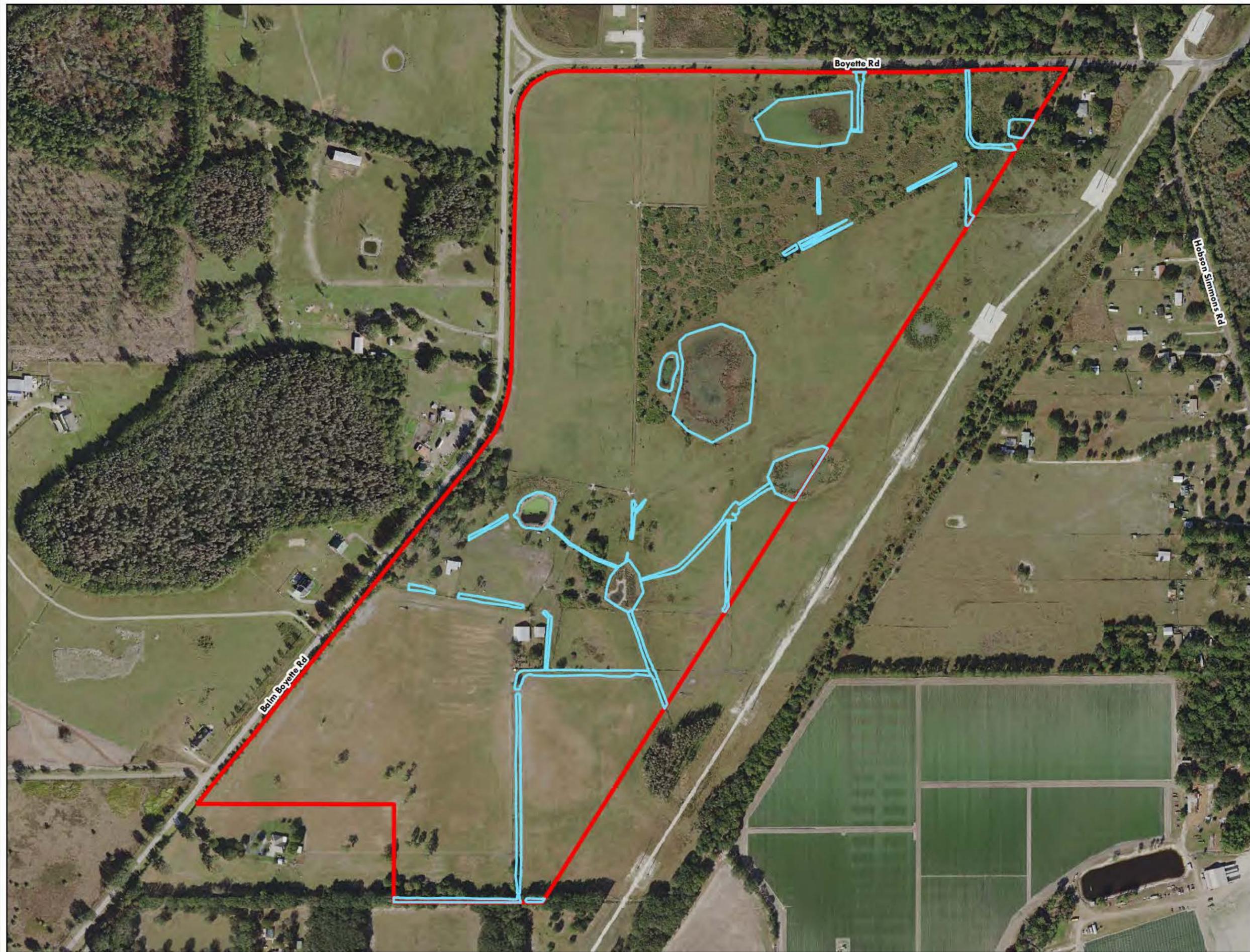
Hillsborough County

Filename:

BDR_SurvWet_20180711_11x17_wcs

Map Date:
7/11/2018

Map Prepared By:
Cory Swales



Wetlands

- D. Ditches that connect wetlands to WOTUS (Non-RPW that flow to TNW)
- G. Wetland adjacent to Non-RPW's that flow to TNW
- I. Isolated Wetlands with Nexus
- I. Isolated Wetlands without Nexus
- J. Upland cut ditches that do not connect wetlands to WOTUS (exempt per the preamble)

- Legend**
- B & D Ranch - 136.7 +/- Acres
 - Bridge Location
 - Pipe Location
 - Flow Path



S: 05 T: 31 R: 21

Notes:
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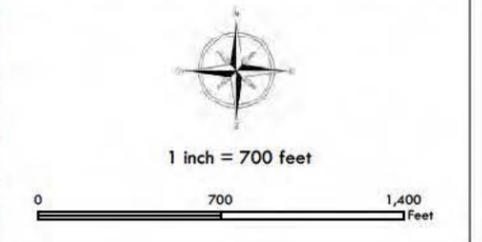


Figure: Rapanos

Project: B & D Ranch

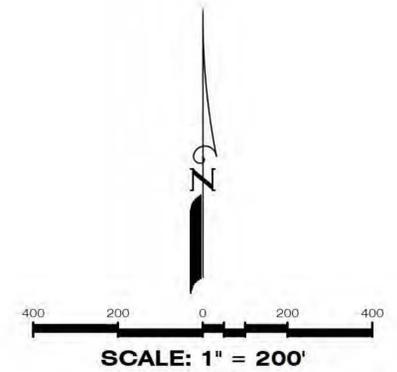
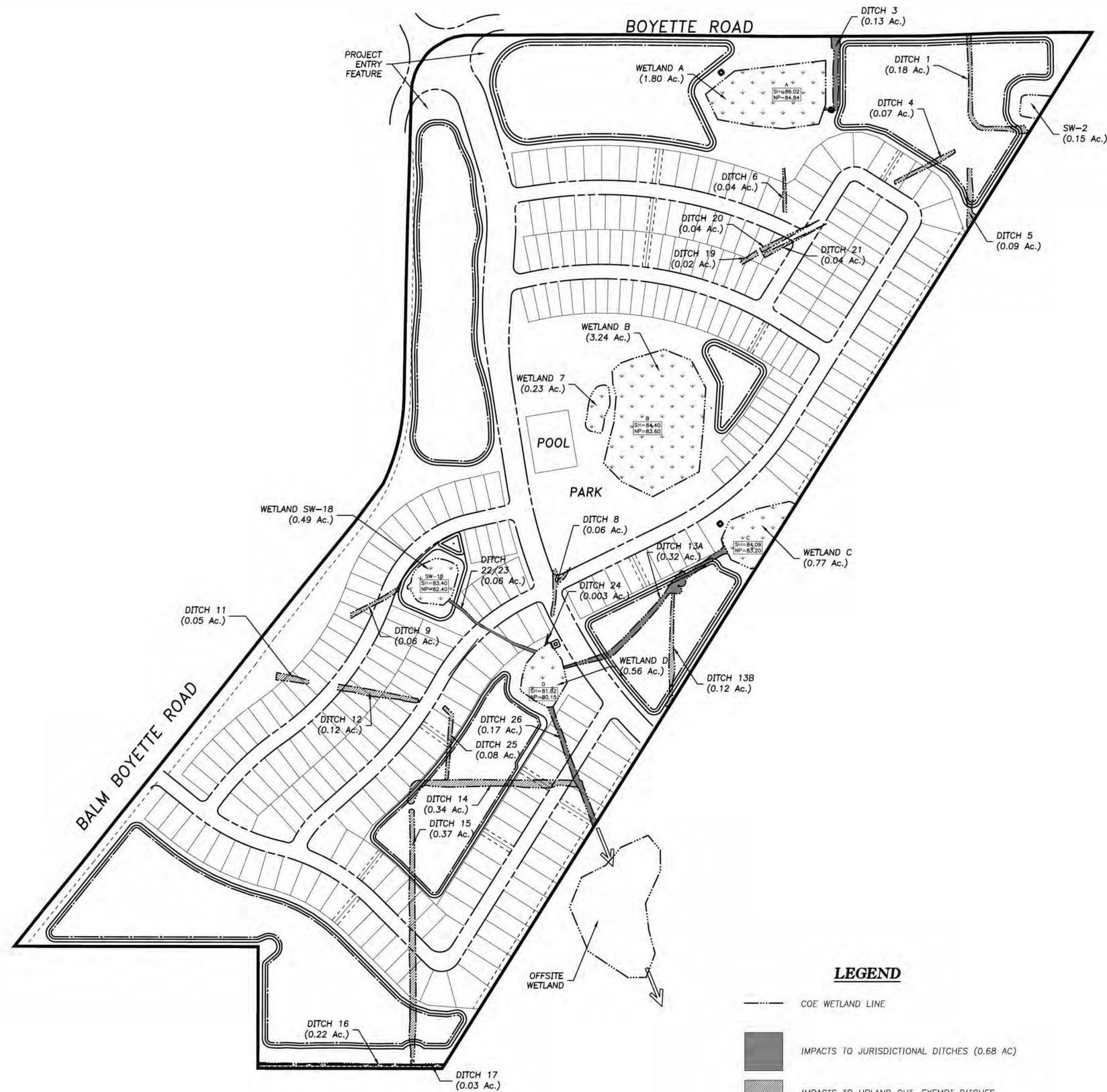
Hillsborough County

Filename:
BDR_Rapanos_20180709_11x17_wcs

Map Date:
7/11/2018

Map Prepared By:
Cory Swales





LEGEND

-  COE WETLAND LINE
-  IMPACTS TO JURISDICTIONAL DITCHES (0.68 AC)
-  IMPACTS TO UPLAND CUT, EXEMPT DITCHES, AND EXEMPT PONDS (1,683 AC)
-  JURISDICTIONAL, PROTECTED WETLANDS (7.09 AC)
-  JURISDICTIONAL DITCH NOT IMPACTED (0.25 AC)

NOTES:

1. Total Acres: 136.66 AC.
2. Total Lots: 291 (Single-Family Detached)

**ACOE MASTER WETLAND IMPACT
PLAN FOR
B AND D RANCH SUBDIVISION**

HILLSBOROUGH COUNTY, FLORIDA

PREPARED FOR:

B AND D RANCH, LLC

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.89 Feet

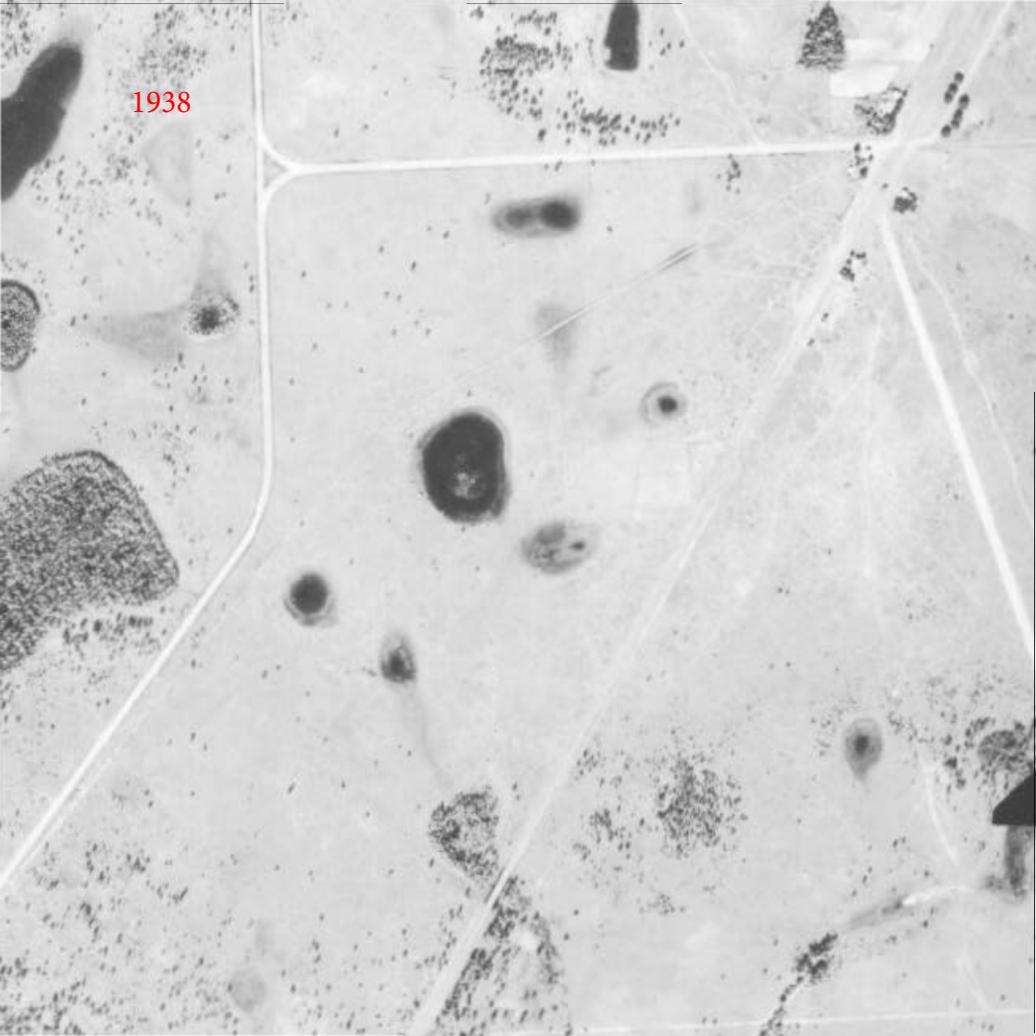
REVISIONS	
DESCRIPTION	DATE
MISC.	07-11-18

PREPARED BY:
**CLEARVIEW
LAND DESIGN, P.L.**

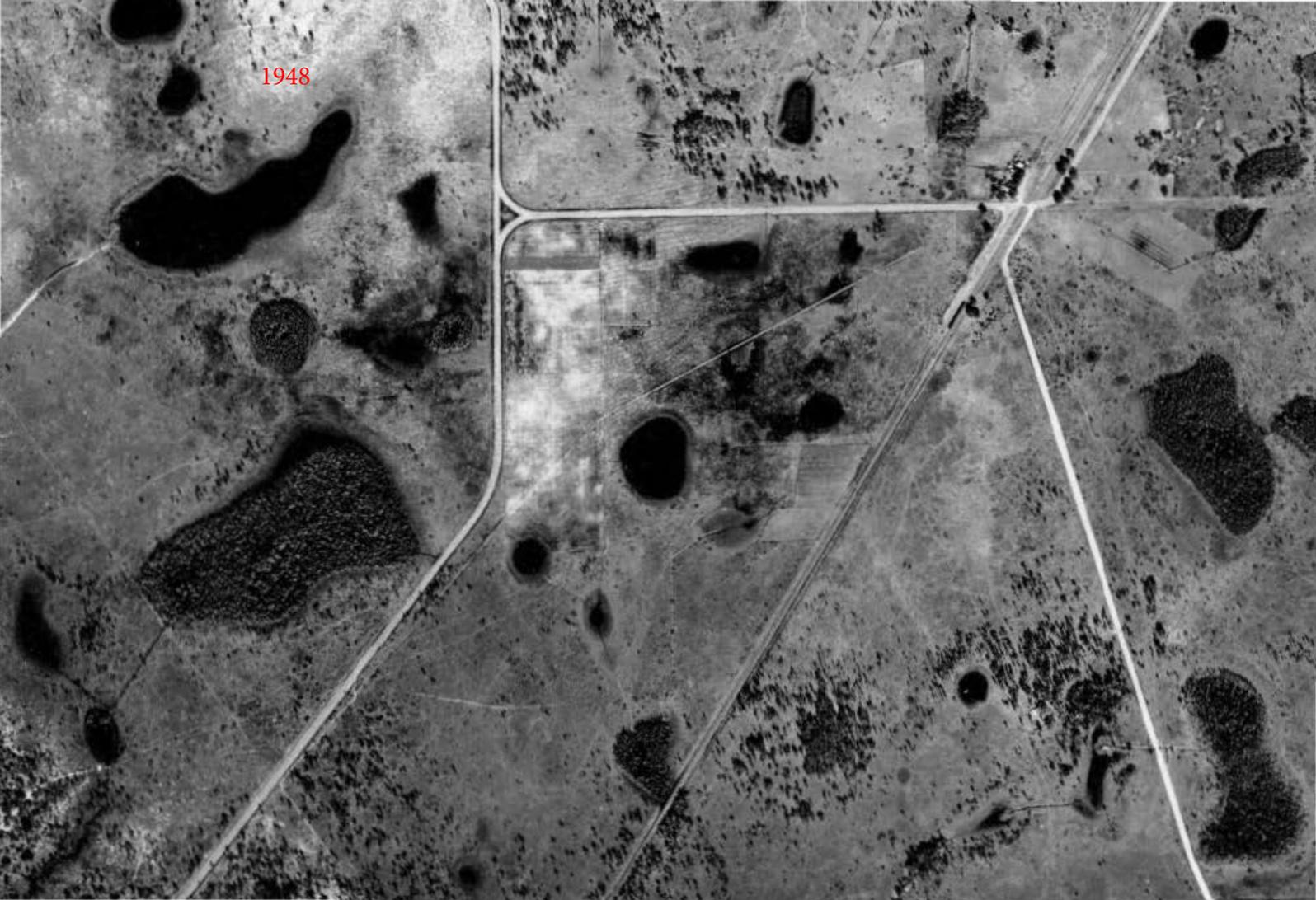
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DRAWN: DROOR	CHECKED: GOOLSBY
JOB NO.: HWB-HD-004	DATE: 01-19-18
	FILE: ACOE.DWG

1938



1948



1957



1968



NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Coastal Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Coastal Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Florida State Plane west zone (FIPSZONE 0902). The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at www.ngs.noaa.gov. Information on elevation reference marks is readily available through a variety of sources: the NGS website, www.ngs.noaa.gov/cgi-bin/datasheet.pl, the Land Boundary Information System (LABINS) maintained by the Florida Department of Environmental Protection www.labins.org, and the Hillsborough County Survey Division www.hillsboroughcounty.org/realstate/surveying/.

Base map information shown on this FIRM was derived from multiple sources. Road centerlines were provided by the City of Tampa Geographic Information System (GIS) group. These data were aligned to aerial imagery at 6-inch pixel resolution dated 2004. Surface water features were provided by the Hillsborough County Information Technology & Services GIS Section. These data were digitized from aerial imagery at 1-foot and 6-inch pixel resolution dated February 2000 and April 2004. Political boundaries were provided by the Hillsborough County Real Estate Department, Survey Division, GIS Section. These data were compiled in 2003. Public Land Survey System (range, township, and sections) were provided by the Florida Geographic Data Library. These data were produced at a scale of 1:24,000.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

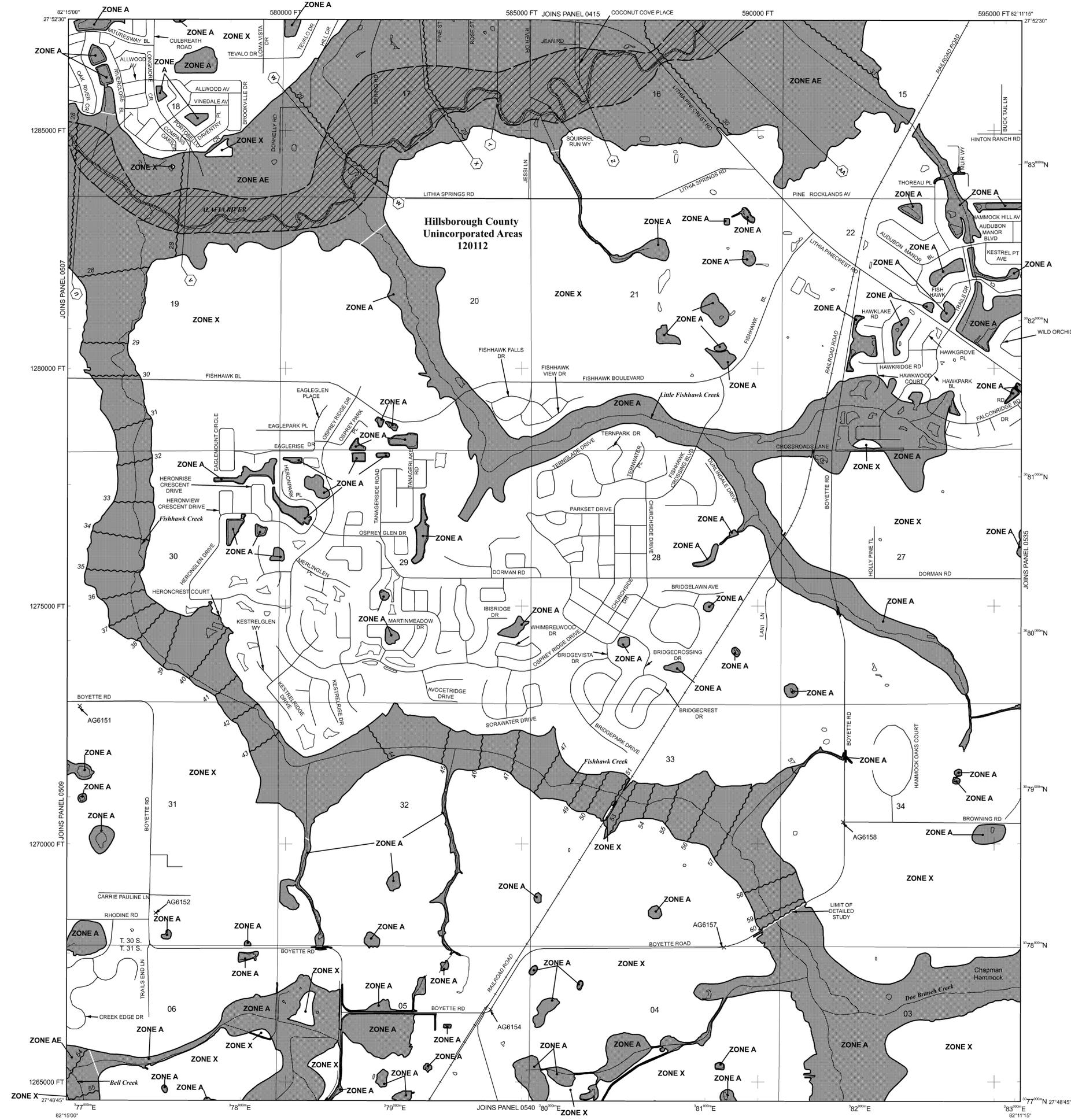
Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at <http://msc.fema.gov>.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov>.



In cooperation with the Federal Emergency Management Agency (FEMA), Hillsborough County developed this Flood Insurance Rate Map in a digital countywide format to assist communities in their efforts to minimize the loss of property and life through effectively management development in floodprone areas. Hillsborough County has implemented a long term approach to floodplain management to reduce the impacts of flooding. This is demonstrated by the County's commitment to map floodplain areas at the local level. As part of this effort, Hillsborough County is working closely with FEMA as a Cooperating Technical Partner to produce and maintain this digital FIRM.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

- ZONE A**: No Base Flood Elevations determined.
- ZONE AE**: Base Flood Elevations determined.
- ZONE AH**: Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO**: Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR**: Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance flood.
- ZONE A99**: Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V**: Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE**: Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE A

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- ZONE X**: Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D**: Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Base Flood Elevation line and value; elevation in feet* (EL. 987)
- Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- ⊕ Cross section line
- Transact line

87°07'45", 32°22'30"

76°00'N
1000-meter Universal Transverse Mercator grid values, zone NAD 83 UTM Zone 17

600000 FT
5000-foot grid ticks: Florida State Plane coordinate system, West zone (FIPSZONE 0902), Transverse Mercator projection

DX5510 x
M1.5
410285
Junction
MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
August 28, 2008

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'

500 0 1000 2000
300 0 300 600
FEET
METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0530H

FIRM
FLOOD INSURANCE RATE MAP

HILLSBOROUGH COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 530 OF 801
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HILLSBOROUGH COUNTY	120112	0530	H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
12057C0530H

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Coastal Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Coastal Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Florida State Plane west zone (FIPZONE 0902). The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/INGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at www.ngs.noaa.gov. Information on elevation reference marks is readily available through a variety of sources: the NGS website, www.ngs.noaa.gov/cgi-bin/ratasheet.pl, the Land Boundary Information System (LABINS) maintained by the Florida Department of Environmental Protection www.dep.state.fl.us, and the Hillsborough County Survey Division www.hillsboroughcounty.org/realstate/surveying/.

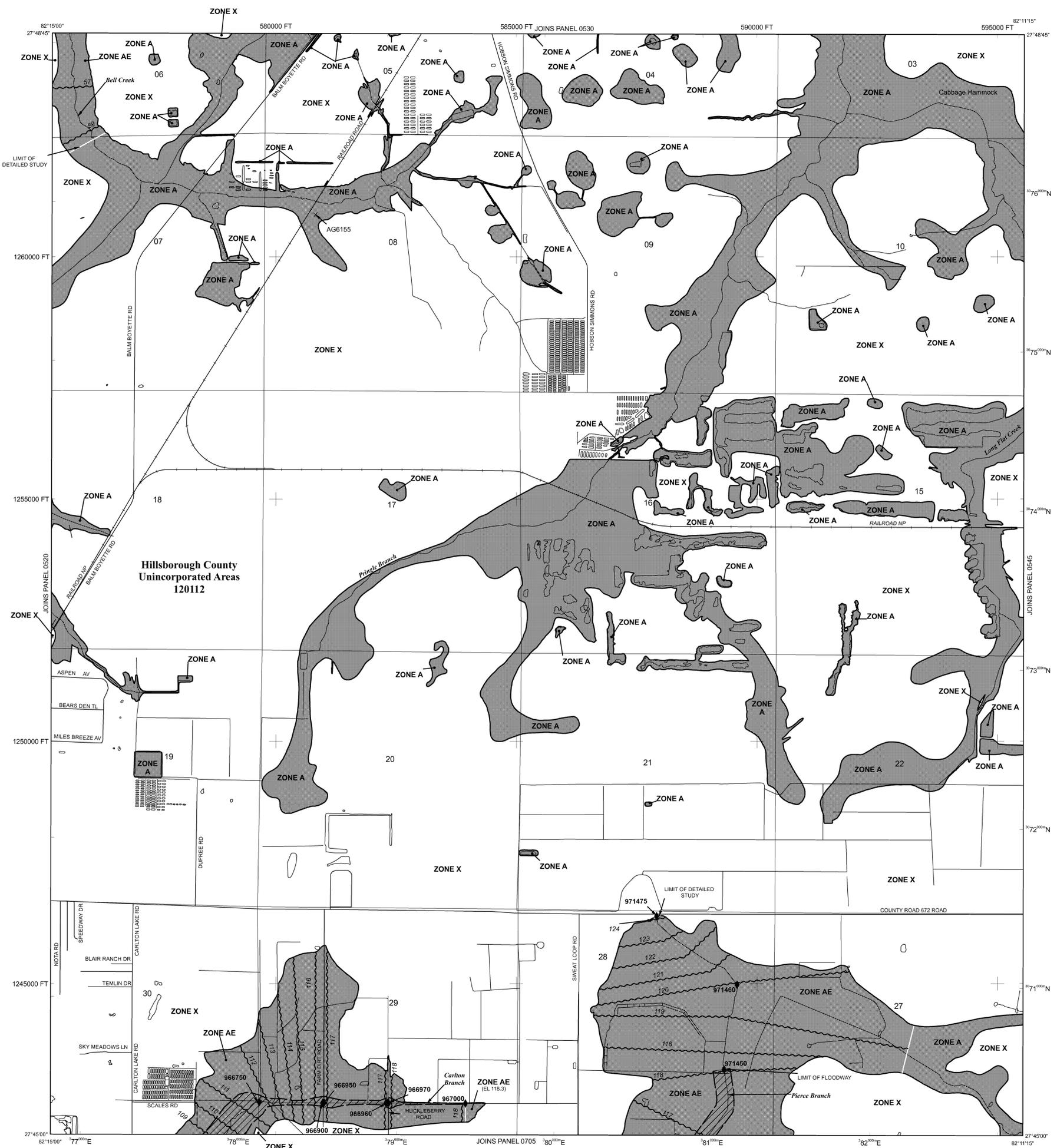
Base map information shown on this FIRM was derived from multiple sources. Road centerlines were provided by the City of Tampa Geographic Information System (GIS) group. These data were aligned to aerial imagery at 6-inch pixel resolution dated 2004. Surface water features were provided by the Hillsborough County Information Technology & Services GIS Section. These data were digitized from aerial imagery at 1-foot and 6-inch pixel resolution dated February 2000 and April 2004. Political boundaries were provided by the Hillsborough County Real Estate Department, Survey Division, GIS Section. These data were compiled in 2003. Public Land Survey System (range, township, and sections) were provided by the Florida Geographic Data Library. These data were produced at a scale of 1:24,000.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at <http://msc.fema.gov>.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov>.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, and V. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently deactivated. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D** Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Base Flood Elevation line and value; elevation in feet* (EL 987)
- Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- ⊕ Cross section line
- Transact line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 1000-meter Universal Transverse Mercator grid values, zone NAD 83 UTM Zone 17
- 600000 FT 5000-foot grid ticks: Florida State Plane coordinate system, West zone (FIPZONE 0902), Transverse Mercator projection
- DX5510 x Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 River Mile
- 410285 Junction
- MAP REPOSITORY Refer to listing of Map Repositories on Map Index
- EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP August 28, 2008
- EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'

500 0 1000 2000 FEET
300 0 300 600 METERS

In cooperation with the Federal Emergency Management Agency (FEMA), Hillsborough County developed this Flood Insurance Rate Map in a digital countywide format to assist communities in their efforts to minimize the loss of property and life through effectively management development in flood-prone areas. Hillsborough County has implemented a long term approach to floodplain management to reduce the impacts of flooding. This is demonstrated by the County's commitment to map floodplain areas at the local level. As part of this effort, Hillsborough County is working closely with FEMA as a Cooperating Technical Partner to produce and maintain this digital FIRM.

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0540H

FIRM FLOOD INSURANCE RATE MAP

HILLSBOROUGH COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 540 OF 801
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HILLSBOROUGH COUNTY	120112	0540	H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER 12057C0540H

EFFECTIVE DATE AUGUST 28, 2008

Federal Emergency Management Agency

B and D Ranch Wetland and Ditch Photos (Goolsby; 1-29-18)



Wetland A



Wetland B



Wetland C



Wetland D



Wetland SW-18



Pit 2



Ditch 1



Ditch 3



Ditch 5



Ditch 9



Ditch 11



Ditch 12



Ditch 13



Ditch 14



Ditch 15



Ditch 16



Pipe between Ditches 16 and 17



Ditches 20 and 21



Ditch 24



Ditch 25



Ditch 26

B and D Ranch COE Data Sheet Photos (Goolsby; 1-24-18)



Wetland A – Wetland soil



Wetland A at data point



Wetland A – Upland soil



Upland at Wetland A data point



Wetland B – Wetland soil



Wetland at Wetland B data point



Wetland B – Upland soil



Upland at Wetland B data point



Wetland C – Wetland soil



Wetland at Wetland C data point



Wetland C – Upland soil



Upland at Wetland C data point



Wetland D – Wetland soil



Wetland at Wetland D data point



Wetland D – Upland soil



Upland at Wetland D data point



SW-18 - Wetland soil



Wetland at SW-18 data point



SW-18 – Upland soil