# HOLLIS MARSH MITIGATION BANK

# PROSPECTUS

# SWG-2018-00425

# NEWTON COUNTY, TEXAS

DELTA LAND SERVICES

**SPONSORED BY**

**DELTA LAND SERVICES, LLC**

**February 15, 2024**

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# 1.0 INTRODUCTION

Delta Land Services, LLC (DLS) has prepared this Prospectus in accordance with 33 CFR § 332.8(d)(2)[1] to establish, operate, and maintain the proposed 282.4-acre Hollis Marsh Mitigation Bank (Bank) (**Appendix A, Figures 1 and 2**). DLS is the Bank Sponsor (Sponsor) and Ironwood Holdings, LLC is the Property Owner (**Table 1**). The Bank will provide riverine forested wetland restoration for compensatory mitigation for unavoidable, permitted impacts to "Waters of the United States" [2] per 33 CFR § 332.3 (a)(1) and 33 CFR § 332.3 (b)(1)[3]. The Bank mitigation types will be riverine forest re-establishment and rehabilitation (**Appendix A, Figure 3**).

**Table 1. Bank Sponsorship, Point of Contact, and Ownership, Hollis Marsh Mitigation Bank**

| | | | | | |
|---|---|---|---|---|---|
| Sponsor | Winship Songy, Delta land Services, LLC | Point of Contact | Chad Butler, Delta Land Services, LLC | Property Owner | Winship Songy, Ironwood Holdings, LLC |
| Mailing Address | 1090 Cinclare Dr. Port Allen, LA 70767 | Mailing Address | 3129 Kingsley Dr., Suite 820, Pearland, TX 77584 | Mailing Address | 1090 Cinclare Dr. Port Allen, LA 70767 |
| Phone Number | 225.388.5187 | Phone Number | 281.899.5596 | Phone Number | 225.388.5187 |
| Fax Number | 225.343.3200 | Fax Number | 225.343.3200 | Fax Number | 225.343.3200 |
| Email Address | Winship@deltaland-services.com | Email Address | Chad@deltaland-services.com | Email Address | Winship@deltaland-services.com |

## 1.1 SUPPORTING DOCUMENTATION

Supporting documentation is included with this Prospectus as appendices to the document. **Appendix A** includes maps and figures. **Appendix B** is the approved jurisdictional determination dated October 24, 2022. **Appendix C** presents a Cultural Resources Background Review. Appendix D is a review of the Bank boundary for potential species using USFWS' IPaC.

[1] 33 CFR § 332.8 (d) (2) summarizes the information regarding a proposed mitigation bank at a sufficient level of detail to support informed public and IRT comment. Information included (but not limited too) in a prospectus are the objectives, establishment, operation, service area, general need, technical feasibility, ownership, long-term management, sponsor qualifications, ecological suitability, and water rights.

[2] 33 CFR § 328 defines waters of the United States as it applies to the jurisdictional limits of the authority of the Corps of Engineers under the Clean Water Act. Waters of the United States include those waters listed in 33 CFR § 328(a). The lateral limits of jurisdiction in those waters may be divided into three categories (i.e., territorial seas, tidal waters, and non-tidal waters, which are further described in 33 CFR § 328.4 (a), (b), and (c).

[3] 33 CFR § 332.3 (a)(1) and 33 CFR § 332.3 (b)(1) described general compensatory mitigation requirements; resource types and location of compensatory mitigation; and watershed approach.

**Appendix E** contains a summary of title matters, documentation from the past 100 years, and survey plat. **Appendix F** contains the wetland delineation from 2018 that was completed by DESCO Environmental Consultants and verified by the U.S. Army Corps of Engineers (USACE). **Appendix G** is the approved baseline iHGM for the project. **Appendix H** is the water rights review performed by the Texas Commission on Environmental Quality (TCEQ) for the project. **Appendix I** contains a letter from Texas Land Conservancy (TLC) stating that they are committed to holding the conservation easement on the property once it is approved.

# 2.0 GOALS AND OBJECTIVES

The primary goals are long-term sustainability and conservation protection of the Bank. The primary objectives are to implement the restoration, construction and establishment phases of the Bank to meet the performance standards and long-term goals. Once the long-term performance standards are met, the Sponsor will serve as the long-term steward.

As a conservation area, the Bank will be protected by a perpetual conservation easement described in **Section 11.0** and by implementing specific management strategies such as:

- developing applicable mitigation work plans;
- utilizing predetermined monitoring schedules;
- executing prompt adaptive management practices;
- executing a perpetual-term conservation easement for long-term protection;
- establishing financial assurances for completing the construction and establishment phases; and
- establishing a secured long-term funding mechanism for annual expenditures associated with long-term monitoring, management, maintenance, and invasive species control.

The objectives are to restore (re-establish or rehabilitate) the physical, chemical, and biological functions of riverine hardwood forested wetlands (**Appendix A, Figure 3**). **Table 2** summarizes the number of acres by restoration type. Once the construction and establishment tasks are completed, the wetland functions and values will mature through time and will be self-sustaining. The Bank will provide floodwater storage, improve downstream water quality, provide wildlife habitat (native and migratory), and outdoor recreation. Although not currently included as a part of the mitigation bank credit assessment, 33.1 acres of upland buffer habitats, 1.1-acres (2,745 linear feet [lf]) of relatively permanent waters (RPW), and a 0.4-acre water body (pond) will be protected.

**Table 2. Resource Restoration Types and Non-mitigation Areas, Hollis Marsh Mitigation Bank**

| Resource Type | Re-establishment Acres | Rehabilitation Acres | Non-mitigation Areas | Totals |
|---|---|---|---|---|
| **Riverine Wetland Forest** | 9.1 | 236.0 | 0.0 | 245.1 |
| **Upland (inclusions)** | 0.0 | 0.0 | 33.1 | 33.1 |
| **Relatively Permanent Water RPW** | 0.0 | 0.0 | 1.1 | 1.1 |
| **Pond Inclusion** | 0.0 | 0.0 | 0.4 | 0.4 |
| **Access/ Pipeline Easements** | 0.0 | 0.0 | 2.7 | 2.7 |
| **Totals** | **9.1** | **236.0** | **37.3** | **282.4** |

# 3.0 PROJECT LOCATION

The Bank is in Newton County, Texas within the Lower Sabine Subbasin and located in the South-Central Plains Level III Ecoregion (Seaber et al. 1987, Griffith et al. 2007, EPA 2012). The Bank is traversed by Hollis Marsh (an intermittent stream) and an unnamed tributary/swale to Hollis Marsh (**Appendix A, Figure 2**). The Bank is approximately 5.0 miles east-south-east of Buna, Texas with an approximate center point of Latitude 30.401870° and Longitude -93.878589° *(*UTM 415604.00, 415604.00*)*.

## 3.1 DRIVING DIRECTIONS

To access the Bank by automobile, from the intersection of State Highway (SH) 12 and SH 62 in Mauriceville, Texas, head northwest on SH 62 for approximately 16.4 miles. Turn right (east) onto Farm-to-Market (FM) 253 and continue for approximately 3.8 miles and then turn right (south) onto County Road (CR) 737. Proceed south on CR 737 (also known as Sheppard Road) for approximately 2.6 miles to latitude 30.396918°, longitude -93.886843°, at this location, there is an access gate leading east into the Bank.

# 4.0 BASELINE CONDITIONS

The Bank is in Newton County, which is rural with timber and agriculture (cattle) being the dominant land uses. Newton County has a humid subtropical climate with hot, humid summers and mild to cool winters. The average annual precipitation is 57.5 inches, and the average annual temperature is 65.8° Fahrenheit. The growing season is year-round with soil temperatures never dropping below freezing (NOAA 2023). Within one-mile of the Bank boundary, approximately 5.4% of the land use is developed, the remaining land uses consist of forests, woody wetlands, scrub-shrub herbaceous, or agriculture (**Appendix A, Figure 4**).

The Bank is in the South-Central Plains (35) Level 3 Ecoregion and the Flatwoods (35f) Level 4 Ecoregion (Omernik 1995) (**Appendix A, Figure 5**). Approximately 63% of the Bank area is within the FEMA 2018 designated flood zone A or 100-year floodplain of Hollis Marsh (**Appendix A, Figure 6).**

Prior to 1939, the Bank acreage was cleared and appeared to have a mima mound topography throughout (**Appendix A, Figure 7**). From 1952 through 1981, the area became a scrub-shrub-forested habitat (**Appendix A, Figures 8-9**). At some point between 1981 and 1996, the land was cleared and wind-rowed (**Appendix A, Figures 9-10**). From 2012 to 2022 and in its current condition, the Bank consists of a semi-forested habitat that is heavily colonized by Chinese tallow (*Triadica sebifera*) and loblolly pine (*Pinus taeda*) (**Appendix A, Figures 11-12**).

Following the guidelines of the U. S. Army Corps of Engineers 1987 Wetland Delineation Manual (USACE 1987) and U.S. Army Corps of Engineers Regional Supplement for the Atlantic and Gulf Coastal Plain (AGCP Regional Supplement; USACE 2010), wetland delineation data was collected from the entire tract (**Appendix F**). The delineation identified approximately 238.5 acres of potentially jurisdictional wetlands and approximately 1.50 acres of other waters of the United

States (streams and ponds). DLS received the Approved Jurisdictional Determination (AJD) on October 24, 2022 (SWG-2018-00425 **[Appendix B**]). Large and small portions of the Bank are mapped as Palustrine Emergent wetlands (PEM) by the U.S. Fish and Wildlife Service National Wetlands Inventory (USFWS 2023) [**Appendix A, Figure 13**].

## 4.1 TOPOGRAPHY

The natural topography slopes (≤ 1%) from north to south and eventually drains into the Hollis marsh stream channel. Natural elevation ranges from about 41 feet to above 58 feet North American Vertical Datum (USGS 2023) above sea level. The Bank is depicted on the U.S. Geological Survey (USGS) topographic and light detection and ranging (LIDAR) maps in **Appendix A, Figures 2** and **14**.

## 4.2 SOILS

The Bank soils are characterized as potentially having hydric components (NRCS 2023[a,b,c] [**Appendix A, Figure 15; Table 3**). For the wetland delineation report prepared for the AJD, 19 of the 20 data points contained hydric soil indicators regardless of the soil mapping unit, which depleted matrix (F3) was the hydric soil field indicator observed at all 19 of these data points. Generally, the silty loam soils that underlain the Bank are dense and allow for moderate groundwater flow.

**Table 3. Soil Mapping Units and Hydric Descriptors for the Hollis Marsh Mitigation Bank**

| Soil Symbol[1] | Mapping Unit Name | Ponding | Drainage Class | Hydric Rating (%) |
|---|---|---|---|---|
| CamA | Camptown silt loam, 0 to 1 percent slopes | Yes | Very Poorly Drained | 100 |
| EvaA | Evadale silt loam, 0 to 1 percent slopes | No | Poorly Drained | 90 |
| KibB | Kirbyville fine sandy loam, 0 to 2 percent slopes | No | Moderately Well Drained | 5 |
| KinB | Kirbyville-Niwana complex, 0 to 2 percent slopes | No | Moderately Well to Well Drained | 10 |
| NonA | Nona-Dallardsville complex, 0 to 1 percent slopes | No | Poorly to Moderately Well Drained | 70 |
| OtaB | Otanya very-fine sandy loam, 1 to 3 percent slopes | No | Well Drained | 1 |
| SovA | Sourlake loam, 0 to 1 percent slopes, frequently flooded | No | Poorly Drained | 100 |
| VigA | Vidor-Gist complex, 0 to 1 percent slopes | No | Poorly to Moderately Well Drained | 80 |
| WarA | Waller-Dallardsville complex, 0 to 1 percent slopes | No | Poorly to Moderately Well Drained | 60 |

[1] Natural Resources Conservation Service [NRCS] (2023) Web Soil Survey, Version 3.3.2 [website]. U.S. Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey. Accessed October 25, 2023. Available URL: https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

## 4.3 HYDROLOGY

Approximately two-thirds of the Bank is located within the floodplain of the Hollis Marsh RPW (**Appendix A, Figure 6**). The primary hydrological influences are downslope, sheetflow from the

western, northern, and eastern adjacent hillsides, overbank flooding from Hollis Marsh RPW, shallow groundwater, and rainfall. The average annual rainfall in Newton County is approximately 57.5 inches (NOAA 2023). Two unnamed tributary drainageways flow into the Bank from the northwest and northeast to Hollis Marsh (**Appendix A, Figures 7-12 aerials**). The drainage ways possess degraded riparian buffers, which are heavily colonized by Chinese tallow. Numerous windrows created during historic logging events restrict natural sheet flow and prevent overbank flooding from Hollis Marsh from reaching some portions of the site (**Appendix A, Figures 9-12**). Livestock trampling and uncontrolled grazing have unimpeded the drainage ways and Hollis Marsh, which is causing the following: erosion, poor water quality, and severely limiting aquatic organism productivity.

As indicated by the AJD, approximately 88% of the Bank acreage is a jurisdictional wetland that remains inundated or saturated to sufficiently support wetland hydrology (**Appendix B; Table 3**). Much of the Bank remains saturated to sufficiently support wetland hydrology. Fifteen of the 20 wetland sample points exhibited wetland hydrology indicators. The two most common primary wetland hydrology indicators observed were oxidized rhizospheres (C3) and saturation (A3). The two most dominant secondary wetland hydrology indicators observed were crayfish burrows (C8) and the FAC-neutral test (D5) [**Appendix F**].

## 4.4 Vegetation

The Bank consists primarily of habitat dominated by pioneer and invasive woody species which are comprised of Chinese tallow and loblolly pine that has encroached from adjacent pine plantations (**Appendix F**). Tree density varies throughout the Bank, depending on hydrology, soil type, landscape position, and prior timber removal.

The portions of the Bank with woody vegetation communities generally occur on elevations with temporarily to seasonally flooded/saturated hydrologic conditions. These woody areas are dominated by loblolly pine and Chinese tallow. Common shrubs in this vegetation community include wax myrtle (*Morella cerifera*) along with small seedlings of the dominant tree species. Common ground cover species include Indian wood-oats (*Chasmanthium latifolium*), narrow-leaf carpet grass (*Axonopus fissifolius*), wooly rosette grass (*Dichanthelium scabriusculum*), Florida crown grass (*Paspalum floridanum*) and greater bladder sedge (*Carex intumescens*).

The more herbaceous to slightly shrubby wetland portions of the Bank are dominated by the following species: narrow-leaf carpet grass, wooly rosette grass, pineland beak sedge (*Rhynchospora perplexa*), slender fimbry (*Fimbristylis autumnalis*), and bushy bluestem *(Andropogon glomeratus*). Within the wettest portions of this habitat type, the following species were commonly observed: marsh mermaidweed (*Proserpinaca palustris*), coastal-plain yellow-eyed-grass (*Xyris ambigua*), and swamp smartweed (*Polygonum hydropiperoides*). Throughout the Bank, the shrub layer is dominated by Chinese tallow, loblolly pine, and wax myrtle.

| Table 3. Existing Wetland Resource Types within the Hollis Marsh Mitigation Bank, Newton County, Texas | | |
|---|---|---|
| **Resource Type** | **Linear feet in Project Area** | **Acres in Project Area** |
| **Wetland** | - | 238.2 |
| **Upland** | - | 42.7 |
| **RPW** | 2,745 | 1.1 |
| **Pond** | - | 0.4 |
| **Totals:** | | 282.4 |

#### 4.4.2 NON-WETLAND HABITATS

In the non-wet pine mixed hardwood vegetation community, loblolly pine was a dominant or co-dominant species, while other species, such as Chinese tallow, sweetgum, and black cherry (*Prunus serotina*) were observed. Common shrubs include yaupon (*Ilex vomitoria*), wax myrtle, and seedlings of the dominant tree species. Ground cover in this vegetation community tends to be very sparse, and the dominant species consists of slender wood-oats (*Chasmanthium laxum*), Indian wood-oats, saw-tooth blackberry (*Rubus argutus*), and poison ivy (*Toxicodendron radicans*).

### 4.5 CULTURAL RESOURCES

A desktop and literature assessment were conducted for the Project in November 2023 that included a review of the Texas Historical Commission (THC)'s Texas Archeological Sites Atlas (Atlas) online database and the National Register of Historic Places (NRHP) database to identify previously recorded cultural resource sites, historic structures, properties listed in the NRHP, designated historic districts, or State Antiquities Landmarks (SAL). Previously recorded cultural resource site forms, reports of archaeological investigations, general historical documents, and secondary sources concerning the background of the area were reviewed. The records search included a review of all previously recorded site forms, cemetery data, and surveys on file within a 1.0- mi (1.6-km) review radius of the Project. In addition to a records and literature search, soil data, USGS 7.5-minute topographic quadrangles, aerial photographs, and contemporary geologic and physiographic features were also examined.

The background review revealed that no previously recorded archeological sites, cemeteries, or National Register Districts are mapped within the Project area. The background review further revealed that no previously recorded archeological sites, cemeteries, or historic districts or structures are mapped within the broader 1.0-mi (1.6-km) review radius. One linear survey is mapped within the review radius. A copy of the desktop assessment is provided in **Appendix C**.

## 4.5 ENDANGERED SPECIES

Restoring the Bank will increase the acreage of the Hollis Marsh riparian corridor and reduce wetland habitat fragmentation. As the Bank matures, it will benefit wildlife, some of which may be imperiled or vulnerable. Bank restoration will not negatively impact listed species. A review using the Information for Planning and Consulting (IPAC) revealed seven potential species occurring in Newton, County. Three currently listed species, the red cockaded woodpecker (*Picoides borealis*), rufa red knot (*Calidris canutus rufa*), and piping plover (*Charadrius melodus*) have no potential to occur within the Bank (**Appendix D**). During field data collection efforts, federal and state listed species (species) were not observed. However, should a species be identified during restoration, work activities will be adjusted or delayed until the individual(s) relocates. TPWD (2024)[4] lists several state species inhabiting Newton County, Texas that are Critically imperiled (S1); Imperiled (S2), or Vulnerable (S3) (Table 4).

- S1 - Critically Imperiled; At very-high risk of extirpation in the jurisdiction due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors.

- S2 - Imperiled; At high risk of extirpation in the jurisdiction due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.

- S3 - Vulnerable; At moderate risk of extirpation in the jurisdiction due to a fairly-restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.

**Table 4. Rare, Threatened, and Endangered Species, Newton County, Texas (Texas Parks and Wildlife Website; https://tpwd.texas.gov/gis/rtest/; updated January 29, 2024.**

| AMPHIBIANS | | |
|---|---|---|
| eastern tiger salamander | *Ambystoma tigrinum* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S3 |
| | | |
| Gulf Coast waterdog | *Necturus beyeri* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: GNR | State Rank: S3 |
| | | |
| southern crawfish frog | *Lithobates areolatus areolatus* | |

[4] Texas Parks and Wildlife Annotated Lists of Rare Species. https://tpwd.texas.gov/gis/rtest/ Accessed 1/29/2024.

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| | | |
|---|---|---|
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G4T4 | State Rank: S3 |
| | | |
| spotted dusky salamander | *Desmognathus conanti* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S1 |
| | | |
| Strecker's chorus frog | *Pseudacris streckeri* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S3 |
| | | |
| Woodhouse's toad | *Anaxyrus woodhousii* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: SU |
| | | |
| | BIRDS | |
| Bachman's sparrow | *Peucaea aestivalis* | |
| Federal Status: N/A | State Status: T | SGCN: Y |
| Endemic: N | Global Rank: G3 | State Rank: S1B |
| | | |
| bald eagle | *Haliaeetus leucocephalus* | |
| Federal Status: DL | State Status: E | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S3B,S3N |
| | | |
| Franklin's gull | *Leucophaeus pipixcan* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S2N |
| | | |
| piping plover | *Charadrius melodus* | |
| Federal Status: LT | State Status: T | SGCN: Y |
| Endemic: N | Global Rank: G3 | State Rank: S2N |
| | | |
| red-cockaded woodpecker | *Dryobates borealis* | |
| Federal Status: LE | State Status: E | SGCN: Y |
| Endemic: N | Global Rank: G3 | State Rank: S2 |
| | | |
| Sprague's pipit | *Anthus spragueii* | |

**Table 4. Rare, Threatened, and Endangered Species, Newton County, Texas (Texas Parks and Wildlife Website; https://tpwd.texas.gov/gis/rtest/; updated January 29, 2024.**

| | | |
|---|---|---|
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G3G4 | State Rank: S3N |
| | | |
| swallow-tailed kite | *Elanoides forficatus* | |
| Federal Status: N/A | State Status: T | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S2B |
| | | |
| white-faced ibis | *Plegadis chihi* | |
| Federal Status: N/A | State Status: T | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S4B |
| | | |
| wood stork | *Mycteria americana* | |
| Federal Status: N/A | State Status: T | SGCN: Y |
| Endemic: N | Global Rank: G4 | State Rank: SHB, S2N |
| | | |
| | FISH | |
| American eel | *Anguilla rostrata* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G4 | State Rank: S4 |
| | | |
| blackspot shiner | *Notropis atrocaudalis* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G4 | State Rank: S3 |
| | | |
| Mississippi silvery minnow | *Hybognathus nuchalis* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: | Global Rank: G5 | State Rank: S4 |
| | | |
| paddlefish | *Polyodon spathula* | |
| Federal Status: N/A | State Status: T | SGCN: Y |
| Endemic: N | Global Rank: G4 | State Rank: S3 |
| | | |
| river darter | *Percina shumardi* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: | Global Rank: G5 | State Rank: S4 |
| | | |
| Sabine shiner | *Notropis sabinae* | |

**Table 4. Rare, Threatened, and Endangered Species, Newton County, Texas (Texas Parks and Wildlife Website; https://tpwd.texas.gov/gis/rtest/; updated January 29, 2024.**

| | | |
|---|---|---|
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G4 | State Rank: S3 |
| | | |
| silverband shiner | *Notropis shumardi* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S4 |
| | | |
| western creek chubsucker | *Erimyzon claviformis* | |
| Federal Status: N/A | State Status: T | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S2S3 |
| | | |
| western sand darter | *Ammocrypta clara* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G3 | State Rank: S3 |
| | | |
| | INSECTS | |
| arrowhead stripetail | *Isoperla sagittata* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: Y | Global Rank: G1 | State Rank: S1 |
| | | |
| monarch butterfly | *Danaus plexippus* | |
| Federal Status: | State Status: N/A | SGCN: Y |
| Endemic: Y | Global Rank: G3G4 | State Rank: N/A |
| | | |
| | MAMMALS | |
| big brown bat | *Eptesicus fuscus* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S5 |
| | | |
| black bear | *Ursus americanus* | |
| Federal Status: N/A | State Status: T | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S3 |
| | | |
| eastern red bat | *Lasiurus borealis* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G3G4 | State Rank: S4 |
| | | |

**Table 4. Rare, Threatened, and Endangered Species, Newton County, Texas (Texas Parks and Wildlife Website; https://tpwd.texas.gov/gis/rtest/; updated January 29, 2024.**

| | | |
|---|---|---|
| eastern spotted skunk | *Spilogale putorius* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G4 | State Rank: S1S3 |
| | | |
| hoary bat | *Lasiurus cinereus* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G3G4 | State Rank: S3 |
| | | |
| long-tailed weasel | *Mustela frenata* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S5 |
| | | |
| Louisiana black bear | *Ursus americanus luteolus* | |
| Federal Status: DL | State Status: T | SGCN: Y |
| Endemic: N | Global Rank: G5T2 | State Rank: SNA |
| | | |
| mountain lion | *Puma concolor* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S2S3 |
| | | |
| muskrat | *Ondatra zibethicus* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S5 |
| | | |
| northern yellow bat | *Lasiurus intermedius* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S4 |
| | | |
| Rafinesque's big-eared bat | *Corynorhinus rafinesquii* | |
| Federal Status: N/A | State Status: T | SGCN: Y |
| Endemic: N | Global Rank: G3G4 | State Rank: S2 |
| | | |
| southeastern myotis bat | *Myotis austroriparius* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G4 | State Rank: S3 |
| | | |
| swamp rabbit | *Sylvilagus aquaticus* | |

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| | | |
|---|---|---|
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S5 |
| | | |
| tricolored bat | *Perimyotis subflavus* | |
| Forest woodland, and riparian areas are important. Caves are very- important to this species. | | |
| Federal Status: PE | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G3G4 | State Rank: S2 |
| | | |
| | MOLLUSKS | |
| Louisiana pigtoe | *Pleurobema riddellii* | |
| Federal Status: PT | State Status: T | SGCN: Y |
| Endemic: N | Global Rank: G1G2 | State Rank: S1 |
| | | |
| sandbank pocketbook | *Lampsilis satura* | |
| Federal Status: N/A | State Status: T | SGCN: Y |
| Endemic: | Global Rank: G2 | State Rank: S1 |
| | | |
| southern hickorynut | *Obovaria arkansasensis* | |
| Federal Status: N/A | State Status: T | SGCN: Y |
| Endemic: N | Global Rank: GNR | State Rank: S1 |
| | | |
| Texas heelsplitter | *Potamilus amphichaenus* | |
| Federal Status: N/A | State Status: T | SGCN: Y |
| Endemic: N | Global Rank: G1G3 | State Rank: S1 |
| | | |
| Texas pigtoe | *Fusconaia askewi* | |
| Federal Status: N/A | State Status: T | SGCN: Y |
| Endemic: N | Global Rank: G2? | State Rank: S2S3 |
| | | |
| | REPTILES | |
| alligator snapping turtle | *Macrochelys temminckii* | |
| Federal Status: PT | State Status: T | SGCN: Y |
| Endemic: N | Global Rank: G3 | State Rank: S2 |
| | | |
| eastern box turtle | *Terrapene carolina* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |

**Table 4. Rare, Threatened, and Endangered Species, Newton County, Texas (Texas Parks and Wildlife Website; https://tpwd.texas.gov/gis/rtest/; updated January 29, 2024.**

| | | |
|---|---|---|
| Endemic: N | Global Rank: G5 | State Rank: S3 |
| | | |
| Louisiana pine snake | *Pituophis ruthveni* | |
| Federal Status: LT | State Status: T | SGCN: Y |
| Endemic: N | Global Rank: G1G2 | State Rank: S1 |
| | | |
| northern scarlet snake | *Cemophora coccinea* | |
| Federal Status: N/A | State Status: T | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S4 |
| | | |
| pygmy rattlesnake | *Sistrurus miliarius* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S2S3 |
| | | |
| slender glass lizard | *Ophisaurus attenuatus* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S3 |
| | | |
| smooth softshell | *Apalone mutica* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S3 |
| | | |
| Texas indigo snake | *Drymarchon melanurus erebennus* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G5T4 | State Rank: S4 |
| | | |
| timber (canebrake) rattlesnake | *Crotalus horridus* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G4 | State Rank: S4 |
| | | |
| western box turtle | *Terrapene ornata* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G5 | State Rank: S3 |
| | | |
| | PLANTS | |
| bog coneflower | *Rudbeckia scabrifolia* | |

**Table 4. Rare, Threatened, and Endangered Species, Newton County, Texas (Texas Parks and Wildlife Website; https://tpwd.texas.gov/gis/rtest/; updated January 29, 2024.**

| | | |
|---|---|---|
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G3G4 | State Rank: S2 |
| | | |
| Drummond's yellow-eyed grass | *Xyris drummondii* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G3G4 | State Rank: S2 |
| | | |
| giant spiral ladies'-tresses | *Spiranthes longilabris* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G3 | State Rank: S1 |
| | | |
| goldenwave tickseed | *Coreopsis intermedia* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G3 | State Rank: S3 |
| | | |
| incised groovebur | *Agrimonia incisa* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G3 | State Rank: S3 |
| | | |
| large beakrush | *Rhynchospora macra* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G3G4 | State Rank: S2 |
| | | |
| long-sepaled false dragon-head | *Physostegia longisepala* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G2G3 | State Rank: S2 |
| | | |
| Mohlenbrock's sedge | *Cyperus grayioides* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G3G4 | State Rank: S3S4 |
| | | |
| nodding yucca | *Yucca cernua* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: Y | Global Rank: G2 | State Rank: S1 |
| | | |

**Table 4. Rare, Threatened, and Endangered Species, Newton County, Texas (Texas Parks and Wildlife Website; https://tpwd.texas.gov/gis/rtest/; updated January 29, 2024.**

| | | |
|---|---|---|
| panicled indigobush | *Amorpha paniculata* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G3 | State Rank: S3 |
| | | |
| roughleaf yellow-eyed grass | *Xyris scabrifolia* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G3 | State Rank: S2 |
| | | |
| scarlet catchfly | *Silene subciliata* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G3 | State Rank: S3 |
| | | |
| slender gay-feather | *Liatris tenuis* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G3 | State Rank: S3 |
| | | |
| Southern lady's-slipper | *Cypripedium kentuckiense* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G3 | State Rank: S1 |
| | | |
| Texas screwstem | *Bartonia paniculata ssp. texana* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G2G3 | State Rank: S2S3 |
| | | |
| tiny bog button | *Lachnocaulon digynum* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G3G4 | State Rank: S1 |
| | | |
| white firewheel | *Gaillardia aestivalis var. winkleri* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: Y | Global Rank: G5T2 | State Rank: S2 |
| | | |
| yellow fringeless orchid | *Platanthera integra* | |
| Federal Status: N/A | State Status: N/A | SGCN: Y |
| Endemic: N | Global Rank: G3G4 | State Rank: S1 |

# 5.0 ESTABLISHMENT AND OPERATION

## 5.1 RESTORATION PLAN

Wetland restoration (i.e., re-establishment and rehabilitation) will be accomplished through the cessation of all agricultural practices (e.g., livestock production), returning the soil surface to natural topography by removing windrow spoil deposits, site planting preparation (e.g., controlling introduced species, deep ripping, and surface disking), and the afforestation[5] of native wetland species. Hydrologic restoration will increase surface water retention, soil saturation, reduce nonpoint source runoff, and improve water quality through nutrient immobilization (uptake) by vegetation. The plant community will be restored as riverine forested wetlands.

## 5.2 HYDROLOGY RESTORATION

All agricultural/grazing activities will cease prior to construction of the PFO mitigation area, and Chinese tallow and loblolly pine will be mechanically and chemically removed. In the current condition, the majority of the Bank has self-sustaining wetland hydrology as indicated by the data collected from the wetland delineation (**Appendix F**). Following the cessation of cattle grazing, the windrows that block sheet flow from east to west across the property will be removed (**Appendix A, Figures 17-19**). Removal of the windrows will restore natural sheet flow and overbank flooding patterns (**Appendix A, Figure 17**). Additionally, the windrows are situated in wetland areas, once removed, the windrows will re-establish wetland hydrology at those locations (**Appendix 18 and 19** a-d). After removal of the windrows, the Bank will be disked (cultivated) at least twice to reduce surface compaction if the site conditions are conducive at the time of preparation to increase percolation rates, and eliminate competition from pasture grasses (e.g., Bahia grass [*Paspalum notatum*] and Bermuda grass [*Cynodon dactylon*]).

The soil surface will be subsoiled (i.e., ripped) at 10-foot intervals to a depth of 14 to 16 inches using a straight shank Eco-Till™ ripper, which will increase water infiltration and prepare the PFO planting bed (Allen et al. 2000). The ripped furrows will correspond with plant spacing, and the straight shank minimizes surface soil disturbance as opposed to a parabolic shank, which may leave air pockets below the surface. The ripper will have shank attachment to create a slightly elevated row of loose soil no greater than 6 inches above grade. The loose soil will settle back into the rip to seal the rip and minimize the risk of root exposure to air. Due to inherent problems of cultivating and ripping on wet soils, this work is planned during dry periods in the late summer and fall (i.e., August through October). However, if site conditions are too wet to subsoil and

[5] The Society of American Foresters Dictionary of Forestry (http://dictionaryofforestry.org) defines afforestation as *the establishment of a forest or stand in an area where the preceding vegetation or land use was not forest —see deforestation, reforestation, regeneration, stand establishment.*

rip, then site prep will consist of the application of herbicide of unwanted trees and burning to allow access to a planting bed.

## 5.4 SITE PREPARATION AND PLANTING

The forested wetland community will be re-established or re-habilitated through heavy planting of native hardwood seedlings (i.e., 436 stems per acre of hard and soft mast). The restoration areas (wetland) will be chemically spot-treated for invasive species.

### 5.4.1 RIVERINE WETLAND FOREST REHABILITATION AND RE-ESTABLISHMENT

Site preparation will consist of exotic / nuisance species removal and afforesting[6] the open areas created by this treatment. Exotic / nuisance species will be removed / controlled with herbicide (e.g., broadcast and spot spraying). Once the initial control treatment is completed, remaining, sprouting, or germinating stems will be spot treated again.

**Table 5. Potential Planting List for the Proposed Bank**

| Common Name | Scientific Name | Wetland Indicator Status | Common Name | Scientific Name | Wetland Indicator Status |
|---|---|---|---|---|---|
| Water oak | *Quercus nigra* | FAC | Blackgum | *Nyssa sylvatica* | FAC |
| Willow oak | *Quercus phellos* | FACW | Sweetgum | *Liquidambar styraciflua* | FAC |
| Swamp Chestnut oak | *Quercus michauxii* | FACW | Sweetbay | *Magnolia virginiana* | FACW |
| Bald cypress | *Taxodium distichum* | OBL | American hornbeam | *Carpinus caroliniana* | FAC |
| River birch | *Betula nigra* | FACW | Hazel alder | *Alnus serrulata* | FACW |
| Swamp tupelo | *Nyssa biflora* | OBL | Laurel oak | *Quercus laurifolia* | FACW |

To restore the native forest and provide added exotic / nuisance species control, rehabilitation and re-establishment areas will be afforested with native species referenced on site and with wetland indicator statuses of FAC or wetter listed in **Table 4**. The proposed planting species list is comprised of the tree species identified from the vegetation reference point and tree species that occur within similar habitats in Newton County (**Appendix A, Figure 3**). Planting will occur from January through February at a rate of 436 stems per acre on approximately 10-foot centers. If soil conditions allow, the soil surface will be subsoiled to a depth of 14 to 16 inches to create a seedling planting bed (Allen et al. 2001). If soils conditions allow, prior to subsoiling, restoration areas will be disked and a pre-emergent herbicide will be applied to control invading grasses and broadleaf species. Seedlings will be pre-mixed at an off-site location to ensure species distribution during

planting. The planting ratio of hard to soft mast will be approximately 65:35, which will consist of at least nine (9) of the 13 reference species (**Table 4**).

Due to the number of hardwood stems required to plant the Bank, tree and shrub seedlings will be provided by commercial nurseries using source seed collected within similar temperature regimes and plant hardiness zones within the South-Central Plains Level III Ecoregion. (USEPA 2003). However, the availability of tree seedlings for afforesting is often a limiting factor and is determined by seedling availability and cost.

### 5.4.5 UPLAND BUFFER RESTORATION

To restore the native forest and provide added exotic / nuisance species control, upland buffer areas will be afforested with native species referenced on site and with wetland indicator statuses of FAC and facultative upland (FACU) and upland (UPL) species referenced at the site or within similar habitats in the county. Areas currently colonized by native trees and shrubs in low numbers or where removal of invasive species leaves the area devoid of trees, the area will be interplanted. Additional trees that could be used in the upland buffer include white oak (*Quercus alba*), southern red oak (*Quercus falcata*), post oak (*Quercus stellata*), shagbark hickory (*Carya ovata*), black gum (*Nyssa sylvatica*), pecan (*Carya illinoensis*), and slippery elm (*Ulmus rubra*). Planting will occur from January through February. Seedlings will be pre-mixed on an off-site location to ensure mixed species distribution during planting.

## 5.6 MONITORING AND MANAGEMENT

Through the initial, interim, and long-term Bank phases, the Sponsor will monitor and manage all aspects of the Bank. The Sponsor will use prudent efforts, (i.e., physical, chemical, or mechanical) to eliminate existing noxious and/or invasive vegetation currently listed by the Texas Department of Agriculture Noxious and Invasive Plant List (Title 4, Part 1, Chapter 19, Subchapter T, §19.300 of the Texas Administrative Code) (TDA 2007). In addition to invasive plants species, the Sponsor will implement techniques / methods to control nuisance, invasive wildlife species (e.g., feral hogs; *Sus scrofa*).

Following completion of construction activities, the Bank will be monitored and inspected annually for invasive species colonization and abiotic / biotic factors affecting tree or herbaceous-shrub establishment and growth. Wetland hydrology will be monitored through the placement of water-level recorders. Monitoring will determine if adaptive management measures, such as replanting, need consideration. The Sponsor anticipates that invasive species control will be implemented annually over the first five (5) years following construction and as-needed following Year 5. The Sponsor will continue to monitor the Bank through annual inspections to document the following:

- the effectiveness of control efforts;
- the extent and degree of exotic / nuisance species present;
- the extent and degree of any herbivory or insect damage;
- the extent and degree of adverse climate impacts (i.e., drought); and
- boundary maintenance (e.g., gates, signage, fencing, boundary marking, etc.).

Following such monitoring, exotic / nuisance species control will be implemented as necessary, and boundary maintenance will likely occur at five-year intervals.

# 6.0 PROPOSED SERVICE AREA

The primary and secondary service areas[7] are shown in **Appendix A, Figure 16.** The primary service area consists of the Lower Sabine HUC (12010005), and the secondary service will consist of the portion of the Toledo Bend Reservoir HUC (12010004) that occurs within the Galveston District (CESWG) (**Appendix A, Figure 16**). The two HUCs within the service area contain a substantial amount of wetland area that could be affected by future projects. Roadways, railways, pipelines, transmission lines and other developments have recently impacted wetlands in the proposed service area of the Bank. The proposed secondary service area encompasses a small portion of the Toledo Bend Reservoir HUC. This secondary HUC within the Galveston District boundary occupies a small area of land (<60,000 acres) that would likely not be occupied by a future bank located in the Toledo Bend Reservoir HUC. Thus, to ensure coverage of this area; the Bank is proposing to service this HUC as the secondary service area. Additionally, numerous pipeline corridors, powerline easement, roadways (SH 87 [hurricane evacuation route) traverse portions of this HUC; thus, establishing a future demand and need.

Unavoidable impacts to wetland function within the primary service area will be replaced at a 1:1 ratio while those impacts within the secondary service area will be debited at a 1.5:1 ratio.

## 6.1 CREDIT DETERMINATION

Credit determination for wetlands within the bank will utilize the riverine forested iHGM model (USACE 2023). According to USACE Galveston guidance, jurisdictional wetlands will receive a baseline score that corresponds with the scores verified by the CESWG (**Appendix G**) and then iHGM credits will be projected for administrative and construction releases. Future releases will be based on iHGM lift.

## 6.2 CREDIT USE

The riverine forested habitats (re-establishment and rehabilitation) will provide credits for non-tidal, forested impacts within the approved service area.

# 7.0 GENERAL NEED AND TECHNICAL FEASIBILITY

## 7.1 GENERAL NEED

The Bank is located within the ecologically important Lower Sabine watershed (HUC 12010005), which lies in the Coastal Plain physiographic province in the subtropical climate zone. The Bank is located along the banks of Hollis Marsh, which contributes flow into Big Cypress creek via

[7] The Service Area is defined in 33 CFR § 332.2 as the *geographic area within which impacts can be mitigated at a specific mitigation bank or in-lieu fee program, as designated in its instrument.*

Shepard's Branch. Big Cypress Creek is a tributary to the Sabine River. Both Big Cypress Creek and the Sabine River have been identified as Ecologically Significant Stream Segments (TPWD 2023). Big Cypress Creek is recognized for very high water quality, and the Sabine River is recognized for biological function, high water quality, and unique species (TPWD 2023). Since the Bank is bisected by Hollis Marsh and experiences overbank flooding which contributes surface runoff to Hollis Marsh, restoration at the site would contribute to the Lower Sabine watershed health because it contributes flow into Big Cypress Creek and the Sabine River. Thus, restoration activities at the Bank would be consistent with the watershed approach endorsed in the USACE's 2008 Mitigation Rule.

The existing conditions at the Bank are degraded for the following reasons: historic grazing, historic logging without replanting, placement of windrows which interrupt both overbank flooding and sheetflow, and the spread of nuisance and exotic plant species. The following functions would be improved and/or restored at the Bank and contribute to the health of the ecologically significant Sabine River watershed:

- re-establish native vegetation, providing sustainable food sources for wildlife;
- provide increased native bird habitat through the restoration of 245.1 acres of native hardwood communities;
- provide a wildlife corridor connection to Shepherd's Branch;
- improve natural biological diversity through native plant restoration;
- improve water quality through the cessation of cattle grazing, reducing sediment loading in Hollis Marsh and Shepherd's Branch; and
- reduce nonpoint source pollution through the removal of windrows, afforestation, and the re-establishment of 9.10 acres of wetland.

The watershed in which the impacts and the PRMA are situated has experienced industrial and residential growth in recent years due to the close proximity with the industrial areas of southeast Texas and southwest Louisiana. The Beaumont-Port Arthur Metropolitan Area is expected to add 12,600 jobs over the next five years. It is also expected that this metropolitan area will grow at an annual rate of 1.44 percent (Orange Leader 2018). Additionally, the Lower Sabine watershed has experienced moderate to high rates of land conversion from 1997-2017 (Texas Land Trends 201922 The amount of federally and state-owned conservation lands in the watershed are limited (~6,072 acres of state forests and state wildlife management areas). The expected population growth combined with the limited amount of conserved lands in the watershed creates a need for additional conservation lands within the Lower Sabine watershed.

Additionally, the Bank is in the portion of East Texas that exhibits high volumes of logging activity. Based on historical aerial photography review, the site has been logged twice since the 1930's. Restoring and protecting the property in perpetuity would prevent future timber harvesting and provide long-term site protection. The project was initially proposed for use as a PRM for a large project near Orange, TX. The entirety of the bank would have been used if not for changes to jurisdiction arising from the Navigable Waters Protection Rule. Current projects within the watershed are anticipated to use a majority of the current credits at other banks leaving a gap in coverage for future projects.

The Bank will re-establish and rehabilitate riverine forested wetlands and restore upland buffer associated with those wetlands. These restoration efforts will return natural sheet flow from the Bank to Hollis Marsh and downstream waters.

## 7.2 TECHNICAL FEASIBILITY AND ECOLOGICAL SUITABILITY

The primary factors considered during site selection included stream suitable for restoration combined with wetland restoration. The Bank is suitable and restorable as riparian habitat, wetland habitat, and upland buffer. The nature and juxtaposed landscape of the impaired stream provides a high degree of confidence for the successful restoration as functional wetlands and riparian habitat. Furthermore, these impaired stream reaches are located in the Hollis Marsh floodplain, which eventually flows into the lower Sabine River, Sabine Lake, and then into the Gulf of Mexico.

The biological, physiochemical, geomorphological, hydraulic, and hydrologic properties of the wetlands, impaired stream and riparian habitat are conducive to restoration. Forested wetland and riparian vegetation is mostly absent or only located in areas where overstory exists, the understory and midstory strata are non-existent due to influence of livestock grazing. Once the cattle and pasture grass production are removed and the perennial stream channel and wetland/riparian vegetation are restored, the Bank will be ecologically self-sustaining.

The sustainability of the restored wetlands are primarily driven by rainfall and watershed runoff, including overbank flooding. Therefore, this site was selected because hydrologic restoration can utilize natural processes and will not rely on active water management (e.g., pumping, diversion, impoundment or removal of water through artificial means from a river, stream or reservoir).

# 8.0 EASEMENTS AND ENCUMBRANCES

## 8.1 MORTGAGES, EASEMENTS AND ENCUMBRANCES

A Summary of Title Matters over the past 100 years is included in **Appendix E**. A single pipeline corridor with multiple pipelines runs from north to south along the western boundary of the property. No other recorded liens, encumbrances, easements, servitudes or other surface restrictions exist within the bank boundary. Ironwood Holdings does not own the mineral rights for the Bank property, but as with other projects, will set aside dedicated mineral management areas for use in the event the mineral holder excercises their rights. This mineral management area will occur on the adjacent property owned by Ironwood Holdings. Additionally, the draft mitigation banking instrument will include a mineral management plan and draft surface use agreement that would be implemented if the mineral holder decides to exercise their mineral rights with the Bank.

## 8.2 CURRENT SITE RISKS

The Sponsor does not foresee any adjacent land encumbrances that will jeopardize success on the Bank. Due to similar land use practices and management on adjacent land(s), the construction, establishment, and long-term phases of the Bank will not be affected by adjacent land uses. Along the northern portion of the Bank, an upland buffer is proposed that will provide site protection against adjacent landowners. A large timber company controls property on the eastern and southern boundary of the bank. Typically, timber harvesting is on a 30+ year rotation, which limits adjacent land disturbance, and modern timber practices minimize impacts on streams by often leaving the timber along drainages along with other sensitive habitats. Thus, timber harvesting does not pose a significant threat to the site. Other small parcels of land encompass the North and West boundaries of the bank with Ironwood Holdings owning a significant portion of the tributary headwaters leading into the Bank. This provides further insurance that wetland hydrology would be conserved. Other adjacent landowners consist of open land and cattle grazing; the Bank would provide filtration for upstream runoff from these landowners. Therefore, adverse impacts are unlikely to result from the continued existence and operation of the neighboring land uses.

## 8.3 LONG-TERM SUSTAINABILITY

Long-term wetland hydrology, plants, and hydric soils surface hydrology will be sustained by localized rainfall, sheet flow, overbank flooding, and shallow, seasonally perched high-water tables. Adjacent land-use from the past 40 years has largely consisted of logging, cattle grazing, and hay production. The Bank would not be jeopardized by the continued activities of adjoining land-owners. The Sponsor does not foresee any activity that could occur on adjoining land that could affect the project. The long-term conditions are attainable as indicated by the baseline site conditions described in the wetland delineation and the adjacent reference wetland (**Appendix A, Figure 3**). The reference wetland was utilized to establish target vegetation and provide a reasonable estimation of iHGM projections. Furthermore, long-term viability and sustainability of the Bank are founded on proven construction and establishment practices / techniques discussed in this prospectus. Prior to entering the long-term phase, the initial, interim, and long-term performance standards will be met as prescribed in the draft mitigation banking instrument (MBI). To sustain the long-term standards through management, monitoring, and adaptive management

(if necessary) will be implemented to manage the Bank. A long-term management plan will be provided with the draft MBI and included in the approved MBI.

# 9.0 QUALIFICATIONS OF THE SPONSOR

Per 33 CFR § 332.8(d)(2) (vi.), this section describes the Sponsor's qualifications to successfully complete the proposed Bank. DLS will serve as the Sponsor. DLS has developed and implemented mitigation banks in the following USACE Districts: (CESWG), Fort Worth (CESWF), New Orleans (CEMVN), and Vicksburg (CEMVK).

DLS is a land management and restoration company whose technical staff includes Certified Wildlife Biologists, Ecological Restoration Practitioners, Foresters, and Professional Wetland Scientists. In addition, DLS has construction specialists who are well-versed in wetland construction activities such as contractor management, earth work, heavy equipment operation, herbicide application, safety, and vegetation restoration. DLS currently operates twenty-nine (29) approved wetland mitigation banks and six (6) approved amendments within four (4) USACE Districts totaling 19,885.7 mitigation credit acres which include 46,123.9 linear feet of in-channel stream restoration. These Districts include CEMVN, CEMVK, CESWF, and CESWG. In addition to the mitigation banks referenced above, DLS serves as the Responsible Party for the establishment and maintenance of 3,899.1 mitigation credit acres and 8,251.0 linear feet of in-channel stream restoration on forty (40) approved permittee responsible mitigation areas within the CEMVN, CEMVK, and CESWG.

The Sponsor will comply with all conditions required by the CESWG. The Bank will be established and operated through mitigation bank procedures outlined in 33 CFR § 332.8. This includes, but is not limited to, review process, modifications, permit coordination, project implementation, financial assurance determination and mechanisms, credit determination, accounting procedures, credit withdrawals, and the use of credits. Details on the operation of the Bank will be further described in the Draft MBI per 33 CFR § 332.8 (d)(6).

# 10.0 ASSURANCE OF WATER RIGHTS

Per review of the TCEQ water rights database, water use is not listed for the Bank (TCEQ 2023) and water use data recorded from 2000 through 20149F[8] did not indicate any water purchases. Furthermore, as restored functional riverine forested wetlands habitats the Bank will not require the use of public water or a TCEQ Water Use Permit since the restored wetlands will not create a reservoir or off-channel reservoirs that artificially store, hold, retain, or divert water from state water sources (i.e., surface or subsurface). The property is exempt under the Texas Tax Code §23.51(1) and (7) and will qualify, once completed, for the Wildlife Management exemption under Title 30 Texas Administrative Code §297.21(e).

[8] The Water Use data from 2000 through 2014 is accessible from the URL: https://www.tceq.texas.gov/permitting/water_rights/wr-permitting/wrwud (accessed November 7, 2023).

There will not be any construction features on the Bank that direct, divert, or cause the retention of flood waters beyond the ordinary function of floodplain forested wetland systems (i.e., all berms, dikes, ditches, will be removed). The hydrologic restoration of the Bank includes filling and leveling of internal agricultural, natural stream design, and road features to natural elevation. Any water that may naturally flow onto or through the flood plain will not be diverted or retained by any constructed surface features. As such, long-term hydrology maintenance will not depend on the utilization of water captured from irrigation wells or a Texas public water system; therefore, water rights will not be required. The Sponsor coordinated with the TCEQ regarding water rights; the TCEQ provided an email response that water rights are not required (**Appendix H**)

# 11.0 SITE PROTECTION

The Landowner will grant a perpetual Conservation Easement covering the Bank to a Conservation Easement Holder (Holder) in accordance with Chapter 183, Subchapter A of the Texas Natural Resources Code. Pursuant to 33 CFR § 332.7(a)(5). Upon Bank approval, the Landowner will record the Conservation Easement in the real property records of Newton County.

As contemplated in 33 CFR § 332.7(a)(1), the Conservation Easement instrument will establish the right of the Holder to enforce site protections and provide the resources necessary to monitor and enforce these site protections to the extent practicable. In addition, pursuant to 33 CFR § 332.7(a)(2), to the extent appropriate and practicable, the Conservation Easement instrument will prohibit incompatible uses that might otherwise jeopardize the objectives of the Bank. Furthermore, in accordance with 33 CFR § 332.7(a)(3), the Conservation Easement instrument will contain a provision requiring 60-day advance notification to the CESWG district engineer before any action is taken to void or modify the easement, including the transfer of title to another party.

TLC has been identified as the Holder for the Conservation Easement and has provided a letter stating their commitment (**Appendix I**). TLC is a non-profit conservation organization that is accredited by the National Land Trust Alliance and is a member of the Texas Land Trust Council. TLC will conduct annual inspections to verify that there are no activities occurring at the Bank which are inconsistent with the purpose of preserving the conservation values of the restored area.

## 11.1 LONG-TERM STRATEGY

A long-term management plan will be included with the draft MBI and will detail long-term management needs, costs and identify a funding mechanism in accordance with 33 CFR § 332.7 (d). The Sponsor (or Long-term Steward) and the Owner (or its heirs, assigns, or purchasers) shall be responsible for protecting lands contained within the Bank in perpetuity. The Sponsor will establish the “Long-term Land Management and Maintenance” (LTMM) endowment to ensure adequate funding is available to cover future LTMM costs. The Sponsor will enter into a Mitigation Bank Endowment Agreement with the National Fish and Wildlife Foundation (NFWF) to ensure sufficient long-term funding is available for perpetual maintenance and protection of the Bank. Long-term management will consist of monitoring, vegetation management, invasive species control, boundary maintenance (approximately 3.25 miles), site protection, and the funding of such activities.

# 12.0 CONCLUSION

In summary, the Bank has a high potential for successfully rehabilitating 236.0 acres of riverine forested wetlands, re-establishing 9.1 acres of riverine forested wetlands, and restoring 33.1 acres of upland buffer. The cessation of agricultural land use, restoration of natural hydrology, restoration of native habitats, and the restoration of riverine forested wetland habitats will improve watershed quality by reducing non-point source runoff, increasing ecosystem plant diversity, and increasing habitat for native and migratory wildlife species.

# 13.0 REFERENCES

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Map M-1, various scales.

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# Appendix A
# Figures


**Legend**

- Project Boundary (282.4 ac)
- USGS 8 DIGIT HUCs

6 3 0 6
Miles

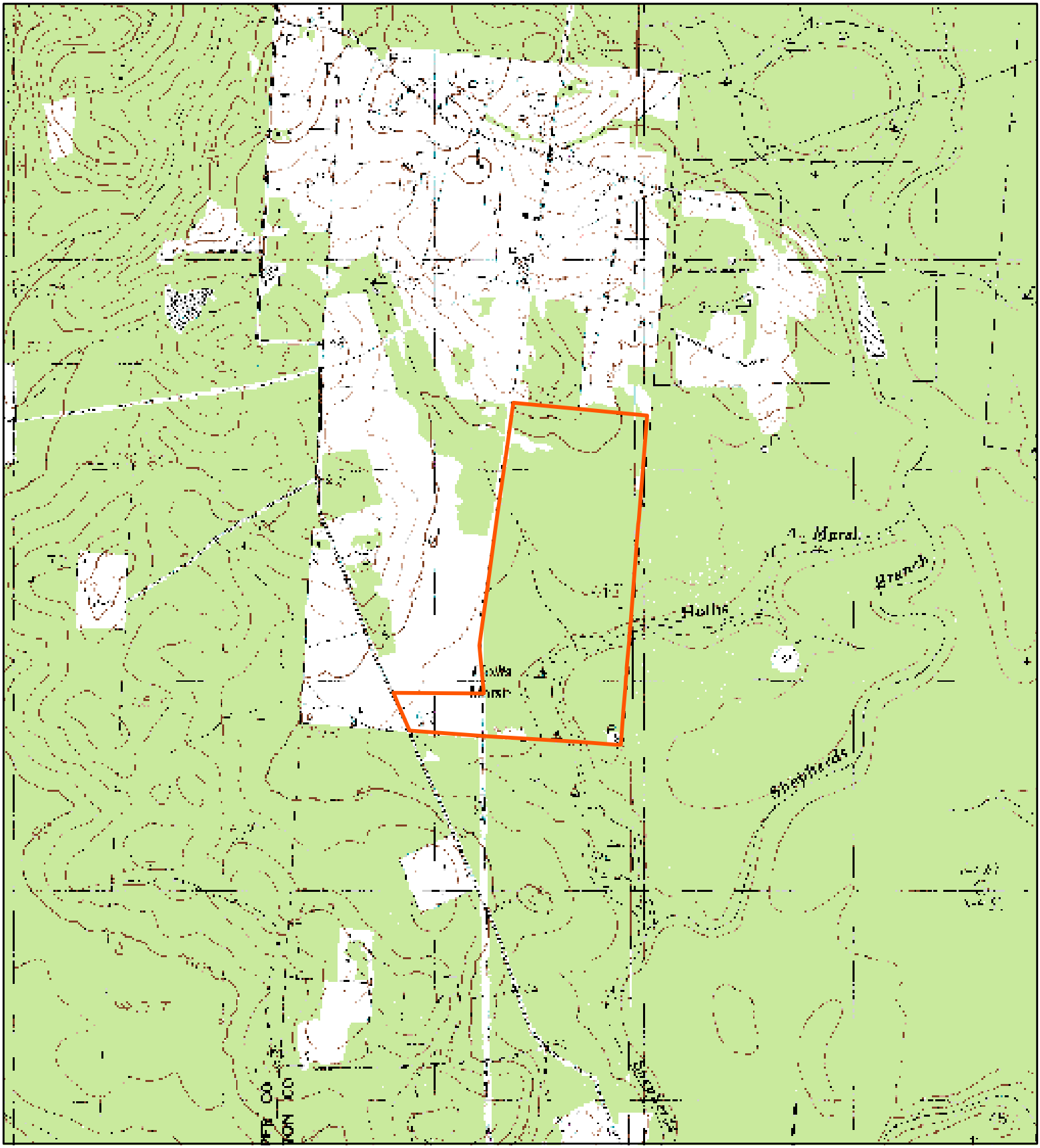
**VICINITY MAP**

Newton County, TX

| | |
|---|---|
| Created : | TSC/ArcView10.4 |
| Approved : | BWD |
| Date : | 10/24/2023 |
| Map # : | F01_VicinityMap |

DELTA LAND SERVICES

**FIGURE 1**




**Legend**

Project Boundary (282.4 ac)

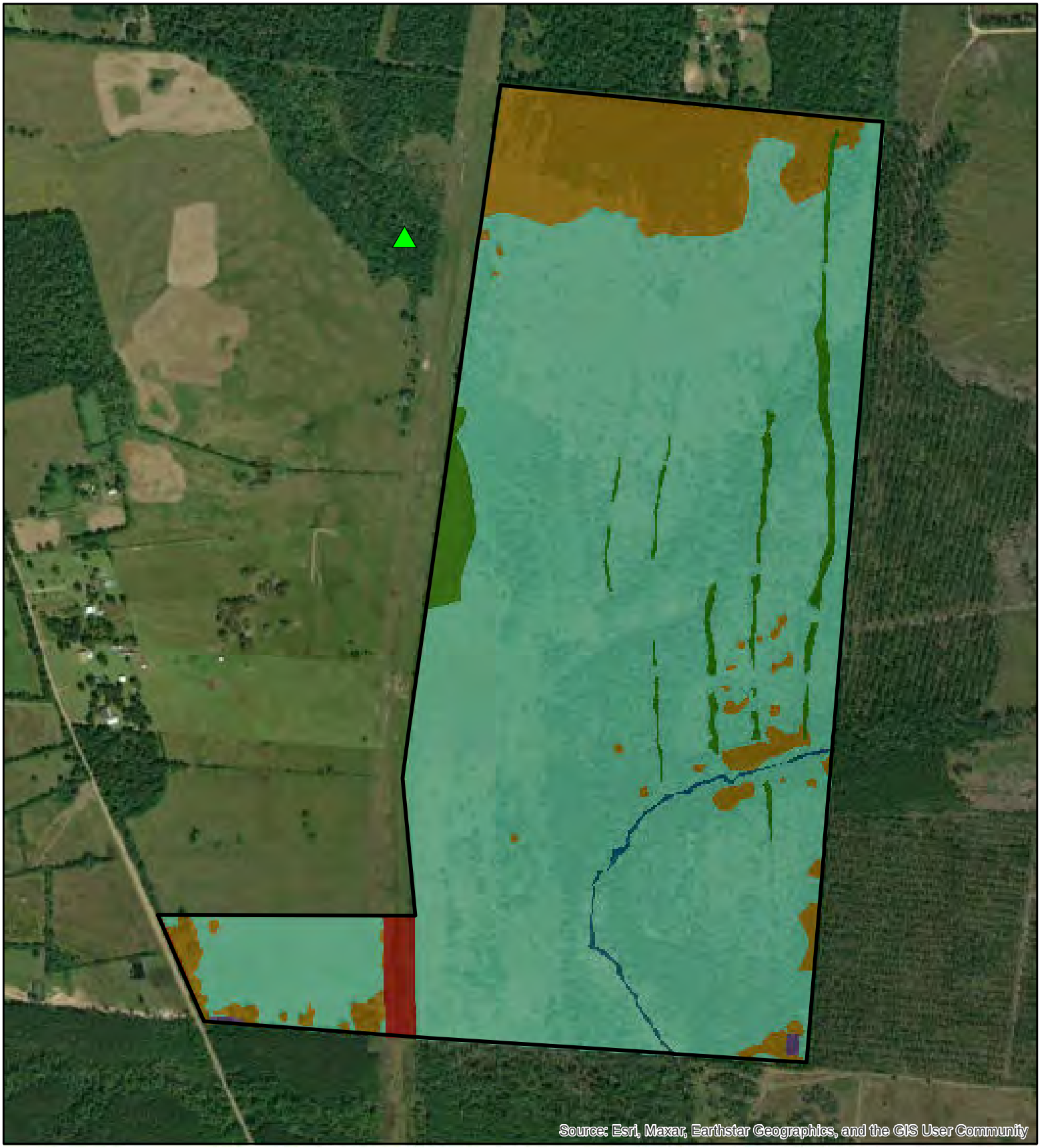
## USGS 7.5' QUADRANGLE MAP

Newton County, TX

| | |
|---|---|
| Created : | TSC/ArcView10.4 |
| Approved : | BWD |
| Date : | 10/24/2023 |
| Map # : | F02_QuadMap |

DELTA LAND SERVICES

**FIGURE 2**




**Legend**

- Project Boundary (282.4 ac)
- Vegetation Reference Point
- Wetland Re-establishment (9.1 ac)
- Wetland Rehabilitation (236.0 ac)
- RPW (1.1 ac)
- Pond (0.4 ac)
- Upland Buffer (33.1 ac)
- Access/Pipeline Easements (2.7 ac)

700 350 0 700

Feet

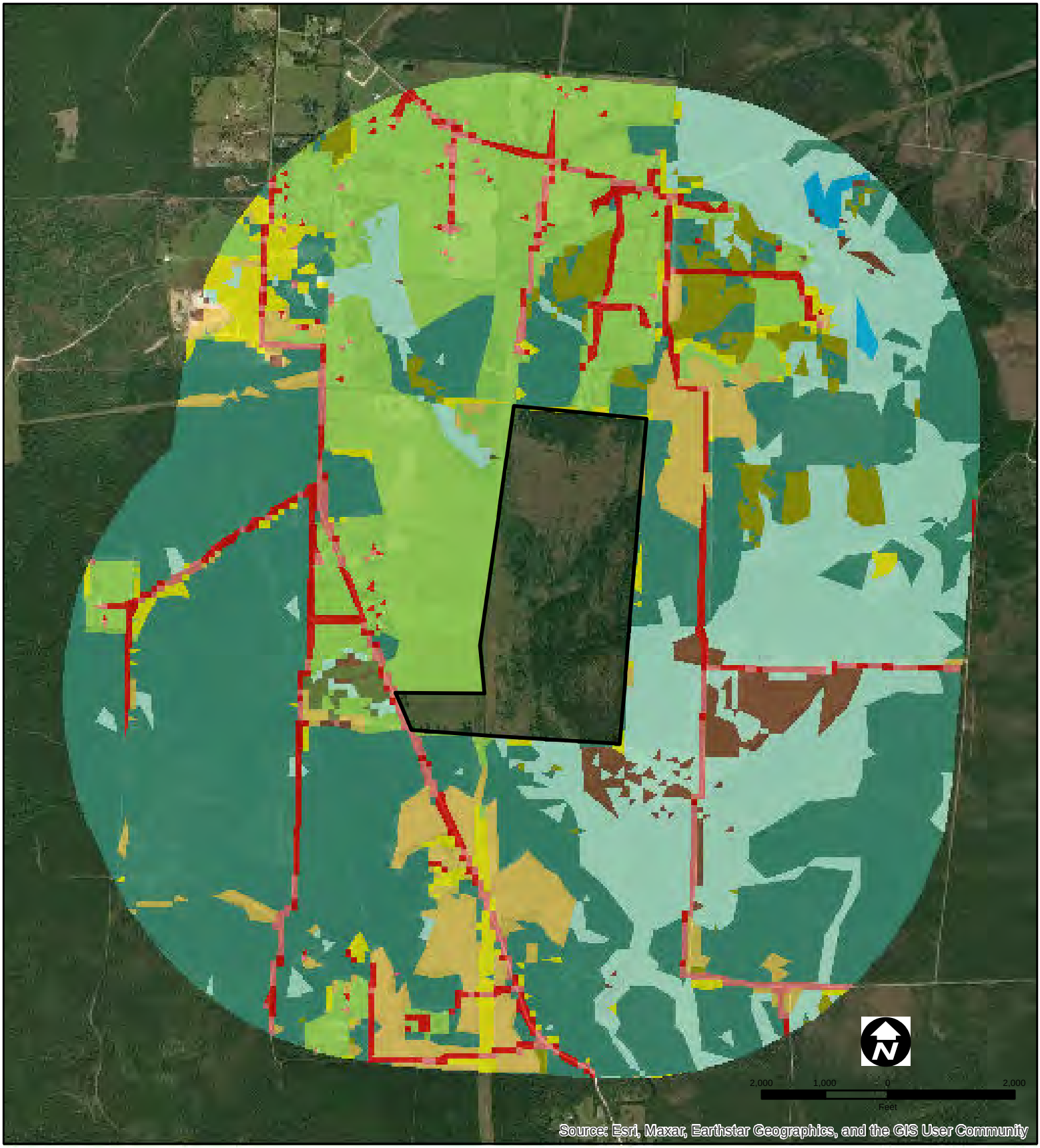
## MITIGATION FEATURES

Newton County, TX

| | |
|---|---|
| Created : | TSC/ArcView10.4 |
| Approved : | BWD |
| Date : | 10/24/2023 |
| Map # : | F03_MitigationFeatures |

DELTA LAND SERVICES

**FIGURE 3**




**Legend**

- Project Boundary (282.4 ac)
- Evergreen Forest (41.1%)
- Woody Wetlands (20.6%)
- Hay/Pasture (18.8%)
- Herbaceous (6.1%)
- Developed, Open Space (3.2%)
- Mixed Forest (2.8%)
- Shrub/Scrub (2.8%)
- Developed (2.2%)
- Emergent Herbaceous Wetlands (1.9%)
- Cultivated Crops (0.3%)
- Open Water (0.3%)
- Barren Land (>0.1%)

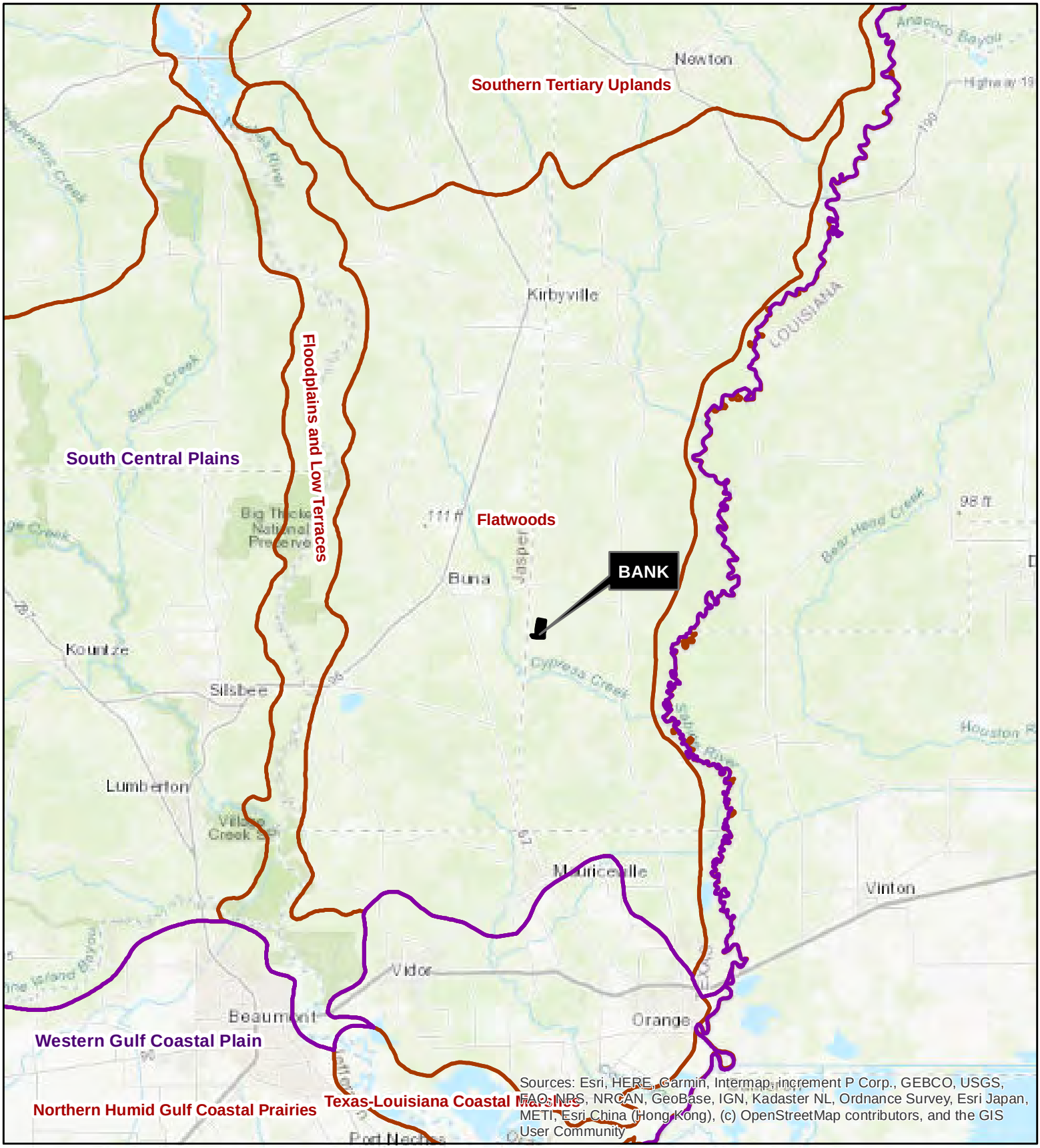
**LAND USE WITHIN A ONE-MILE BUFFER**

Newton County, TX

| | |
|---|---|
| Created : | TSC/ArcView10.4 |
| Approved : | BWD |
| Date : | 10/24/2023 |
| Map # : | F07_LandUse1Mile |

DELTA LAND SERVICES

**FIGURE 4**




**Legend**

- Project Boundary (282.4 ac)
- Level III Ecoregion
- Level IV Ecoregion

7 3.5 0 7
Miles

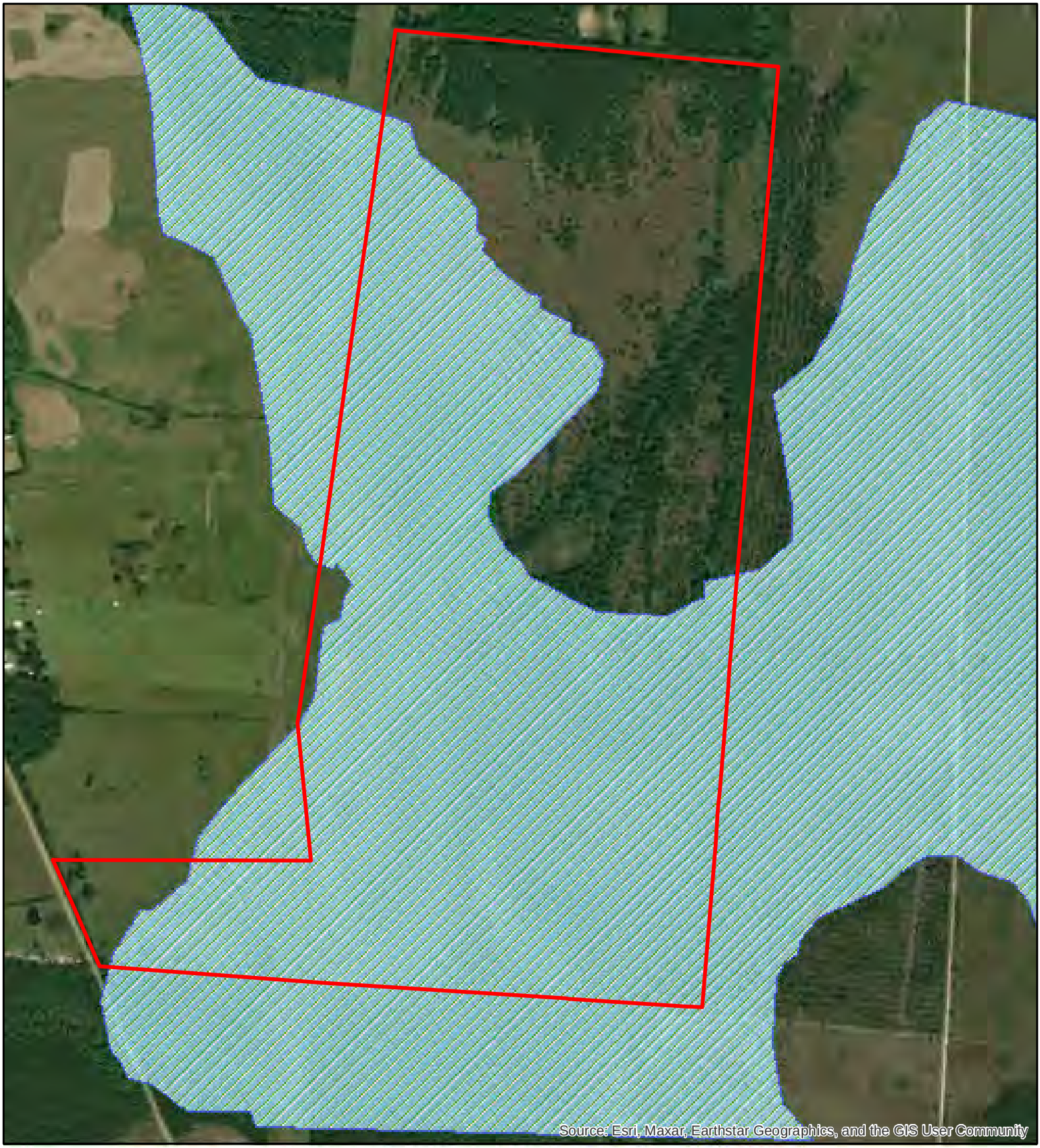
## ECOREGION MAP

Newton County, TX

| | |
|---|---|
| Created : | TSC/ArcView10.4 |
| Approved : | BWD |
| Date : | 10/24/2023 |
| Map # : | F04_LevelIIIEcoregion |

DELTA LAND SERVICES

**FIGURE 5**




**Legend**

Project Boundary (282.4 ac)

Preliminary FEMA 100-year Floodplain

700 350 0 700

Feet

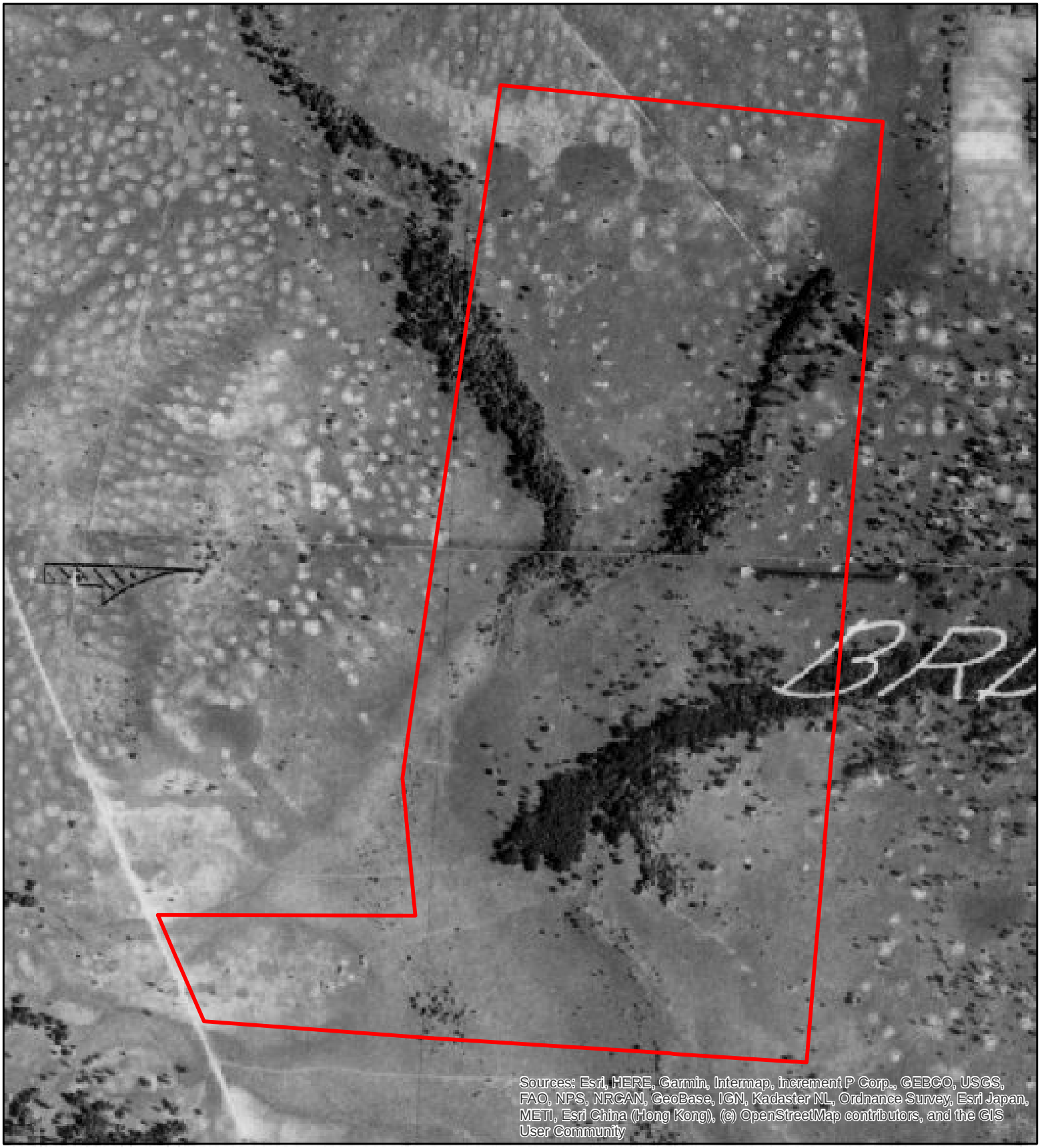
## FLOOD ZONE MAP

Newton County, TX

| | |
|---|---|
| Created : | TSC/ArcView10.4 |
| Approved : | BWD |
| Date : | 10/24/2023 |
| Map # : | F06_FloodZoneMap |

DELTA LAND SERVICES

**FIGURE 6**




**Legend**

Project Boundary (282.4 ac)

700 350 0 700

Feet

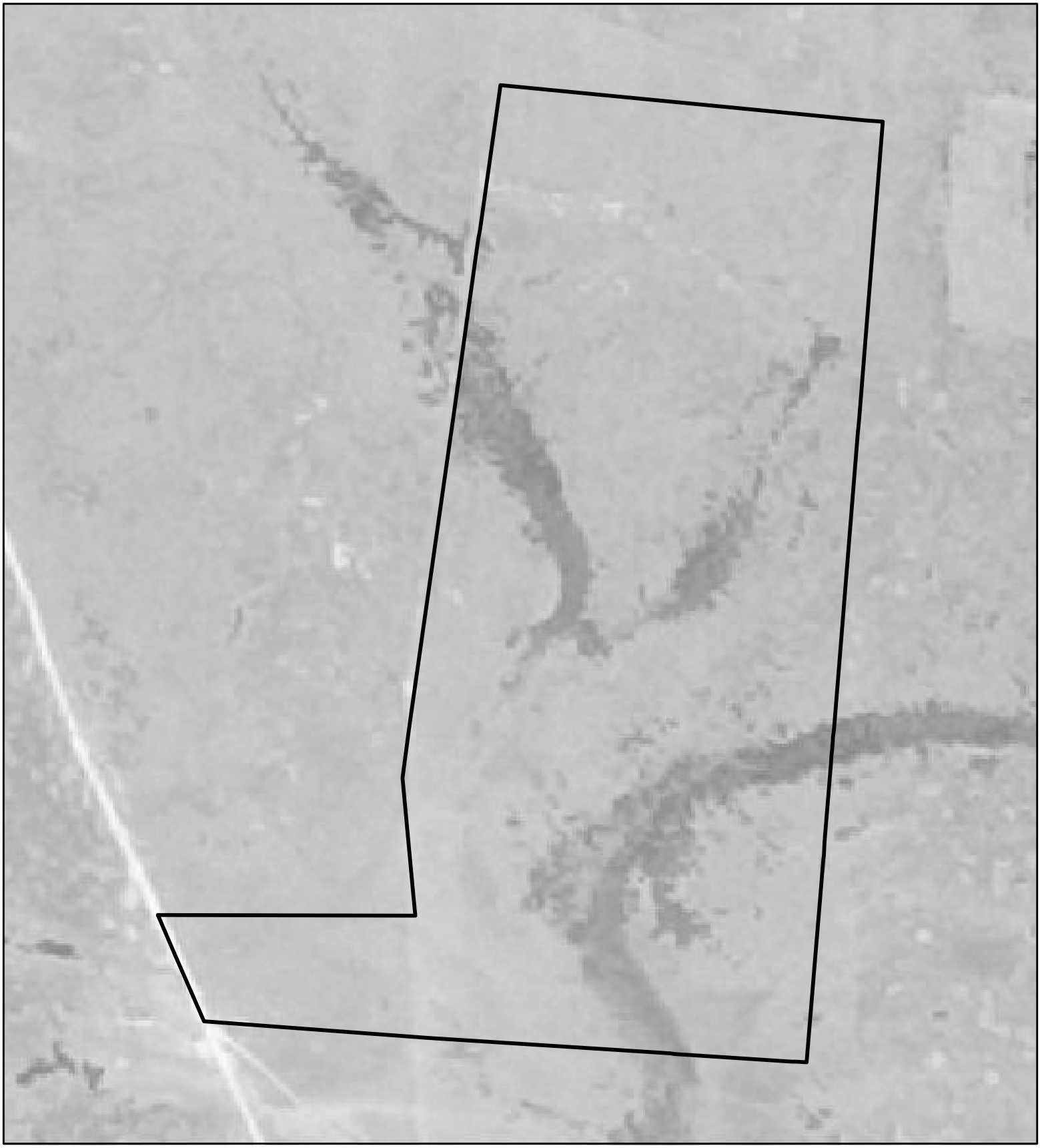
## 1939 AERIAL PHOTOGRAPH

Newton County, TX

| | |
|---|---|
| Created : | TSC/ArcView10.4 |
| Approved : | BWD |
| Date : | 10/24/2023 |
| Map # : | F08_1939 |

DELTA LAND SERVICES

**FIGURE 7**



**Legend**

Project Boundary (282.4 ac)

700 350 0 700

Feet

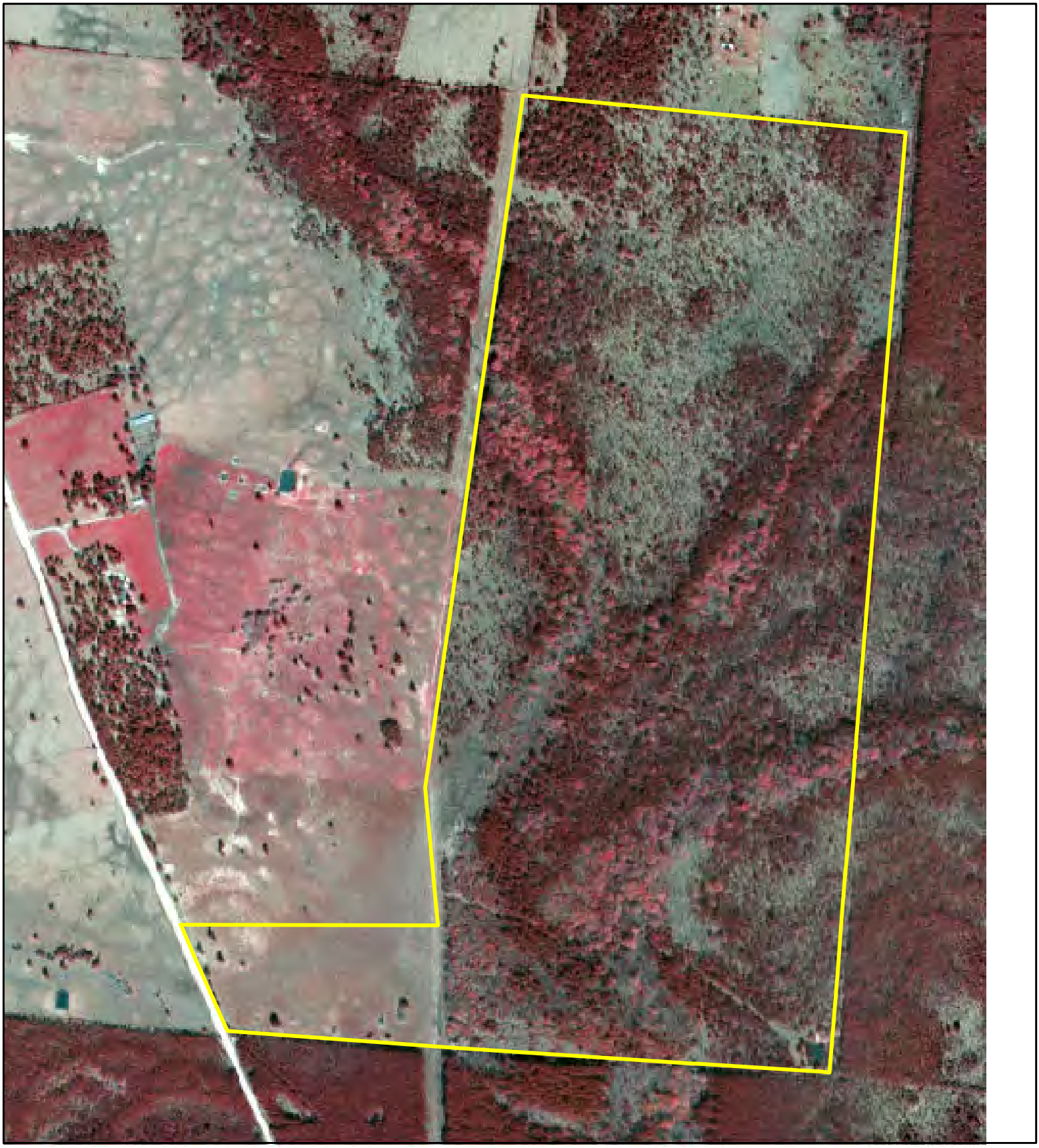
## 1952 AERIAL PHOTOGRAPH

Newton County, TX

| | |
|---|---|
| Created : | TSC/ArcView10.4 |
| Approved : | BWD |
| Date : | 10/24/2023 |
| Map # : | F09_1952 |

DELTA LAND SERVICES

**FIGURE 8**



**Legend**

Project Boundary (282.4 ac)

700 350 0 700

Feet

## 1981 AERIAL PHOTOGRAPH

Newton County, TX

| | |
|---|---|
| Created : | TSC/ArcView10.4 |
| Approved : | BWD |
| Date : | 10/24/2023 |
| Map # : | F11_1981 |

DELTA LAND SERVICES

**FIGURE 9**

**Legend**

Project Boundary (282.4 ac)

700 350 0 700

Feet

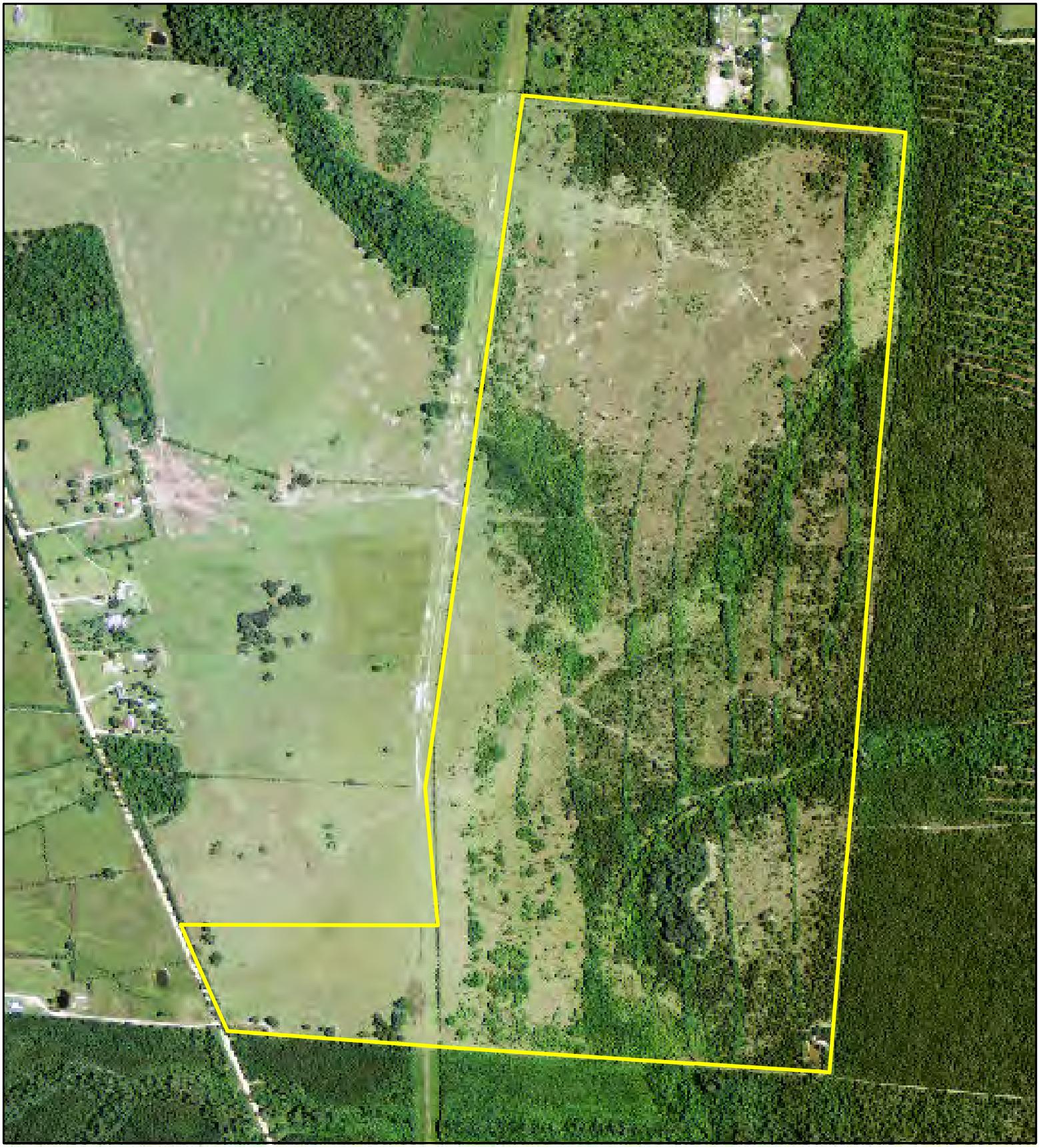
## 1996 AERIAL PHOTOGRAPH

Newton County, TX

| | |
|---|---|
| Created : | TSC/ArcView10.4 |
| Approved : | BWD |
| Date : | 10/24/2023 |
| Map # : | F12_1996 |

DELTA LAND SERVICES

**FIGURE 10**



**Legend**

Project Boundary (282.4 ac)

700 350 0 700

Feet

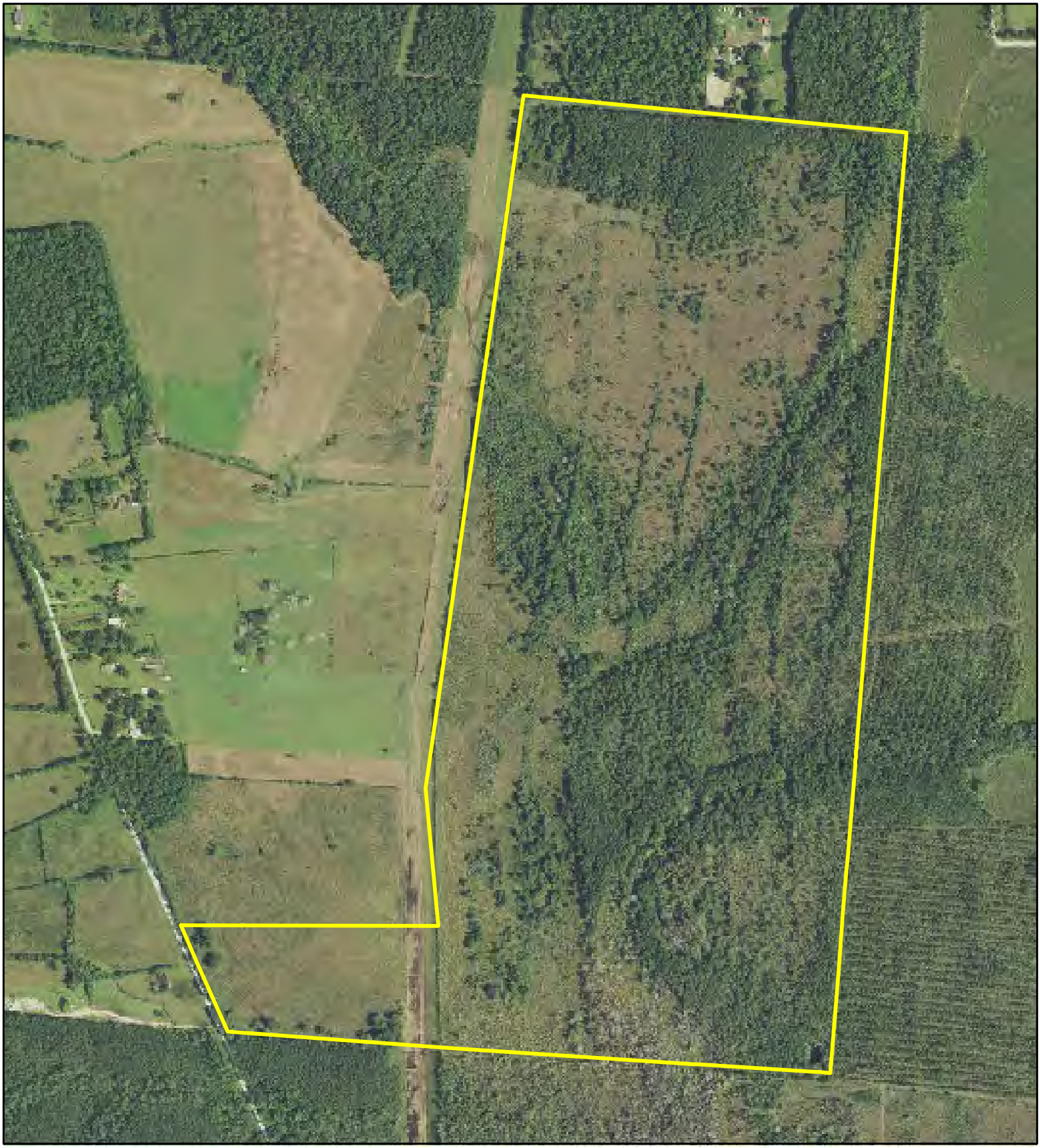
## 2012 AERIAL PHOTOGRAPH

Newton County, TX

| | |
|---|---|
| Created : | TSC/ArcView10.4 |
| Approved : | BWD |
| Date : | 10/24/2023 |
| Map # : | F13_2012 |

DELTA LAND SERVICES

**FIGURE 11**



**Legend**

Project Boundary (282.4 ac)

700 350 0 700

Feet

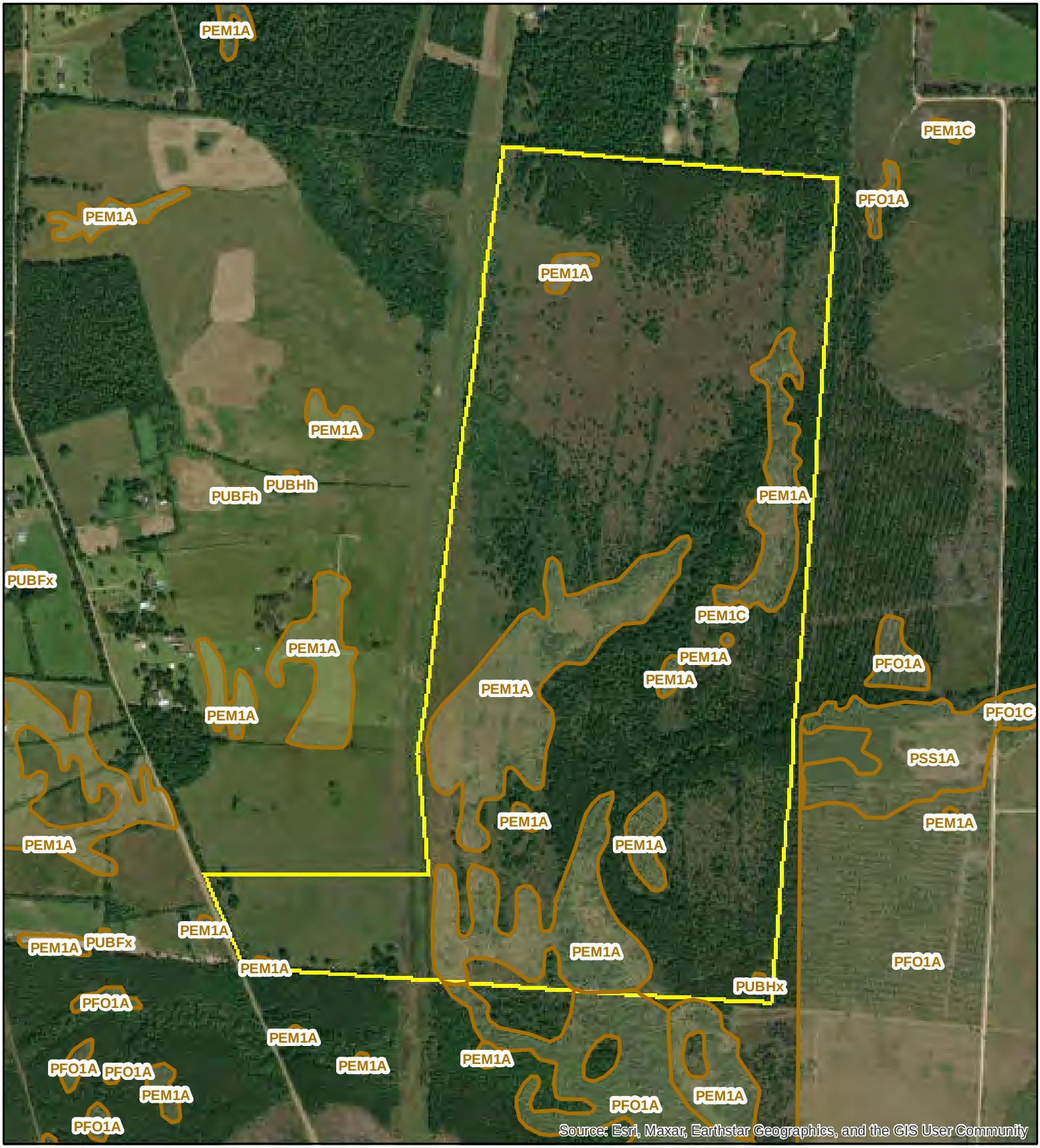
## 2022 AERIAL PHOTOGRAPH

Newton County, TX

| | |
|---|---|
| Created : | TSC/ArcView10.4 |
| Approved : | BWD |
| Date : | 10/24/2023 |
| Map # : | F14_2022 |

DELTA LAND SERVICES

**FIGURE 12**




**Legend**

- Project Boundary (282.4 ac)
- NWIclip

700 350 0 700
Feet

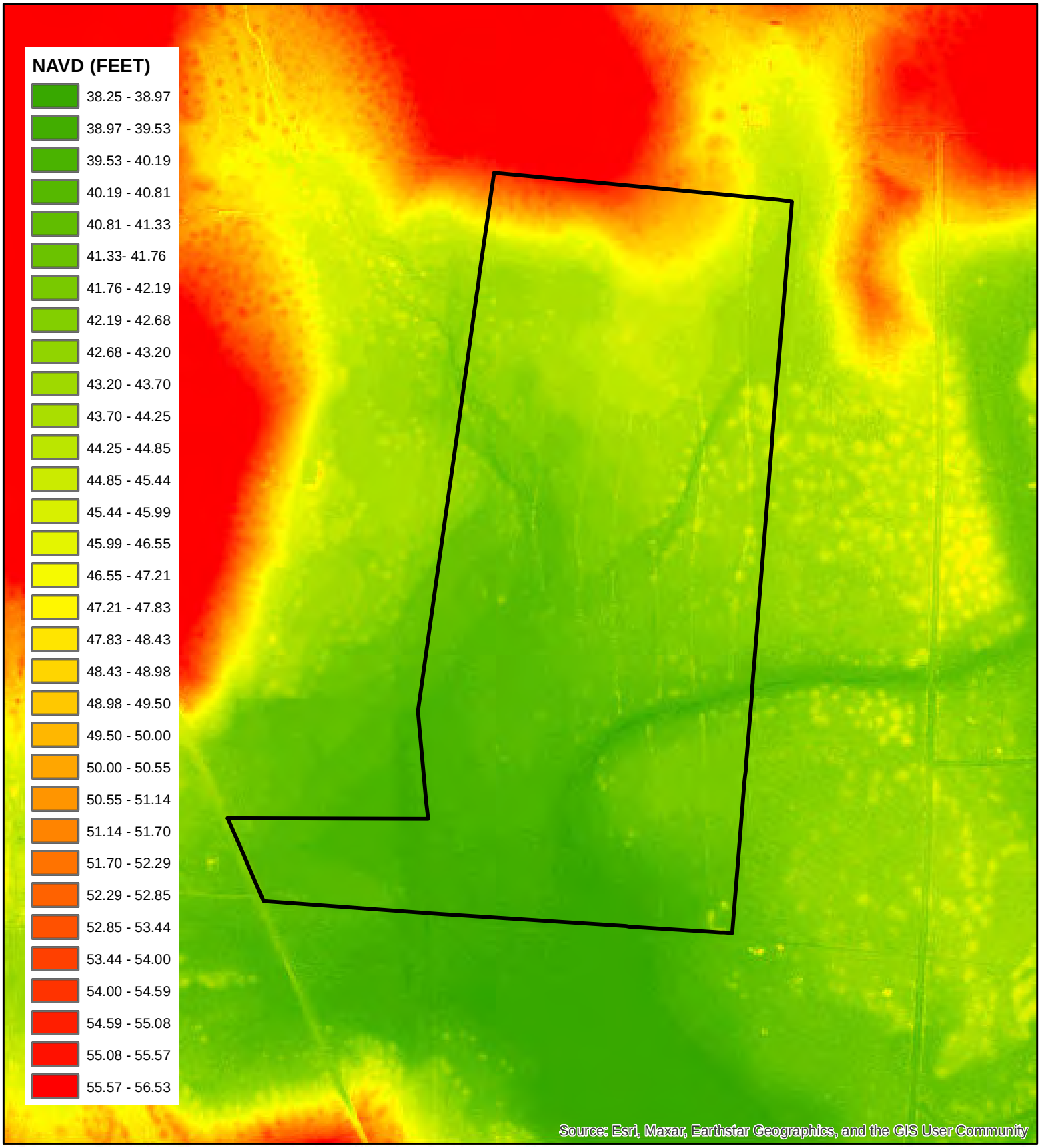
**NATIONAL WETLAND INVENTORY**

Newton County, TX

| | |
|---|---|
| Created : | TSC/ArcView10.4 |
| Approved : | BWD |
| Date : | 10/24/2023 |
| Map # : | F16_NWI |

DELTA LAND SERVICES

**FIGURE 13**




**Legend**

Project Boundary (282.4 ac)

900 450 0 900

Feet

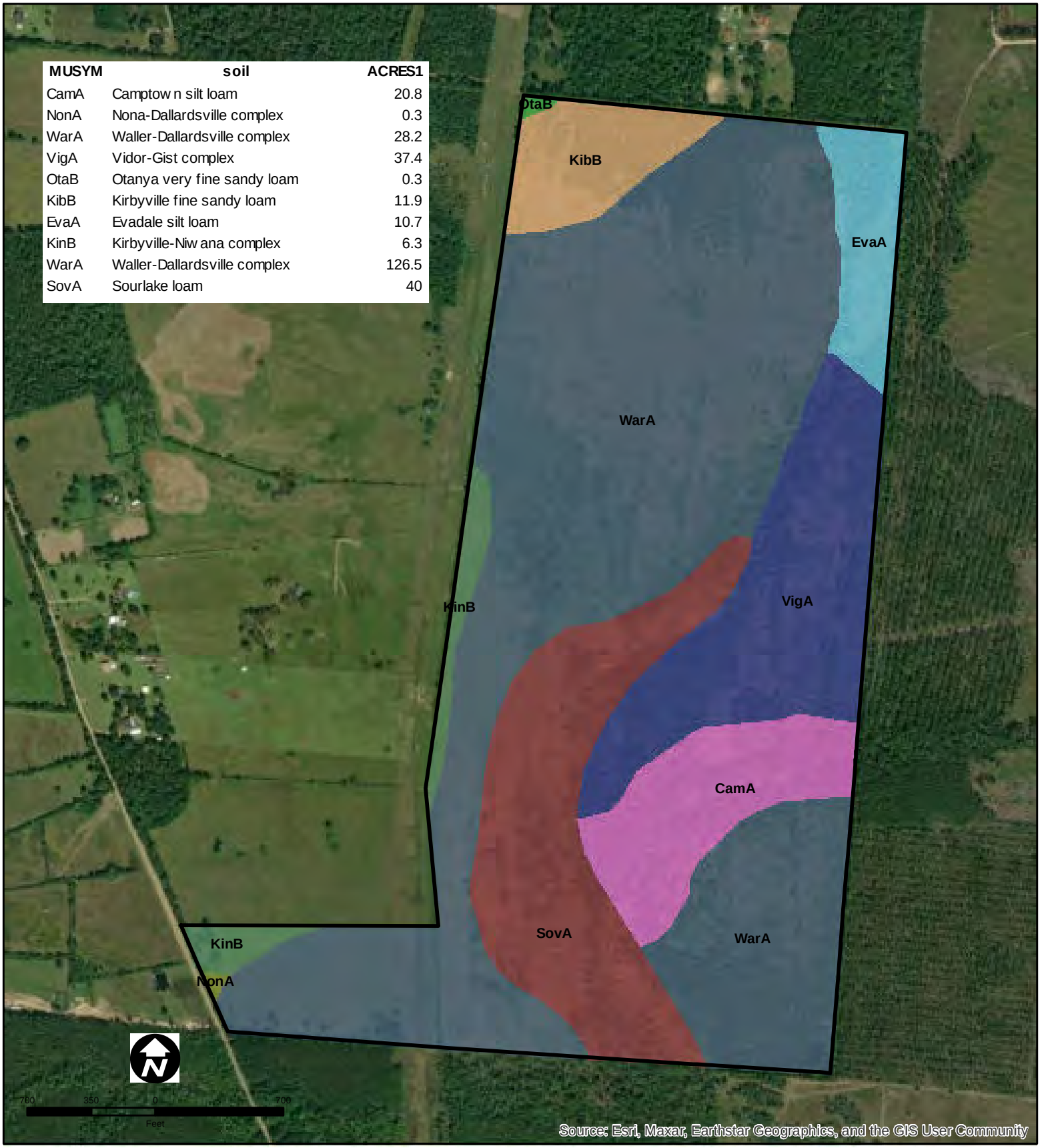
## LIDAR DIGITAL ELEVATION MODEL

Newton County, TX

| | |
|---|---|
| Created : | TSC/ArcView10.4 |
| Approved : | BWD |
| Date : | 10/24/2023 |
| Map # : | F05_LIDAR |

DELTA LAND SERVICES

**FIGURE 14**




**Legend**

- Project Boundary (282.4 ac)
- CamA, Camptown silt loam
- EvaA, Evadale silt loam
- KibB, Kirbyville fine sandy loam
- KinB, Kirbyville-Niwana complex
- NonA, Nona-Dallardsville complex
- OtaB, Otanya very fine sandy loam
- SovA, Sourlake loam
- VigA, Vidor-Gist complex
- WarA, Waller-Dallardsville complex

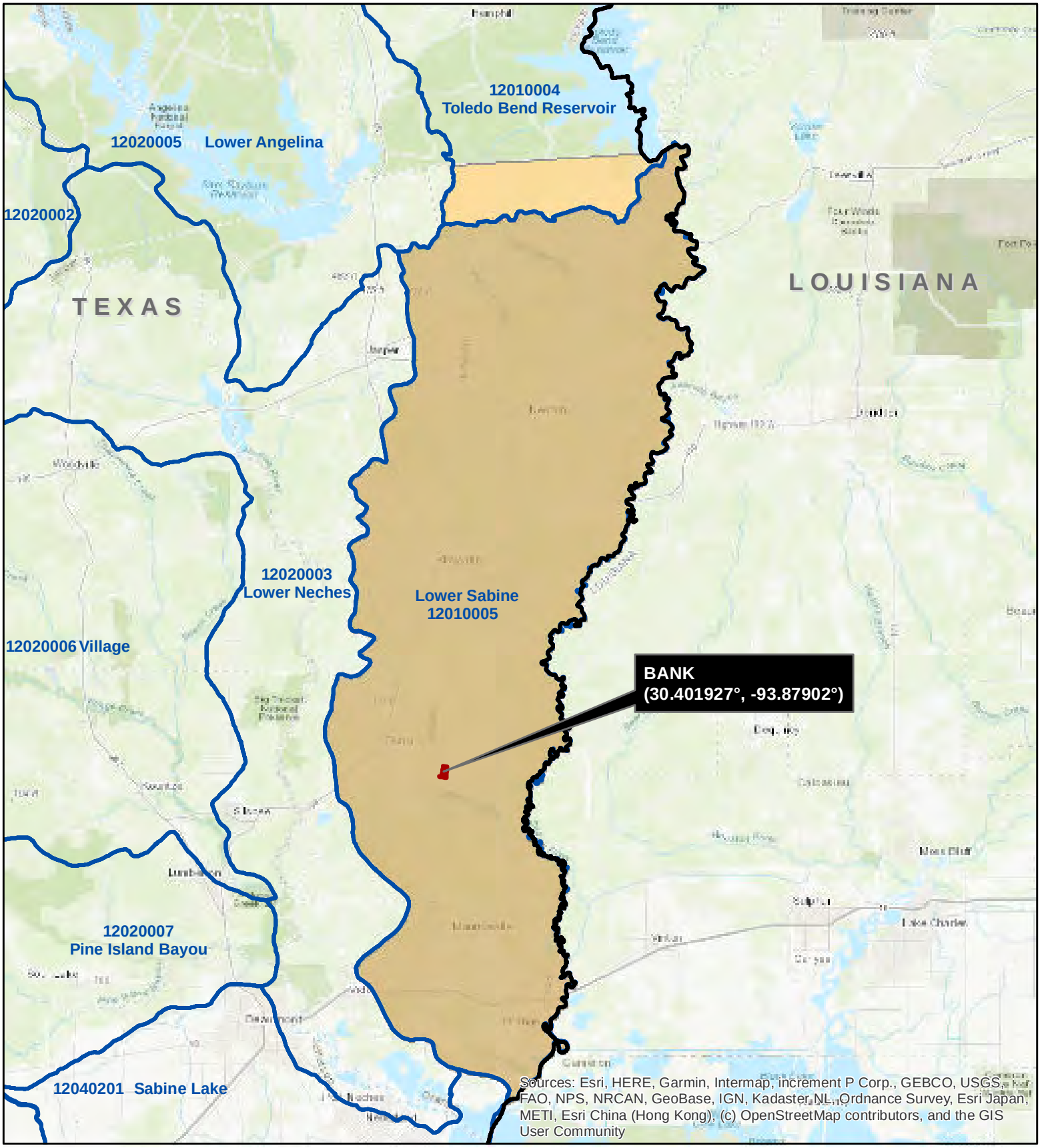
**SSURGO MAP**

Newton County, TX

| | |
|---|---|
| Created : | TSC/ArcView10.4 |
| Approved : | BWD |
| Date : | 10/24/2023 |
| Map # : | F15_SSURGO |

DELTA LAND SERVICES

**FIGURE 15**




**Legend**

- Project Boundary (282.4 ac)
- 8 Digit HUC
- Primary Service Area
- Secondary Service Area

10 5 0 10
Miles

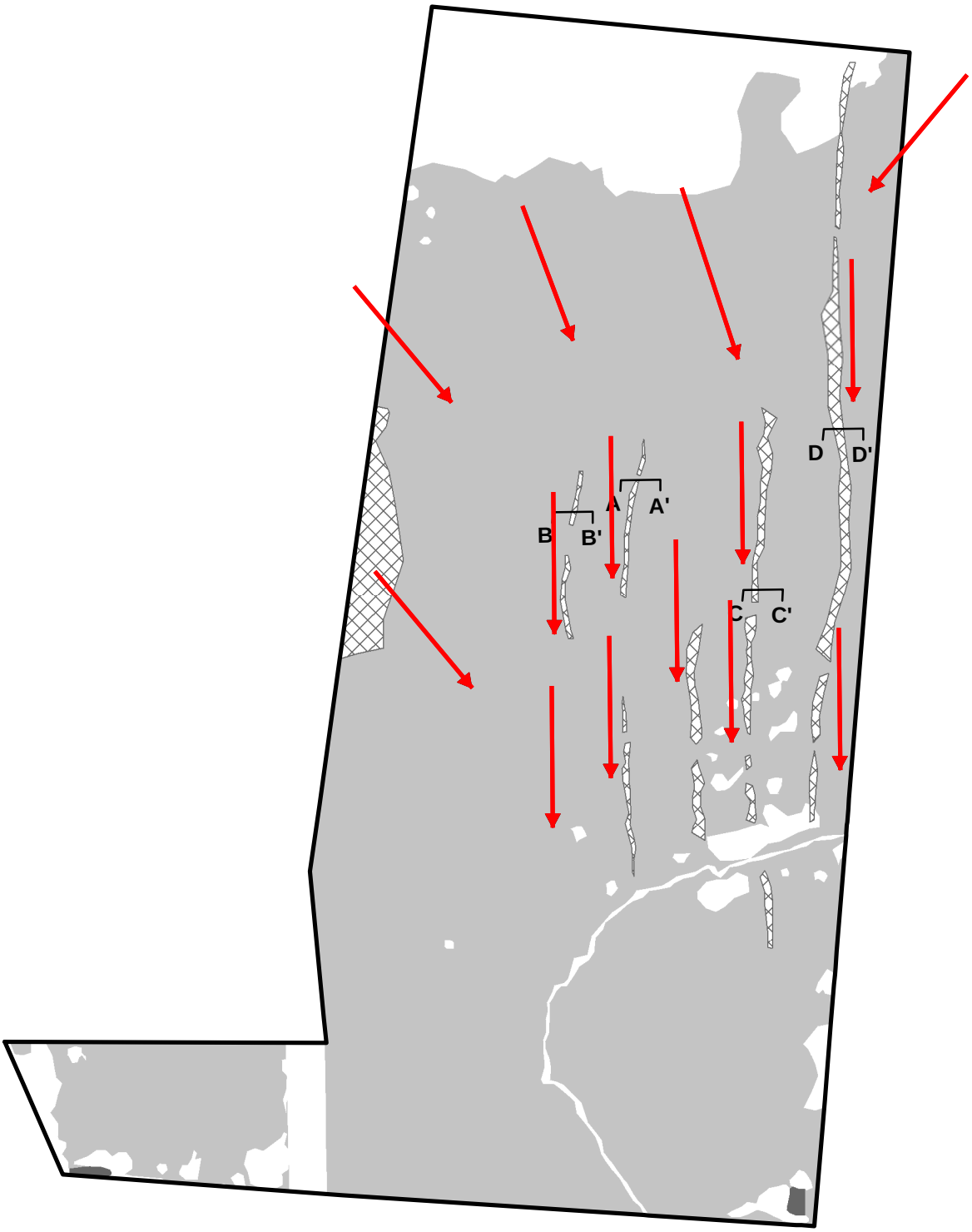
**SERVICE AREA MAP**

Newton County, TX

| | |
|---|---|
| Created : | TSC/ArcView10.4 |
| Approved : | BWD |
| Date : | 10/24/2023 |
| Map # : | F17_ServiceArea |

DELTA LAND SERVICES

**FIGURE 16**




**Legend**

- Project Area (282.4 ac)
- Re-establishment (9.1 ac)
- Rehabilitation (236.0 ac)
- Pond (0.2 ac)

700 350 0 700

Feet

USGC 2 Orange Facility
SWG-2018-00957

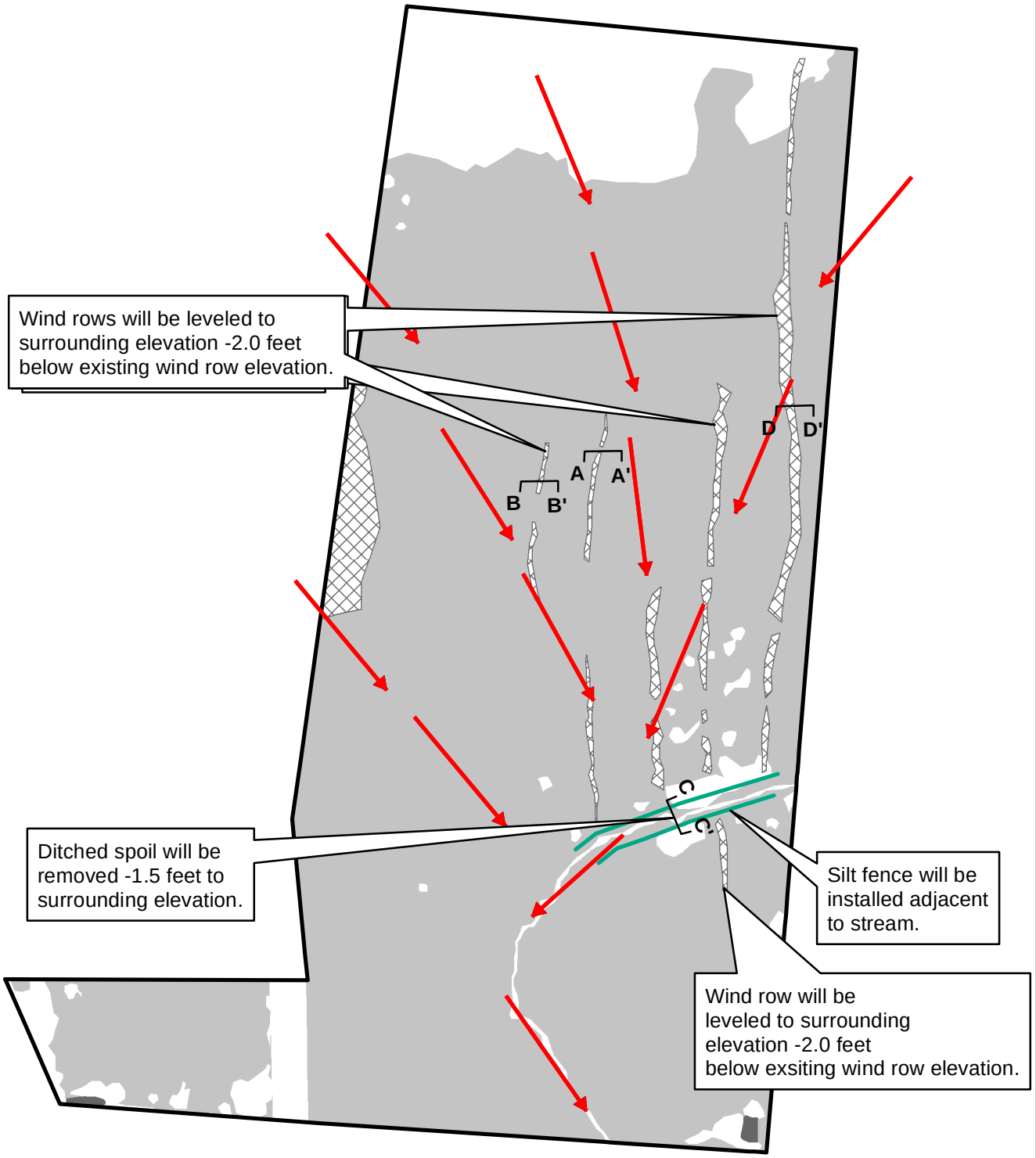
**PRE-CONSTRUCTION HYDROLOGY**

Newton County, TX

| | |
|---|---|
| Created : | ArcMap10.8 |
| Approved : | SR |
| Date : | 11/21/2023 |
| Map # : | F17_PreConstructionHyd |

DELTA LAND SERVICES

FIGURE 17




**Legend**

- Project Area (282.4 ac)
- Re-establishment (9.1 ac)
- Rehabilitation (236.0 ac)
- Pond (0.2 ac)
- Silt Fence

700 350 0 700

Feet

Hollis Marsh Mitigation Bank

**POST CONSTRUCTION HYDROLOGY & GRADING PLAN**

Newton County, TX

| | |
|---|---|
| Created : | ArcMap10.8 |
| Approved : | SR |
| Date : | 11/21/2023 |
| Map # : | F18_PreConstructionHyd |

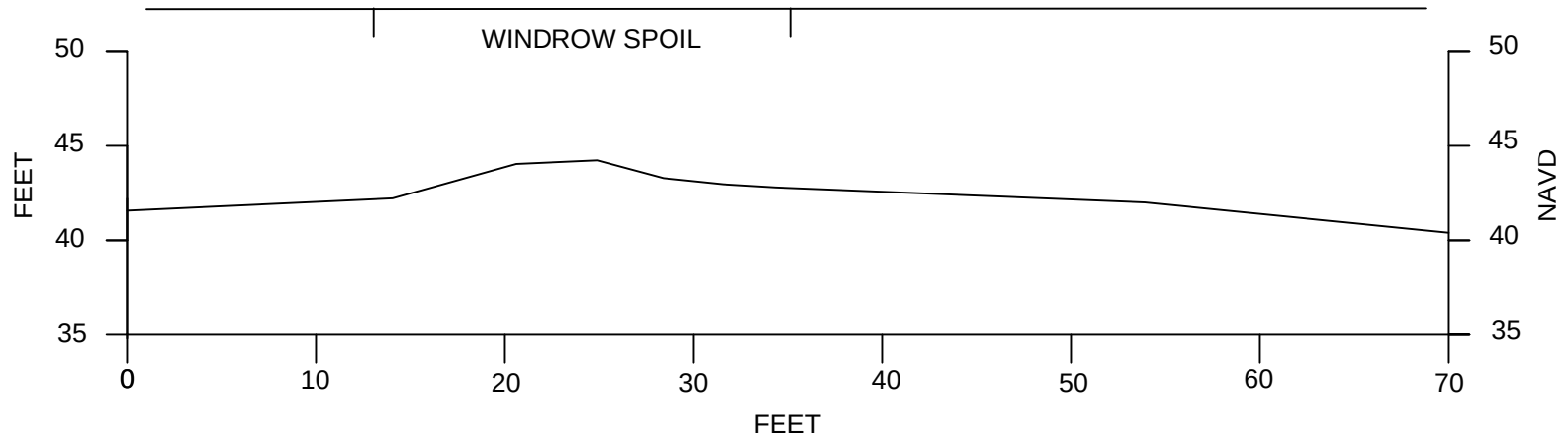
DELTA LAND SERVICES

FIGURE 18

A

A'

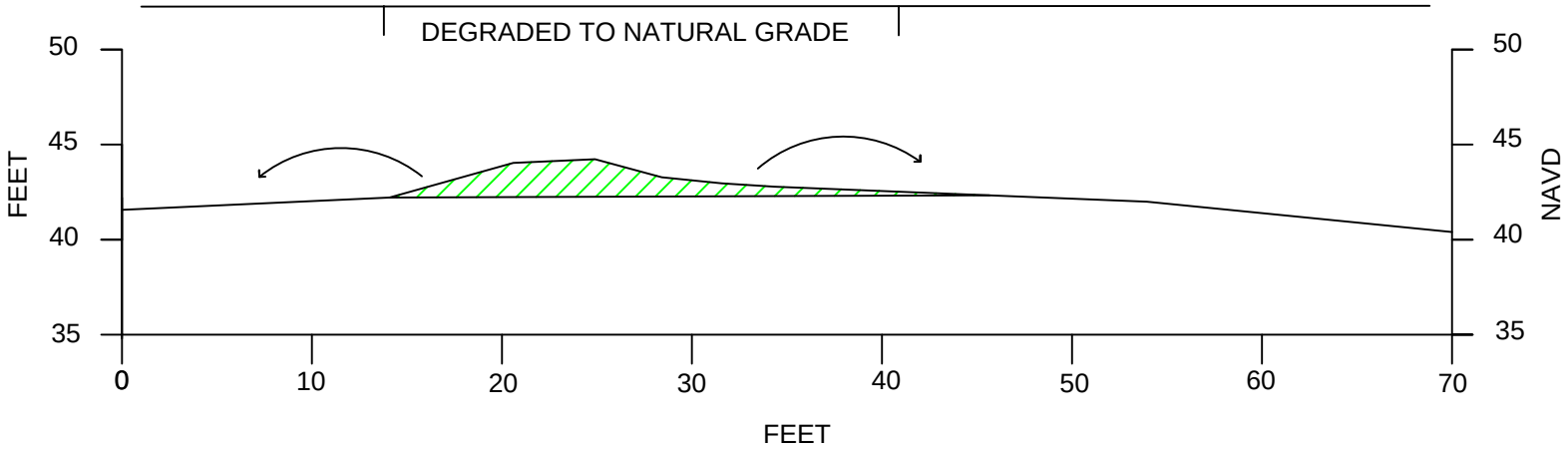
## EXISTING CROSS-SECTION A




A

A'

## PROPOSED CROSS-SECTION A




PROPOSED EXCAVATION

PROPOSED EARTHEN FILL

**Hollis Marsh Mitigation Bank**

CROSS-SECTION A

NEWTON COUNTY, TEXAS

| | |
|---|---|
| Created: | HJS/AutoCAD |
| Approved: | SR |
| Date: | 11/21/2023 |
| Dwg. No.: | Xsections.dwg |

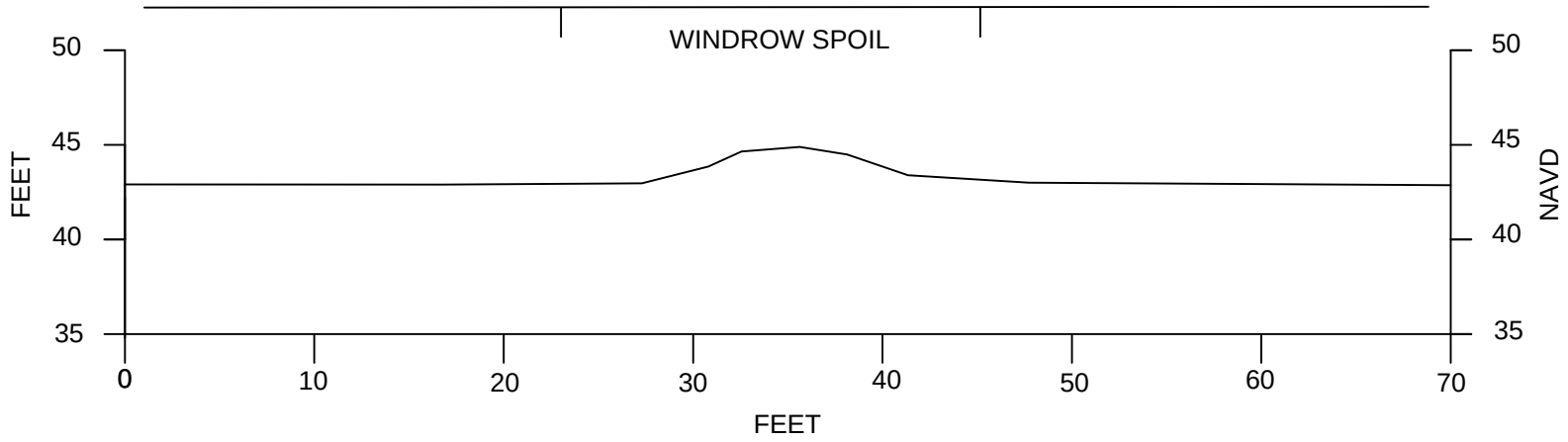
DELTA LAND SERVICES

**FIGURE 19 A**

B

B'

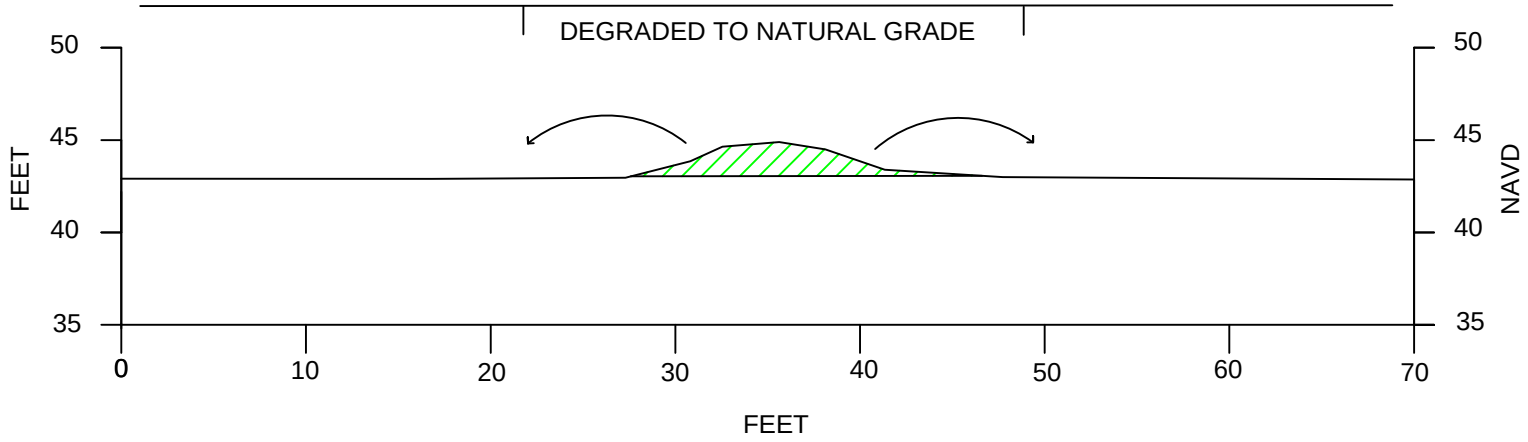
## EXISTING CROSS-SECTION B




B

B'

## PROPOSED CROSS-SECTION B




PROPOSED EXCAVATION

PROPOSED EARTHEN FILL

**Hollis Marsh Mitigation Bank**

CROSS-SECTION B

NEWTON COUNTY, TEXAS

| | |
|---|---|
| Created: | HJS/AutoCAD |
| Approved: | SR |
| Date: | 11/21/2023 |
| Dwg. No.: | Xsections.dwg |

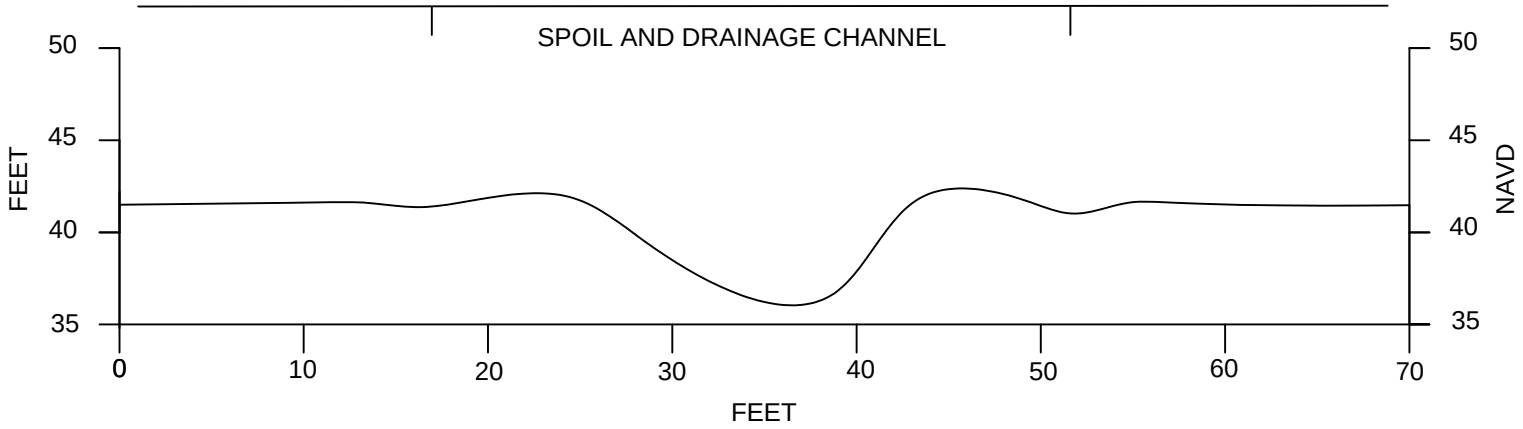
DELTA LAND SERVICES

**FIGURE 19 B**

C

C'

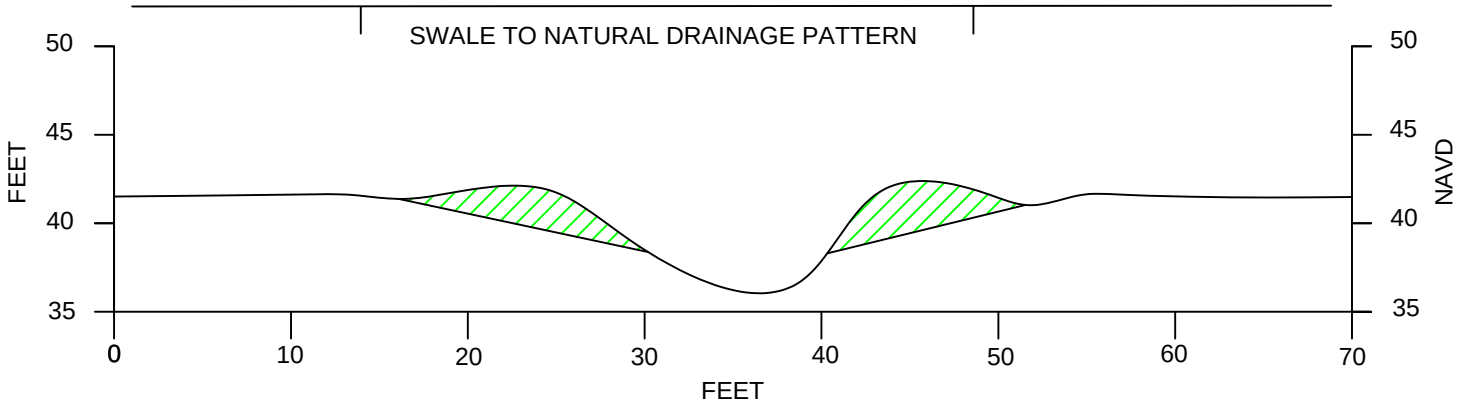
## EXISTING CROSS-SECTION C




C

C'

## PROPOSED CROSS-SECTION C




PROPOSED EXCAVATION

PROPOSED EARTHEN FILL

**Hollis Marsh Mitigation Bank**

CROSS-SECTION C

NEWTON COUNTY, TEXAS

| | |
|---|---|
| Created: | HJS/AutoCAD |
| Approved: | SR |
| Date: | 11/21/2023 |
| Dwg. No.: | Xsections.dwg |

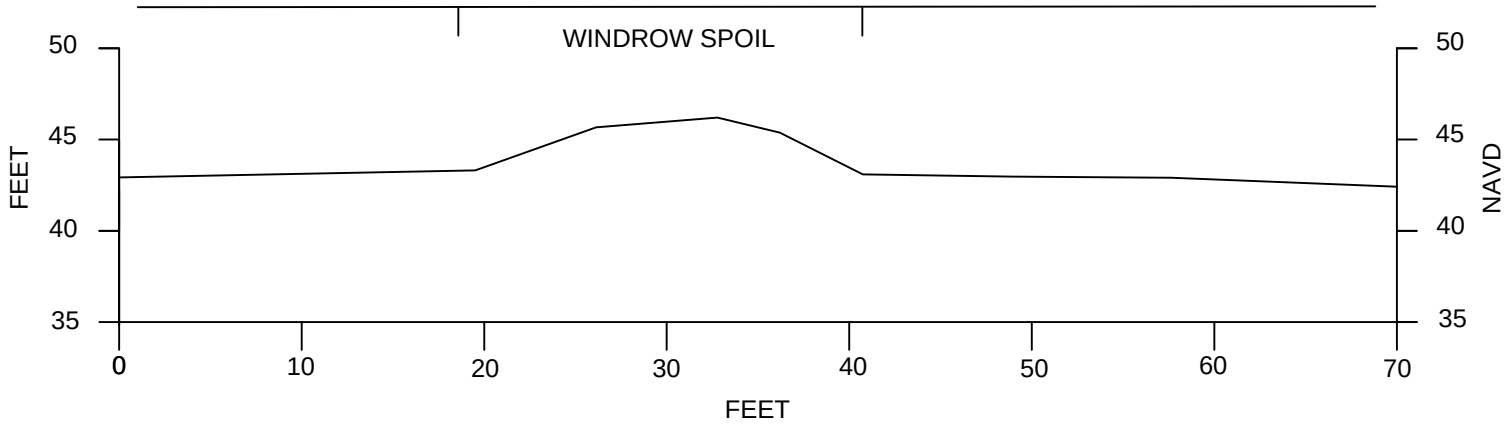
DELTA LAND SERVICES

**FIGURE 19 C**

D

D'

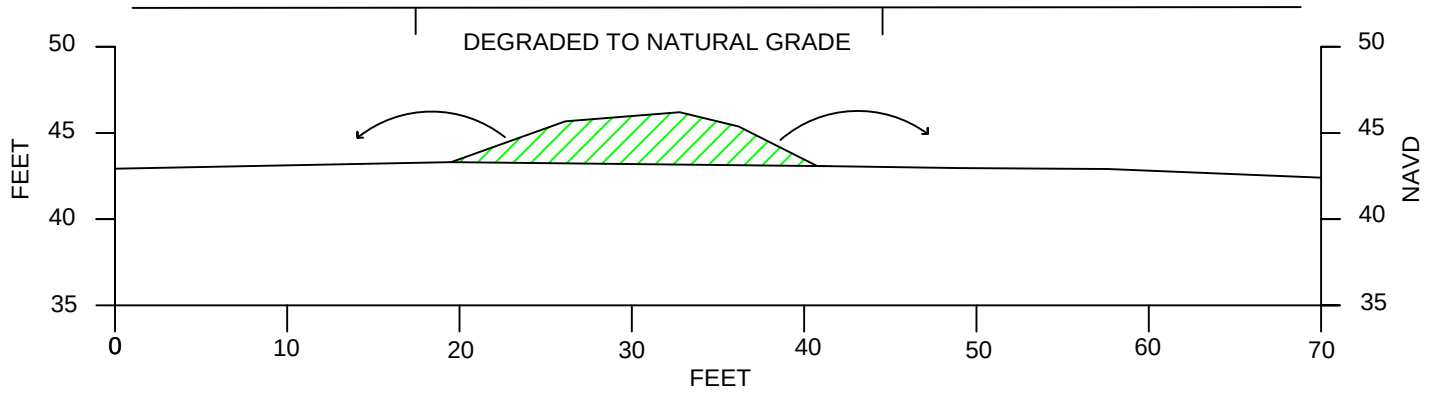
## EXISTING CROSS-SECTION D




D

D'

## PROPOSED CROSS-SECTION D




PROPOSED EXCAVATION

PROPOSED EARTHEN FILL

**Hollis Marsh Mitigation Bank**

CROSS-SECTION D

NEWTON COUNTY, TEXAS

| | |
|---|---|
| Created: | HJS/AutoCAD |
| Approved: | SR |
| Date: | 11/21/2023 |
| Dwg. No.: | Xsections.dwg |

DELTA LAND SERVICES

**FIGURE 19 D**


**Legend**

Project Boundary (282.4 ac)

Vegetation Reference Point

1,000 500 0 1,000

Feet

**Hollis Marsh Mitigation Bank**
**ADJACENT PROPERTY OWNERS**

Newton County, TX

| | |
|---|---|
| Created : | TSC/ArcMap |
| Approved : | SR |
| Date : | 01/21/2024 |
| Map # : | PropertyMap |

DELTA LAND SERVICES

**FIGURE 20**

# Appendix B

# Approved Jurisdictional Determination

**DEPARTMENT OF THE ARMY**
**U.S. ARMY CORPS OF ENGINEERS, GALVESTON DISTRICT**
**2000 FORT POINT RD**
**GALVESTON, TEXAS 77550**

October 24, 2022

Compliance Branch

SUBJECT: **SWG-2018-00425** – Delta Land Services, LLC; Approved Jurisdictional Determination (AJD) for an Approximate 283-Acre Site of the Proposed East Buna Mitigation Bank Located Approximately 2,870 Feet East of the County Road 3114 and 3116 Intersection in Buna, Newton County, Texas

Mr. Chad Butler
Delta Land Services, LLC
1090 Cinclare Drive
Port Allen, Louisiana 70767

Dear Mr. Butler:

This is in response to the January 15, 2018, request for wetland delineation verification, approved jurisdictional determination (AJD), and hydrogeomorphic (HGM) functional assessment for an approximate 283-acre site of the proposed Lake Creek Mitigation Bank. The subject site is located approximately 2,870 feet east of the county road 3114 and 3116 intersection in Buna, Newton County, Texas (map enclosed).

Based on our review of the submitted information, additional detailed off-site information, and the June 7, 2019, site visit, we determined the approximate 283-acre subject site contains two (2) wetlands comprising approximately 238.2 acres (Wetland 1 – 202.9 ac, Wetland 2 – 35.3 ac), and one (1) approximate 2,745-foot-long tributary, Hollis Marsh. The site was assessed using the Atlantic and Gulf Coastal Plain Region (Version 2.0) to the 1987 Corps of Engineers Wetland Delineation Manual which requires under normal circumstances, a predominance of hydrophytic vegetation, wetland soils, and sufficient hydrology at/or near the surface for adequate duration and frequency to support this aquatic ecosystem. Hollis Marsh exhibits seasonal perennial water flow; therefore, this feature meets the 33 CFR 328.3 tributary definition and is subject to Section 404 of the Clean Water Act (Section 404). The wetlands abut Hollis Marsh; as such they meet the 33 CFR 328.4 adjacent wetland definition and are subject to Section 404. All features were assessed per the Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States, and Carabell v. United States joint guidance issued by the Environmental Protection Agency and the U.S. Army Corps of Engineers on December 2, 2008. Consequently, the discharge of dredge and/or fill material within the identified aquatic resources requires a Department of the Army (DA) permit. This approved jurisdictional determination will remain valid for five (5) years from the date of this letter unless new information warrants revision or reissuance prior to the expiration date.

Areas of Federal Interests (federal projects, and/or work areas) may be located within the proposed project area. Any activities in these federal interest areas would also be subject to federal regulations under the authority of Section 14 of the Rivers and Harbors Act of 1899 (33 U.S.C. 408 - Section 408). Section 408 makes it unlawful for anyone to alter in any manner, in whole or in part, any work (ship channel, flood control channels, seawalls, bulkhead, jetty, piers, etc.) built by the United States unless it is authorized by the Corps (i.e., Navigation and Operations Division).

Corps determinations are conducted to identify the limits of the Corps Clean Water Act jurisdiction for particular sites. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331.5. Also enclosed are a combined Notification of Administrative Appeal Options and Process (NAP) and Request for Appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA to the Southwestern Division Office at the following address:

Mr. Jamie Hyslop
Administrative Appeals Officer
Southwestern Division, USACE (CESWD-PD-O)
U.S. Army Corps of Engineers
1100 Commerce Street, Suite 831
Dallas, Texas 75242-1317
Telephone: 469-487-7061; FAX: 469-487-7199

For an RFA to be accepted by the Corps, the Corps must determine that it is complete; that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division Office within **60 days** of the date of the NAP. It is not necessary to submit an RFA form to the Division office if you do not object to the determination in this letter.

If you have questions concerning this matter, please reference file number **SWG-2018-00425** and contact me at the letterhead address, by e-mail at kevin.s.mannie@usace.army.mil, or by telephone at 409-766-3016. To assist us in improving our service to you, please complete the survey found at

https://regulatory.ops.usace.army.mil/customer-service-survey/ and/or if you would prefer a hard copy of the survey form, please let us know, and one will be mailed to you.

Sincerely,

Kevin Mannie
Project Manager, Evaluation Branch

Enclosures

## NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

| Applicant: **DELTA LAND SERVICES, LLC** | File Number: **SWG-2018-00425** | Date: **10/24/22** |
|---|---|---|

| Attached is: | | See Section below |
|---|---|---|
| | INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission) | A |
| | PROFFERED PERMIT (Standard Permit or Letter of permission) | B |
| | PERMIT DENIAL | C |
| **X** | APPROVED JURISDICTIONAL DETERMINATION | D |
| | PRELIMINARY JURISDICTIONAL DETERMINATION | E |

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/appeals.aspx or Corps regulations at 33 CFR Part 331.

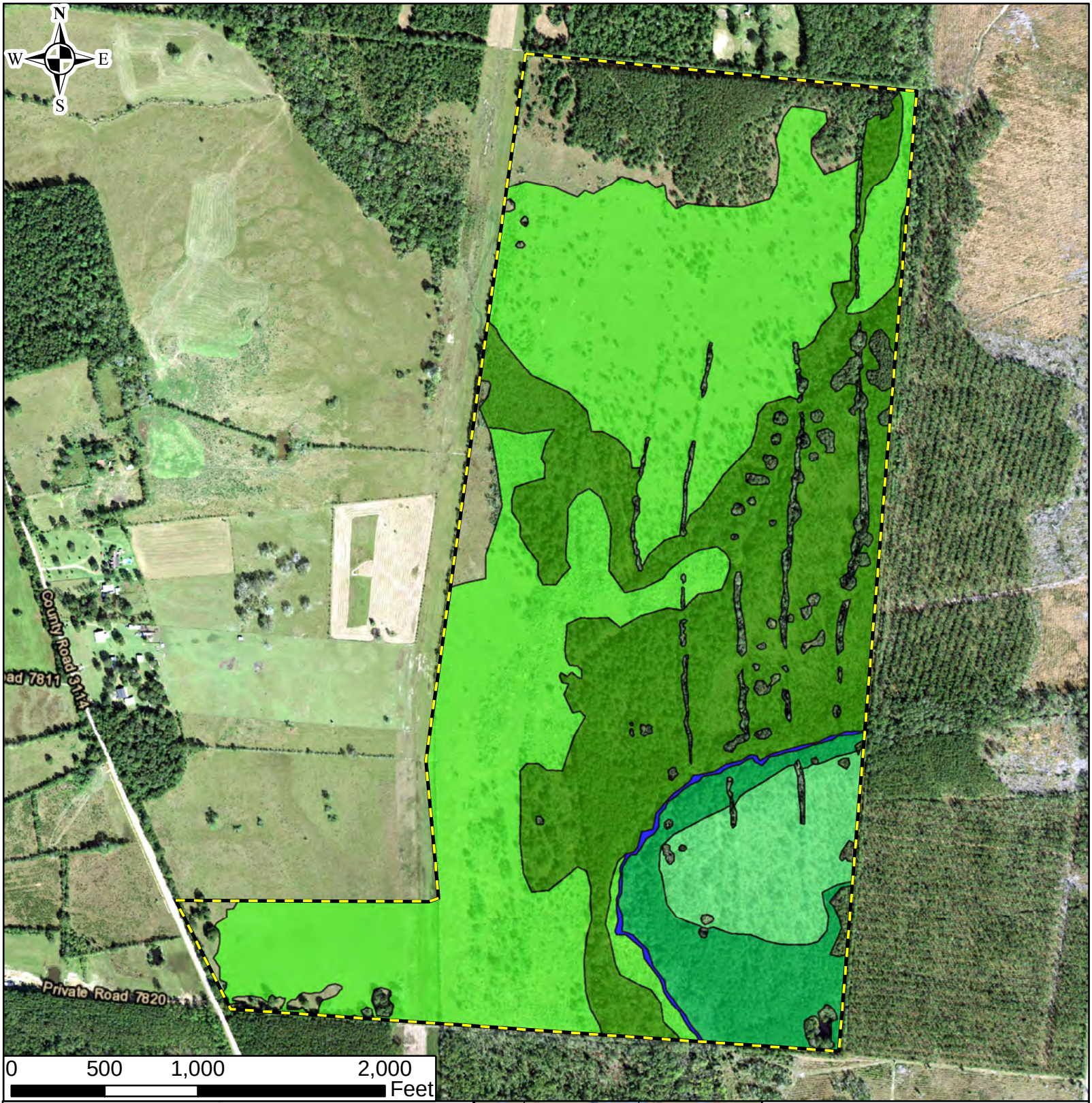
A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

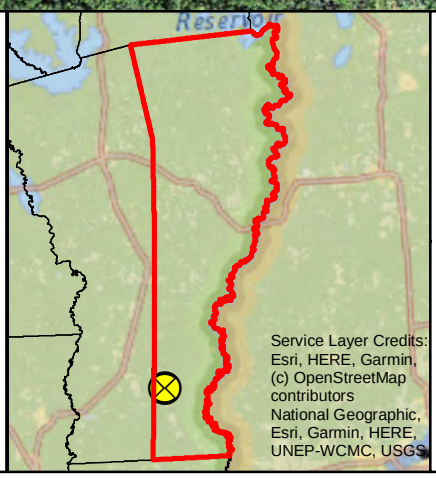
C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

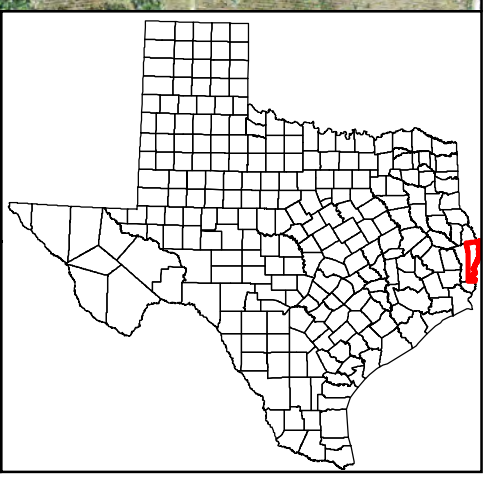



**SWG-2018-00425**
**Delta Land Services**
**Approximate 283-Acre Site**
**Approved Jursdictional Determination**
**Buna, Newton County, Texas**

- Review_Area ~ 283 ac
- Wetland 1a ~ 124.3 ac
- Wetland 1b ~ 78.6 ac
- Wetland 2a ~ 18.5 ac
- Wetland 2b ~ 16.8 ac
- Hollis_Marsh ~ 2,745 lf

Imagery Source: 2020 National Agriculture Imagery Program (NAIP), 1.0-meter Near Color
Note: Review area reflects neither property boundary nor ownership.



D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

## SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

## POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

| If you have questions regarding this decision and/or the appeal process you may contact: | If you only have questions regarding the appeal process you may also contact: |
|---|---|
| Kevin S. Mannie, Project Manager<br>Regulatory Division, Evaluation Branch (CESWG-RD-E)<br>U.S. Army Corps of Engineers, Galveston District<br>2000 Fort Point Road<br>Galveston, Texas 77550<br>Telephone: 409-766-3016; Fax: 409-766-3931 | Mr. Jamie Hyslop<br>Administrative Appeals Review Officer (CESWD-PD-O)<br>U.S. Army Corps of Engineers, Southwest Division<br>1100 Commerce Street, Suite 831<br>Dallas , Texas 75242-1317<br>Telephone: 469-487-7061; Fax: 469-487-7199 |

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

| | Date: | Telephone number: |
|---|---|---|
| _____<br>Signature of appellant or agent. | | |

# Appendix C

# Cultural Resources Background Review

**HOLLIS MARSH MITIGATION BANK PROJECT**
**NEWTON COUNTY, TEXAS**
**November 14, 2023**
**Prepared by: Patricia Christmas**
**Under the direction of Principal Investigator: Abby Peyton, MA, RPA**

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Delta Land Services (Delta) contracted Perennial Environmental Services, LLC (Perennial) to perform a background literature review and desktop assessment for the proposed Hollis Marsh Mitigation Bank Project (Project) located in Newton County, Texas (**Attachment 1**). The Project will require limited landscaping and re-contouring to facilitate tree planting and the establishment of a marsh mitigation bank.

The area of potential effects (APE) for the Project encompasses the entire 283.0-acre (ac) (114.5-hectares [ha]) Project area, with limited planned depths of impact specific to soil discing and tree planting extending up to 1.0 to 1.3 feet (ft) (0.3 to 0.4meters [m]) below the surface.

**Project Setting**

The Project is located within the Flatwoods ecoregion of Texas (Griffith et al. 2007). This ecoregion is a part of the broader, South Central Plains region. The Flatwoods region once and currently hosts a variety of mixed pine and hardwood forests in a mosaic of well-drained and poorly drained communities. The majority of the Big Thicket National Forest falls within this region. The landscape tends to be flatter, wetter, and lower in elevation than in regions to the north (Griffith et al. 2007).

The Project area is entirely underlain by the Beaumont Formation. The Beaumont Formation consists of very fine to fine quartz sand, silt and minor fine gravel which is intermixed and interbedded. Components are yellowish to brownish gray in color and can be reddish orange locally. The formation contains ridge deposits formed from fluvial processes including stream channels, point bars, crevasse splays and natural levees and can leave meander belt ridges and pimple mounds present on the landscape. Abandoned channels within the formation fill with organic rich laminated clay and silt. This formation dates to the Late Pleistocene epoch of the Quaternary period (USGS 2023).

Seven soil units are mapped across the Project (NRCS 2023). **Table 1** details the soil profiles that comprise these soil units. Overall, soils for the Project vary from well drained to poorly drained soils found on gently sloping flatlands or large mounds in floodplains with textures consisting primarily of a shallow A-horizon comprised of loamy sands underlain by clays. Most of these soil types are characterized as not hydric (NRCS 2023).

| Table 1. Soil Mapping Units Located within the Project Area | | | |
|---|---|---|---|
| **Mapping Unit** | **Texture and Drainage** | **General Location** | **NRCS Hydric Rating** |
| Camptown silt loam, 0 to 1 percent slopes, frequently ponded (CamA) | The Camptown series consists of very deep, very poorly drained and ponded soils. These soils formed in loamy fluviomarine deposits of the Beaumont Formation of late Pleistocene age. These nearly level soils are in long and narrow relict stream meander channels and depressions. Slope ranges from 0 to 1 percent but mainly less than 1 percent. | Relict meanderbelt channels on flat coastal plains | Not Hydric |
| Evadale silt loam, 0 to 1 percent slopes (EvaA | The Evadale series consists of very deep, poorly drained soils. These nearly level soils formed in loamy fluviomarine deposits of the Beaumont Formation of Late Pleistocene age. Slope ranges from 0 to 1 percent but mainly less than 1 percent. | Flats on relict meanderbelts and coastal plains | Not Hydric |
| Gist Soil Series; Vidor-Gist complex, 0 to 1 percent slopes (VigA) | The Gist series consists of very deep, moderately well drained soils formed in loamy fluviomarine deposits of the Beaumont Formation of late Pleistocene age. Slope ranges from 1 to 5 percent. | Nearly level coastal plains | Not Hydric |
| | The Vidor series consists of very deep, poorly drained soils. These nearly level soils formed in loamy fluviomarine deposits of the Beaumont Formation of late Pleistocene age. Slopes range from 0 to 1 percent. | Flat coastal plains | Not Hydric |
| Kirbyville-Niwana complex, 0 to 2 percent slopes; (KinB) | The Kirbyville series consists of very deep, moderately well to somewhat poorly drained soils. These nearly level to very gently sloping soils formed in loamy fluviomarine deposits of the Lissie Formation of early to mid-Pleistocene age. Slope ranges from 0 to 2 percent. | Nearly level to gently sloping coastal plains and interfluves | Not Hydric |
| | The Niwana series consists of very deep, well drained soils. These nearly level to very gently sloping soils formed in loamy fluviomarine deposits of the Lissie Formation of Pleistocene age. These soils occupy mounds 50 to 200 feet in diameter and are 1/2 to 1 meter (1 to 3 ft) above the intermound landscape. Slope ranges from 0 to 3 percent. | Oblong mounds on coastal plains and interfluves | Not Hydric |

| Table 1. Soil Mapping Units Located within the Project Area | | | |
|---|---|---|---|
| **Mapping Unit** | **Texture and Drainage** | **General Location** | **NRCS Hydric Rating** |
| Nona-Dallardsville complex, 0 to 1 percent slopes (NonA) | The Dallardsville series consists of very deep, moderately well drained soils. These nearly level soils are on mounds that formed in loamy fluviomarine deposits derived from the Lissie Formation of early Pleistocene age. Slope ranges from 0 to 1 percent. | Oblong mounds on coastal plains | Not Hydric |
| | The Nona series consists of very deep, poorly drained soils. These nearly level to very gently sloping soils formed in loamy fluviomarine deposits of the Lissie Formation of early to mid-Pleistocene age. Slope ranges from 0 to 1 percent. | Flat coastal plains | Not Hydric |
| Sourlake loam, 0 to 1 percent slopes, frequently flooded (SovA) | The Sourlake series consists of very deep, poorly drained soils that formed in loamy alluvial deposits of Holocene age. These soils are meandering channels of creeks and streams. Slope ranges from 0 to 1 percent but mainly less than 1 percent. | River valleys and floodplains | Not Hydric |
| Waller-Dallardsville complex, 0 to 1 percent slopes (WarA) | The Waller series consists of very deep, poorly drained soils. These nearly level soils formed in loamy fluviomarine deposits of the Lissie Formation of Pleistocene age. Slope ranges from 0 to 1 percent, but are mainly less than 0.5 percent | Flat coastal plains | Not Hydric |

## Cultural Resources Background Review

Perennial conducted a records and literature review of the Texas Historical Commission's (THC) Atlas online database and the National Register of Historic Places (NRHP) database to identify previously recorded cultural resource sites, historic structures, properties listed in the NRHP, designated historic districts, or State Antiquities Landmarks (SAL), which could potentially be affected by the proposed undertaking. Previously recorded cultural resource site forms, reports of archeological investigations, general historical documents, and secondary sources concerning the background of the area were reviewed. The records search included a review of all previously recorded site forms, cemetery data, and surveys on file within a 1.0-mile (mi) (1.6-kilometer [km]) review radius of the Project area.

In addition to a records and literature search, archeologists gathered information from secondary sources concerning the prehistoric and historic background of the area. Documents associated

with the history of the area were used to model prehistoric and historic settlement patterns in relation to the landscape and terrain characteristics, as well as cultural patterns and regional trends.

The background review revealed that there are no previously recorded archeological sites, cemeteries, National Register districts are mapped within, or directly adjacent to the Project area. One previous linear survey conducted in 2001 runs north-south across the western portion of the Project area (Table 2, Attachment 1). The background review further revealed that no previously recorded archeological sites, cemeteries, or historic districts or structures are mapped within the broader 1.0-mi (1.6-km) review radius. One additional linear survey is mapped within the broader review radius (Atlas 2023).

A review of modern and historic aerial imagery from 1952 depicts an open rural landscape with only a minor riparian corridor along the margins of Hollis Marsh. By the 1970s and early 1980s the Project area is dominated by more widespread wooded vegetation. However, by 1996, aerial imagery depicts that the entire Project area was cleared of wooded vegetation, and a series of north-south running wind breaks or "wind rows" are visible on the landscape which are comprised of debris following clearing activities (Figure 1). Today, the Project area is comprised of a combination of cleared pastures, and lowland marshy areas with moderately-thick vegetation along the watercourses (NETR 2023).

**Table 2. Cultural resources surveys within 1.0-mi (1.6 km) review radius**

| Survey Date | Atlas Number | Company | Agency | Survey Report Title | Survey Report Authors | Within Project Area |
|---|---|---|---|---|---|---|
| April 2001 | 8400009813 | No information listed | FERC | No information listed | No information listed | Yes |
| March 2001 | 8400009805 | No information listed | FERC | No information listed | No information listed | No |

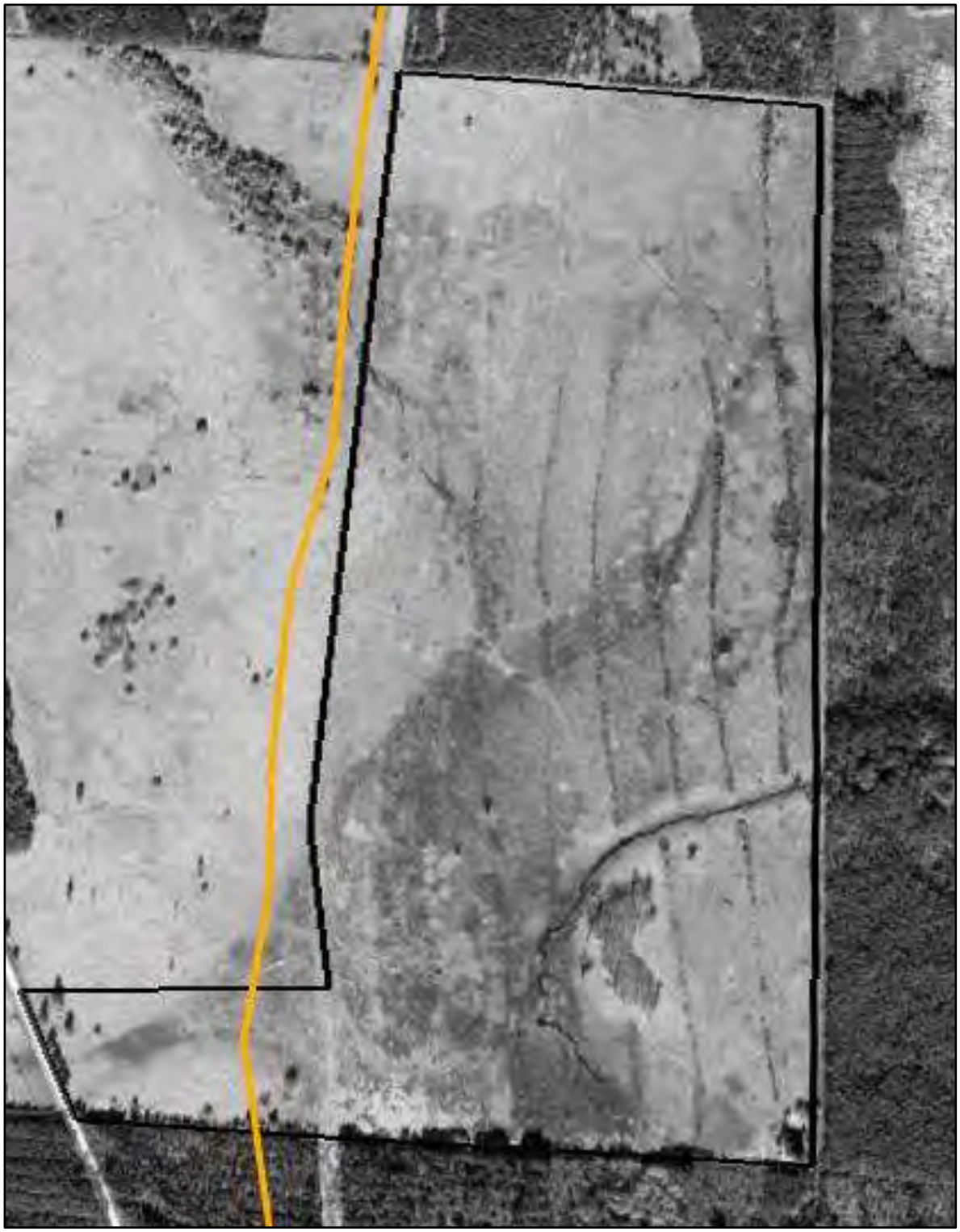


**Figure 1. 1996 aerial imagery of the Project area depicting widespread land clearing and terracing activities (Google Earth Pro 2023)**

## Conclusions

Overall, the background review revealed that there are no previously recorded sites or cemeteries are mapped within the Project area. A very small portion of the Project area has been previously surveyed for cultural resources. The majority of the Project area is dominated by lowland marsh, and has been impacted over the decades by clearing activities. While only a small portion of the Project area has been previously surveyed for cultural resources, it is Perennial's opinion that there is a low to moderate probability that the Project activities would adversely impact significant cultural resources.

## References


(Atlas) Texas Archeological Sites Atlas
2023 Texas Archeological Site Atlas restricted database, Texas Historical Commission. http://pedernales.thc.state.tx.us/. Accessed November 2023.

Google Earth Pro
1996 Aerial image of Project Area. Electronic Resource. Accessed November 2023.

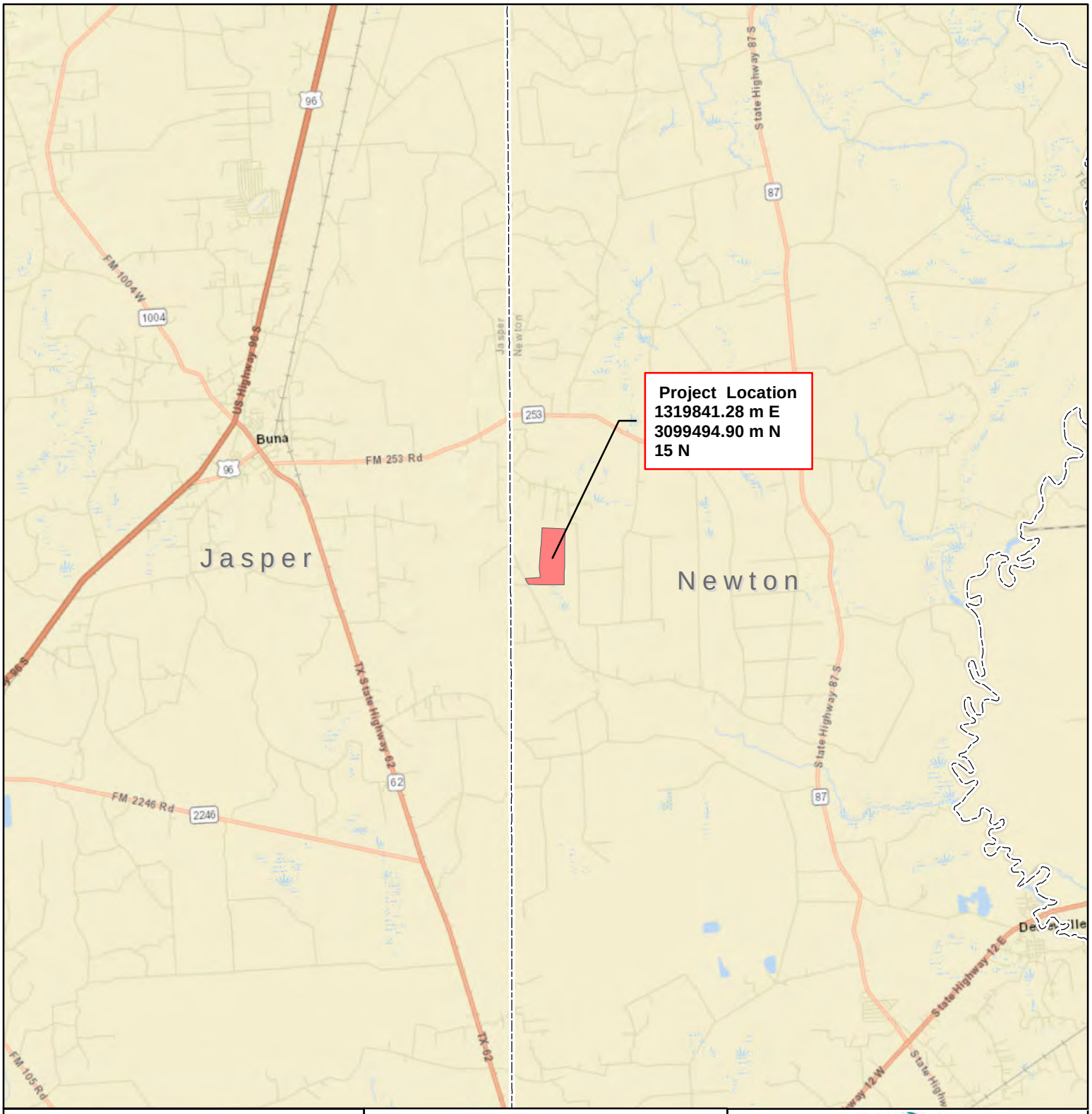
Griffith, G.E., Bryce, S.A., Omernik, J.M., Rogers, A.C.
2007 *Ecoregions of Texas*. Electronic Document, available at http://ecologicalregions.info/htm/pubs/TXeco_Jan08_v8_Cmprsd.pdf. Accessed November 2023.

(NETR) Nationwide Environmental Title Research, LLC
2023 Historic Aerials Online. http://www.historicaerials.com/, accessed November 2023.

(USGS) United States Geological Survey
2023 U.S. Geological Survey, United States Department of the Interior. Information and graphics available at http://mrdata.usgs.gov/sgmc/tx.html. Accessed November 2023.

PERENNIAL
Environmental Services

# ATTACHMENT 1 – PROJECT MAPPING




Project Location

County Boundary

0 2 4 Kilometers

0 1 2 Miles

NORTH

PERENNIAL

Vicinity Map
Hollis Marsh Mitigation Bank Project
Delta Land Services
Newton County, TX

| | |
|---|---|
| Page 1 of 1 | Scale: 1:150,000 |
| NAD83 UTM 16N m | Date: November 2023 |

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Author: AB


PERENNIAL

# Topographic Map
# Hollis Marsh Mitigation Bank Project
# Delta Land Services
# Newton County, TX

| | |
|---|---|
| Page 1 of 1 | Scale: 1:3,000 |
| NAD83 UTM 16N m | Date: November 2023 |

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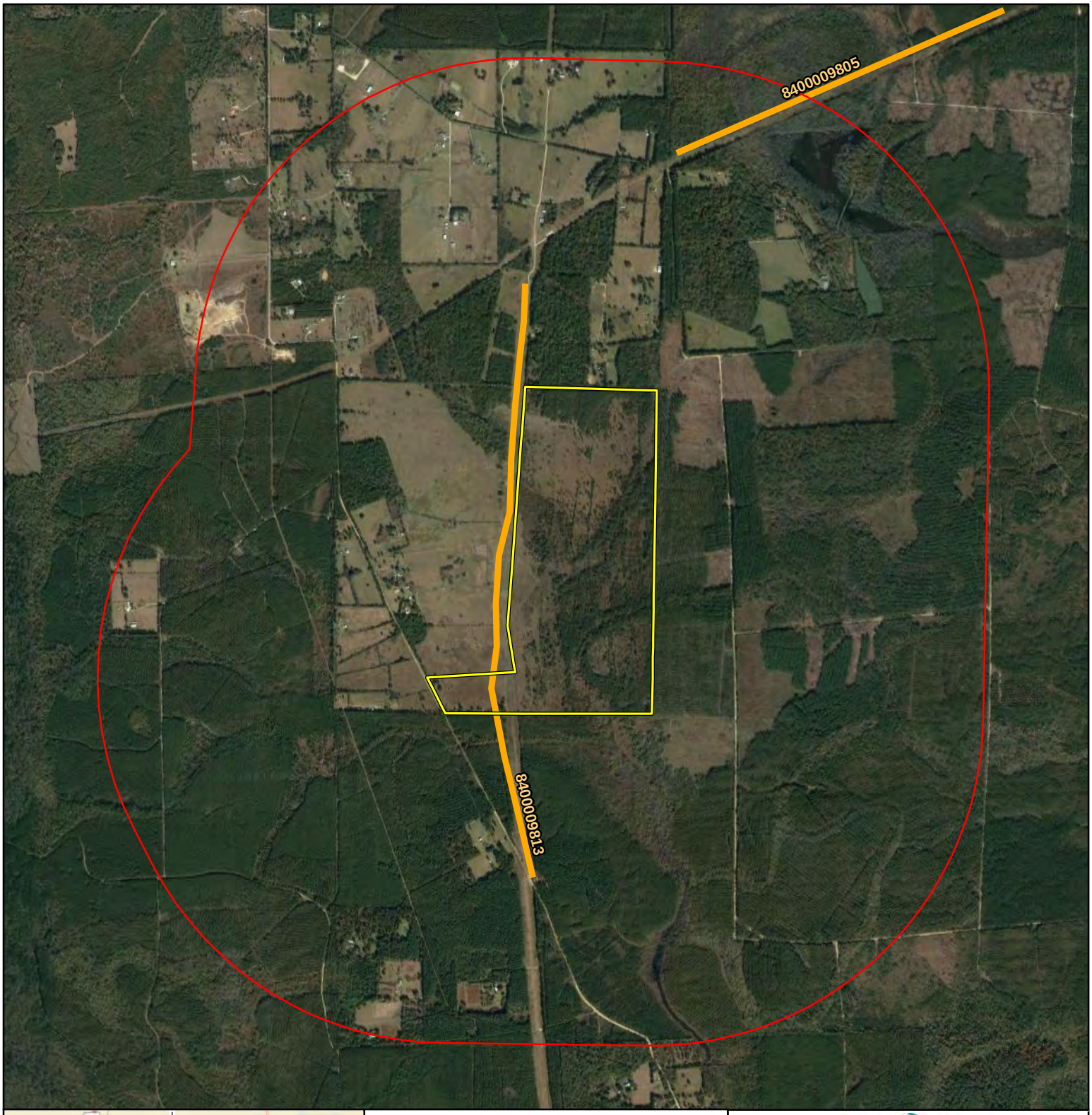
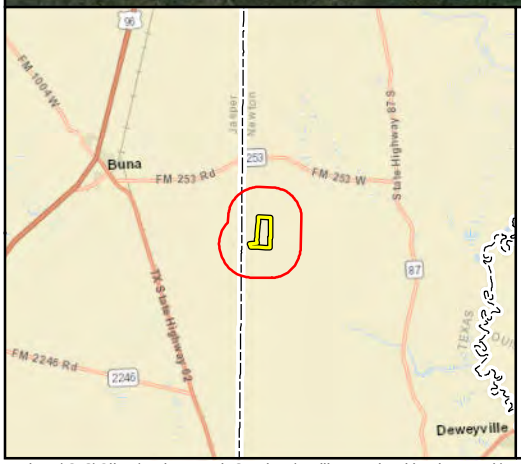
Author: AB




Project Location
1 Mile Buffer
Previously Conducted Survey

0 0.5 1 Kilometers
0 0.25 0.5 Miles

NORTH

PERENNIAL

Aerial Map
Hollis Marsh Mitigation Bank Project
Delta Land Services
Newton County, TX

| | |
|---|---|
| Page 1 of 1 | Scale: 1:3,000 |
| NAD83 UTM 16N m | Date: November 2023 |

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Author: AB

# Appendix D
# USFWS IPaC

# United States Department of the Interior

FISH AND WILDLIFE SERVICE
Texas Coastal & Central Plains Eso
17629 El Camino Real, Suite 211
Houston, TX 77058-3051
Phone: (281) 286-8282 Fax: (281) 488-5882


In Reply Refer To: February 13, 2024
Project Code: 2024-0048876
Project Name: Hollis Marsh Mitigation Bank

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The U.S. Fish and Wildlife Service (Service) field offices in Clear Lake, Corpus Christi, Arlington, and Alamo, Texas, have combined administratively to form the Texas Coastal Ecological Services Field Office. All project related correspondence should be sent to the field office address listed below responsible for the county in which your project occurs:

Project Leader; U.S. Fish and Wildlife Service; 17629 El Camino Real Ste. 211; Houston, Texas 77058
*Angelina*, *Austin*, *Brazoria*, *Brazos*, *Chambers, Colorado, Fayette, Fort Bend, Freestone, Galveston, Grimes, Hardin, Harris, Houston, Jasper, Jefferson, Leon, Liberty, Limestone, Madison, Matagorda, Montgomery, Newton, Orange, Polk, Robertson, Sabine, San Augustine, San Jacinto, Trinity, Tyler, Walker, Waller, and Wharton.*

Assistant Field Supervisor, U.S. Fish and Wildlife Service; 4444 Corona Drive, Ste 215; Corpus Christi, Texas 78411
*Aransas, Atascosa, Bee, Brooks, Calhoun, De Witt, Dimmit, Duval, Frio, Goliad, Gonzales, Hidalgo, Jackson, Jim Hogg, Jim Wells, Karnes, Kenedy, Kleberg, La Salle, Lavaca, Live Oak, Maverick, McMullen, Nueces, Refugio, San Patricio, Victoria, and Wilson.*

U.S. Fish and Wildlife Service; Santa Ana National Wildlife Refuge; Attn: Texas Ecological Services Sub-Office; 3325 Green Jay Road, Alamo, Texas 78516
*Cameron, Hidalgo, Starr, Webb, Willacy, and Zapata*.

For questions or coordination for projects occurring in counties not listed above, please contact arles@fws.gov.

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your

proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: http://www.fws.gov/media/endangered-species-consultation-handbook.

Non-Federal entities may consult under Sections 9 and 10 of the Act. Section 9 and Federal regulations prohibit the take of endangered and threatened species, respectively, without special exemption. “Take” is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. “Harm” is further defined (50 CFR § 17.3) to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. “Harass” is defined (50 CFR § 17.3) as intentional or negligent actions that create the likelihood of

injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Should the proposed project have the potential to take listed species, the Service recommends that the applicant develop a Habitat Conservation Plan and obtain a section 10(a)(1)(B) permit. The Habitat Conservation Planning Handbook is available at: https://www.fws.gov/library/collections/habitat-conservation-planning-handbook.

Migratory Birds:
In addition to responsibilities to protect threatened and endangered species under the Act, there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts visit: https://www.fws.gov/program/migratory-birds.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable National Environmental Policy Act (NEPA) documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

# OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Texas Coastal & Central Plains Eso**
17629 El Camino Real, Suite 211
Houston, TX 77058-3051
(281) 286-8282

# PROJECT SUMMARY

Project Code: 2024-0048876
Project Name: Hollis Marsh Mitigation Bank
Project Type: Mitigation Development/Review - Mitigation or Conservation Bank
Project Description: 282.4 acre mitigation bank project. The project may take place in the next 5 years. Disturbances may include mowing and site prep for planting trees.
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@30.4023775,-93.87864975018292,14z


Counties: Newton County, Texas

# ENDANGERED SPECIES ACT SPECIES

There is a total of 7 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 2 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## MAMMALS

| NAME | STATUS |
|---|---|
| Tricolored Bat *Perimyotis subflavus*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/10515 | Proposed Endangered |

## BIRDS

| NAME | STATUS |
|---|---|
| Piping Plover *Charadrius melodus*<br>Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered.<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>This species only needs to be considered under the following conditions:<br>▪ Wind related projects within migratory route.<br>Species profile: https://ecos.fws.gov/ecp/species/6039 | Threatened |
| Red-cockaded Woodpecker *Picoides borealis*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/7614 | Endangered |
| Rufa Red Knot *Calidris canutus rufa*<br>There is **proposed** critical habitat for this species.<br>This species only needs to be considered under the following conditions:<br>▪ Wind related projects within migratory route.<br>Species profile: https://ecos.fws.gov/ecp/species/1864 | Threatened |

## REPTILES

| NAME | STATUS |
|---|---|
| Alligator Snapping Turtle *Macrochelys temminckii*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/4658 | Proposed Threatened |

## CLAMS

| NAME | STATUS |
|---|---|
| Louisiana Pigtoe *Pleurobema riddellii*<br>There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat.<br>Species profile: https://ecos.fws.gov/ecp/species/10233 | Proposed Threatened |

## INSECTS

| NAME | STATUS |
|---|---|
| Monarch Butterfly *Danaus plexippus*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/9743 | Candidate |

## CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

# BALD & GOLDEN EAGLES

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

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

---

1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

THERE ARE NO BALD AND GOLDEN EAGLES WITHIN THE VICINITY OF YOUR PROJECT AREA.

# MIGRATORY BIRDS

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

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

THERE ARE NO FWS MIGRATORY BIRDS OF CONCERN WITHIN THE VICINITY OF YOUR PROJECT AREA.

# WETLANDS

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

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

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

RIVERINE

- R4SBC

FRESHWATER EMERGENT WETLAND

- PEM1A
- PEM1C

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1A

FRESHWATER POND

- PUBHx

## IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Stephen Ross
Address: 3129 Kingsley Dr.
Address Line 2: Suite 820
City: Pearland
State: TX
Zip: 77584
Email stephen@deltaland-services.com
Phone: 3468882776

## LEAD AGENCY CONTACT INFORMATION

Lead Agency: Army Corps of Engineers

# Appendix E
# Summary of Title Matters

4040 Broadway, Suite 430
San Antonio, Texas 78209
T 210.829.1660
F 210.829.1641
uhlfitzsimons.com

December 8, 2023

Delta Land Services, L.L.C.
Attn: D. Winship Songy
1090 Cinclare Drive
Port Allen, Louisiana 70767

***Via Email: winship@deltaland-services.com***

Re: **Summary of Title Matters** for the *surface only* of that certain approximately 288.01 acre tract more particularly described on Exhibit "A" attached hereto (the "**Property**"), located in Newton County, Texas.

Dear Mr. Songy:

As requested, we reviewed the following documents (collectively, the "**Title Documents**") in preparing this Summary of Title Matters:

(i) The Owner's Policy of Title Insurance pertaining to the Property issued by Alamo Title Insurance on August 9, 2018 under Policy No. 4000411800694-O1 (the "**Title Policy**");

(ii) That certain Title Opinion prepared by Garland Smith Abstract Company dated August 11, 2023 covering a 100 year search from 1923 through August 11, 2023 (the "**Title Opinion**"); and

(iii) That certain survey of the Property dated May 30, 2018, prepared by Glenn Hoffpauir, R.P.L.S. No. 4492, on behalf of Glenn Hoffpauir Surveying, PLLC (the "**Survey**").

The Title Policy, Title Opinion, and Survey reflect that, as of *August 11, 2023*, the Property is owned in fee simple by *Ironwood Holdings, LLC, doing business in Texas as Ironwood Texas Holdings, LLC*. According to the Title Documents, the Property is free from mortgages, liens, encumbrances or defects, except the following, all of which are recorded in the public records of Newton County, Texas, or are disclosed by the Survey:

1. The following matters and all terms of the documents creating or offering evidence of the matters:

   (a) Right of Way Deed from Herman C. Williams to Texas Eastern Transmission Corporation dated November 28, 1973 recorded in Volume 259, Pace 186, Deed Records, Newton County, Texas. In the location shown on the Survey there is a designation of Enterprise Products petroleum pipelines "P-2" and "P-62" within the easement area.

   (b) Grant of Option and Easement dated December 7, 2000 from Stanley R. Fields and wife, Susan C. Fields to Centennial Pipeline, LLC recorded in Volume 463, Page 120, Official Public Records, Newton County, Texas, as affected by Acknowledgement of Exercise of Option dated June 5, 2001 from Centennial Pipeline, LLC to Stanley Fields and wife,

Susan C. Fields recorded in Volume 467, Page 572, Official Public Records, Newton County, Texas, at the location shown on the Survey.

(c) Easement dated June 24, 2015, to Energy Transfer Crude Oil Company, LLC, dated recorded in Volume 662, Page 82, Official Public Records, Newton County, Texas, in the location shown on the Survey.

(d) The following matters as shown on the Survey:

(i) CIPCO Centana Intrastate gas pipeline shown on the Survey crossing the Property from north to south at the east end of the 600 foot wide "neck" of the Property providing a connection to County Road 737, being the second pipeline east of the easement cited in Volume 662, Page 82.

(ii) Telephone pedestals shown on the plat indicating the presence of buried telephone cables in or along County Road 737.

(iii) Barbwire fence along the south boundary line of the Property varies from 0-8.6 fee south of the property line.

(iv) The southernmost west boundary line of the Property is located on the apparent west right-of-way of Liberty CR 737, also known as Sheppard Road. As indicated on the Survey, 1.01 acres of the Property lies within the apparent right-of-way of CR 737.

2. Standby fees, taxes and assessments by any taxing authority for the year 2018 and subsequent years; and subsequent taxes and assessments by any taxing authority for prior years due to change in land usage or ownership.

3. All conveyances, leases, grants, exceptions or reservations of, and agreements and instruments related to coal, lignite, oil, gas and other minerals, together with all rights, privileges, and immunities relating thereto, that affect the Property, appearing in the Public Records of Newton County, Texas.

As stated above, our review was based solely on, and is therefore limited to, the information contained in the Title Documents. The Property may be encumbered by other matters that have either arisen after August 11, 2023, or affected the Property before that date and yet were not disclosed in the Title Documents. Those matters may include:

(a) Encumbrances, encroachments, boundary line disputes or other matters that would be reflected by a current on-the-ground survey of the Property;

(b) Rights or claims of parties in possession of the Property not shown by the public records;

(c) Any lien, or right to a lien, for services, labor, or materials furnished in the past or in the future, imposed by law, and not shown by the public records;

(d) The exercise of governmental zoning authority;

(e) The results or consequences of any fraudulent statements or acts, or acts of forgery, in any way related to ownership of or title to the Property;

(f) Any claim which may be asserted by the State of Texas or any other governmental authority to any part of the Property as being part of the bottom, bed, or bank of a navigable body of water;

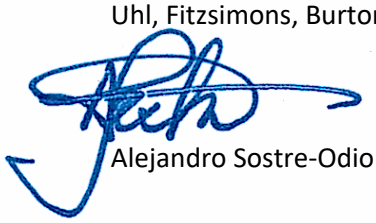
(g) The results of an involuntary or voluntary filing of a petition for bankruptcy by any current, former, or future owner of the Property; or

(h) Any other matter which is not reflected in the Title Documents.

Should you have any questions or comments about this matter, please give me a call.

Yours very truly,

Uhl, Fitzsimons, Burton, Wolff & Rangel, PLLC



Alejandro Sostre-Odio

cc: Chad Butler, Delta Land Services, L.L.C. (Via Email)

**EXHIBIT "A"**
**Property**

Ironwood Holdings, LLC
288.01 Acres (Fields Tract)

D.B. KOGER SURVEY. A-1046
Newton County, Texas
Project 38216

All that certain 288.01 acre tract situated about 31.5 miles southwest of the City of Newton, Newton County, Texas, out of the D.B. KOGER SURVEY, ABSTRACT 1046 (H. & T.C. RAILROAD CO. SECTION 28), being part of a called 553.49 acre tract conveyed by Herman C. Williams to Stanley R. Fields and wife Susan C. Fields as described in Warranty Deed dated June 30, 1980, recorded in Volume 297, Page 600 of the Newton County Deed Records (NCDR), and being more particularly described by metes and bounds as follows, according to a survey made by Glenn Hoffpauir, Registered Professional Land Survey, completed on May 30, 2018:

§§§

Note that in the following description,

- **bearings** refer to Grid North of the Texas Coordinate System of 1983 (Central Zone 4203) as computed from gps vectors; at the Point of Beginning, True Azimuth = Grid Azimuth + 3°19'36", and
- "1/2 in. iron rod set" denotes a centerpunched 1-1/2 in. aluminum cap stamped "HOFFPAUIR RPLS 4492" affixed to a ½ inch iron rod.

§§§

**BEGINNING** at the northeast corner of the called 553.49 acre tract, a 4-1/2 in. x 4-1/2 in. concrete monument found for corner from which a crosstie fence corner post bears S 23°00' W, 1.4 feet, said beginning corner being the southeast corner of a called 25.46 acre tract conveyed by Johnny R. Russo and wife, Trevelyn Abshire Russo to Travis Woods and wife, Lois M. Woods as described in General Warranty Deed dated September 12, 1995, recorded in 409/314, and also being the northwest corner of a tract of unspecified acreage designated "Tract NEW-82" and conveyed by TIN, Inc. to Crown Pine Timber 2, L.P. as described in Special Warranty Deed dated October 30, 2007, recorded in 553/669 NCDR (this deed extends into the subsequent volume - see 554/163 NCDR for the metes and bounds description of "Tract NEW-82");

**THENCE S 01°16'19" W, 5218.92 feet** (called S 05°34' W, 5218.65 feet in 297/600 NCDR) with the east boundary line of the called 553.49 acre tract and the west boundary line of "Tract NEW-82" to a 4 in. x 4 in. concrete monument found for corner from which

- a crosstie fence corner post bears S 24°19' W, 2.3 feet,
- an 11 in. willow oak, found marked "X", bears S 61°33' W, 13.3 feet, and
- a capped 1-1/2 in. galvanized iron pipe found for witness bears S 25°26'16" W, 0.99 feet, the cap on this pipe found stamped "S.E. COR. H.&T.C. SEC. 28",

said corner being the southeast corner of the called 553.49 acre tract, the southwest corner of "Tract NEW-82", and also being the northeast corner of a called 615.5 acre tract designated "Tract NEW-83" and conveyed by TIN, Inc. to Crown Pine Timber 2, L.P. as described in the aforementioned Special Warranty Deed dated October 30, 2007, recorded in 553/669 NCDR (this deed extends into the subsequent volume - see 554/167 NCDR for the metes and bounds description of "Tract NEW-83");

THENCE N 89°23'52" W, with the south boundary line of the called 553.49 acre tract and the north boundary line of the called 615.5 acre tract, at 3309.57 feet pass a ½ in. iron rod set for witness at the northwest base of a crosstie fence corner post, at 3345 feet pass the centerline of Newton County Road 737 (Sheppard Road), a graded county road, and in all, **N 89°23'52" W, 3376.57 feet** (called 3376.07 feet in 297/600 NCDR) to a 4 in. x 4 in. concrete monument found for corner on the apparent west right-of-way of County Road 737, said corner being the southernmost southwest corner of the called 553.49 acre tract and the southeast corner of a called 33.15 acre tract conveyed by Jo Ellen Callison to Ronald Hitchcock and wife, Linda Harris Hitchcock as described in Warranty Deed dated December 5, 2001, recorded in 474/253 NCDR, and more particularly described by metes and bounds in a Deed of Trust executed by Richard A. Glidewell and wife, Geneva Gail Glidewell in favor of Jo Ellen Callison, dated May 28, 1996, recorded in Volume 89, Page 685 of the Newton County Deed of Trust Records;

THENCE **N 27°05'24" W, 677.62 feet** (called N 22°48' W in 297/600 NCDR) with the southernmost west boundary line of the called 553.49 acre tract, the east boundary line of the called 33.15 acre tract, and with the apparent west right-of-way of County Road 737 to a ½ in. iron rod set for corner in a barbwire fence, from said iron rod

- a 4 in. x 4 in. concrete monument found for corner at the northeast corner of the called 33.15 acre tract bears N 27°05'24" W, 766.41 feet, and
- a ½ in. iron rod set for witness in a barbwire fence bears S 89°23'52" E, 80.13 feet;

THENCE S 89°23'52" E, at 28 feet pass the centerline of County Road 737, at 80.13 feet pass a ½ in. iron rod set for witness, and in all, **S 89°23'52" E, 1489.78 feet** to a ½ in. iron rod set for corner in a barbwire fence on the east side of a pipeline corridor;

THENCE with the barbwire fence along the east side of said pipeline corridor, as follows:

**N 05°10'57" W, 580.34 feet** to a ½ in. iron rod set for corner in the fence;
**N 04°15'54" W, 399.50 feet** to a ½ in. iron rod set for corner in the fence;
**N 04°10'36" W, 172.49 feet** to a ½ in. iron rod set for corner in the fence;

**N 00°28'26" E, 233.39 feet** to a ½ in. iron rod set for corner in the fence;
**N 04°04'22" E, 102.64 feet** to a ½ in. iron rod set for corner in the fence;
**N 04°32'29" E, 364.41 feet** to a ½ in. iron rod set for corner in the fence (down);

**N 04°34'52" E, 624.98 feet** to a ½ in. iron rod set for corner in the fence;
**N 04°37'42" E, 700.63 feet** to a ½ in. iron rod set for corner in the fence;
**N 04°48'49" E, 606.38 feet** to a ½ in. iron rod set for corner in the fence;

**THENCE N 04°58'53" E, 875.29 feet** to a 1-1/4 in. iron pipe capped with a 5/8 in. bolt found for corner 3.2 feet east of a crosstie fence corner post, said corner being in the north boundary line of the called 553.49 acre tract at the southeast corner of the residue of a called 168.12 acre tract conveyed by A.J. Lewis et al to Theo S. Stone and wife, Peggy J. Stone as described in Warranty Deed dated November 8, 1956, recorded in 139/87 NCDR, and the southwest corner of a called 5.00 acre tract conveyed by Theo Stone and wife, Peggy J. Stone to Marcus D. Stone as described in Warranty Deed dated February 5, 1996, recorded in 412/823 NCDR, from said iron rod a 4 in. x 4 in. concrete monument found for corner on the west side of County Road 737 at the northwest corner of the called 553.49 acre tract bears N 88°21'53" W, 3059.71 feet, from said iron rod a capped 1-1/2 in. iron pipe (stamping illegible) found for witness bears N 87°12'54" E, 0.23 feet;

**THENCE S 88°33'41" E**, with the north boundary line of the called 553.49 acre tract and the south boundary line of the called 5.00 acre tract, at 196.91 feet pass a 1-1/4 in. galvanized iron pipe found for corner at the southeast corner of the called 5.00 acre tract and the southwest corner of a called 29.648 acre tract described in a Contract of Sale and Purchase between Walton H. Stone and wife, Milicia Stone, Seller, and Roy Dale Dickerson and wife, Kathy Kidwell Dickerson, Purchaser, dated September 27, 1978, recorded in 286/943 NCDR, and continuing with the north boundary line of the called 553.49 acre tract and the south boundary line of the called 29.648 acre tract, in all, **S 88°33'41" E, 981.65 feet** (called S 84°10' E in 297/600 DR) to a ¾ in. galvanized iron pipe found for corner 8.7 feet east of a 5 in. treated wood fence corner post, said corner being the southeast corner of the called 29.648 acre tract and the southwest corner of the aforementioned called 25.46 acre tract

**THENCE S 88°43'07" E, 1153.35 feet** (called S 84°10' E in 297/600 DR) with the north boundary line of the called 553.49 acre tract and the south boundary line of the called 25.46 acre tract to the point of **BEGINNING**, containing within these calls **288.01 acres**, of which 1.01 acres lie within the right-of-way of County Road 737.

I, Glenn Hoffpauir, a duly Registered Professional Land Surveyor in the State of Texas, do hereby certify that this description of 288.01 ACRES surveyed for IRONWOOD HOLDINGS, LLC is true and correct, and prepared from a survey made on the ground, completed the 5th day of June, 2018.

Witness my hand and seal of registration:

_____RPLS No. 4492
(originals signed in red ink and embossed; all others null and void)

Garland Smith
ABSTRACT
EST. 1908

132 E. Lamar Street Jasper, Texas 75951 409-384-2571 www.smithabstract.com

# TITLE OPINION

**Property:** BEING 288.01 acres of land out of and a part of ABSTRACT 1046, D.B. KOGER SURVEY, Newton County, Texas.

**Owner:** IRONWOOD HOLDINGS, LLC, dba, IRONWOOD TEXAS HOLDINGS, LLC

**Apparent Surface Owner:** SAME AS ABOVE

**SUBJECT TO:**

1. **Mortgage Lien:** NONE OF RECORD
2. **Federal/State Tax Liens:** NONE OF RECORD
3. **Abstract of Judgment:** NONE OF RECORD

**EASEMENTS OF RECORD:**

1. Right of Way Deed from Herman C. Williams to Texas Eastern Transmission Corporation dated November 28, 1973 recorded in Volume 259, Page 186, Deed Records, Newton County, Texas.
2. Such rights as the public may have, if any, in the graded road over and across the western portion of the above described tract as shown by the survey of Wallace E. DuBose, RPLS No. 1487.
3. Subject to Grant of Option and Easement dated December 7, 2000 from Stanley R. Fields and wife, Susan C. Fields to Centennial Pipeline, LLC recorded in Volume 463, Page 120, Official Public Records, Newton County, Texas.

4. Subject to Acknowledgement of Exercise of Option dated June 5, 2001 from Centennial Pipeline, LLC to Stanley Fields and wife, Susan C. Fields recorded in Volume 467, Page 572, Official Public Records, Newton County, Texas.

5. Memorandum of Pipeline Easement and Right of Way Agreement dated May 11, 2015 from Stanley R. Fields and wife, Susan C. Fields to Energy Transfer Crude Oil Company, LLC recorded in Volume 662, Page 82, Official Public Records, Newton County, Texas.

**REMARKS:**

1. Abstract did a 100 year search on above described property.

This Report is **NOT** Title Insurance. This Report is not a warranty of good title or guaranty of good title. This report is merely the examiner's conclusion after reviewing officially recorded documents that were properly filed.

**CAUTION:** The Company's liability for this Report is expressly limited to the amount paid for this Report and extends only to the party to whom it is issued. No other party may rely on this Report. This Report contains no express or implied opinion, warranty guarantee, insurance or other similar assurances as to the status of title to the Property.

DATED: November 28, 2023

**Garland Smith Abstract Company**

Jessie Parker, Examiner

185961 VOL. 705 PAGE 0807

Alamo Title Co. GF #400041180061945CV

**Notice of confidentiality rights: If you are a natural person, you may remove or strike any or all of the following information from any instrument that transfers an interest in real property before it is filed for record in the public records: your social security number or your driver's license number.**

## Warranty Deed

**Date:** August 3, 2018

**Grantors:** Stanley R. Fields and wife, Susan C. Fields

**Grantors' Mailing Address:**

2901 County Road 204, Beeville, Texas 78102

**Grantee:** Ironwood Holdings, LLC, d/b/a Ironwood Texas Holdings, LLC

**Grantee's Mailing Address:**

1090 Cinclare Drive
Port Allen, Louisiana 70767

**Consideration:** Ten and NO/100 Dollars ($10.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged.

**Property (including any improvements):**

288.01 acres of land, more or less, situated about 31.5 miles southwest of the City of Newton, Newton County, Texas, out of the D.B. Koger Survey, Abstract 1046 (H. & T.C. Railroad Co. Section 28), being part of a called 553.49-acre tract conveyed by Herman C. William to Stanley R. Fields and wife, Susan C. Fields, as described in the Warranty Deed dated June 30, 1980, recorded in Volume 297, Page 600, Deed Records of Newton County, Texas, and being more particularly described by metes and bounds in Exhibit A, attached hereto and incorporated as if fully set forth herein.

**Reservations from Conveyance:** None.

**Exceptions to Conveyance and Warranty:**

See Exhibit B attached hereto and incorporated herein.

Ad valorem taxes on the Property having been prorated at closing, Grantee expressly assumes payment of such taxes for the year 2018 and subsequent years. Further, if (i) any part of the Property has been assessed based on its agricultural or other special use or purposes and (ii)

the conveyance of interest in the Property contemplated by this Deed or Grantee's use of the Property after the date hereof results in the assessment of additional taxes, penalties, or interest with respect to the Property for periods prior to the date hereof, such assessments shall be the obligation of Grantee.

Grantors, for the Consideration and subject to the Reservations from Conveyance and the Exceptions to Conveyance and Warranty, do hereby grant, sell, and convey to Grantee the Property, together with all and singular the rights and appurtenances thereto in any way belonging, to have and to hold it to Grantee, its successors, and assigns forever. Grantors do hereby bind themselves, their heirs, and successors to warrant and forever defend all and singular the Property to Grantee and Grantee's successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof, except as to the Reservations from Conveyance and the Exceptions to Conveyance and Warranty.

BY ACCEPTANCE OF THIS DEED, GRANTEE TAKES THE PROPERTY AS IS, WHERE IS, AND WITH ALL FAULTS. GRANTEE ACKNOWLEDGES THAT GRANTEE IS NOT RELYING UPON ANY REPRESENTATION, STATEMENT, OR OTHER ASSERTION OR SILENCE BY GRANTORS WITH RESPECT TO THE CONDITION OF THE PROPERTY, BUT IS RELYING SOLELY ON GRANTEE'S OWN EXAMINATION AND INVESTIGATION IN BUYING THE PROPERTY. GRANTEE ACKNOWLEDGES THAT, EXCEPT FOR GRANTORS' WARRANTIES OF TITLE CONTAINED IN THIS DEED, GRANTORS HAVE NOT MADE, ARE NOT MAKING, AND SPECIFICALLY DISCLAIM, ANY WARRANTIES OR REPRESENTATIONS WITH RESPECT TO (i) THE PHYSICAL OR ENVIRONMENTAL CONDITION OF THE PROPERTY, (ii) THE VALUE, CONDITION, MERCHANTABILITY, MARKETABILITY, SUITABILITY, PROFITABILITY, OR FITNESS FOR A PARTICULAR USE OR PURPOSE OF THE PROPERTY, (iii) THE MANNER OR QUALITY OF THE CONSTRUCTION OR MATERIALS INCORPORATED INTO ANY IMPROVEMENTS ON THE PROPERTY, AND (iv) THE MANNER, QUALITY, STATE OF REPAIR, OR LACK OF REPAIR OF THE PROPERTY. GRANTEE HAS MADE SUCH INSPECTIONS AND INVESTIGATIONS OF THE PROPERTY AS GRANTEE DEEMED NECESSARY, AND BY ACCEPTANCE OF THIS DEED, ASSUMES THE RISK THAT ADVERSE MATTERS MAY NOT HAVE BEEN REVEALED BY GRANTEE'S INSPECTIONS AND INVESTIGATIONS.

When the context requires, singular nouns and pronouns include the plural.

*[Signature pages follow]*

**GRANTORS:**

Stanley R. Fields

Susan C. Fields

**Acknowledgments**

STATE OF TEXAS §
COUNTY OF BEE §

This instrument was acknowledged before me on the 3rd day of August, 2018, by **Stanley R. Fields**.

PAMELA L. BERN
NOTARY PUBLIC - STATE OF TEXAS
ID # 12683592-3
My Commission Expires 03-12-2021

Notary Public, State of Texas

STATE OF TEXAS §
COUNTY OF BEE §

This instrument was acknowledged before me on the 3rd day of August, 2018, by **Susan C. Fields**.

PAMELA L. BERN
NOTARY PUBLIC - STATE OF TEXAS
ID # 12683592-3
My Commission Expires 03-12-2021

Notary Public, State of Texas

The foregoing Warranty Deed and all terms and provisions thereof are hereby APPROVED and AGREED TO.

**GRANTEE:**

IRONWOOD HOLDINGS, LLC,
d/b/a Ironwood Texas Holdings, LLC,

By: D. Winship Songy
Name: D. Winship Songy
Title: Manager

STATE OF LOUISIANA §

PARISH OF West Baton Rouge §

On this 3 day of August, 2018, before me appeared D. Winship Songy, who, being by me duly sworn did say that he is the Manager, of IRONWOOD HOLDINGS, LLC, a Louisiana limited liability company d/b/a Ironwood Texas Holdings, LLC, and that the instrument was signed and sealed on behalf of said limited liability company.

Paula A. Miller
Notary Public, State of Louisiana

PAULA A. MILLER
NOTARY PUBLIC ID#146723
PARISH OF EAST BATON ROUGE
My Commission is for Life

(Return To): ALAMO TITLE CO.
2915 W. Bitters, # 301
San Antonio, TX 78248
GF# 4000411800614JCJ

PAULA A. MILLER #146723 NOTARY PUBLIC STATE OF LOUISIANA

# Exhibit A
## Property

Ironwood Holdings, LLC
288.01 Acres (Fields Tract)

D.B. KOGER SURVEY. A-1046
Newton County, Texas
Project 38216

All that certain 288.01 acre tract situated about 31.5 miles southwest of the City of Newton, Newton County, Texas, out of the D.B. KOGER SURVEY, ABSTRACT 1046 (H. & T.C. RAILROAD CO. SECTION 28), being part of a called 553.49 acre tract conveyed by Herman C. Williams to Stanley R. Fields and wife Susan C. Fields as described in Warranty Deed dated June 30, 1980, recorded in Volume 297, Page 600 of the Newton County Deed Records (NCDR), and being more particularly described by metes and bounds as follows, according to a survey made by Glenn Hoffpauir, Registered Professional Land Survey, completed on May 30, 2018:

§§§

Note that in the following description,

- **bearings** refer to Grid North of the Texas Coordinate System of 1983 (Central Zone 4203) as computed from gps vectors; at the Point of Beginning, True Azimuth = Grid Azimuth + 3°19'36", and
- "1/2 in. iron rod set" denotes a centerpunched 1-1/2 in. aluminum cap stamped "HOFFPAUIR RPLS 4492" affixed to a ½ inch iron rod.

§§§

**BEGINNING** at the northeast corner of the called 553.49 acre tract, a 4-1/2 in. x 4-1/2 in. concrete monument found for corner from which a crosstie fence corner post bears S 23°00' W, 1.4 feet, said beginning corner being the southeast corner of a called 25.46 acre tract conveyed by Johnny R. Russo and wife, Trevelyn Abshire Russo to Travis Woods and wife, Lois M. Woods as described in General Warranty Deed dated September 12, 1995, recorded in 409/314, and also being the northwest corner of a tract of unspecified acreage designated "Tract NEW-82" and conveyed by TIN, Inc. to Crown Pine Timber 2, L.P. as described in Special Warranty Deed dated October 30, 2007, recorded in 553/669 NCDR (this deed extends into the subsequent volume - see 554/163 NCDR for the metes and bounds description of "Tract NEW-82");

**THENCE S 01°16'19" W, 5218.92 feet** (called S 05°34' W, 5218.65 feet in 297/600 NCDR) with the east boundary line of the called 553.49 acre tract and the west boundary line of "Tract NEW-82" to a 4 in. x 4 in. concrete monument found for corner from which

- a crosstie fence corner post bears S 24°19' W, 2.3 feet,
- an 11 in. willow oak, found marked "X", bears S 61°33' W, 13.3 feet, and
- a capped 1-1/2 in. galvanized iron pipe found for witness bears S 25°26'16" W, 0.99 feet, the cap on this pipe found stamped "S.E. COR. H.&T.C. SEC. 28",

said corner being the southeast corner of the called 553.49 acre tract, the southwest corner of "Tract NEW-82", and also being the northeast corner of a called 615.5 acre tract designated "Tract NEW-83" and conveyed by TIN, Inc. to Crown Pine Timber 2, L.P. as described in the aforementioned Special Warranty Deed dated October 30, 2007, recorded in 553/669 NCDR (this deed extends into the subsequent volume - see 554/167 NCDR for the metes and bounds description of "Tract NEW-83");

THENCE N 89°23'52" W, with the south boundary line of the called 553.49 acre tract and the north boundary line of the called 615.5 acre tract, at 3309.57 feet pass a ½ in. iron rod set for witness at the northwest base of a crosstie fence corner post, at 3345 feet pass the centerline of Newton County Road 737 (Sheppard Road), a graded county road, and in all, **N 89°23'52" W, 3376.57 feet** (called 3376.07 feet in 297/600 NCDR) to a 4 in. x 4 in. concrete monument found for corner on the apparent west right-of-way of County Road 737, said corner being the southernmost southwest corner of the called 553.49 acre tract and the southeast corner of a called 33.15 acre tract conveyed by Jo Ellen Callison to Ronald Hitchcock and wife, Linda Harris Hitchcock as described in Warranty Deed dated December 5, 2001, recorded in 474/253 NCDR, and more particularly described by metes and bounds in a Deed of Trust executed by Richard A. Glidewell and wife, Geneva Gail Glidewell in favor of Jo Ellen Callison, dated May 28, 1996, recorded in Volume 89, Page 685 of the Newton County Deed of Trust Records;

THENCE **N 27°05'24" W, 677.62 feet** (called N 22°48' W in 297/600 NCDR) with the southernmost west boundary line of the called 553.49 acre tract, the east boundary line of the called 33.15 acre tract, and with the apparent west right-of-way of County Road 737 to a ½ in. iron rod set for corner in a barbwire fence, from said iron rod

- a 4 in. x 4 in. concrete monument found for corner at the northeast corner of the called 33.15 acre tract bears N 27°05'24" W, 766.41 feet, and
- a ½ in. iron rod set for witness in a barbwire fence bears S 89°23'52" E, 80.13 feet;

THENCE **S 89°23'52" E**, at 28 feet pass the centerline of County Road 737, at 80.13 feet pass a ½ in. iron rod set for witness, and in all, **S 89°23'52" E, 1489.78 feet** to a ½ in. iron rod set for corner in a barbwire fence on the east side of a pipeline corridor;

THENCE with the barbwire fence along the east side of said pipeline corridor, as follows:

**N 05°10'57" W, 580.34** feet to a ½ in. iron rod set for corner in the fence;
**N 04°15'54" W, 399.50** feet to a ½ in. iron rod set for corner in the fence;
**N 04°10'36" W, 172.49** feet to a ½ in. iron rod set for corner in the fence;

**N 00°28'26" E, 233.39** feet to a ½ in. iron rod set for corner in the fence;
**N 04°04'22" E, 102.64** feet to a ½ in. iron rod set for corner in the fence;
**N 04°32'29" E, 364.41** feet to a ½ in. iron rod set for corner in the fence (down);

**N 04°34'52" E, 624.98** feet to a ½ in. iron rod set for corner in the fence;
**N 04°37'42" E, 700.63** feet to a ½ in. iron rod set for corner in the fence;
**N 04°48'49" E, 606.38** feet to a ½ in. iron rod set for corner in the fence;

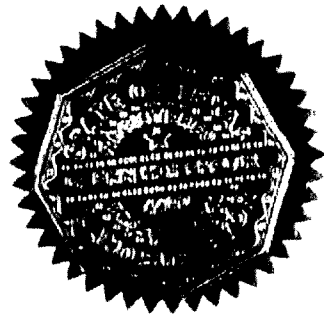
**THENCE N 04°58'53" E, 875.29 feet** to a 1-1/4 in. iron pipe capped with a 5/8 in. bolt found for corner 3.2 feet east of a crosstie fence corner post, said corner being in the north boundary line of the called 553.49 acre tract at the southeast corner of the residue of a called 168.12 acre tract conveyed by A.J. Lewis et al to Theo S. Stone and wife, Peggy J. Stone as described in Warranty Deed dated November 8, 1956, recorded in 139/87 NCDR, and the southwest corner of a called 5.00 acre tract conveyed by Theo Stone and wife, Peggy J. Stone to Marcus D. Stone as described in Warranty Deed dated February 5, 1996, recorded in 412/823 NCDR, from said iron rod a 4 in. x 4 in. concrete monument found for corner on the west side of County Road 737 at the northwest corner of the called 553.49 acre tract bears N 88°21'53" W, 3059.71 feet, from said iron rod a capped 1-1/2 in. iron pipe (stamping illegible) found for witness bears N 87°12'54" E, 0.23 feet;

**THENCE S 88°33'41" E**, with the north boundary line of the called 553.49 acre tract and the south boundary line of the called 5.00 acre tract, at 196.91 feet pass a 1-1/4 in. galvanized iron pipe found for corner at the southeast corner of the called 5.00 acre tract and the southwest corner of a called 29.648 acre tract described in a Contract of Sale and Purchase between Walton H. Stone and wife, Milicia Stone, Seller, and Roy Dale Dickerson and wife, Kathy Kidwell Dickerson, Purchaser, dated September 27, 1978, recorded in 286/943 NCDR, and continuing with the north boundary line of the called 553.49 acre tract and the south boundary line of the called 29.648 acre tract, in all, **S 88°33'41" E, 981.65 feet** (called S 84°10' E in 297/600 DR) to a ¾ in. galvanized iron pipe found for corner 8.7 feet east of a 5 in. treated wood fence corner post, said corner being the southeast corner of the called 29.648 acre tract and the southwest corner of the aforementioned called 25.46 acre tract

**THENCE S 88°43'07" E, 1153.35 feet** (called S 84°10' E in 297/600 DR) with the north boundary line of the called 553.49 acre tract and the south boundary line of the called 25.46 acre tract to the point of **BEGINNING**, containing within these calls **288.01 acres**, of which 1.01 acres lie within the right-of-way of County Road 737.

I, Glenn Hoffpauir, a duly Registered Professional Land Surveyor in the State of Texas, do hereby certify that this description of 288.01 ACRES surveyed for IRONWOOD HOLDINGS, LLC is true and correct, and prepared from a survey made on the ground, completed the 5th day of June, 2018.

Witness my hand and seal of registration:



RPLS No. 4492
(originals signed in red ink and embossed; all others null and void)

**Exhibit B**
**Exceptions to Conveyance and Warranty**

1. Right of Way Deed from Herman C. Williams to Texas Eastern Transmission Corporation dated November 28, 1973 recorded in Volume 259, Page 186, Deed Records, Newton County, Texas creates a blanket easement for a single pipeline. In the location shown on that certain Survey prepared by Glenn Hoffpauir RPLS No. 4492, of Glenn Hoffpauir Surveying, PLLC, under Job No. 38216 dated May 30, 2018 and revised June 5, 2018, there is a designation of Enterprise Products pipelines "P-2" and "P-62" within the easement area.

2. Subject to Grant of Option and Easement dated December 7, 2000 from Stanley R. Fields and wife, Susan C. Fields to Centennial Pipeline, LLC recorded in Volume 463, Page 120, Official Public Records, Newton County, Texas as affected by Acknowledgment of Exercise of Option dated June 5, 2001 from Centennial Pipeline, LLC to Stanley Fields and wife, Susan C. Fields recorded in Volume 467, Page 572, Official Public Records of Newton County, Texas at the location shown on that certain Survey prepared by Glenn Hoffpauir RPLS No. 4492, of Glenn Hoffpauir Surveying, PLLC, under Job No. 38216 dated May 30, 2018 and revised June 5, 2018.

3. Easement(s) and rights incidental thereto, as granted in a document:

   Granted to: Energy Transfer Crude Oil Company, LLC
   Purpose: As provided in said document
   Recording Date: June 24, 2015
   Recording No: Volume 662, Page 082, Official Public Records, Newton County, Texas, in the location shown on that certain Survey prepared by Glenn Hoffpauir RPLS No. 4492, of Glenn Hoffpauir Surveying, PLLC, under Job No. 38216 dated May 30, 2018 and revised June 5, 2018.

4. The following matters as shown on that certain Survey prepared by Glenn Hoffpauir RPLS No. 4492, of Glenn Hoffpauir Surveying, PLLC, under Job No. 38216 dated May 30, 2018 and revised June 5, 2018:

   (a) Telephone pedestals shown on the plat indicating the presence of buried telephone cables in or along CR 737.

   (b) Barbwire fence along the south boundary line of the subject tract varies from 0-8.6 fee south of the property line.

   (c) The southernmost west boundary line of the 288.01 acre subject tract is located on the apparent west right-of-way of Liberty CR 737, also known as Sheppard Road. As indicated on the plat, 1.01 acres of the 288.01 acre subject tract lies within the apparent right-of-way of CR 737.

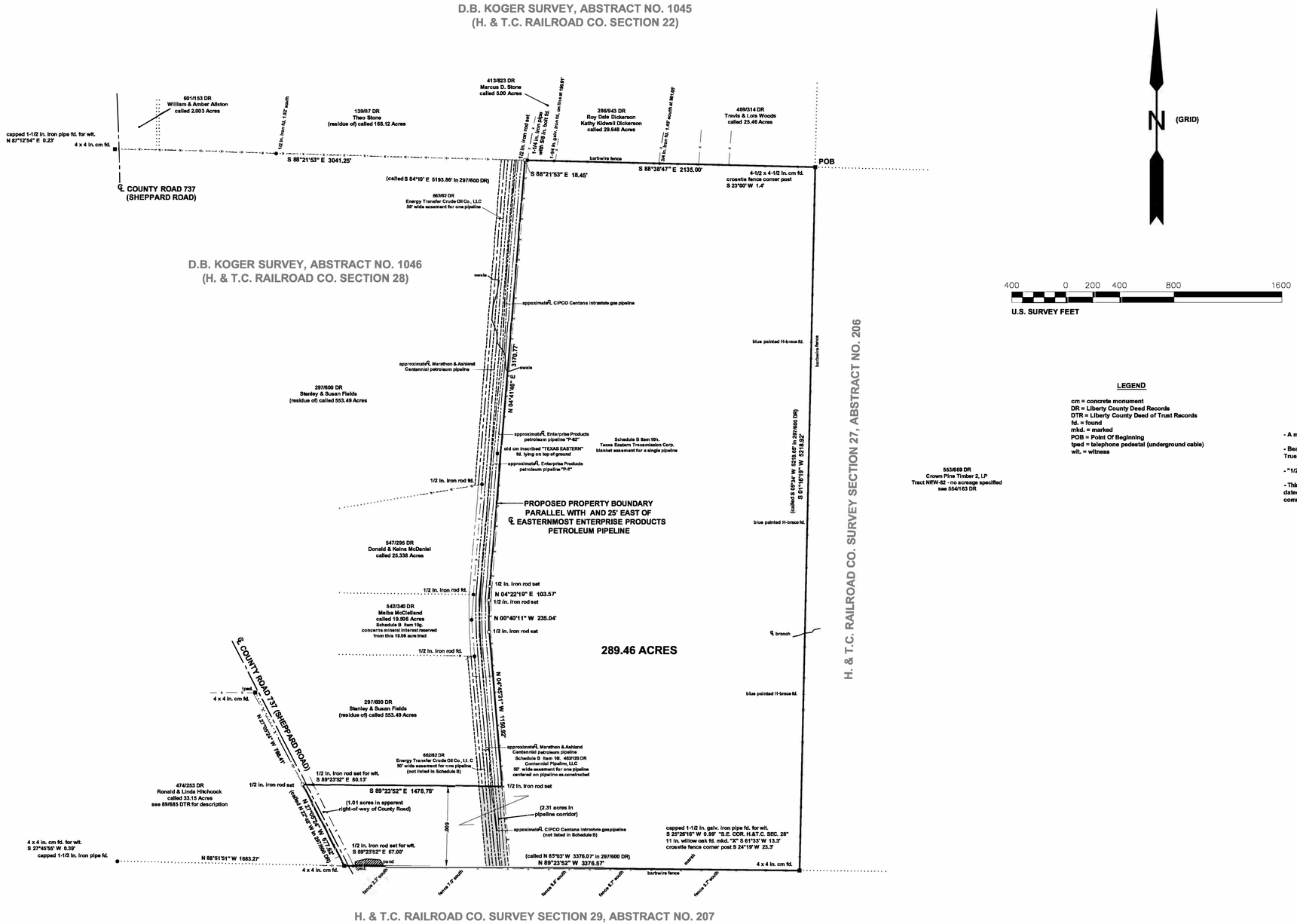
5. All leases, grants, exceptions or reservations of coal, lignite, oil, gas, and other minerals, together with all rights, privileges, and immunities relating thereto, appearing in the public records of Newton County, Texas. Grantor makes no warranties as to the mineral estate.



Filed for record on: 08/09/2018 at: 8:58 am In Book: 0705 Page(s) 0807-0815 Instrument # 165961

I hereby certify that this instrument was filed for record as listed above and duly recorded in the OFFICIAL PUBLIC RECORDS of Newton County, Texas, in the Volume and Page as stamped hereon by me.

***Sandra K. Duckworth***
County Clerk, Newton County, Texas




**LEGEND**

cm = concrete monument
DR = Liberty County Deed Records
DTR = Liberty County Deed of Trust Records
fd. = found
mkd. = marked
POB = Point Of Beginning
tped = telephone pedestal (underground cable)
wit. = witness

553/669 DR
Crown Pine Timber 2, LP
Tract NEW-82 - no acreage specified
see 554/163 DR

## SURVEYOR'S NOTES

- A metes and bounds description accompanies this plat.

- Bearings refer to Grid North of the Texas Coordinate System of 1983 (Central Zone) as computed from gps vectors; at the Point of Beginning, True Azimuth = Grid Azimuth + 3°19'38"

- "1/2 In. Iron rod set" denotes a centerpunched 1-1/2 Inch alumlnum cap stamped "HOFFPAUIR RPLS 4492" affixed to a 1/2 Inch Iron rod.

- This survey has been prepared In conjunction with Title Commitment No. 4000411800694, issued by Alamo Title Company and effectively dated April 24, 2018. This survey shows visible and apparent evidence of easements as well as easements listed in Schedule B of the title commitment; surveyor did not abstract for easements and does not warrant ownership.

**Schedule B Items**

Item 10d. Visible and apparent easements and/or rights-of-way:

662/82 DR - a 50 foot wide easement for one pipeline; this easement applies to the westernmost of the 5 pipelines shown crossing the subject tract at the east end of the 600 foot wide "neck" providing a connection to County Road 737. There is no listing In Schedule B for this easement.

A CIPCO Centana Intrastate gas pipeline shown crossing the subject tract from north to south at the east end of the 600 foot wide "neck" providing a connection to County Road 737. This is the second pipeline east of the easement cited In 662/82 DR above. There is no listing In Schedule B for this pipeline.

Enterprise Products petroleum pipelines "P-2" and "P-62", the easternmost of the five pipelines shown crossing the subject tract from north to south. Old concrete markers inscribed "TEXAS EASTERN" found along these pipelines indicate that one or both of these pipelines lie within the blanket easement described In 259/186 DR and cited in Item 10h. below. The language in that easement providing for additional pipelines has been lined out and initialed, limiting the grant to a single pipeline. There is no listing in Schedule B for the second pipeline.

Telephone pedestals shown on the plat indicate the presence of buried telephone cable in or along County Road 737.

Item 10g. Interest In oil, gas, and other minerals reserved by Stanley and Susan Fields from a 19.506 acre tract conveyed to Melba Mclelland as described In Warranty Deed dated February 1, 2007, recorded in 542/340 DR. The 19.506 acre tract is noted on the plat but is not a part of the 289.46 acre subject tract.

Item 10h. 259/186 DR - a blanket easement and right-of-way granted to Texas Eastern Transmission Company for a single pipeline across the parent tract for the subject tract (see note in Item 10d. above). This easement applies to the subject property and is shown on the plat. In accordance with Texas Natural Resources Code 111.0194, I have allowed for a 50 foot wide easement centered on the easternmost pipeline and have located the northernmost west boundary line of the 289.46 acre subject tract 25 feet east of and parallel with that pipeline.

Item 10i. 463/120 DR - a 50 foot wide pipeline easement granted to Centennial Pipeline, LLC for a single pipeline across the parent tract for the subject tract. The easement premises is defined as "25 feet on either side of the center of the pipeline, as constructed." This easement applies the the subject tract and is shown on the plat.

Item 10j. The barbwire fence along the south boundary line of the subject tract varies from 0-8.6 feet south of the property line, as shown.

Item 10k. The southernmost west boundary line of the 289.46 acre subject tract is located on the apparent west right-of-way of Liberty County Road 737, also known as Sheppard Road. As indicated on the plat, 1.03 acres of the 289.46 acre subject tract lie within the apparent right-of-way of County Road 737.

553/669 DR
Crown Pine Timber 2, LP
Tract NEW-83 - called 615.50 Acres
see 554/167 DR

I, Glenn Hoffpauir, a duly Registered Professional Land Surveyor in the State of Texas, do hereby certify that this plat of 289.46 ACRES surveyed for IRONWOOD HOLDINGS, LLC accurately depicts the results of a survey made on the ground under my supervision, completed on May 30, 2018.

Witness my hand and seal of registration:

**PRELIMINARY - FOR REVIEW 5/30/2018**
**THIS DOCUMENT MAY NOT BE RECORDED FOR ANY PURPOSE AND SHOULD NOT BE USED OR VIEWED AS A FINAL SURVEY DOCUMENT**

_____ RPLS No. 4492
(originals signed in red ink and embossed; all others null and void)

Surveyed for

**IRONWOOD HOLDINGS, LLC**


**GLENN HOFFPAUIR SURVEYING, PLLC**
LICENSED FIRM NO. 10194243
252 CR 817 NACOGDOCHES, TX 75964-2801
PHONE (936) 560-1227


| REV: | JOB NO: | DRAWN BY: |
|---|---|---|
| | 38216 | gh |
| DATE: | SHEET NO: | SCALE: |
| 5/30/2018 | 1 OF 1 | 1" = 400' |

# Appendix F
# Wetland Delineation

# WETLAND DELINEATION REPORT
# BUNA SITE
# NEWTON COUNTY, TEXAS

Revised: July 2018

PREPARED FOR:

DELTA LAND SERVICES

DELTA LAND SERVICES, LLC
1090 CINCLARE DRIVE
PORT ALLEN, LOUISIANA 70767

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## LIST OF FIGURES



## LIST OF APPENDICES

# WETLAND DELINEATION REPORT
# BUNA SITE, NEWTON COUNTY, TEXAS

## 1.0 INTRODUCTION

Delta Land Services, LLC. contracted DESCO Environmental Consultants, LP. (DESCO) to conduct a wetland delineation within an approximate 283 acre project area, hereafter referred to as the area of interest (AOI). The AOI is located south of FM 253, east of Sheppard Road, and east of the town of Buna, in Newton County, Texas (**Figures 1 and 2**). The approximate site center is located at Latitude 30.401870° North and Longitude 93.878589° West. The purpose of this report is to identify areas within the AOI that may potentially be jurisdictional "waters of the United States," including wetlands as defined in 33 CFR 328.3(a).

Jurisdictional wetlands are regulated by the United States Army Corps of Engineers (USACE). Those wetlands are defined as "areas that are inundated or saturated at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (USACE 1987). Jurisdictional wetlands, as defined by the USACE (1987), are referred to as "wetlands" throughout this report.

Three mandatory technical criteria for determining the presence of a wetland are, with exceptions, (1) hydric soils, (2) hydrophytic vegetation, and (3) wetland hydrology. A hydric soil is defined as one that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil profile (Natural Resources Conservation Service [NRCS] 2010). Hydrophytic vegetation is defined herein as the sum total of macrophytic plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content. When hydrophytic vegetation comprises a community where indicators of hydric soils and wetland hydrology also occur, the area has wetland vegetation. The term "wetland hydrology" encompasses the sum total of wetness characteristics in areas that are inundated or have saturated soils (USACE 1987).

Deepwater aquatic habitats are "areas that are permanently inundated at mean annual water depths greater than 6.6 feet or permanently inundated areas, less than or equal to 6.6 feet in depth that do not support rooted-emergent or woody plant species" (USACE 1987). These areas are referred to as "other waters of the United States" in this report. Navigable waters are "those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce" (33 CFR 329.4). Any area below the ordinary high water mark [33 CFR 328.3(e)] may fall under federal jurisdiction as a navigable water.

This Preliminary Jurisdictional Delineation was performed in accordance with the United States Army Corps of Engineers (USACE) standards and depicts the locations of potential jurisdictional waters of the US, including wetlands, within the project area.

## 2.0 PHYSIOGRAPHY, CLIMATE, AND SITE DESCRIPTION

The AOI is within the Atlantic and Gulf Coast Lowland Forest and Crop Region (LRRT) and the Western Gulf Coast Flatwoods Major Land Resource Area (MLRA 152B) (NRCS 2006). Natural topography within the AOI is flat to gently undulating with typical slopes ranging from 0 to 1%. Natural elevation ranges from 39 feet to approximately 58 feet North American Vertical Datum (NAVD). FEMA floodplain map data is included as **Figure 3**.

The AOI is included in the 2,640-square mile Lower Sabine Cataloguing Unit (USGS Hydrologic Unit Code [HUC] 1201005) (USGS 2017). The flow path of the drainage would be south through sheetflow, Hollis Marsh, and unnamed drainages to Hollis Marsh south of the AOI. After entering Hollis Marsh, the drainage flows south and east to the Sabine River and then South into Sabine Lake and the Gulf of Mexico. National Hydrologic Data is included as **Figure 4**. The site is in the South Central Plains (Western Gulf Coastal Plain) Level III Ecoregion (35) and the Floodplains and low Terraces (35b) Level IV Ecoregion (Griffith et al. 2004). The surrounding land use is primarily rural homesites, silviculture plantations, agriculture fields, and cattle pasture.

The climate in Newton County is hot and humid, characterized by long hot summers and short mild winters. The average annual precipitation in this area is approximately 58 inches. Most of the rainfall occurs as frontal storms during the late fall, winter, and early spring, although an appreciable amount of precipitation can also occur as convective thunderstorms during the early part of the growing season and with tropical systems in the summer and early fall. The average annual temperature is 61.7° F with a frost free period of up to 365 days (NRCS 2017[a]).

The AOI is predominately feral land that has been unmanaged for quite some time. Hydrology is primarily driven from precipitation and seasonal shallow water tables. Surface hydrology is drainage of higher elevation wetlands and non-wet areas to Hollis Marsh flowing off the south side of the AOI. Hollis Marsh drains to the southeast into Cypress Creek, and then to the southeast to the Sabine River. The infiltraton rate of precipitation to the ground water table varies from low to high across the site varying with soil type.

DESCO conducted an analysis of aerial photography (imagery) of the AOI and surrounding area. In the 1975 and 1983 imagery, the AOI appears almost entirely forested. The pond in the southeast corner of the AOI is visible is these images. The north/south running berms currently located on the AOI are not visable in the 1975 and 1983 imagery. Hollis Marsh and the drainages on the AOI are somewhat visible but obstructed by the canopy cover. The properties to the north, east, and south of the AOI are relatively forested with the area to the west of the AOI being relatively clear, apparently for cattle ranching.

In the 1996 imagery, the AOI had been heavily timbered as the majority of the canopy on the site is missing. Approximately six north to south running berms are visible on this imagery, most likely a result of the timber operations. Hollis Marsh is easily identifiable. Many of the natural mounds across the site are easily discernible. Areas east of the AOI have also been timbered in the 1996 imagery.

The 2006 and 2010 imagery show the timbered areas of the site to be recovering naturally, without replanting. The north/south running berms are still visible. The non-wet area on the northern side of the AOI is filling with loblolly pine.

The 2014 imagery is comparable to its current state. The majority of the sites canopy is recovering from the timbering seen in the 1996 imagery. The north/south running berms are still visible but loosing their definition in many places due to the forestation adjacent to them.

The US Fish and Wildlife Service (USFWS 2018) identified portions of the AOI as palustrine emergent, persistent, temporarily flooded (PEM1A); palustrine forested, persistent, seasonally flooded (PEM1C); and palustrine unconsolidated bottom, permanently flooded, excavated (PUBHx), per the Cowardin classification system (Cowardin et al. 1979) (**Figure 5**).

## 3.0 METHODS

The wetland delineation followed *on-site routine* field procedures as outlined by the USACE (1987) and subsequent Regulatory Guidance Letters (RGL). DESCO biologists conducted field investigations on April 11th, 12th, 15th, 16th, May 22nd, July 3rd and July 6th of 2018.

Twenty data points were evaluated within the AOI. These data points were established primarily along three predetermined transects with the intent of capturing any change in plant community, hydrologic condition, and/or soil type. Additional data points were included outside of transects to further refine wetland/non-wet boundaries. Observations of soils, vegetation, and hydrology were made at each data point and recorded on routine wetland determination data sheets per the Atlantic and Gulf Coastal Plain (AGCP) Regional Supplement (USACE 2010). A total of 16 AGCP data sheets were completed to accurately describe conditions observed during the site investigation. The delineation map and **Table 1.1** show each of the 20 data points used to describe conditions in that area.

Soil samples were obtained by excavating an approximate 20 to 24 inch soil pit using a square-headed shovel. Soil color was determined by matching soil samples to color chips contained in a Munsell soil color chart. These samples were examined in the field for the presence of hydric soil indicators which are described in the *NTCHS Field Indicators of Hydric Soils in the United States* (NRCS 2017) and in the AGCP Regional Supplement (USACE 2010).

Vegetative species present in each data plot were recorded for each of the following vertical strata: tree canopy or individual trees; saplings and shrubs; and herbaceous layer. Percent cover for each dominant species was determined by ocular estimation. Dominant species were determined using the 50/20 rule found in the 1987 Delineation Manual (USACE 1987). Plant communities met hydrophytic vegetation criteria if a majority of dominant species from all strata were classified as obligate (OBL), facultative-wet (FACW) or facultative (FAC) species within the AGCP Region (Lichvar 2013). In areas where hydric soils and hydrology were present but hydrophytic communities were not dominant, the prevalence index was used to determine if the wetland vegetation criteria were met (USACE 2010).

Hydrology criteria were assessed based on observation of primary and/or secondary field indicators (USACE 2010). The hydrology criteria were met if one primary field indicator was observed or at least two secondary indicators were observed.

Data points and wetland areas/other waters were mapped and the global positioning system (GPS) locations were obtained (surveyed) using a Trimble Geo XH 6000 GPS data collector. All GPS data were collected in accordance with USACE Galveston District policy regarding GPS data collected for wetland delineation efforts. Acreage was calculated by using geographic information systems (GIS). Digital photographs were taken of the plant community and soil profile at each data point.

## 4.0 RESULTS

### 4.1 Soils

All of the soil mapping units within the AOI are characterized as potentially having hydric components (NRCS 2017[b] and 2017[c]). Of the 20 data points sampled, 19 contained hydric soil indicators regardless of the map unit in which they were located. At all 19 of these data points, Depleted Matrix (F3) was the hydric soil indicator observed. The generally silty loam soils found in the AOI are dense but do allow moderate groundwater flow through the soils. The soil types mapped in the AOI are depicted in **Figure 6** and listed in the following table:

Soil map units identified within the AOI based on SSURGO data (NRCS 2017[b]).

| Symbol | Name | Ponding | Drainage Class | Hydric Rating |
|---|---|---|---|---|
| CamA | Camptown silt loam, 0 to 1 percent slopes | Yes | Very Poorly Drained | 100 |
| EvaA | Evadale silt loam, 0 to 1 percent slopes | No | Poorly Drained | 90 |
| KibB | Kirbyville fine sandy loam, 0 to 2 percent slopes | No | Moderately Well Drained | 5 |
| KinB | Kirbyville-Niwana complex, 0 to 2 percent slopes | No | Moderately Well to Well Drained | 10 |
| NonA | Nona-Dallardsvills complex, 0 to 1 percent slopes | No | Poorly to Moderately Well Drained | 70 |
| OtaB | Otanya very fine sandy loam, 1 to 3 percent slopes | No | Well Drained | 1 |
| SovA | Sourlake loam, 0 to 1 percent slopes, frequently flooded | No | Poorly Drained | 100 |
| VigA | Vidor-Gist complex, 0 to 1 percent slopes | No | Poorly to Moderately Well Drained | 80 |
| WarA | Waller-Dallardsville complex, 0 to 1 percent slopes | No | Poorly to Moderately Well Drained | 60 |

### 4.2 Vegetation

The AOI consists of mostly feral land with wetland and non-wet pine mixed hardwoods, herbaceous wetland habitat, and swamp/slough. Vegetation nomenclature follows USDA *The PLANTS Database* (NRCS, 2017[d]).

**Wetland Habitats**

Palustrine forested wetlands occur within the AOI, which can be classified as wetland pine and pine mixed hardwoods. Tree densities vary in different areas of the AOI, depending on hydrology, soil type, and landscape position.

Wetland pine mixed hardwood vegetation communities occur on elevations with temporarily to seasonally flooded or saturated hydrologic conditions. These forests are predominately dominated by loblolly pine (*Pinus taeda*) and Chinese tallow (*Triadica sebifera*). Common shrubs in this vegetation community include wax myrtle (*Morella cerifera*), and small seedlings of the dominant tree species. Ground cover density varies across the site. Common ground cover species include Indian wood-oats (*Chasmanthium latifolium*), narrow-leaf carpet grass (*Axonopus fissifolius*), wooly rosette grass (*Dichanthelium scabriusculum*), Florida crown grass (*Paspalum floridanum*) and greater bladder sedge (*Carex intumescens*).

Palustrine emergent marsh occurs throughout the remainder of the wetland on the AOI. Dominant species within the palustrine emergent marsh include narrow-leaf carpet grass (*Axonopus fissifolius*), wooly rosette grass, pineland beak sedge (*Rhynchospora perplexa*), slender fimbry (*Fimbristylis autumnalis*), and bushy bluestem *(Andropogon glomeratus*). Other common species include marsh mermaidweed (*Proserpinaca palustris*), coastal-plain yellow-eyed-grass (*Xyris ambigua*), and swamp smartweed (*Persicaria hydropiperoides*). In areas of the emergent marsh there is some woody vegetation component present. Shrub layer species occurring in this area include loblolly pine, Chinese tallow, and wax myrtle.

**Non-wet Habitats**

The non-wet pine mixed hardwood vegetation community within the AOI exhibits loblolly pine as a dominant or co-dominant species. Other species, such as Chinese tallow, sweetgum (*Liquidambar styraciflua*), and black cherry (*Prunus serotina*) may be present. Common shrubs include yaupon (*Ilex vomitoria*), wax myrtle, and small seedlings of the dominant tree species. Ground cover in this vegetation community tends to be very sparse. Common species include slender wood-oats (*Chasmanthium laxum*), Indian wood-oats (*Chasmanthium latifolium*), saw-tooth blackberry (*Rubus argutus*), and poison ivy (*Toxicodendron radicans*), among others.

## 4.3 Hydrology

The slight topography and general moderately drained soils within the AOI cause runoff in the area to be slow to moderate. Much of the AOI runoff generally flows north to south. A significant portion of precipitation run off is collected in the herbaceous wetlands and wetland woodlands/forests, which will hold surface water until it slowly percolates downward.

Much of the AOI does remain saturated for periods sufficient to support wetland hydrology. Fifteen of the 20 sample points contained wetland hydrology indicators. The most common primary indicators were oxidized rhizospheres (C3) and saturation (A3). Common secondary indicators were crayfish burrows (C8) and the FAC-neutral test (D5).

## 5.0 CONCLUSIONS

The USACE conducted a verification of DESCO's delineation and did not concur with DESCO's findings at five of the sites identified as wetlands due to a lack of hydrologic indicators at the time of the field visit. DESCO revisited the site on July 7th, 2018, after the USACE verification, and collected wetland/non-wetland boundary delineation data from the same areas. DESCO's findings at the time of the second field visit were consistent with those of the USACE's verification visit. There were no indicators of wetland hydrology present in the 5 wetland areas in question. Three of the original wetland determination sample point datasheets (SP01, SP02, and SP2-2) included in **Appendix 1.1** are effected by these changes.

Based on DESCO's field investigations, USACE verification, analysis of aerial imagery, soil data, and LIDAR data, DESCO biologists identified approximately 240.01 acres of potentially jurisdictional features, as depicted within **Figures 7 through 10** and as identified within the Aquatic Resources Table below.

| Wetland ID | Latitude | Longitude | Cowardin | Area/Acres |
|---|---|---|---|---|
| Wetland 1 | 30.398280 | -93.877095 | PFO/PEM | 238.53 ac |
| Pond 1 | 30.395365 | -93.875972 | L1UB3 | 0.19 ac |
| Pond 2 | 30.395673 | -93.885749 | L1UB3 | 0.15 ac |
| Stream 1 | 30.398737 | -93.878585 | R2UB3 | 1.14 ac |
| **Total Potentially Jurisdictional Features Delineated** | | | | **240.01 ac** |

These areas exist as a combination of herbaceous wetlands, forested wetlands, and relatively permanent waters in the form of a perennial stream (1.14 ac) and two ponds (0.19 ac and 0.15 ac). Approximately 42.66 acres of the AOI are non-wet: 33.10 acres of non-wet forest, 3.96 acres of non-wet pasture, and 5.60 acres of natural non-wet mounds and portions of man made berms. The soils examined through much the AOI revealed characteristics of hydric soils. Vegetation community analysis shows that these communities meet hydrophytic vegetation criteria, even in many of the non-wet areas. Any areas determined to be non-wetland were based on the lack of hydric soil indicators and hydrologic indicators as discussed in Section 3.0.

DESCO preliminarily determined the USACE does have jurisdiction of the wetlands delineated within the AOI under the authority of the Clean Water Act, Section 404, because of the direct connection of these wetlands by way of the unnamed creeks mapped on the property to the unnamed drainage ditch/canal and the downstream connection to the Sabine River, which is a traditionally navigable water of the U.S.

**The USACE under the authority of the Clean Water Act, Section 404, and the Rivers and Harbor Act, Section 10, has the responsibility to make the final determination of the location and extent of jurisdictional wetlands and navigable waters on this property. This report represents the opinion of the investigators and should be considered preliminary until final concurrence is obtained from the U. S. Army Corps of Engineers, Galveston District.**

## 6.0 CITATIONS


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# Figures

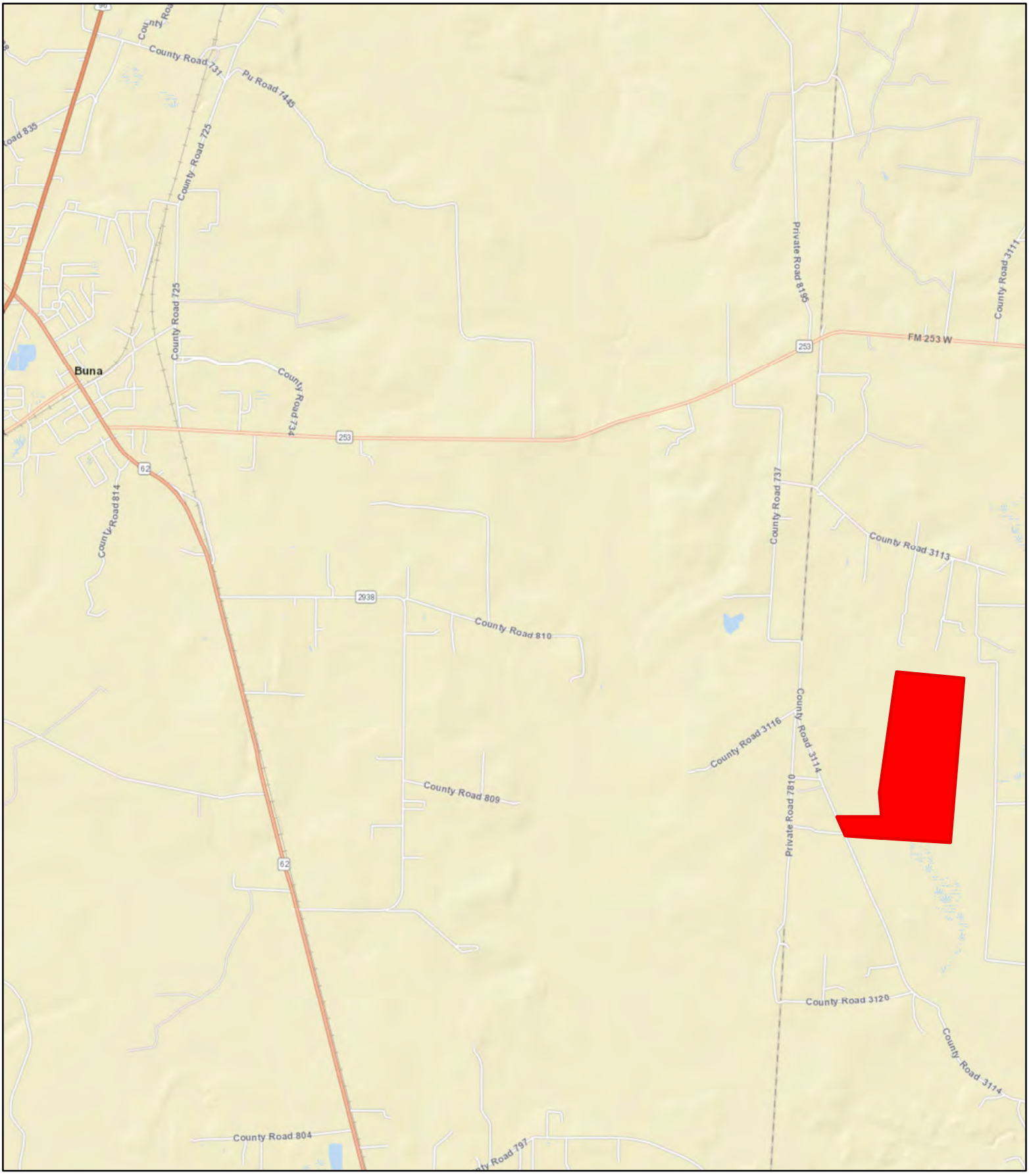



Figure 1: Vicinity Map
East Buna Site

*Newton County, Texas*

Legend

Property Location - 282.67 acres

N

1:47,434

DESCO

Map Base: ESRI World Streetmap
Map Datum: NAD 1983 UTM Zone 15N, meters
Map Date: July 10, 2018

0 0.25 0.5 1 Miles

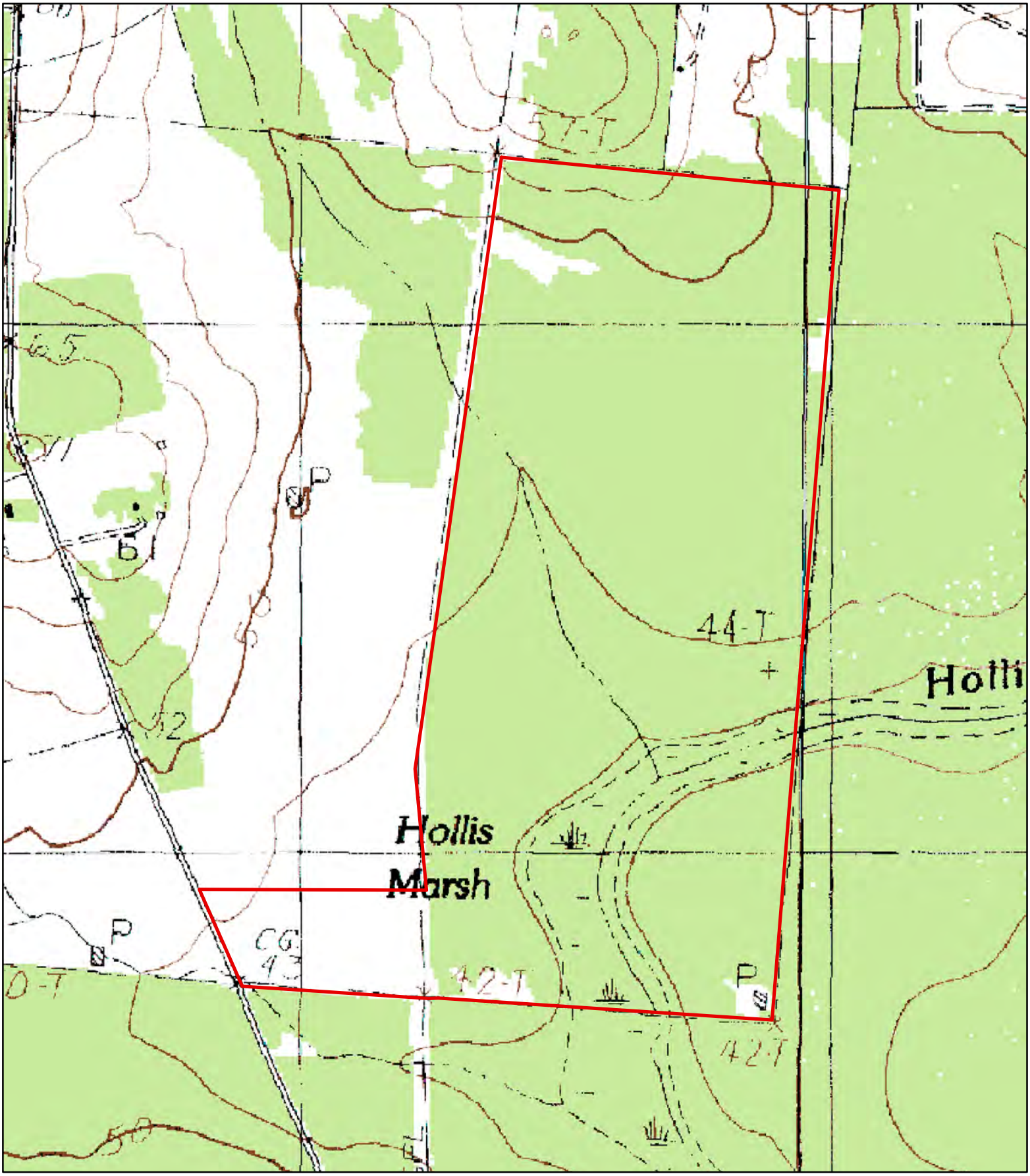



Figure 2: Project Area Map
East Buna Site

*Newton County, Texas*

Legend

Property Boundary - 282.67 acres

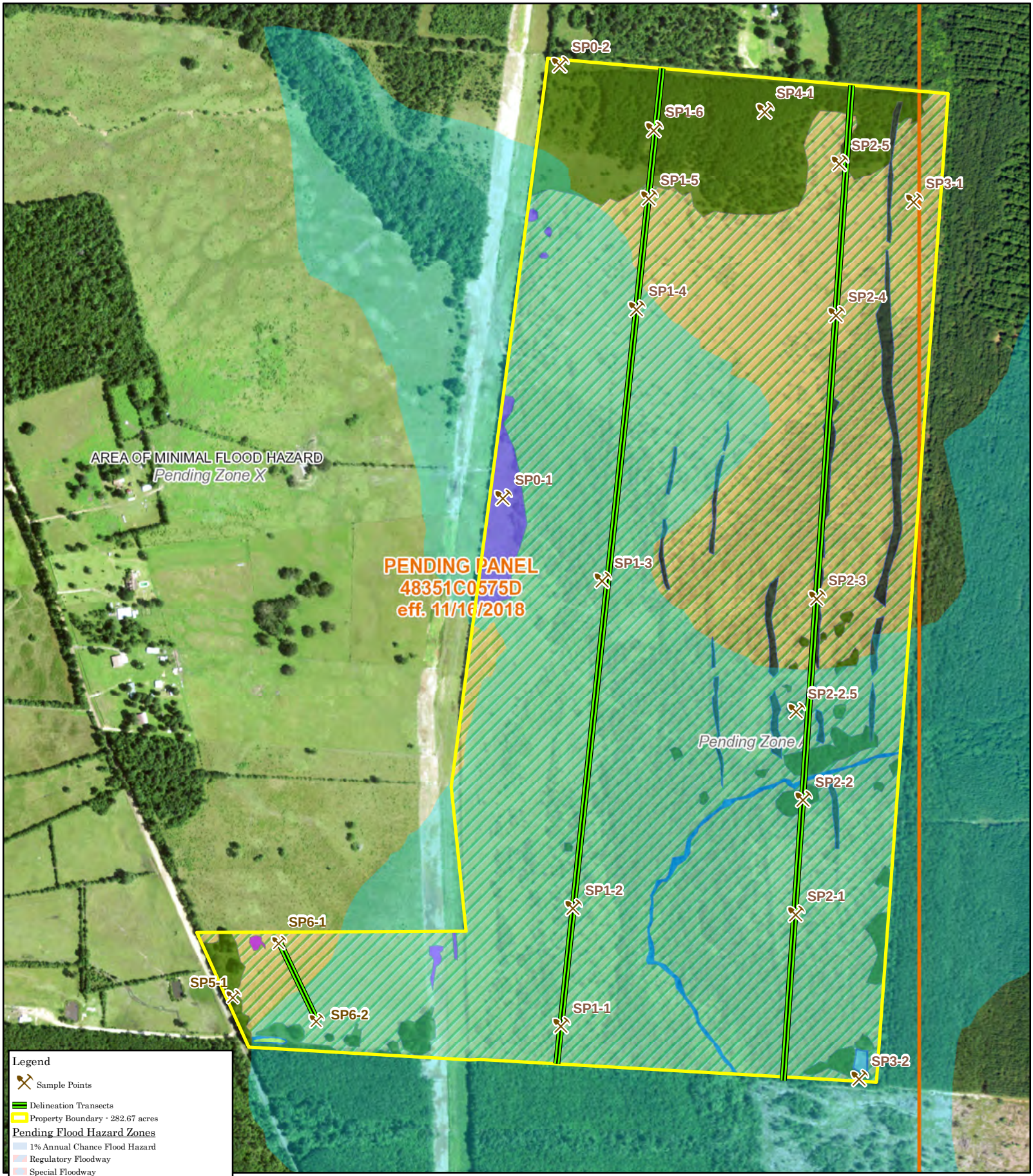
N

1:9,400

DESCO

0 250 500 1,000 Feet

Map Base:1:24K DRG Topo from TNRIS
Map Datum: NAD 1983 UTM Zone 15N, meters
Map Date: July 10, 2018




# Figure 3: FEMA Map
## East Buna Site

*Newton County, Texas*

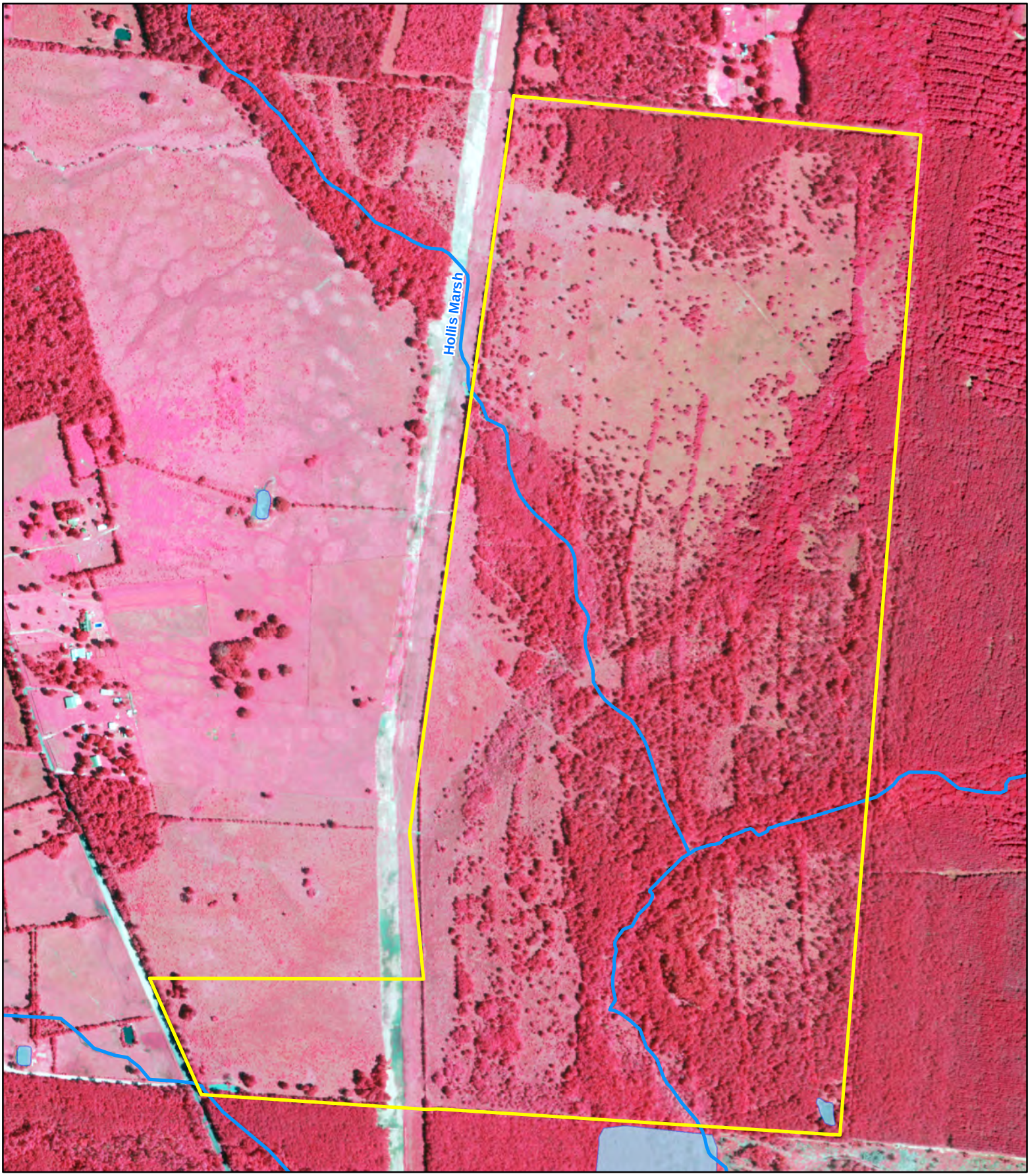
N

1:9,000

DESCO

Map Base: 2016 CIR Aerial Imagery from TNRIS
Map Datum: NAD 1983 UTM Zone 15N, meters
Map Date: July 10, 2018

0 250 500 1,000 Feet




Legend

- NHD Waterways
- NHD Waterbodies
- Property Boundary - 282.67 acres

Figure 4: NHD Map
East Buna Site

*Newton County, Texas*

Map Base: 2016 CIR Aerial Imagery from TNRIS
Map Datum: NAD 1983 UTM Zone 15N, meters
Map Date: July 10, 2018

N

1:7,800

DESCO

0 250 500 1,000 Feet

Legend

Property Boundary - 282.67 acres

NWI (USFWS)

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

Riverine

# Figure 5: NWI Map
## East Buna Site

*Newton County, Texas*

Map Base: 2016 CIR Aerial Imagery from TNRIS
Map Datum: NAD 1983 UTM Zone 15N, meters
Map Date: July 10, 2018

N

1:7,849

DESCO

0 250 500 1,000 Feet


Legend

Property Boundary - 282.67 acres

Soils

Figure 6: Soils Map
East Buna Site

*Newton County, Texas*

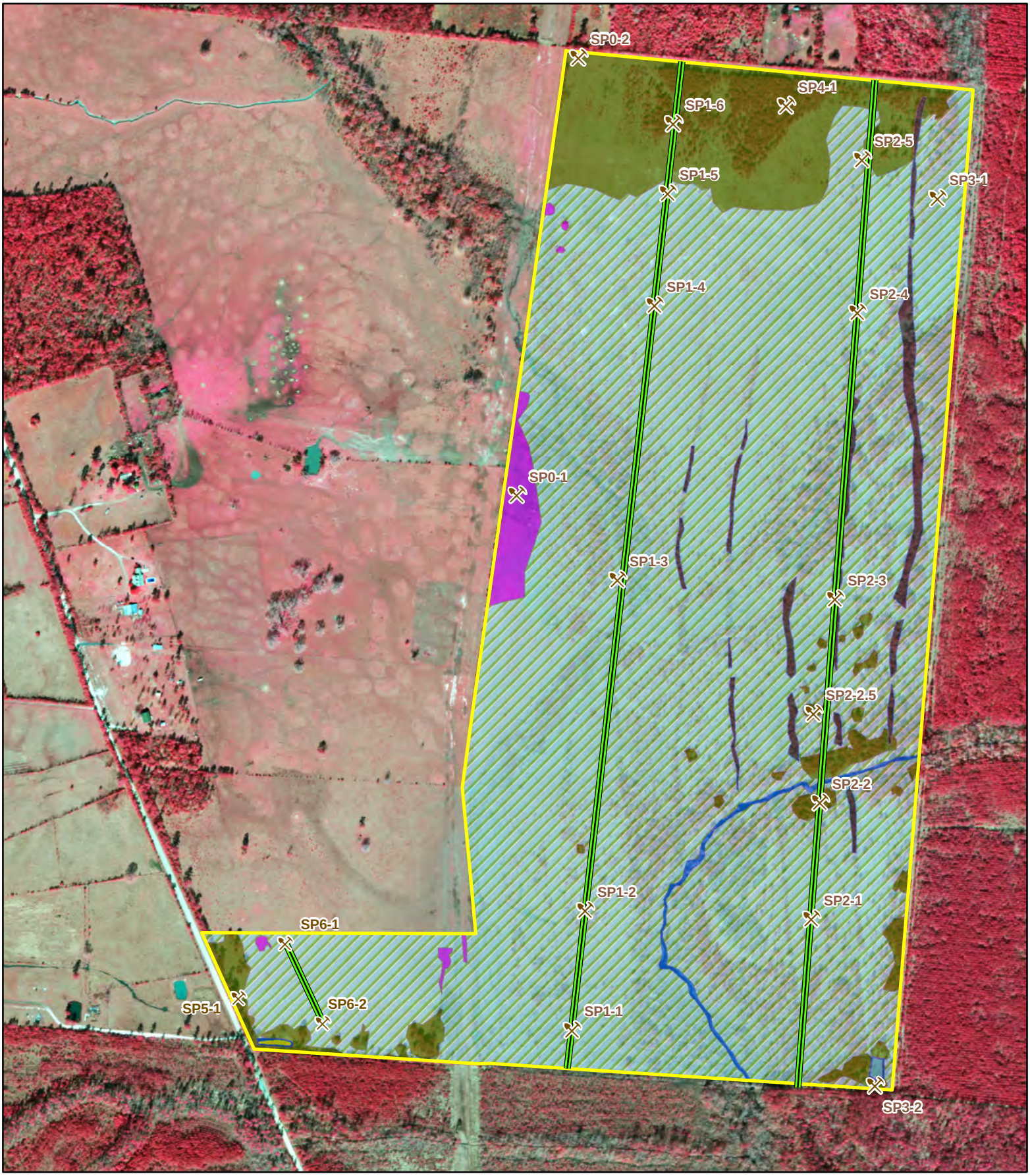
Map Base: 2016 CIR Aerial Imagery from TNRIS
Map Datum: NAD 1983 UTM Zone 15N, meters
Map Date: July 10, 2018

N

1:7,800

DESCO

0 250 500 1,000 Feet




# Figure 7: 2009 CIR Aerial Imagery Map
## East Buna Site

*Newton County, Texas*

Legend

- Sample Points
- Property Boundary - 282.67 acres
- Delineation Transects

Field Data (DESCO)

- Berms - 5.60 acres
- Non-Wet Forest - 33.10 acres
- Non-Wet Pasture - 3.96 acres
- Pond 1 - 0.19 acres
- Pond 2 - 0.15 acres
- Stream - 1.14 acres
- Wetland 1 - 238.53 acres

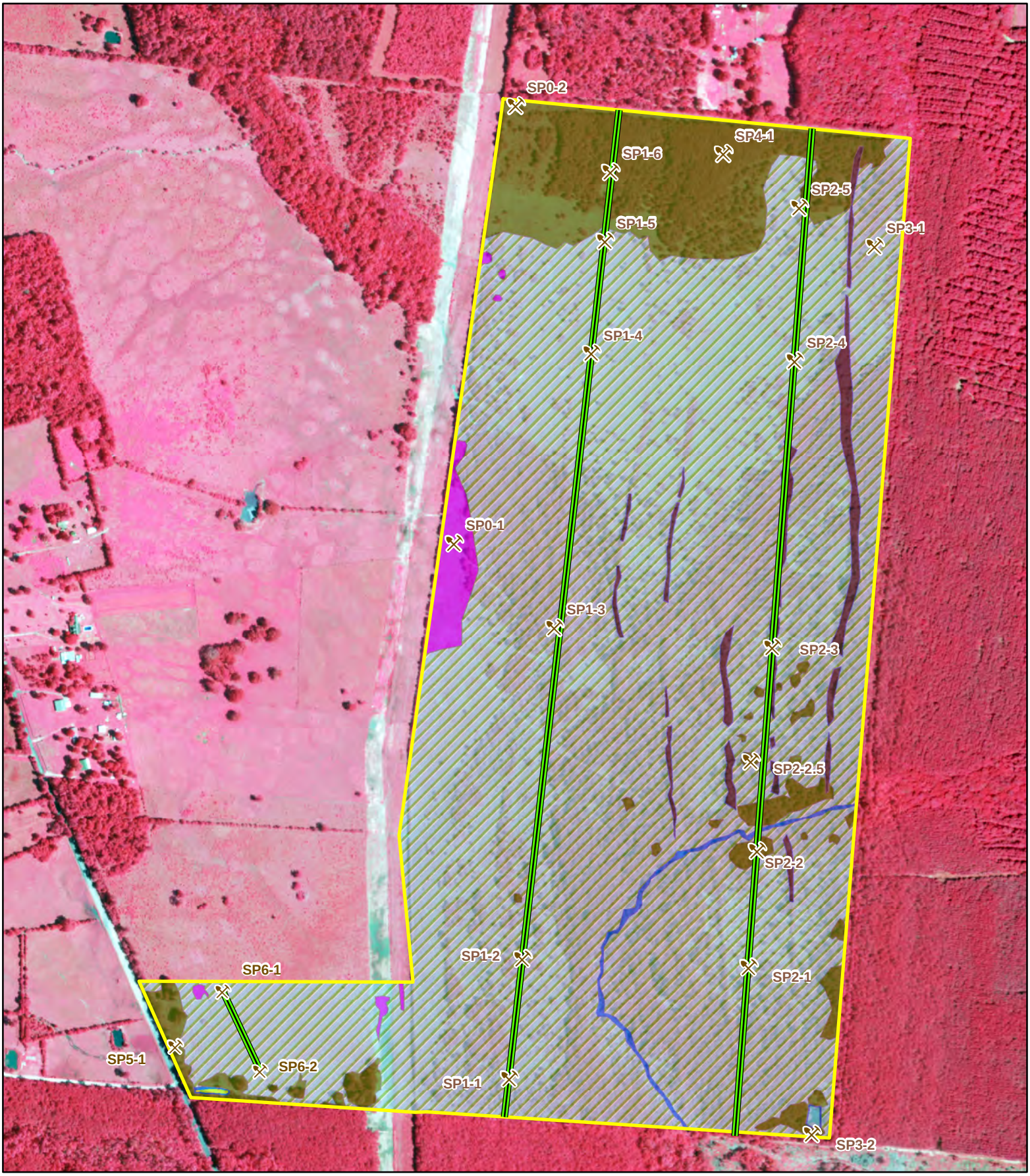
N

1:7,800

DESCO

0 125 250 500 Feet

Map Base: 2009 CIR Aerial Imagery from TNRIS
Map Datum: NAD 1983 UTM Zone 15N, meters
Map Date: July 10, 2018




# Figure 8: 2016 CIR Aerial Imagery Map
## East Buna Site

*Newton County, Texas*

Legend

- Sample Points
- Delineation Transects
- Property Boundary - 282.67 acres

Field Data (DESCO)

- Berms - 5.60 acres
- Non-Wet Forest - 33.10 acres
- Non-Wet Pasture - 3.96 acres
- Pond 1 - 0.19 acres
- Pond 2 - 0.15 acres
- Stream - 1.14 acres
- Wetland 1 - 238.53 acres

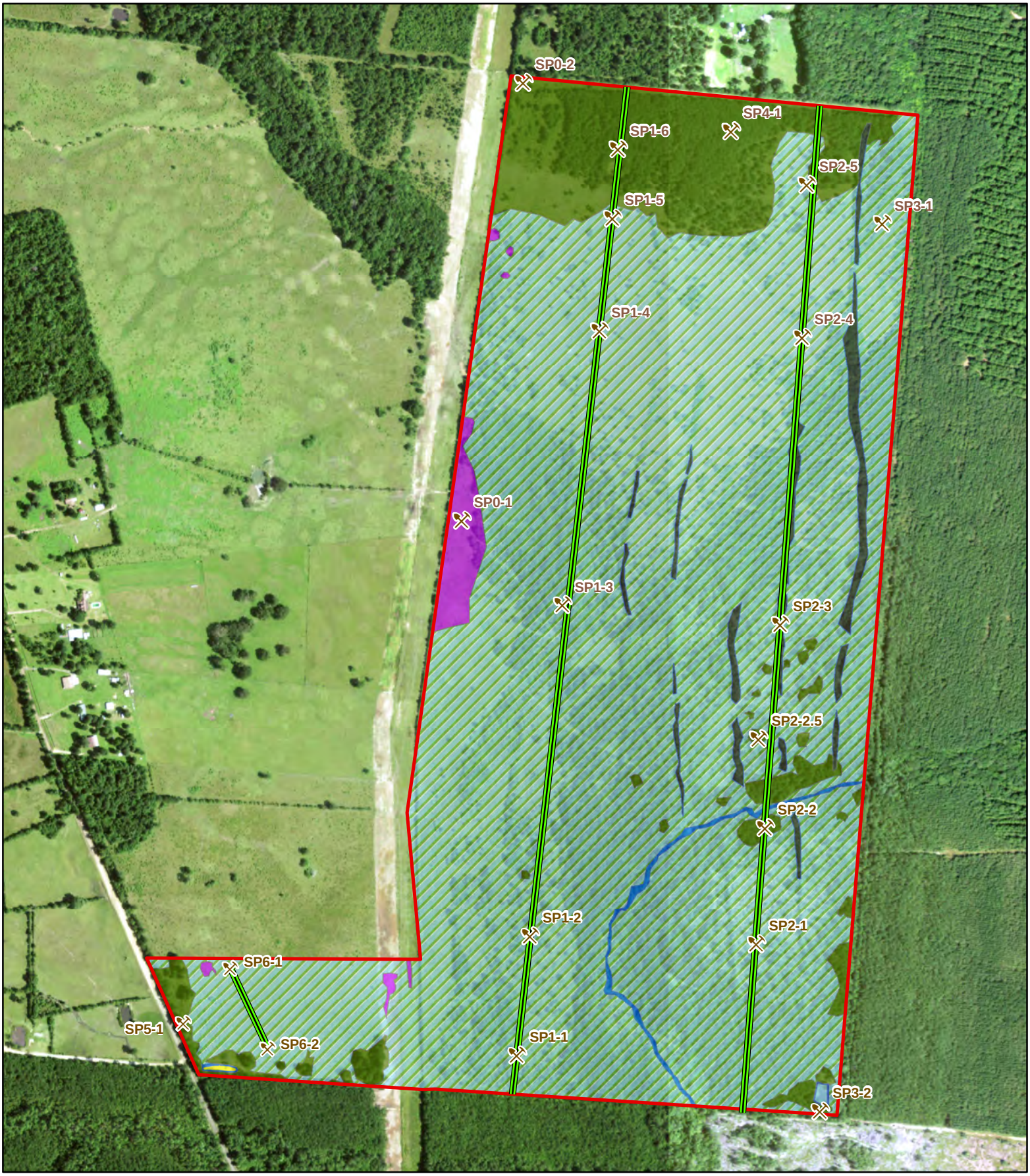
N

1:7,800

DESCO

0 125 250 500 Feet

Map Base: 2016 CIR Aerial Imagery from TNRIS
Map Datum: NAD 1983 UTM Zone 15N, meters
Map Date: July 10, 2018




# Figure 9: 2016 NC Aerial Imagery Map
## East Buna Site

*Newton County, Texas*

Legend

- Sample Points
- Delineation Transects
- Property Boundary - 282.67 acres

Field Data (DESCO)

- Berms - 5.60 acres
- Non-Wet Forest - 33.10 acres
- Non-Wet Pasture - 3.96 acres
- Pond 1 - 0.19 acres
- Pond 2 - 0.15 acres
- Stream - 1.14 acres
- Wetland 1 - 238.53 acres

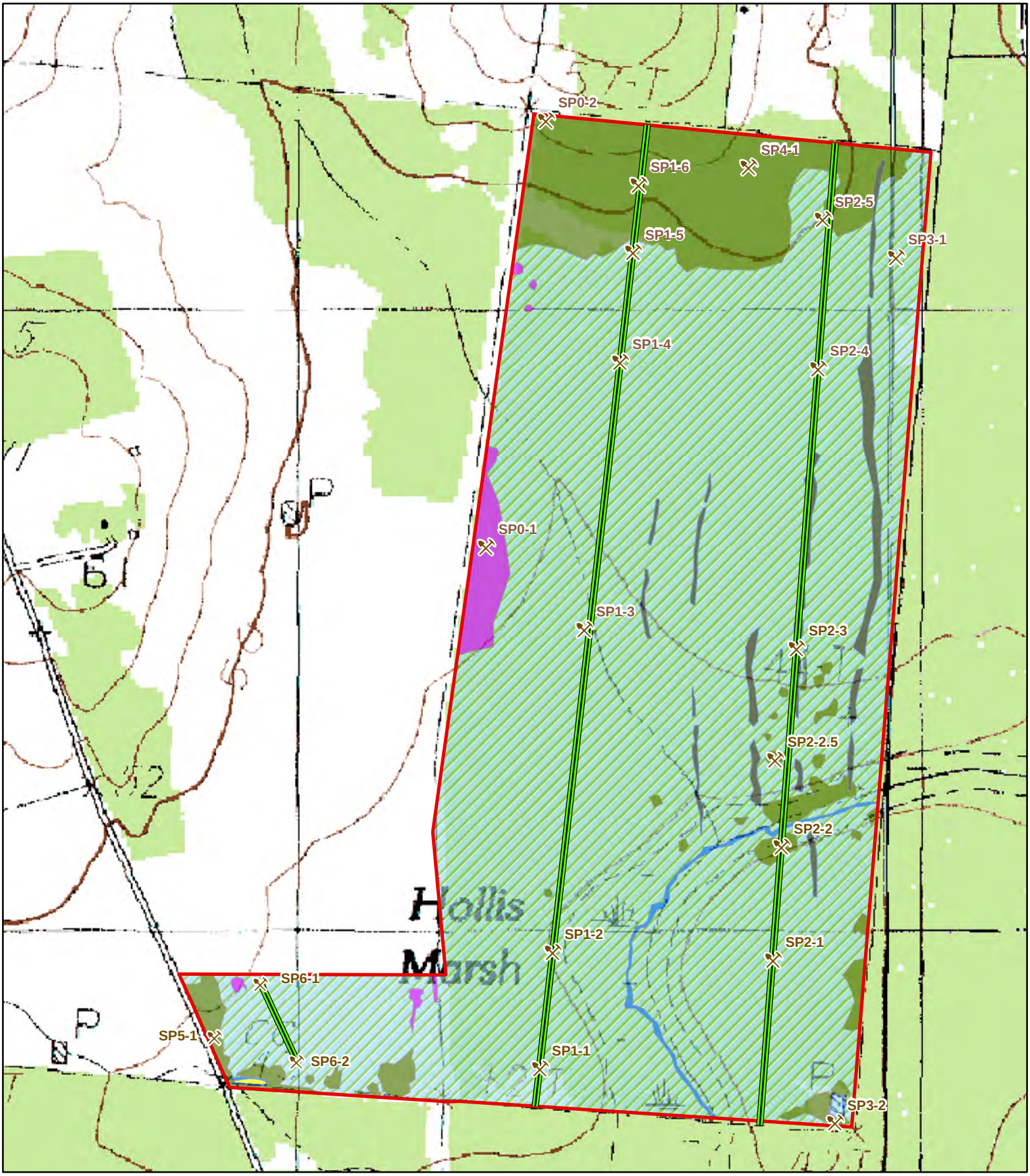
Map Base: 2016 NC Aerial Imagery from TNRIS
Map Datum: NAD 1983 UTM Zone 15N, meters
Map Date: July 10, 2018

N

1:7,800

DESCO

0 125 250 500 Feet




Legend

- Sample Points
- Delineation Transects
- Property Boundary - 282.67 acres

Field Data (DESCO)

- Berms - 5.60 acres
- Non-Wet Forest - 33.10 acres
- Non-Wet Pasture - 3.96 acres
- Pond 1 - 0.19 acres
- Pond 2 - 0.15 acres
- Stream - 1.14 acres
- Wetland 1 - 238.53 acres

# Figure 10: DRG Topo Map
## East Buna Site

*Newton County, Texas*

Map Base: 2016 NC Aerial Imagery from TNRIS
Map Datum: NAD 1983 UTM Zone 15N, meters
Map Date: July 10, 2018

N

1:8,000

DESCO

0 125 250 500 Feet

# 1.1 AGCP Datasheets and Site Photographs

| Table 1.1: AGCP Datasheets and Corresponding Sample Points | | |
|---|---|---|
| **AGCP Data Sheet** | **Corresponding Sample Points** | **Habitat Type** |
| SP0-1 | | Wetland-Herbaceous Wetland Habitat on Kirbyville-Niwana complex soil mapping unit |
| SP0-2 | | Wetland-Pine Mixed Hardwood Woodland on Otanya very fine sandy loam soil mapping unit |
| SP1-1 | SP2-1 | Wetland-Woodland/Herbaceous Mix on Waller-Dallardsville complex soil mapping unit |
| SP1-2 | | Wetland-Woodland on Sourlake loam soil mapping unit |
| SP1-3 | | Wetland-Woodland on Waller-Dallardsville complex soil mapping unit |
| SP1-4 | SP1-5, SP2-4, and SP2-5 | Wetland-Herbaceous Wetland Habitat on Waller-Dallardsville complex soil mapping unit |
| SP1-6 | | Upland-Pine Forest on Kirbyville fine sandy loam soil mapping unit |
| SP2-2 | | Wetland-Pine Mixed Hardwood Forest on Camptown silt loam soil mapping unit |
| SP2-2.5 | | Upland-Pine Mixed Hardwood Mound on Vidor-Gist complex soil mapping unit |
| SP2-3 | | Wetland-Pine Woodland on Vidor-Gist complex soil mapping unit soil mapping unit |
| SP3-1 | | Wetland-Herbaceous Wetland Habitat on Evadale silt loam soil mapping unit |
| SP3-2 | | Upland-Pine Mixed Hardwood Woodland on Waller-Dallardsville complex soil mapping unit |
| SP4-1 | | Upland-Pine Forest on Waller-Dallardsville complex soil mapping unit |
| SP5-1 | | Wetland-Herbaceous Wetland Habitat on Nona-Dallardsville complex soil mapping unit |
| SP6-1 | | Wetland-Herbaceous Wetland Habitat on Kirbyville-Niwana complex soil mapping unit |
| SP6-2 | | Wetland-Herbaceous Wetland Habitat on Waller-Dallardsville complex soil mapping unit |

## WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

**Project/Site:** Buna, TX 264 Acre **City/County:** Newton County **Sampling Date:** 11-Apr-18

**Applicant/Owner:** Delta Land Services, LLC **State:** TX **Sampling Point:** SP0-1

**Investigator(s):** Justin Rowland and Chris Little **Section, Township, Range:** S T R

**Landform (hillslope, terrace, etc.):** Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °

**Subregion (LRR or MLRA):** LRR T **Lat.:** 3363821.738 **Long.:** 415286.982 **Datum:** 1983 UTM

**Soil Map Unit Name:** Kirbyville-Niwana complex, 0 to 2 percent slopes **NWI classification:** none

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ◉ No ○ **(If no, explain in Remarks.)**

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **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 ○ | **Is the Sampled Area within a Wetland?** Yes ◉ No ○ |
| Hydric Soil Present? | Yes ◉ No ○ | |
| Wetland Hydrology Present? | Yes ◉ No ○ | |

Remarks:
This sample point is in a grazed, herbaceous wetland area on the west portion of the site. The Cowardin classification observed at the sample point is PEM.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ 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 ◉ | Depth (inches): |
| Water Table Present? | Yes ○ | No ◉ | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 12 |

**Wetland Hydrology Present?** Yes ◉ No ○

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

Remarks:

**VEGETATION (Five/Four Strata) - Use scientific names of plants.**

**Sampling Point:** SP0-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 | 20% of Total Cover: 0 | 0 | = Total Cover | |
| **Sapling or Sapling/Shrub Stratum** (Plot size: 30' radius) | | | | |
| 1. Triadica sebifera | 7 | ☑ | 100.0% | FAC |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 3.5 | 20% of Total Cover: 1.4 | 7 | = Total Cover | |
| **Shrub Stratum** (Plot size: ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 | 20% of Total Cover: 0 | 0 | = Total Cover | |
| **Herb Stratum** (Plot size: 30' radius) | | | | |
| 1. Axonopus fissifolius | 70 | ☑ | 75.3% | FACW |
| 2. Andropogon glomeratus | 4 | ☐ | 4.3% | FACW |
| 3. Centella erecta | 4 | ☐ | 4.3% | FACW |
| 4. Paspalum floridanum | 3 | ☐ | 3.2% | FACW |
| 5. Juncus effusus | 2 | ☐ | 2.2% | OBL |
| 6. Triadica sebifera | 2 | ☐ | 2.2% | FAC |
| 7. Carex cherokeensis | 2 | ☐ | 2.2% | FACW |
| 8. Rhynchospora perplexa | 2 | ☐ | 2.2% | OBL |
| 9. Geranium carolinianum | 1 | ☐ | 1.1% | |
| 10. Rubus argutus | 1 | ☐ | 1.1% | FAC |
| 11. Rubus trivialis | 1 | ☐ | 1.1% | FACU |
| 12. Viola lanceolata | 1 | ☐ | 0.0% | OBL |
| 50% of Total Cover: 46.5 | 20% of Total Cover: 18.6 | 93 | = Total Cover | |
| **Woody Vine Stratum** (Plot size: 30' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 | 20% of Total Cover: 0 | 0 | = 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: 2 (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 | 5 | x 1 = | 5 |
| FACW species | 83 | x 2 = | 166 |
| FAC species | 10 | x 3 = | 30 |
| FACU species | 1 | x 4 = | 4 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 99 (A) | | 205 (B) |

Prevalence Index = B/A = 2.071

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

**Definition of Vegetation Strata:**

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

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

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## SOIL

**Sampling Point:** SP0-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc² | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-5 | 10YR | 3/2 | 100 | | | | | | Silt Loam | |
| 5-10 | 10YR | 5/2 | 90 | 10YR | 5/8 | 10 | C | M | Silt Loam | |
| 10-24 | 10YR | 5/1 | 70 | 10YR | 5/8 | 30 | C | M | Silt Loam | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ 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 Muck 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)
- ☐ 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 Loamy Soils (F20) (MLRA 149A, 153C, 153D)

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

## SP0-1 Photos:

General View

Soil Profile

## WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

**Project/Site:** Buna, TX 264 Acre **City/County:** Newton County **Sampling Date:** 11-Apr-18

**Applicant/Owner:** Delta Land Services, LLC **State:** TX **Sampling Point:** SP0-2

**Investigator(s):** Justin Rowland and Chris Little **Section, Township, Range:** S T R

**Landform (hillslope, terrace, etc.):** Flat **Local relief (concave, convex, none):** concave **Slope:** 0.0 % / 0.0 °

**Subregion (LRR or MLRA):** LRR T **Lat.:** 3364507.653 **Long.:** 415383.384 **Datum:** 1983 UTM

**Soil Map Unit Name:** Otanya Very Fine Sandy Loam, 1 to 3 percent slopes **NWI classification:** none

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ◉ No ○ **(If no, explain in Remarks.)**

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **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 ○ | **Is the Sampled Area within a Wetland?** Yes ◉ No ○ |
| Hydric Soil Present? | Yes ◉ No ○ | |
| Wetland Hydrology Present? | Yes ◉ No ○ | |

Remarks:
The Cowardin classification observed at the sample point is PEM with PFO in the immediate vicinity.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ 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 ◉ | Depth (inches): |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): 23 |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 15 |

**Wetland Hydrology Present?** Yes ◉ No ○

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

Remarks:

**VEGETATION (Five/Four Strata) - Use scientific names of plants.**

**Sampling Point:** SP0-2

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. Pinus taeda | 10 | ☑ | 58.8% | FAC |
| 2. Triadica sebifera | 5 | ☑ | 29.4% | FAC |
| 3. Ilex opaca | 2 | ☐ | 11.8% | FAC |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 8.5 20% of Total Cover: 3.4 | 17 | = Total Cover | | |
| **Sapling or Sapling/Shrub Stratum** (Plot size: 30' radius) | | | | |
| 1. Triadica sebifera | 15 | ☑ | 83.3% | FAC |
| 2. Pinus taeda | 2 | ☐ | 11.1% | FAC |
| 3. Ilex opaca | 1 | ☐ | 5.6% | FAC |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 9 20% of Total Cover: 3.6 | 18 | = Total Cover | | |
| **Shrub Stratum** (Plot size: ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 20% of Total Cover: 0 | 0 | = Total Cover | | |
| **Herb Stratum** (Plot size: 30' radius) | | | | |
| 1. Axonopus fissifolius | 50 | ☑ | 60.2% | FACW |
| 2. Chasmanthium laxum | 5 | ☐ | 6.0% | FACW |
| 3. Andropogon glomeratus | 5 | ☐ | 6.0% | FACW |
| 4. Rubus argutus | 4 | ☐ | 4.8% | FAC |
| 5. Rhynchospora perplexa | 3 | ☐ | 3.6% | OBL |
| 6. Ambrosia artemisiifolia | 3 | ☐ | 3.6% | FACU |
| 7. Rhynchospora glomerata | 3 | ☐ | 3.6% | OBL |
| 8. Persicaria hydropiperoides | 2 | ☐ | 2.4% | OBL |
| 9. Centella erecta | 2 | ☐ | 2.4% | FACW |
| 10. Viola lanceolata | 2 | ☐ | 2.4% | OBL |
| 11. Ilex vomitoria | 2 | ☐ | 2.4% | FAC |
| 12. Pinus taeda | 2 | ☐ | 0.0% | FAC |
| 50% of Total Cover: 41.5 20% of Total Cover: 16.6 | 83 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 20% of Total Cover: 0 | 0 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (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 | 10 | x 1 = | 10 | |
| FACW species | 62 | x 2 = | 124 | |
| FAC species | 43 | x 3 = | 129 | |
| FACU species | 3 | x 4 = | 12 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 118 | (A) | 275 | (B) |

Prevalence Index = B/A = 2.331

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

## Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

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

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## SOIL

**Sampling Point:** SP0-2

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc² | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-2 | 10YR | 3/2 | 100 | | | | | | Silt Loam | |
| 2-6 | 10YR | 4/2 | 95 | 10YR | 5/6 | 5 | C | M | Silt Loam | |
| 6-12 | 10YR | 4/1 | 40 | 10YR | 5/8 | 30 | C | M | Silty Clay | mixed matrix layer |
| | 10YR | 6/3 | 30 | | | | | | | |
| 12-24 | 10YR | 5/1 | 70 | 10YR | 5/8 | 30 | C | M | Silty Clay | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ 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 Muck 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)
- ☐ 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 Loamy Soils (F20) (MLRA 149A, 153C, 153D)

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

## SP0-2 Photos:

General View

Soil Profile

## WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

**Project/Site:** Buna, TX 264 Acre **City/County:** Newton County **Sampling Date:** 12-Apr-18

**Applicant/Owner:** Delta Land Services, LLC **State:** TX **Sampling Point:** **SP1-1**

**Investigator(s):** Justin Rowland and Chris Little **Section, Township, Range:** **S** **T** **R**

**Landform (hillslope, terrace, etc.):** Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 **%** / 0.0 **°**

**Subregion (LRR or MLRA):** LRR T **Lat.:** 3362983.327 **Long.:** 415373.464 **Datum:** 1983 UTM

**Soil Map Unit Name:** Waller-Dallardsville complex, 0 to 1 percent slopes **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** ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **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 ○ | **Is the Sampled Area within a Wetland?** Yes ◉ No ○ |
| Hydric Soil Present? | Yes ◉ No ○ | |
| Wetland Hydrology Present? | Yes ◉ No ○ | |

Remarks:
This sample point is representative of the wetland marsh in the Waller-Dallardsville complex soil type on the property. Sample points in this group include SP1-1 and SP2-1. The Cowardin classification observed at the sample point is PEM.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☑ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ 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 ◉ | Depth (inches): |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): 0 |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 0 |

**Wetland Hydrology Present?** Yes ◉ No ○

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

Remarks:

**VEGETATION (Five/Four Strata) - Use scientific names of plants.**

**Sampling Point:** SP1-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. Triadica sebifera | 5 | ☑ | 100.0% | FAC |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 2.5 — 20% of Total Cover: 1 | 5 | | = Total Cover | |
| **Sapling or Sapling/Shrub Stratum** (Plot size: 30' radius) | | | | |
| 1. Triadica sebifera | 15 | ☑ | 68.2% | FAC |
| 2. Hypericum hypericoides | 5 | ☑ | 22.7% | FAC |
| 3. Morella cerifera | 2 | ☐ | 9.1% | FAC |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 11 — 20% of Total Cover: 4.4 | 22 | | = Total Cover | |
| **Shrub Stratum** (Plot size: ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 — 20% of Total Cover: 0 | 0 | | = Total Cover | |
| **Herb Stratum** (Plot size: 30' radius) | | | | |
| 1. Dichanthelium scabriusculum | 50 | ☑ | 50.0% | OBL |
| 2. Rhynchospora perplexa | 10 | ☑ | 10.0% | OBL |
| 3. Axonopus fissifolius | 8 | ☐ | 8.0% | FACW |
| 4. Juncus effusus | 7 | ☐ | 7.0% | OBL |
| 5. Persicaria hydropiperoides | 5 | ☐ | 5.0% | OBL |
| 6. Ludwigia repens | 5 | ☐ | 5.0% | OBL |
| 7. Rhynchospora glomerata | 5 | ☐ | 5.0% | OBL |
| 8. Proserpinaca palustris | 3 | ☐ | 3.0% | OBL |
| 9. Hymenocallis liriosme | 2 | ☐ | 2.0% | OBL |
| 10. Xyris ambigua | 2 | ☐ | 2.0% | OBL |
| 11. Paspalum floridanum | 2 | ☐ | 2.0% | FACW |
| 12. Verbena litoralis var. brevibracteata | 1 | ☐ | 0.0% | |
| 50% of Total Cover: 50 — 20% of Total Cover: 20 | 100 | | = Total Cover | |
| **Woody Vine Stratum** (Plot size: 30' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 — 20% of Total Cover: 0 | 0 | | = Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (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 | 89 | x 1 = | 89 | |
| FACW species | 10 | x 2 = | 20 | |
| FAC species | 27 | x 3 = | 81 | |
| FACU species | 0 | x 4 = | 0 | |
| UPL species | 1 | x 5 = | 5 | |
| Column Totals: | 127 | (A) | 195 | (B) |

Prevalence Index = B/A = 1.535

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

## Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

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

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## SOIL

**Sampling Point:** SP1-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc² | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-5 | 10YR | 5/2 | 98 | 10YR | 5/6 | 2 | C | M | Silt Loam | |
| 5-10 | 10YR | 5/2 | 90 | 10YR | 5/6 | 10 | C | M | Silty Clay | |
| 10-24 | 10YR | 5/1 | 80 | 10YR | 5/8 | 20 | C | M | Silty Clay | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ 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 Muck 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)
- ☐ 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 Loamy Soils (F20) (MLRA 149A, 153C, 153D)

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

## SP1-1 Photos:

General View

Soil Profile

## WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

**Project/Site:** Buna, TX 264 Acre **City/County:** Newton County **Sampling Date:** 12-Apr-18

**Applicant/Owner:** Delta Land Services, LLC **State:** TX **Sampling Point:** SP1-2

**Investigator(s):** Justin Rowland and Chris Little **Section, Township, Range:** S T R

**Landform (hillslope, terrace, etc.):** Flat **Local relief (concave, convex, none):** concave **Slope:** 0.0 % / 0.0 °

**Subregion (LRR or MLRA):** LRR T **Lat.:** 3363170.513 **Long.:** 415393.875 **Datum:** 1983 UTM

**Soil Map Unit Name:** Sourlake loam, 0 to 1 percent slopes, frequently flooded **NWI classification:** none

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ◉ No ○ **(If no, explain in Remarks.)**

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **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 ○ | **Is the Sampled Area within a Wetland?** Yes ◉ No ○ |
| Hydric Soil Present? | Yes ◉ No ○ | |
| Wetland Hydrology Present? | Yes ◉ No ○ | |

Remarks:
The Cowardin classification observed at the sample point is PFO.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☑ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ 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 ○ | Depth (inches): | 1 |
| Water Table Present? | Yes ◉ No ○ | Depth (inches): | 0 |
| Saturation Present? (includes capillary fringe) | Yes ◉ No ○ | Depth (inches): | 0 |

**Wetland Hydrology Present?** Yes ◉ No ○

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

Remarks:
Average surface water of 1" at sample point.

**VEGETATION (Five/Four Strata) - Use scientific names of plants.**

**Sampling Point:** SP1-2

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. Triadica sebifera | 20 | ☑ | 80.0% | FAC |
| 2. Pinus taeda | 3 | ☐ | 12.0% | FAC |
| 3. Quercus phellos | 2 | ☐ | 8.0% | FACW |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 12.5 | 20% of Total Cover: 5 | 25 | = Total Cover | |
| **Sapling or Sapling/Shrub Stratum** (Plot size: 30' radius) | | | | |
| 1. Triadica sebifera | 10 | ☑ | 76.9% | FAC |
| 2. Morella cerifera | 3 | ☑ | 23.1% | FAC |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 6.5 | 20% of Total Cover: 2.6 | 13 | = Total Cover | |
| **Shrub Stratum** (Plot size: ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 | 20% of Total Cover: 0 | 0 | = Total Cover | |
| **Herb Stratum** (Plot size: 30' radius) | | | | |
| 1. Axonopus fissifolius | 40 | ☑ | 42.6% | FACW |
| 2. Sagittaria lancifolia | 15 | ☑ | 16.0% | OBL |
| 3. Eleocharis montevidensis | 15 | ☑ | 16.0% | FACW |
| 4. Rhynchospora perplexa | 5 | ☐ | 5.3% | OBL |
| 5. Ludwigia repens | 5 | ☐ | 5.3% | OBL |
| 6. Rhynchospora glomerata | 3 | ☐ | 3.2% | OBL |
| 7. Centella erecta | 3 | ☐ | 3.2% | FACW |
| 8. Andropogon glomeratus | 2 | ☐ | 2.1% | FACW |
| 9. Triadica sebifera | 2 | ☐ | 2.1% | FAC |
| 10. Persicaria hydropiperoides | 2 | ☐ | 2.1% | OBL |
| 11. Verbena litoralis var. brevibracteata | 1 | ☐ | 1.1% | |
| 12. Xyris ambigua | 1 | ☐ | 0.0% | OBL |
| 50% of Total Cover: 47 | 20% of Total Cover: 18.8 | 94 | = Total Cover | |
| **Woody Vine Stratum** (Plot size: 30' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 | 20% of Total Cover: 0 | 0 | = Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (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 | 31 | x 1 = | 31 | |
| FACW species | 62 | x 2 = | 124 | |
| FAC species | 38 | x 3 = | 114 | |
| FACU species | 0 | x 4 = | 0 | |
| UPL species | 1 | x 5 = | 5 | |
| Column Totals: | 132 | (A) | 274 | (B) |

Prevalence Index = B/A = 2.076

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

## Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

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

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## SOIL

**Sampling Point:** SP1-2

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc² | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-11 | 10YR | 5/1 | 85 | 10YR | 5/8 | 15 | C | M | Silty Clay | |
| 11-20 | 10YR | 5/1 | 70 | 10YR | 5/8 | 30 | C | M | Silty Clay | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ 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 Muck 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)
- ☐ 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 Loamy Soils (F20) (MLRA 149A, 153C, 153D)

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

## SP1-2 Photos:

General View

Soil Profile

## WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

**Project/Site:** Buna, TX 264 Acre **City/County:** Newton County **Sampling Date:** 11-Apr-18

**Applicant/Owner:** Delta Land Services, LLC **State:** TX **Sampling Point:** SP1-3

**Investigator(s):** Justin Rowland and Chris Little **Section, Township, Range:** S T R

**Landform (hillslope, terrace, etc.):** Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °

**Subregion (LRR or MLRA):** LRR T **Lat.:** 3363689.275 **Long.:** 415444.607 **Datum:** 1983 UTM

**Soil Map Unit Name:** Waller-Dallardsville complex, 0 to 1 percent slopes **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** ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **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 ○ | **Is the Sampled Area within a Wetland?** Yes ◉ No ○ |
| Hydric Soil Present? | Yes ◉ No ○ | |
| Wetland Hydrology Present? | Yes ◉ No ○ | |

Remarks:
The Cowardin classification observed at the sample point is PFO.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ 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 ◉ | Depth (inches): |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): 20 |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 12 |

**Wetland Hydrology Present?** Yes ◉ No ○

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

Remarks:

**VEGETATION (Five/Four Strata) - Use scientific names of plants.**

**Sampling Point:** SP1-3

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. Triadica sebifera | 30 | ☑ | 75.0% | FAC |
| 2. Acer rubrum | 10 | ☑ | 25.0% | FAC |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 20 | 20% of Total Cover: 8 | 40 | **= Total Cover** | |
| **Sapling or Sapling/Shrub Stratum** (Plot size: 30' radius) | | | | |
| 1. Triadica sebifera | 30 | ☑ | 71.4% | FAC |
| 2. Acer rubrum | 5 | ☐ | 11.9% | FAC |
| 3. Morella cerifera | 3 | ☐ | 7.1% | FAC |
| 4. Quercus nigra | 2 | ☐ | 4.8% | FAC |
| 5. Crataegus opaca | 2 | ☐ | 4.8% | OBL |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 21 | 20% of Total Cover: 8.4 | 42 | **= Total Cover** | |
| **Shrub Stratum** (Plot size: ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 | 20% of Total Cover: 0 | 0 | **= Total Cover** | |
| **Herb Stratum** (Plot size: 30' radius) | | | | |
| 1. Carex intumescens | 40 | ☑ | 54.8% | FACW |
| 2. Juncus effusus | 5 | ☐ | 6.8% | OBL |
| 3. Eupatorium semiserratum | 5 | ☐ | 6.8% | FACW |
| 4. Ptilimnium capillaceum | 5 | ☐ | 6.8% | OBL |
| 5. Centella erecta | 3 | ☐ | 4.1% | FACW |
| 6. Rhynchospora perplexa | 3 | ☐ | 4.1% | OBL |
| 7. Persicaria hydropiperoides | 2 | ☐ | 2.7% | OBL |
| 8. Verbena litoralis var. brevibracteata | 2 | ☐ | 2.7% | |
| 9. Solidago sempervirens | 2 | ☐ | 2.7% | FACW |
| 10. Carex cherokeensis | 2 | ☐ | 2.7% | FACW |
| 11. Triadica sebifera | 2 | ☐ | 2.7% | FAC |
| 12. Toxicodendron radicans | 2 | ☐ | 33.3% | FAC |
| 50% of Total Cover: 36.5 | 20% of Total Cover: 14.6 | 73 | **= Total Cover** | |
| **Woody Vine Stratum** (Plot size: 30' radius) | | | | |
| 1. Toxicodendron radicans | 4 | ☑ | 66.7% | FAC |
| 2. Campsis radicans | 2 | ☑ | 33.3% | FAC |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 3 | 20% of Total Cover: 1.2 | 6 | **= Total Cover** | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (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 | 17 | x 1 = | 17 | |
| FACW species | 52 | x 2 = | 104 | |
| FAC species | 90 | x 3 = | 270 | |
| FACU species | 0 | x 4 = | 0 | |
| UPL species | 2 | x 5 = | 10 | |
| Column Totals: | 161 | (A) | 401 | (B) |

Prevalence Index = B/A = 2.491

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

## Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

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

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## SOIL

**Sampling Point:** SP1-3

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc² | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-5 | 10YR | 5/2 | 95 | 10YR | 5/6 | 5 | C | M | Silt Loam | |
| 5-24 | 10YR | 6/1 | 75 | 10YR | 5/8 | 25 | C | M | Silty Clay | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ 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 Muck 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)
- ☐ 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 Loamy Soils (F20) (MLRA 149A, 153C, 153D)

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

## SP1-3 Photos:

General View

Soil Profile

## WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

**Project/Site:** Buna, TX 264 Acre **City/County:** Newton County **Sampling Date:** 11-Apr-18

**Applicant/Owner:** Delta Land Services, LLC **State:** TX **Sampling Point:** **SP1-4**

**Investigator(s):** Justin Rowland and Chris Little **Section, Township, Range:** **S** **T** **R**

**Landform (hillslope, terrace, etc.):** Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 **%** / 0.0 **°**

**Subregion (LRR or MLRA):** LRR T **Lat.:** 3364119.404 **Long.:** 415502.685 **Datum:** 1983 UTM

**Soil Map Unit Name:** Waller-Dallardsville complex, 0 to 1 percent slopes **NWI classification:** none

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ◉ No ○ **(If no, explain in Remarks.)**

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **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 ○ | **Is the Sampled Area within a Wetland?** Yes ◉ No ○ |
| Hydric Soil Present? | Yes ◉ No ○ | |
| Wetland Hydrology Present? | Yes ◉ No ○ | |

Remarks:
This sample point is representative of the wet prairie habitat present on the property in the Waller-Dallardsville complex, 0 to 1 percent slopes soil unit. Sample point include: SP1-4, SP1-5, SP2-4, and SP2-5. The Cowardin classification observed at the sample point is PEM.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ 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 ◉ | Depth (inches): | |
| Water Table Present? | Yes ◉ No ○ | Depth (inches): | 19 |
| Saturation Present? (includes capillary fringe) | Yes ◉ No ○ | Depth (inches): | 6 |

**Wetland Hydrology Present?** Yes ◉ No ○

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

Remarks:

**VEGETATION (Five/Four Strata) - Use scientific names of plants.**

**Sampling Point:** SP1-4

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 | 20% of Total Cover: 0 | 0 | **= Total Cover** | |
| **Sapling or Sapling/Shrub Stratum** (Plot size: 30' radius) | | | | |
| 1. Morella cerifera | 6 | ☑ | 85.7% | FAC |
| 2. Triadica sebifera | 1 | ☐ | 14.3% | FAC |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 3.5 | 20% of Total Cover: 1.4 | 7 | **= Total Cover** | |
| **Shrub Stratum** (Plot size: ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 | 20% of Total Cover: 0 | 0 | **= Total Cover** | |
| **Herb Stratum** (Plot size: 30' radius) | | | | |
| 1. Fimbristylis autumnalis | 30 | ☑ | 31.9% | OBL |
| 2. Andropogon glomeratus | 20 | ☑ | 21.3% | FACW |
| 3. Paspalum floridanum | 10 | ☐ | 10.6% | FACW |
| 4. Axonopus fissifolius | 10 | ☐ | 10.6% | FACW |
| 5. Dichanthelium acuminatum | 8 | ☐ | 8.5% | FAC |
| 6. Dichanthelium scabriusculum | 5 | ☐ | 5.3% | OBL |
| 7. Centella erecta | 3 | ☐ | 3.2% | FACW |
| 8. Verbena litoralis var. brevibracteata | 2 | ☐ | 2.1% | |
| 9. Viola lanceolata | 2 | ☐ | 2.1% | OBL |
| 10. Morella cerifera | 2 | ☐ | 2.1% | FAC |
| 11. Drosera capillaris | 1 | ☐ | 1.1% | OBL |
| 12. Xyris ambigua | 1 | ☐ | 0.0% | OBL |
| 50% of Total Cover: 47 | 20% of Total Cover: 18.8 | 94 | **= Total Cover** | |
| **Woody Vine Stratum** (Plot size: 30' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 | 20% of Total Cover: 0 | 0 | **= 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 | 39 | x 1 = | 39 |
| FACW species | 43 | x 2 = | 86 |
| FAC species | 17 | x 3 = | 51 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 2 | x 5 = | 10 |
| Column Totals: | 101 (A) | | 186 (B) |

Prevalence Index = B/A = 1.842

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

## Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

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

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## SOIL

**Sampling Point:** SP1-4

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc² | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-6 | 10YR | 4/2 | 95 | 10YR | 5/8 | 5 | C | M | Silt Loam | |
| 6-11 | 10YR | 5/2 | 80 | 10YR | 5/8 | 20 | C | M | Silt Loam | |
| 11-24 | 10YR | 6/1 | 70 | 10YR | 5/8 | 30 | C | M | Silty Clay | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ 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 Muck 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)
- ☐ 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 Loamy Soils (F20) (MLRA 149A, 153C, 153D)

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

## SP1-4 Photos:

General View

Soil Profile

## WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

**Project/Site:** Buna, TX 264 Acre **City/County:** Newton County **Sampling Date:** 11-Apr-18

**Applicant/Owner:** Delta Land Services, LLC **State:** TX **Sampling Point:** SP1-6

**Investigator(s):** Justin Rowland and Chris Little **Section, Township, Range:** S T R

**Landform (hillslope, terrace, etc.):** Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °

**Subregion (LRR or MLRA):** LRR T **Lat.:** 3364403.789 **Long.:** 415532.124 **Datum:** 1983 UTM

**Soil Map Unit Name:** Kirbyville fine sandy loam, 0 to 2 percent slopes **NWI classification:** none

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ◉ No ○ **(If no, explain in Remarks.)**

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **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 ○<br>Hydric Soil Present? Yes ○ No ◉<br>Wetland Hydrology Present? Yes ○ No ◉ | **Is the Sampled Area within a Wetland?** Yes ○ No ◉ |

Remarks:

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ 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 ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

**Wetland Hydrology Present?** Yes ○ No ◉

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

Remarks:

**VEGETATION (Five/Four Strata) - Use scientific names of plants.**

**Sampling Point:** SP1-6

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. Pinus taeda | 60 | ☑ | 96.8% | FAC |
| 2. Triadica sebifera | 2 | ☐ | 3.2% | FAC |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 31 — 20% of Total Cover: 12.4 | 62 | = Total Cover | | |
| **Sapling or Sapling/Shrub Stratum** (Plot size: 30' radius) | | | | |
| 1. Morella cerifera | 40 | ☑ | 63.5% | FAC |
| 2. Ilex vomitoria | 20 | ☑ | 31.7% | FAC |
| 3. Triadica sebifera | 3 | ☐ | 4.8% | FAC |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 31.5 — 20% of Total Cover: 12.6 | 63 | = Total Cover | | |
| **Shrub Stratum** (Plot size: ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 — 20% of Total Cover: 0 | 0 | = Total Cover | | |
| **Herb Stratum** (Plot size: 30' radius) | | | | |
| 1. Chasmanthium laxum | 5 | ☑ | 31.3% | FACW |
| 2. Dichanthelium aciculare | 3 | ☑ | 18.8% | FACU |
| 3. Ilex vomitoria | 2 | ☑ | 12.5% | FAC |
| 4. Lonicera japonica | 2 | ☑ | 12.5% | FACU |
| 5. Smilax bona-nox | 1 | ☐ | 6.3% | FAC |
| 6. Ilex opaca | 1 | ☐ | 6.3% | FAC |
| 7. Rubus argutus | 1 | ☐ | 6.3% | FAC |
| 8. Quercus nigra | 1 | ☐ | 6.3% | FAC |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 8 — 20% of Total Cover: 3.2 | 16 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30' radius) | | | | |
| 1. Smilax bona-nox | 2 | ☐ | 100.0% | FAC |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 1 — 20% of Total Cover: 0.4 | 2 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 71.4% (A/B)

**Prevalence Index worksheet:**

| | Total % Cover of: | Multiply by: | |
|---|---|---|---|
| OBL species | 0 | x 1 = | 0 |
| FACW species | 5 | x 2 = | 10 |
| FAC species | 133 | x 3 = | 399 |
| FACU species | 5 | x 4 = | 20 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 143 (A) | | 429 (B) |

Prevalence Index = B/A = 3.000

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

## Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

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

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## SOIL

**Sampling Point:** SP1-6

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc² | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-5 | 10YR | 4/3 | 100 | | | | | | Loam | |
| 5-12 | 10YR | 5/3 | 75 | 10YR | 5/6 | 5 | C | M | Silt Loam | mixed matrix layer |
| | 10YR | 3/2 | 20 | | | | | | | |
| 12-24 | 10YR | 5/2 | 85 | 10YR | 5/8 | 15 | C | M | Clay Loam | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ 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 Muck 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)
- ☐ 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 Loamy Soils (F20) (MLRA 149A, 153C, 153D)

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

## SP1-6 Photos:

General View

Soil Profile

## WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

**Project/Site:** Buna, TX 264 Acre **City/County:** Newton County **Sampling Date:** 12-Apr-18

**Applicant/Owner:** Delta Land Services, LLC **State:** TX **Sampling Point:** SP2-2

**Investigator(s):** Justin Rowland and Chris Little **Section, Township, Range:** S T R

**Landform (hillslope, terrace, etc.):** Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °

**Subregion (LRR or MLRA):** LRR T **Lat.:** 3363339.767 **Long.:** 415762.054 **Datum:** 1983 UTM

**Soil Map Unit Name:** Camptown silt loam, 0 to 1 percent slopes, frequently ponded **NWI classification:** none

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ◉ No ○ **(If no, explain in Remarks.)**

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **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 ○ | **Is the Sampled Area within a Wetland?** Yes ◉ No ○ |
| Hydric Soil Present? | Yes ◉ No ○ | |
| Wetland Hydrology Present? | Yes ◉ No ○ | |

Remarks:
The Cowardin classification observed at the sample point is PFO.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☑ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ 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 ◉ | Depth (inches): |
| Water Table Present? | Yes ○ | No ◉ | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 9 |

**Wetland Hydrology Present?** Yes ◉ No ○

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

Remarks:

**VEGETATION (Five/Four Strata) - Use scientific names of plants.**

**Sampling Point:** SP2-2

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. Pinus taeda | 60 | ☑ | 71.4% | FAC |
| 2. Triadica sebifera | 20 | ☑ | 23.8% | FAC |
| 3. Quercus nigra | 2 | ☐ | 2.4% | FAC |
| 4. Liquidambar styraciflua | 2 | ☐ | 2.4% | FAC |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 42 — 20% of Total Cover: 16.8 | 84 | = Total Cover | | |
| **Sapling or Sapling/Shrub Stratum** (Plot size: 30' radius) | | | | |
| 1. Morella cerifera | 50 | ☑ | 82.0% | FAC |
| 2. Ilex decidua | 6 | ☐ | 9.8% | FACW |
| 3. Ilex vomitoria | 5 | ☐ | 8.2% | FAC |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 30.5 — 20% of Total Cover: 12.2 | 61 | = Total Cover | | |
| **Shrub Stratum** (Plot size: ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 — 20% of Total Cover: 0 | 0 | = Total Cover | | |
| **Herb Stratum** (Plot size: 30' radius) | | | | |
| 1. Bignonia capreolata | 1 | ☐ | 7.1% | FAC |
| 2. Chasmanthium latifolium | 3 | ☑ | 21.4% | FAC |
| 3. Toxicodendron radicans | 2 | ☑ | 14.3% | FAC |
| 4. Morella cerifera | 3 | ☑ | 21.4% | FAC |
| 5. Rubus argutus | 2 | ☑ | 14.3% | FAC |
| 6. Smilax bona-nox | 1 | ☐ | 7.1% | FAC |
| 7. Parthenocissus quinquefolia | 1 | ☐ | 7.1% | FACU |
| 8. Ilex opaca | 1 | ☐ | 7.1% | FAC |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 7 — 20% of Total Cover: 2.8 | 14 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30' radius) | | | | |
| 1. Toxicodendron radicans | 1 | ☐ | 100.0% | FAC |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0.5 — 20% of Total Cover: 0.2 | 1 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (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 | 0 | x 1 = | 0 | |
| FACW species | 6 | x 2 = | 12 | |
| FAC species | 153 | x 3 = | 459 | |
| FACU species | 1 | x 4 = | 4 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 160 (A) | | 475 | (B) |

Prevalence Index = B/A = 2.969

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

## Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

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

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## SOIL

**Sampling Point:** SP2-2

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc² | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-3 | 10YR | 4/2 | 98 | 10YR | 5/6 | 2 | C | M | Silty Clay | |
| 3-17 | 10YR | 5/2 | 90 | 10YR | 5/8 | 10 | C | M | Silty Clay | |
| 17-24 | 10YR | 5/1 | 75 | 10YR | 6/8 | 25 | C | M | Silty Clay | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ 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 Muck 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)
- ☐ 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 Loamy Soils (F20) (MLRA 149A, 153C, 153D)

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

## SP2-2 Photos:

General View

Soil Profile

# WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

**Project/Site:** Buna, TX 264 Acre **City/County:** Newton County **Sampling Date:** 12-Apr-18

**Applicant/Owner:** Delta Land Services, LLC **State:** TX **Sampling Point:** SP2-2.5

**Investigator(s):** Justin Rowland and Chris Little **Section, Township, Range:** S T R

**Landform (hillslope, terrace, etc.):** Mound **Local relief (concave, convex, none):** convex **Slope:** 0.0 % / 0.0 °

**Subregion (LRR or MLRA):** LRR T **Lat.:** 3363479.47 **Long.:** 415752.018 **Datum:** 1983 UTM

**Soil Map Unit Name:** Vidor-Gist complex, 0 to 1 percent slopes **NWI classification:** none

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ◉ No ○ **(If no, explain in Remarks.)**

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **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 ○ | **Is the Sampled Area within a Wetland?** Yes ○ No ◉ |
| Hydric Soil Present? | Yes ◉ No ○ | |
| Wetland Hydrology Present? | Yes ○ No ◉ | |

Remarks:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ 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 ◉ | Depth (inches): |
| Water Table Present? | Yes ○ | No ◉ | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes ○ | No ◉ | Depth (inches): |

**Wetland Hydrology Present?** Yes ○ No ◉

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

Remarks:

**VEGETATION (Five/Four Strata) - Use scientific names of plants.**

**Sampling Point:** SP2-2.5

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. Pinus taeda | 40 | ☑ | 85.1% | FAC |
| 2. Triadica sebifera | 5 | ☐ | 10.6% | FAC |
| 3. Liquidambar styraciflua | 2 | ☐ | 4.3% | FAC |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 23.5 20% of Total Cover: 9.4 | 47 | = Total Cover | | |
| **Sapling or Sapling/Shrub Stratum** (Plot size: 30' radius) | | | | |
| 1. Ilex vomitoria | 15 | ☑ | 65.2% | FAC |
| 2. Morella cerifera | 8 | ☑ | 34.8% | FAC |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 11.5 20% of Total Cover: 4.6 | 23 | = Total Cover | | |
| **Shrub Stratum** (Plot size: ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 20% of Total Cover: 0 | 0 | = Total Cover | | |
| **Herb Stratum** (Plot size: 30' radius) | | | | |
| 1. Ilex vomitoria | 5 | ☑ | 25.0% | FAC |
| 2. Rubus argutus | 6 | ☑ | 30.0% | FAC |
| 3. Bignonia capreolata | 2 | ☐ | 10.0% | FAC |
| 4. Chasmanthium latifolium | 3 | ☐ | 15.0% | FAC |
| 5. Smilax rotundifolia | 1 | ☐ | 5.0% | FAC |
| 6. Smilax bona-nox | 1 | ☐ | 5.0% | FAC |
| 7. Morella cerifera | 1 | ☐ | 5.0% | FAC |
| 8. Toxicodendron radicans | 1 | ☐ | 5.0% | FAC |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 10 20% of Total Cover: 4 | 20 | = Total Cover | | |
| **Woody Vine Stratum** (Plot size: 30' radius) | | | | |
| 1. Toxicodendron radicans | 1 | ☐ | 50.0% | FAC |
| 2. Vitis rotundifolia | 1 | ☐ | 50.0% | FAC |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 1 20% of Total Cover: 0.4 | 2 | = Total Cover | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (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 | 0 | x 1 = | 0 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 92 | x 3 = | 276 |
| FACU species | 0 | x 4 = | 0 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 92 (A) | | 276 (B) |

Prevalence Index = B/A = 3.000

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

## Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

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

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## SOIL

**Sampling Point:** SP2-2.5

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc² | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-3 | 10YR | 3/3 | 100 | | | | | | Sandy Loam | |
| 3-9 | 10YR | 5/3 | 60 | 10YR | 5/8 | 5 | C | M | Sandy Loam | mixed matrix layer |
| | 10YR | 4/3 | 35 | | | | | | | |
| 9-14 | 10YR | 6/2 | 95 | 10YR | 5/6 | 5 | C | M | Silt Loam | |
| 14-24 | 10YR | 6/2 | 85 | 10YR | 5/6 | 15 | C | M | Silt Loam | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ 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 Muck 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)
- ☐ 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 Loamy Soils (F20) (MLRA 149A, 153C, 153D)

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

## SP2-2.5 Photos:

General View

Soil Profile

## WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

**Project/Site:** Buna, TX 264 Acre **City/County:** Newton County **Sampling Date:** 12-Apr-18

**Applicant/Owner:** Delta Land Services, LLC **State:** TX **Sampling Point:** SP2-3

**Investigator(s):** Justin Rowland and Chris Little **Section, Township, Range:** S T R

**Landform (hillslope, terrace, etc.):** Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °

**Subregion (LRR or MLRA):** LRR T **Lat.:** 3363658.817 **Long.:** 415785.985 **Datum:** 1983 UTM

**Soil Map Unit Name:** Vidor-Gist complex, 0 to 1 percent slopes **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** ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **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 ○ | **Is the Sampled Area within a Wetland?** Yes ◉ No ○ |
| Hydric Soil Present? | Yes ◉ No ○ | |
| Wetland Hydrology Present? | Yes ◉ No ○ | |

Remarks:
The Cowardin classification observed at the sample point is PFO.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ 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 ◉ | Depth (inches): |
| Water Table Present? | Yes ○ | No ◉ | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 4 |

**Wetland Hydrology Present?** Yes ◉ No ○

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

Remarks:

**VEGETATION (Five/Four Strata) - Use scientific names of plants.**

**Sampling Point:** SP2-3

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. Pinus taeda | 25 | ☑ | 100.0% | FAC |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 12.5 | 20% of Total Cover: 5 | 25 | = Total Cover | |
| **Sapling or Sapling/Shrub Stratum** (Plot size: 30' radius) | | | | |
| 1. Pinus taeda | 5 | ☑ | 41.7% | FAC |
| 2. Triadica sebifera | 3 | ☑ | 25.0% | FAC |
| 3. Morella cerifera | 3 | ☑ | 25.0% | FAC |
| 4. Diospyros virginiana | 1 | ☐ | 8.3% | FAC |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 6 | 20% of Total Cover: 2.4 | 12 | = Total Cover | |
| **Shrub Stratum** (Plot size: ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 | 20% of Total Cover: 0 | 0 | = Total Cover | |
| **Herb Stratum** (Plot size: 30' radius) | | | | |
| 1. Rhynchospora perplexa | 10 | ☐ | 10.8% | OBL |
| 2. Paspalum floridanum | 25 | ☑ | 26.9% | FACW |
| 3. Axonopus fissifolius | 10 | ☐ | 10.8% | FACW |
| 4. Dichanthelium scabriusculum | 30 | ☑ | 32.3% | OBL |
| 5. Andropogon glomeratus | 5 | ☐ | 5.4% | FACW |
| 6. Viola lanceolata | 1 | ☐ | 1.1% | OBL |
| 7. Bignonia capreolata | 1 | ☐ | 1.1% | FAC |
| 8. Rhynchospora glomerata | 2 | ☐ | 2.2% | OBL |
| 9. Eleocharis montevidensis | 5 | ☐ | 5.4% | FACW |
| 10. Eupatorium semiserratum | 1 | ☐ | 1.1% | FACW |
| 11. Proserpinaca palustris | 2 | ☐ | 2.2% | OBL |
| 12. Centella erecta | 1 | ☐ | 0.0% | FACW |
| 50% of Total Cover: 46.5 | 20% of Total Cover: 18.6 | 93 | = Total Cover | |
| **Woody Vine Stratum** (Plot size: 30' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 | 20% of Total Cover: 0 | 0 | = Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (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 | 45 | x 1 = | 45 | |
| FACW species | 47 | x 2 = | 94 | |
| FAC species | 38 | x 3 = | 114 | |
| FACU species | 0 | x 4 = | 0 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 130 | (A) | 253 | (B) |

Prevalence Index = B/A = 1.946

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

**Definition of Vegetation Strata:**

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

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

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## SOIL

**Sampling Point:** SP2-3

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc² | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-2 | 10YR | 5/2 | 98 | 10YR | 5/6 | 2 | C | M | Silt Loam | |
| 2-24 | 10YR | 5/2 | 85 | 10YR | 5/8 | 15 | C | M | Silt Loam | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ 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 Muck 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)
- ☐ 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 Loamy Soils (F20) (MLRA 149A, 153C, 153D)

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

## SP2-3 Photos:

General View

Soil Profile

## WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

**Project/Site:** Buna, TX 264 Acre **City/County:** Newton County **Sampling Date:** 11-Apr-18

**Applicant/Owner:** Delta Land Services, LLC **State:** TX **Sampling Point:** SP3-1

**Investigator(s):** Justin Rowland and Chris Little **Section, Township, Range:** S T R

**Landform (hillslope, terrace, etc.):** Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °

**Subregion (LRR or MLRA):** LRR T **Lat.:** 3364286.82 **Long.:** 415945.964 **Datum:** 1983 UTM

**Soil Map Unit Name:** Evadale silt loam, 0 to 1 percent slopes **NWI classification:** none

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ◉ No ○ **(If no, explain in Remarks.)**

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **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 ○ | **Is the Sampled Area within a Wetland?** Yes ◉ No ○ |
| Hydric Soil Present? | Yes ◉ No ○ | |
| Wetland Hydrology Present? | Yes ◉ No ○ | |

Remarks:
The Cowardin classification observed at the sample point is PEM.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☑ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ 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 ◉ | Depth (inches): |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): 0 |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 0 |

**Wetland Hydrology Present?** Yes ◉ No ○

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

Remarks:

**VEGETATION (Five/Four Strata) - Use scientific names of plants.**

**Sampling Point:** SP3-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. Triadica sebifera | 5 | ☑ | 100.0% | FAC |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 2.5 | 20% of Total Cover: 1 | 5 | = Total Cover | |
| **Sapling or Sapling/Shrub Stratum** (Plot size: 30' radius) | | | | |
| 1. Triadica sebifera | 2 | ☐ | 50.0% | FAC |
| 2. Liquidambar styraciflua | 1 | ☐ | 25.0% | FAC |
| 3. Morella cerifera | 1 | ☐ | 25.0% | FAC |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 2 | 20% of Total Cover: 0.8 | 4 | = Total Cover | |
| **Shrub Stratum** (Plot size: ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 | 20% of Total Cover: 0 | 0 | = Total Cover | |
| **Herb Stratum** (Plot size: 30' radius) | | | | |
| 1. Rhynchospora perplexa | 30 | ☑ | 31.9% | OBL |
| 2. Persicaria hydropiperoides | 20 | ☑ | 21.3% | OBL |
| 3. Rhynchospora glomerata | 20 | ☑ | 21.3% | OBL |
| 4. Verbena litoralis var. brevibracteata | 10 | ☐ | 10.6% | |
| 5. Morella cerifera | 3 | ☐ | 3.2% | FAC |
| 6. Ludwigia palustris | 3 | ☐ | 3.2% | OBL |
| 7. Centella erecta | 2 | ☐ | 2.1% | FACW |
| 8. Carex cherokeensis | 2 | ☐ | 2.1% | FACW |
| 9. Sagittaria latifolia | 1 | ☐ | 1.1% | OBL |
| 10. Triadica sebifera | 1 | ☐ | 1.1% | FAC |
| 11. Viola lanceolata | 1 | ☐ | 1.1% | OBL |
| 12. Xyris ambigua | 1 | ☐ | 0.0% | OBL |
| 50% of Total Cover: 47 | 20% of Total Cover: 18.8 | 94 | = Total Cover | |
| **Woody Vine Stratum** (Plot size: 30' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 | 20% of Total Cover: 0 | 0 | = Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (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 | 76 | x 1 = | 76 | |
| FACW species | 4 | x 2 = | 8 | |
| FAC species | 13 | x 3 = | 39 | |
| FACU species | 0 | x 4 = | 0 | |
| UPL species | 10 | x 5 = | 50 | |
| Column Totals: | 103 | (A) | 173 | (B) |

Prevalence Index = B/A = 1.680

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

## Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

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

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## SOIL

**Sampling Point:** SP3-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc² | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-4 | 10YR | 5/1 | 95 | 10YR | 5/8 | 5 | C | M | Silt Loam | |
| 4-20 | 10YR | 6/1 | 85 | 10YR | 5/8 | 15 | C | M | Silty Clay | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ 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 Muck 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)
- ☐ 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 Loamy Soils (F20) (MLRA 149A, 153C, 153D)

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

## SP3-1 Photos:

General View

Soil Profile

## WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

**Project/Site:** Buna, TX 264 Acre **City/County:** Newton County **Sampling Date:** 12-Apr-18

**Applicant/Owner:** Delta Land Services, LLC **State:** TX **Sampling Point:** SP3-2

**Investigator(s):** Justin Rowland and Chris Little **Section, Township, Range:** S T R

**Landform (hillslope, terrace, etc.):** pond bern **Local relief (concave, convex, none):** convex **Slope:** 2.0 % / 1.1 °

**Subregion (LRR or MLRA):** LRR T **Lat.:** 3362895.685 **Long.:** 415848.154 **Datum:** 1983 UTM

**Soil Map Unit Name:** Waller-Dallardsville complex, 0 to 1 percent slopes **NWI classification:** none

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ◉ No ○ **(If no, explain in Remarks.)**

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **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 ○ | **Is the Sampled Area within a Wetland?** Yes ○ No ◉ |
| Hydric Soil Present? | Yes ◉ No ○ | |
| Wetland Hydrology Present? | Yes ○ No ◉ | |

Remarks:
Sample point is on the berm next to an apparent man made pond. The bern is ~3 ft in elevetion higher than the pond/surrounding area.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ 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 ◉ | Depth (inches): |
| Water Table Present? | Yes ○ | No ◉ | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes ○ | No ◉ | Depth (inches): |

**Wetland Hydrology Present?** Yes ○ No ◉

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

Remarks:

**VEGETATION (Five/Four Strata) - Use scientific names of plants.**

**Sampling Point:** SP3-2

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. Pinus taeda | 50 | ☑ | 83.3% | FAC |
| 2. Prunus serotina | 5 | ☐ | 8.3% | FACU |
| 3. Quercus phellos | 5 | ☐ | 8.3% | FACW |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 30 | 20% of Total Cover: 12 | 60 | **= Total Cover** | |
| **Sapling or Sapling/Shrub Stratum** (Plot size: 30' radius) | | | | |
| 1. Ilex vomitoria | 5 | ☑ | 50.0% | FAC |
| 2. Pinus taeda | 3 | ☑ | 30.0% | FAC |
| 3. Quercus similis | 1 | ☐ | 10.0% | FACW |
| 4. Quercus nigra | 1 | ☐ | 10.0% | FAC |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 5 | 20% of Total Cover: 2 | 10 | **= Total Cover** | |
| **Shrub Stratum** (Plot size: ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 | 20% of Total Cover: 0 | 0 | **= Total Cover** | |
| **Herb Stratum** (Plot size: 30' radius) | | | | |
| 1. Chasmanthium latifolium | 2 | ☑ | 20.0% | FAC |
| 2. Ilex vomitoria | 1 | ☑ | 10.0% | FAC |
| 3. Ilex opaca | 1 | ☑ | 10.0% | FAC |
| 4. Smilax bona-nox | 1 | ☑ | 10.0% | FAC |
| 5. Vaccinium corymbosum | 1 | ☑ | 10.0% | FACW |
| 6. Quercus phellos | 1 | ☑ | 10.0% | FACW |
| 7. Dichanthelium acuminatum | 1 | ☑ | 10.0% | FAC |
| 8. Rubus argutus | 1 | ☑ | 10.0% | FAC |
| 9. Pinus taeda | 1 | ☑ | 10.0% | FAC |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 5 | 20% of Total Cover: 2 | 10 | **= Total Cover** | |
| **Woody Vine Stratum** (Plot size: 30' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 | 20% of Total Cover: 0 | 0 | **= Total Cover** | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 12 (A)

Total Number of Dominant Species Across All Strata: 12 (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 | 0 | x 1 = | 0 |
| FACW species | 8 | x 2 = | 16 |
| FAC species | 67 | x 3 = | 201 |
| FACU species | 5 | x 4 = | 20 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 80 (A) | | 237 (B) |

Prevalence Index = B/A = 2.963

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

## Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

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

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## SOIL

**Sampling Point:** SP3-2

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc² | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-1 | 10YR | 2/2 | | | | | | | Clay Loam | lots of organics |
| 1-12 | 10YR | 5/2 | 60 | 10YR | 5/8 | 15 | C | M | Clay Loam | mixed matrix layer - disturbed |
| | 10YR | 4/4 | 25 | | | | | | | |
| 12-24 | 10YR | 5/2 | 60 | 10YR | 5/8 | 15 | C | M | Silt Loam | mixed matrix layer |
| | 10YR | 7/3 | 25 | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ 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 Muck 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)
- ☐ 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 Loamy Soils (F20) (MLRA 149A, 153C, 153D)

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

## SP3-2 Photos:

General View

Soil Profile

## WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

**Project/Site:** Buna, TX 264 Acre **City/County:** Newton County **Sampling Date:** 11-Apr-18

**Applicant/Owner:** Delta Land Services, LLC **State:** TX **Sampling Point:** SP4-1

**Investigator(s):** Justin Rowland and Chris Little **Section, Township, Range:** S T R

**Landform (hillslope, terrace, etc.):** Flat **Local relief (concave, convex, none):** convex **Slope:** 0.0 % / 0.0 °

**Subregion (LRR or MLRA):** LRR T **Lat.:** 3364431.946 **Long.:** 415709.071 **Datum:** 1983 UTM

**Soil Map Unit Name:** Waller-Dallardsville complex, 0 to 1 percent slopes **NWI classification:** none

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ◉ No ○ **(If no, explain in Remarks.)**

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **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 ○ | **Is the Sampled Area** |
| Hydric Soil Present? Yes ◉ No ○ | **within a Wetland?** Yes ○ No ◉ |
| Wetland Hydrology Present? Yes ○ No ◉ | |

Remarks:

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ 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 ◉ | Depth (inches): |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): 20 |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): 14 |

**Wetland Hydrology Present?** Yes ○ No ◉

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

Remarks:

**VEGETATION (Five/Four Strata) - Use scientific names of plants.**

**Sampling Point:** SP4-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. Pinus taeda | 90 | ☑ | 100.0% | FAC |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 45 — 20% of Total Cover: 18 | 90 | | = Total Cover | |
| **Sapling or Sapling/Shrub Stratum** (Plot size: 30' radius) | | | | |
| 1. Pinus taeda | 5 | ☑ | 33.3% | FAC |
| 2. Ilex opaca | 2 | ☐ | 13.3% | FAC |
| 3. Triadica sebifera | 2 | ☐ | 13.3% | FAC |
| 4. Ilex vomitoria | 5 | ☑ | 33.3% | FAC |
| 5. Morella cerifera | 1 | ☐ | 6.7% | FAC |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 7.5 — 20% of Total Cover: 3 | 15 | | = Total Cover | |
| **Shrub Stratum** (Plot size: ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 — 20% of Total Cover: 0 | 0 | | = Total Cover | |
| **Herb Stratum** (Plot size: 30' radius) | | | | |
| 1. Callicarpa americana | 2 | ☑ | 16.7% | FACU |
| 2. Smilax bona-nox | 1 | ☐ | 8.3% | FAC |
| 3. Ilex vomitoria | 2 | ☑ | 16.7% | FAC |
| 4. Toxicodendron radicans | 2 | ☑ | 16.7% | FAC |
| 5. Carex flaccosperma | 2 | ☑ | 16.7% | FACW |
| 6. Lonicera japonica | 1 | ☐ | 8.3% | FACU |
| 7. Chasmanthium latifolium | 1 | ☐ | 8.3% | FAC |
| 8. Rubus argutus | 1 | ☐ | 8.3% | FAC |
| 9. | 0 | ☐ | 0.0% | |
| 10. | 0 | ☐ | 0.0% | |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 6 — 20% of Total Cover: 2.4 | 12 | | = Total Cover | |
| **Woody Vine Stratum** (Plot size: ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 — 20% of Total Cover: 0 | 0 | | = Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 85.7% (A/B)

**Prevalence Index worksheet:**

| | Total % Cover of: | Multiply by: | | |
|---|---|---|---|---|
| OBL species | 0 | x 1 = | 0 | |
| FACW species | 2 | x 2 = | 4 | |
| FAC species | 112 | x 3 = | 336 | |
| FACU species | 3 | x 4 = | 12 | |
| UPL species | 0 | x 5 = | 0 | |
| Column Totals: | 117 (A) | | 352 | (B) |

Prevalence Index = B/A = 3.009

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

## Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

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

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## SOIL

**Sampling Point:** SP4-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc² | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-3 | 10YR | 4/2 | 96 | 10YR | 5/6 | 2 | C | M | Loam | |
| | | | | 10YR | 7/4 | 2 | D | M | | |
| 3-13 | 10YR | 5/1 | 80 | 10YR | 5/8 | 20 | C | M | Silt Loam | |
| 13-24 | 10YR | 6/3 | 75 | 10YR | 5/8 | 25 | C | M | Silt Loam | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ 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 Muck 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)
- ☐ 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 Loamy Soils (F20) (MLRA 149A, 153C, 153D)

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

## SP4-1 Photos:

General View

Soil Profile

## WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

**Project/Site:** Buna, TX 264 Acre **City/County:** Newton County **Sampling Date:** 30-May-18

**Applicant/Owner:** Delta Land Services, LLC **State:** TX **Sampling Point:** SP5-1

**Investigator(s):** Arthur Perkins and Chris Little **Section, Township, Range:** S T R

**Landform (hillslope, terrace, etc.):** Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °

**Subregion (LRR or MLRA):** LRR T **Lat.:** 3363033.473 **Long.:** 414850.237 **Datum:** 1983 UTM

**Soil Map Unit Name:** Nona-Dallardsville complex, 0 to 1 percent slopes **NWI classification:** none

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ◉ No ○ **(If no, explain in Remarks.)**

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **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 ○ | **Is the Sampled Area within a Wetland?** Yes ○ No ◉ |
| Hydric Soil Present? Yes ◉ No ○ | |
| Wetland Hydrology Present? Yes ○ No ◉ | |

Remarks:

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ 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 ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

**Wetland Hydrology Present?** Yes ○ No ◉

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

Remarks:

**VEGETATION (Five/Four Strata) - Use scientific names of plants.**

**Sampling Point:** SP5-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. Pinus taeda | 10 | ☑ | 66.7% | FAC |
| 2. Liquidambar styraciflua | 5 | ☑ | 33.3% | FAC |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 7.5 | 20% of Total Cover: 3 | 15 | = Total Cover | |
| **Sapling or Sapling/Shrub Stratum** (Plot size: 30' radius) | | | | |
| 1. Ilex vomitoria | 15 | ☑ | 40.5% | FAC |
| 2. Morella cerifera | 10 | ☑ | 27.0% | FAC |
| 3. Ilex opaca | 5 | ☐ | 13.5% | FAC |
| 4. Viburnum dentatum | 5 | ☐ | 13.5% | FAC |
| 5. Pinus taeda | 2 | ☐ | 5.4% | FAC |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 18.5 | 20% of Total Cover: 7.4 | 37 | = Total Cover | |
| **Shrub Stratum** (Plot size: ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 | 20% of Total Cover: 0 | 0 | = Total Cover | |
| **Herb Stratum** (Plot size: 30' radius) | | | | |
| 1. Paspalum notatum | 30 | ☑ | 34.9% | FACU |
| 2. Rubus trivialis | 20 | ☑ | 23.3% | FACU |
| 3. Axonopus fissifolius | 20 | ☑ | 23.3% | FACW |
| 4. Pinus taeda | 5 | ☐ | 5.8% | FAC |
| 5. Cnidoscolus texanus | 3 | ☐ | 3.5% | UPL |
| 6. Sporobolus virginicus | 2 | ☐ | 2.3% | FACW |
| 7. Eupatorium capillifolium | 1 | ☐ | 1.2% | FACU |
| 8. Toxicodendron radicans | 1 | ☐ | 1.2% | FAC |
| 9. Triadica sebifera | 1 | ☐ | 1.2% | FAC |
| 10. Croton capitatus | 1 | ☐ | 1.2% | UPL |
| 11. Ambrosia artemisiifolia | 1 | ☐ | 1.2% | FACU |
| 12. Bignonia capreolata | 1 | ☐ | 50.0% | FAC |
| 50% of Total Cover: 43 | 20% of Total Cover: 17.2 | 86 | = Total Cover | |
| **Woody Vine Stratum** (Plot size: 30' radius) | | | | |
| 1. Berchemia scandens | 2 | ☐ | 100.0% | FAC |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 1 | 20% of Total Cover: 0.4 | 2 | = Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 71.4% (A/B)

**Prevalence Index worksheet:**

| | Total % Cover of: | | Multiply by: | |
|---|---|---|---|---|
| OBL species | 0 | x 1 = | 0 | |
| FACW species | 22 | x 2 = | 44 | |
| FAC species | 62 | x 3 = | 186 | |
| FACU species | 52 | x 4 = | 208 | |
| UPL species | 4 | x 5 = | 20 | |
| Column Totals: | 140 | (A) | 458 | (B) |

Prevalence Index = B/A = 3.271

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

## Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

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

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## SOIL

**Sampling Point:** SP5-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc² | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-2 | 10YR | 4/3 | 100 | | | | | | Sandy Loam | |
| 2-9 | 10YR | 4/6 | 100 | | | | | | Sandy Loam | |
| 9-24 | 10YR | 6/2 | 97 | 10YR | 5/6 | 3 | C | M | Fine Loamy Silt | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ 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 Muck 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)
- ☐ 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 Loamy Soils (F20) (MLRA 149A, 153C, 153D)

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators 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:

## SP5-1 Photos:

General View

Soil Profile

## WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

**Project/Site:** Buna, TX 264 Acre **City/County:** Newton County **Sampling Date:** 30-May-18

**Applicant/Owner:** Delta Land Services, LLC **State:** TX **Sampling Point:** SP6-1

**Investigator(s):** Arthur Perkins and Chris Little **Section, Township, Range:** S T R

**Landform (hillslope, terrace, etc.):** Flat **Local relief (concave, convex, none):** none **Slope:** 0.0 % / 0.0 °

**Subregion (LRR or MLRA):** LRR T **Lat.:** 3363119.208 **Long.:** 414923.899 **Datum:** 1983 UTM

**Soil Map Unit Name:** Kirbyville-Niwana complex, 0 to 2 percent slopes **NWI classification:** none

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ◉ No ○ **(If no, explain in Remarks.)**

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **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 ○ | **Is the Sampled Area within a Wetland?** Yes ○ No ◉ |
| Hydric Soil Present? | Yes ◉ No ○ | |
| Wetland Hydrology Present? | Yes ○ No ◉ | |

Remarks:
This sample point is in an herbaceous wetland area on the southwest portion of the site. The Cowardin classification observed at the sample point is PEM.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ 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 ◉ | Depth (inches): | |
| Water Table Present? | Yes ◉ No ○ | Depth (inches): | 12 |
| Saturation Present? (includes capillary fringe) | Yes ◉ No ○ | Depth (inches): | 12 |

**Wetland Hydrology Present?** Yes ○ No ◉

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

Remarks:
groundwater layer draining into soil pit

**VEGETATION (Five/Four Strata) - Use scientific names of plants.**

**Sampling Point:** SP6-1

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 | 20% of Total Cover: 0 | 0 | = Total Cover | |
| **Sapling or Sapling/Shrub Stratum** (Plot size: 30' radius) | | | | |
| 1. Morella cerifera | 10 | ☑ | 50.0% | FAC |
| 2. Triadica sebifera | 10 | ☑ | 50.0% | FAC |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 10 | 20% of Total Cover: 4 | 20 | = Total Cover | |
| **Shrub Stratum** (Plot size: ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 | 20% of Total Cover: 0 | 0 | = Total Cover | |
| **Herb Stratum** (Plot size: 30' radius) | | | | |
| 1. Axonopus fissifolius | 15 | ☑ | 26.8% | FACW |
| 2. Rhynchospora perplexa | 15 | ☑ | 26.8% | OBL |
| 3. Centella erecta | 10 | ☐ | 17.9% | FACW |
| 4. Paspalum notatum | 5 | ☐ | 8.9% | FACU |
| 5. Fimbristylis autumnalis | 5 | ☐ | 8.9% | OBL |
| 6. Schizachyrium scoparium | 2 | ☐ | 3.6% | FACU |
| 7. Hypericum hypericoides | 1 | ☐ | 1.8% | FAC |
| 8. Steinchisma hians | 1 | ☐ | 1.8% | OBL |
| 9. Spiranthes lacera | 1 | ☐ | 1.8% | FAC |
| 10. Mimosa strigillosa | 1 | ☐ | 1.8% | FAC |
| 11. | 0 | ☐ | 0.0% | |
| 12. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 28 | 20% of Total Cover: 11.2 | 56 | = Total Cover | |
| **Woody Vine Stratum** (Plot size: 30' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 | 20% of Total Cover: 0 | 0 | = Total Cover | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (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 | 21 | x 1 = | 21 |
| FACW species | 25 | x 2 = | 50 |
| FAC species | 23 | x 3 = | 69 |
| FACU species | 7 | x 4 = | 28 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 76 (A) | | 168 (B) |

Prevalence Index = B/A = 2.211

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

## Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

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

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## SOIL

**Sampling Point:** SP6-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Redox Features Type [1] | Redox Features Loc² | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-2 | 10YR 4/2 | 98 | 10YR 5/6 | 2 | C | PL | Loam | |
| 2-15 | 10YR 4/2 | 95 | 10YR 5/6 | 5 | C | M | Loam | |
| 15-18 | 10YR 4/2 | 95 | 10YR 5/6 | 5 | C | M | Silty Clay | fragipan, campact |
| 18-24 | 10YR 5/2 | 95 | 10YR 5/6 | 5 | C | PL | Silty Clay | saturated, not compact |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ 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 Muck 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)
- ☐ 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 Loamy Soils (F20) (MLRA 149A, 153C, 153D)

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: fragipan

Depth (inches): 15-18

**Hydric Soil Present?** Yes ◉ No ○

Remarks:

profile and area affected by perched water table, area looks like potential wet pine savanna

## SP6-1 Photos:

General View

Soil Profile

## WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

**Project/Site:** Buna, TX 264 Acre **City/County:** Newton County **Sampling Date:** 30-May-18

**Applicant/Owner:** Delta Land Services, LLC **State:** TX **Sampling Point:** SP6-2

**Investigator(s):** Arthur Perkins and Chris Little **Section, Township, Range:** S T R

**Landform (hillslope, terrace, etc.):** Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0 % / 0.0 °

**Subregion (LRR or MLRA):** LRR T **Lat.:** 3362994.020 **Long.:** 414982.536 **Datum:** 1983 UTM

**Soil Map Unit Name:** Waller-Dallardsville complex, 0 to 1 percent slopes **NWI classification:** none

**Are climatic/hydrologic conditions on the site typical for this time of year?** Yes ◉ No ○ **(If no, explain in Remarks.)**

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

**Are Vegetation** ☐ **, Soil** ☐ **, or Hydrology** ☐ **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 ○ | **Is the Sampled Area within a Wetland?** Yes ◉ No ○ |
| Hydric Soil Present? | Yes ◉ No ○ | |
| Wetland Hydrology Present? | Yes ◉ No ○ | |

Remarks:
This sample point is in an herbaceous wetland area on the southwest portion of the site. The Cowardin classification observed at the sample point is PEM.

### HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ 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 ◉ | Depth (inches): |
| Water Table Present? | Yes ○ | No ◉ | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes ○ | No ◉ | Depth (inches): |

**Wetland Hydrology Present?** Yes ◉ No ○

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

Remarks:

**VEGETATION (Five/Four Strata) - Use scientific names of plants.**

**Sampling Point:** SP6-2

| | Absolute % Cover | Dominant Species? | Rel.Strat. Cover | Indicator Status |
|---|---|---|---|---|
| **Tree Stratum** (Plot size: 30' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 | 20% of Total Cover: 0 | 0 | **= Total Cover** | |
| **Sapling or Sapling/Shrub Stratum** (Plot size: 30' radius) | | | | |
| 1. Morella cerifera | 20 | ☑ | 57.1% | FAC |
| 2. Triadica sebifera | 15 | ☑ | 42.9% | FAC |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 7. | 0 | ☐ | 0.0% | |
| 8. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 17.5 | 20% of Total Cover: 7 | 35 | **= Total Cover** | |
| **Shrub Stratum** (Plot size: ) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 6. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 | 20% of Total Cover: 0 | 0 | **= Total Cover** | |
| **Herb Stratum** (Plot size: 30' radius) | | | | |
| 1. Axonopus fissifolius | 20 | ☑ | 24.7% | FACW |
| 2. Schizachyrium scoparium | 5 | ☐ | 6.2% | FACU |
| 3. Centella erecta | 15 | ☑ | 18.5% | FACW |
| 4. Rhynchospora inexpansa | 5 | ☐ | 6.2% | FACW |
| 5. Ludwigia lanceolata | 1 | ☐ | 1.2% | OBL |
| 6. Paspalum notatum | 3 | ☐ | 3.7% | FACU |
| 7. Rubus argutus | 5 | ☐ | 6.2% | FAC |
| 8. Pluchea baccharis | 1 | ☐ | 1.2% | FACW |
| 9. Rhynchospora perplexa | 15 | ☑ | 18.5% | OBL |
| 10. Fimbristylis autumnalis | 10 | ☐ | 12.3% | OBL |
| 11. Sisyrinchium rosulatum | 1 | ☐ | 1.2% | FAC |
| 12. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 40.5 | 20% of Total Cover: 16.2 | 81 | **= Total Cover** | |
| **Woody Vine Stratum** (Plot size: 30' radius) | | | | |
| 1. | 0 | ☐ | 0.0% | |
| 2. | 0 | ☐ | 0.0% | |
| 3. | 0 | ☐ | 0.0% | |
| 4. | 0 | ☐ | 0.0% | |
| 5. | 0 | ☐ | 0.0% | |
| 50% of Total Cover: 0 | 20% of Total Cover: 0 | 0 | **= Total Cover** | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (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** | 26 | **x 1 =** | 26 | |
| **FACW species** | 41 | **x 2 =** | 82 | |
| **FAC species** | 41 | **x 3 =** | 123 | |
| **FACU species** | 8 | **x 4 =** | 32 | |
| **UPL species** | 0 | **x 5 =** | 0 | |
| **Column Totals:** | 116 | **(A)** | 263 | **(B)** |

Prevalence Index = B/A = 2.267

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

## Definition of Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

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

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

**Hydrophytic Vegetation Present?** Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

## SOIL

**Sampling Point:** SP6-2

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

| Depth (inches) | Matrix Color (moist) | | % | Redox Features Color (moist) | | % | Type [1] | Loc² | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-5 | 10YR | 5/2 | 98 | 10YR | 5/6 | 2 | C | M | Sandy Loam | |
| 5-15 | 10YR | 6/2 | 90 | 10YR | 5/8 | 10 | C | M | Loam | |
| 15-24 | 10YR | 6/2 | 85 | 10YR | 5/6 | 5 | C | M/PL | Loam | |
| | | | | 10YR | 5/8 | 10 | C | M/PL | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

**Hydric Soil Indicators:**

- ☐ 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 Muck 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)
- ☐ 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 Loamy Soils (F20) (MLRA 149A, 153C, 153D)

**Indicators for Problematic Hydric Soils[3]:**

- ☐ 1 cm Muck (A9) (LRR O)
- ☐ 2 cm Muck (A10) (LRR S)
- ☐ Reduced Vertic (F18) (outside MLRA 150A,B)
- ☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

**Restrictive Layer (if observed):**

Type: none

Depth (inches):

**Hydric Soil Present?** Yes ◉ No ○

Remarks:

## SP6-2 Photos:

General View

Soil Profile

# 1.2 Potentially Jurisdictional Features/Spatial Attributes

| GPS Table for Delineated Areas | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Name** | **Max PDOP** | **Max HDOP** | **Correction Type** | **Date** | **Time** | **Height (meters)** | **Vertical Precision** | **Horizontal Precision** | **Northing NAD 1983 UTM Z15 N, meters** | **Easting NAD 1983 UTM Z15 N, meters** | **Type** | **Distance between flags (meters)** |
| **Wetland 1/Upland 1** | | | | | | | | | | | | |
| 7 | 2.6 | 1.6 | Postprocessed Code | 7/6/2018 | 01:22:21pm | 15.685 | 0.7 | 0.5 | 3364299.064 | 415334.582 | Wetland Flag | 30.66 |
| 8 | 2.6 | 1.6 | Postprocessed Code | 7/6/2018 | 01:22:48pm | 13.039 | 0.5 | 0.2 | 3364309.112 | 415363.551 | Wetland Flag | 45.21 |
| 9 | 2.5 | 1.4 | L1L2 Postprocessed Carrier Float | 7/6/2018 | 01:23:19pm | 13.293 | 0.2 | 0.1 | 3364299.775 | 415407.788 | Wetland Flag | 25.46 |
| 10 | 2.5 | 1.4 | L1L2 Postprocessed Carrier Float | 7/6/2018 | 01:23:42pm | 13.259 | 0.3 | 0.1 | 3364288.826 | 415430.781 | Wetland Flag | 17.38 |
| 11 | 3.8 | 1.6 | L1L2 Postprocessed Carrier Float | 7/6/2018 | 01:24:02pm | 13.312 | 0.2 | 0.1 | 3364282.651 | 415447.035 | Wetland Flag | 16.65 |
| 12 | 6.1 | 3.2 | L1L2 Postprocessed Carrier Float | 7/6/2018 | 01:24:47pm | 13.387 | 0.1 | 0.1 | 3364293.63 | 415459.556 | Wetland Flag | 14.74 |
| 13 | 3.8 | 1.6 | Postprocessed Code | 7/6/2018 | 01:25:05pm | 13.464 | 0.2 | 0.1 | 3364287.588 | 415473.009 | Wetland Flag | 34.08 |
| 14 | 6.2 | 3.2 | L1L2 Postprocessed Carrier Float | 7/6/2018 | 01:25:31pm | 13.466 | 0.2 | 0.1 | 3364304.658 | 415502.512 | Wetland Flag | 20.25 |
| 15 | 2.6 | 1.6 | L1L2 Postprocessed Carrier Float | 7/6/2018 | 01:26:04pm | 13.495 | 0.1 | 0.1 | 3364316.522 | 415518.931 | Wetland Flag | 35.38 |
| 16 | 6.2 | 3.3 | L1L2 Postprocessed Carrier Float | 7/6/2018 | 01:26:27pm | 13.363 | 0.2 | 0.1 | 3364305.995 | 415552.709 | Wetland Flag | 9.76 |
| 17 | 6.3 | 3.3 | L1L2 Postprocessed Carrier Float | 7/6/2018 | 01:26:46pm | 13.572 | 0.3 | 0.2 | 3364310.633 | 415561.303 | Wetland Flag | 19 |
| 18 | 2.5 | 1.6 | Postprocessed Code | 7/6/2018 | 01:27:05pm | 14.076 | 0.6 | 0.5 | 3364297.782 | 415575.301 | Wetland Flag | 14.87 |
| 19 | 6.3 | 3.3 | L1L2 Postprocessed Carrier Float | 7/6/2018 | 01:27:24pm | 15.729 | 0.9 | 0.5 | 3364302.446 | 415589.423 | Wetland Flag | 22.95 |
| 20 | 3.9 | 1.6 | Postprocessed Code | 7/6/2018 | 01:27:51pm | 15.242 | 1 | 0.5 | 3364279.748 | 415592.872 | Wetland Flag | 22.4 |
| 21 | 5.2 | 3.6 | Postprocessed Code | 7/6/2018 | 01:28:20pm | 13.605 | 0.9 | 0.4 | 3364263.373 | 415608.159 | Wetland Flag | 19.49 |
| 22 | 6.4 | 3.4 | Postprocessed Code | 7/6/2018 | 01:29:02pm | 14 | 1.4 | 0.9 | 3364272.109 | 415625.583 | Wetland Flag | 40.88 |
| 23 | 5.2 | 3.6 | Postprocessed Code | 7/6/2018 | 01:30:32pm | 16.01 | 1.4 | 1.2 | 3364266.852 | 415666.13 | Wetland Flag | 26.27 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24 | 3.2 | 1.8 | Postprocessed Code | 7/6/2018 | 01:31:20pm | 17.756 | 1.9 | 1.4 | 3364267.42 | 415692.403 | Wetland Flag | 22.88 |
| 25 | 6.6 | 3.5 | L1 Postprocessed Carrier Float | 7/6/2018 | 01:31:56pm | 14.1 | 0.9 | 0.6 | 3364266.151 | 415715.248 | Wetland Flag | 46.86 |
| 26 | 3.9 | 1.8 | Postprocessed Code | 7/6/2018 | 01:32:37pm | 15.122 | 1.5 | 0.9 | 3364278.945 | 415760.336 | Wetland Flag | 27.46 |
| 27 | 4.3 | 2.3 | Postprocessed Code | 7/6/2018 | 01:33:23pm | 14.28 | 0.5 | 0.2 | 3364303.601 | 415772.431 | Wetland Flag | 41.65 |
| 28 | 3.9 | 1.6 | L1L2 Postprocessed Carrier Float | 7/6/2018 | 01:33:51pm | 15.07 | 0.5 | 0.3 | 3364345.086 | 415776.153 | Wetland Flag | 33.49 |
| 29 | 4.3 | 2.3 | Postprocessed Code | 7/6/2018 | 01:34:28pm | 14.972 | 0.6 | 0.3 | 3364377.972 | 415769.768 | Wetland Flag | 38.29 |
| 30 | 2.5 | 1.4 | Postprocessed Code | 7/6/2018 | 01:35:08pm | 15.179 | 0.7 | 0.4 | 3364413.831 | 415783.222 | Wetland Flag | 21.33 |
| 31 | 6.7 | 3.7 | Postprocessed Code | 7/6/2018 | 01:35:31pm | 17.472 | 1.3 | 1 | 3364430.657 | 415796.348 | Wetland Flag | 26.41 |
| 32 | 4.1 | 1.9 | Postprocessed Code | 7/6/2018 | 01:35:59pm | 17.872 | 1.4 | 0.6 | 3364428.689 | 415822.687 | Wetland Flag | 30.61 |
| 33 | 3.2 | 1.7 | L1 Postprocessed Carrier Float | 7/6/2018 | 01:36:28pm | 17.082 | 1.4 | 0.7 | 3364421.651 | 415852.487 | Wetland Flag | 16.51 |
| 34 | 5.3 | 3.7 | L1L2 Postprocessed Carrier Float | 7/6/2018 | 01:36:49pm | 17.774 | 0.9 | 0.9 | 3364405.305 | 415854.841 | Wetland Flag | 38.69 |
| 35 | 6.2 | 4.4 | L1L2 Postprocessed Carrier Float | 7/6/2018 | 01:37:16pm | 14.957 | 1.5 | 1 | 3364376.99 | 415828.472 | Wetland Flag | 0.86 |
| 1 | 2.9 | 1.3 | Postprocessed Code | 7/6/2018 | 01:43:29pm | 14.595 | 0.5 | 0.3 | 3364376.28 | 415828.97 | Wetland Flag | 22.74 |
| 2 | 4.1 | 1.6 | Postprocessed Code | 7/6/2018 | 01:43:58pm | 15.143 | 0.6 | 0.4 | 3364353.535 | 415828.758 | Wetland Flag | 39.14 |
| 3 | 2.9 | 1.3 | Postprocessed Code | 7/6/2018 | 01:44:37pm | 14.041 | 0.5 | 0.4 | 3364320.444 | 415849.679 | Wetland Flag | 27.26 |
| 4 | 2.9 | 1.9 | Postprocessed Code | 7/6/2018 | 01:45:08pm | 13.936 | 0.7 | 0.4 | 3364329.541 | 415875.379 | Wetland Flag | 23.25 |
| 5 | 3.1 | 1.7 | Postprocessed Code | 7/6/2018 | 01:45:32pm | 14.187 | 0.7 | 0.4 | 3364340.426 | 415895.929 | Wetland Flag | 9.66 |
| 6 | 2.9 | 1.4 | Postprocessed Code | 7/6/2018 | 01:45:56pm | 13.08 | 0.5 | 0.4 | 3364345.386 | 415904.228 | Wetland Flag | 11.29 |
| 7 | 4.4 | 2.2 | Postprocessed Code | 4/16/2018 | 08:53:17am | 16.865 | 0.7 | 0.6 | 3364356.096 | 415907.824 | Wetland Flag | 30.62 |
| 6 | 5.1 | 2.2 | Postprocessed Code | 4/16/2018 | 08:51:09am | 18.852 | 3.3 | 1.3 | 3364386.703 | 415906.785 | Wetland Flag | 39.83 |
| 5 | 6.7 | 2.2 | Postprocessed Code | 4/16/2018 | 08:48:26am | 13.935 | 4.8 | 1.6 | 3364426.143 | 415912.405 | Wetland Flag | 18.68 |
| 2 | 3.9 | 1.6 | Postprocessed Code | 4/16/2018 | 08:41:04am | 20.243 | 2 | 1 | 3364443.121 | 415920.2 | Wetland Flag | 7.55 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 4.3 | 1.6 | Postprocessed Code | 4/16/2018 | 08:43:07am | 20.629 | 1.4 | 0.6 | 3364443.571 | 415927.743 | Wetland Flag | 26.39 |
| 4 | 5.5 | 1.9 | Postprocessed Code | 4/16/2018 | 08:45:30am | 29.006 | 1.4 | 0.8 | 3364418.049 | 415920.997 | Wetland Flag | 8.81 |
| 195 | 4.3 | 1.9 | Postprocessed Code | 4/12/2018 | 05:29:42pm | 13.216 | 2.2 | 0.8 | 3364409.832 | 415924.179 | Wetland Flag | 9.08 |
| 194 | 2.7 | 1.2 | Postprocessed Code | 4/12/2018 | 05:28:39pm | 19.405 | 0.6 | 0.4 | 3364415.649 | 415931.157 | Wetland Flag | 6.94 |
| 193 | 3.2 | 1.7 | Postprocessed Code | 4/12/2018 | 05:28:07pm | 18.145 | 0.6 | 0.4 | 3364418.065 | 415937.666 | Wetland Flag | 1.76 |
| 192 | 3.1 | 1.4 | Postprocessed Code | 4/12/2018 | 05:27:24pm | 22.967 | 1.5 | 0.9 | 3364417.341 | 415939.278 | Wetland Flag | 3.32 |
| 191 | 3 | 1.7 | Postprocessed Code | 4/12/2018 | 05:26:52pm | 15.895 | 0.7 | 0.5 | 3364417.18 | 415942.601 | Wetland Flag | 8.13 |
| 190 | 4.2 | 2.1 | Postprocessed Code | 4/12/2018 | 05:26:26pm | 18.559 | 0.8 | 0.5 | 3364409.368 | 415940.347 | Wetland Flag | 4.24 |
| 189 | 6.2 | 5.2 | Postprocessed Code | 4/12/2018 | 05:26:02pm | 15.355 | 2.1 | 0.7 | 3364410.656 | 415944.394 | Wetland Flag | 10.07 |
| 188 | 9 | 8.7 | Postprocessed Code | 4/12/2018 | 05:25:24pm | 20.131 | 1.4 | 1.3 | 3364414.44 | 415953.732 | Wetland Flag | 4.55 |
| 187 | 3.2 | 1.5 | Postprocessed Code | 4/12/2018 | 05:24:38pm | 15.747 | 0.8 | 0.5 | 3364418.872 | 415954.796 | Wetland Flag | 10.84 |
| 186 | 6.1 | 2 | Postprocessed Code | 4/12/2018 | 05:23:57pm | 25.924 | 3.7 | 1.4 | 3364426.603 | 415962.398 | Wetland Flag | 9.72 |
| 185 | 3 | 1.6 | Postprocessed Code | 4/12/2018 | 05:23:22pm | 14.684 | 1.1 | 0.7 | 3364435.661 | 415958.863 | Wetland Flag | 5.66 |
| 184 | 4.2 | 2.1 | Postprocessed Code | 4/12/2018 | 05:22:15pm | 17.645 | 0.9 | 0.6 | 3364441.308 | 415959.307 | Wetland Flag | 12.34 |
| 183 | 2.6 | 1.2 | Postprocessed Code | 4/12/2018 | 05:21:39pm | 17.544 | 1.1 | 0.7 | 3364449.465 | 415968.579 | Wetland Flag | |
| **Wetland1/Upland 2** | | | | | | | | | | | | |
| 1 | 2 | 1 | L1L2 Postprocessed Carrier Float | 4/17/2018 | 08:26:50am | 13.513 | 0.1 | 0.1 | 3364237.524 | 415357.771 | Wetland Flag | 6.56 |
| 2 | 3 | 1.1 | Postprocessed Code | 4/17/2018 | 08:27:08am | 13.399 | 0.1 | 0.1 | 3364234.595 | 415363.642 | Wetland Flag | 7.81 |
| 3 | 2.6 | 1.8 | Postprocessed Code | 4/17/2018 | 08:27:32am | 13.411 | 0.1 | 0.1 | 3364241.642 | 415367.027 | Wetland Flag | 6.71 |
| 4 | 3.5 | 1.5 | Postprocessed Code | 4/17/2018 | 08:28:00am | 13.182 | 0.6 | 0.4 | 3364248.24 | 415365.778 | Wetland Flag | 4.26 |
| 5 | 2.9 | 1.4 | Postprocessed Code | 4/17/2018 | 08:28:31am | 14.524 | 0.5 | 0.4 | 3364251.015 | 415362.537 | Wetland Flag | 4.25 |
| 6 | 5 | 2 | L1L2 Postprocessed Carrier Float | 4/17/2018 | 08:28:53am | 13.659 | 0.1 | 0.1 | 3364249.079 | 415358.751 | Wetland Flag | 7.39 |
| 7 | 3.1 | 1.4 | L1L2 Postprocessed Carrier Float | 4/17/2018 | 08:29:16am | 13.475 | 0.1 | 0.1 | 3364243.07 | 415354.446 | Wetland Flag | 6.46 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 1 | L1L2 Postprocessed Carrier Float | 4/17/2018 | 08:26:50am | 13.513 | 0.1 | 0.1 | 3364237.524 | 415357.771 | Wetland Flag | |
| **Wetland 1/Upland 3** | | | | | | | | | | | | |
| 8 | 3.9 | 1.9 | Postprocessed Code | 4/17/2018 | 08:32:02am | 13.454 | 0.1 | 0.1 | 3364210.07 | 415357.832 | Wetland Flag | 7.05 |
| 9 | 5 | 3.4 | L1L2 Postprocessed Carrier Float | 4/17/2018 | 08:32:20am | 13.52 | 0.1 | 0.1 | 3364204.338 | 415361.947 | Wetland Flag | 5.97 |
| 10 | 2.9 | 1.3 | L1L2 Postprocessed Carrier Float | 4/17/2018 | 08:32:37am | 13.534 | 0.1 | 0.1 | 3364200.12 | 415357.709 | Wetland Flag | 6.78 |
| 11 | 3.7 | 1.5 | Postprocessed Code | 4/17/2018 | 08:32:55am | 13.545 | 0.1 | 0.1 | 3364200.15 | 415350.923 | Wetland Flag | 5.92 |
| 12 | 3.5 | 1.4 | Postprocessed Code | 4/17/2018 | 08:33:18am | 17.186 | 0.4 | 0.2 | 3364203.709 | 415346.182 | Wetland Flag | 8.65 |
| 13 | 6.9 | 2.2 | L1L2 Postprocessed Carrier Float | 4/17/2018 | 08:34:02am | 14.151 | 0.4 | 0.2 | 3364210.59 | 415351.438 | Wetland Flag | 6.41 |
| 8 | 3.9 | 1.9 | Postprocessed Code | 4/17/2018 | 08:32:02am | 13.454 | 0.1 | 0.1 | 3364210.07 | 415357.832 | Wetland Flag | |
| **Wetland 1/Upland 4** | | | | | | | | | | | | |
| 20 | 2.4 | 1.3 | Postprocessed Code | 4/16/2018 | 09:29:11am | 14.85 | 0.6 | 0.4 | 3364210.716 | 415899.698 | Wetland Flag | 35.81 |
| 25 | 2.5 | 1.5 | L1L2 Postprocessed Carrier Float | 4/16/2018 | 09:38:37am | 13.703 | 0.3 | 0.1 | 3364174.937 | 415898.15 | Wetland Flag | 37.68 |
| 24 | 2.8 | 1.7 | Postprocessed Code | 4/16/2018 | 09:36:45am | 12.635 | 0.7 | 0.5 | 3364137.27 | 415897.156 | Wetland Flag | 33.52 |
| 26 | 5.6 | 2.3 | Postprocessed Code | 4/16/2018 | 09:46:34am | 15.686 | 2.6 | 1.1 | 3364107.104 | 415882.53 | Wetland Flag | 55.88 |
| 28 | 5.3 | 2.2 | Postprocessed Code | 4/16/2018 | 09:51:19am | 17.913 | 1.9 | 1 | 3364051.907 | 415891.299 | Wetland Flag | 67.46 |
| 31 | 3.9 | 2.1 | Postprocessed Code | 4/16/2018 | 10:05:54am | 17.198 | 1.8 | 1 | 3363984.439 | 415891.2 | Wetland Flag | 38.06 |
| 32 | 4.2 | 1.8 | Postprocessed Code | 4/16/2018 | 10:07:45am | 24.624 | 2.5 | 1.6 | 3363947.465 | 415900.235 | Wetland Flag | 38.68 |
| 34 | 3.3 | 1.5 | Postprocessed Code | 4/16/2018 | 10:11:17am | 17.606 | 0.5 | 0.4 | 3363909.734 | 415908.765 | Wetland Flag | 39.99 |
| 35 | 3.7 | 1.7 | Postprocessed Code | 4/16/2018 | 10:13:06am | 16.936 | 1.2 | 0.6 | 3363869.903 | 415905.132 | Wetland Flag | 36.03 |
| 36 | 4.6 | 2.5 | Postprocessed Code | 4/16/2018 | 10:15:20am | 13.116 | 1.4 | 0.8 | 3363833.898 | 415906.643 | Wetland Flag | 35.39 |
| 37 | 4.5 | 2.4 | Postprocessed Code | 4/16/2018 | 10:17:58am | 13.791 | 1.8 | 0.8 | 3363798.545 | 415908.446 | Wetland Flag | 29.72 |
| 38 | 3.6 | 2.1 | Postprocessed Code | 4/16/2018 | 10:19:43am | 16.454 | 0.5 | 0.4 | 3363768.828 | 415907.94 | Wetland Flag | 42.83 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 44 | 7.9 | 2.6 | Postprocessed Code | 4/16/2018 | 10:38:22am | 14.727 | 0.6 | 0.4 | 3363727.284 | 415897.5 | Wetland Flag | 33.06 |
| 45 | 5 | 1.9 | Postprocessed Code | 4/16/2018 | 10:40:33am | 15.653 | 0.6 | 0.4 | 3363695.231 | 415889.368 | Wetland Flag | 38.05 |
| 46 | 6.2 | 5.6 | Postprocessed Code | 4/16/2018 | 10:42:32am | 17.748 | 1.3 | 1 | 3363659.914 | 415875.187 | Wetland Flag | 25.86 |
| 51 | 4.6 | 2.4 | Postprocessed Code | 4/16/2018 | 10:59:53am | 23.963 | 1.4 | 0.7 | 3363642.795 | 415894.575 | Wetland Flag | 15.52 |
| 50 | 4.1 | 1.9 | Postprocessed Code | 4/16/2018 | 10:53:56am | 17.784 | 2 | 1 | 3363658.316 | 415895.057 | Wetland Flag | 37.51 |
| 49 | 4.7 | 2.2 | Postprocessed Code | 4/16/2018 | 10:52:17am | 19.33 | 1.8 | 0.9 | 3363695.529 | 415899.83 | Wetland Flag | 43.19 |
| 48 | 3.9 | 1.9 | Postprocessed Code | 4/16/2018 | 10:50:15am | 20.624 | 0.7 | 0.5 | 3363736.365 | 415913.907 | Wetland Flag | 32.22 |
| 43 | 3.4 | 2 | Postprocessed Code | 4/16/2018 | 10:32:45am | 15.245 | 1.1 | 0.7 | 3363767.593 | 415921.862 | Wetland Flag | 26.69 |
| 42 | 3.2 | 1.4 | Postprocessed Code | 4/16/2018 | 10:30:36am | 15.66 | 0.6 | 0.4 | 3363794.252 | 415920.527 | Wetland Flag | 34.77 |
| 41 | 3.2 | 1.5 | Postprocessed Code | 4/16/2018 | 10:28:43am | 15.225 | 0.9 | 0.4 | 3363828.979 | 415918.755 | Wetland Flag | 45.83 |
| 40 | 3 | 1.5 | Postprocessed Code | 4/16/2018 | 10:26:53am | 16.685 | 0.5 | 0.4 | 3363874.671 | 415922.416 | Wetland Flag | 32.23 |
| 39 | 3.1 | 1.5 | Postprocessed Code | 4/16/2018 | 10:25:09am | 21.953 | 1.2 | 0.9 | 3363906.606 | 415917.992 | Wetland Flag | 44.27 |
| 33 | 3.4 | 1.5 | Postprocessed Code | 4/16/2018 | 10:09:13am | 18.915 | 1.6 | 0.7 | 3363950.526 | 415912.393 | Wetland Flag | 47.73 |
| 30 | 4.1 | 2.2 | Postprocessed Code | 4/16/2018 | 10:03:12am | 17.16 | 0.8 | 0.6 | 3363997.906 | 415906.559 | Wetland Flag | 53.19 |
| 29 | 5.6 | 2.4 | Postprocessed Code | 4/16/2018 | 09:53:37am | 16.364 | 2.2 | 1.1 | 3364050.928 | 415910.841 | Wetland Flag | 45.6 |
| 27 | 5.2 | 2.3 | Postprocessed Code | 4/16/2018 | 09:48:06am | 20.183 | 0.8 | 0.5 | 3364096.328 | 415906.557 | Wetland Flag | 43.19 |
| 23 | 3.8 | 1.8 | Postprocessed Code | 4/16/2018 | 09:35:54am | 15.718 | 0.6 | 0.4 | 3364139.493 | 415904.942 | Wetland Flag | 34.36 |
| 22 | 2.4 | 1.3 | Postprocessed Code | 4/16/2018 | 09:33:41am | 15.415 | 0.6 | 0.4 | 3364173.853 | 415904.995 | Wetland Flag | 34.83 |
| 21 | 2.7 | 1.7 | Postprocessed Code | 4/16/2018 | 09:30:19am | 12.375 | 0.7 | 0.4 | 3364208.585 | 415902.373 | Wetland Flag | 3.42 |
| 20 | 2.4 | 1.3 | Postprocessed Code | 4/16/2018 | 09:29:11am | 14.85 | 0.6 | 0.4 | 3364210.716 | 415899.698 | Wetland Flag | |
| **Wetland 1/Upland 5** | | | | | | | | | | | | |
| 47 | 3.6 | 1.6 | Postprocessed Code | 4/16/2018 | 10:44:50am | 15.53 | 0.5 | 0.4 | 3363627.365 | 415892.103 | Wetland Flag | 12.59 |
| 53 | 3.6 | 1.7 | Postprocessed Code | 4/16/2018 | 11:52:43am | 17.199 | 0.6 | 0.4 | 3363623.395 | 415880.151 | Wetland Flag | 34.45 |
| 59 | 2.9 | 1.6 | Postprocessed Code | 4/16/2018 | 12:00:05pm | 14.204 | 0.6 | 0.5 | 3363590.209 | 415870.891 | Wetland Flag | 30.86 |
| 58 | 2.8 | 1.7 | Postprocessed Code | 4/16/2018 | 11:58:30am | 16.902 | 1.4 | 1.1 | 3363559.419 | 415868.76 | Wetland Flag | 24.18 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 57 | 4.3 | 2.5 | Postprocessed Code | 4/16/2018 | 11:57:49am | 16.176 | 1.1 | 0.8 | 3363535.431 | 415871.855 | Wetland Flag | 13.89 |
| 56 | 3.7 | 1.6 | Postprocessed Code | 4/16/2018 | 11:56:11am | 17.662 | 0.5 | 0.4 | 3363545.869 | 415881.027 | Wetland Flag | 23.56 |
| 55 | 2.9 | 1.5 | Postprocessed Code | 4/16/2018 | 11:55:23am | 15.756 | 0.6 | 0.5 | 3363569.374 | 415879.321 | Wetland Flag | 34.14 |
| 54 | 5.1 | 2.4 | Postprocessed Code | 4/16/2018 | 11:53:54am | 14.307 | 2.4 | 1.3 | 3363602.867 | 415885.971 | Wetland Flag | |
| 47 | 3.6 | 1.6 | Postprocessed Code | 4/16/2018 | 10:44:50am | 15.53 | 0.5 | 0.4 | 3363627.365 | 415892.103 | Wetland Flag | |
| **Wetland 1/Upland 6** | | | | | | | | | | | | |
| 60 | 4.4 | 2.3 | Postprocessed Code | 4/16/2018 | 03:20:27pm | 12.783 | 0.3 | 0.3 | 3363524.373 | 415872.805 | Wetland Flag | 34.37 |
| 69 | 6.9 | 5.8 | L1L2 Postprocessed Carrier Float | 4/16/2018 | 03:32:54pm | 16.103 | 1.8 | 1.1 | 3363490.521 | 415866.829 | Wetland Flag | 22.34 |
| 68 | 7 | 2.7 | L1L2 Postprocessed Carrier Float | 4/16/2018 | 03:31:39pm | 18.089 | 2.9 | 1.3 | 3363468.193 | 415865.989 | Wetland Flag | 18.66 |
| 67 | 3 | 2.1 | Postprocessed Code | 4/16/2018 | 03:29:24pm | 16.654 | 0.8 | 0.7 | 3363449.599 | 415867.583 | Wetland Flag | 20.76 |
| 66 | 6.9 | 3.8 | Postprocessed Code | 4/16/2018 | 03:27:55pm | 15.25 | 1.8 | 1.2 | 3363428.846 | 415866.986 | Wetland Flag | 6.24 |
| 65 | 3.1 | 1.6 | Postprocessed Code | 4/16/2018 | 03:25:16pm | 21.012 | 1.8 | 1.7 | 3363431.888 | 415872.436 | Wetland Flag | 18.07 |
| 64 | 3.1 | 1.6 | Postprocessed Code | 4/16/2018 | 03:24:24pm | 15.059 | 0.6 | 0.5 | 3363449.931 | 415873.441 | Wetland Flag | 14.59 |
| 63 | 5.2 | 2.9 | Postprocessed Code | 4/16/2018 | 03:23:32pm | 15.371 | 0.8 | 0.7 | 3363464.467 | 415874.801 | Wetland Flag | 17.99 |
| 62 | 2.4 | 1.2 | Postprocessed Code | 4/16/2018 | 03:22:48pm | 16.463 | 0.6 | 0.5 | 3363482.433 | 415875.762 | Wetland Flag | 15.1 |
| 61 | 3.6 | 1.9 | Postprocessed Code | 4/16/2018 | 03:22:09pm | 14.27 | 0.6 | 0.5 | 3363497.465 | 415877.208 | Wetland Flag | 27.26 |
| 60 | 4.4 | 2.3 | Postprocessed Code | 4/16/2018 | 03:20:27pm | 12.783 | 0.3 | 0.3 | 3363524.373 | 415872.805 | Wetland Flag | |
| **Wetland 1/Upland 7** | | | | | | | | | | | | |
| 167 | 3 | 2 | Postprocessed Code | 4/16/2018 | 03:42:49pm | 19.877 | 1.5 | 1.1 | 3363466.556 | 415825.823 | Wetland Flag | 11.92 |
| 168 | 2.5 | 1.4 | Postprocessed Code | 4/16/2018 | 03:45:47pm | 12.329 | 1 | 0.4 | 3363466.138 | 415813.902 | Wetland Flag | 12.38 |
| 169 | 3 | 1.9 | Postprocessed Code | 4/16/2018 | 03:46:40pm | 16.506 | 0.5 | 0.4 | 3363477.486 | 415808.945 | Wetland Flag | 9.01 |
| 170 | 2.8 | 1.3 | Postprocessed Code | 4/16/2018 | 03:47:04pm | 12.189 | 1.3 | 0.9 | 3363486.011 | 415811.866 | Wetland Flag | 10.07 |
| 171 | 4.9 | 2 | Postprocessed Code | 4/16/2018 | 03:47:28pm | 17.252 | 0.9 | 0.5 | 3363488.647 | 415821.593 | Wetland Flag | 8.73 |
| 172 | 3.4 | 2.5 | Postprocessed Code | 4/16/2018 | 03:47:51pm | 14.242 | 0.8 | 0.7 | 3363487.125 | 415830.19 | Wetland Flag | 10.43 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 173 | 3.8 | 1.8 | Postprocessed Code | 4/16/2018 | 03:48:20pm | 14.616 | 0.6 | 0.5 | 3363476.79 | 415828.756 | Wetland Flag | 10.57 |
| 174 | 2.3 | 1.2 | Postprocessed Code | 4/16/2018 | 03:48:59pm | 13.142 | 1.5 | 1.1 | 3363467.513 | 415823.686 | Wetland Flag | 2.34 |
| 167 | 3 | 2 | Postprocessed Code | 4/16/2018 | 03:42:49pm | 19.877 | 1.5 | 1.1 | 3363466.556 | 415825.823 | Wetland Flag | |
| **Wetland 1/Upland 8** | | | | | | | | | | | | |
| 70 | 3.9 | 2.4 | Postprocessed Code | 4/16/2018 | 03:35:16pm | 15.688 | 3 | 2.8 | 3363477.198 | 415790.667 | Wetland Flag | 9.4 |
| 75 | 5 | 2.7 | Postprocessed Code | 4/16/2018 | 03:38:43pm | 14.889 | 1.2 | 0.9 | 3363480.937 | 415782.041 | Wetland Flag | 13.22 |
| 76 | 3.1 | 1.6 | Postprocessed Code | 4/16/2018 | 03:39:42pm | 16.442 | 1.2 | 0.9 | 3363467.769 | 415780.878 | Wetland Flag | 12.65 |
| 77 | 5.5 | 3.3 | Postprocessed Code | 4/16/2018 | 03:40:21pm | 16.074 | 0.9 | 0.7 | 3363457.071 | 415787.638 | Wetland Flag | 12.95 |
| 78 | 5.5 | 3.3 | Postprocessed Code | 4/16/2018 | 03:41:44pm | 15.218 | 1.4 | 0.6 | 3363444.306 | 415785.422 | Wetland Flag | 12.61 |
| 79 | 2.6 | 1.5 | L1L2 Postprocessed Carrier Float | 4/16/2018 | 03:43:22pm | 11.948 | 1.2 | 0.8 | 3363432.217 | 415781.823 | Wetland Flag | 12.44 |
| 80 | 3 | 1.4 | Postprocessed Code | 4/16/2018 | 03:44:50pm | 18.899 | 0.7 | 0.5 | 3363427.652 | 415793.405 | Wetland Flag | 6.77 |
| 81 | 3 | 1.9 | Postprocessed Code | 4/16/2018 | 03:46:19pm | 15.542 | 1.5 | 1.2 | 3363434.109 | 415795.448 | Wetland Flag | 13.26 |
| 82 | 6.4 | 3.8 | L1 Postprocessed Carrier Float | 4/16/2018 | 03:46:53pm | 13.672 | 1.7 | 1.3 | 3363447.301 | 415794.019 | Wetland Flag | 16.32 |
| 83 | 2.4 | 1.3 | L1L2 Postprocessed Carrier Float | 4/16/2018 | 03:47:55pm | 18.669 | 1.1 | 0.6 | 3363463.63 | 415794.126 | Wetland Flag | 14.00 |
| 70 | 3.9 | 2.4 | Postprocessed Code | 4/16/2018 | 03:35:16pm | 15.688 | 3 | 2.8 | 3363477.198 | 415790.667 | Wetland Flag | |
| **Wetland 1/Upland 9** | | | | | | | | | | | | |
| 71 | 2.5 | 1.5 | Postprocessed Code | 4/16/2018 | 03:36:06pm | 15.744 | 0.7 | 0.5 | 3363504.161 | 415788.989 | Wetland Flag | 14.8 |
| 72 | 3.6 | 2.5 | Postprocessed Code | 4/16/2018 | 03:36:37pm | 13.974 | 0.8 | 0.6 | 3363518.801 | 415786.786 | Wetland Flag | 7.19 |
| 73 | 5.8 | 5 | Postprocessed Code | 4/16/2018 | 03:37:25pm | 12.78 | 0.4 | 1.6 | 3363515.662 | 415780.307 | Wetland Flag | 17.05 |
| 74 | 2.5 | 1.5 | L1L2 Postprocessed Carrier Float | 4/16/2018 | 03:38:09pm | 13.31 | 0.8 | 0.4 | 3363498.787 | 415782.801 | Wetland Flag | 8.19 |
| 71 | 2.5 | 1.5 | Postprocessed Code | 4/16/2018 | 03:36:06pm | 15.744 | 0.7 | 0.5 | 3363504.161 | 415788.989 | Wetland Flag | |
| **Wetland 1/Upland 10** | | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 186 | 4.7 | 2.4 | L1 Postprocessed Carrier Float | 4/16/2018 | 04:10:06pm | 12.113 | 1.1 | 0.8 | 3363503.386 | 415777.577 | Wetland Flag | 6.7 |
| 187 | 6.8 | 2.8 | Postprocessed Code | 4/16/2018 | 04:10:27pm | 16.048 | 0.7 | 0.5 | 3363496.704 | 415778.134 | Wetland Flag | 12.64 |
| 188 | 6.8 | 2.8 | Postprocessed Code | 4/16/2018 | 04:10:56pm | 13.233 | 1 | 0.9 | 3363486.537 | 415770.618 | Wetland Flag | 14.94 |
| 189 | 4.4 | 1.5 | Postprocessed Code | 4/16/2018 | 04:11:29pm | 15.533 | 0.8 | 0.5 | 3363475.599 | 415760.43 | Wetland Flag | 6.93 |
| 190 | 3 | 2.1 | Postprocessed Code | 4/16/2018 | 04:11:56pm | 14.263 | 0.6 | 0.4 | 3363472.1 | 415754.446 | Wetland Flag | 11.87 |
| 191 | 2.5 | 1.3 | Postprocessed Code | 4/16/2018 | 04:12:22pm | 15.807 | 0.8 | 0.5 | 3363470.468 | 415742.689 | Wetland Flag | 13.29 |
| 192 | 2.7 | 1.3 | Postprocessed Code | 4/16/2018 | 04:12:48pm | 16.376 | 0.7 | 0.5 | 3363480.78 | 415734.289 | Wetland Flag | 14.22 |
| 193 | 2.7 | 1.5 | Postprocessed Code | 4/16/2018 | 04:13:36pm | 12.505 | 0.7 | 0.5 | 3363493.627 | 415740.397 | Wetland Flag | 10.43 |
| 194 | 2.9 | 1.5 | Postprocessed Code | 4/16/2018 | 04:14:04pm | 15.836 | 1 | 0.7 | 3363493.159 | 415750.819 | Wetland Flag | 11.86 |
| 195 | 3.3 | 1.6 | Postprocessed Code | 4/16/2018 | 04:14:49pm | 13.652 | 1.3 | 1 | 3363483.333 | 415757.47 | Wetland Flag | 28.39 |
| **186** | 4.7 | 2.4 | L1 Postprocessed Carrier Float | 4/16/2018 | 04:10:06pm | 12.113 | 1.1 | 0.8 | 3363503.386 | 415777.577 | Wetland Flag | |
| **Wetland 1/Upland 11** | | | | | | | | | | | | |
| 202 | 3.1 | 1.9 | Postprocessed Code | 4/16/2018 | 04:24:54pm | 14.626 | 0.8 | 0.6 | 3363509.707 | 415736.826 | Wetland Flag | 5.95 |
| 203 | 2.9 | 1.3 | Postprocessed Code | 4/16/2018 | 04:25:18pm | 14.099 | 0.8 | 0.5 | 3363511.509 | 415742.505 | Wetland Flag | 7.51 |
| 204 | 2.7 | 1.4 | Postprocessed Code | 4/16/2018 | 04:25:42pm | 15.203 | 0.6 | 0.4 | 3363518.868 | 415744.041 | Wetland Flag | 9.17 |
| 205 | 6.2 | 2.1 | Postprocessed Code | 4/16/2018 | 04:26:10pm | 10.639 | 2 | 0.8 | 3363521.651 | 415735.294 | Wetland Flag | 6.94 |
| 206 | 3 | 1.5 | Postprocessed Code | 4/16/2018 | 04:26:36pm | 12.274 | 0.5 | 0.4 | 3363519.285 | 415728.766 | Wetland Flag | 7.02 |
| 207 | 2.7 | 1.3 | Postprocessed Code | 4/16/2018 | 04:27:48pm | 16.203 | 0.5 | 0.3 | 3363515.998 | 415734.974 | Wetland Flag | 6.55 |
| 202 | 3.1 | 1.9 | Postprocessed Code | 4/16/2018 | 04:24:54pm | 14.626 | 0.8 | 0.6 | 3363509.707 | 415736.826 | Wetland Flag | |
| **Wetland 1/Upland 12** | | | | | | | | | | | | |
| 196 | 2.8 | 2 | Postprocessed Code | 4/16/2018 | 04:19:47pm | 13.095 | 0.9 | 0.6 | 3363546.926 | 415740.079 | Wetland Flag | 7.87 |
| 197 | 2.6 | 1.3 | Postprocessed Code | 4/16/2018 | 04:20:45pm | 14.915 | 0.6 | 0.4 | 3363544.221 | 415747.474 | Wetland Flag | 6.24 |
| 198 | 3.4 | 1.4 | Postprocessed Code | 4/16/2018 | 04:21:12pm | 13.25 | 0.9 | 0.3 | 3363546.193 | 415753.399 | Wetland Flag | 5.5 |
| 199 | 2.6 | 1.3 | Postprocessed Code | 4/16/2018 | 04:21:47pm | 13.942 | 0.5 | 0.4 | 3363551.584 | 415754.497 | Wetland Flag | 6.53 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200 | 2.7 | 1.3 | Postprocessed Code | 4/16/2018 | 04:22:20pm | 14.747 | 0.5 | 0.3 | 3363556.961 | 415750.778 | Wetland Flag | 12.71 |
| 201 | 3.2 | 2 | Postprocessed Code | 4/16/2018 | 04:22:55pm | 11.813 | 1.1 | 0.9 | 3363549.817 | 415740.264 | Wetland Flag | 2.89 |
| 196 | 2.8 | 2 | Postprocessed Code | 4/16/2018 | 04:19:47pm | 13.095 | 0.9 | 0.6 | 3363546.926 | 415740.079 | Wetland Flag | |
| **Wetland 1/Upland 13** | | | | | | | | | | | | |
| 175 | 2.6 | 1.5 | Postprocessed Code | 4/16/2018 | 03:51:06pm | 14.78 | 0.9 | 0.6 | 3363536.809 | 415814.723 | Wetland Flag | 8.58 |
| 176 | 2.9 | 1.6 | Postprocessed Code | 4/16/2018 | 03:51:39pm | 15.665 | 0.7 | 0.5 | 3363544.99 | 415812.125 | Wetland Flag | 11.91 |
| 177 | 3.2 | 2.2 | Postprocessed Code | 4/16/2018 | 03:52:06pm | 15.281 | 0.9 | 0.7 | 3363556.201 | 415816.172 | Wetland Flag | 9.14 |
| 178 | 2.4 | 1.3 | Postprocessed Code | 4/16/2018 | 03:52:33pm | 15.731 | 0.5 | 0.4 | 3363557.41 | 415825.236 | Wetland Flag | 11.41 |
| 179 | 3.2 | 2.1 | Postprocessed Code | 4/16/2018 | 03:53:27pm | 17.382 | 0.5 | 0.4 | 3363562.908 | 415835.239 | Wetland Flag | 11.54 |
| 180 | 3 | 1.8 | Postprocessed Code | 4/16/2018 | 03:53:58pm | 12.987 | 0.8 | 0.8 | 3363572.573 | 415841.561 | Wetland Flag | 6.33 |
| 181 | 6.4 | 3.5 | Postprocessed Code | 4/16/2018 | 03:54:23pm | 14.473 | 1.1 | 0.8 | 3363577.777 | 415845.18 | Wetland Flag | 6.5 |
| 182 | 3.9 | 1.6 | Postprocessed Code | 4/16/2018 | 03:54:59pm | 16.634 | 0.6 | 0.6 | 3363573.428 | 415850.017 | Wetland Flag | 13.12 |
| 183 | 2.8 | 1.4 | Postprocessed Code | 4/16/2018 | 03:55:34pm | 16.64 | 0.6 | 0.4 | 3363560.315 | 415850.606 | Wetland Flag | 10.59 |
| 184 | 3.6 | 2.3 | Postprocessed Code | 4/16/2018 | 03:56:22pm | 15.677 | 0.6 | 0.6 | 3363550.315 | 415847.097 | Wetland Flag | 19.46 |
| 185 | 2.8 | 1.4 | Postprocessed Code | 4/16/2018 | 03:57:31pm | 14.973 | 0.5 | 0.4 | 3363549.348 | 415827.658 | Wetland Flag | 18.01 |
| 175 | 2.6 | 1.5 | Postprocessed Code | 4/16/2018 | 03:51:06pm | 14.78 | 0.9 | 0.6 | 3363536.809 | 415814.723 | Wetland Flag | |
| **Wetland1/Upland 14** | | | | | | | | | | | | |
| 54 | 3.8 | 1.9 | Postprocessed Code | 4/12/2018 | 01:26:18pm | 14.24 | 0.6 | 0.4 | 3363579.907 | 415769.386 | Wetland Flag | 4.95 |
| 55 | 3.8 | 1.9 | Postprocessed Code | 4/12/2018 | 01:26:40pm | 13.356 | 0.6 | 0.4 | 3363584.33 | 415771.612 | Wetland Flag | 7.18 |
| 56 | 6.1 | 1.9 | Postprocessed Code | 4/12/2018 | 01:27:01pm | 13.742 | 0.8 | 0.5 | 3363591.508 | 415771.281 | Wetland Flag | 6.61 |
| 57 | 3.4 | 1.6 | Postprocessed Code | 4/12/2018 | 01:27:19pm | 13.242 | 0.8 | 0.5 | 3363594.354 | 415765.312 | Wetland Flag | 5.41 |
| 58 | 6.1 | 1.9 | Postprocessed Code | 4/12/2018 | 01:27:44pm | 13.404 | 1.9 | 1.1 | 3363596.502 | 415760.337 | Wetland Flag | 9.26 |
| 59 | 6 | 1.8 | Postprocessed Code | 4/12/2018 | 01:28:05pm | 11.357 | 1.4 | 0.6 | 3363588.586 | 415755.528 | Wetland Flag | 4.16 |
| 60 | 3.4 | 1.6 | Postprocessed Code | 4/12/2018 | 01:28:28pm | 13.929 | 0.7 | 0.4 | 3363584.774 | 415757.206 | Wetland Flag | 5.74 |
| 61 | 3.4 | 1.6 | Postprocessed Code | 4/12/2018 | 01:28:50pm | 15.167 | 0.7 | 0.4 | 3363580.385 | 415760.91 | Wetland Flag | 8.49 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 54 | 3.8 | 1.9 | Postprocessed Code | 4/12/2018 | 01:26:18pm | 14.24 | 0.6 | 0.4 | 3363579.907 | 415769.386 | Wetland Flag | |
| **Wetland 1/Upland 15** | | | | | | | | | | | | |
| 80 | 4.4 | 2.1 | Postprocessed Code | 4/12/2018 | 02:04:57pm | 16.28 | 2.3 | 1.1 | 3363593.223 | 415799.956 | Wetland Flag | 7.81 |
| 81 | 3.3 | 1.5 | Postprocessed Code | 4/12/2018 | 02:05:14pm | 12.662 | 1.7 | 0.7 | 3363601.009 | 415799.245 | Wetland Flag | 5.23 |
| 82 | 2.8 | 1.3 | Postprocessed Code | 4/12/2018 | 02:05:36pm | 16.447 | 0.7 | 0.5 | 3363602.79 | 415794.326 | Wetland Flag | 5.14 |
| 83 | 4.2 | 2 | L1 Postprocessed Carrier Float | 4/12/2018 | 02:05:58pm | 14.884 | 1.6 | 1 | 3363599.77 | 415790.155 | Wetland Flag | 8.53 |
| 84 | 3.6 | 1.8 | Postprocessed Code | 4/12/2018 | 02:06:28pm | 13.563 | 1.7 | 0.9 | 3363591.242 | 415790.596 | Wetland Flag | 7.85 |
| 85 | 6.3 | 2.9 | Postprocessed Code | 4/12/2018 | 02:06:51pm | 14.999 | 2 | 1.1 | 3363590.248 | 415798.386 | Wetland Flag | 3.36 |
| 80 | 4.4 | 2.1 | Postprocessed Code | 4/12/2018 | 02:04:57pm | 16.28 | 2.3 | 1.1 | 3363593.223 | 415799.956 | Wetland Flag | |
| **Wetland 1/Upland 16** | | | | | | | | | | | | |
| 84 | 4.8 | 1.9 | L1L2 Postprocessed Carrier Float | 4/16/2018 | 03:49:50pm | 15.85 | 0.4 | 0.3 | 3363545.831 | 415787.513 | Wetland Flag | 31.13 |
| 85 | 3.8 | 1.6 | Postprocessed Code | 4/16/2018 | 03:50:39pm | 13.298 | 1.1 | 0.5 | 3363576.962 | 415787.709 | Wetland Flag | 30.26 |
| 86 | 6 | 3.2 | Postprocessed Code | 4/16/2018 | 03:51:50pm | 14.289 | 1.1 | 0.6 | 3363607.224 | 415788.275 | Wetland Flag | 18.77 |
| 87 | 2.8 | 1.7 | Postprocessed Code | 4/16/2018 | 03:52:56pm | 14.947 | 0.5 | 0.4 | 3363625.653 | 415791.87 | Wetland Flag | 20.12 |
| 88 | 6.9 | 3.4 | Postprocessed Code | 4/16/2018 | 03:53:43pm | 13.981 | 0.3 | 0.3 | 3363645.63 | 415789.438 | Wetland Flag | 21.7 |
| 101 | 2.6 | 1.4 | L1L2 Postprocessed Carrier Float | 4/16/2018 | 04:14:10pm | 15.398 | 0.9 | 0.4 | 3363667.302 | 415788.187 | Wetland Flag | 11.86 |
| 102 | 6.5 | 2.3 | L1L2 Postprocessed Carrier Float | 4/16/2018 | 04:14:43pm | 12.976 | 1.6 | 0.7 | 3363678.091 | 415793.131 | Wetland Flag | 12.74 |
| 103 | 5.5 | 4.2 | L1 Postprocessed Carrier Float | 4/16/2018 | 04:15:17pm | 11.319 | 1.4 | 0.6 | 3363690.624 | 415795.441 | Wetland Flag | 14.46 |
| 104 | 4.9 | 2.2 | L1L2 Postprocessed Carrier Float | 4/16/2018 | 04:15:52pm | 15.205 | 1.3 | 0.7 | 3363705.086 | 415795.417 | Wetland Flag | 14.84 |
| 98 | 4.8 | 2.4 | L1 Postprocessed Carrier Float | 4/16/2018 | 04:11:54pm | 13.034 | 0.9 | 0.6 | 3363701.14 | 415781.11 | Wetland Flag | 12.09 |
| 99 | 2.7 | 1.4 | Postprocessed Code | 4/16/2018 | 04:12:31pm | 15.934 | 2.6 | 2.2 | 3363689.088 | 415780.053 | Wetland Flag | 23.16 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100 | 3.4 | 1.3 | Postprocessed Code | 4/16/2018 | 04:13:14pm | 14.535 | 1.3 | 0.5 | 3363666.231 | 415783.819 | Wetland Flag | 8.45 |
| 89 | 2.9 | 1.4 | Postprocessed Code | 4/16/2018 | 03:54:15pm | 12.996 | 0.3 | 0.3 | 3363657.966 | 415782.041 | Wetland Flag | 14.88 |
| 90 | 2.4 | 1.4 | Postprocessed Code | 4/16/2018 | 03:55:14pm | 14.962 | 0.6 | 0.4 | 3363643.242 | 415784.219 | Wetland Flag | 23.03 |
| 91 | 5.2 | 2.8 | Postprocessed Code | 4/16/2018 | 03:55:58pm | 13.013 | 0.4 | 0.2 | 3363620.748 | 415779.24 | Wetland Flag | 15.13 |
| 92 | 4.8 | 1.8 | L1L2 Postprocessed Carrier Float | 4/16/2018 | 03:56:57pm | 13.547 | 1.6 | 0.6 | 3363605.683 | 415780.738 | Wetland Flag | 12.86 |
| 93 | 3.1 | 1.9 | Postprocessed Code | 4/16/2018 | 03:57:30pm | 15.487 | 1.5 | 1.1 | 3363593.768 | 415775.887 | Wetland Flag | 12.82 |
| 94 | 3.9 | 1.6 | Postprocessed Code | 4/16/2018 | 03:57:59pm | 9.986 | 1.7 | 0.8 | 3363581.168 | 415778.269 | Wetland Flag | 16.72 |
| 95 | 3 | 1.6 | Postprocessed Code | 4/16/2018 | 03:58:37pm | 13.05 | 0.8 | 0.4 | 3363564.513 | 415779.779 | Wetland Flag | 16.98 |
| 96 | 5.8 | 3.4 | L1L2 Postprocessed Carrier Float | 4/16/2018 | 03:59:48pm | 12.974 | 0.2 | 0.1 | 3363548.097 | 415784.148 | Wetland Flag | 4.05 |
| 84 | 4.8 | 1.9 | L1L2 Postprocessed Carrier Float | 4/16/2018 | 03:49:50pm | 15.85 | 0.4 | 0.3 | 3363545.831 | 415787.513 | Wetland Flag | |
| **Wetland 1/Upland 17** | | | | | | | | | | | | |
| 63 | 2.8 | 1.3 | Postprocessed Code | 4/12/2018 | 01:57:38pm | 13.325 | 0.5 | 0.3 | 3363605.442 | 415828.792 | Wetland Flag | 10.02 |
| 64 | 2.8 | 1.2 | Postprocessed Code | 4/12/2018 | 01:58:11pm | 13.688 | 0.9 | 0.6 | 3363596.962 | 415823.448 | Wetland Flag | 5.23 |
| 65 | 2.8 | 1.3 | Postprocessed Code | 4/12/2018 | 01:58:34pm | 16.13 | 1 | 0.6 | 3363594.001 | 415819.131 | Wetland Flag | 7.85 |
| 66 | 2.8 | 1.3 | Postprocessed Code | 4/12/2018 | 01:58:58pm | 14.696 | 0.5 | 0.4 | 3363599.719 | 415813.741 | Wetland Flag | 12.37 |
| 67 | 2.8 | 1.3 | Postprocessed Code | 4/12/2018 | 01:59:30pm | 15.054 | 0.5 | 0.4 | 3363611.883 | 415811.448 | Wetland Flag | 10.25 |
| 68 | 3.3 | 1.7 | Postprocessed Code | 4/12/2018 | 01:59:57pm | 14.602 | 0.7 | 0.5 | 3363615.907 | 415820.879 | Wetland Flag | 6.3 |
| 69 | 3.7 | 1.7 | Postprocessed Code | 4/12/2018 | 02:00:20pm | 13.103 | 1 | 0.7 | 3363617.76 | 415826.822 | Wetland Flag | 0.17 |
| 70 | 4.1 | 2.1 | Postprocessed Code | 4/12/2018 | 02:00:42pm | 19.344 | 1.4 | 0.7 | 3363617.636 | 415826.944 | Wetland Flag | 11.22 |
| 71 | 2.4 | 1.2 | Postprocessed Code | 4/12/2018 | 02:01:11pm | 13.66 | 0.7 | 0.5 | 3363627.226 | 415821.117 | Wetland Flag | 5.97 |
| 72 | 2.8 | 1.3 | Postprocessed Code | 4/12/2018 | 02:01:34pm | 13.586 | 0.4 | 0.5 | 3363631.95 | 415824.776 | Wetland Flag | 8.56 |
| 73 | 3.8 | 2.1 | Postprocessed Code | 4/12/2018 | 02:01:58pm | 16.045 | 1.5 | 0.8 | 3363634.768 | 415832.864 | Wetland Flag | 6.4 |
| 74 | 2.5 | 1.2 | Postprocessed Code | 4/12/2018 | 02:02:20pm | 13.402 | 0.9 | 0.7 | 3363636.2 | 415839.105 | Wetland Flag | 7.39 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 75 | 3.1 | 1.5 | Postprocessed Code | 4/12/2018 | 02:02:44pm | 17.566 | 1.7 | 1 | 3363630.084 | 415843.259 | Wetland Flag | 8.18 |
| 76 | 2.6 | 1.2 | Postprocessed Code | 4/12/2018 | 02:03:10pm | 13.728 | 0.7 | 0.5 | 3363622.824 | 415839.489 | Wetland Flag | 6.6 |
| 77 | 4.1 | 2.4 | L1L2 Postprocessed Carrier Float | 4/12/2018 | 02:03:30pm | 14.677 | 1.4 | 0.7 | 3363616.833 | 415836.709 | Wetland Flag | 5.65 |
| 78 | 2.5 | 1.2 | Postprocessed Code | 4/12/2018 | 02:03:50pm | 17.266 | 0.7 | 0.5 | 3363618.165 | 415831.208 | Wetland Flag | 6.02 |
| 79 | 4.7 | 2.2 | Postprocessed Code | 4/12/2018 | 02:04:09pm | 15.793 | 0.7 | 0.5 | 3363613.059 | 415828.004 | Wetland Flag | 7.65 |
| 63 | 2.8 | 1.3 | Postprocessed Code | 4/12/2018 | 01:57:38pm | 13.325 | 0.5 | 0.3 | 3363605.442 | 415828.792 | Wetland Flag | |
| **Wetland 1/Upland 18** | | | | | | | | | | | | |
| 97 | 2.7 | 1.4 | Postprocessed Code | 4/16/2018 | 04:10:47pm | 13.883 | 0.6 | 0.4 | 3363721.273 | 415789.737 | Wetland Flag | 8.48 |
| 105 | 4.9 | 2.2 | L1L2 Postprocessed Carrier Float | 4/16/2018 | 04:16:46pm | 13.198 | 0.1 | 0.1 | 3363721.668 | 415798.216 | Wetland Flag | 25.75 |
| 106 | 3.6 | 1.5 | Postprocessed Code | 4/16/2018 | 04:17:43pm | 19.569 | 0.8 | 0.5 | 3363747.416 | 415797.836 | Wetland Flag | 16.91 |
| 107 | 4.7 | 2.2 | Postprocessed Code | 4/16/2018 | 04:18:47pm | 20.294 | 1.1 | 1 | 3363764.294 | 415796.732 | Wetland Flag | 14.22 |
| 108 | 5.3 | 2.2 | Postprocessed Code | 4/16/2018 | 04:19:34pm | 14.193 | 2.1 | 0.8 | 3363778.517 | 415796.741 | Wetland Flag | 18.73 |
| 113 | 2.7 | 1.4 | Postprocessed Code | 4/16/2018 | 04:24:18pm | 17.916 | 0.5 | 0.4 | 3363794.897 | 415805.829 | Wetland Flag | 22.57 |
| 112 | 2.8 | 1.4 | Postprocessed Code | 4/16/2018 | 04:22:33pm | 17.83 | 1 | 0.6 | 3363817.451 | 415806.718 | Wetland Flag | 13.49 |
| 114 | 2.9 | 1.7 | Postprocessed Code | 4/16/2018 | 04:25:58pm | 13.514 | 0.6 | 0.4 | 3363830.946 | 415806.616 | Wetland Flag | 15.07 |
| 115 | 3.7 | 1.5 | Postprocessed Code | 4/16/2018 | 04:26:58pm | 17.752 | 0.5 | 0.3 | 3363845.979 | 415807.692 | Wetland Flag | 24.97 |
| 116 | 3 | 1.4 | Postprocessed Code | 4/16/2018 | 04:27:58pm | 16.936 | 0.8 | 0.5 | 3363870.93 | 415808.79 | Wetland Flag | 29.04 |
| 117 | 3.4 | 1.8 | Postprocessed Code | 4/16/2018 | 04:28:52pm | 15.674 | 0.7 | 0.5 | 3363899.257 | 415815.209 | Wetland Flag | 21.64 |
| 118 | 2.9 | 1.5 | Postprocessed Code | 4/16/2018 | 04:30:12pm | 13.344 | 0.5 | 0.3 | 3363920.805 | 415817.276 | Wetland Flag | 23.9 |
| 119 | 3.4 | 1.4 | Postprocessed Code | 4/16/2018 | 04:32:28pm | 15.374 | 0.5 | 0.3 | 3363943.637 | 415810.182 | Wetland Flag | 28.34 |
| 120 | 5.8 | 2.1 | Postprocessed Code | 4/16/2018 | 04:33:45pm | 12.515 | 0.6 | 0.3 | 3363968.693 | 415823.434 | Wetland Flag | 25.09 |
| 121 | 3.8 | 2.1 | Postprocessed Code | 4/16/2018 | 04:35:17pm | 16.612 | 2.1 | 0.9 | 3363982.492 | 415802.47 | Wetland Flag | 19.96 |
| 122 | 3 | 1.5 | Postprocessed Code | 4/16/2018 | 04:36:39pm | 14.716 | 1 | 0.6 | 3363963.299 | 415807.963 | Wetland Flag | 16.14 |
| 123 | 6 | 2 | Postprocessed Code | 4/16/2018 | 04:37:18pm | 17.298 | 2.8 | 1 | 3363947.321 | 415805.621 | Wetland Flag | 20.1 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 124 | 2.9 | 1.3 | Postprocessed Code | 4/16/2018 | 04:38:22pm | 15.259 | 0.5 | 0.4 | 3363929.549 | 415796.216 | Wetland Flag | 26.87 |
| 125 | 2.7 | 1.2 | Postprocessed Code | 4/16/2018 | 04:40:15pm | 19.143 | 0.6 | 0.4 | 3363903.901 | 415804.245 | Wetland Flag | 20.33 |
| 126 | 5.2 | 2.1 | Postprocessed Code | 4/16/2018 | 04:40:57pm | 11.634 | 1.7 | 0.7 | 3363883.757 | 415801.458 | Wetland Flag | 26.65 |
| 127 | 3.1 | 1.4 | Postprocessed Code | 4/16/2018 | 04:41:49pm | 12.134 | 1.2 | 0.7 | 3363857.111 | 415800.93 | Wetland Flag | 20.46 |
| 128 | 3.7 | 1.4 | Postprocessed Code | 4/16/2018 | 04:42:28pm | 16.544 | 0.7 | 0.4 | 3363837.064 | 415796.808 | Wetland Flag | 23.24 |
| 111 | 2.8 | 1.4 | Postprocessed Code | 4/16/2018 | 04:21:56pm | 15.677 | 0.6 | 0.4 | 3363813.849 | 415797.93 | Wetland Flag | 9.38 |
| 110 | 3.1 | 1.4 | Postprocessed Code | 4/16/2018 | 04:21:23pm | 13.243 | 1 | 0.6 | 3363804.487 | 415797.256 | Wetland Flag | 21.5 |
| 109 | 3.6 | 1.9 | Postprocessed Code | 4/16/2018 | 04:20:34pm | 14.406 | 0.6 | 0.5 | 3363783.57 | 415792.248 | Wetland Flag | 10.13 |
| 129 | 5.4 | 1.9 | Postprocessed Code | 4/16/2018 | 04:45:22pm | 9.29 | 2.8 | 0.8 | 3363773.581 | 415790.549 | Wetland Flag | 20.68 |
| 130 | 5.6 | 1.9 | Postprocessed Code | 4/16/2018 | 04:46:07pm | 21.551 | 1.5 | 0.8 | 3363752.892 | 415790.416 | Wetland Flag | 14.5 |
| 131 | 3.9 | 1.6 | Postprocessed Code | 4/16/2018 | 04:46:56pm | 17.716 | 1.9 | 0.8 | 3363738.434 | 415789.203 | Wetland Flag | 17.16 |
| 97 | 2.7 | 1.4 | Postprocessed Code | 4/16/2018 | 04:10:47pm | 13.883 | 0.6 | 0.4 | 3363721.273 | 415789.737 | Wetland Flag | |
| **Wetland 1/Upland 19** | | | | | | | | | | | | |
| 142 | 2.9 | 1.7 | Postprocessed Code | 4/16/2018 | 06:09:49pm | 16.621 | 0.7 | 0.4 | 3363533.024 | 415714.955 | Wetland Flag | 12.01 |
| 143 | 2.5 | 1.6 | Postprocessed Code | 4/16/2018 | 06:10:52pm | 14.699 | 0.7 | 0.4 | 3363542.315 | 415707.334 | Wetland Flag | 8.3 |
| 144 | 46.5 | 4.1 | Postprocessed Code | 4/16/2018 | 06:11:50pm | 20.521 | 3.3 | 1.3 | 3363550.571 | 415708.19 | Wetland Flag | 20.91 |
| 145 | 46.2 | 3.7 | Postprocessed Code | 4/16/2018 | 06:13:22pm | 11.854 | 0.7 | 0.4 | 3363571.46 | 415709.243 | Wetland Flag | 22.16 |
| 146 | 3.1 | 1.8 | Postprocessed Code | 4/16/2018 | 06:14:58pm | 14.139 | 0.7 | 0.4 | 3363593.569 | 415707.618 | Wetland Flag | 13.63 |
| 147 | 3.1 | 1.8 | Postprocessed Code | 4/16/2018 | 06:16:02pm | 15.536 | 0.7 | 0.4 | 3363606.97 | 415705.107 | Wetland Flag | 21.35 |
| 148 | 6 | 4.6 | Postprocessed Code | 4/16/2018 | 06:18:05pm | 13.812 | 1.2 | 0.7 | 3363628.038 | 415701.591 | Wetland Flag | 17.79 |
| 149 | 3.8 | 2 | Postprocessed Code | 4/16/2018 | 06:19:07pm | 16.589 | 2.1 | 1.2 | 3363645.748 | 415703.357 | Wetland Flag | 13.38 |
| 150 | 4.8 | 2.3 | Postprocessed Code | 4/16/2018 | 06:20:26pm | 17.048 | 0.7 | 0.5 | 3363659.102 | 415702.451 | Wetland Flag | 23.96 |
| 151 | 2.8 | 1.6 | Postprocessed Code | 4/16/2018 | 06:21:27pm | 16.24 | 2.9 | 1.6 | 3363681.54 | 415710.88 | Wetland Flag | 17.2 |
| 152 | 4.2 | 1.9 | Postprocessed Code | 4/16/2018 | 06:22:30pm | 18.929 | 1.3 | 0.8 | 3363692.835 | 415723.861 | Wetland Flag | 38.69 |
| 153 | 3.8 | 1.9 | Postprocessed Code | 4/16/2018 | 06:28:18pm | 8.495 | 2.2 | 0.8 | 3363654.584 | 415718.042 | Wetland Flag | 26.59 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 154 | 2.9 | 1.6 | Postprocessed Code | 4/16/2018 | 06:31:02pm | 13.635 | 0.8 | 0.5 | 3363628.696 | 415711.945 | Wetland Flag | 17.53 |
| 155 | 2.8 | 1.5 | Postprocessed Code | 4/16/2018 | 06:36:27pm | 16.452 | 0.8 | 0.5 | 3363611.283 | 415713.987 | Wetland Flag | 18.01 |
| 156 | 2.4 | 1.4 | Postprocessed Code | 4/16/2018 | 06:39:48pm | 12.93 | 0.5 | 0.4 | 3363593.739 | 415718.067 | Wetland Flag | 27.99 |
| 157 | 2.7 | 1.8 | Postprocessed Code | 4/16/2018 | 06:41:05pm | 13.759 | 0.7 | 0.5 | 3363565.859 | 415720.578 | Wetland Flag | 14.3 |
| 158 | 2.9 | 1.6 | Postprocessed Code | 4/16/2018 | 06:41:55pm | 13.877 | 0.9 | 0.6 | 3363551.752 | 415722.98 | Wetland Flag | 11.2 |
| 159 | 4 | 1.7 | Postprocessed Code | 4/16/2018 | 06:42:24pm | 12.912 | 0.6 | 0.4 | 3363540.568 | 415722.244 | Wetland Flag | 10.48 |
| 142 | 2.9 | 1.7 | Postprocessed Code | 4/16/2018 | 06:09:49pm | 16.621 | 0.7 | 0.4 | 3363533.024 | 415714.955 | Wetland Flag | |
| **Wetland 1/Upland 20** | | | | | | | | | | | | |
| 133 | 3.5 | 1.9 | Postprocessed Code | 4/16/2018 | 06:01:16pm | 14.67 | 5.3 | 2.6 | 3363415.109 | 415709.776 | Wetland Flag | 8.95 |
| 134 | 3.5 | 1.9 | Postprocessed Code | 4/16/2018 | 06:02:51pm | 15.526 | 0.8 | 0.4 | 3363423.821 | 415711.843 | Wetland Flag | 9.24 |
| 135 | 3.5 | 1.9 | Postprocessed Code | 4/16/2018 | 06:03:42pm | 16.539 | 1.2 | 0.6 | 3363432.123 | 415715.903 | Wetland Flag | 16.55 |
| 136 | 3.5 | 1.9 | Postprocessed Code | 4/16/2018 | 06:04:50pm | 16.66 | 2.4 | 1.2 | 3363447.787 | 415710.533 | Wetland Flag | 13.73 |
| 137 | 3.5 | 1.9 | Postprocessed Code | 4/16/2018 | 06:05:32pm | 15.29 | 1.3 | 0.7 | 3363461.525 | 415710.334 | Wetland Flag | 14.03 |
| 138 | 3.5 | 1.9 | Postprocessed Code | 4/16/2018 | 06:06:13pm | 13.104 | 0.9 | 0.4 | 3363475.334 | 415712.824 | Wetland Flag | 12.24 |
| 139 | 3.5 | 1.9 | Postprocessed Code | 4/16/2018 | 06:07:03pm | 16.008 | 0.9 | 0.5 | 3363487.507 | 415711.474 | Wetland Flag | 13.56 |
| 140 | 46.4 | 5 | Postprocessed Code | 4/16/2018 | 06:07:43pm | 16.961 | 1.1 | 0.6 | 3363500.855 | 415709.042 | Wetland Flag | 13.61 |
| 141 | 2.9 | 1.7 | Postprocessed Code | 4/16/2018 | 06:08:36pm | 13.169 | 2.1 | 0.7 | 3363512.17 | 415716.616 | Wetland Flag | 11.42 |
| 160 | 2.9 | 1.5 | Postprocessed Code | 4/16/2018 | 06:44:08pm | 14.774 | 0.9 | 0.6 | 3363501.132 | 415719.548 | Wetland Flag | 21.24 |
| 161 | 2.9 | 1.4 | Postprocessed Code | 4/16/2018 | 06:44:51pm | 16.03 | 0.6 | 0.4 | 3363481.014 | 415726.38 | Wetland Flag | 11.67 |
| 162 | 2.9 | 1.4 | Postprocessed Code | 4/16/2018 | 06:45:26pm | 18.485 | 1 | 0.7 | 3363470.43 | 415721.459 | Wetland Flag | 19.69 |
| 163 | 2.9 | 1.6 | Postprocessed Code | 4/16/2018 | 06:46:16pm | 17.921 | 1.2 | 0.8 | 3363450.741 | 415721.06 | Wetland Flag | 19.18 |
| 164 | 2.9 | 1.6 | Postprocessed Code | 4/16/2018 | 06:47:00pm | 13.879 | 1.8 | 0.7 | 3363432.613 | 415727.332 | Wetland Flag | 28.53 |
| 165 | 5.4 | 2.7 | Postprocessed Code | 4/16/2018 | 06:47:48pm | 17.24 | 0.9 | 0.7 | 3363404.082 | 415727.341 | Wetland Flag | 20.73 |
| 133 | 3.5 | 1.9 | Postprocessed Code | 4/16/2018 | 06:01:16pm | 14.67 | 5.3 | 2.6 | 3363415.109 | 415709.776 | Wetland Flag | |
| **Wetland 1/Upland 21** | | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23 | 3.4 | 1.3 | Postprocessed Code | 4/17/2018 | 08:58:02am | 9.958 | 0.7 | 0.4 | 3363373.997 | 415695.144 | Wetland Flag | 4.26 |
| 24 | 3.7 | 1.6 | Postprocessed Code | 4/17/2018 | 08:58:22am | 14.843 | 2.1 | 1.2 | 3363375.015 | 415691.002 | Wetland Flag | 9.53 |
| 25 | 2.7 | 1.7 | Postprocessed Code | 4/17/2018 | 08:58:53am | 26.89 | 2 | 1.3 | 3363381.226 | 415683.768 | Wetland Flag | 5.41 |
| 26 | 4.4 | 1.3 | Postprocessed Code | 4/17/2018 | 08:59:24am | 14.833 | 1 | 0.5 | 3363386.178 | 415685.951 | Wetland Flag | 8.98 |
| 27 | 3.5 | 2.5 | Postprocessed Code | 4/17/2018 | 09:00:00am | 16.051 | 1 | 0.8 | 3363386.619 | 415694.929 | Wetland Flag | 13.21 |
| 28 | 6.2 | 2.9 | Postprocessed Code | 4/17/2018 | 09:01:29am | 22.005 | 2.6 | 1 | 3363388.172 | 415708.055 | Wetland Flag | 9.55 |
| 29 | 3 | 1.5 | Postprocessed Code | 4/17/2018 | 09:01:55am | 13.79 | 0.7 | 0.4 | 3363380.778 | 415702.006 | Wetland Flag | 6.15 |
| 30 | 2.7 | 1.8 | Postprocessed Code | 4/17/2018 | 09:02:25am | 13.483 | 0.7 | 0.4 | 3363375.139 | 415699.551 | Wetland Flag | 4.55 |
| 23 | 3.4 | 1.3 | Postprocessed Code | 4/17/2018 | 08:58:02am | 9.958 | 0.7 | 0.4 | 3363373.997 | 415695.144 | Wetland Flag | |
| **Wetland 1/Upland 22** | | | | | | | | | | | | |
| 14 | 3.2 | 1.2 | Postprocessed Code | 4/17/2018 | 08:47:43am | 17.112 | 0.9 | 0.5 | 3363341.541 | 415611.266 | Wetland Flag | 6.52 |
| 15 | 3.2 | 1.2 | Postprocessed Code | 4/17/2018 | 08:48:27am | 20.163 | 0.8 | 0.4 | 3363336.295 | 415607.385 | Wetland Flag | 8.00 |
| 16 | 4.2 | 1.4 | Postprocessed Code | 4/17/2018 | 08:49:15am | 26.028 | 2.6 | 0.8 | 3363330.556 | 415601.806 | Wetland Flag | 7.07 |
| 17 | 5.5 | 1.8 | Postprocessed Code | 4/17/2018 | 08:51:00am | 16.395 | 2.6 | 0.9 | 3363333.79 | 415595.519 | Wetland Flag | 5.17 |
| 18 | 2.2 | 1.1 | Postprocessed Code | 4/17/2018 | 08:52:14am | 16.62 | 0.9 | 0.5 | 3363338.896 | 415596.371 | Wetland Flag | 8.02 |
| 19 | 5.6 | 2.2 | Postprocessed Code | 4/17/2018 | 08:52:41am | 22.906 | 1.8 | 1.2 | 3363346.795 | 415594.962 | Wetland Flag | 7.77 |
| 20 | 3.2 | 1.2 | Postprocessed Code | 4/17/2018 | 08:53:07am | 19.668 | 0.9 | 0.5 | 3363351.065 | 415601.457 | Wetland Flag | 5.1 |
| 21 | 2.7 | 1.6 | Postprocessed Code | 4/17/2018 | 08:53:39am | 17.792 | 0.8 | 0.5 | 3363351.362 | 415606.553 | Wetland Flag | 7.72 |
| 22 | 3.2 | 1.6 | Postprocessed Code | 4/17/2018 | 08:54:11am | 17.61 | 1.4 | 0.8 | 3363343.964 | 415608.772 | Wetland Flag | 3.47 |
| 14 | 3.2 | 1.2 | Postprocessed Code | 4/17/2018 | 08:47:43am | 17.112 | 0.9 | 0.5 | 3363341.541 | 415611.266 | Wetland Flag | |
| wetland 1/upland 20 | | | | | | | | | | | | |
| 214 | 5.5 | 2.1 | Postprocessed Code | 4/16/2018 | 05:18:47pm | 13.981 | 1.2 | 0.5 | 3363419.584 | 415548.094 | Wetland Flag | 8.98 |
| 215 | 3.4 | 1.4 | Postprocessed Code | 4/16/2018 | 05:21:21pm | 15.605 | 1.4 | 0.7 | 3363423.481 | 415556.193 | Wetland Flag | 7.00 |
| 216 | 6.3 | 2.8 | Postprocessed Code | 4/16/2018 | 05:21:53pm | 13.436 | 1.5 | 0.7 | 3363422.416 | 415563.12 | Wetland Flag | 7.7 |
| 217 | 2.7 | 1.5 | Postprocessed Code | 4/16/2018 | 05:22:27pm | 13.557 | 0.6 | 0.4 | 3363415.835 | 415567.123 | Wetland Flag | 6.5 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 218 | 2.9 | 1.5 | Postprocessed Code | 4/16/2018 | 05:22:54pm | 16.633 | 0.5 | 0.3 | 3363409.679 | 415569.233 | Wetland Flag | 11.18 |
| 219 | 5.6 | 4.3 | Postprocessed Code | 4/16/2018 | 05:23:21pm | 15.843 | 1.4 | 0.8 | 3363404.847 | 415559.141 | Wetland Flag | 4.48 |
| 220 | 3 | 1.4 | Postprocessed Code | 4/16/2018 | 05:24:15pm | 15.222 | 0.7 | 0.5 | 3363401.662 | 415555.989 | Wetland Flag | 16.33 |
| 221 | 5.9 | 2.3 | L1L2 Postprocessed Carrier Float | 4/16/2018 | 05:24:51pm | 22.604 | 2.3 | 0.9 | 3363417.031 | 415550.461 | Wetland Flag | 3.48 |
| 214 | 5.5 | 2.1 | Postprocessed Code | 4/16/2018 | 05:18:47pm | 13.981 | 1.2 | 0.5 | 3363419.584 | 415548.094 | Wetland Flag | |
| **Wetland 1/Upland 23** | | | | | | | | | | | | |
| 1 | 6.9 | 2.2 | L1 Postprocessed Carrier Float | 4/17/2018 | 08:34:40am | 23.567 | 2 | 0.7 | 3363361.612 | 415630.787 | Wetland Flag | 16.29 |
| 3 | 3.9 | 2.3 | Postprocessed Code | 4/17/2018 | 08:38:26am | 15.694 | 1.6 | 0.8 | 3363377.896 | 415630.169 | Wetland Flag | 17.47 |
| 6 | 3 | 2.2 | Postprocessed Code | 4/17/2018 | 08:41:24am | 17.08 | 1.3 | 0.8 | 3363395.318 | 415628.839 | Wetland Flag | 8.77 |
| 7 | 3.8 | 1.6 | Postprocessed Code | 4/17/2018 | 08:42:56am | 6.326 | 1.5 | 0.4 | 3363403.848 | 415626.782 | Wetland Flag | 23.69 |
| 10 | 6.7 | 2.1 | L1 Postprocessed Carrier Float | 4/17/2018 | 08:45:29am | 19.312 | 1.5 | 0.6 | 3363426.726 | 415620.635 | Wetland Flag | 15.18 |
| 11 | 3.1 | 1.3 | Postprocessed Code | 4/17/2018 | 08:46:41am | 15.585 | 0.6 | 0.4 | 3363441.099 | 415625.547 | Wetland Flag | 13.94 |
| 14 | 2.6 | 1.7 | Postprocessed Code | 4/17/2018 | 08:49:59am | 13.157 | 0.7 | 0.4 | 3363454.76 | 415622.767 | Wetland Flag | 17.83 |
| 26 | 6.6 | 5.3 | Postprocessed Code | 4/17/2018 | 09:06:51am | 14.346 | 0.7 | 0.4 | 3363472.373 | 415619.946 | Wetland Flag | 10.9 |
| 25 | 2.7 | 1.7 | Postprocessed Code | 4/17/2018 | 09:05:08am | 18.942 | 0.6 | 0.4 | 3363483.046 | 415617.696 | Wetland Flag | 16.95 |
| 24 | 3.9 | 1.8 | Postprocessed Code | 4/17/2018 | 09:03:52am | 14.531 | 1.4 | 0.5 | 3363499.949 | 415616.377 | Wetland Flag | 9.71 |
| 23 | 3.5 | 1.4 | Postprocessed Code | 4/17/2018 | 09:02:42am | 16.072 | 0.6 | 0.3 | 3363508.379 | 415621.202 | Wetland Flag | 14.52 |
| 22 | 2.6 | 1.6 | Postprocessed Code | 4/17/2018 | 09:01:08am | 15.277 | 0.6 | 0.4 | 3363522.662 | 415618.582 | Wetland Flag | 11.19 |
| 21 | 2.7 | 1.2 | Postprocessed Code | 4/17/2018 | 08:59:19am | 12.775 | 0.2 | 0.1 | 3363533.69 | 415620.509 | Wetland Flag | 7.19 |
| 20 | 2.8 | 1.4 | Postprocessed Code | 4/17/2018 | 08:57:56am | 14.16 | 0.6 | 0.4 | 3363535.565 | 415627.452 | Wetland Flag | 15.3 |
| 19 | 3.3 | 1.2 | Postprocessed Code | 4/17/2018 | 08:56:18am | 15.99 | 0.5 | 0.3 | 3363520.296 | 415626.37 | Wetland Flag | 13.22 |
| 18 | 3.2 | 1.2 | Postprocessed Code | 4/17/2018 | 08:55:08am | 15.322 | 0.5 | 0.3 | 3363507.186 | 415624.629 | Wetland Flag | 9.78 |
| 17 | 3.3 | 1.5 | L1 Postprocessed Carrier Float | 4/17/2018 | 08:53:59am | 12.328 | 0.5 | 0.3 | 3363497.49 | 415625.967 | Wetland Flag | 13.99 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 3.3 | 1.4 | Postprocessed Code | 4/17/2018 | 08:52:55am | 15.062 | 0.6 | 0.4 | 3363483.496 | 415625.69 | Wetland Flag | 14.27 |
| 15 | 3 | 1.6 | Postprocessed Code | 4/17/2018 | 08:52:00am | 17.012 | 0.6 | 0.3 | 3363469.326 | 415627.448 | Wetland Flag | 18.09 |
| 13 | 3.3 | 1.5 | Postprocessed Code | 4/17/2018 | 08:49:23am | 16.54 | 0.7 | 0.4 | 3363451.234 | 415627.637 | Wetland Flag | 10.41 |
| 12 | 5.9 | 2.1 | Postprocessed Code | 4/17/2018 | 08:47:54am | 13.431 | 1.9 | 0.9 | 3363440.862 | 415628.616 | Wetland Flag | 15.74 |
| 9 | 3.4 | 1.5 | Postprocessed Code | 4/17/2018 | 08:44:57am | 13.975 | 0.8 | 0.5 | 3363425.234 | 415626.687 | Wetland Flag | 19.48 |
| 8 | 4.3 | 1.7 | Postprocessed Code | 4/17/2018 | 08:43:26am | 16.668 | 0.7 | 0.4 | 3363406.678 | 415632.642 | Wetland Flag | 12.32 |
| 5 | 2.9 | 1.6 | Postprocessed Code | 4/17/2018 | 08:40:38am | 15.55 | 0.9 | 0.6 | 3363394.489 | 415634.458 | Wetland Flag | 16.87 |
| 4 | 4.1 | 1.6 | Postprocessed Code | 4/17/2018 | 08:39:19am | 16.188 | 0.7 | 0.4 | 3363377.763 | 415632.183 | Wetland Flag | 20.96 |
| 2 | 2.9 | 1.2 | Postprocessed Code | 4/17/2018 | 08:36:03am | 19.357 | 0.6 | 0.4 | 3363356.802 | 415632.689 | Wetland Flag | 5.17 |
| 1 | 6.9 | 2.2 | L1 Postprocessed Carrier Float | 4/17/2018 | 08:34:40am | 23.567 | 2 | 0.7 | 3363361.612 | 415630.787 | Wetland Flag | |
| **Wetland 1/Upland 24** | | | | | | | | | | | | |
| 27 | 5 | 1.5 | L1 Postprocessed Carrier Float | 4/17/2018 | 09:10:48am | 14.737 | 1.2 | 0.4 | 3363548.417 | 415616.846 | Wetland Flag | 6.06 |
| 28 | 4.9 | 1.4 | Postprocessed Code | 4/17/2018 | 09:11:57am | 13.47 | 2.1 | 0.3 | 3363550.326 | 415622.606 | Wetland Flag | 15.08 |
| 29 | 2.7 | 1.5 | Postprocessed Code | 4/17/2018 | 09:12:55am | 15.559 | 0.6 | 0.3 | 3363565.379 | 415621.678 | Wetland Flag | 11.34 |
| 30 | 3 | 1.3 | Postprocessed Code | 4/17/2018 | 09:13:51am | 16.609 | 1.5 | 0.9 | 3363576.721 | 415621.497 | Wetland Flag | 1.31 |
| 34 | 3.3 | 1.4 | Postprocessed Code | 4/17/2018 | 09:18:28am | 16.592 | 0.8 | 0.5 | 3363577.592 | 415620.516 | Wetland Flag | 9.49 |
| 31 | 2.4 | 1.3 | Postprocessed Code | 4/17/2018 | 09:15:32am | 15.003 | 0.6 | 0.4 | 3363586.998 | 415619.25 | Wetland Flag | 9.27 |
| 32 | 3 | 1.3 | Postprocessed Code | 4/17/2018 | 09:16:32am | 18.617 | 0.6 | 0.3 | 3363596.248 | 415618.547 | Wetland Flag | 8.58 |
| 33 | 2.6 | 1.7 | Postprocessed Code | 4/17/2018 | 09:17:36am | 16.731 | 0.6 | 0.4 | 3363587.972 | 415616.268 | Wetland Flag | 15.03 |
| 35 | 3.3 | 1.4 | Postprocessed Code | 4/17/2018 | 09:19:41am | 12.854 | 0.4 | 0.3 | 3363572.98 | 415617.367 | Wetland Flag | 24.56 |
| 27 | 5 | 1.5 | L1 Postprocessed Carrier Float | 4/17/2018 | 09:10:48am | 14.737 | 1.2 | 0.4 | 3363548.417 | 415616.846 | Wetland Flag | |
| **Wetland 1/Upland 25** | | | | | | | | | | | | |
| 43 | 2.5 | 1.5 | Postprocessed Code | 43207 | 10:22:23am | 14.211 | 0.5 | 0.4 | 3363885.543 | 415639.337 | Wetland Flag | 4.77 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 56 | 2.1 | 1.2 | L1L2 Postprocessed Carrier Float | 43207 | 10:35:42am | 13.206 | 0.2 | 0.1 | 3363884.497 | 415634.682 | Wetland Flag | 20.66 |
| 55 | 2.8 | 1.6 | Postprocessed Code | 43207 | 10:34:59am | 14.129 | 0.5 | 0.3 | 3363865.619 | 415626.287 | Wetland Flag | 27.29 |
| 54 | 2.8 | 1.6 | Postprocessed Code | 43207 | 10:33:57am | 15.403 | 0.5 | 0.4 | 3363838.51 | 415623.091 | Wetland Flag | 28.97 |
| 53 | 5.3 | 3.4 | Postprocessed Code | 43207 | 10:32:30am | 14.392 | 1.5 | 0.6 | 3363809.823 | 415618.997 | Wetland Flag | 33.43 |
| 52 | 2.8 | 1.8 | Postprocessed Code | 43207 | 10:31:32am | 13.994 | 0.5 | 0.3 | 3363776.397 | 415619.875 | Wetland Flag | 33.34 |
| 51 | 3.2 | 1.5 | Postprocessed Code | 43207 | 10:30:04am | 13.341 | 1 | 0.6 | 3363743.552 | 415614.112 | Wetland Flag | 12.41 |
| 50 | 2.2 | 1.4 | Postprocessed Code | 43207 | 10:29:02am | 15.288 | 0.5 | 0.4 | 3363731.142 | 415614.573 | Wetland Flag | 7.27 |
| 49 | 2.8 | 1.4 | Postprocessed Code | 43207 | 10:27:20am | 15.866 | 0.6 | 0.5 | 3363727.833 | 415621.054 | Wetland Flag | 14.46 |
| 48 | 3.3 | 1.7 | Postprocessed Code | 43207 | 10:25:53am | 14.913 | 0.8 | 0.5 | 3363742.261 | 415622.111 | Wetland Flag | 35.19 |
| 47 | 2.7 | 1.3 | Postprocessed Code | 43207 | 10:25:06am | 13.931 | 0.5 | 0.3 | 3363777.351 | 415624.797 | Wetland Flag | 34.69 |
| 46 | 2.7 | 1.4 | Postprocessed Code | 43207 | 10:24:18am | 13.253 | 0.6 | 0.4 | 3363812.04 | 415625.526 | Wetland Flag | 0.17 |
| 45 | 1.7 | 1.1 | Postprocessed Code | 43207 | 10:24:16am | 13.509 | 0.5 | 0.4 | 3363812.21 | 415625.527 | Wetland Flag | 36.62 |
| 44 | 2.8 | 1.5 | Postprocessed Code | 43207 | 10:23:16am | 13.163 | 0.5 | 0.3 | 3363848.497 | 415630.492 | Wetland Flag | 38.08 |
| 43 | 2.5 | 1.5 | Postprocessed Code | 43207 | 10:22:23am | 14.211 | 0.5 | 0.4 | 3363885.543 | 415639.337 | Wetland Flag | |
| **Wetland 1/Upland 26** | | | | | | | | | | | | |
| 39 | 3.9 | 2.2 | L1 Postprocessed Carrier Float | 4/17/2018 | 10:20:18am | 13.529 | 0.7 | 0.3 | 3363940.664 | 415645.652 | Wetland Flag | 29.67 |
| 40 | 2.7 | 1.4 | Postprocessed Code | 4/17/2018 | 10:21:16am | 14.508 | 0.5 | 0.4 | 3363911.153 | 415647.202 | Wetland Flag | 0.16 |
| 41 | 2.7 | 1.4 | Postprocessed Code | 4/17/2018 | 10:21:20am | 13.417 | 0.5 | 0.3 | 3363911.02 | 415647.099 | Wetland Flag | 20.08 |
| 42 | 2.7 | 1.3 | Postprocessed Code | 4/17/2018 | 10:22:03am | 14.523 | 0.5 | 0.3 | 3363892.115 | 415640.319 | Wetland Flag | 4.94 |
| 57 | 6 | 3.6 | L1 Postprocessed Carrier Float | 4/17/2018 | 10:36:06am | 13.292 | 0.2 | 0.3 | 3363894.576 | 415636.027 | Wetland Flag | 27.84 |
| 58 | 3.2 | 1.7 | L1L2 Postprocessed Carrier Float | 4/17/2018 | 10:36:51am | 13.449 | 0.3 | 0.2 | 3363921.359 | 415643.631 | Wetland Flag | 12.37 |
| 59 | 1.9 | 1.1 | Postprocessed Code | 4/17/2018 | 10:37:28am | 13.608 | 0.5 | 0.3 | 3363933.73 | 415643.402 | Wetland Flag | 7.28 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 39 | 3.9 | 2.2 | L1 Postprocessed Carrier Float | 4/17/2018 | 10:20:18am | 13.529 | 0.7 | 0.3 | 3363940.664 | 415645.652 | Wetland Flag | |
| **Wetland 1/Upland 27** | | | | | | | | | | | | |
| 31 | 2.8 | 1.7 | Postprocessed Code | 4/17/2018 | 10:17:28am | 13.032 | 0.2 | 0.1 | 3363898.223 | 415564.003 | Wetland Flag | 22.57 |
| 32 | 3.1 | 1.4 | Postprocessed Code | 4/17/2018 | 10:18:13am | 15.019 | 0.5 | 0.3 | 3363875.71 | 415562.322 | Wetland Flag | 12.02 |
| 33 | 2.6 | 1.4 | Postprocessed Code | 4/17/2018 | 10:18:57am | 15.238 | 0.6 | 0.4 | 3363864.194 | 415558.854 | Wetland Flag | 19.70 |
| 34 | 2.9 | 1.8 | Postprocessed Code | 4/17/2018 | 10:19:32am | 14.4 | 0.8 | 0.6 | 3363844.637 | 415556.441 | Wetland Flag | 20.90 |
| 35 | 2.7 | 1.5 | Postprocessed Code | 4/17/2018 | 10:20:15am | 11.326 | 1.9 | 1.3 | 3363824.567 | 415550.586 | Wetland Flag | 5.31 |
| 36 | 3.2 | 1.6 | Postprocessed Code | 4/17/2018 | 10:21:16am | 16.743 | 0.5 | 0.4 | 3363826.975 | 415545.846 | Wetland Flag | 17.82 |
| 37 | 3 | 1.5 | L1 Postprocessed Carrier Float | 4/17/2018 | 10:22:01am | 13.115 | 0.3 | 0.2 | 3363844.421 | 415549.489 | Wetland Flag | 19.88 |
| 38 | 3 | 1.5 | Postprocessed Code | 4/17/2018 | 10:22:41am | 14.775 | 0.5 | 0.3 | 3363863.685 | 415554.424 | Wetland Flag | 14.04 |
| 39 | 3.1 | 1.5 | Postprocessed Code | 4/17/2018 | 10:23:23am | 13.845 | 0.5 | 0.4 | 3363877.616 | 415556.213 | Wetland Flag | 21.35 |
| 40 | 2.9 | 1.5 | Postprocessed Code | 4/17/2018 | 10:24:05am | 13.266 | 0.8 | 0.4 | 3363898.728 | 415559.4 | Wetland Flag | 4.63 |
| 31 | 2.8 | 1.7 | Postprocessed Code | 4/17/2018 | 10:17:28am | 13.032 | 0.2 | 0.1 | 3363898.223 | 415564.003 | Wetland Flag | |
| **Wetland 1/Upland 28** | | | | | | | | | | | | |
| 41 | 4.3 | 1.8 | Postprocessed Code | 4/17/2018 | 10:26:54am | 15.419 | 1.3 | 0.7 | 3363767.85 | 415547.762 | Wetland Flag | 19.88 |
| 42 | 3.5 | 2 | Postprocessed Code | 4/17/2018 | 10:27:33am | 16.64 | 0.6 | 0.4 | 3363749.318 | 415540.541 | Wetland Flag | 25.54 |
| 43 | 3 | 1.6 | Postprocessed Code | 4/17/2018 | 10:28:30am | 14.794 | 1.1 | 0.8 | 3363723.774 | 415540.853 | Wetland Flag | 38.88 |
| 44 | 2.8 | 1.6 | Postprocessed Code | 4/17/2018 | 10:30:14am | 13.022 | 0.6 | 0.4 | 3363685.535 | 415547.938 | Wetland Flag | 12.37 |
| 45 | 5.5 | 1.9 | Postprocessed Code | 4/17/2018 | 10:30:54am | 12.914 | 0.2 | 0.2 | 3363673.764 | 415551.748 | Wetland Flag | 6.35 |
| 46 | 5.4 | 1.9 | Postprocessed Code | 4/17/2018 | 10:32:16am | 13.551 | 0.6 | 0.4 | 3363673.23 | 415545.412 | Wetland Flag | 10.57 |
| 47 | 3.3 | 1.6 | Postprocessed Code | 4/17/2018 | 10:32:55am | 14.889 | 0.6 | 0.4 | 3363683.15 | 415541.743 | Wetland Flag | 42.80 |
| 48 | 3.2 | 1.6 | Postprocessed Code | 4/17/2018 | 10:33:57am | 16.078 | 0.9 | 0.6 | 3363725.158 | 415533.509 | Wetland Flag | 29.98 |
| 49 | 3 | 1.8 | Postprocessed Code | 4/17/2018 | 10:34:56am | 15.549 | 1.9 | 1.6 | 3363754.961 | 415536.84 | Wetland Flag | 16.08 |
| 50 | 2.9 | 1.6 | Postprocessed Code | 4/17/2018 | 10:35:52am | 16.134 | 1.5 | 1 | 3363770.554 | 415540.801 | Wetland Flag | 14.27 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 51 | 2.9 | 1.6 | Postprocessed Code | 4/17/2018 | 10:36:37am | 12.635 | 0.5 | 0.4 | 3363784.823 | 415540.454 | Wetland Flag | 3.93 |
| 52 | 2.7 | 1.4 | Postprocessed Code | 4/17/2018 | 10:37:13am | 11.551 | 0.8 | 0.6 | 3363784.983 | 415544.386 | Wetland Flag | 14.46 |
| 41 | 4.3 | 1.8 | Postprocessed Code | 4/17/2018 | 10:26:54am | 15.419 | 1.3 | 0.7 | 3363767.85 | 415547.762 | Wetland Flag | |
| **Wetland 1/Upland 29** | | | | | | | | | | | | |
| 208 | 2.9 | 1.6 | Postprocessed Code | 4/16/2018 | 05:01:19pm | 14.019 | 0.8 | 0.6 | 3363259.399 | 415391.201 | Wetland Flag | 8.90 |
| 209 | 2.9 | 1.4 | Postprocessed Code | 4/16/2018 | 05:01:45pm | 14.771 | 0.7 | 0.5 | 3363259.608 | 415382.3 | Wetland Flag | 3.90 |
| 210 | 2.9 | 1.6 | Postprocessed Code | 4/16/2018 | 05:02:30pm | 13.916 | 0.6 | 0.4 | 3363262.405 | 415379.576 | Wetland Flag | 9.87 |
| 211 | 2.6 | 1.4 | Postprocessed Code | 4/16/2018 | 05:03:26pm | 14.696 | 0.6 | 0.4 | 3363272.266 | 415380.115 | Wetland Flag | 7.74 |
| 212 | 3.1 | 1.6 | Postprocessed Code | 4/16/2018 | 05:04:37pm | 14.894 | 0.7 | 0.5 | 3363272.129 | 415387.861 | Wetland Flag | 6.86 |
| 213 | 2.9 | 1.6 | Postprocessed Code | 4/16/2018 | 05:05:22pm | 18.665 | 0.7 | 0.4 | 3363266.917 | 415392.336 | Wetland Flag | 7.60 |
| 208 | 2.9 | 1.6 | Postprocessed Code | 4/16/2018 | 05:01:19pm | 14.019 | 0.8 | 0.6 | 3363259.399 | 415391.201 | Wetland Flag | |
| **Wetland 1/Upland 30** | | | | | | | | | | | | |
| 11 | 4.9 | 2.2 | Postprocessed Code | 43206 | 09:13:48am | 7.576 | 2.4 | 0.8 | 3363402.633 | 415922.737 | Wetland Flag | 12.27 |
| 12 | 4 | 2 | Postprocessed Code | 43206 | 09:14:44am | 23.57 | 1.6 | 0.8 | 3363401.705 | 415910.498 | Wetland Flag | 15.60 |
| 13 | 6.9 | 3.2 | Postprocessed Code | 43206 | 09:15:19am | 15.098 | 1.4 | 0.5 | 3363392.618 | 415897.815 | Wetland Flag | 1.00 |
| 14 | 4 | 3.1 | Postprocessed Code | 43206 | 09:15:43am | 21.638 | 1.2 | 0.9 | 3363391.699 | 415897.396 | Wetland Flag | 14.43 |
| 15 | 2.8 | 1.8 | Postprocessed Code | 43206 | 09:20:25am | 17.849 | 0.6 | 0.5 | 3363378.345 | 415902.889 | Wetland Flag | 6.97 |
| 16 | 2.4 | 1.3 | Postprocessed Code | 43206 | 09:22:17am | 20.23 | 0.8 | 0.5 | 3363371.805 | 415905.315 | Wetland Flag | 7.26 |
| 17 | 2.3 | 1.2 | Postprocessed Code | 43206 | 09:24:18am | 18.359 | 1.1 | 0.7 | 3363378.792 | 415907.316 | Wetland Flag | 10.08 |
| 18 | 3.6 | 1.7 | Postprocessed Code | 43206 | 09:24:51am | 24.482 | 1.6 | 0.8 | 3363386.435 | 415913.9 | Wetland Flag | 8.11 |
| 19 | 3.4 | 1.7 | Postprocessed Code | 43206 | 09:25:35am | 16.961 | 1.1 | 0.6 | 3363383.775 | 415921.565 | Wetland Flag | 18.89 |
| 11 | 4.9 | 2.2 | Postprocessed Code | 43206 | 09:13:48am | 7.576 | 2.4 | 0.8 | 3363402.633 | 415922.737 | Wetland Flag | |
| **Wetland 1/Upland 31** | | | | | | | | | | | | |
| 28 | 3.7 | 1.9 | Postprocessed Code | 4/16/2018 | 09:33:28am | 9.839 | 1.6 | 1 | 3363362.549 | 415887.074 | Wetland Flag | 6.51 |
| 29 | 5.3 | 2.7 | Postprocessed Code | 4/16/2018 | 09:33:47am | 11.062 | 0.8 | 0.5 | 3363357.049 | 415890.562 | Wetland Flag | 9.62 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 3.9 | 1.9 | Postprocessed Code | 4/16/2018 | 09:34:11am | 16.101 | 1.5 | 1 | 3363348.798 | 415885.602 | Wetland Flag | 9.07 |
| 31 | 2.4 | 1.3 | Postprocessed Code | 4/16/2018 | 09:34:37am | 16.135 | 0.8 | 0.5 | 3363353.764 | 415878.001 | Wetland Flag | 4.86 |
| 32 | 3.9 | 3 | Postprocessed Code | 4/16/2018 | 09:35:09am | 16.123 | 1.5 | 1.1 | 3363351.58 | 415873.652 | Wetland Flag | 10.24 |
| 33 | 6 | 1.9 | Postprocessed Code | 4/16/2018 | 09:35:50am | 19.201 | 1.8 | 0.6 | 3363361.727 | 415872.257 | Wetland Flag | 8.44 |
| 34 | 5.2 | 1.7 | Postprocessed Code | 4/16/2018 | 09:36:24am | 15.944 | 1.5 | 0.8 | 3363365.409 | 415879.851 | Wetland Flag | 7.76 |
| 28 | 3.7 | 1.9 | Postprocessed Code | 4/16/2018 | 09:33:28am | 9.839 | 1.6 | 1 | 3363362.549 | 415887.074 | Wetland Flag | |
| **Wetland 1/Upland 32** | | | | | | | | | | | | |
| 39 | 2.8 | 1.9 | Postprocessed Code | 4/16/2018 | 09:41:16am | 17.571 | 2.5 | 1.7 | 3363368.198 | 415836.05 | Wetland Flag | 7.40 |
| 40 | 4.2 | 2 | Postprocessed Code | 4/16/2018 | 09:41:36am | 17.217 | 1.2 | 0.7 | 3363361.716 | 415839.622 | Wetland Flag | 5.50 |
| 41 | 2.7 | 1.7 | Postprocessed Code | 4/16/2018 | 09:41:55am | 14.712 | 0.6 | 0.4 | 3363356.361 | 415838.345 | Wetland Flag | 8.17 |
| 42 | 5.1 | 1.9 | Postprocessed Code | 4/16/2018 | 09:46:27am | 16.891 | 0.6 | 0.4 | 3363356.845 | 415830.187 | Wetland Flag | 8.20 |
| 43 | 2.8 | 1.9 | Postprocessed Code | 4/16/2018 | 09:46:52am | 12.164 | 2.2 | 1.6 | 3363364.852 | 415828.415 | Wetland Flag | 8.33 |
| 39 | 2.8 | 1.9 | Postprocessed Code | 4/16/2018 | 09:41:16am | 17.571 | 2.5 | 1.7 | 3363368.198 | 415836.05 | Wetland Flag | |
| **Wetland 1/Upland 33** | | | | | | | | | | | | |
| 154 | 2.5 | 1.3 | Postprocessed Code | 4/16/2018 | 03:16:26pm | 13.132 | 0.3 | 0.2 | 3363327.677 | 415816.719 | Wetland Flag | 15.91 |
| 155 | 3.2 | 1.6 | Postprocessed Code | 4/16/2018 | 03:17:25pm | 14.417 | 0.9 | 0.7 | 3363343.445 | 415814.558 | Wetland Flag | 15.83 |
| 156 | 3.1 | 2 | Postprocessed Code | 4/16/2018 | 03:18:22pm | 14.61 | 1.4 | 1 | 3363358.559 | 415809.835 | Wetland Flag | 6.28 |
| 157 | 2.9 | 1.4 | Postprocessed Code | 4/16/2018 | 03:18:54pm | 18.776 | 1.2 | 1 | 3363364.272 | 415807.204 | Wetland Flag | 10.48 |
| 158 | 6.1 | 3.1 | Postprocessed Code | 4/16/2018 | 03:19:26pm | 11.114 | 1.1 | 0.8 | 3363355.963 | 415800.812 | Wetland Flag | 21.72 |
| 159 | 4.2 | 1.9 | Postprocessed Code | 4/16/2018 | 03:20:31pm | 15.877 | 1.9 | 1.5 | 3363335.17 | 415807.093 | Wetland Flag | 18.35 |
| 160 | 2.6 | 1.6 | Postprocessed Code | 4/16/2018 | 03:21:48pm | 17.738 | 0.8 | 0.6 | 3363316.814 | 415807.219 | Wetland Flag | 31.37 |
| 161 | 2.8 | 1.4 | Postprocessed Code | 4/16/2018 | 03:23:11pm | 12.684 | 0.9 | 0.5 | 3363285.635 | 415810.712 | Wetland Flag | 24.75 |
| 162 | 3.3 | 1.3 | Postprocessed Code | 4/16/2018 | 03:24:14pm | 12.258 | 0.5 | 0.4 | 3363260.889 | 415811.253 | Wetland Flag | 6.06 |
| 165 | 2.8 | 1.4 | Postprocessed Code | 4/16/2018 | 03:26:40pm | 14.672 | 0.8 | 0.6 | 3363259.618 | 415817.183 | Wetland Flag | 27.28 |
| 166 | 6.8 | 3.8 | Postprocessed Code | 4/16/2018 | 03:27:42pm | 14.688 | 0.8 | 0.7 | 3363286.907 | 415817.337 | Wetland Flag | 40.77 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 154 | 2.5 | 1.3 | Postprocessed Code | 4/16/2018 | 03:16:26pm | 13.132 | 0.3 | 0.2 | 3363327.677 | 415816.719 | Wetland Flag | |
| **Wetland 1/Upland 34** | | | | | | | | | | | | |
| 41 | 2.9 | 1.4 | Postprocessed Code | 4/12/2018 | 10:46:42am | 13.675 | 0.7 | 0.5 | 3362943.87 | 415841.199 | Wetland Flag | 7.31 |
| 42 | 2.9 | 1.5 | Postprocessed Code | 4/12/2018 | 10:47:04am | 16.295 | 0.9 | 0.6 | 3362951.025 | 415839.696 | Wetland Flag | 8.57 |
| 43 | 2.9 | 1.5 | Postprocessed Code | 4/12/2018 | 10:47:29am | 13.158 | 1.6 | 1 | 3362956.809 | 415846.033 | Wetland Flag | 10.52 |
| 44 | 2.9 | 1.6 | Postprocessed Code | 4/12/2018 | 10:47:54am | 13.32 | 0.6 | 0.4 | 3362965.172 | 415852.424 | Wetland Flag | 7.52 |
| 45 | 5.8 | 1.9 | Postprocessed Code | 4/12/2018 | 10:48:29am | 15.096 | 1.2 | 0.7 | 3362962.48 | 415859.455 | Wetland Flag | 5.58 |
| 46 | 5.8 | 1.9 | Postprocessed Code | 4/12/2018 | 10:48:58am | 15.293 | 1.4 | 0.9 | 3362958.3 | 415863.164 | Wetland Flag | 10.85 |
| 47 | 3.2 | 1.7 | Postprocessed Code | 4/12/2018 | 10:49:31am | 14.533 | 1.5 | 0.9 | 3362948.882 | 415868.565 | Wetland Flag | 8.89 |
| 48 | 5.7 | 1.9 | Postprocessed Code | 4/12/2018 | 10:49:52am | 16.089 | 1.1 | 0.7 | 3362940.365 | 415871.128 | Wetland Flag | 4.53 |
| 49 | 2.9 | 1.4 | Postprocessed Code | 4/12/2018 | 10:50:12am | 14.179 | 0.8 | 0.5 | 3362938.846 | 415866.86 | Wetland Flag | 4.63 |
| 50 | 2.9 | 1.4 | Postprocessed Code | 4/12/2018 | 10:50:31am | 14.098 | 0.7 | 0.5 | 3362936.717 | 415862.738 | Wetland Flag | 3.74 |
| 7 | 4.6 | 2 | Postprocessed Code | 4/12/2018 | 10:22:22am | 20.748 | 2.6 | 1.3 | 3362939.685 | 415860.454 | OHWM Flag | 7.62 |
| 8 | 4.6 | 2 | Postprocessed Code | 4/12/2018 | 10:22:48am | 15.78 | 2 | 1.2 | 3362939.071 | 415852.856 | OHWM Flag | 9.28 |
| 9 | 4.6 | 2 | Postprocessed Code | 4/12/2018 | 10:23:20am | 18.46 | 0.9 | 0.5 | 3362942.293 | 415844.147 | OHWM Flag | 3.34 |
| 41 | 2.9 | 1.4 | Postprocessed Code | 4/12/2018 | 10:46:42am | 13.675 | 0.7 | 0.5 | 3362943.87 | 415841.199 | Wetland Flag | |
| **Wetland 1/Upland 35** | | | | | | | | | | | | |
| 5 | 4.6 | 2 | Postprocessed Code | 4/12/2018 | 10:20:24am | 12.901 | 1.1 | 0.7 | 3362903.504 | 415860.308 | OHWM Flag | 12.88 |
| 4 | 4.6 | 2 | Postprocessed Code | 4/12/2018 | 10:19:35am | 9.127 | 1.2 | 0.7 | 3362903.91 | 415847.431 | OHWM Flag | 7.99 |
| 14 | 3 | 1.5 | Postprocessed Code | 4/12/2018 | 10:31:09am | 16.399 | 0.5 | 0.4 | 3362907.227 | 415840.155 | OHWM Flag | 5.84 |
| 13 | 3.5 | 1.4 | Postprocessed Code | 4/12/2018 | 10:30:21am | 11.306 | 0.6 | 0.4 | 3362911.246 | 415835.913 | OHWM Flag | 5.67 |
| 12 | 3.3 | 1.8 | Postprocessed Code | 4/12/2018 | 10:29:47am | 12.242 | 0.8 | 0.6 | 3362916.794 | 415837.092 | OHWM Flag | 13.50 |
| 11 | 10.1 | 3 | Postprocessed Code | 4/12/2018 | 10:24:43am | 17.816 | 0.9 | 0.6 | 3362930.061 | 415839.607 | OHWM Flag | 9.78 |
| 10 | 57 | 16.6 | Postprocessed Code | 4/12/2018 | 10:23:58am | 16.158 | 2.5 | 1.4 | 3362939.784 | 415840.665 | OHWM Flag | 5.01 |
| 40 | 4.6 | 2.5 | Postprocessed Code | 4/12/2018 | 10:46:16am | 12.819 | 1.2 | 0.8 | 3362943.435 | 415837.224 | Wetland Flag | 3.33 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 39 | 2.7 | 1.3 | Postprocessed Code | 4/12/2018 | 10:45:52am | 15.371 | 0.7 | 0.4 | 3362945.389 | 415834.526 | Wetland Flag | 4.54 |
| 38 | 3.7 | 1.4 | Postprocessed Code | 4/12/2018 | 10:45:31am | 13.195 | 1.9 | 0.9 | 3362944.623 | 415830.043 | Wetland Flag | 4.32 |
| 37 | 6.3 | 2 | Postprocessed Code | 4/12/2018 | 10:45:11am | 15.376 | 0.9 | 0.6 | 3362943.067 | 415826.012 | Wetland Flag | 13.49 |
| 36 | 7.3 | 2.4 | Postprocessed Code | 4/12/2018 | 10:44:17am | 16.848 | 0.8 | 0.6 | 3362940.662 | 415812.734 | Wetland Flag | 6.96 |
| 35 | 3 | 1.5 | Postprocessed Code | 4/12/2018 | 10:43:37am | 17.191 | 0.6 | 0.4 | 3362935.74 | 415807.809 | Wetland Flag | 10.68 |
| 34 | 3.1 | 1.5 | Postprocessed Code | 4/12/2018 | 10:43:07am | 20.156 | 2.2 | 1.4 | 3362929.415 | 415799.2 | Wetland Flag | 10.57 |
| 33 | 3.2 | 1.6 | Postprocessed Code | 4/12/2018 | 10:42:21am | 13.56 | 1.2 | 0.8 | 3362919.445 | 415795.674 | Wetland Flag | 12.11 |
| 32 | 19 | 5.4 | Postprocessed Code | 4/12/2018 | 10:41:52am | 18.533 | 0.7 | 0.4 | 3362921.694 | 415783.768 | Wetland Flag | 10.33 |
| 31 | 2.8 | 1.6 | Postprocessed Code | 4/12/2018 | 10:41:26am | 15.776 | 1.6 | 1 | 3362915.7 | 415775.349 | Wetland Flag | 14.18 |
| 30 | 3 | 1.6 | Postprocessed Code | 4/12/2018 | 10:40:49am | 14.928 | 0.5 | 0.4 | 3362909.737 | 415762.484 | Wetland Flag | 7.38 |
| 29 | 3.1 | 1.4 | Postprocessed Code | 4/12/2018 | 10:40:24am | 17.062 | 0.7 | 0.5 | 3362905.305 | 415756.571 | Wetland Flag | 6.74 |
| 28 | 2.8 | 1.6 | Postprocessed Code | 4/12/2018 | 10:40:00am | 14.205 | 0.6 | 0.4 | 3362901.914 | 415762.404 | Wetland Flag | 10.46 |
| 27 | 3 | 1.9 | Postprocessed Code | 4/12/2018 | 10:39:33am | 16.284 | 1.3 | 0.9 | 3362900.884 | 415772.815 | Wetland Flag | 12.02 |
| 26 | 4.4 | 2.6 | Postprocessed Code | 4/12/2018 | 10:39:03am | 14.933 | 1 | 0.6 | 3362904.738 | 415784.205 | Wetland Flag | 14.26 |
| 25 | 7.6 | 3 | Postprocessed Code | 4/12/2018 | 10:38:10am | 17.502 | 1.7 | 1.3 | 3362911.106 | 415796.968 | Wetland Flag | 12.15 |
| 24 | 4.4 | 2.5 | Postprocessed Code | 4/12/2018 | 10:37:27am | 17.224 | 0.8 | 0.6 | 3362907.896 | 415808.695 | Wetland Flag | 10.73 |
| 23 | 3.2 | 1.6 | Postprocessed Code | 4/12/2018 | 10:36:58am | 16.061 | 1.3 | 0.8 | 3362902.913 | 415818.207 | Wetland Flag | 7.96 |
| 22 | 2.9 | 2 | Postprocessed Code | 4/12/2018 | 10:36:35am | 13.087 | 0.8 | 0.6 | 3362899.923 | 415825.593 | Wetland Flag | 6.44 |
| 21 | 2.8 | 1.3 | Postprocessed Code | 4/12/2018 | 10:36:15am | 15.553 | 0.6 | 0.4 | 3362896.118 | 415830.801 | Wetland Flag | 15.41 |
| 20 | 2.9 | 2 | Postprocessed Code | 4/12/2018 | 10:35:45am | 15.093 | 1.5 | 1.2 | 3362892.902 | 415845.876 | Wetland Flag | 8.94 |
| 19 | 2.9 | 1.7 | Postprocessed Code | 4/12/2018 | 10:35:15am | 15.098 | 0.6 | 0.5 | 3362888.271 | 415853.526 | Wetland Flag | 8.07 |
| 18 | 2.6 | 1.6 | Postprocessed Code | 4/12/2018 | 10:34:56am | 13.736 | 0.8 | 0.6 | 3362892.738 | 415860.253 | Wetland Flag | 6.91 |
| 17 | 3.1 | 1.5 | Postprocessed Code | 43202 | 10:34:29am | 11.466 | 1.6 | 1.2 | 3362896.291 | 415866.189 | Wetland Flag | 3.84 |
| 16 | 3.1 | 2.3 | Postprocessed Code | 43202 | 10:34:09am | 10.451 | 1.9 | 1.2 | 3362900.131 | 415866.145 | Wetland Flag | 6.35 |
| 15 | 12.6 | 3.8 | Postprocessed Code | 43202 | 10:33:46am | 15.158 | 0.8 | 0.5 | 3362904.369 | 415861.409 | Wetland Flag | 1.40 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 4.6 | 2 | Postprocessed Code | 4/12/2018 | 10:20:24am | 12.901 | 1.1 | 0.7 | 3362903.504 | 415860.308 | OHWM Flag | |
| **Pond 1** | | | | | | | | | | | | |
| 4 | 4.6 | 2 | Postprocessed Code | 4/12/2018 | 10:19:35am | 9.127 | 1.2 | 0.7 | 3362903.91 | 415847.431 | OHWM Flag | 12.88 |
| 5 | 4.6 | 2 | Postprocessed Code | 4/12/2018 | 10:20:24am | 12.901 | 1.1 | 0.7 | 3362903.504 | 415860.308 | OHWM Flag | 15.58 |
| 6 | 4.6 | 2 | Postprocessed Code | 4/12/2018 | 10:21:02am | 15.732 | 1.9 | 1.1 | 3362919.081 | 415860.767 | OHWM Flag | 20.60 |
| 7 | 4.6 | 2 | Postprocessed Code | 4/12/2018 | 10:22:22am | 20.748 | 2.6 | 1.3 | 3362939.685 | 415860.454 | OHWM Flag | 7.62 |
| 8 | 4.6 | 2 | Postprocessed Code | 4/12/2018 | 10:22:48am | 15.78 | 2 | 1.2 | 3362939.071 | 415852.856 | OHWM Flag | 9.28 |
| 9 | 4.6 | 2 | Postprocessed Code | 4/12/2018 | 10:23:20am | 18.46 | 0.9 | 0.5 | 3362942.293 | 415844.147 | OHWM Flag | 4.29 |
| 10 | 57 | 16.6 | Postprocessed Code | 4/12/2018 | 10:23:58am | 16.158 | 2.5 | 1.4 | 3362939.784 | 415840.665 | OHWM Flag | 9.78 |
| 11 | 10.1 | 3 | Postprocessed Code | 4/12/2018 | 10:24:43am | 17.816 | 0.9 | 0.6 | 3362930.061 | 415839.607 | OHWM Flag | 13.50 |
| 12 | 3.3 | 1.8 | Postprocessed Code | 4/12/2018 | 10:29:47am | 12.242 | 0.8 | 0.6 | 3362916.794 | 415837.092 | OHWM Flag | 5.67 |
| 13 | 3.5 | 1.4 | Postprocessed Code | 4/12/2018 | 10:30:21am | 11.306 | 0.6 | 0.4 | 3362911.246 | 415835.913 | OHWM Flag | 5.84 |
| 14 | 3 | 1.5 | Postprocessed Code | 4/12/2018 | 10:31:09am | 16.399 | 0.5 | 0.4 | 3362907.227 | 415840.155 | OHWM Flag | 7.99 |
| 4 | 4.6 | 2 | Postprocessed Code | 4/12/2018 | 10:19:35am | 9.127 | 1.2 | 0.7 | 3362903.91 | 415847.431 | OHWM Flag | |
| OHWM 1 | | | | | | | | | | | | |
| 1 | 3.9 | 1.8 | Postprocessed Code | 4/16/2018 | 09:02:01am | 15.505 | 1.4 | 0.4 | 3363390.743 | 415829.377 | Wetland Flag | 11.15 |
| 2 | 5.5 | 1.8 | Postprocessed Code | 4/16/2018 | 09:02:40am | 20.373 | 3.2 | 0.9 | 3363393.002 | 415840.3 | Wetland Flag | 6.98 |
| 3 | 5.6 | 2 | L1 Postprocessed Carrier Float | 4/16/2018 | 09:03:17am | 17.25 | 2.2 | 0.8 | 3363396.58 | 415846.3 | Wetland Flag | 13.40 |
| 4 | 2.6 | 1.6 | Postprocessed Code | 4/16/2018 | 09:03:54am | 14.406 | 1 | 0.6 | 3363401.623 | 415858.72 | Wetland Flag | 11.91 |
| 5 | 5.5 | 1.8 | Postprocessed Code | 4/16/2018 | 09:04:44am | 23.973 | 1.5 | 0.8 | 3363404.823 | 415870.197 | Wetland Flag | 13.71 |
| 6 | 3.3 | 1.2 | Postprocessed Code | 4/16/2018 | 09:05:32am | 16.016 | 0.7 | 0.4 | 3363410.128 | 415882.841 | Wetland Flag | 13.80 |
| 7 | 4.2 | 1.8 | Postprocessed Code | 4/16/2018 | 09:07:42am | 27.472 | 1.1 | 0.6 | 3363411.277 | 415896.601 | Wetland Flag | 14.96 |
| 8 | 3.3 | 1.3 | Postprocessed Code | 4/16/2018 | 09:10:18am | 15.383 | 0.8 | 0.4 | 3363412.148 | 415911.545 | Wetland Flag | 13.09 |
| 9 | 4.4 | 1.9 | Postprocessed Code | 4/16/2018 | 09:11:15am | 13.232 | 2.6 | 1.3 | 3363412.771 | 415924.624 | Wetland Flag | 2.88 |
| 10 | 4.9 | 2.2 | Postprocessed Code | 4/16/2018 | 09:11:45am | 15.363 | 2.1 | 0.9 | 3363415.629 | 415924.27 | Wetland Flag | 0.90 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | 3.3 | 1.4 | Postprocessed Code | 4/16/2018 | 09:26:42am | 20.783 | 2.3 | 1.3 | 3363414.764 | 415924.524 | Wetland Flag | 11.65 |
| 21 | 3.3 | 1.4 | Postprocessed Code | 4/16/2018 | 09:27:24am | 18.293 | 0.7 | 0.4 | 3363412.213 | 415913.154 | Wetland Flag | 6.17 |
| 22 | 3.3 | 1.4 | Postprocessed Code | 4/16/2018 | 09:27:52am | 19.426 | 1.4 | 0.8 | 3363408.996 | 415907.879 | Wetland Flag | 11.45 |
| 23 | 3.4 | 1.6 | Postprocessed Code | 4/16/2018 | 09:28:27am | 20.723 | 1.1 | 0.7 | 3363405.803 | 415896.874 | Wetland Flag | 10.21 |
| 24 | 5.4 | 2.8 | Postprocessed Code | 4/16/2018 | 09:29:01am | 24.84 | 2.5 | 1.7 | 3363409.532 | 415887.367 | Wetland Flag | 12.37 |
| 25 | 5.3 | 2.7 | Real-time SBAS Corrected | 4/16/2018 | 09:29:46am | 30.45 | 0.8 | 0.5 | 3363406.036 | 415875.492 | Wetland Flag | 4.12 |
| 26 | 5.5 | 1.6 | Postprocessed Code | 4/16/2018 | 09:30:21am | 21.238 | 1.9 | 0.9 | 3363403.27 | 415872.434 | Wetland Flag | 12.35 |
| 27 | 15.6 | 3 | Postprocessed Code | 4/16/2018 | 09:31:33am | 8.703 | 1.4 | 0.7 | 3363396.475 | 415862.117 | Wetland Flag | 6.01 |
| 35 | 5.6 | 1.8 | Postprocessed Code | 4/16/2018 | 09:38:21am | 3.155 | 5.7 | 3.3 | 3363395.11 | 415856.26 | Wetland Flag | 12.37 |
| 36 | 4 | 1.7 | Postprocessed Code | 4/16/2018 | 09:39:03am | 21.538 | 1 | 0.7 | 3363391.303 | 415844.484 | Wetland Flag | 12.34 |
| 37 | 5.5 | 1.8 | Postprocessed Code | 4/16/2018 | 09:39:44am | 15.839 | 1.1 | 0.6 | 3363388.375 | 415832.495 | Wetland Flag | 10.2 |
| 38 | 6.1 | 2.1 | Postprocessed Code | 4/16/2018 | 09:40:20am | 12.559 | 2.9 | 0.9 | 3363385.002 | 415822.864 | Wetland Flag | 19.71 |
| 44 | 4.3 | 2 | Postprocessed Code | 4/16/2018 | 09:48:44am | 16.299 | 1.2 | 0.7 | 3363378.782 | 415804.151 | Wetland Flag | 14.15 |
| 45 | 4.9 | 1.9 | Postprocessed Code | 4/16/2018 | 09:49:59am | 14.787 | 1.3 | 0.8 | 3363376.314 | 415790.215 | Wetland Flag | 5.97 |
| 46 | 4.2 | 1.7 | Postprocessed Code | 4/16/2018 | 09:50:43am | 15.429 | 0.8 | 0.5 | 3363375.081 | 415784.364 | Wetland Flag | 7.37 |
| 47 | 4.2 | 1.7 | Postprocessed Code | 4/16/2018 | 09:51:15am | 16.085 | 1.1 | 0.7 | 3363372.079 | 415777.629 | Wetland Flag | 8.33 |
| 48 | 4.2 | 1.9 | Postprocessed Code | 4/16/2018 | 09:52:20am | 14.906 | 0.8 | 0.5 | 3363369.757 | 415769.62 | Wetland Flag | 9.89 |
| 49 | 4.2 | 1.9 | Postprocessed Code | 4/16/2018 | 09:52:55am | 10.572 | 2.4 | 1.4 | 3363368.448 | 415759.814 | Wetland Flag | 10.84 |
| 50 | 2.5 | 1.6 | Postprocessed Code | 4/16/2018 | 09:53:29am | 17.321 | 1 | 0.7 | 3363359.761 | 415753.33 | Wetland Flag | 7.66 |
| 51 | 5.6 | 2.4 | Postprocessed Code | 4/16/2018 | 09:54:12am | 5.332 | 1.7 | 0.4 | 3363354.67 | 415747.599 | Wetland Flag | 12.32 |
| 52 | 4 | 1.7 | Postprocessed Code | 4/16/2018 | 09:54:54am | 17.643 | 0.7 | 0.4 | 3363360.756 | 415736.888 | Wetland Flag | 8.10 |
| 53 | 5.7 | 2.6 | Postprocessed Code | 4/16/2018 | 09:55:51am | 10.943 | 1.6 | 0.5 | 3363367.42 | 415732.281 | Wetland Flag | 8.98 |
| 54 | 5.2 | 2.1 | Postprocessed Code | 4/16/2018 | 09:56:36am | 19.095 | 1.9 | 1.2 | 3363364.157 | 415723.909 | Wetland Flag | 13.68 |
| 55 | 5.1 | 2.1 | Postprocessed Code | 4/16/2018 | 09:57:50am | 13.608 | 4.9 | 1.9 | 3363356.478 | 415712.584 | Wetland Flag | 14.14 |
| 56 | 8.7 | 2.8 | Postprocessed Code | 4/16/2018 | 09:59:01am | 11.189 | 1.7 | 1.1 | 3363353.884 | 415698.676 | Wetland Flag | 13.95 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 57 | 3.7 | 1.6 | Postprocessed Code | 4/16/2018 | 10:00:30am | 18.904 | 0.6 | 0.4 | 3363347.465 | 415686.28 | Wetland Flag | 7.53 |
| 58 | 3.8 | 1.6 | Postprocessed Code | 4/16/2018 | 10:01:04am | 18.525 | 1.1 | 0.7 | 3363342.506 | 415680.61 | Wetland Flag | 14.22 |
| 59 | 3.9 | 1.8 | L1 Postprocessed Carrier Float | 4/16/2018 | 10:01:44am | 11.592 | 1.6 | 0.8 | 3363339.239 | 415666.766 | Wetland Flag | 14.11 |
| 60 | 9.6 | 3 | Postprocessed Code | 4/16/2018 | 10:02:40am | 16.032 | 2.3 | 1.3 | 3363337.007 | 415652.832 | Wetland Flag | 11.56 |
| 61 | 4.6 | 1.9 | Postprocessed Code | 4/16/2018 | 10:03:26am | 12.157 | 1.8 | 0.8 | 3363329.088 | 415644.399 | Wetland Flag | 14.02 |
| 62 | 4.8 | 2.6 | Postprocessed Code | 4/16/2018 | 10:04:22am | 11.661 | 2 | 1 | 3363323.806 | 415631.404 | Wetland Flag | 9.15 |
| 63 | 3.4 | 1.5 | Postprocessed Code | 4/16/2018 | 10:04:57am | 16.382 | 0.7 | 0.4 | 3363318.989 | 415623.615 | Wetland Flag | 20.85 |
| 64 | 3.4 | 1.5 | Postprocessed Code | 4/16/2018 | 10:05:54am | 16.791 | 2.4 | 1.5 | 3363305.246 | 415607.934 | Wetland Flag | 17.13 |
| 65 | 3.4 | 1.5 | Postprocessed Code | 4/16/2018 | 10:07:00am | 23.738 | 2.6 | 1.6 | 3363295.248 | 415594.012 | Wetland Flag | 8.70 |
| 66 | 4.3 | 1.9 | Postprocessed Code | 4/16/2018 | 10:07:51am | 19.993 | 2 | 1.2 | 3363287.043 | 415591.107 | Wetland Flag | 15.28 |
| 67 | 4.1 | 1.8 | Postprocessed Code | 4/16/2018 | 10:08:36am | 14.057 | 1.1 | 0.7 | 3363275.51 | 415581.078 | Wetland Flag | 4.04 |
| 68 | 3.2 | 1.4 | Postprocessed Code | 4/16/2018 | 10:09:03am | 14.756 | 0.7 | 0.4 | 3363271.517 | 415580.448 | Wetland Flag | 16.86 |
| 69 | 3.2 | 1.4 | Postprocessed Code | 4/16/2018 | 10:09:51am | 14.702 | 0.8 | 0.5 | 3363254.678 | 415579.559 | Wetland Flag | 12.76 |
| 70 | 3.4 | 1.5 | Postprocessed Code | 4/16/2018 | 10:10:33am | 18.981 | 0.7 | 0.5 | 3363244.23 | 415572.227 | Wetland Flag | 15.30 |
| 71 | 3.4 | 1.5 | Postprocessed Code | 4/16/2018 | 10:17:54am | 27.291 | 1.9 | 1.3 | 3363235.608 | 415559.581 | Wetland Flag | 14.49 |
| 72 | 8.1 | 2.4 | Postprocessed Code | 4/16/2018 | 10:18:54am | 12.34 | 0.6 | 0.4 | 3363223.182 | 415552.125 | Wetland Flag | 16.86 |
| 73 | 2.8 | 1.3 | Postprocessed Code | 4/16/2018 | 10:19:36am | 15.652 | 1.4 | 0.9 | 3363209.487 | 415542.277 | Wetland Flag | 7.11 |
| 74 | 3.2 | 1.4 | Postprocessed Code | 4/16/2018 | 10:20:49am | 21.671 | 0.6 | 0.4 | 3363210.333 | 415535.209 | Wetland Flag | 10.25 |
| 75 | 3.2 | 1.6 | Postprocessed Code | 4/16/2018 | 10:21:15am | 13.34 | 0.7 | 0.4 | 3363202.676 | 415528.383 | Wetland Flag | 9.21 |
| 76 | 2.8 | 1.3 | Postprocessed Code | 4/16/2018 | 10:21:51am | 19.3 | 0.6 | 0.4 | 3363194.423 | 415524.275 | Wetland Flag | 8.51 |
| 77 | 7.4 | 2.2 | Postprocessed Code | 4/16/2018 | 10:22:26am | 17.895 | 0.9 | 0.6 | 3363187.376 | 415519.502 | Wetland Flag | 15.63 |
| 78 | 3.1 | 1.6 | Postprocessed Code | 4/16/2018 | 10:23:09am | 17.316 | 0.5 | 0.3 | 3363171.778 | 415520.543 | Wetland Flag | 10.89 |
| 79 | 3.1 | 1.6 | Postprocessed Code | 4/16/2018 | 10:24:00am | 14.982 | 0.5 | 0.4 | 3363160.938 | 415519.492 | Wetland Flag | 13.34 |
| 80 | 3 | 1.5 | Postprocessed Code | 4/16/2018 | 10:24:49am | 13.889 | 0.5 | 0.4 | 3363147.604 | 415519.04 | Wetland Flag | 13.04 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 81 | 3 | 1.5 | Postprocessed Code | 4/16/2018 | 10:25:32am | 14.867 | 0.5 | 0.3 | 3363135.724 | 415513.654 | Wetland Flag | 8.95 |
| 82 | 3 | 1.5 | Postprocessed Code | 4/16/2018 | 10:26:16am | 14.925 | 0.6 | 0.4 | 3363126.789 | 415514.28 | Wetland Flag | 15.03 |
| 83 | 3 | 1.5 | Postprocessed Code | 4/16/2018 | 10:27:14am | 12.608 | 0.8 | 0.6 | 3363112.733 | 415519.622 | Wetland Flag | 12.80 |
| 84 | 3.2 | 1.4 | Postprocessed Code | 4/16/2018 | 10:28:38am | 14.428 | 0.5 | 0.3 | 3363100.047 | 415521.357 | Wetland Flag | 15.7 |
| 85 | 3.2 | 1.4 | Postprocessed Code | 4/16/2018 | 10:31:20am | 12.244 | 0.7 | 0.4 | 3363084.404 | 415520.008 | Wetland Flag | 9.10 |
| 86 | 2.8 | 1.4 | Postprocessed Code | 4/16/2018 | 10:32:07am | 12.452 | 0.5 | 0.3 | 3363081.819 | 415528.743 | Wetland Flag | 10.59 |
| 87 | 4.7 | 2.5 | Postprocessed Code | 4/16/2018 | 10:33:15am | 9.56 | 3.1 | 1.6 | 3363077.795 | 415538.542 | Wetland Flag | 15.09 |
| 88 | 2.9 | 1.4 | Postprocessed Code | 4/16/2018 | 10:34:35am | 11.945 | 0.6 | 0.4 | 3363066.845 | 415548.939 | Wetland Flag | 18.00 |
| 89 | 4.6 | 1.9 | Postprocessed Code | 4/16/2018 | 10:49:46am | 16.332 | 1.2 | 0.8 | 3363054.364 | 415561.913 | Wetland Flag | 20.12 |
| 90 | 5.6 | 2.1 | Postprocessed Code | 4/16/2018 | 10:54:07am | 4.346 | 3.2 | 1.1 | 3363034.247 | 415561.2 | Wetland Flag | 11.52 |
| 91 | 2.4 | 1.3 | Postprocessed Code | 4/16/2018 | 10:56:26am | 12.764 | 0.5 | 0.4 | 3363028.146 | 415570.972 | Wetland Flag | 19.11 |
| 92 | 2.9 | 1.5 | Postprocessed Code | 4/16/2018 | 10:57:43am | 11.529 | 0.5 | 0.4 | 3363012.941 | 415582.549 | Wetland Flag | 11.19 |
| 93 | 2.9 | 1.5 | Postprocessed Code | 4/16/2018 | 10:58:50am | 12.184 | 0.6 | 0.4 | 3363004.13 | 415589.456 | Wetland Flag | 16.19 |
| 94 | 2.8 | 1.8 | Postprocessed Code | 4/16/2018 | 11:00:34am | 11.882 | 0.2 | 0.1 | 3362988.186 | 415592.311 | Wetland Flag | 11.60 |
| 95 | 4.5 | 2.3 | Postprocessed Code | 4/16/2018 | 11:01:21am | 11.849 | 0.5 | 0.4 | 3362978.734 | 415599.041 | Wetland Flag | 6.87 |
| 96 | 2.3 | 1.1 | Postprocessed Code | 4/16/2018 | 11:02:19am | 12.696 | 0.5 | 0.4 | 3362973.657 | 415603.685 | Wetland Flag | 16.01 |
| 97 | 3.8 | 1.7 | Postprocessed Code | 4/16/2018 | 11:03:32am | 15.751 | 0.5 | 0.3 | 3362960.594 | 415612.946 | Wetland Flag | 9.67 |
| 98 | 4.3 | 1.9 | Postprocessed Code | 4/16/2018 | 11:04:17am | 10.752 | 1.3 | 0.7 | 3362952.596 | 415618.39 | Wetland Flag | 7.69 |
| 99 | 2.5 | 1.3 | Postprocessed Code | 4/16/2018 | 11:05:03am | 11.778 | 0.2 | 0.2 | 3362946.902 | 415623.561 | Wetland Flag | 17.18 |
| 100 | 6 | 4.6 | L1 Postprocessed Carrier Float | 4/16/2018 | 11:06:05am | 13.99 | 0.5 | 0.4 | 3362931.688 | 415631.553 | Wetland Flag | 8.75 |
| 101 | 3.7 | 1.7 | Postprocessed Code | 4/16/2018 | 11:07:16am | 11.697 | 0.2 | 0.1 | 3362924.738 | 415636.872 | Wetland Flag | 7.97 |
| 102 | 2.6 | 1.3 | Postprocessed Code | 4/16/2018 | 11:08:21am | 11.882 | 0.7 | 0.4 | 3362919.287 | 415642.695 | Wetland Flag | 15.94 |
| 103 | 4.2 | 2.5 | L1L2 Postprocessed Carrier Float | 4/16/2018 | 11:09:42am | 11.778 | 0.3 | 0.2 | 3362905.931 | 415651.4 | Wetland Flag | 10.03 |
| 104 | 2.8 | 1.7 | Postprocessed Code | 4/16/2018 | 11:11:11am | 16.262 | 0.6 | 0.4 | 3362896.612 | 415655.131 | Wetland Flag | 6.85 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 105 | 2.9 | 1.7 | Postprocessed Code | 4/16/2018 | 11:15:33am | 13.252 | 0.6 | 0.6 | 3362898.778 | 415648.626 | Wetland Flag | 18.38 |
| 106 | 2.6 | 1.2 | Postprocessed Code | 4/16/2018 | 11:17:10am | 12.131 | 0.3 | 0.3 | 3362915.301 | 415640.571 | Wetland Flag | 11.91 |
| 107 | 3.4 | 1.7 | L1 Postprocessed Carrier Float | 4/16/2018 | 11:18:02am | 13.87 | 0.4 | 0.3 | 3362922.937 | 415631.425 | Wetland Flag | 9.77 |
| 108 | 6.8 | 3.4 | L1 Postprocessed Carrier Float | 4/16/2018 | 11:19:16am | 12.28 | 0.4 | 0.4 | 3362931.004 | 415625.899 | Wetland Flag | 9.27 |
| 109 | 2.9 | 1.7 | Postprocessed Code | 4/16/2018 | 11:20:11am | 13.701 | 0.5 | 0.4 | 3362938.81 | 415620.892 | Wetland Flag | 15.47 |
| 110 | 2.9 | 1.7 | Postprocessed Code | 4/16/2018 | 11:21:14am | 12.629 | 0.8 | 0.5 | 3362952.48 | 415613.648 | Wetland Flag | 17.84 |
| 111 | 3 | 1.7 | Postprocessed Code | 4/16/2018 | 11:22:31am | 11.763 | 0.5 | 0.4 | 3362965.85 | 415601.832 | Wetland Flag | 13.37 |
| 112 | 2.7 | 1.2 | Postprocessed Code | 4/16/2018 | 11:23:20am | 12.625 | 1 | 0.5 | 3362976.62 | 415593.898 | Wetland Flag | 11.05 |
| 113 | 2.5 | 1.2 | Postprocessed Code | 4/16/2018 | 11:24:30am | 13.12 | 0.8 | 0.4 | 3362986.154 | 415588.3 | Wetland Flag | 12.51 |
| 114 | 2.9 | 1.6 | Postprocessed Code | 4/16/2018 | 11:25:23am | 13.432 | 0.5 | 0.4 | 3362998.227 | 415584.993 | Wetland Flag | 11.36 |
| 115 | 2.9 | 1.6 | Postprocessed Code | 4/16/2018 | 11:26:18am | 14.605 | 0.5 | 0.4 | 3363008.61 | 415580.371 | Wetland Flag | 22.82 |
| 116 | 2.7 | 1.2 | Postprocessed Code | 4/16/2018 | 11:27:17am | 12.327 | 0.5 | 0.4 | 3363026.877 | 415566.687 | Wetland Flag | 16.89 |
| 117 | 3.2 | 1.5 | Postprocessed Code | 4/16/2018 | 11:28:59am | 13.025 | 0.5 | 0.4 | 3363039.954 | 415555.993 | Wetland Flag | 16.21 |
| 118 | 2.9 | 1.6 | Postprocessed Code | 4/16/2018 | 11:29:51am | 10.441 | 0.8 | 0.6 | 3363055.937 | 415553.267 | Wetland Flag | 10.68 |
| 119 | 5.1 | 2.6 | Postprocessed Code | 4/16/2018 | 11:30:33am | 11.92 | 0.3 | 0.2 | 3363062.52 | 415544.856 | Wetland Flag | 18.04 |
| 120 | 2.5 | 1.3 | Postprocessed Code | 4/16/2018 | 11:32:07am | 14.201 | 0.5 | 0.4 | 3363074.411 | 415531.279 | Wetland Flag | 6.67 |
| 121 | 2.6 | 1.5 | Postprocessed Code | 4/16/2018 | 11:32:50am | 12.571 | 0.6 | 0.5 | 3363078.593 | 415526.081 | Wetland Flag | 15.11 |
| 122 | 2.5 | 1.3 | Postprocessed Code | 4/16/2018 | 11:34:04am | 13.376 | 0.5 | 0.4 | 3363078.567 | 415510.968 | Wetland Flag | 6.58 |
| 123 | 2.6 | 1.3 | Postprocessed Code | 4/16/2018 | 11:35:03am | 12.766 | 0.5 | 0.4 | 3363084.515 | 415508.131 | Wetland Flag | 18.07 |
| 124 | 2.3 | 1.2 | Postprocessed Code | 4/16/2018 | 11:38:44am | 11.415 | 0.3 | 0.3 | 3363101.823 | 415513.334 | Wetland Flag | 18.25 |
| 125 | 4.3 | 2.6 | L1 Postprocessed Carrier Float | 4/16/2018 | 11:40:17am | 11.798 | 0.9 | 0.6 | 3363119.979 | 415511.469 | Wetland Flag | 18.13 |
| 126 | 2.7 | 1.7 | Postprocessed Code | 4/16/2018 | 11:42:39am | 12.828 | 0.6 | 0.5 | 3363138.096 | 415510.673 | Wetland Flag | 12.61 |
| 127 | 4.4 | 2.5 | Postprocessed Code | 4/16/2018 | 11:43:30am | 11.974 | 0.2 | 0.2 | 3363149.795 | 415515.404 | Wetland Flag | 16.35 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 128 | 2.6 | 1.3 | Postprocessed Code | 4/16/2018 | 11:44:36am | 11.125 | 0.5 | 0.4 | 3363166.133 | 415514.581 | Wetland Flag | 11.44 |
| 129 | 3.4 | 1.3 | Postprocessed Code | 4/16/2018 | 11:45:34am | 16.831 | 1.3 | 0.5 | 3363177.239 | 415517.351 | Wetland Flag | 10.85 |
| 130 | 2.6 | 1.3 | Postprocessed Code | 4/16/2018 | 11:46:33am | 13.044 | 0.5 | 0.4 | 3363187.985 | 415515.847 | Wetland Flag | 15.41 |
| 131 | 2.4 | 1.2 | Postprocessed Code | 4/16/2018 | 11:47:17am | 12.782 | 0.5 | 0.4 | 3363201.636 | 415523.008 | Wetland Flag | 9.75 |
| 132 | 2.8 | 1.5 | Postprocessed Code | 4/16/2018 | 11:50:26am | 13.616 | 0.5 | 0.4 | 3363210.972 | 415525.838 | Wetland Flag | 13.87 |
| 133 | 3.5 | 1.5 | Postprocessed Code | 4/16/2018 | 11:52:26am | 12.665 | 1.1 | 0.8 | 3363214.565 | 415539.236 | Wetland Flag | 7.45 |
| 134 | 3.6 | 1.7 | Postprocessed Code | 4/16/2018 | 11:53:43am | 13.035 | 0.7 | 0.5 | 3363219.813 | 415544.532 | Wetland Flag | 28.44 |
| 135 | 3.5 | 2 | Postprocessed Code | 4/16/2018 | 11:59:06am | 24.108 | 3.4 | 3.1 | 3363247.296 | 415551.87 | Wetland Flag | 18.72 |
| 136 | 4.4 | 2.4 | Postprocessed Code | 4/16/2018 | 12:00:31pm | 16.975 | 0.9 | 0.8 | 3363251.431 | 415570.129 | Wetland Flag | 26.40 |
| 137 | 4.7 | 2.6 | Postprocessed Code | 4/16/2018 | 12:01:14pm | 14.859 | 1.7 | 1.3 | 3363277.299 | 415575.424 | Wetland Flag | 13.63 |
| 138 | 2.8 | 1.5 | Postprocessed Code | 4/16/2018 | 12:02:04pm | 15.815 | 0.6 | 0.4 | 3363287.536 | 415584.426 | Wetland Flag | 6.75 |
| 139 | 3.1 | 1.4 | Postprocessed Code | 4/16/2018 | 12:02:48pm | 14.987 | 0.5 | 0.4 | 3363292.843 | 415588.601 | Wetland Flag | 21.22 |
| 140 | 3.1 | 1.6 | Postprocessed Code | 4/16/2018 | 12:03:43pm | 15.213 | 0.7 | 0.6 | 3363308.779 | 415602.627 | Wetland Flag | 19.57 |
| 141 | 3 | 1.5 | Postprocessed Code | 4/16/2018 | 12:04:26pm | 17.004 | 1 | 0.7 | 3363319.85 | 415618.767 | Wetland Flag | 15.72 |
| 142 | 3.1 | 1.7 | Postprocessed Code | 4/16/2018 | 12:05:39pm | 14.215 | 1.1 | 0.8 | 3363330.281 | 415630.531 | Wetland Flag | 9.39 |
| 143 | 2.9 | 1.5 | Postprocessed Code | 4/16/2018 | 12:06:19pm | 13.531 | 0.5 | 0.4 | 3363338.335 | 415635.375 | Wetland Flag | 8.75 |
| 144 | 2.9 | 1.4 | Postprocessed Code | 4/16/2018 | 12:06:49pm | 11.929 | 0.8 | 0.4 | 3363339.359 | 415644.067 | Wetland Flag | 26.05 |
| 145 | 3.9 | 1.6 | Postprocessed Code | 4/16/2018 | 12:07:54pm | 14.88 | 1.3 | 0.8 | 3363344.366 | 415669.638 | Wetland Flag | 22.67 |
| 146 | 4 | 1.6 | Postprocessed Code | 4/16/2018 | 12:09:05pm | 16.139 | 0.5 | 0.4 | 3363356.359 | 415688.878 | Wetland Flag | 26.13 |
| 147 | 4.7 | 2.3 | Postprocessed Code | 4/16/2018 | 12:09:51pm | 12.729 | 2 | 1.1 | 3363362.617 | 415714.251 | Wetland Flag | 18.57 |
| 148 | 2.8 | 1.4 | Postprocessed Code | 4/16/2018 | 12:10:30pm | 15.423 | 0.6 | 0.4 | 3363372.279 | 415730.12 | Wetland Flag | 10.33 |
| 149 | 9.7 | 3.7 | Postprocessed Code | 4/16/2018 | 12:11:42pm | 15.763 | 1.7 | 1.2 | 3363369.958 | 415740.191 | Wetland Flag | 8.88 |
| 150 | 4.1 | 1.6 | Postprocessed Code | 4/16/2018 | 12:12:10pm | 11.368 | 1.4 | 1 | 3363362.124 | 415744.392 | Wetland Flag | 19.25 |
| 151 | 4.2 | 1.6 | Postprocessed Code | 4/16/2018 | 12:13:02pm | 11.585 | 1.1 | 0.7 | 3363372.389 | 415760.682 | Wetland Flag | 29.45 |
| 152 | 6.6 | 2.5 | Postprocessed Code | 4/16/2018 | 12:40:33pm | 10.753 | 1.1 | 0.6 | 3363380.869 | 415788.895 | Wetland Flag | 26.95 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 153 | 4.6 | 2 | Postprocessed Code | 4/16/2018 | 12:41:46pm | 10.082 | 1.1 | 0.7 | 3363387.623 | 415814.988 | Wetland Flag | 14.72 |
| 1 | 3.9 | 1.8 | Postprocessed Code | 4/16/2018 | 09:02:01am | 15.505 | 1.4 | 0.4 | 3363390.743 | 415829.377 | Wetland Flag | |
| Wetland 1/Upland 36 | | | | | | | | | | | | |
| 3 | 3.4 | 1.4 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:14:19am | 12.34 | 0.1 | 0.1 | 3363115.536 | 414900.651 | Wetland Flag | 7.87 |
| 4 | 2 | 0.9 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:14:37am | 12.43 | 0.1 | 0.1 | 3363121.441 | 414895.446 | Wetland Flag | 6.41 |
| 5 | 2.2 | 1 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:14:54am | 12.414 | 0.1 | 0.1 | 3363127.853 | 414895.521 | Wetland Flag | 9.61 |
| 6 | 2.6 | 1.3 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:15:17am | 12.562 | 0.1 | 0.1 | 3363130.274 | 414886.213 | Wetland Flag | 9.46 |
| 7 | 3.7 | 1.4 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:15:46am | 12.567 | 0.1 | 0.1 | 3363127.075 | 414877.3 | Wetland Flag | 7.93 |
| 8 | 1.9 | 0.9 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:16:03am | 12.576 | 0.1 | 0.1 | 3363119.235 | 414876.093 | Wetland Flag | 14.72 |
| 9 | 2.2 | 1.1 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:16:24am | 12.491 | 0.1 | 0.1 | 3363106.13 | 414882.805 | Wetland Flag | 7.09 |
| 10 | 2 | 0.9 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:16:42am | 12.39 | 0.1 | 0.1 | 3363107.326 | 414889.795 | Wetland Flag | 6.68 |
| 11 | 2.2 | 1 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:16:59am | 12.344 | 0.1 | 0.1 | 3363113.596 | 414892.126 | Wetland Flag | 4.47 |
| 12 | 2.2 | 1 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:17:16am | 12.367 | 0.1 | 0.1 | 3363116.536 | 414895.5 | Wetland Flag | 9.61 |
| 13 | 3 | 1.7 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:17:36am | 12.387 | 0.1 | 0.1 | 3363108.764 | 414901.156 | Wetland Flag | 6.79 |
| 3 | 3.4 | 1.4 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:14:19am | 12.34 | 0.1 | 0.1 | 3363115.536 | 414900.651 | Wetland Flag | |
| Wetland 1/Upland 37 | | | | | | | | | | | | |
| 14 | 2.9 | 1.6 | Postprocessed Code | 5/30/2018 | 11:20:17am | 13.135 | 1.2 | 0.7 | 3363119.379 | 414807.519 | Wetland Flag | 10.09 |
| 15 | 2.8 | 1.3 | Postprocessed Code | 5/30/2018 | 11:20:48am | 16.304 | 1.1 | 0.7 | 3363118.53 | 414817.582 | Wetland Flag | 10.98 |
| 16 | 2.7 | 1.3 | Postprocessed Code | 5/30/2018 | 11:21:13am | 15.278 | 0.7 | 0.4 | 3363121.671 | 414828.111 | Wetland Flag | 15.43 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 | 7 | 2.3 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:21:35am | 12.753 | 0.1 | 0.1 | 3363137.101 | 414827.967 | Wetland Flag | 13.03 |
| 18 | 2.5 | 1.1 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:21:57am | 12.768 | 0.1 | 0.1 | 3363148.109 | 414834.942 | Wetland Flag | 18.41 |
| 19 | 2.4 | 1.2 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:22:21am | 12.731 | 0.1 | 0.1 | 3363134.304 | 414847.131 | Wetland Flag | 17.39 |
| 20 | 2.1 | 1.1 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:22:40am | 12.68 | 0.1 | 0.1 | 3363119.073 | 414855.543 | Wetland Flag | 20.78 |
| 21 | 2.9 | 1.7 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:23:01am | 12.532 | 0.1 | 0.1 | 3363098.578 | 414858.994 | Wetland Flag | 11.62 |
| 22 | 3.9 | 2.8 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:23:20am | 12.468 | 0.1 | 0.1 | 3363087.222 | 414861.488 | Wetland Flag | 10.99 |
| 23 | 5.5 | 3.7 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:23:38am | 12.417 | 0.1 | 0.1 | 3363079.577 | 414869.396 | Wetland Flag | 16.26 |
| 24 | 2.5 | 1.5 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:24:03am | 12.478 | 0.1 | 0.1 | 3363064.349 | 414863.679 | Wetland Flag | 15.29 |
| 25 | 4.8 | 2.2 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:24:26am | 12.374 | 0.1 | 0.1 | 3363049.539 | 414859.854 | Wetland Flag | 10.39 |
| 26 | 4.5 | 2.2 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:24:45am | 12.395 | 0.1 | 0.1 | 3363041.001 | 414853.929 | Wetland Flag | 18.16 |
| 27 | 2.5 | 1.5 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:25:05am | 12.354 | 0.1 | 0.1 | 3363026.055 | 414864.245 | Wetland Flag | 16.47 |
| 28 | 5.4 | 2.5 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:25:31am | 12.355 | 0.1 | 0.1 | 3363009.601 | 414863.443 | Wetland Flag | 4.56 |
| 29 | 5.9 | 3.4 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:25:49am | 12.399 | 0.2 | 0.1 | 3363005.231 | 414864.767 | Wetland Flag | 10.27 |
| 30 | 2.6 | 1.3 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:26:10am | 12.391 | 0.1 | 0.1 | 3363001.639 | 414874.395 | Wetland Flag | 6.49 |
| 31 | 6 | 1.7 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:26:29am | 12.55 | 0.2 | 0.1 | 3362995.154 | 414874.681 | Wetland Flag | 10.97 |
| 32 | 3.8 | 2.3 | Postprocessed Code | 5/30/2018 | 11:27:05am | 12.547 | 0.3 | 0.2 | 3362985.533 | 414869.4 | Wetland Flag | 12.50 |
| 33 | 6 | 3.4 | L1 Postprocessed Carrier Float | 5/30/2018 | 11:27:32am | 12.364 | 0.6 | 0.3 | 3362975.726 | 414877.157 | Wetland Flag | 9.26 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 34 | 3.1 | 1.3 | Postprocessed Code | 5/30/2018 | 11:28:05am | 11.072 | 0.3 | 0.2 | 3362966.48 | 414877.799 | Wetland Flag | 1.13 |
| 66 | 4.7 | 1.7 | Postprocessed Code | 5/30/2018 | 11:44:10am | 10.881 | 1.4 | 0.7 | 3362966.473 | 414878.938 | OHWM Flag | 16.86 |
| 67 | 4.7 | 2.4 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:44:40am | 12.296 | 0.2 | 0.1 | 3362968.552 | 414895.675 | OHWM Flag | 10.28 |
| 53 | 4.5 | 2.3 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:38:43am | 12.465 | 0.2 | 0.1 | 3362969.484 | 414905.92 | Wetland Flag | 12.89 |
| 52 | 5.6 | 2.3 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:38:17am | 12.389 | 0.4 | 0.1 | 3362971.727 | 414893.223 | Wetland Flag | 8.50 |
| 51 | 4.5 | 2.3 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:37:56am | 12.753 | 0.3 | 0.2 | 3362972.683 | 414884.774 | Wetland Flag | 3.29 |
| 50 | 3 | 1.2 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:37:38am | 12.507 | 0.3 | 0.1 | 3362975.77 | 414885.922 | Wetland Flag | 6.42 |
| 49 | 3.4 | 1.2 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:37:19am | 12.504 | 0.3 | 0.1 | 3362978.443 | 414891.759 | Wetland Flag | 12.78 |
| 48 | 3 | 1.2 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:37:01am | 12.512 | 0.2 | 0.1 | 3362983.279 | 414903.595 | Wetland Flag | 14.34 |
| 47 | 5.3 | 1.5 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:36:41am | 12.512 | 0.3 | 0.1 | 3362991.419 | 414915.404 | Wetland Flag | 11.91 |
| 46 | 5.6 | 1.8 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:36:22am | 12.584 | 0.5 | 0.2 | 3362990.714 | 414927.293 | Wetland Flag | 11.69 |
| 45 | 5.6 | 1.8 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:36:01am | 12.533 | 0.4 | 0.1 | 3362983.087 | 414936.155 | Wetland Flag | 8.98 |
| 44 | 3.7 | 1.8 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:35:42am | 12.334 | 0.2 | 0.1 | 3362987.818 | 414943.79 | Wetland Flag | 11.08 |
| 43 | 5.6 | 2 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:35:21am | 12.238 | 0.3 | 0.1 | 3362988.416 | 414954.859 | Wetland Flag | 12.92 |
| 42 | 2.8 | 1.8 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:35:00am | 12.48 | 0.2 | 0.1 | 3362978.018 | 414962.582 | Wetland Flag | 11.46 |
| 41 | 6.3 | 2.4 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:34:41am | 12.532 | 0.1 | 0.1 | 3362966.558 | 414963.028 | Wetland Flag | 12.53 |
| 40 | 5.8 | 2.1 | L1 Postprocessed Carrier Float | 5/30/2018 | 11:34:20am | 13.646 | 0.5 | 0.2 | 3362958.758 | 414953.218 | Wetland Flag | 9.45 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 39 | 3.4 | 1.2 | Postprocessed Code | 5/30/2018 | 11:34:01am | 12.449 | 0.8 | 0.3 | 3362956.871 | 414962.479 | Wetland Flag | 23.87 |
| 38 | 5.4 | 1.6 | Postprocessed Code | 5/30/2018 | 11:33:38am | 13.408 | 0.7 | 0.4 | 3362954.313 | 414986.218 | Wetland Flag | 15.88 |
| 37 | 2.9 | 1.2 | Postprocessed Code | 5/30/2018 | 11:31:25am | 13.842 | 0.6 | 0.3 | 3362952.867 | 415002.039 | Wetland Flag | 14.74 |
| 36 | 6.5 | 2.1 | Postprocessed Code | 5/30/2018 | 11:30:35am | 15.341 | 2.3 | 0.9 | 3362945.011 | 415014.522 | Wetland Flag | |
| Wetland 1/Upland 38 | | | | | | | | | | | | |
| 68 | 3.7 | 1.7 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:45:45am | 12.186 | 0.9 | 0.5 | 3362963.145 | 414997.192 | Wetland Flag | 7.61 |
| 69 | 3.9 | 2.1 | Postprocessed Code | 5/30/2018 | 11:46:01am | 13.004 | 1.2 | 0.6 | 3362958.471 | 415003.199 | Wetland Flag | 9.08 |
| 70 | 3.6 | 1.8 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:46:21am | 12.415 | 1.5 | 0.7 | 3362964.194 | 415010.261 | Wetland Flag | 8.63 |
| 71 | 7 | 4.8 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:46:42am | 12.027 | 1 | 0.5 | 3362972.565 | 415008.145 | Wetland Flag | 8.61 |
| 72 | 4.1 | 1.9 | Postprocessed Code | 5/30/2018 | 11:47:00am | 13.23 | 1.1 | 0.5 | 3362973.454 | 414999.58 | Wetland Flag | 6.47 |
| 73 | 3.3 | 1.3 | Postprocessed Code | 5/30/2018 | 11:47:18am | 12.331 | 0.2 | 0.1 | 3362968.997 | 414994.887 | Wetland Flag | 6.28 |
| 68 | 3.7 | 1.7 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:45:45am | 12.186 | 0.9 | 0.5 | 3362963.145 | 414997.192 | Wetland Flag | |
| Wetland 1/Upland 39 | | | | | | | | | | | | |
| 74 | 6.3 | 3.2 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:47:49am | 12.095 | 0.5 | 0.2 | 3362958.147 | 415025.823 | Wetland Flag | 10..04 |
| 75 | 2.4 | 1.4 | Postprocessed Code | 5/30/2018 | 11:48:15am | 13.559 | 1.4 | 1.1 | 3362951.948 | 415033.731 | Wetland Flag | 16.52 |
| 76 | 3.6 | 1.7 | Postprocessed Code | 5/30/2018 | 11:48:44am | 11.707 | 0.9 | 0.6 | 3362950.737 | 415050.21 | Wetland Flag | 18.08 |
| 77 | 4.3 | 1.7 | Postprocessed Code | 5/30/2018 | 11:49:27am | 12.224 | 0.4 | 0.2 | 3362968.681 | 415052.49 | Wetland Flag | 12.08 |
| 78 | 4.2 | 1.6 | L1 Postprocessed Carrier Float | 5/30/2018 | 11:49:59am | 12.246 | 0.2 | 0.1 | 3362980.579 | 415054.612 | Wetland Flag | 8.17 |
| 79 | 3.3 | 1.2 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:50:28am | 12.229 | 0.2 | 0.1 | 3362979.119 | 415046.57 | Wetland Flag | 8.48 |
| 80 | 3.5 | 1.7 | Postprocessed Code | 5/30/2018 | 11:50:48am | 12.247 | 0.2 | 0.1 | 3362987.287 | 415048.882 | Wetland Flag | 5.94 |
| 81 | 3.2 | 1.3 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:51:05am | 12.391 | 0.1 | 0.1 | 3362991.534 | 415044.721 | Wetland Flag | 11.71 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 82 | 3.1 | 1.3 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:51:29am | 12.352 | 0.1 | 0.1 | 3362980.136 | 415042.014 | Wetland Flag | 10.54 |
| 83 | 3.6 | 1.5 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:51:53am | 12.307 | 0.1 | 0.1 | 3362970.989 | 415036.766 | Wetland Flag | 7.12 |
| 84 | 6.9 | 4.8 | Postprocessed Code | 5/30/2018 | 11:52:10am | 12.325 | 0.1 | 0.1 | 3362970.911 | 415029.639 | Wetland Flag | 5.10 |
| 85 | 3.6 | 1.4 | Postprocessed Code | 5/30/2018 | 11:52:31am | 12.243 | 0.5 | 0.3 | 3362963.241 | 415025.497 | Wetland Flag | |
| Wetland 1/Upland 40 | | | | | | | | | | | | |
| 86 | 2.8 | 1.8 | Postprocessed Code | 5/30/2018 | 11:53:45am | 13.719 | 1 | 0.7 | 3362941.899 | 415077.042 | Wetland Flag | 8.56 |
| 87 | 7 | 2.9 | Postprocessed Code | 5/30/2018 | 11:54:09am | 12.825 | 1.6 | 0.8 | 3362946.478 | 415084.278 | Wetland Flag | 6.48 |
| 88 | 3.5 | 1.8 | Postprocessed Code | 5/30/2018 | 11:54:39am | 17.67 | 1.7 | 1.2 | 3362943.712 | 415090.143 | Wetland Flag | 4.79 |
| 89 | 3 | 1.8 | Postprocessed Code | 5/30/2018 | 11:54:57am | 23.614 | 2.5 | 2.2 | 3362942.016 | 415094.627 | Wetland Flag | 7.66 |
| 90 | 3.1 | 1.2 | Postprocessed Code | 5/30/2018 | 11:55:26am | 11.984 | 1.7 | 1.1 | 3362939.943 | 415102.007 | Wetland Flag | 15.98 |
| 91 | 5.6 | 2.8 | Postprocessed Code | 5/30/2018 | 11:55:57am | 11.679 | 0.7 | 0.5 | 3362953.96 | 415094.322 | Wetland Flag | 11.81 |
| 92 | 4.2 | 2.3 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:56:53am | 12.354 | 0.1 | 0.1 | 3362961.269 | 415103.599 | Wetland Flag | 8.66 |
| 93 | 4.3 | 2.3 | Postprocessed Code | 5/30/2018 | 11:57:14am | 13.962 | 1.8 | 1.2 | 3362957.398 | 415111.354 | Wetland Flag | 11.43 |
| 94 | 3.4 | 1.6 | Postprocessed Code | 5/30/2018 | 11:57:35am | 19.016 | 0.4 | 0.3 | 3362946.166 | 415113.479 | Wetland Flag | 9.49 |
| 95 | 3.4 | 1.4 | Postprocessed Code | 5/30/2018 | 11:57:58am | 16.719 | 1.5 | 1 | 3362937.362 | 415117.023 | Wetland Flag | |
| Wetland 1/Upland 41 | | | | | | | | | | | | |
| 96 | 3.6 | 1.9 | Postprocessed Code | 5/30/2018 | 11:59:12am | 12.4 | 0.7 | 0.5 | 3362937.399 | 415150.107 | Wetland Flag | 14.66 |
| 97 | 4.9 | 2.4 | Postprocessed Code | 5/30/2018 | 11:59:33am | 8.929 | 4.2 | 1.6 | 3362944.031 | 415163.189 | Wetland Flag | 9.80 |
| 98 | 4.5 | 2.4 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:59:55am | 13.098 | 0.4 | 0.4 | 3362953.822 | 415163.654 | Wetland Flag | 5.29 |
| 99 | 3.6 | 1.8 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:00:12pm | 12.245 | 0.4 | 0.2 | 3362958.87 | 415162.055 | Wetland Flag | 11.04 |
| 100 | 4.3 | 2.3 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:00:32pm | 12.14 | 0.1 | 0.1 | 3362965.457 | 415170.922 | Wetland Flag | 16.09 |
| 101 | 3.6 | 1.9 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:00:53pm | 12.136 | 0.2 | 0.1 | 3362981.517 | 415172.034 | Wetland Flag | 10.71 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 102 | 2.9 | 1.2 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:01:11pm | 12.102 | 0.1 | 0.1 | 3362992.164 | 415170.82 | Wetland Flag | 8.54 |
| 103 | 3.4 | 1.4 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:01:29pm | 12.299 | 0.4 | 0.2 | 3362998.907 | 415165.576 | Wetland Flag | 14.82 |
| 104 | 3.8 | 2.2 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:01:52pm | 14.783 | 0.1 | 0.1 | 3363013.239 | 415169.373 | Wetland Flag | 4.32 |
| 105 | 4.9 | 2.5 | Postprocessed Code | 5/30/2018 | 12:02:08pm | 12.256 | 0.2 | 0.1 | 3363014.716 | 415165.305 | Wetland Flag | 7.62 |
| 106 | 2.7 | 1.3 | Postprocessed Code | 5/30/2018 | 12:02:29pm | 11.863 | 0.3 | 0.2 | 3363008.239 | 415161.281 | Wetland Flag | 21.33 |
| 107 | 2.8 | 1.2 | L1 Postprocessed Carrier Float | 5/30/2018 | 12:03:53pm | 13.845 | 0.5 | 0.2 | 3362994.934 | 415144.603 | Wetland Flag | 8.48 |
| 108 | 4.6 | 2.2 | Postprocessed Code | 5/30/2018 | 12:04:13pm | 12.162 | 0.3 | 0.5 | 3362990.192 | 415137.568 | Wetland Flag | 11.29 |
| 109 | 4.7 | 2.2 | Postprocessed Code | 5/30/2018 | 12:04:36pm | 12.388 | 0.5 | 0.3 | 3362993.469 | 415126.763 | Wetland Flag | 11.56 |
| 110 | 3 | 1.5 | Postprocessed Code | 5/30/2018 | 12:05:01pm | 13.678 | 1 | 0.7 | 3362989.424 | 415115.927 | Wetland Flag | 17.27 |
| 111 | 4.9 | 2.4 | L1 Postprocessed Carrier Float | 5/30/2018 | 12:05:21pm | 13.08 | 0.9 | 0.8 | 3362972.667 | 415111.738 | Wetland Flag | 12.19 |
| 112 | 4.6 | 2.6 | Postprocessed Code | 5/30/2018 | 12:05:50pm | 12.22 | 0.4 | 0.5 | 3362961.648 | 415116.972 | Wetland Flag | 15.63 |
| 113 | 3.2 | 1.5 | Postprocessed Code | 5/30/2018 | 12:06:10pm | 17.932 | 1.7 | 1.6 | 3362946.334 | 415120.147 | Wetland Flag | 21.46 |
| 114 | 3.1 | 1.9 | Postprocessed Code | 5/30/2018 | 12:06:37pm | 17.389 | 0.7 | 0.6 | 3362936.624 | 415139.29 | Wetland Flag | 10.84 |
| 96 | 3.6 | 1.9 | Postprocessed Code | 5/30/2018 | 11:59:12am | 12.4 | 0.7 | 0.5 | 3362937.399 | 415150.107 | Wetland Flag | |
| Wetland 1/Upland 42 | | | | | | | | | | | | |
| 1 | 1.8 | 1 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:11:52pm | 11.998 | 0.1 | 1.00E-01 | 3363112.272 | 415174.493 | Wetland Flag | 12.08 |
| 2 | 4.5 | 2.1 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:12:20pm | 11.898 | 0.1 | 0.1 | 3363110.713 | 415162.51 | Wetland Flag | 14.37 |
| 3 | 5 | 2.7 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:12:48pm | 11.836 | 0.1 | 1.00E-01 | 3363096.343 | 415162.861 | Wetland Flag | 9.80 |
| 4 | 2.5 | 1.2 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:13:11pm | 11.879 | 0.1 | 0.1 | 3363089.05 | 415169.408 | Wetland Flag | 17.55 |
| 5 | 4.9 | 3.1 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:13:42pm | 11.834 | 0.1 | 0.1 | 3363071.577 | 415167.718 | Wetland Flag | 14.72 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 4.2 | 2.1 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:14:11pm | 11.82 | 0.1 | 0.1 | 3363057.481 | 415163.463 | Wetland Flag | 18.44 |
| 7 | 2.4 | 1.1 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:15:04pm | 11.796 | 0.1 | 0.1 | 3363039.628 | 415168.115 | Wetland Flag | 14.68 |
| 8 | 2.4 | 1.1 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:15:33pm | 11.76 | 0.1 | 0.1 | 3363054.278 | 415169.067 | Wetland Flag | 24.62 |
| 9 | 4.4 | 2.2 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:16:07pm | 11.696 | 0.1 | 0.1 | 3363078.488 | 415173.548 | Wetland Flag | 5.22 |
| 10 | 3.3 | 1.8 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:16:26pm | 11.686 | 0.1 | 0.1 | 3363080.596 | 415178.33 | Wetland Flag | 5.41 |
| 11 | 3.3 | 1.8 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:16:48pm | 11.646 | 0.1 | 0.1 | 3363084.944 | 415181.551 | Wetland Flag | 5.38 |
| 12 | 2.6 | 1.2 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:17:10pm | 11.658 | 0.1 | 1.00E-01 | 3363090.234 | 415182.551 | Wetland Flag | 10.95 |
| 13 | 2.6 | 1.4 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:17:35pm | 11.969 | 0.1 | 0.1 | 3363100.721 | 415179.391 | Wetland Flag | 5.91 |
| 14 | 6 | 3.1 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:18:08pm | 11.726 | 0.1 | 0.1 | 3363104.056 | 415184.275 | Wetland Flag | 6.10 |
| 15 | 3.4 | 1.8 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:18:28pm | 11.753 | 0.1 | 0.1 | 3363110.065 | 415185.346 | Wetland Flag | 11.07 |
| 1 | 1.8 | 1 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:11:52pm | 11.998 | 0.1 | 1.00E-01 | 3363112.272 | 415174.493 | Wetland Flag | |
| Wetland 1/Upland 43 | | | | | | | | | | | | |
| 124 | 4.2 | 2.1 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:16:53pm | 11.977 | 0.1 | 0.1 | 3363142.352 | 415198.716 | Wetland Flag | 24.93 |
| 125 | 2.4 | 1.2 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:17:20pm | 11.96 | 0.1 | 0.1 | 3363117.478 | 415200.444 | Wetland Flag | 27.72 |
| 126 | 2.4 | 1.2 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:17:49pm | 12.006 | 0.1 | 0.1 | 3363089.845 | 415202.653 | Wetland Flag | 5.49 |
| 127 | 2.6 | 1.3 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:18:25pm | 12.057 | 0.1 | 0.1 | 3363087.454 | 415207.597 | Wetland Flag | 25.35 |
| 128 | 2.3 | 1.1 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:18:48pm | 12.094 | 0.1 | 0.1 | 3363112.813 | 415207.569 | Wetland Flag | 30.71 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 129 | 2.3 | 1.1 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:19:19pm | 12.034 | 0.1 | 0.1 | 3363143.389 | 415204.678 | Wetland Flag | 6.05 |
| 124 | 4.2 | 2.1 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 12:16:53pm | 11.977 | 0.1 | 0.1 | 3363142.352 | 415198.716 | Wetland Flag | |
| Wetland 1/Upland 44 | | | | | | | | | | | | |
| 1 | 4.4 | 2.6 | L1L2 Postprocessed Carrier Float | 7/6/2018 | 01:19:07pm | 13.483 | 0.3 | 0.1 | 3364258.852 | 415328.803 | Wetland Flag | 9.17 |
| 2 | 3.4 | 1.8 | Postprocessed Code | 7/6/2018 | 01:19:37pm | 13.325 | 0.2 | 0.1 | 3364259.182 | 415337.974 | Wetland Flag | 7.60 |
| 3 | 3.8 | 1.6 | Postprocessed Code | 7/6/2018 | 01:19:55pm | 14.606 | 0.7 | 0.2 | 3364262.762 | 415344.687 | Wetland Flag | 9.56 |
| 4 | 2.9 | 2 | Postprocessed Code | 7/6/2018 | 01:20:15pm | 15.56 | 1.1 | 0.7 | 3364272.315 | 415345.144 | Wetland Flag | 10.25 |
| 5 | 3.8 | 1.6 | L1L2 Postprocessed Carrier Float | 7/6/2018 | 01:20:55pm | 12.9 | 0.7 | 0.3 | 3364278.92 | 415337.296 | Wetland Flag | 5.74 |
| 6 | 3.8 | 1.6 | Postprocessed Code | 7/6/2018 | 01:21:11pm | 14.233 | 1.3 | 0.6 | 3364277.005 | 415331.882 | Wetland Flag | |
| Wetland 1/Upland 45 | | | | | | | | | | | | |
| 20 | 5.4 | 2.3 | Postprocessed Code | 7/6/2018 | 02:06:57pm | 11.547 | 4.5 | 4 | 3363377.631 | 415766.058 | Wetland Flag | 21.14 |
| 21 | 5.2 | 2.1 | Postprocessed Code | 7/6/2018 | 02:07:36pm | 23.56 | 1.6 | 1.1 | 3363378.679 | 415787.18 | Wetland Flag | 31.76 |
| 22 | 3 | 1.2 | Postprocessed Code | 7/6/2018 | 02:08:29pm | 14.993 | 1.8 | 1.3 | 3363399.604 | 415811.085 | Wetland Flag | 16.18 |
| 23 | 4.1 | 2.2 | Postprocessed Code | 7/6/2018 | 02:09:11pm | 16.605 | 1 | 0.7 | 3363403.134 | 415826.884 | Wetland Flag | 27.18 |
| 36 | 10.2 | 5.1 | Postprocessed Code | 7/6/2018 | 02:25:20pm | 22.774 | 1.8 | 1.6 | 3363414.534 | 415851.568 | Wetland Flag | 15.30 |
| 37 | 4.3 | 2.2 | Postprocessed Code | 7/6/2018 | 02:27:56pm | 20.537 | 1.6 | 1.3 | 3363420.071 | 415865.835 | Wetland Flag | 14.18 |
| 38 | 2.7 | 1.3 | Postprocessed Code | 7/6/2018 | 02:29:49pm | 16.407 | 1.4 | 1.1 | 3363421.873 | 415879.904 | Wetland Flag | 14.05 |
| 39 | 9.9 | 4.8 | Postprocessed Code | 7/6/2018 | 02:30:22pm | 17.38 | 0.7 | 0.6 | 3363435.917 | 415880.472 | Wetland Flag | 27.39 |
| 40 | 4.3 | 2.2 | Postprocessed Code | 7/6/2018 | 02:31:26pm | 15.737 | 0.7 | 0.6 | 3363454.911 | 415860.73 | Wetland Flag | 13.76 |
| 41 | 3.4 | 2 | Postprocessed Code | 7/6/2018 | 02:31:52pm | 17.442 | 1.4 | 1 | 3363441.881 | 415856.276 | Wetland Flag | 19.62 |
| 42 | 2.9 | 1.6 | Postprocessed Code | 7/6/2018 | 02:32:38pm | 17.211 | 0.9 | 0.7 | 3363437.114 | 415837.242 | Wetland Flag | 27.22 |
| 43 | 3.3 | 1.9 | Postprocessed Code | 7/6/2018 | 02:34:02pm | 18.831 | 0.6 | 0.5 | 3363453.087 | 415815.194 | Wetland Flag | 8.63 |
| 44 | 3.3 | 1.9 | Postprocessed Code | 7/6/2018 | 02:34:55pm | 16.22 | 1 | 0.9 | 3363451.39 | 415806.733 | Wetland Flag | 11.21 |
| 45 | 4.4 | 2.2 | Postprocessed Code | 7/6/2018 | 02:35:32pm | 17.512 | 1.2 | 1 | 3363440.477 | 415804.151 | Wetland Flag | 20.27 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 46 | 2.7 | 1.4 | Postprocessed Code | 7/6/2018 | 02:36:42pm | 16.647 | 7.2 | 6.2 | 3363422.106 | 415812.717 | Wetland Flag | 12.61 |
| 47 | 3 | 1.6 | Postprocessed Code | 7/6/2018 | 02:37:23pm | 16.665 | 0.6 | 0.5 | 3363427.114 | 415801.143 | Wetland Flag | 33.26 |
| 48 | 3.3 | 1.9 | Postprocessed Code | 7/6/2018 | 02:39:05pm | 17.748 | 0.6 | 0.5 | 3363417.17 | 415769.401 | Wetland Flag | 40.71 |
| 49 | 3 | 1.5 | Postprocessed Code | 7/6/2018 | 02:40:08pm | 14.137 | 0.8 | 0.7 | 3363409.065 | 415729.5 | Wetland Flag | 14.74 |
| 50 | 3.1 | 1.6 | Postprocessed Code | 7/6/2018 | 02:40:37pm | 4.599 | 1.4 | 1 | 3363394.441 | 415731.402 | Wetland Flag | 23.44 |
| 51 | 4.8 | 2.5 | Postprocessed Code | 7/6/2018 | 02:41:23pm | 12.569 | 2.3 | 1.5 | 3363377.136 | 415747.214 | Wetland Flag | 18.85 |
| 20 | 5.4 | 2.3 | Postprocessed Code | 7/6/2018 | 02:06:57pm | 11.547 | 4.5 | 4 | 3363377.631 | 415766.058 | Wetland Flag | |
| Wetland 1/Upland 46 | | | | | | | | | | | | |
| 24 | 2.4 | 1.2 | Postprocessed Code | 7/6/2018 | 02:11:03pm | 12.663 | 0.5 | 0.4 | 3363356.331 | 415784.049 | Wetland Flag | 15.01 |
| 25 | 4.6 | 3 | Postprocessed Code | 7/6/2018 | 02:11:33pm | 13.971 | 1.1 | 1 | 3363362.105 | 415770.187 | Wetland Flag | 15.78 |
| 26 | 5.6 | 2.3 | Postprocessed Code | 7/6/2018 | 02:12:39pm | 18.747 | 1.4 | 1.3 | 3363352.885 | 415757.375 | Wetland Flag | 15.63 |
| 27 | 2.9 | 1.4 | Postprocessed Code | 7/6/2018 | 02:13:21pm | 17.361 | 2.4 | 1.9 | 3363352.206 | 415741.753 | Wetland Flag | 13.72 |
| 28 | 4.4 | 2.9 | Postprocessed Code | 7/6/2018 | 02:13:52pm | 20.515 | 2.2 | 1.9 | 3363349.382 | 415728.323 | Wetland Flag | 18.06 |
| 29 | 2.5 | 1.2 | Postprocessed Code | 7/6/2018 | 02:14:27pm | 14.966 | 0.5 | 0.4 | 3363335.625 | 415716.614 | Wetland Flag | 8.80 |
| 30 | 2.9 | 1.5 | Postprocessed Code | 7/6/2018 | 02:15:00pm | 15.045 | 1.1 | 0.9 | 3363326.853 | 415717.391 | Wetland Flag | 16.51 |
| 31 | 3.8 | 1.4 | Postprocessed Code | 7/6/2018 | 02:15:41pm | 10.707 | 1 | 0.8 | 3363314.287 | 415728.101 | Wetland Flag | 14.22 |
| 32 | 3.9 | 2.1 | Postprocessed Code | 7/6/2018 | 02:16:33pm | 13.437 | 0.8 | 0.7 | 3363309.308 | 415741.427 | Wetland Flag | 13.28 |
| 33 | 6.1 | 2.5 | Postprocessed Code | 7/6/2018 | 02:17:25pm | 16.992 | 0.6 | 0.5 | 3363316.26 | 415752.746 | Wetland Flag | 18.07 |
| 34 | 2.6 | 1.5 | Postprocessed Code | 7/6/2018 | 02:18:19pm | 16.436 | 0.6 | 0.5 | 3363328.232 | 415766.284 | Wetland Flag | 21.21 |
| 35 | 2.7 | 1.5 | Postprocessed Code | 7/6/2018 | 02:20:15pm | 16.269 | 1.4 | 1.1 | 3363335.6 | 415786.178 | Wetland Flag | 20.83 |
| 24 | 2.4 | 1.2 | Postprocessed Code | 7/6/2018 | 02:11:03pm | 12.663 | 0.5 | 0.4 | 3363356.331 | 415784.049 | Wetland Flag | |
| Wetland 1/Upland 47 | | | | | | | | | | | | |
| 52 | 3.3 | 2 | Postprocessed Code | 7/6/2018 | 02:46:26pm | 20.129 | 1.3 | 1 | 3363215.292 | 415878.124 | Wetland Flag | 11.49 |
| 53 | 5 | 2.5 | Postprocessed Code | 7/6/2018 | 02:46:52pm | 13.431 | 2.2 | 1.7 | 3363204.449 | 415874.294 | Wetland Flag | 5.97 |
| 54 | 3.3 | 2 | Postprocessed Code | 7/6/2018 | 02:47:10pm | 12.923 | 1.1 | 1 | 3363200.179 | 415878.47 | Wetland Flag | 7.61 |
| 55 | 3.3 | 1.5 | Postprocessed Code | 7/6/2018 | 02:47:29pm | 12.782 | 0.8 | 0.5 | 3363205.105 | 415884.275 | Wetland Flag | 5.59 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 56 | 5.1 | 2.6 | Postprocessed Code | 7/6/2018 | 02:47:46pm | 6.144 | 2.1 | 1.2 | 3363200.204 | 415886.976 | Wetland Flag | 12.19 |
| 57 | 4.8 | 2.4 | Postprocessed Code | 7/6/2018 | 02:48:05pm | 12.732 | 0.9 | 0.8 | 3363196.865 | 415898.702 | Wetland Flag | 7.31 |
| 58 | 3.3 | 2 | Postprocessed Code | 7/6/2018 | 02:48:40pm | 21.927 | 2.5 | 2 | 3363194.463 | 415905.616 | Wetland Flag | 19.45 |
| 59 | 3.3 | 2 | Postprocessed Code | 7/6/2018 | 02:49:14pm | 20.743 | 1.9 | 1.3 | 3363213.909 | 415905.037 | Wetland Flag | 6.28 |
| 60 | 3.4 | 1.5 | Postprocessed Code | 7/6/2018 | 02:49:31pm | 22.475 | 1.6 | 1.1 | 3363215.62 | 415898.987 | Wetland Flag | 13.32 |
| 61 | 3.3 | 1.5 | Postprocessed Code | 7/6/2018 | 02:49:54pm | 19.571 | 0.7 | 0.6 | 3363228.791 | 415896.993 | Wetland Flag | 7.86 |
| 62 | 2.9 | 1.3 | Postprocessed Code | 7/6/2018 | 02:50:22pm | 12.585 | 1.1 | 0.9 | 3363232.724 | 415890.178 | Wetland Flag | 21.19 |
| 52 | 3.3 | 2 | Postprocessed Code | 7/6/2018 | 02:46:26pm | 20.129 | 1.3 | 1 | 3363215.292 | 415878.124 | Wetland Flag | |
| Wetland 1/Upland 48 | | | | | | | | | | | | |
| 63 | 4.3 | 1.7 | Postprocessed Code | 7/6/2018 | 02:52:04pm | 12.51 | 1.6 | 0.9 | 3363132.888 | 415857.794 | Wetland Flag | 10.31 |
| 64 | 3.5 | 1.5 | Postprocessed Code | 7/6/2018 | 02:52:23pm | 17.467 | 0.6 | 0.5 | 3363125.539 | 415865.037 | Wetland Flag | 23.38 |
| 65 | 7.1 | 3 | Postprocessed Code | 7/6/2018 | 02:53:10pm | 25.803 | 5.3 | 4 | 3363104.162 | 415874.526 | Wetland Flag | 14.88 |
| 66 | 3.4 | 2.1 | Postprocessed Code | 7/6/2018 | 02:53:40pm | 18.414 | 2.9 | 2.1 | 3363089.662 | 415877.9 | Wetland Flag | 20.53 |
| 67 | 3.4 | 2.1 | Postprocessed Code | 7/6/2018 | 02:54:28pm | 14.142 | 0.7 | 0.5 | 3363070.688 | 415870.049 | Wetland Flag | 26.35 |
| 68 | 3.4 | 2.1 | Postprocessed Code | 7/6/2018 | 02:55:02pm | 17.068 | 0.9 | 0.7 | 3363046.823 | 415858.87 | Wetland Flag | 15.79 |
| 69 | 4.1 | 2.1 | Postprocessed Code | 7/6/2018 | 02:57:44pm | 24.511 | 3.1 | 2.2 | 3363043.267 | 415874.262 | Wetland Flag | 13.06 |
| 70 | 4.3 | 1.7 | Postprocessed Code | 7/6/2018 | 02:58:08pm | 11.323 | 1.8 | 0.9 | 3363047.492 | 415886.627 | Wetland Flag | 11.47 |
| 71 | 5.3 | 2.7 | Postprocessed Code | 7/6/2018 | 02:58:29pm | 20.803 | 2.4 | 1.2 | 3363056.787 | 415893.363 | Wetland Flag | 103.37 |
| 72 | 5.4 | 2.7 | Postprocessed Code | 7/6/2018 | 02:59:55pm | 22.39 | 0.9 | 0.6 | 3363159.832 | 415901.605 | Wetland Flag | 24.74 |
| 73 | 4.4 | 1.7 | Postprocessed Code | 7/6/2018 | 03:00:24pm | 16.374 | 0.9 | 0.7 | 3363156.952 | 415877.024 | Wetland Flag | 30.80 |
| 63 | 4.3 | 1.7 | Postprocessed Code | 7/6/2018 | 02:52:04pm | 12.51 | 1.6 | 0.9 | 3363132.888 | 415857.794 | Wetland Flag | |
| Wetland 1/Upland 49 | | | | | | | | | | | | |
| 7 | 3.1 | 1.7 | Postprocessed Code | 7/6/2018 | 01:51:38pm | 13.235 | 0.8 | 0.6 | 3363983.714 | 415289.575 | Wetland Flag | 13.53 |
| 8 | 4.4 | 1.7 | Postprocessed Code | 7/6/2018 | 01:52:27pm | 12.865 | 0.5 | 0.3 | 3363981.328 | 415302.903 | Wetland Flag | 6.19 |
| 9 | 4.4 | 1.7 | Postprocessed Code | 7/6/2018 | 01:52:48pm | 13.999 | 0.7 | 0.5 | 3363975.946 | 415305.976 | Wetland Flag | 18.76 |
| 10 | 2.9 | 1.3 | Postprocessed Code | 7/6/2018 | 01:53:27pm | 12.907 | 0.5 | 0.4 | 3363957.739 | 415301.444 | Wetland Flag | 23.81 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | 2.9 | 1.3 | Postprocessed Code | 7/6/2018 | 01:54:52pm | 15.178 | 0.7 | 0.5 | 3363938.573 | 415287.312 | Wetland Flag | 44.25 |
| 12 | 4 | 2.3 | Postprocessed Code | 7/6/2018 | 01:55:34pm | 14.208 | 0.6 | 0.5 | 3363898.026 | 415305.036 | Wetland Flag | 41.01 |
| 13 | 2.9 | 1.9 | Postprocessed Code | 7/6/2018 | 01:56:32pm | 14.717 | 0.5 | 0.4 | 3363857.785 | 415312.963 | Wetland Flag | 80.01 |
| 14 | 4.8 | 2.1 | L1L2 Postprocessed Carrier Float | 7/6/2018 | 01:57:23pm | 12.82 | 0.6 | 0.3 | 3363778.576 | 415324.316 | Wetland Flag | 41.61 |
| 15 | 4.8 | 2.1 | L1L2 Postprocessed Carrier Float | 7/6/2018 | 01:58:17pm | 12.694 | 0.3 | 0.2 | 3363738.961 | 415311.563 | Wetland Flag | 41.12 |
| 16 | 4.1 | 2.3 | L1L2 Postprocessed Carrier Float | 7/6/2018 | 01:59:01pm | 12.655 | 0.4 | 0.3 | 3363700.135 | 415298.017 | Wetland Flag | 39.25 |
| 17 | 4.9 | 2.1 | L1L2 Postprocessed Carrier Float | 7/6/2018 | 01:59:27pm | 12.681 | 0.2 | 0.1 | 3363660.884 | 415298.224 | Wetland Flag | 34.74 |
| 18 | 2.4 | 1.3 | L1L2 Postprocessed Carrier Float | 7/6/2018 | 01:59:57pm | 12.621 | 0.1 | 0.1 | 3363653.746 | 415264.219 | Wetland Flag | 26.70 |
| 19 | 4.9 | 2.1 | Postprocessed Code | 7/6/2018 | 02:00:28pm | 13.991 | 1.5 | 1.2 | 3363646.295 | 415238.571 | Wetland Flag | |

## GPS Table for Fixed Points

| Feature Name | Max PDOP | Max HDOP | Correction Type | Date | Time | Height (Feet) | Vertical Precision | Horizontal Precision | Northing NAD 1983 UTM Z15 N, meters | Easting NAD 1983 UTM Z15 N, meters | Type |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SP0-1 | 2.8 | 2.1 | L1L2 Postprocessed Carrier Float | 4/11/2018 | 02:08:01pm | 13.121 | 0.2 | 0.1 | 3363821.738 | 415286.982 | Soil Pit |
| SP0-2 | 2.3 | 1.5 | Postprocessed Code | 4/11/2018 | 01:55:27pm | 17.481 | 0.5 | 0.4 | 3364507.653 | 415383.384 | Soil Pit |
| SP1-1 | 1.9 | 0.8 | Postprocessed Code | 4/12/2018 | 08:36:32am | 11.979 | 0.1 | 0.1 | 3362983.327 | 415373.464 | Soil Pit |
| SP1-2 | 2.9 | 1.2 | L1 Postprocessed Carrier Float | 4/12/2018 | 08:03:34am | 13.635 | 0.3 | 0.4 | 3363170.513 | 415393.875 | Soil Pit |
| SP1-3 | 2.6 | 1.4 | Postprocessed Code | 4/11/2018 | 02:40:30pm | 25.755 | 4.1 | 2.4 | 3363689.275 | 415444.607 | Soil Pit |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SP1-4 | 2.9 | 1.8 | Postprocessed Code | 4/11/2018 | 01:01:43pm | 13.416 | 0.4 | 0.5 | 3364119.404 | 415502.685 | Soil Pit |
| SP1-5 | 4.6 | 1.9 | Postprocessed Code | 4/11/2018 | 01:06:46pm | 13.448 | 0.5 | 0.2 | 3364295.119 | 415523.341 | Soil Pit |
| SP1-6 | 6.6 | 2.5 | Postprocessed Code | 4/11/2018 | 01:39:17pm | 11.422 | 2.2 | 0.7 | 3364403.789 | 415532.124 | Soil Pit |
| SP2-1 | 4.1 | 2.2 | Postprocessed Code | 4/12/2018 | 11:55:22am | 12.755 | 0.3 | 0.2 | 3363157.47 | 415748.511 | Soil Pit |
| SP2-2 | 3 | 1.6 | Postprocessed Code | 4/12/2018 | 12:16:37pm | 16.051 | 0.7 | 0.6 | 3363339.767 | 415762.054 | Soil Pit |
| SP2-2.5 | 4.2 | 1.7 | Postprocessed Code | 4/12/2018 | 12:57:38pm | 19.947 | 2.1 | 1.3 | 3363479.47 | 415752.018 | Soil Pit |
| SP2-3 | 3.7 | 1.8 | Postprocessed Code | 4/12/2018 | 01:33:34pm | 14.331 | 1.8 | 0.8 | 3363658.817 | 415785.985 | Soil Pit |
| SP2-4 | 3 | 1.6 | L1L2 Postprocessed Carrier Float | 4/11/2018 | 12:32:37pm | 13.496 | 0.4 | 0.2 | 3364108.038 | 415820.733 | Soil Pit |
| SP2-5 | 3.4 | 1.7 | Postprocessed Code | 4/11/2018 | 10:33:31am | 14.623 | 0.5 | 0.3 | 3364347.855 | 415827.976 | Soil Pit |
| SP3-1 | 3.5 | 1.5 | L1L2 Postprocessed Carrier Float | 4/11/2018 | 10:24:34am | 13.254 | 0.1 | 0.1 | 3364286.82 | 415945.964 | Soil Pit |
| SP3-2 | 3 | 1.4 | Postprocessed Code | 4/12/2018 | 09:35:50am | 19.206 | 1.3 | 0.7 | 3362895.685 | 415848.154 | Soil Pit |
| SP4-1 | 3.1 | 1.7 | Postprocessed Code | 4/11/2018 | 11:48:29am | 19.969 | 0.6 | 0.5 | 3364431.946 | 415709.071 | Soil Pit |
| SP5-1 | 2.3 | 1.1 | Postprocessed Code | 5/30/2018 | 10:36:02am | 12.267 | 0.5 | 0.3 | 3363033.473 | 414850.237 | Soil Pit |
| SP6-1 | 2.2 | 1 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:13:13am | 12.544 | 0.1 | 0.1 | 3363119.208 | 414923.899 | Soil Pit |
| SP6-2 | 2.1 | 1.2 | L1L2 Postprocessed Carrier Float | 5/30/2018 | 11:29:07am | 12.289 | 0.1 | 0.1 | 3362994.02 | 414982.536 | Soil Pit |

# Appendix G
# USACE iHGM Baseline Verification

**DEPARTMENT OF THE ARMY**
**U.S. ARMY CORPS OF ENGINEERS, GALVESTON DISTRICT**
**2000 FORT POINT RD**
**GALVESTON, TEXAS 77550**

November 15, 2023

Compliance Branch

SUBJECT: **SWG-2018-00425** – Delta Land Services, LLC; Functional Assessment for an Approximate 283-Acre Site of the Proposed East Buna Mitigation Bank Located Approximately 2,870 Feet East of the County Road 3114 and 3116 Intersection in Buna, Newton County, Texas

Mr. Chad Butler
Delta Land Services, LLC
1090 Cinclare Drive
Port Allen, Louisiana 70767

Dear Mr. Butler:

This is in response to the January 15, 2018, request for the baseline hydrogeomorphic (HGM) functional assessment for an approximate 283-acre site of the proposed East Buna Mitigation Bank. The subject site is located approximately 2,870 feet east of the county road 3114 and 3116 intersection in Buna, Newton County, Texas (map enclosed).

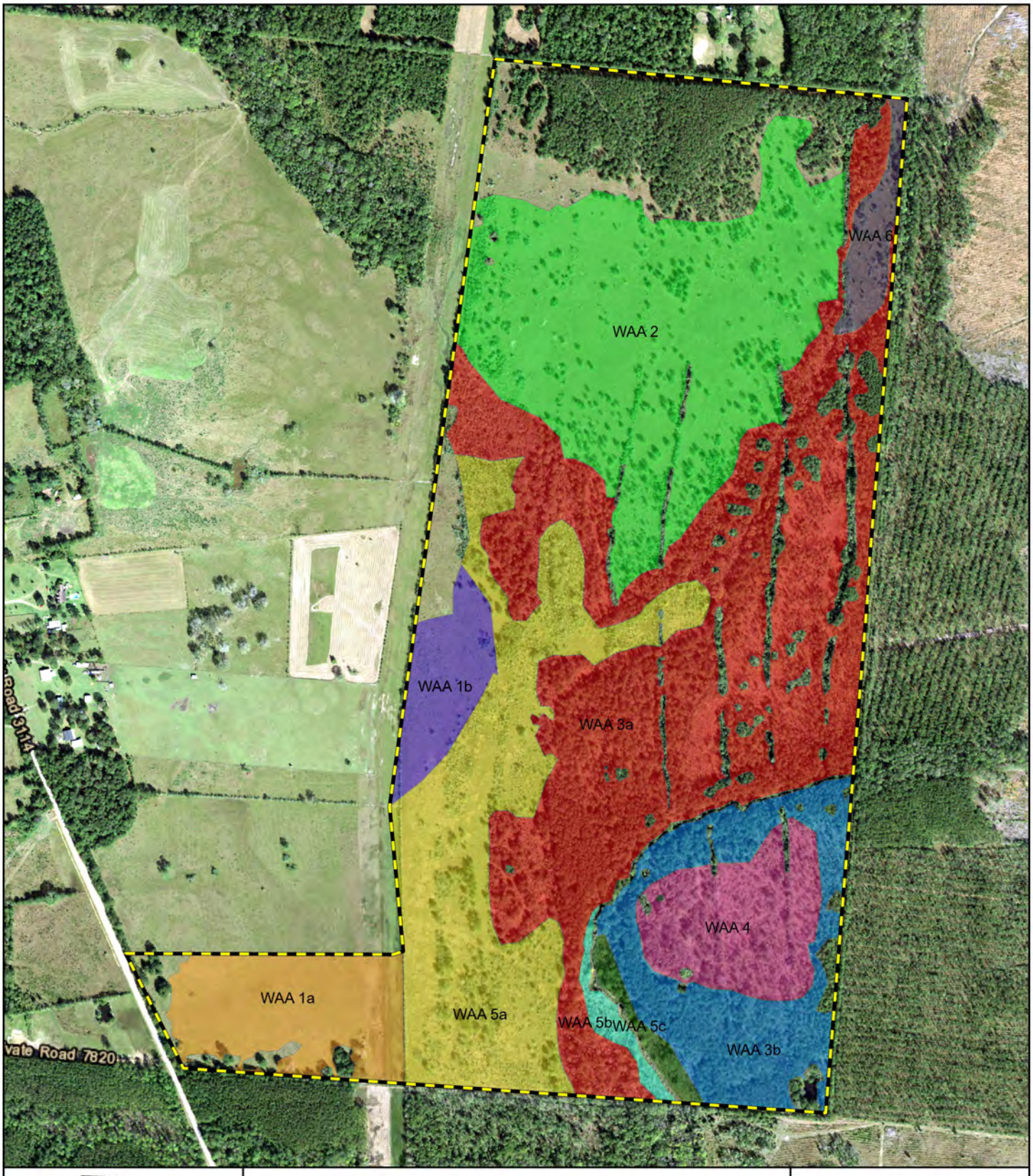
The October 24, 2022, approved jurisdictional determination (AJD) confirmed the subject site contains waters of the United States (U.S.), specifically we determined the approximate 283-acre subject site contains two (2) wetlands comprising approximately 238.8 acres (Wetland 1 – 202.9 ac, Wetland 2 – 35.3 ac), and one (1) approximate 2,745-foot-long tributary, Hollis Marsh. The site was divided into ten (10) wetland assessment areas (WAAs) as depicted in the attached map. The WAAs are separated by wetland characteristics and hydrogeomorphic setting. Using the previously verified wetland delineation and data, combined with other pertinent site-specific information, each WAA was measured for its potential functional capacity as it relates to Lake Creek using the Galveston District forested riverine interim Hydrogeomorphic (iHGM) wetland function model. Each WAA is scored independently based on a number of functional variables, and a functional capacity index (FCI) is determined based on model equations each for Temporary Storage and Detention of Storage Water (TSDSW – physical), Maintain Plant and Animal Community (MPAC – biological), and Removal and Sequestration of Elements and Compounds (RSEC – chemical) functions. The FCI score is multiplied by the acreage of each WAA to determine the overall physical, biological, and chemical functional capacity units (FCUs). Based on the final verification review, the total riverine forested iHGM FCUs for the approximate 238.8 wetland acres on the subject 283-acre site is: 118.549 TSDSW FCUs, 91.927 MPAC FCUs, and 122.798 RSEC FCUs as shown in the attached table.

This iHGM verification remains valid for the confirmed jurisdictional wetlands on this tract and is based on the conditions existing at the time the model and delineation verification was completed. If you have any questions, contact me at the letterhead address or by telephone at 409-766-3016 and reference file number **SWG-2018-00425**. To assist us in improving our service to you, please complete the survey found at: https://regulatory.ops.usace.army.mil/customer-service-survey/ and/or, if you would prefer a hard copy of the survey form, please let us know, and one will be mailed to you.

Sincerely,

Kevin Mannie
Project Manager, Policy Analysis Branch

Enclosures




**SWG-2018-00425**
**East Buna Mitigation Bank**
**Approximate 283-Acre Site**
**Buna, Newton County, Texas**
**iHGM WAA Map**

N

0 500 1,000 Feet

0 0.13 0.25 Km

Coordinate System: NAD 1983 UTM Zone 15N

November 15, 2023

| WAA | 1a | 1b | 1 | 2 | 2 | 3a | 3b | 3 | 4 | 4 | 5a | 5b | 5c | 5 | 6 | 6 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Class | Forested | Forested | Delta Submitted | Forested | Delta Submitted | Forested | Forested | Delta Submitted | Forested | Delta Submitted | Forested | Forested | Forested | Delta Submitted | Forested | Delta Submitted | | |
| Vdur (Forested, Herbaceous/Shrub) | 0.75 | 0.75 | 0.25 | 0.25 | 0.75 | 0.50 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 1.00 | 0.10 | 1.00 | | |
| Vfreq (Forested, Herbaceous/Shrub) | 0.50 | 1.00 | 0.50 | 0.50 | 1.00 | 0.50 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 1.00 | 0.10 | 1.00 | | |
| Vtopo (Forested, Herbaceous/Shrub) | 0.40 | 0.40 | 0.10 | 1.00 | 0.10 | 1.00 | 0.70 | 0.10 | 0.10 | 0.10 | 0.70 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | | |
| Vcwd (Forested) | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | | |
| Vwood (Forested, Herbaceous/Shrub) | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.75 | 0.75 | 0.75 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.25 | 0.10 | 0.10 | | |
| Vtree (Forested) | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.50 | 0.50 | 0.50 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | | |
| Vrich (Forested) | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 | | |
| Vbasal (Forested) | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 | | |
| Vdensity (Forested) | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 1.00 | 1.00 | 1.00 | 0.40 | 0.40 | 0.40 | 0.60 | 0.40 | 0.60 | 0.40 | 0.40 | | |
| Vmid (Forested, Herbaceous/Shrub) | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.75 | 0.75 | 0.75 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.25 | 0.25 | | |
| Vherb (Forested, Herbaceous/Shrub) | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | | |
| Vdetritus (Forested, Herbaceous/Shrub) | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 1.00 | 1.00 | 1.00 | 1.00 | 0.50 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | |
| Vredox (Forested, Herbaceous/Shrub) | 0.10 | 0.10 | 0.10 | 1.00 | 1.00 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | | |
| Vsorpt (Forested, Herbaceous/Shrub) | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 1.00 | 1.00 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | | |
| Vconnect (Forested, Herbaceous/Shrub) | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.50 | 0.75 | 0.50 | 1.00 | 1.00 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | | |
| Acres | 15.110 | 7.650 | 22.400 | 55.990 | 53.000 | 78.890 | 19.960 | 98.700 | 13.550 | 13.300 | 39.620 | 1.910 | 1.980 | 46.100 | 4.090 | 5.300 | | |
| Temporary Storage and Detention of Storage Water (Physical) FCI | 0.350 | 0.416 | 0.188 | 0.376 | 0.294 | 0.585 | 0.661 | 0.536 | 0.403 | 0.403 | 0.559 | 0.403 | 0.403 | 0.465 | 0.129 | 0.408 | | |
| Maintain Plant and Animal Community (Biological) FCI | 0.208 | 0.208 | 0.208 | 0.208 | 0.208 | 0.488 | 0.529 | 0.488 | 0.467 | 0.467 | 0.425 | 0.442 | 0.425 | 0.442 | 0.404 | 0.404 | | |
| Removal and Sequestration of Elements and Compounds (Chemical) FCI | 0.383 | 0.483 | 0.263 | 0.383 | 0.523 | 0.593 | 0.707 | 0.667 | 0.500 | 0.467 | 0.540 | 0.500 | 0.500 | 0.600 | 0.200 | 0.560 | **Corps Total** | **Delta Total** |
| **Physical FCU (FCI*Acres)** | **5.288** | **3.184** | **4.212** | **21.056** | **15.597** | **46.113** | **13.202** | **52.922** | **5.462** | **5.361** | **22.148** | **0.770** | **0.798** | **21.458** | **0.528** | **2.164** | **118.549** | **101.714** |
| **Biological FCU (FCI*Acres)** | **3.148** | **1.594** | **4.667** | **11.665** | **11.042** | **38.459** | **10.562** | **48.116** | **6.323** | **6.207** | **16.839** | **0.844** | **0.842** | **20.361** | **1.653** | **2.142** | **91.927** | **92.534** |
| **Chemical FCU (FCI*Acres)** | **5.792** | **3.698** | **5.899** | **21.463** | **27.737** | **46.808** | **14.105** | **65.800** | **6.775** | **6.207** | **21.395** | **0.955** | **0.990** | **27.660** | **0.818** | **2.968** | **122.798** | **136.270** |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | **Total FCUs** | **333.275** | **330.519** |

# Appendix H
# TCEQ Water Rights Review

| | |
|---|---|
| **From:** | Trent Gay |
| **To:** | Chad Butler |
| **Cc:** | Humberto Galvan; Chris Kozlowski; Andrew Garcia |
| **Subject:** | Re: Hollis Marsh Mitigation Bank Water Rights Review |
| **Date:** | Monday, November 13, 2023 2:55:52 PM |
| **Attachments:** | image001.png<br>image002.png<br>image003.png<br>image004.png<br>image005.png<br>Outlook-5xh02iip.png |

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Mr. Butler,

Based on the information provided, the Hollis Marsh Mitigation Bank does not appear to require a water rights permit. This determination is based on TCEQ's desktop methodology and review of the detailed project specifics. Any modifications to the project specifics could alter this determination.

If you have any questions concerning this matter, please contact Chris Kozlowski, the TCEQ Water Rights Permitting Team Leader, at (512) 239-1801.

Thank you,

Trent Gay, Team Leader
Surface Water Availability Team
Water Availability Division
Texas Commission on Environmental Quality
512.239.1825

<!--[if !vml]-->

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**From:** Chad Butler <chad@deltaland-services.com>
**Sent:** Monday, November 6, 2023 10:13
**To:** Trent Gay <Trent.Gay@tceq.texas.gov>
**Subject:** Hollis Marsh Mitigation Bank Water Rights Review

Good Morning Trent,

We have one more Project for review. This project is straightforward, primarily consisting of vegetation management and some removal of spoil caused by historic timber operations. There is no in-channel stream work, and all work will occur outside stream top-of-bank. Attached is the information describing the activities and bank.

Let me know if you have any questions.

Thanks,

**Chad Butler**
Delta Land Services
Vice President of Texas Operations
3129 Kingsley, Suite 820
Pearland, TX 77584
CELL: (713) 397-7313
OFFICE: (281) 899-5596
deltaland-services.com

# Appendix I

# TLC Conservation Easement Commitment Letter

TEXAS LAND CONSERVANCY
*Protecting the Nature of Texas.*

Chad Butler
Delta Land Services, LLC
Texas Regulatory Manager
6750 West Loop South, Suite 780
Bellaire, TX 77401

November 2, 2023

Re: Letter of Intent for Holding a Conservation Easement

Dear Mr. Butler,

Thank you for the opportunity to collaborate on being a partner on the Hollis Marsh Mitigation Bank (USACE permit number is **SWG-2018-00452**). This proposed project is an excellent opportunity to establish a conservation area that will benefit future generations of Texans. Please accept this non-binding Letter of Intent by the Texas Land Conservancy ("TLC") to work toward placing a conservation easement on this property, being approximately 282.4 acres of land in Newton County, Texas (the "Property"), subject to the approval of TLC's Board of Directors.

The required due diligence for this project would be as follows:

1. **Baseline Documentation Report:** Grantor to obtain a qualified baseline documentation report at its cost.
2. **Survey:** Grantor to obtain a current survey at its cost, which will be used to determine the total acreage and legal description of the Property.
3. **Title Policy:** Grantor to pay for the Title Policy premium.
4. **Title Review & Property Inspection:** Adequate time shall be permitted for title review and inspection of the property.
5. **Approval:** The completion of the conservation easement is subject to approval of TLC's Board of Directors.

This is a Letter of Intent and is not a binding agreement. This Letter of Intent represents the good faith intention of TLC to work towards the execution of a perpetual conservation easement in conjunction with the creation of the Hollis Marsh Mitigation Bank.

Thank you for your consideration, and please do not hesitate to contact me if you have any questions.

Sincerely,

Mark Steinbach
Executive Director