JOINT PUBLIC NOTICE

August 21, 2014

DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT
CORPS OF ENGINEERS
REGULATORY FUNCTIONS BRANCH
P.O. BOX 60267
NEW ORLEANS, LA 70160

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COE REVIEWER:
Jacqueline Farabee

STATE OF LOUISIANA
DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF ENVIRONMENTAL SERVICES
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BATON ROUGE, LA 70821-4313

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DEQ REVIEWER:
E. Johnson

STATE OF LOUISIANA
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF COASTAL MANAGEMENT
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OCM REVIEWER:
Jim Holcombe

COE NUMBER:
MVN- 2014- 1888

WQC NUMBER:
140812- 01

CUP NUMBER:
P20141035

NAME: **DELTA LAND SERVICES, LLC**
c/o DELTA LAND SERVICES, LLC
1090 CINCLARE DR.
PORT ALLEN, LA 70757
Attn: Lee Walters

LOCATION: **Cameron Parish, LA;** Lat 30º 1' 57.25" / Long 93º 9' 46.66"; Section 2,3,10 and 11, T12S-R8W; Section 26,27,34, and 35 T11S-R8W; 28 miles southeast of Lake Charles, LA on LaBove Road; HUC 08080206

DESCRIPTION: Deposition of approximately 115,116 cubic yards of in situ earthen material to fill 34,535 linear feet of artificial drains and return 3,450 linear feet of other waters to natural grade, to restore natural drainage on site. All fill material will be obtained from spoil banks on site. All proposed work will be done for the purpose of establishing the South Fork Coastal Mitigation Bank. The work would consist of the following types of restoration: re-establishment and rehabilitation for coastal prairie, bottomland hardwoods and fresh/ intermediate marsh habitats; including 510.6 acres of coastal prairie, 43.4 acres of bottomland hardwoods, and 57.1 acres of fresh/intermediate marsh below the 5¿ contour within the Louisiana Coastal Zone. Dredgjng of 13.9 acres of non-wet spoil material and filling of 8.6 acres of drainage canal bottoms in the Louisiana Coastal Zone.

NOTICE the Louisiana Department of Natural Resources, Office of Coastal Management (OCM) has received the above application for a Coastal Use Permit (CUP) in accordance with the State and Local Coastal Resources Management Act of 1978, as amended, (Louisiana R.S. 49:214.21-214.41), and the rules and regulations of the Coastal Resources Program. Applications for the proposed work may be inspected at 617 North 3rd Street, Room 1078, Baton Rouge, LA or on the OCM web page at: http://dnr.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=591. Copies may be obtained upon payment of cost of copying. Written comments, including suggestions for modifications or objections to the proposed work and stating the reasons thereof, are being solicited from the public. Comments must be received within 25 days of the date of publication of this notice. Comments should be uploaded to our electronic record, but may be mailed, faxed or emailed to the designated OCM Reviewer. All comments must contain the appropriate application number and the commenter's full name and contact information.

Application also has been made to the Louisiana Department of Environmental Quality, Office of Environmental Services for a Water Quality Certification in accordance with La. R.S. 30.2074(A)(93), and Section 401 of the Clean Water Act (P.L. 95-217). Additional information is on file with the above office, and may be inspected at any time between 8:00 a.m. and 4:30 p.m. weekdays. Copies may be obtained upon payment of cost of copying. Comments concerning the application can be filed with the Office of Environmental Services within 20 days of this notice to the following address: Office of Environmental Services, P. O. Box 4313, Baton Rouge, LA 70821-4313.

The public comment period for Coastal Use Permit and Water Quality Certification applications begins on the date of publication of notice in the official journal (The Advocate), in accordance with LAC 43:I. 723(C)(5)(c). OCM will provide this date on request.

The comment period for the Department of the Army Permit and the Louisiana Department of Environmental Quality WQC will close **30 days** from the date of this joint public notice. Written comments, including suggestions for modifications or objections to the proposed work, stating reasons thereof, are being solicited from anyone having interest in this permit and/or this WQC request and must be mailed so as to be received before or by the last day of the comment period. Letters concerning the Corps of Engineers permit application must reference the applicant's name and the Permit Application Number, and be mailed to the Corps of Engineers at the address above, **ATTENTION: REGULATORY BRANCH**. **Similar letters concerning the Water Quality Certification must reference the applicant's name and the WQC Application number and be mailed to the Louisiana Department of Environmental Quality at the address above.**

The application for this proposed project is on file with the Louisiana Department of Environmental Quality and may be examined during weekdays between 8:00 a.m. and 4:30 p.m. Copies may be obtained upon payment of costs of reproduction.

Corps of Engineers Permit Criteria

The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people.

The U.S. Army Corps of Engineers is soliciting comments from the public, federal, state, and local agencies and officials, Indian Tribes, and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the U.S. Army Corps of Engineers to determine whether to make, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

The New Orleans District is unaware of properties listed on the National Register of Historic Places near the proposed work. The possibility exists that the proposed work may damage or destroy presently unknown archeological, scientific, prehistorical, historical sites, or data. Issuance of this public notice solicits input from the State Archeologist and State Historic Preservation Officer regarding potential impacts to cultural resources.

Our initial finding is that the proposed work would neither affect any species listed as endangered by the U.S. Departments of Interior or Commerce, nor affect any habitat designated as critical to the survival and recovery of any endangered species.

This notice initiates the Essential Fish Habitat (EFH) consultation requirements of the Magnuson-Stevens Fishery Conservation and Management Act. The applicant's proposal would result in the destruction or alteration of **N/A** acre of EFH utilized by various life stages of red drum and penaeid shrimp. Our initial determination is that the proposed action would not have a substantial adverse impact on EFH or federally managed fisheries in the Gulf of Mexico. Our final determination relative to project impacts and the need for mitigation measures is subject to review by and coordination with the National Marine Fisheries Service.

If the proposed work involves deposits of dredged or fill material into navigable waters, the evaluation of the probable impacts will include the application of guidelines established by the Administrator of the Environmental Protection Agency. Also, a certification that the proposed activity will not violate water quality standards will be required from the Department of Environmental Quality, before a permit is issued.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing.

The applicant has certified that the proposed activity described in the application complies with and will be conducted in a manner that is consistent with the Louisiana Coastal Resources Program. The Department of the Army permit will not be issued unless the applicant received approval or a waiver of the Coastal Use Permit by the Department of Natural Resources.

You are requested to communicate the information contained in this notice to any other parties whom you deem likely to have interest in the matter.

South Fork

Coastal Mitigation Bank

Mitigation Bank Prospectus
in Cameron and Calcasieu Parishes,
Louisiana

Sponsored by
Delta Land Services, LLC

July 18, 2014

Restore & Revitalize

Prospectus for the Proposed South Fork Coastal Mitigation Bank

Cameron and Calcasieu Parishes, Louisiana

July 18, 2014

Sponsor:
Delta Land Services, LLC
1090 Cinclare Drive
Port Allen, Louisiana 70767

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1.0 INTRODUCTION

Delta Land Services, LLC (DLS) prepared this prospectus in accordance with 33 CFR § 332.8(d)(2)[1] to establish and operate the proposed South Fork Coastal Mitigation Bank (SFCMB or Bank). The 1,609.4-acre SFCMB will provide compensatory mitigation for unavoidable, permitted impacts to "Waters of the United States[1]." Additionally, the SFCMB may provide compensatory mitigation for unavoidable impacts to coastal wetland resources under the Louisiana Coastal Resources Program (LCRP)[2] per the provisions of LAC 43:724 and RS 49:214.22 (8)[3]. The SFCMB is located in Calcasieu and Cameron Parishes approximately 18 miles north of the Gulf of Mexico and partially lies within the Louisiana Coastal Zone Boundary[4] and the Coastal Conservation Plan Boundary[5] (Attachment A: Figure 1).

1.1 Site Location

The SFCMB is located in the Gulf Coast Prairies (150A) Major Land Resource Area (MLRA) within the Atlantic and Gulf Coast Lowland Forest and Crop Region (LRR T) (NRCS 2006). The Gulf Coast Prairie MLRA is north of the Gulf Coast Marsh MLRA (151) and south of the Western Gulf Coast Flatwoods MLRA (152B), which is a major migration corridor for Nearctic-Neotropical birds (Barrow et al. 2005). With regard to the Ecoregions of Louisiana, the SFCMB is located in the Northern Humid Gulf Coastal Prairies Level IV Ecoregion (34a) within the Western Gulf Coastal Plain Level III Ecoregion (34) (Daigle et. al 2006). The SFCMB is located in the Lower Calcasieu watershed as defined by the US Geological Survey (USGS) 8-digit Hydrologic Unit Code (HUC) 08080206.

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[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.

[1] 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 wasters, and non-tidal waters), which are further described in 33 CFR § 328.4 (a), (b), and (c).

[2] The Office of Coastal Management (OCM) of the Louisiana Department of Natural Resources (LDNR) is the agency responsible for implementing the LCRP under the authority of the Louisiana State and Local Coastal Resources Management Act of 1978, as amended (Act 361, La. R.S. 49:214.21 et seq).

[3] RS 49:214.22 (8) was added by Act 548 of the 2006 Louisiana Legislative Session to "support sustainable development in the coastal zone that accounts for potential impacts from hurricanes and other natural disasters and avoids environmental degradation resulting from damage to infrastructure caused by natural disasters".

[4] The Louisiana Coastal Zone Boundary is the regulatory boundary utilized by the Permits/Mitigation Division of the Louisiana Department of Natural Resources for implementing the Louisiana Coastal Resources Program (LCRP) for regulating development activities and managing the resources of the Coastal Zone through the Coastal Use Permit Program (CUP) (http://dnr.louisiana.gov/).

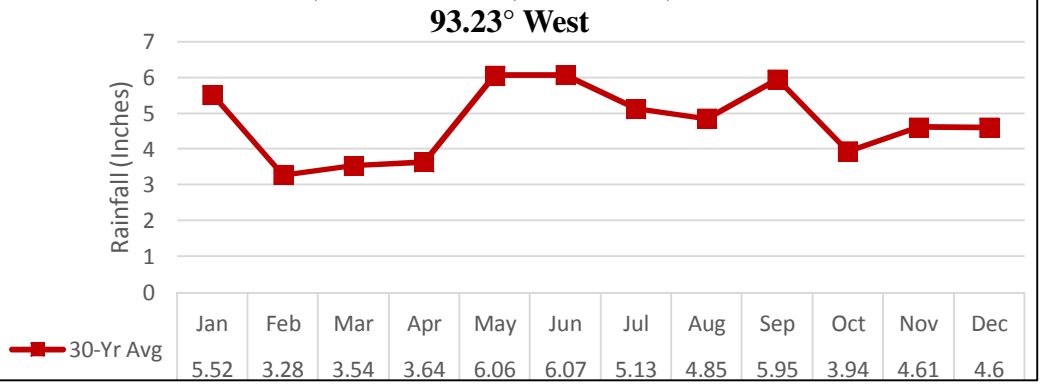
[5] The Coastal Conservation Plan Boundary is the planning boundary for the 2012 Coastal Master Plan for project development and implementation for sustaining coastal Louisiana's waterways, natural resources, culture, and wetlands (http://www.coastalmasterplan.louisiana.gov/)

The majority of the site is located within the Louisiana Coastal Zone Boundary and partially within the Louisiana Coastal Wetlands Conservation Plan (LCWCP)[6] Boundary (Attachment A: Figure 1). According to Light Detection and Ranging Data (LIDAR), the site ranges from above +8 feet to -1 feet with a majority of the site being below the five-foot contour (Attachment A: Figures 2 and 3)[7].

The SFCMB is approximately 15 miles south-southeast of Lake Charles in Calcasieu and Cameron Parishes, Louisiana in Sections 2, 3, 10, and 11 of Township 12 South, Range 8 West and Sections 26, 27, 34, and 35 of Township 11 South, Range 8 West. The site can be found on the USGS 7.5-minute quadrangle "Lake Charles SW, Louisiana" (Attachment A: Figure 4). The approximate center of the project is located at Latitude 30.032569° North and Longitude 93.16296° West.[8]

Both Calcasieu and Cameron parishes have a warm, relatively humid, subtropical climate. The 30-year average annual precipitation for both parishes is approximately 52 inches (Soil Conservation Service 1988 and 1995). The 30-year average annual rainfall collected at the Lake Charles Municipal Airport (Airport) is approximately 57.2 inches (Southern Regional Climate Center 2014 [Chart 1]), which is approximately six miles north-northwest of the SFCMB. The approximate growing seasons in Calcasieu Parish and Cameron Parish are approximately 259 days and 275 days[9], respectively. The elevation of Calcasieu Parish ranges from zero to 95 feet mean sea level (MSL), and the elevation of Cameron Parish ranges from sea level to 20 feet above sea level (MSL).

Chart 1. 30-year Average Rainfall, Southern Regional Climate Center, Lake Charles, Louisiana, 30.12° North and 93.23° West



[6] The LCWCP program was enacted under the federal Coastal Wetlands Planning, Protection, and Restoration Act (Public Law 101-646, Title III-CWPPRA) by agreement with the Federal resource agencies. The goal and requirement of the Plan is to achieve no net loss of wetland value in the coastal areas of Louisiana as a result of development activities.

[7] All elevations are purported using North American Vertical Datum of 1988 (NAVD)

[8] The aforementioned and all subsequent geographic coordinates are based on the North American Datum of 1983 (NAD83).

[9] The growing season is based on an ambient low temperature of > 28° F for 2 out of every 10 years.

1.2 Ownership and Sponsorship

South Fork Holdings, LLC (South Fork or Owner) will be the owner the Bank. A portion of the Bank site is owned by South Fork and the remainder is currently under contract for acquisition by South Fork. DLS is the managing entity of South Fork and will serve as the Sponsor. DLS will oversee construction and establishment of the Bank and will serve as the long-term manager and steward but may appoint a long-term steward if such appointment is approved by the U.S. Army Corps of Engineers (USACE) New Orleans District (CEMVN). The anticipated long-term management will consist of monitoring, invasive species control, controlled burning, boundary maintenance, and forest management. The site will be protected by a perpetual conservation servitude, which is described in Section 6.4.

1.3 Driving Directions to the Site

From the intersection of Interstate 210 and Louisiana Highway (LA Hwy) 385 in Lake Charles, proceed south on LA 385 for 8.8 miles. Turn left onto LA Hwy 384 and travel 4.3 miles. Turn left on LaBove Rd, travel 0.3 miles into the site.

2.0 PROJECT GOALS AND OBJECTIVES

The goal of the SFCMB is the restoration[10] (i.e., re-establishment[11] and rehabilitation[12]) of coastal prairie meadow wetlands (CP), fresh-intermediate marsh (FIM) wetlands and bottomland hardwood gallery forest (BLH) (Attachment A: Table 1), within the Government Ditch-South Fork Black Bayou Watershed (HUC 080802060203) of the Lower Calcasieu Watershed (HUC 08080206). The restoration of CP, FIM, and BLH wetlands will provide additional wetland functions[13] and values not currently realized under the existing conditions and land use (e.g., flood storage, outdoor experiences, Nearctic-Neotropical birds and other aquatic fauna habitat). Current land uses are crop and livestock production which includes improved pastures, range land, cultivated crop land and man-made drainage (Attachment A: Table 1). Localized and downstream water quality will improve by removing livestock and increasing surface-water retention time.

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[10] Restoration is defined in 33 CFR §332.2 as the *manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.*

[11] Re-establishment is defined in 33 CFR § 332.2 as *the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.*

[12] Rehabilitate is defined in 33 CFR § 332.2 as *the manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.*

[13] Wetland function is defined in 33 CFR § 332 *as the physical (i.e., water storage [USGS 1997]), chemical (i.e., nutrient transformation [USGS 1997]), and biological processes (i.e., organic matter production [USGS 1997]) that occur in ecosystems.*

Wildlife habitat will improve for resident biota and Nearctic-Neotropical migrating bird species (e.g., staging, resting, feeding, escape cover, etc.) through afforestation[14] with native wetland trees and shrubs or re-establishment with wet prairie herbaceous species. Specifically, the project objectives are to restore and protect the physical, chemical, and biological functions of a BLH, CP and FIM wetland ecosystem as follows:

- re-establish historic and self-sustaining surface hydrology to restore natural drainage patterns by backfilling artificial drainages and subsoiling to reduce soil compaction and increase surface water infiltration;
- rehabilitate 429.2 acres of CP by removing the existing invasive pasture community and restore a CP ecosystem dominated by native herbaceous species to improve plant diversity and wildlife habitat;
- re-establish 648.6 acres of CP within non-wetland pasture habitat and restore a prairie ecosystem dominated by native herbaceous species to improve plant diversity and wildlife habitat;
- re-establish 30.1 acres of FIM within non-wetland pasture habitat and restore FIM habitat dominated by native herbaceous species to improve plant diversity and wildlife habitat
- rehabilitate 27.0 acres of tidal FIM through hydrology restoration, Chinese tallow (*Triadica sebifera*) abatement, and prescribed fire to restore a FIM habitat dominated by native herbaceous species to improve plant diversity and wildlife habitat;
- re-establish 200.7 acres of native BLH within non-wetland pastures through afforestation of native tree and shrub species to improve plant diversity and wildlife habitat;
- rehabilitate 234.9 acres of native BLH within wetland pastures through afforestation of native tree and shrub species to improve plant diversity and wildlife habitat;
- ensure long-term viability and sustainability by implementing specific management strategies such as:
    - active and adaptive management,
    - establishment of financial assurances and long-term maintenance funds (i.e., construction, establishment, and long-term escrow accounts),
    - initial, intermediate, and long-term monitoring,
    - initial, intermediate, and long-term maintenance,
    - initial, intermediate, and long-term invasive species control, and

[14] The SAF (2011) defines afforestation (afforest) as *"the establishment of a forest or stand in an area where the preceding vegetation or land use was not forest whereas reforestation is the re-establishment of forest cover either naturally (by natural seeding, coppice, or root suckers) or artificially (by direct seeding or planting) —note reforestation usually maintains the same forest type and is done promptly after the previous stand or forest was removed —synonym regeneration"*.

  - controlled burning in CP and FIM areas.
- provide long-term land use protection through the execution of a perpetual-term conservation servitude and to insure sufficient long-term funds are available to cover annual expenditures associated with maintenance and management of the SFCMB.

3.0 ECOLOGICAL SUITABILITY OF THE SITE

3.1 Historical Ecological Characteristics of the Site

The SFCMB lies within the Great Southwest Prairies region. This vast region of Louisiana was historically dominated by grasses, graminoids (e.g., grasslike, sedges and rushes), and forbs (e.g., broadleafs, composites, legumes) species. Gallery forests and marshes were integrated with the prairie, which separated the prairies into geographically separate units and subunits (coves) with unique names. Specifically, the SFCMB falls within a unit identified on historic cartographic works as the "Calcasieu Prairie" (Louisiana Natural Heritage Program [LNHP] 2009; Allen 2006, Newton 1972). Based on a review of historical aerial photographs, the site was a wetland with mima mound[15] topography that was land-leveled for rice (*Oryza sativa*)[16] cultivation and production (Attachment A: Figures 5 through 12).

3.2 Current Ecological Characteristics of the Site

3.2.1 Soils

Soils mapped within the project area are listed as Judice silty clay loam (Ju); Ged mucky clay (GB); Leton silt loam (Lt); Morey loam (Mr); and Mowata-Vidrine silt loam (Mt) (Natural Resource Conservation Service [NRCS] 2014[1,2]) (Attachment A: Figure 13). The Judice series consists of very deep, poorly drained, very slowly permeable soils in broad, slightly depressional areas. The Ged series consists of very poorly drained lands. Ged series is also a hydric soil typically found in freshwater marshes that border the Gulf Coast Prairies and are frequently flooded and ponded most of the time. The Leton series is a hydric soil that consists of poorly drained, slowly permeable soils formed in loamy alluvium on large flats and along drainage ways of the Gulf Coast Prairies. The Morey series is a non-hydric soil, poorly drained, and located on broad flats. The Mowata-Vidrine association is listed as a partially hydric soil, whereas the Mowata soils are inter-mound soils and Vidrine soils are mound soils of the mima mound complex common in Southwest Louisiana and Gulf Coastal Plain formations. The Mowata

[15] Mima mounds (mounds) are a typical, circular to elliptical landforms observed in southwest Louisiana. The mounds range from 10 feet to more than 100 feet in diameter and 2 feet in height. The geologic origin of the mounds is unknown although differential erosion wind and water action from marine influence is a plausible theory. The colloquial term for the mounds is "pimple mounds".

[16] The aforementioned and all scientific plant names in this report are from Lichvar (2013) and USDA Plants Database (NRCS 2014).

series consists of very deep, poorly drained and very slowly permeable soils, which are nearly level and slopes range from 0 to 1%. Vidrine soils consist of very deep, moderately well-drained to somewhat poorly drained, and slowly permeable, which are narrow to broad mounds with slopes ranging from 0-3%.

3.2.2 Vegetation

The SFCMB consists of a combination of pastures, agriculture fields, freshwater marsh, and forested/scrub wetlands (Attachment A: Figure 14). Vegetation in the pasture areas is managed to support production of livestock. Prior-converted pastures were comprised of dominant species such as yellow nut sedge (*Cyperus esculentus*), Bermuda grass (*Cynodon dactylon*), jointed flat sedge (*Cyperus articulatus*), and marsh flatsedge (*Cyperus pseudovegetus*). The agriculture fields are currently in crop production with rice being the predominant crop. The forested/scrub wetlands on site were dominated by Chinese tallow, eastern baccharis (*Baccharis halimifolia*), wax myrtle (*Morella cerifera*), and Macartney rose (*Rosa bracteata*). Vegetation found in freshwater marshes consists of common rush (*Juncus effusus*), giant cutgrass (*Zizaniopsis miliacea*), marshhay cordgrass (*Spartina patens*), and sedges (*Carex* spp. and *Cyperus* spp.).

3.2.3 Hydrology

Project hydrology is influenced by localized rainfall, hardpan[17] development, and remnant depressional areas of the historic mima mound topography. Mowata-Vidrine soils have been described as "run-on" soils due to their concave nature, meaning these soils are a source for hydrological runoff from nearby soils, which are more convex in nature[18]. Given this hydrological influence, "marais" (little marshes) and "platins" (ponds) were associated with the prairie ecosystem on this soil type and were similar to freshwater marshes. Natural hydrology is altered by agricultural drainage improvements and soil surface compaction. The agriculture drainage improvements prevent surface hydrological influences from the adjacent marshes and drainage canals. The overall drainage pattern is from the northeast to the southwest into South Fork Black Bayou and subsequently into Calcasieu Lake.

3.2.4 Jurisdictional Wetland Status

The following Preliminary Jurisdictional Determinations (PJD) are have been issued for the entire acreage described within this prospectus (Attachment B).

[17] Pan as defined by the SCS (1988) is a compact dense layer in a soil that impedes the movement of water and the growth of roots (i.e., hardpan, fragipan, claypan, plowpan, and traffic pan).
[18] Based on notes from Dr. Malcolm Vidrine in personal communication with Mr. Orville Touchet, former Louisiana State Soil Scientist in January 1999 and described in Vidrine 2010.

- On August 13, 2013, the CEMVN issued a PJD (MVN-2013-01755-SC) on a 640.8-acre tract of land located in Sections 3, 10 and 11, Township 12 South, Range 8 West, Cameron Parish, Louisiana.
- On October 21, 2013, the CEMVN issued a PJD (MVN-2013-02069-SR) on a 733-acre tract located in Sections 3 and 10, Township 12 South, Range 8 West, Calcasieu Parish, Louisiana.
- On July 14, 2014, the CWMVN issued a PJD (MVN-2014-00766-SR) on 980.6 acres located in Sections 34 and 35, Township 11 South, Range 8 West, Calcasieu Parish, Louisiana.

3.3 General Need for the Project in this Area

The primary factors for the general need of the SFCMB are listed below:

- the SFCMB will reduce runoff and improve the quality of water flowing into the Calcasieu River Estuary within the Louisiana Coastal Zone Boundary;
- the SFCMB has documented presence of wetland indicators (i.e., hydric soils, hydrology, and hydrophytic vegetation);
- historic aerial photography indicates the potential of a historic coastal prairie landscape with mima mound topography prior to agricultural conversion; and
- the restoration of BLH gallery forest, CP wetland, and tidal FIM habitat within this watershed will benefit native invertebrate and invertebrate biota, and migrating Nearctic-Neotropical migrants.

The SFCMB is within 18 miles of the Gulf of Mexico coastline, is undeveloped, and is strategically located in an area important to Nearctic-neotropical migrants. Within an 18-mile radius of the SFCMB, approximately 58% of the landscape provides little natural habitat for migrant bird staging or fallout shelter (i.e., agricultural [24.9%], open water [13.1%] and developed land [10.5%]). The remaining 42% is very important to migrant birds and is comprised of 24.7% emergent herbaceous wetlands (coastal marsh), 13.3% deciduous/woody wetlands, 9.4% evergreen forest, and 4.2% scrub-shrub (Attachment A: Figure 15). In addition, within one mile surrounding the SFCMB, 88.2% of the land use is either hay, pasture, cultivated crops or agro-forestry (e.g. eucalyptus plantations for pulp production). Approximately 7.5% is woody wetlands, emergent wetlands, herbaceous, open water, barren land, scrub-shrub or mixed forest. The remaining 4.3% is developed (Attachment A: Figure 16).

Below the SFCMB, in the southern half of the 18-mile radius, is the most strategic, migration zone for Nearctic-Neotropicals. Whether staging to migrate south or recovering (fallout shelter) from the trans-Gulf migration, only 1.5% of this area provides forested-shrub habitat for migrating birds. It is estimated that 80,000 birds per mile of migration front arrive on the Louisiana coastline each day during peak spring migration, which places a tremendous strain on available food sources.

In terms of species diversity, more than half of the 160 species of North American Nearctic-Neotropicals migrate through the Louisiana Cheniers (Barrow and Fontenot 2006). Both the number of migrating birds and species diversity adds considerable value for the restoration and long-term management of the project area as BLH-shrub ecosystem (Barrow et al. 2005).

The restored CP, FIM, and BLH communities will reduce surface runoff and increase soil infiltration (Richardson et al. 2001). Organic matter deposition will increase, soil bulk density will decrease, hydraulic conductivity will increase, soil saturation potential will increase, and the formation of redoximorphic features will be enhanced (Collins and Kuehl 2001). Soil organic carbon is critical to soil reduction and the formation of low chroma colors will increase as soil organic material increases from the deposition of leaf litter, coarse woody debris, and decaying root material (Collins and Kuehl 2001). Borsari and Shirley (1993) revealed noticeable increase to soil organic matter at the Cajun Prairie Restoration Project three years after restoration began.

3.3.1 Coastal Prairie Ecological Value

It is estimated that as much as 2.5 million acres of coastal prairie existed in Louisiana at the time of early European settlement (USGS 2000). Much of this habitat has been converted to pasture or agriculture. With this conversion and fire abatement, less than 100 acres of remnant prairie exists and coastal prairie is listed as critically imperiled (S1[19]) and vulnerable to extirpation within the state of Louisiana (LNHP 2009). Remnant coastal prairie acreage is limited to narrow strips of land adjacent to railroad ROWs, which have been undisturbed by agriculture, but subject to frequent burning by the railroads to keep the tracks clear of debris (Allain et al. 2000, LNHP 2009, Vidrine 2010). Today, restoration efforts have primarily been catered toward smaller projects such as the 10-acre Cajun Prairie Restoration Project in Eunice, Louisiana or to small home gardens. However, the United States Fish and Wildlife Service (USFWS) implemented the Duralde Prairie, a 345-acre coastal prairie restoration project located in Evangeline Parish, Louisiana. Although these efforts are important, Vidrine (2010) noted that restoration must occur on larger tracts to insure sufficient habitat for beneficial insects and pollinators.

Restoration at the SFCMB will result in 1,077.8 acres of restored coastal prairie wetlands that will provide habitat for migrating Nearctic-Neotropical migrants. In particular, six (6) priority bird species will benefit from establishing the ecotone between the prairie ROW and BLH wetlands (Vermillion et al. 2008). The list consists of the Northern bobwhite (*Colinus virginianus*), loggerhead shrike (*Lanius ludovicianus*), Le Conte's sparrow (*Ammodramus leconteii*), seaside sparrow (*Ammodramus maritimus*), Cerulean warbler (*Dendroica cerulea*), golden-winged warbler (*Vermivora chrysoptera*), and Swainson's warblers (*Limnothlypis*

[19] The LNHP (2009) has designated coastal prairie as S1 given five (5) or fewer extant populations are known or environmental and anthropogenic factors make this habitat especially vulnerable to extirpation.

swainsonii). The integration of forested-shrub and coastal prairie habitat will benefit other migratory species such as gray catbird (*Dumetella carolinensis*), indigo bunting (*Passerina cyanea*), ruby-throated hummingbird (*Archilochus colubris*), and hooded warbler (*Setophaga citrina*) and resident bird species such as the yellow-breasted chat (*Icteria virens*), painted bunting (*Passerina ciris*), orchard oriole (*Icterus spurius*) and eastern towhee (*Pipilo erythrophthalmus*)[20]. The coastal prairie is the wintering ground for the whooping-crane (*Grus americana*), a federally-listed endangered species (Allain et al. 2000).

Coastal prairie restoration will enhance the forage resources for nectar feeding and pollinating species. Allain (2007) catalogued 650 species of coastal prairie plants along with their conservation ranking. More than 100 species of skippers and butterflies are found in the Louisiana Prairies (Allain et al. 2000). One particular plant species, rattlesnake master (*Eryngium yuccifolium*) provides foraging resources for over 200 invertebrate species (Coastal Prairie Partnership 2009). Furthermore, nectarivorous, prey species (e.g., Order Diptera [flies]) provide forage for as many as 100 species of dragonfly (Order Odonata) (Allain et al. 2000). Vidrine (2010) listed over 400 invertebrates and 275 species of vertebrates known to inhabit the Cajun Prairie. The diversity of insects in these habitats provides increased pollinating opportunity as well as food sources for various wildlife species.

3.3.2 Tidal Fresh-intermediate Marsh Ecological Value

Prior to the settlement of south Louisiana, the estimated acreage of fresh marsh ranged from one (1) million to two (2) million acres and fresh-intermediate marsh ranged from 100,000 to 500,000 acres (LNHP 2009). Since settlement and agricultural expansion, the acreage of fresh water marsh has been reduced by 25% to 50% and fresh-intermediate marsh has been reduced by 50% to 75%. In this region of Cameron Parish, tidal fresh-intermediate marsh is a transitional habitat between the coastal prairie and brackish tidal marshes. Due to proximity and attachment of the tidal FIM to the Calcasieu estuary, it will serve as habitat for species that often range into tidal freshwater marshes during their life cycle or utilize detritus originating from upstream freshwater sources. Examples of these species are brown shrimp (*Farfantepenaeus aztecus)*, blue crab (*Callinectes sapidus*), the killifish family [Cyprinodontidae], gulf menhaden (*Brevoortia patronus*), striped mullet (*Mugil cephalus*), southern flounder (*Paralichthys lethostigma*), and red drum (*Sciaenops ocellatus*) (USFWS 1984, USFWS 1992, Louisiana State University AgCenter 2013[1,2]). The freshwater marsh combined with the coastal prairie restoration provides habitat for numerous waterfowl, wading birds, Nearctic-Neotropical songbirds, and pollinating insects. Allain et al. (2000) purport that these areas harbor more red-tailed hawks (*Buteo*

[20] Personal communication between Dr. Billy DeLany of Delta Land Services and Mr. Mike Baldwin and Dr. Wylie Barrow of the USGS National Wetland Research Center, via electronic mail dated October 30, 2012

jamaicensis), northern harriers (*Circus cyaneus*) and white-faced ibis (*Plegadis chichi*) than any other ecological region in the United States.

Fresh-intermediate marshes are preferred habitat for residential, non-migratory whooping cranes. The fresh-intermediate marshes of southwest Louisiana were once home to large numbers of non-migratory whooping cranes. However, throughout the first half of the 20th century, this species began to decline and by 1947, only one (1) whooping crane remained at White Lake. In 1950, it was captured and relocated to the Aransas National Wildlife Refuge in Texas. In 2011, an effort began to re-establish a Non-Essential Experimental (NEP) population of resident whooping cranes to southwest Louisiana. The goal of this effort is to establish a flock of 130 individuals and 30 nesting pairs which can survive for 10 years without restocking.

To meet this goal, a cohort of 10 juvenile birds was released on February 16, 2011, at the White Lake Wetlands Conservation Areas (WLWCA) in Vermilion Parish approximately 40 to 45 miles east of the SFCMB. This was followed by the reintroduction of a cohort of 16 juveniles on December 27, 2011; a cohort of 14 juveniles on December 19, 2012; and a cohort of 10 juveniles on January 2, 2014. Of these cohorts released, 30 birds have survived to near maturity with 6 forming 3 bonded pairs with one pair producing a pair of eggs in 2014. The restoration of freshwater marsh will cumulatively work in conjunction with other restoration efforts, such as the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA) to protect and restore coastal marshes to insure the viability and sustainability of whooping crane population (LDWF 2013[1]). The mosaic of habitats restored by the SFCMB will provide a wide variety of habitats that have been observed being utilized by the released whooping cranes. King and Perkins (2013) purported that whooping cranes have been observed utilizing forested and shrub areas which had been previously undocumented. The management of the CP and FIM sections of the SFCMB as a wet area with controlled burns could potentially provide foraging habitat as whooping cranes have been known to target areas that are flooded or burned in search of acorns, snails, insects, rodents and other items (LDWF 2013[2], U.S. Department of Interior National Biological Service [USDOI NBS] 1996).

3.3.3 Bottomland Hardwood Gallery Forest Ecological Value

The restoration of 435.6 acres of BLH gallery forest wetland habitat will benefit native wildlife, nesting bird species, and migrating Neoarctic-Neotropical birds (Barrow et al. 2005, NRCS 2005, Vermillion et al. 2008). Gautreaux (1975) and Barrow et al. (2005) define coastal forests as wooded communities within approximately 62 miles of the Gulf Coast. In addition, Barrow et al. (2005) delineated the coastline of Cameron Parish as Consistent Abundant[21] habitat in the Northwest Region of the Gulf of Mexico. In the Northwest Region, several

[21] Consistent Abundant as defined by Barrow et al. (2005) *is an area used by large numbers of Nearctic-Neotropical migrants each year and season.*

species of facultative wetland forest and shrub species are forest components between the Mississippi River and Colorado Rivers (Barrow et al. 2005). These forest and shrub species provide foraging cover (e.g., twig buds, flowering parts, hard mast, and soft mast), resting cover (e.g., understory, mid-story and evergreen canopies), and escape cover from predators (e.g., raptors and mammals). Furthermore, many of the forest-shrub species listed by Barrow et al. (2005) are recognized species used for restoring bottomland hardwood wetlands and other wetland habitats (Allen et al. 2001, LNHP 2009). LNHP (2009) purported that baygalls likely occurred in the coastal prairie system. Baygalls are typically shrub-dominated or mature swamps having evergreen shrubs comprising the midstory and understory strata (LNHP 2009). Vidrine (2010) noted that the restoration of gallery forests within the prairie ecosystem may be required in prairie restoration efforts in order to create sustainable ecosystems. Fearn (1995) concluded that tree species such as those in the genus *Pinus*, *Quercus*, and *Taxodium* have been components of the prairie ecosystem based on pollen, phytolith, charcoal and diatom studies conducted within the coastal prairie region.

From 1952 to 1974, human development in the Chenier Plain decreased the coastal forests by 17 percent and these coastal forests occupied only 6 percent of the total area (Gosselink et al. 1979). Grazing of Chenier Plain forests alters the forest structure and species composition (Barrow et al. 2000). Overall, Barrow et al. (2000) found that most *en route* forest-dwelling migrants tolerated some degradation of the Chenier Plain forests; however, select groups (e.g., early migrants, dead-leaf foragers, frugivores, and nectarivores) used grazed forests significantly less than undisturbed forests. The re-established forest-shrub wetland of the SFCMB will provide diverse foraging opportunities for Nearctic-Neotropical migrants during the winter and spring migration. The increase in forested acreage would play an important role in the strategy of establishing and protecting corridors from the coast to inland areas. Corridor conservation and restoration is identified as a strategy to facilitate wildlife and plant migration in response to transitions anticipated with predicted climate change (National Fish, Wildlife and Plants Climate Adaptation Strategy Management Team [*Strategy*] 2012).

For the Nearctic-Neotropical spring migration from the Cameron Parish Gulf Coast to the forests of the Calcasieu Watershed, forest-shrub cover is scattered and dominated by Chinese tallow. The SFCMB is excellently positioned along this migratory corridor to provide several cover types (e.g., resting, escape, protective) and forages (e.g., seasonally available insects, soft mast and hard mast). Barrow et al. 2005 identified several habitat variables when selecting and planning a location for creating Nearctic-Neotropical migrant cover which are considered in the restoration strategy of the SFCMB which are listed below:

- identifying sites within 15.5 miles to 62.1 miles from the Gulf coastline;
- staging areas while waiting for favorable migration weather;

- giving consideration to the existing landscape mosaic when selecting a site to decrease the distance between forested-shrub cover;
- emphasizing habitat structure and complexity of plant community design;
- controlling invasive exotic species;
- considering diverse dietary needs (e.g., insectivorous [insects], frugivorous [fruits], nectarivorous [flowers] or omnivorous [generalists]); and
- providing drinking water sources.

Chinese tallow is highly invasive and has naturalized from North Carolina to south Texas (Bruce et al. 1997 *in* Barrow et al. 2005). In the Chenier Plain and Coastal Prairie, Chinese tallow has and will continue to invade abandoned farmland, pastureland, and fencerows. Barrow and Renne (2001) determined that some migrants were more common in Chinese tallow habitat, but migrant species diversity was significantly greater in riparian forests dominated by native species. Furthermore, insect biomass was lower in Chinese tallow habitat and Lepidopteran larvae, an important food resource, were absent. The authors concluded that Chinese tallow communities may provide cover for migrants but were lacking in forage resources. Therefore, the removal and long-term control of Chinese tallow and other invasive species on the SFCMB will increase habitat quality for Nearctic-Neotropical migrants.

3.4 Technical Feasibility

The construction work required to develop the SFCMB is routine and feasible. The construction work will consist of site preparation, afforestation, filling artificial drains, and re-establishing dredged, historic other waters by filling and swaling. The large project size, diversity of elevations, abundant rainfall, high ground water, adjacency to tidal waters, the documented presence of hydric soils and the diversity of soil types indicate high probability for successful restoration of a diversity of wetland habitats.

4.0 ESTABLISHMENT OF THE MITIGATION BANK

4.1 Site Restoration Plan

Within the 1,609.4-acre project area, 1,077.8 acres of CP, 57.1 acres of FIM, and 435.6 acres of BLH wetland will be re-established or rehabilitated (Attachment A: Table 1, Figure 17). Areas determined to be non-wetlands per the PJDs will become re-established wetlands. Areas determined to be existing wetlands per the PJDs will be rehabilitated and areas determined to be non-wetlands will be re-established (USACE 2012). CP will be restored on the lower elevations and BLH (gallery forests) will be restored on higher elevations. FIM will be rehabilitated in the lowest elevations. LNHP (2009) noted that gallery forests tended to occupy the higher elevations within a coastal prairie community.

The SFCMB will be compatible with current land uses within the Lower Calcasieu River Watershed given that the Bank will provide additional forested, prairie, and tidal marsh habitats. The proposed mitigation plan involves the cessation of agricultural production (i.e., agronomic, cattle, and hay), the restoration of surface hydrology and native plant communities, and the implementation of effective short-term, intermediate, and long-term management strategies. All interior fences will be removed prior to site preparation activities in late summer. Drainage ditches and access roads will be filled or degraded to surface level, respectively. The drainage ditches (historic natural drainage patterns) will be filled with *in situ* soil material and restored to naturally occurring drainage patterns. Site preparation efforts will include the removal and control of Chinese tallow through herbicide treatments, mechanized clearing, cutting, shredding, or a combination thereof.

4.1.1 Hydrology Restoration

Hydrology restoration will increase surface water retention and soil saturation, reduce nonpoint source runoff, and improve water quality through nutrient immobilization (uptake) by vegetation. DLS anticipates no long-term structural management requirements will be needed to assure sustained hydrology. To restore historic sheet flow, approximately 34,535 linear feet of artificial drains will be returned to natural grade, utilizing approximately 115,116 cubic yards of *in situ* earthen fill material from relict drainage ditch spoil and the existing access road (Attachment C). The access road will continue to be used as a 10-foot wide access trail for monitoring and invasive species control but will be degraded to natural level as to not impede sheet flow, and. Approximately 3,450 linear feet of Section 10 Other Waters will be returned to natural grade, utilizing approximately 20,444 cubic yards of *in situ* earthen fill material from relict drainage ditch spoil. To facilitate an east-west flow and aquatic organism ingress/egress throughout the FIM restoration areas, two (2) pipe-arch culverts will be installed within an existing north-south access road. These types of culverts provide for efficient hydraulic capacity at low water levels/flow. This hydraulic efficiency minimizes siltation or debris settlement within the culvert. Each culvert will have a rise of 24 inches with a span of 35 inches for a cross-sectional area of 4.5 square feet. (Attachment A: Figure 17 and Attachment C: Figure C-11). In addition, the FIM is openly connected to South Fork Black Bayou at several locations for unimpeded water flow and aquatic organism ingress and egress.

4.1.2 Coastal Prairie Restoration

CP will be restored by planting marshhay cordgrass plugs and broadcast seeded with selected/available facultative (FAC) to obligate (OBL) graminoid species and forbs listed or described in published information (Allain et al. 1999, Allain et al. 2000, USGS 2000, LNHP 2009) (Attachment A: Table 2). Coastal prairie restoration activities will include site preparation, marshhay cordgrass plug planting, and seeding of facultative or wetter prairie plant species in the fall of 2015 and winter of 2016. Site preparation will include herbicide treatment,

surface tillage, and shallow ripping to remove exotic/noxious pasture grasses such as bermudagrass and woody species such as Chinese tallow and reduce compaction attributable to prior livestock usage. Light cultipacking will follow surface tillage to reduce soil runoff and provide a level platform which allows for more efficient planting operations. A selection of seeds will be distributed in a patchwork fashion throughout the site. The seed mix will consist of species discussed in Allain et al. 2000, Allain et al. 1999, USGS (2000), and LNHP (2009). Seeds potentially used for planting will be procured from seed producers and harvesters in the Gulf Coastal Plain of Louisiana and Texas. Marshhay cordgrass plugs will be planted within the restoration area in the time frame from December through April. No further soil disturbance or cultivation will be implemented after the initial planting/seeding.

Fire is an integral part of maintaining coastal prairies. Fire reduces invasive species, limits woody encroachment, encourages seed germination, encourages light penetration, promotes desirable prairie species, and maintains a desirable community (Allain et al. 1999, Allain et al. 2000). Chinese tallow is a persistent invader of the coastal prairie system and can cause the collapse of such a system if left unabated. Eastern baccharis is also an aggressive woody shrub. Fire can prevent and control the spread of these species as well as undesirable native and exotic species such as Vasey grass, bahiagrass (*Paspalum notatum*), Brazilian vervain (*Verbena brasiliensis*), and bull thistle (*Cirsium horridulum*) (Attachment A: Table 3). Fire has beneficial effects on soil nutrients as it mobilizes potassium, which enhances blooming and the movement of nitrogen and phosphorous in the soil (Grace 1998, Allain and Grace 2001, Vidrine 2010). The establishment of marshhay cordgrass is important as it adds sufficient fuels in wetter areas in order to provide a fire of sufficient heat to control Chinese tallow. Vidrine (2010) noted the lack of sufficient fuels for controlled burns did not effectively control Chinese tallow in the wetter and lower portions of the Cajun Prairie Restoration Project. In drier areas of this project, fuels were sufficient for controlled burns to control and suppress Chinese tallow.

A winter burn will be conducted in the first year and may be conducted on a frequency of one to three years. Many of the controlled burns are expected to occur in the dormant season when conditions are typically more favorable to conduct such activities (i.e., favorable weather conditions, ease of smoke management, etc.). However, growing season burns will be implemented when possible as these burns can enhance species diversity (Allain et al. 1999, Allain et al. 2000). Fire breaks will be established along the perimeter and juxtaposed to the BLH gallery forest restoration to contain fires to the coastal prairie restoration area. In the event a controlled burn cannot be conducted as scheduled, the site may be mowed in the dormant season in-lieu of fire management. DLS anticipates that weedy annuals will predominate the system over the first few years; however, as succession progresses, more desirable perennial species will begin to dominate the system (Allain et al. 1999, Allain et al. 2000).

4.1.3 Tidal Fresh-intermediate Marsh Restoration

FIM will be rehabilitated by re-establishing the hydrologic connection with South Fork Black Bayou controlling, the cessation of cattle grazing, control of invasive species, and prescribed fire.

Within the SFCMB, 57.1 acres of tidal FIM will be rehabilitated by restoring the hydrologic connection of the SFCMB area to South Fork Black Bayou, removal and control of Chinese tallow, and the use of prescribed fire to re-establish fresh-intermediate marsh plant species diversity and stability. Hydrologic barriers will be removed to reconnect the marsh to South Fork Black Bayou. Chinese tallow will be removed by herbicide application and prescribed fire. In locations to be determined (on an as-need-basis and will be reported in the as-built report), marshhay cordgrass plugs will be planted to colonize disturbed soil surfaces (hydrology restoration sites) and areas lacking of marsh plant cover.

4.1.4 Bottomland Hardwood Gallery Forest Restoration

BLH gallery restoration activities will include site preparation and coincide with planting wet prairie plant species in the fall of 2015 and winter of 2016. Site preparation activities within the restoration area will be accomplished through herbicide treatments, cultivation, and ripping the soil at equidistant intervals to a depth of approximately 18 inches which will increase water infiltration (Allen et al. 2001). Afforestation activities will include the planting of native tree and shrub species during the first planting season (December 15, 2015 through March 15, 2016) following site preparation. Tree and shrub species selection will be site-appropriate in terms of habitat design and moisture regime, and upwards of 15 species may be represented in the planting assemblage to insure adequate species richness (Twedt and Best 2004). The distribution of the trees and shrubs will create a mosaic of hard mast and soft mast species that will provide seasonally available forages (Barrow et al. 2005).

The potential planting list consists of species based on experience and scientific knowledge (LNH 2009, Lester et al. 2005, Burns and Honkala 1990, Barrow et al. 2005) (Attachment A: Table 4). The proposed species are OBL, FACW, and FAC per the 2012 National Wetland Plant List (Lichvar 2013). However, to increase habitat diversity for Nearctic-Neotropicals, upland species, primarily live oak (*Quercus virginiana*) and red mulberry (*Morus rubra*), may be included in the planting assemblage. Although these species are designated as FACU, they are known to exist in elevated areas within wetland habitats dominated by FAC to FACW species. Selected species will be locally produced native ecotypes that are appropriate for the restored site conditions and will provide considerable wildlife and Nearctic-Neotropical migrant habitat value. The exact species and quantities for planting will be determined by the availability of such species from commercial nurseries providing localized ecotype seedlings. Initial planting densities will be approximately 538 stems per acre. Seedlings will be mixed prior

to planting so that areas are not comprised of a single species (Twedt and Best 2004).

Other species recommended for planting that are beneficial for migratory birds are sweet acacia (*Acacia farnesiana*), Hercules' club (*Zanthoxylum clava-herculis*), honeylocust (*Gleditsia triacanthos*), roughleaf dogwood (*Cornus drummondii*), stiff dogwood (*Cornus foemina*), and buckthorn (*Frangula caroliniana*). These species were not included in the planting list as the commercial availability of such species is currently unknown; however, DLS will investigate this availability further and will encourage any natural regeneration of such species should it occur.

4.2 Current Site Risks

DLS does not foresee any adverse impacts to the Bank resulting from the continued existence and operation of the neighboring land uses. Land use and cover type west of the SFCMB are existing riverine and palustrine forested wetlands along the South Fork Black Bayou riparian corridor. There are no existing hydrological disturbances on the SFCMB over which DLS or Owner does not control. Adjacent landownership and management will not affect the establishment and long-term success of the SFCMB. The canal along the east boundary is not connected to the SFCMB, appears abandoned, and is not maintained for irrigation or drainage purposes. The irrigation canal is colonized primarily by Chinese tallow and giant cutgrass. The adjacent spoil of the canal is not maintained and inhabited by large diameter trees and shrubs (e.g., Chinese tallow, sugarberry (*Celtis laevigata*), winter willow, wax myrtle).

DLS did consider the possibility of encroachment of non-native eucalyptus into the SFCMB from agro-forestry plantation within the surrounding land use. However, eucalyptus is not an opportunistic invader of disturbed site as many other invasive species such as Chinese tallow and is not very tolerable of plant competition. Eucalyptus requires intensive site cultivation, herbicide application, and fertilization in order to establish and maintain it (Louisiana State University Agricultural Center [LSU Ag Center] 2010). Therefore, the threat of potential encroachment is extremely minimal. However, DLS will monitor the site for this species as part of its invasive species monitoring of the SFCMB.

4.3 Mortgages, Easements, and Encumbrances

The SFCMB is in the land survey process. Upon completion of the title report and signed survey plat will be included in the draft mitigation banking instrument. DLS knows of the existence of two pipeline rights-of-ways (ROWs) and these ROWs have been identified. These ROW are not included as mitigation credit acres but will be maintained as herbaceous plant communities. DLS intend on encumbering these ROWs with the conservation servitude so they remain part of the 1,609.4-acre SFCMB project area. Although the ROWs will not be the dominant servitude, it would become dominant should the ROW agreements

become terminated in the future. This would provide for long-term protection as it insures the ROW would never be converted to another use which may be incompatible with the SFCMB.

4.4 Long-Term Sustainability of the Site and Water Rights

Long-term viability and sustainability of the SFCMB will be ensured through active and adaptive management including, but not limited to, prescribed fire, invasive species control, appropriate monitoring and long-term maintenance. No long-term structural management will be required because there are no water control structures or forced drainage ways to maintain. A long-term management plan will be included with the mitigation banking instrument (MBI), which will detail long-term management needs and costs, and identify a funding mechanism in accordance with 33 CFR § 332.7 (d).

With regard to water rights, Article 490 of the Louisiana Civil Code treats water resources under the theory of absolute ownership and rule of capture provided that such capture does not result in harm to neighboring properties. The SFCMB will depend primarily on precipitation and backwater, tidal flooding. As such, long-term hydrology maintenance will not depend on the utilization of water captured from irrigation wells; therefore, sufficient water rights are ensured for such purposes. DLS does not foresee any adverse impacts on neighboring properties as a result of this project.

5.0 PROPOSED GEOGRAPHIC SERVICE AREA

Due to the unique wetland types restored within the project area, the SFCMB will provide mitigation for two service areas based on the habitat type. The primary service area for bottomland hardwood credits is the Lower Calcasieu Watershed (HUC 08080206) (Attachment A: Figure 18). The secondary service area will include the Upper Calcasieu (HUC 08080203), Whiskey Chitto [Ouiska Chitto] (HUC 08080204), and West Fork Calcasieu (HUC 08080205) watersheds. These watersheds collectively comprise the Calcasieu River Basin as defined by the Louisiana Department of Environmental Quality (LDEQ 1999).

The service area for coastal prairie will use an ecoregion approach consisting of the geographical area encompassing the historic range of the coastal prairie of Louisiana also known as the "Tall Grass Prairie, Cajun Prairie, Great Southwest Prairie, Eastern Coastal Prairie, or Gulf Cordgrass Prairie" (Allain et al. 2000, Allain et al. 1999, USGS 2000, LNHP 2009). The primary service area for coastal prairie is the Lower Calcasieu Subregion (HUC 08080206) (Attachment A: Figure 19). The secondary service area consists of the watersheds contained within the Western Gulf Coastal Plain Level III (WGCP3) Ecoregion. Watersheds comprising the secondary service consists of portions of the West Fork Calcasieu (08080205), Upper Calcasieu (08080203), Mermentau Headwaters (08080201), Bayou Teche (08080102) and

Vermilion (08080103) Subregions and the entirety of the Mermentau (08080202) Subregion.

6.0 OPERATION OF THE MITIGATION BANK

6.1 Project Representatives

Sponsor: Delta Land Services, LLC
1090 Cinclare Drive
Port Allen, LA 70767
Attn: Daniel Bollich\ Lee Walters
Phone: 225.388.5146\ 225.388.5198
Electronic Mail: daniel@deltaland-services.com\
lee@deltaland-services.com

Landowner: South Fork Holdings, LLC
c/o Delta Land Services, LLC
1090 Cinclare Drive
Port Allen, LA 70767
Attn: Winship Songy
Phone: 225.388.5187
Electronic Mail: winship@deltaland-services.com

6.2 Qualifications of the Sponsor

DLS will serve as the Sponsor. DLS is a land management and restoration company whose technical staff includes Certified Wildlife Biologists, Professional Wetland Scientists, and Certified Foresters. In addition, DLS has construction specialists on staff experienced in wetland construction activities such as heavy equipment operation, vegetation establishment, herbicide application, and contractor management. Mr. Daniel Bollich is the lead project manager for DLS. Mr. Bollich is a certified Professional Wetland Scientist (PWS) through the Society of Wetland Scientists (SWS); a Certified Wildlife Biologist (CWB) through the Wildlife Society (TWS); and a Certified Forester through the Society of American Foresters (SAF). He has over 15 years of experience in wetlands, wildlife and forest management. This experience includes the development of over fourteen approved banks within the CEMVN, CEMVK, CESWG, CESWF, and the Little Rock District (CESWL). Dr. Bill DeLany and Mr. Lee Walters will serve as assistant managers to the project. Dr. Bill DeLany is a senior restoration ecologist for DLS and serves as an assistant manager to the project. Dr. DeLany is also a PWS with over 25 years of experience with federal resource agencies, private land holdings, academia, and environmental consulting. His experience includes employment with the U.S. Fish and Wildlife Service (USFWS), Miami Corporation, and McNeese State University as well as service in the United States Marine Corps (USMC). Mr.

Walters has over 11 years of experience in natural resource management and environmental consulting including wetlands, wildlife and forest management and has been involved with the development of over 10 approved mitigation banks with the CEMVN and CEMVK. The biographies of DLS personnel are available at www.deltaland-services.com.

DLS currently operates eight approved wetland mitigation banks within the CEMVN, Galveston District (CESWG) and CEMVK totaling 3,918.9 acres. These are the Bayou Conway Mitigation Bank (MVN-2010-01111), Roseland Refuge Mitigation Bank (MVK-2010-01423), Oak Land Mitigation Bank (MVK-2011-00308), Bayou Choupique Mitigation Bank (MVN-2011-00824), Ponderosa Ranch of Pointe Coupee Mitigation Bank (MVN-2011-03213), Moss Lake Mitigation Bank (MVN-2012-02652), Bayou Fisher Mitigation Bank (MVN-2013-02342), and the Danza del Rio Mitigation Bank (SWG-2011-00566). DLS currently has 5 pending mitigation banks that are under review with the CEMVN, CEMVK, CESWG and Fort Worth District (CESWF), which total 3,026.4 acres and include approximately 47,694.0 linear feet of proposed stream restoration. These include the proposed Graham Creek Mitigation Bank (SWF-2011-00309), Little Bayou Pierre Mitigation Bank (MVK-2012-00555), Phillips Creek Mitigation Bank (SWF-2012-00417), Laurel Valley Coastal Mitigation Bank (MVN-2013-02798), and Long Island Cove Mitigation Bank (SWG-2014-00210). In addition to mitigation banking, DLS serves as the responsible party for the establishment and maintenance of 848.0 acres of approved Permittee-Responsible Mitigation (PRM) projects with another 2,392.4 acres pending review within the CEMVN.

6.3 Proposed Long-Term Ownership and Management Representatives

South Fork will serve as the long-term owner and DLS will serve as the Sponsor, long-term manager, and steward of the Bank. However, DLS may appoint a long-term steward if such appointment is approved by the CEMVN. The anticipated long-term management will consist of monitoring, invasive species control, controlled burning, forest management, boundary maintenance, and site protection.

6.4 Site Protection

DLS (or Long-term Steward) / Owner, or its heirs, assigns or purchasers shall be responsible for protecting lands contained within the mitigation area in perpetuity. In order to provide for such protection, the Owner shall execute a perpetual conservation servitude (pursuant to the Louisiana Conservation Servitude Act, R.S. 9:1271 et seq.) on all acreage identified as the SFCMB and record it in the Mortgage and Conveyances Records Office of Cameron and Calcasieu Parish. The conservation servitude will be held by a qualified, non-profit organization whose mission is to retain or protect the land's natural habitat, open space, scenic, educational, recreational, historical, or cultural values.

6.5 Long-Term Strategy

Long-term management will consist of monitoring, vegetation management, invasive species control, prescribed/controlled burns, boundary maintenance, site protection, and the funding of such activities. The BLH gallery forest wetland habitat will be managed to increase and maintain the biological, chemical, and physical wetland functions of the SFCMB, which will provide forested habitat capable of supporting populations for priority wildlife species (e.g., native wildlife and Nearctic-Neotropical migrants). Invasive species control will include control of nuisance invasive species such as Chinese tallow, Macartney rose, and feral hogs (*Sus scrofa*). A long-term management plan will be included with the mitigation banking instrument which will detail long-term management needs, costs and identify a funding mechanism in accordance with 33 CFR § 332.7 (d). DLS (or Long-term Steward) and the Owner (or its heirs, assigns or purchasers) shall be responsible protecting lands contained within the SFCMB in perpetuity.

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ATTACHMENTS

ATTACHMENT A

TABLES AND FIGURES

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Table 1. Pre-Restoration Conditions and Post-Restoration Mitigation Habitat Types at the South Fork Coastal Mitigation Bank, Calcasieu and Cameron Parishes, Louisiana.		
Baseline Condition	**Mitigation Habitat and Type**	**Acres**
Non-wetland Crop/Pasture	Coastal Prairie Re-establishment	648.6
Wetland Rangeland/Pasture	Coastal Prairie Rehabilitation	429.2
Wetland Rangeland/Pasture	Bottomland Hardwood Gallery Forest Rehabilitation	234.9
Non-wetland Crop/Pasture	Bottomland Hardwood Gallery Forest Re-establishment	200.7
Non-wetland Crop/Pasture	Fresh/Intermediate Marsh Re-establishment	30.1
Rangeland	Fresh/Intermediate Marsh Rehabilitation	27.0
	Total Restoration and Enhancement Credit Acreage	***1,570.5***
Canals	Water	17.9
Access Roads/Trails	Access Roads	17.8
Crop/Rangeland/Pasture Pipeline Rights-of-way	Pipeline Rights-of-way	3.2
	Total Non-mitigation Acreage	***38.9***
	Total Conservation Servitude Acreage	**1,609.4**

Table 2. Potential Coastal Prairie Planting List for South Fork Coastal Mitigation Bank, Cameron and Calcasieu Parish, Louisiana[1].

Habit	Scientific Name[2]	Common Name	Wetland Indicator[3]
Graminoid	*Agrostis hyemalis*	Winter Bent Grass	FAC
Graminoid	*Andropogon gerardii*	Big Bluestem	FAC
Graminoid	*Andropogon glomeratus*	Bushy Bluestem	FACW
Graminoid	*Andropogon gyrans*	Elliot's Bluestem	FAC
Graminoid	*Andropogon virginicus*	Broomsedge	FAC
Graminoid	*Aristida purpurascens*	Three Awn Grass	FACW
Graminoid	*Ctenium aromaticum*	Toothache Grass	FACW
Graminoid	*Dichanthelium commutatum*	Variable Panic Grass	FAC
Graminoid	*Dichanthelium scabriusculum*	Panic Grass	OBL
Graminoid	*Dichanthelium scoparium*	Velvet Panic Grass	FACW
Graminoid	*Eragrostis elliottii*	Elliot Lovegrass	FACW
Graminoid	*Eragrostis refracta*	Coastal Love Grass	FACW
Graminoid	*Muhlenbergia capillaris*	Coastal Muhly Grass	FAC
Graminoid	*Panicum anceps*	Beaked Switchgrass	FAC
Graminoid	*Dichanthelium dichotomum*	Cypress Panic Grass	FAC
Graminoid	*Dichanthelium scoparium*	Velvet Panic Grass	FACW
Graminoid	*Panicum virgatum*	Switchgrass	FAC
Graminoid	*Paspalum floridanum*	Florida Paspalum	FACW
Graminoid	*Paspalum plicatulum*	Brownseed Paspalum	FAC
Graminoid	*Sisyrinchium angustifolium*	Narrowleafed Blue-eyed Grass	FACW
Graminoid	*Sisyrinchium rosulatum*	Spreading Blue-eyed grass	FAC
Graminoid	*Tradescantia ohiensis*	Common Spiderwort	FAC
Graminoid	*Tridens ambiguus*	Pine Barren Tridens	FACW
Graminoid	*Tridens strictus*	Long-spike Tridens	FACW
Graminoid	*Tripsacum dactyloides*	Eastern Gamma	FAC
Forb/Herb	*Symphyotrichum dumusom*	Rice Button Aster	FAC
Forb/Herb	*Symphyotrichum lateriflorum*	Calico Aster	FAC
Forb/Herb	*Aster puniceus*	Roughstem Aster	OBL
Forb/Herb	*Aster praealtus*	Tall Blue Aster	FACW

[1] Exact species and quantities to be determined by seedling availability from commercial sources providing seedlings grown from localized ecotypes.
[2] Scientific names are from USDA, NRCS. 2013. The PLANTS Database (http://plants.usda.gov, 1 July 2013). National Plant Data Team, Greensboro, NC 27401-4901 USA.
[3] Wetland plant indicator status for the Atlantic and Gulf Coastal Plain per the 2012 National Wetland Plant List (Lichvar 2013).

Table 2. Potential Coastal Prairie Planting List for South Fork Coastal Mitigation Bank, Cameron and Calcasieu Parish, Louisiana[1].

Habit	Scientific Name[2]	Common Name	Wetland Indicator[3]
Forb/Herb	*Bidens aristosa*	Beaded Beggar's Ticks	FACW
Forb/Herb	*Arnoglossum ovatum*	Egg-leaf Indian Plantain	FACW
Forb/Herb	*Coreopsis tripteris*	Tall Tickseed	FAC
Forb/Herb	*Coreopsis pubescens*	Star Tickseed	FAC
Forb/Herb	*Coreopsis tinctoria*	Plains Tickseed	FAC
Forb/Herb	*Erigeron philadelphicus*	Showy Daisy Fleabane	FAC
Forb/Herb	*Eupatorium rotundifolium*	Roundleaf Boneset	FAC[2]
Forb/Herb	*Eupatorium perfoliatum*	Boneset	FACW
Forb/Herb	*Euthamia leptocephala*	Flat-topped Goldenrod	FACW
Forb/Herb	*Helianthus angustifolius*	Narrow Leaf Sunflower	FACW
Forb/Herb	*Helenium vernale*	Vernal Sneezeweed	FACW
Forb/Herb	*Liatris spicata*	Blazing Star	FAC
Forb/Herb	*Solidago rugosa*	Roughleaf Goldenrod	FAC
Forb/Herb	*Solidago sempervirens*	Seaside Goldenrod	FACW
Forb/Herb	*Vernonia gigantea*	Giant Ironweed	FAC
Forb/Herb	*Amsonia tabernaemontana*	Eastern Bluestar	FACW
Forb/Herb	*Agalinis fasciculata*	Beach Purple False Foxglove	FAC
Forb/Herb	*Agalinis purpurea*	Purple False Foxglove	FACW
Forb/Herb	*Buchnera Americana*	American Blue Hearts	FAC
Forb/Herb	*Chaerophyllum tainturieri*	Wild Chervil	FAC
Forb/Herb	*Erigeron strigosus*	Fleabane	FAC
Forb/Herb	*Eryngium yuccifolium*	Button Snakeroot	FAC
Forb/Herb	*Hibiscus moscheutos*	Crimsoneyed Mallow	OBL
Forb/Herb	*Lobelia puberula*	Purple Dew Drop	FACW
Forb/Herb	*Penstemon digitalis*	Smooth Beardtongue	FAC
Forb/Herb	*Penstemon laxiflorus*	Beardtongue	FAC
Forb/Herb	*Prunella vulgaris*	Common Self-heal	FAC
Forb/Herb	*Psoralea simplex*	Single Stem Snakeroot	FAC
Forb/Herb	*Pycnanthemum albescens*	Whiteleaf Mountain Mint	FAC
Forb/Herb	*Pycnanthemum tenuifolium*	Thin Leaf Mt. Mint	FACW
Forb/Herb	*Pycnanthemum muticum*	Lowland Mt. Mint	FAC

Table 3. Negative Indicator Species for Coastal Prairie Restoration Areas, Calcasieu and Cameron Parishes, Louisiana[1].	
Scientific Name[2]	**Common Name**
Cirsium horridulum	Bull Thistle
Cynodon dactylon	Bermuda Grass
Eupatorium capillifolium	Yankee Weed
Imperata cylindrical	Cogon Grass
Ligustrum sinense	Chinese Privet
Lonicera japonica	Japanese Honeysuckle
Lygodium japonicum	Japanese Climbing Fern
Panicum verrucosum	Warty Panicum
Paspalum notatum	Bahiagrass
Paspalum urvellei	Vasey's Grass
Rhyncospora inexpansa	Beakrush
Rottbellia cochinchinensis	Itch Grass
Rubus spp.	Blackberry
Solidago canadensis	Goldenrod
Sorghum halapense	Johnson Grass
Triadica sebiferum	Chinese Tallow
Verbena spp.	Vervain

[1] List of species obtained from Lacassane Coastal Prairie Wetland Mitigation Bank Instrument signed by CEMVN on June 30, 2003.
[2] Scientific names are from USDA, NRCS. 2013. The PLANTS Database (http://plants.usda.gov, 1 July 2013). National Plant Data Team, Greensboro, NC 27401-4901 USA.

Table 4. Potential Seedling Planting List for South Fork Coastal Mitigation Bank, Cameron and Calcasieu Parishes, Louisiana.

Common Name	Scientific Name	AGCP Wetland Indicator[1]	Planting Percentage[2]	Mast Availability
Hard Mast (approximately 40-60%)				
Laurel oak	*Quercus laurifolia*	FACW	<20%	fall, winter
Swamp chestnut oak	*Quercus michauxii*	FAC	<20%	fall, winter
Water oak	*Quercus nigra*	FAC	<20%	fall, winter
Willow oak	*Quercus phellos*	FACW	<20%	fall, winter
Texas red oak	*Quercus texana*	FACW	<20%	fall, winter
Live oak	*Quercus virginiana*	FACU[3]	<10%	fall, winter
Soft Mast (approximately 40-60%)				
red maple	*Acer rubrum*	FAC	<10%	spring
Sugarberry	*Celtis laevigata*	FACW	<10%	fall, winter
Buttonbush	*Cephalanthus occidentalis*	OBL	<10%	spring, summer
Mayhaw	*Crataegus opaca*	OBL	<10%	spring, summer
Green hawthorn	*Crataegus viridus*	FACW	<10%	spring, summer
Common persimmon	*Diospyros virginiana*	FAC	<10%	fall, winter
Green ash	*Fraxinus pennsylvanica*	FACW	<10%	spring, summer
Deciduous holly	*Ilex decidua*	FACW	<10%	fall, winter
Yaupon	*Ilex vomitoria*	FAC	<10%	fall, winter
Sweetgum	*Liquidambar styraciflua*	FAC	<10%	fall, winter
Southern bayberry	*Morella cerifera*	FAC	<10%	fall, winter
Swamp tupelo	*Nyssa biflora*	OBL	<10%	fall, winter
Baldcypress	*Taxodium distichum*	OBL	<10%	fall, winter
American elm	*Ulmus americana*	FAC	<10%	spring, summer
Red mulberry	*Morus rubra*	FACU	<10%	spring, summer

[1] Indicator status from 2013 National Wetland Plant List (Lichvar 2013)
[2] Exact species and quantities to be determined by seedling availability from commercial sources providing seedlings grown from localized ecotypes.
[3] *Quercus virginiana* and *Morus rubra* are designated as UPL on the 2013 National Wetland Plant List but were FAC species on the 1988 National Wetland Plant List for Region 2. These species were previously listed as FAC on the 1988 National Wetland Plants List for Region 2. Although potentially upland species, these are native to the site and will provide increased habitat value given the goals of the project. The occurrence of the species at the specified composition will not affect the targeted plant community from being classified as a hydrophytic plant community in accordance with the methodology prescribed in the Atlantic and Gulf Coastal Plain Regional Supplement (USACE 2010).

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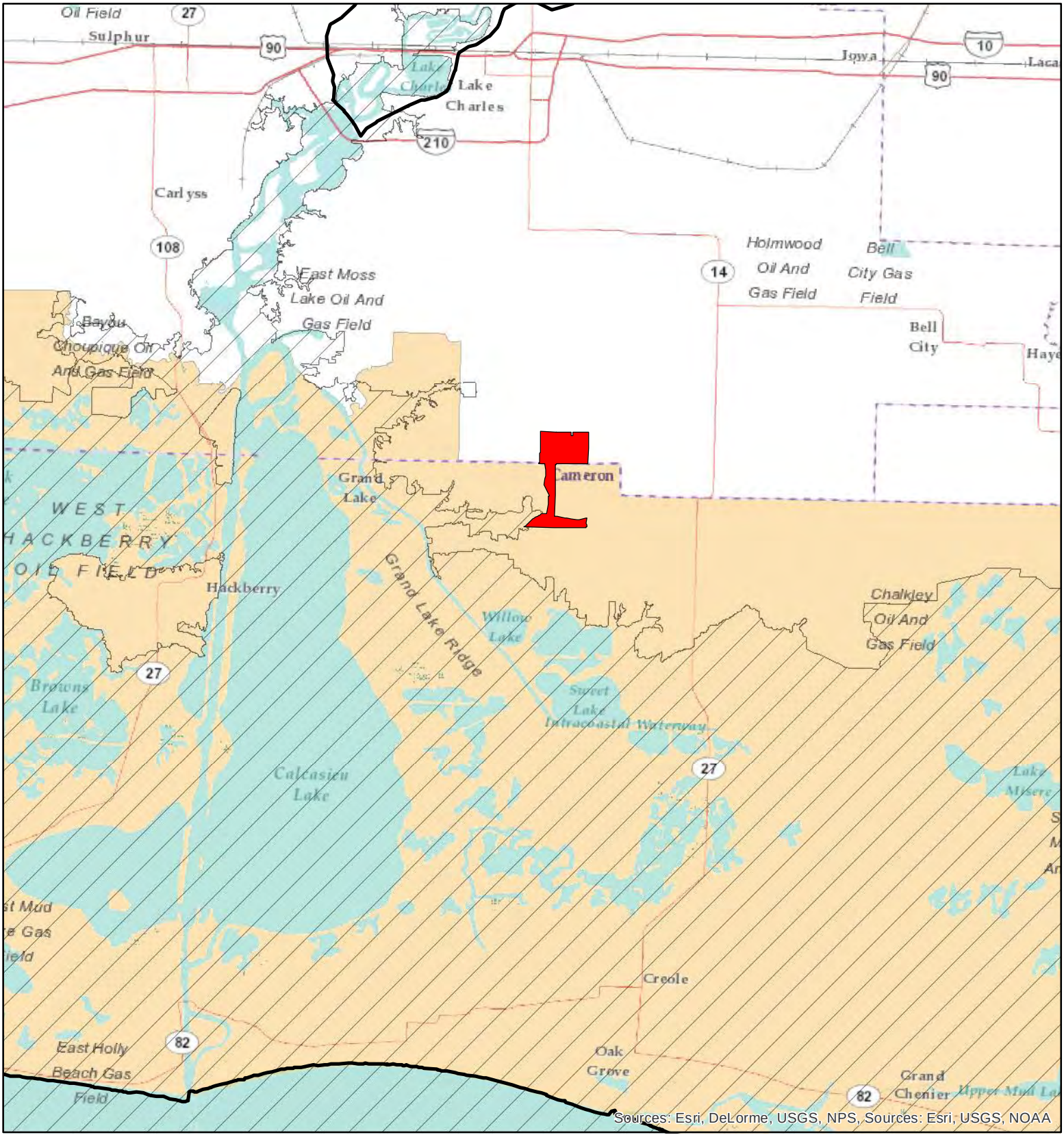


Legend

- South Fork Coastal Mitigation Bank (1,609.4 Acres)
- Western Gulf Coastal Plains Ecoregion (Level III)
- Coastal Conservation Plan Boundary
- Coastal Zone Boundary

N

4 2 0 4

Miles

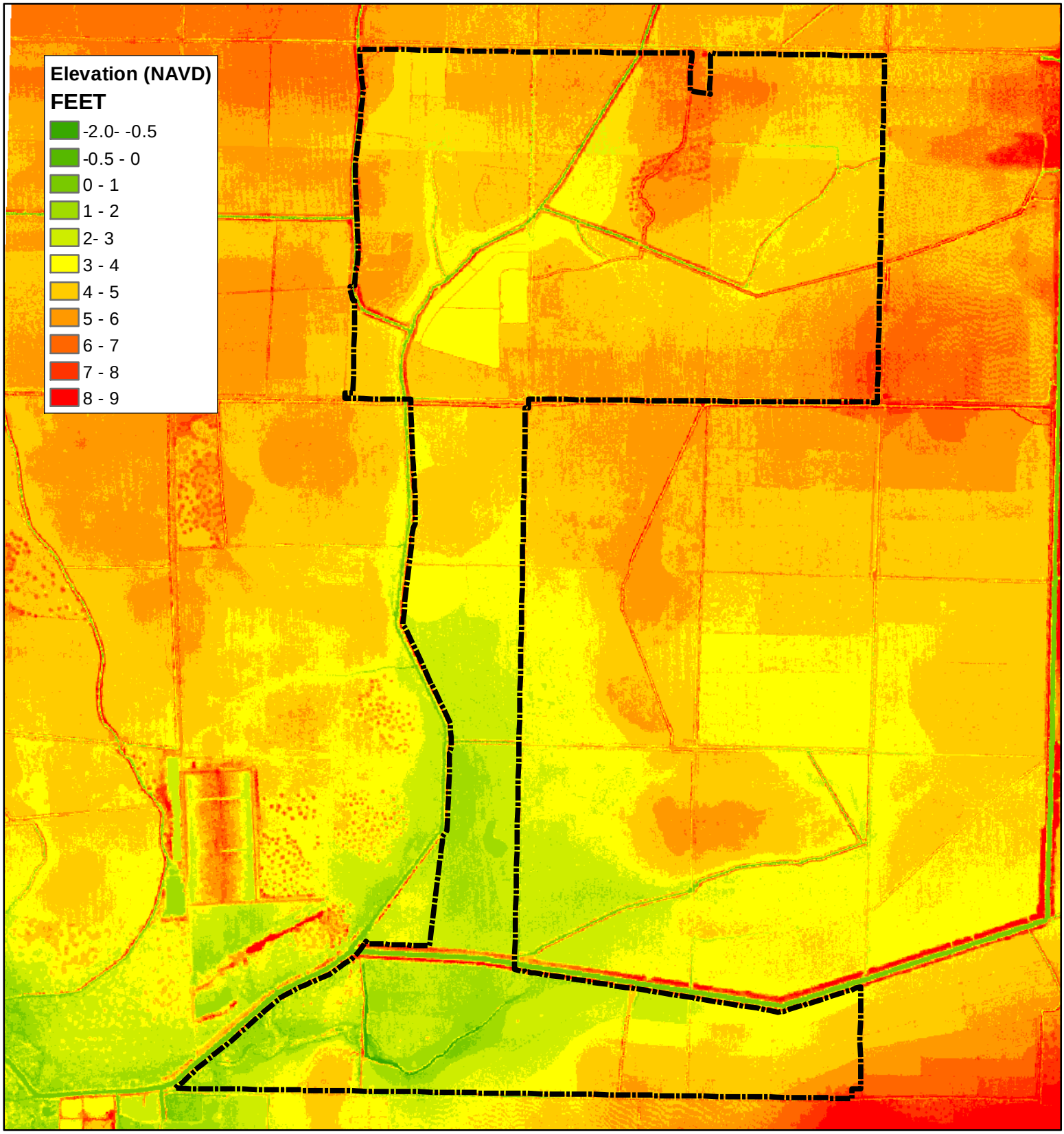
Proposed South Fork Coastal Mitigation Bank

VICINITY, COASTAL ZONE, AND COASTAL CONSERVATION PLAN MAP

Cameron and Calcasieu Parishes, La

Created :TSC/ArcView10	
Approved :BWD	
Date :7/18/2014	
Map # :F01_VicinityandCoastalMap.mxd	

FIGURE 1



Project Area (1,609.4 ac)

N

2,000 1,000 0 2,000

Feet

Proposed South Fork Coastal Mitigation Bank

LIDAR ELEVATIONS

Cameron and Calcasieu Parishes, La

Created :	LJW/ArcView10.2
Approved :	BWD
Date :	7/18/2014
Map # :	F02_Lidar.mxd

FIGURE 2

Project Area (1,609.4 ac)

<5 Feet NAVD

>5 Feet NAVD

N

2,000 1,000 0 2,000

Feet

Proposed South Fork Coastal Mitigation Bank

LIDAR ELEVATIONS

BELOW 5-FOOT CONTOUR

Cameron and Calcasieu Parishes, La

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Approved :	BWD
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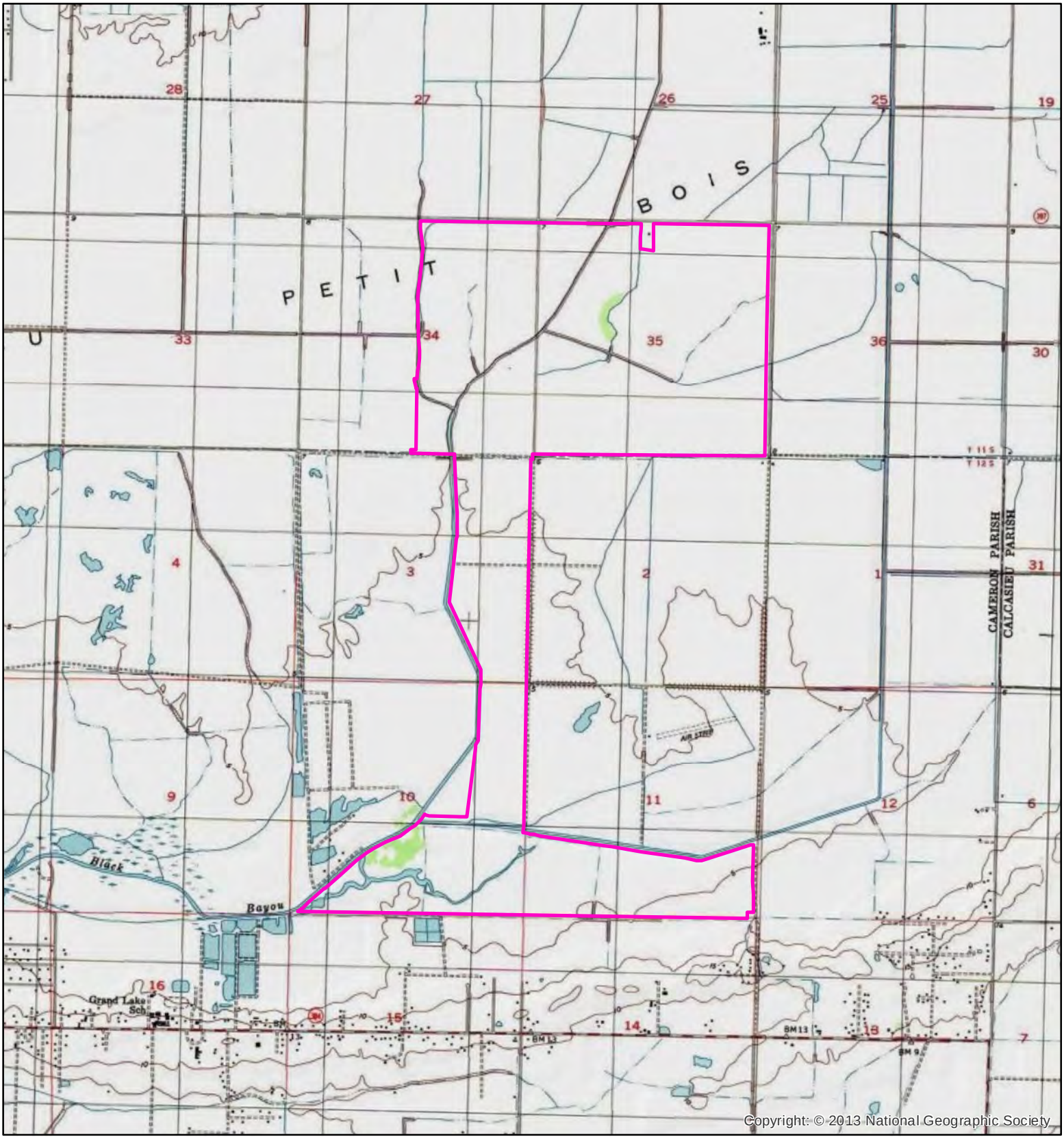
FIGURE 3



Legend

Project Area (1,609.4 ac)

5,000 2,500 0 5,000

Feet

Proposed South Fork Coastal Mitigation Bank

USGS 7.5-MINUTE QUADRANGLE

Cameron and Calcasieu Parishes, La

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Approved :BWD	
Date :6/18/2014	
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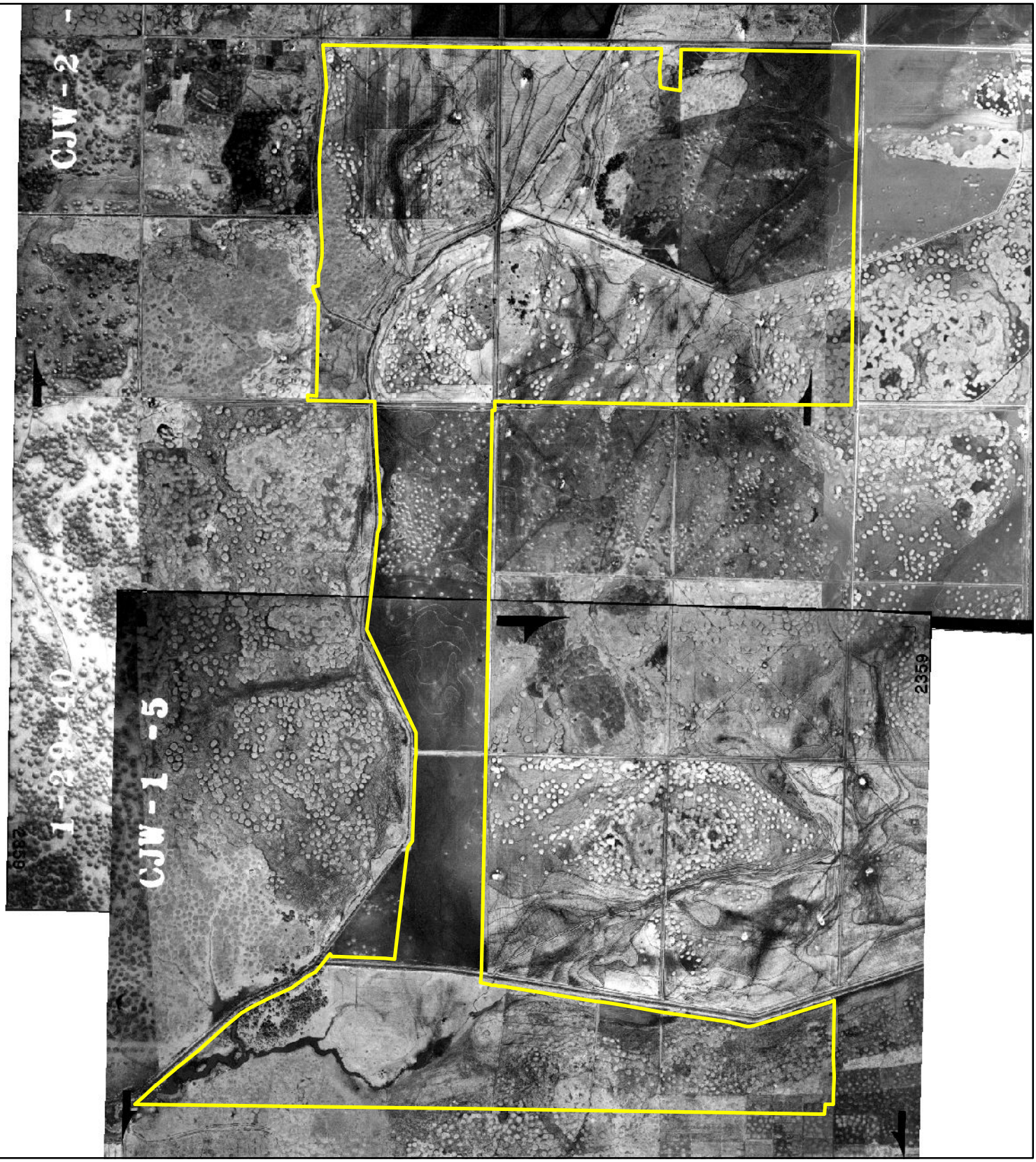
FIGURE 4



Legend

Project Area (1,609.4 ac)

2,000 1,000 0 2,000

Feet

Proposed South Fork Coastal Mitigation Bank

1940 AERIAL PHOTOGRAPHY

Cameron and Calcasieu Parishes, La

Created :	LJW/ArcView10.2
Approved	BWD
Date :	7/18/2014
Map # :	F05_1940Aerial.mxd

FIGURE 5

Legend

Project Area (1,609.4 ac)

2,000 1,000 0 2,000

Feet

Proposed South Fork Coastal Mitigation Bank

1953 AERIAL PHOTOGRAPHY

Cameron and Calcasieu Parishes, La

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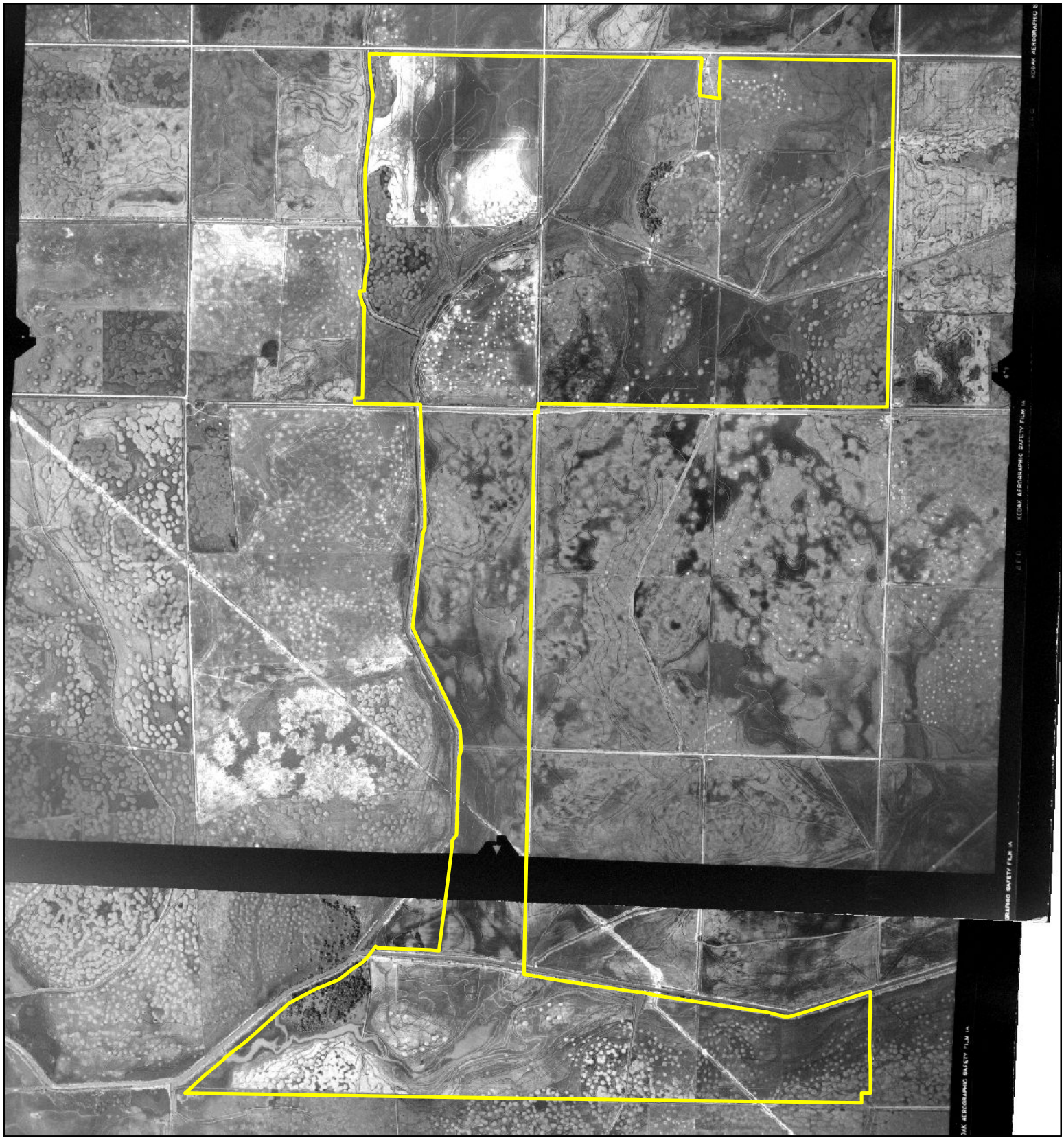
Approved	BWD
Date :	7/18/2014
Map # :	F06_1953Aerial.mxd

FIGURE 6



Legend

Project Area (1,609.4 ac)

2,000 1,000 0 2,000

Feet

Proposed South Fork Coastal Mitigation Bank

1957 AERIAL PHOTOGRAPHY

Cameron and Calcasieu Parishes, La

Created :	LJW/ArcView10.2
Approved	BWD
Date :	7/18/2014
Map # :	F07_1957Aerial.mxd

DELTA LAND SERVICES

FIGURE 7

Legend

Project Area (1,609.4 ac)

2,000 1,000 0 2,000

Feet

Proposed South Fork Coastal Mitigation Bank

1963 AERIAL PHOTOGRAPHY

Cameron and Calcasieu Parishes, La

Created :	LJW/ArcView10.2
Approved	BWD
Date :	7/18/2014
Map # :	F08_1963Aerial.mxd

FIGURE 8

Legend

Project Area (1,609.4 ac)

N

2,000 1,000 0 2,000

Feet

Proposed South Fork Coastal Mitigation Bank

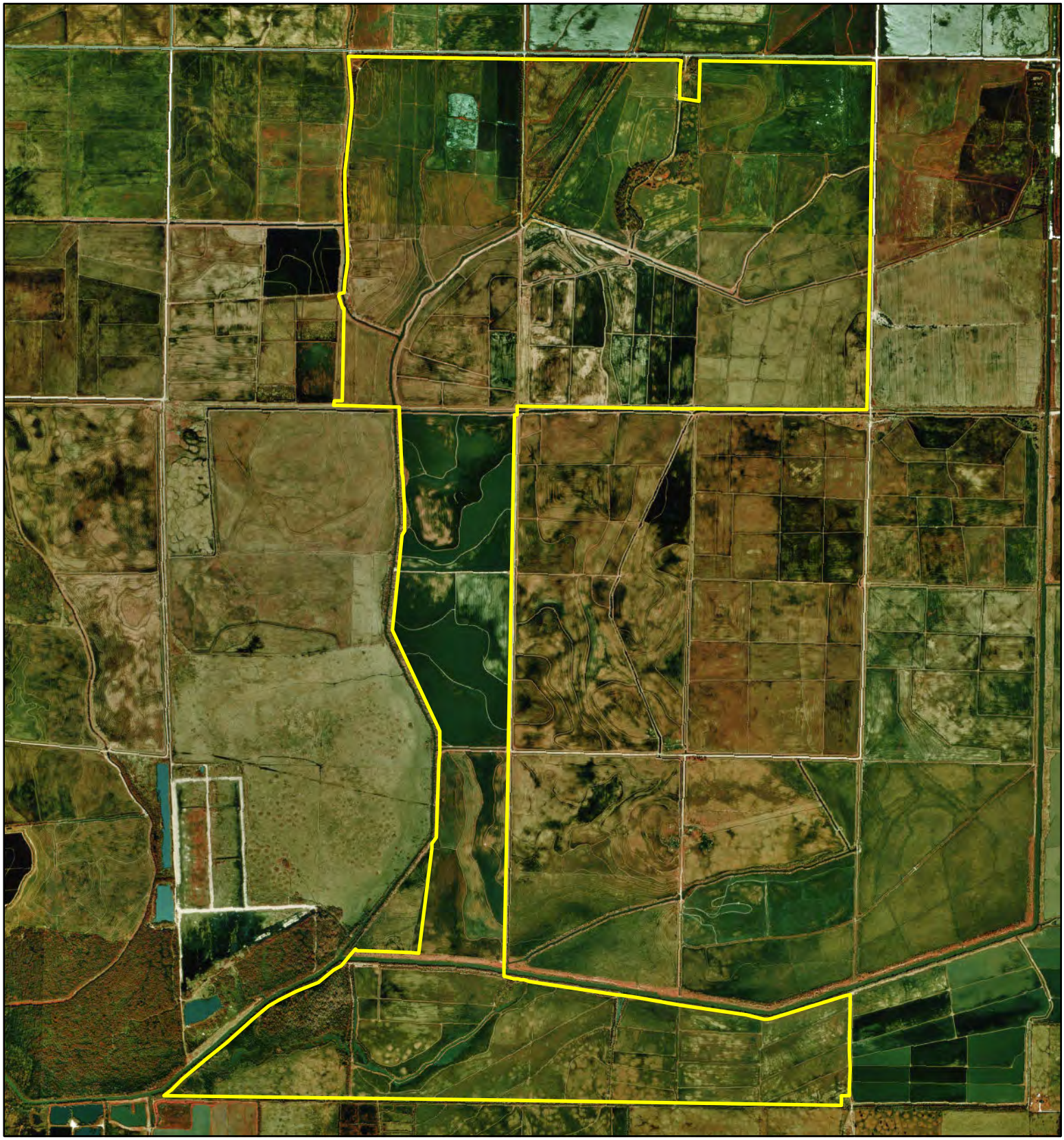
1968 AERIAL PHOTOGRAPHY

Cameron and Calcasieu Parishes, La

Created :	LJW/ArcView10
Approved	BWD
Date :	7/18/2014
Map # :	F09_1968Aerial.mxd

DELTA LAND SERVICES

FIGURE 9



Legend

Project Area (1,609.4 ac)

N

2,000 1,000 0 2,000

Feet

Proposed South Fork Coastal Mitigation Bank

1998 AERIAL PHOTOGRAPHY

Cameron and Calcasieu Parishes, La

Created :	LJW/ArcView10.2
Approved	BWD
Date :	7/18/2014
Map # :	F10_1998Aerial.mxd

DELTA LAND SERVICES

FIGURE 10

Legend

Project Area (1,609.4 ac)

2,000 1,000 0 2,000

Feet

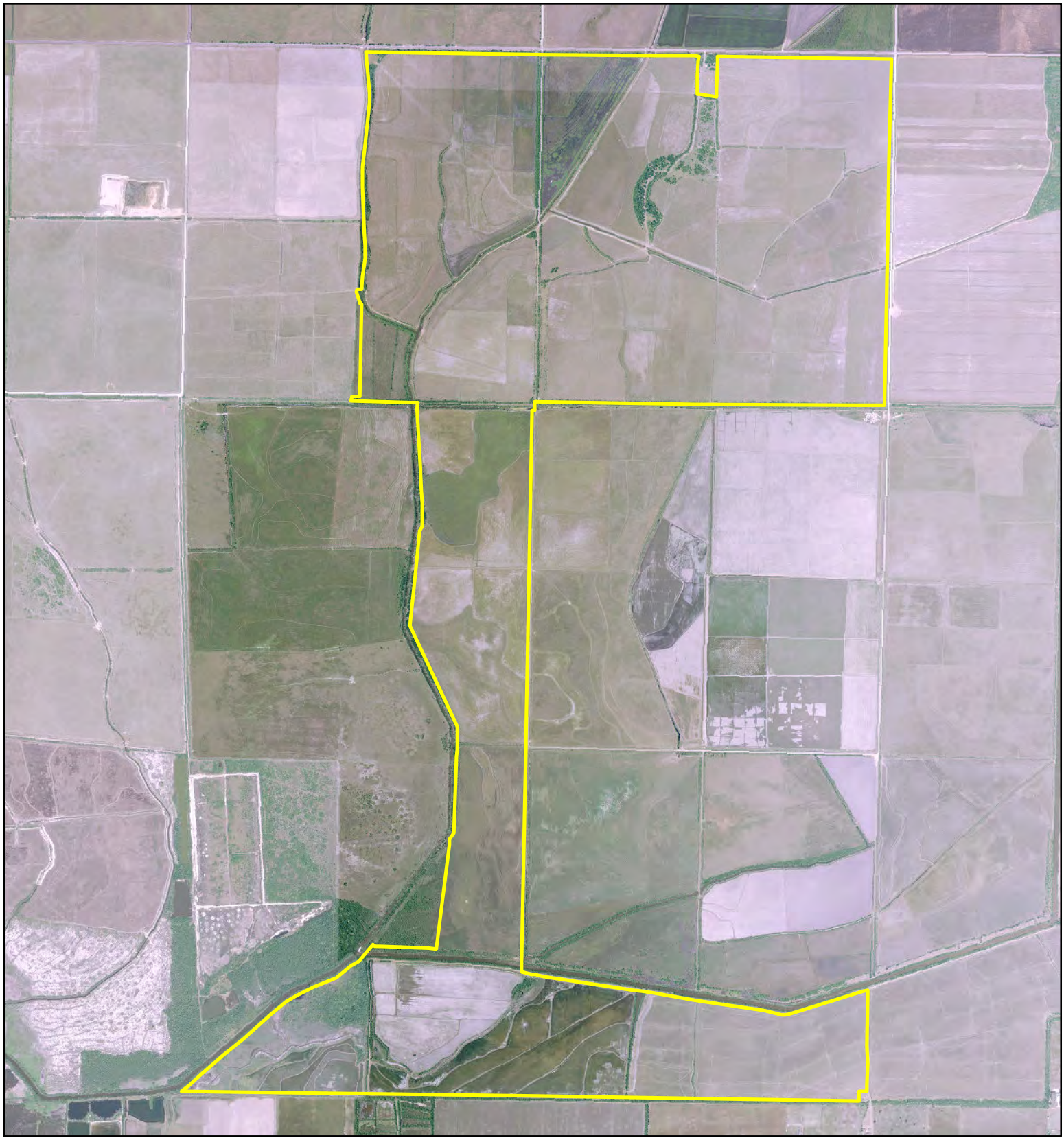
Proposed South Fork Coastal Mitigation Bank

2004 AERIAL PHOTOGRAPHY

Cameron and Calcasieu Parishes, La

Created :	LJW/ArcView10.2
Approved	BWD
Date :	7/18/2014
Map # :	F11_2004Aerial.mxd

FIGURE 11



Legend

Project Area (1,609.4 ac)

2,000 1,000 0 2,000

Feet

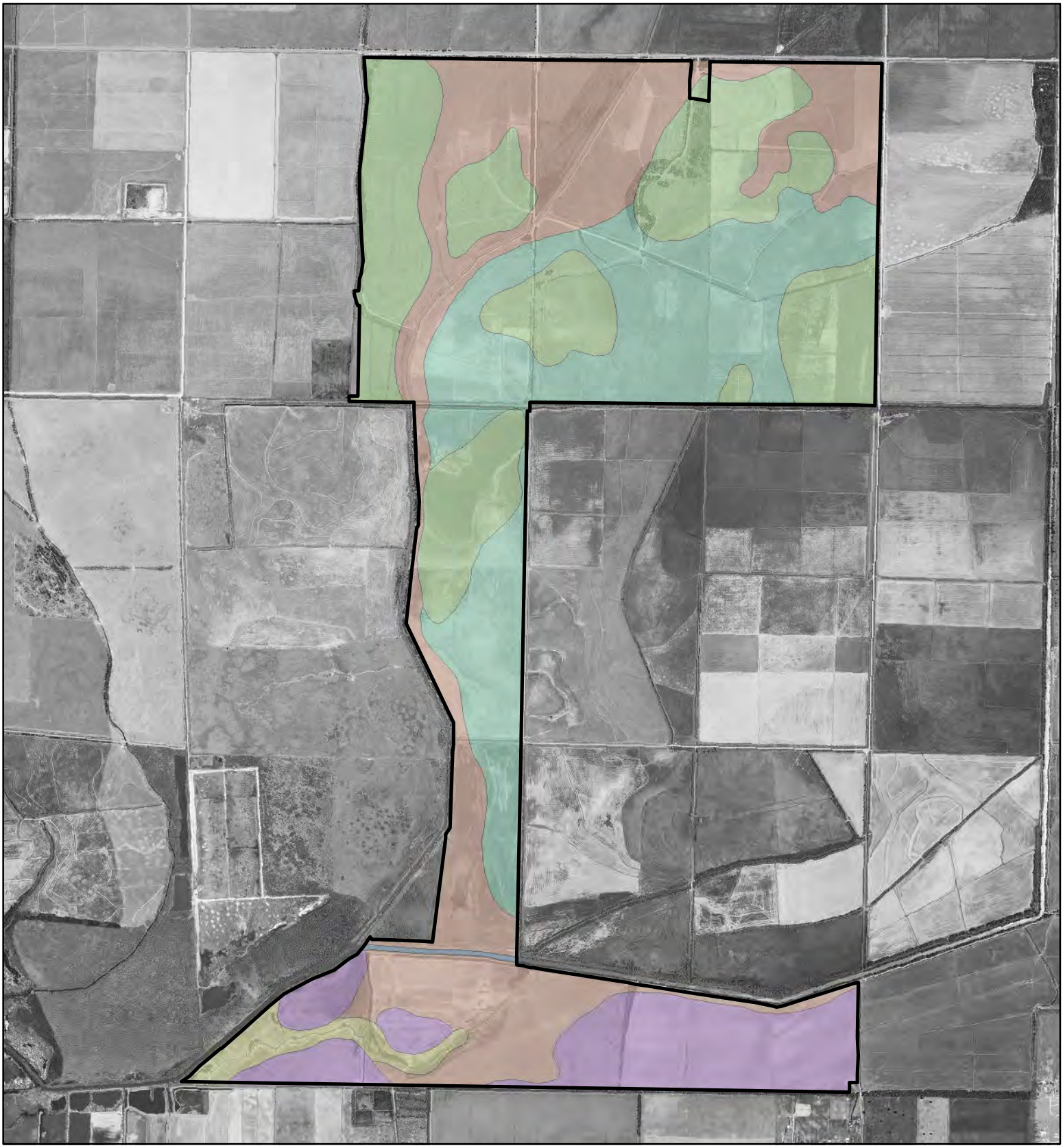
Proposed South Fork Coastal Mitigation Bank

2010 AERIAL PHOTOGRAPHY

Cameron and Calcasieu Parishes, La

Created :	LJW/ArcView10.2
Approved	BWD
Date :	7/18/2014
Map # :	F12_2010Aerial.mxd

FIGURE 12



Legend

- Project Area (1,609.4 ac)
- GB: Ged mucky clay
- Ju: Judice silty clay
- Lt: Leton silt loam
- Mr: Morey loam
- Mt: Mowata-Vidrine silt loams
- W: Water

N

2,000 1,000 0 2,000

Feet

Proposed South Fork Coastal Mitigation Bank

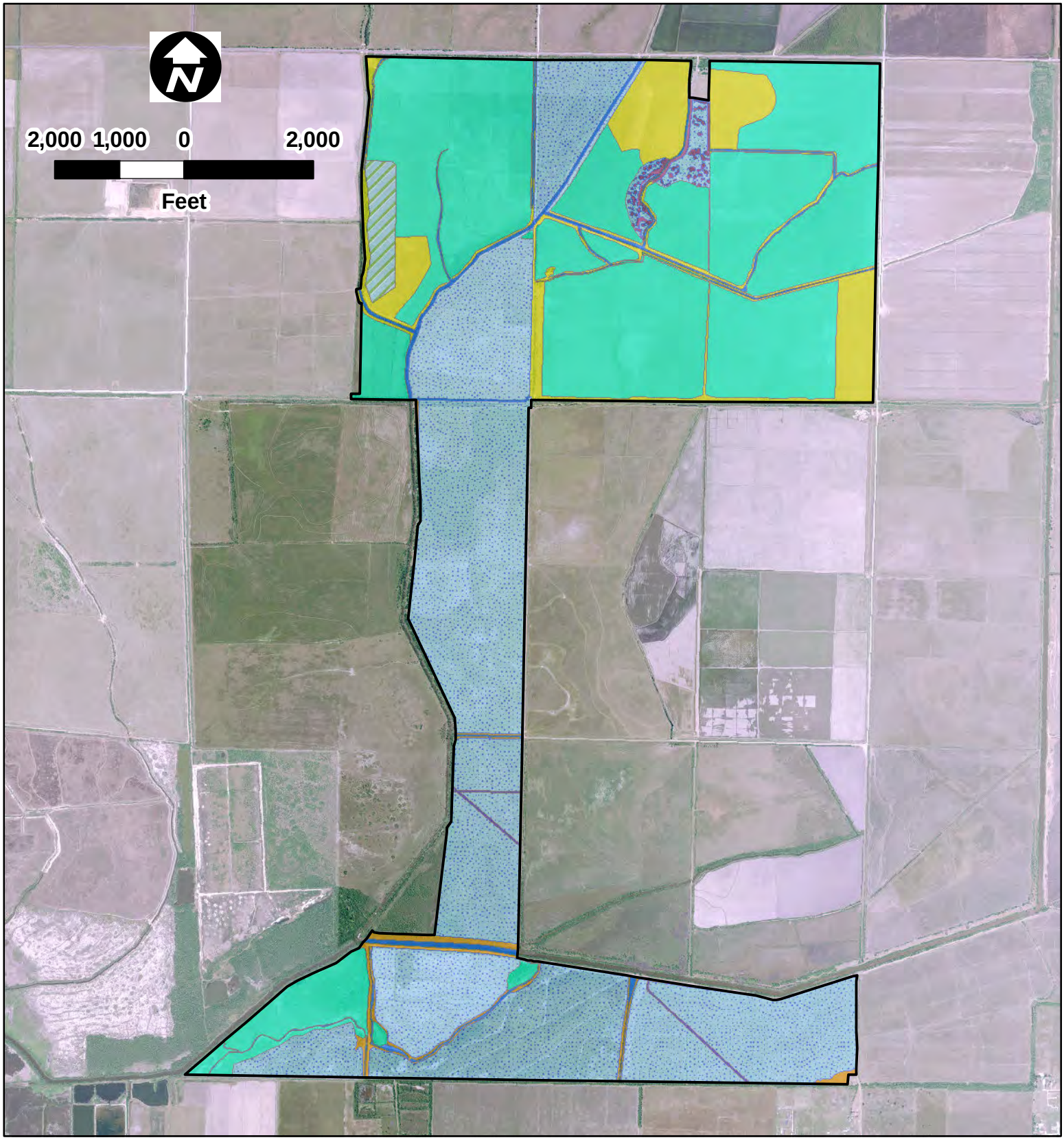
SOILS MAP

Cameron and Calcasieu Parishes, La

Created :	TSC/ArcView10
Approved :	BWD
Date :	6/19/2014
Map # :	F13_Soils.mxd

DELTA LAND SERVICES

FIGURE 13



Legend

- Project Area (1,609.4 ac)
- PC Nonwetlands (713.5 Acres)
- Nonwetland Pasture (139.7 Acres)
- Wetland (669.0 Acres)
- Other Waters (33.0 Acres)
- Nonwetland Spoil/Roads (21.7 Acres)
- PC Wetlands (20.5 Acres)
- Mima Mound Complex Nonwetland (8.8 Acres)
- Pipeline (3.2 Acres)

Proposed South Fork Coastal Mitigation Bank

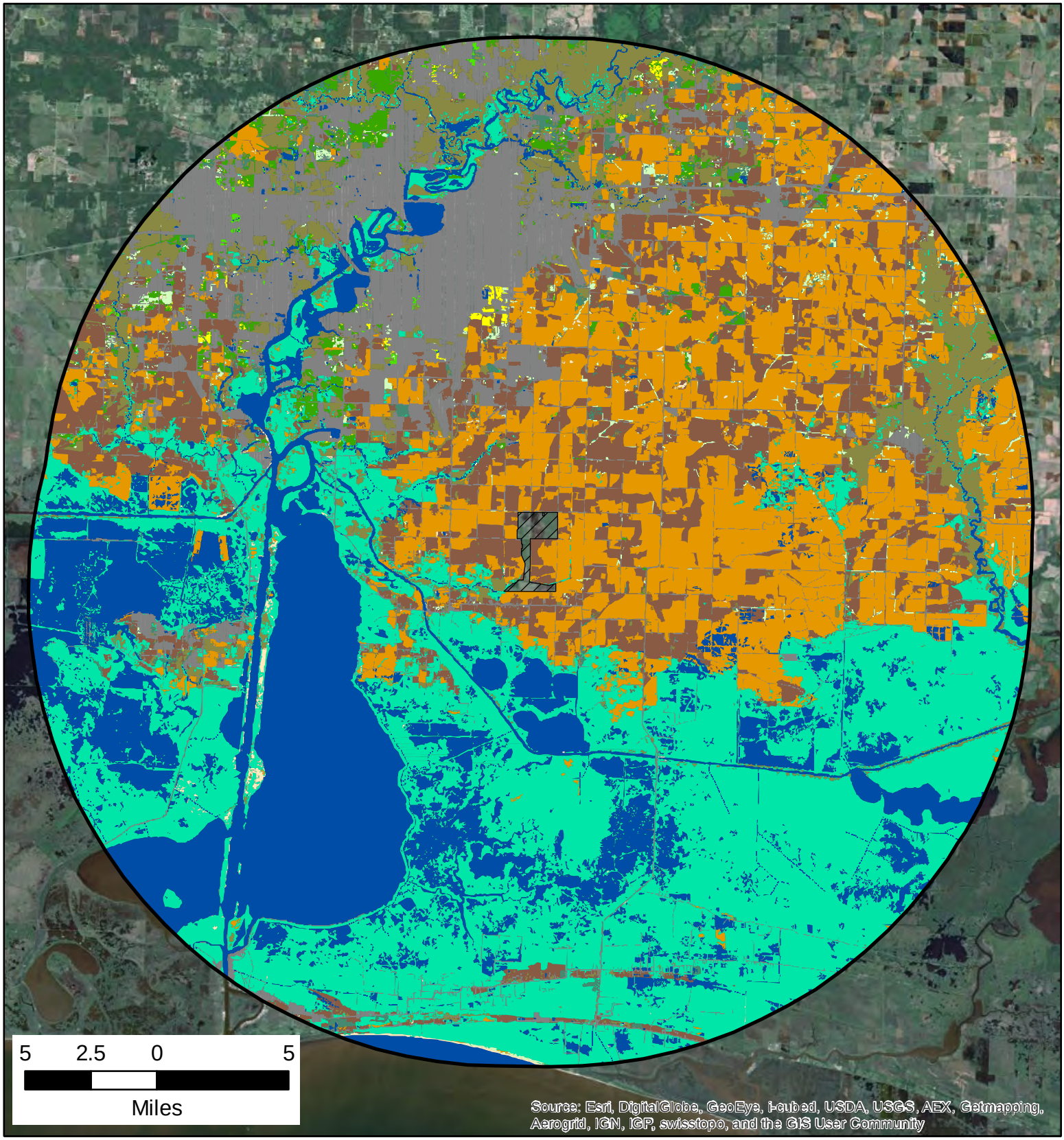
EXISTING CONDITIONS

Cameron and Calcasieu Parishes, La

Created :	LJW/ArcView10.2
Approved :	BWD
Date :	7/18/2014
Map # :	F14_ExistingConditionsI.mxd

DELTA LAND SERVICES

FIGURE 14



Legend

- Project Area (1,609.4 ac)
- 18 Mile Radius
- Emergent Herbaceuous Wetlands (29.3%)
- Open Water (19.0%)
- Cultivated Crops (18.4%)
- Developed (11.9%)
- Hay/Pasture (11.5%)
- Woody Wetlands (6.8%)
- Evergreen Forest (1.3%)
- Shrub/Scrub (0.8%)
- Herbaceuous (0.6%)
- Barren Land (0.2%)
- Mixed Forest (0.2%)
- Deciduous Forest (0.1%)

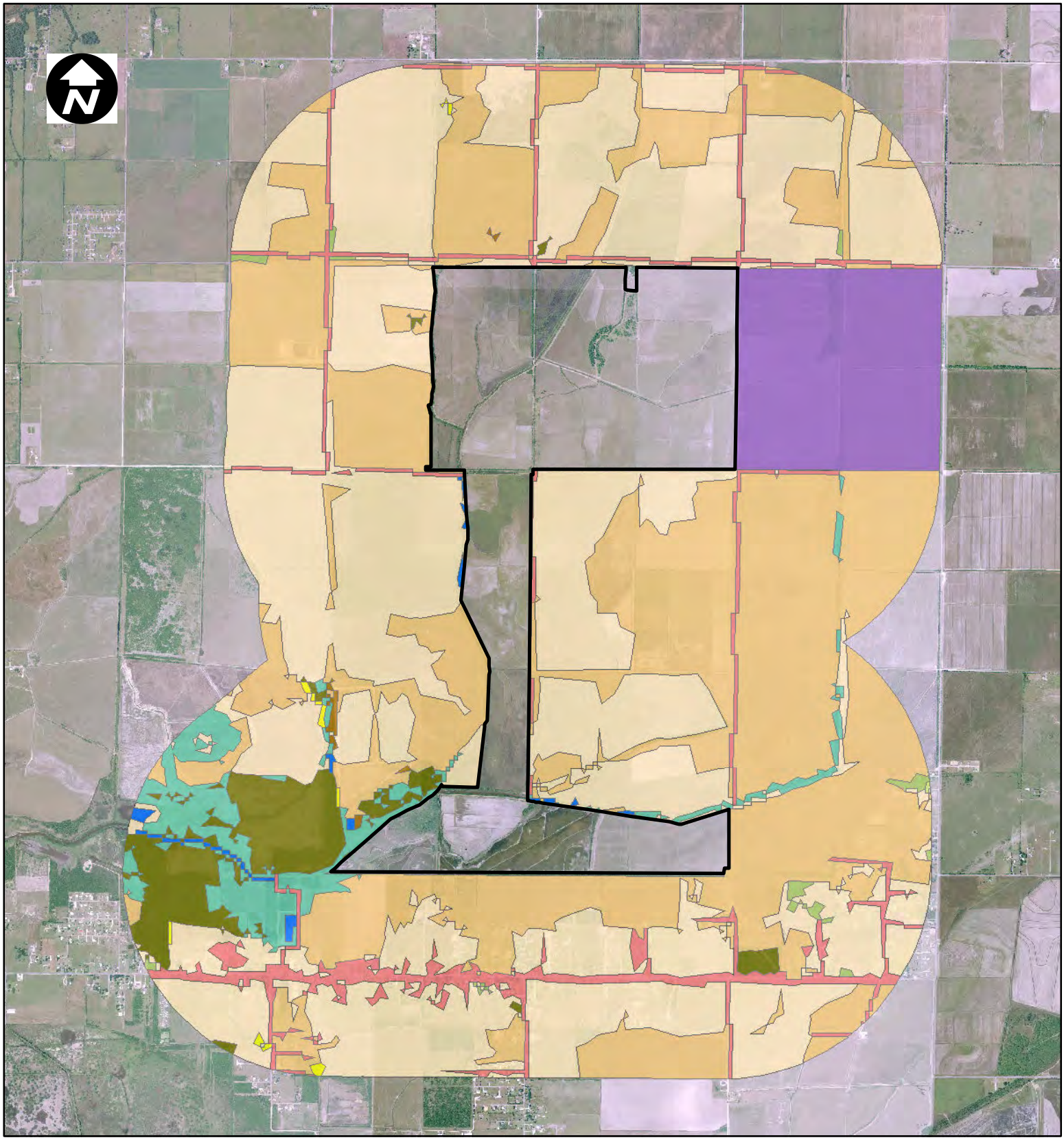
Proposed South Fork Coastal Mitigation Bank

LANDCOVER / LANDUSE WITHIN 18 MILES

Cameron and Calcasieu Parishes, La

Created :	LJW/ArcView10.2
Approved :	BWD
Date :	7/18/2014
Map # :	F15_Landuse25.mxd

FIGURE 15



Legend

- Project Area (1,609.4 ac)
- Hay/Pasture (44.7%)
- Cultivated Crops (36.6%)
- Agroforestry (6.9%)
- Developed (4.3%)
- Woody Wetlands (3.5%)
- Emergent Herbaceuous Wetlands (3.2%)
- Herbaceuous (0.3%)
- Open Water (0.3%)
- Barren Land (0.1%)
- Shrub/Scrub (0.1%)
- Mixed Forest (>0.1%)

4,000 2,000 0 4,000

Feet

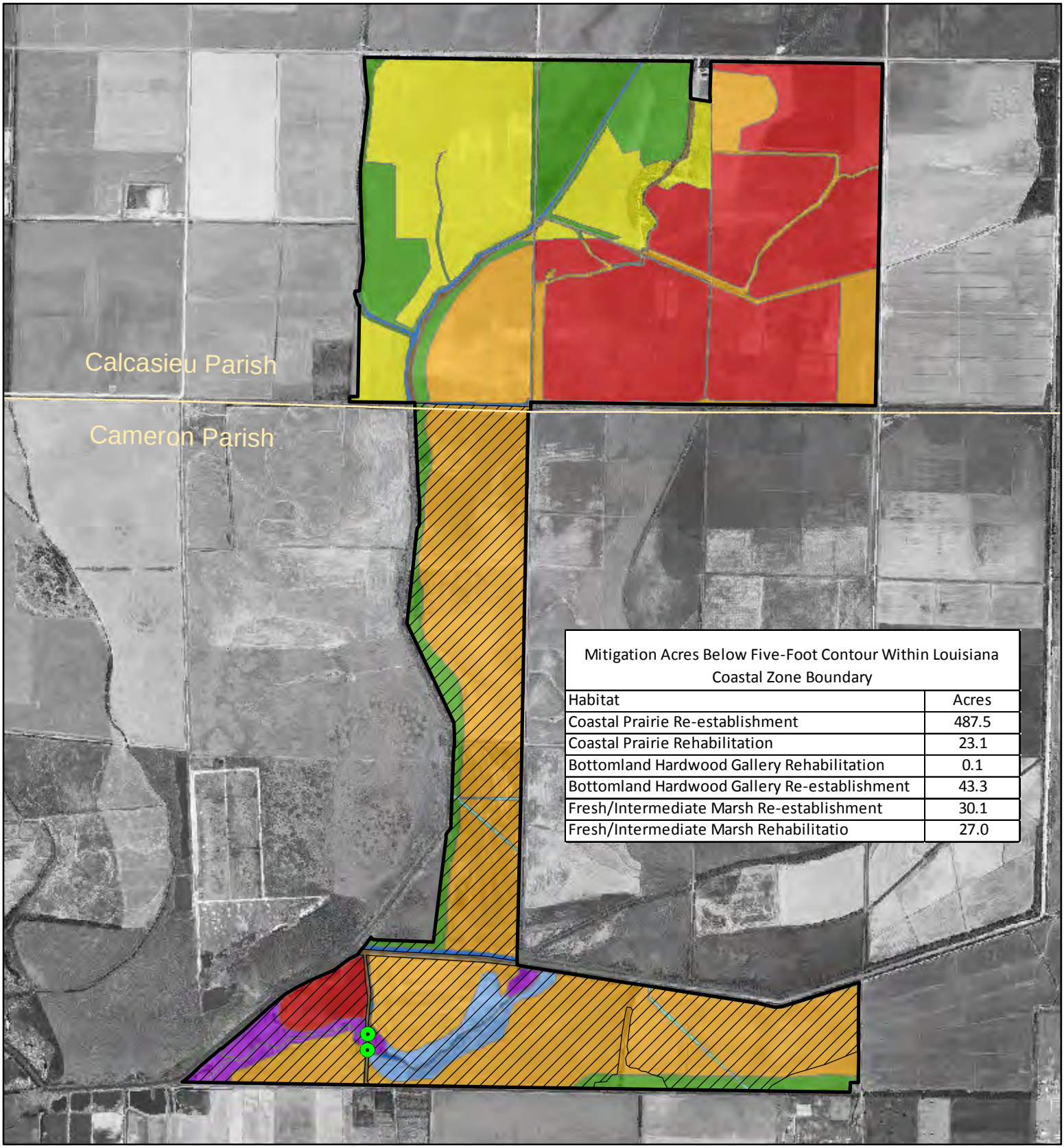
Proposed South Fork Coastal Mitigation Bank

LANDCOVER / LANDUSE WITHIN ONE MILE

Cameron and Calcasieu Parishes, La

Created :	LJW/ArcView10.2
Approved :	BWD
Date :	7/18/2014
Map # :	F16_Landuse.mxd

FIGURE 16



Mitigation Acres Below Five-Foot Contour Within Louisiana Coastal Zone Boundary	
Habitat	Acres
Coastal Prairie Re-establishment	487.5
Coastal Prairie Rehabilitation	23.1
Bottomland Hardwood Gallery Rehabilitation	0.1
Bottomland Hardwood Gallery Re-establishment	43.3
Fresh/Intermediate Marsh Re-establishment	30.1
Fresh/Intermediate Marsh Rehabilitatio	27.0

- South Fork Coastal Mitigation Bank (1,609.4 Acres)
- Mitigation Acres Below 5 Feet within Coastal Zone (611.1 acres)
- Pipe Arch Culverts to be Installed
- Coastal Prairie Re-establishment (648.6 Acres)
- Coastal Prairie Rehabilitation (429.2 Acres)
- Bottomland Hardwood Gallery Rehabilitation (234.9 Acres)
- Bottomland Hardwood Gallery Re-establishment (200.7 Acres)
- Fresh/Intermediate Marsh Re-establishment (30.1 Acres)
- Fresh/Intermediate Marsh Rehabilitation (27.0 Acres)
- Other Waters (17.9 Acres)
- Access Road (17.8 Acres)
- ROW (3.2 Acres)

N

2,000 1,000 0 2,000

Feet

Proposed South Fork Coastal Mitigation Bank

MITIGATION FEATURES MAP

Cameron and Calcasieu Parishes, La

Created :LJW/ArcView10.2
Approved :DEB
Date :7/31/2014
Map # :F17_MitigationFeatures.mxd

DELTA LAND SERVICES

FIGURE 17

Legend

- South Fork Coastal Mitigation Bank
- Primary Service Area
- Secondary Service Area

15 7.5 0 15

Miles

Proposed South Fork Coastal Mitigation Bank

BOTTOMLAND HARDWOOD SERVICE AREA

Cameron and Calcasieu Parishes, La

Created :	LJW/ArcView10.2
Approved :	DEB
Date :	7/18/2014
Map # :	F18_MitigationFeatures.mxd

DELTA LAND SERVICES

FIGURE 18

Legend

- South Fork Coastal Mitigation Bank
- Primary Service Area
- Secondary Service Area

20 10 0 20

Miles

Proposed South Fork Coastal Mitigation Bank

COASTAL PRAIRIE AND MARSH SERVICE AREA

Cameron and Calcasieu Parishes, La

Created :	LJW/ArcView10.2
Approved :	DEB
Date :	7/18/2014
Map # :	F19_CPSA.mxd

DELTA LAND SERVICES

FIGURE 19

ATTACHMENT B

PRELIMINARY JURISDICTIONAL DETERMINATIONS

DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P.O. BOX 60267
NEW ORLEANS, LOUISIANA 70160-0267

REPLY TO
ATTENTION OF

AUG 1 3 2013

Operations Division
Surveillance and Enforcement Section

Mr. Jace M. Jarreau
Delta Land Services, LLC
1090 Cinclare Drive
Port Allen, Louisiana 70767

Dear Mr. Jarreau:

Reference is made to your request for a U.S. Army Corps of Engineers' (Corps) jurisdictional determination on property located in Sections 3, 10 and 11, Township 12 South, Range 8 West, Cameron Parish, Louisiana (enclosed map). Specifically, this property is identified as a 640.8-acre proposed mitigation bank located adjacent to South Fork Black Bayou and north of LA-384.

Based on review of recent maps, aerial photography, soils data, and the information provided with your request, we have determined that part of the property is wetland and may be subject to Corps' jurisdiction. The approximate limits of the wetland are designated in red on the map. A Department of the Army (DA) permit under Section 404 of the Clean Water Act will be required prior to the deposition or redistribution of dredged or fill material into wetlands that are waters of the United States. Additionally, a DA permit will be required if you propose to deposit dredged or fill material into other waters subject to Corps' jurisdiction. Other waters that may be subject to Corps' jurisdiction are indicated in blue on the map. Also, waters that may be subject to Corps' jurisdiction under Section 10 of the Rivers and Harbors Act (RHA) are indicated on the map. A DA Section 10 permit will be required prior to any work in waters subject to Corps' jurisdiction under Section 10 of the RHA.

This delineation/determination has been conducted to identify the limits of the Corps' Clean Water Act jurisdiction for the particular site identified in your request. This delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If the property owner or tenant is a USDA farm participant, or anticipates participation in USDA programs, a certified wetland determination should be requested from the local office of the Natural Resources Conservation Service prior to starting work.

Please be advised that this property is in the Louisiana Coastal Zone. For additional information regarding coastal use permit requirements, contact Ms. Christine Charrier, Coastal Management Division, Louisiana Department of Natural Resources at (225) 342-7953.

You are advised that this preliminary jurisdictional determination is valid for a period of 5 years from the date of this letter unless new information warrants revision prior to the expiration date or the District Commander has identified, after public notice and comment, that specific geographic areas with rapidly changing environmental conditions merit re-verification on a more frequent basis.

Should there be any questions concerning these matters, please contact Mr. Gary Couret at (337) 291-3042 and reference our Account No. MVN-2013-01755-SC. If you have specific questions regarding the permit process or permit applications, please contact Mr. Brian Breaux of our Special Projects and Policy Team at (504) 862-1938. The New Orleans District Regulatory Branch is committed to providing quality and timely service to our customers. In an effort to improve customer service, please complete the survey on our web site at http://per2.nwp.usace.army.mil/survey.html.

Sincerely,

for Martin S. Mayer
Chief, Regulatory Branch

Enclosures

PRELIMINARY JURISDICTIONAL DETERMINATION

USACE Acct. No. MVN-2013-01755-SC

For J. Jarreau, consultant's field data. Section 3, 10 & 11, T12S, R8W, Cameron Parish, LA
Lat. 30.032271, Lon. -93.164626, ih 8-5-13 gmc

Legend

- Area of Interest (640.83 Ac.)
- Data Points
- Nonwetlands (46.5 ac.)
- Other Waters of the U.S.
- Prior-Converted (490.9 ac.)
- Sec 404 : Wetlands (68.4 ac.)
- Sec 10/404 Navigable Water of the U.S (South Fork Black Bayou)

N

1,500 750 0 1,500

Feet

Stream Property

DELINEATION MAP

Cameron Parish, LA

Created : TSC/ARCVIEW	
Approved : JMJ	
Date : 6/27/2013	
Map No. : F06_Delineation	

FIGURE 6

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office: New Orleans District | File/ORM #: MVN-2013-01755-SC | PJD Date: Aug 5, 2013

State: LA | City/County: Cameron Parish

Nearest Waterbody: South Fork Black Bayou

Location: TRS, LatLong or UTM: Sections 3, 10 & 11, Township 12S, Range 8 W
Lat. 30.032271, Long. -93.164626

Name/ Address of Person Requesting PJD: Mr. Jace M. Jarreau
Delta Land Services, LLC
1090 Cinclare Drive
Port Allen, Louisiana 70767

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters: linear ft; width 35 acres; Stream Flow: Perennial

Wetlands: 68.4 acre(s); Cowardin Class: N/A

Name of Any Water Bodies on the Site Identified as Section 10 Waters: Tidal: South Fork Black Bayou; Non-Tidal:

☑ Office (Desk) Determination
☐ Field Determination: Date of Field Trip:

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

- ☑ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☐ U.S. Geological Survey Hydrologic Atlas:
  - ☐ USGS NHD data.
  - ☐ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite quad name: 1:24,000, Lake Charles SW
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: NRCS WSS
- ☑ National wetlands inventory map(s). Cite name: ORM-PFO1A, PSS1C, PEM1F
- ☐ State/Local wetland inventory map(s):
- ☐ FEMA/FIRM maps:
- ☐ 100-year Floodplain Elevation is:
- ☑ Photographs: ☑ Aerial (Name & Date): SONRIS, Google, 1998, 2004, 2008, 2012 & 2013
  - ☐ Other (Name & Date):
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Gary M. Comeaux 8/5/13
Signature and Date of Regulatory Project Manager (REQUIRED)

Mr. Jarreau requested a Preliminary JD by request letter dated July 1, 2013
Signature and Date of Person Requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P.O. BOX 60267
NEW ORLEANS, LOUISIANA 70160-0267

REPLY TO
ATTENTION OF

OCT 21 2013

Operations Division
Surveillance and Enforcement Section

Mr. Jace Jarreau
Delta Land Services, LLC
1090 Cinclare Drive
Port Allen, Louisiana 70767

Dear Mr. Jarreau:

Reference is made to your request for a U.S. Army Corps of Engineers' (Corps) jurisdictional determination on property located in Sections 3 and 10, Township 12 South, Range 8 West, Calcasieu Parish, Louisiana (enclosed map). Specifically, this property is identified as a proposed 733 acre mitigation bank north of LA-384, and south east of the intersection of Cal Cam Ward Lane and Tom Hebert Road.

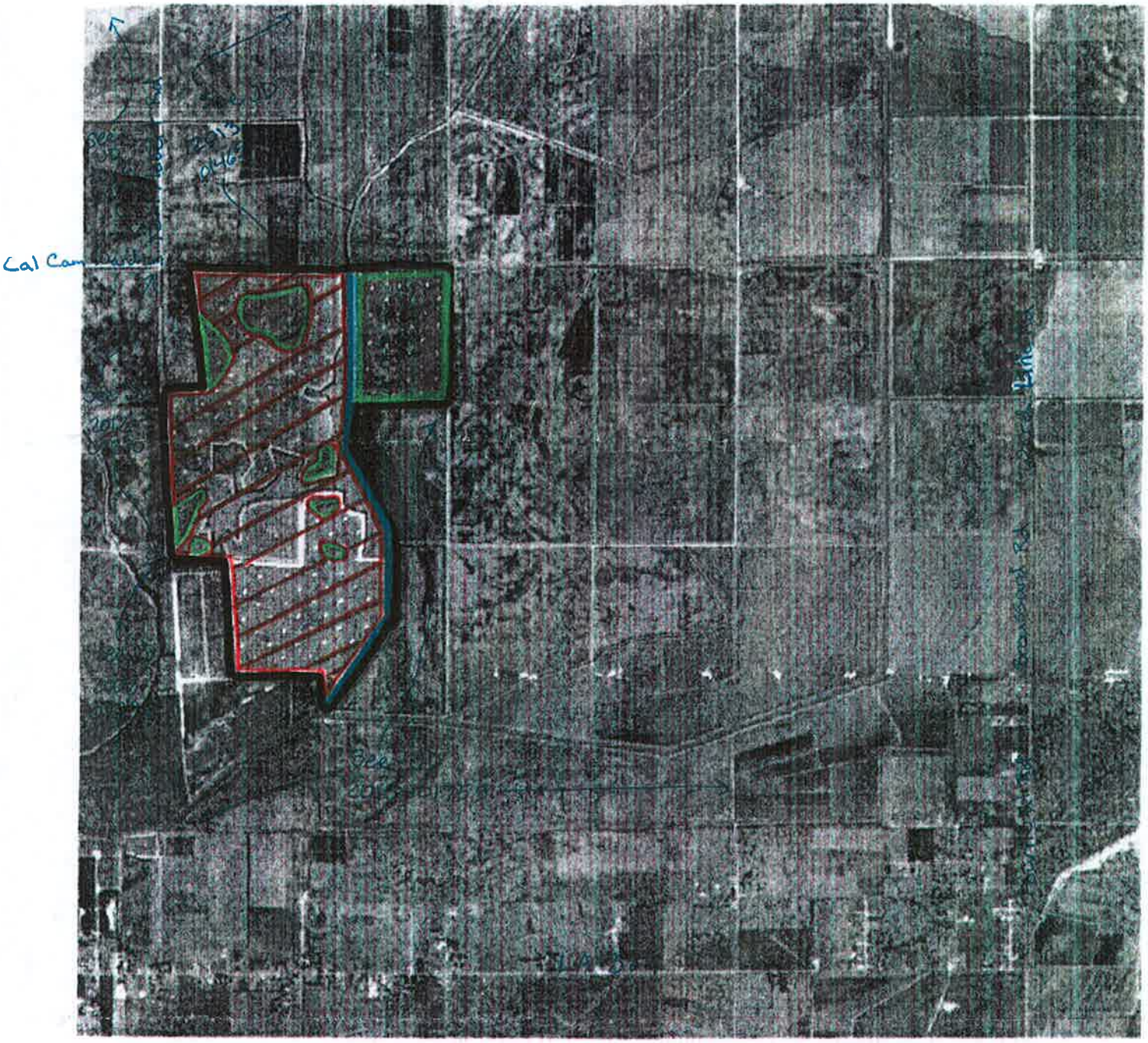
Based on review of recent maps, aerial photography, and soils data, we have determined that part of the property is wetland and may be subject to Corps' jurisdiction. The approximate limits of the wetland are designated in red on the map. A Department of the Army (DA) permit under Section 404 of the Clean Water Act will be required prior to the deposition or redistribution of dredged or fill material into wetlands that are waters of the United States. Additionally, waters that may be subject to Corps' jurisdiction under Section 10 of the Rivers and Harbors Act (RHA) are indicated in blue on the map. A DA permit will be required prior to any work in waters subject to Corps' jurisdiction under Section 10 of the RHA.

Additionally, this property is adjacent to a mitigation bank protected by a perpetual conservation servitude. For more information regarding this mitigation bank, please contact Mr. Brian Breaux at (504) 862-1938.

Please be advised that this property is in the Louisiana Coastal Zone. For additional information regarding coastal use permit requirements, contact Ms. Christine Charrier, Office of Coastal Management, Louisiana Department of Natural Resources at (225) 342-7953.

This delineation/determination has been conducted to identify the limits of the Corps' Clean Water Act jurisdiction for the particular site identified in your request. This delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If the property owner or tenant is a USDA farm participant, or anticipates participation in USDA programs, a certified wetland determination should be requested from the local office of the Natural Resources Conservation Service prior to starting work.

PROPOSED SOUTH FORK MITIGATION AREA



ACCT. # MVN-2013-02069-SR USACE

RS 9-24-13

SEC 3 & 10, T12S, R8W, CAMERON PARISH, LA

LAT 30.0906, LONG -93.1722

2000 0 2000 4000 Feet

SEC 404 WETLAND

SEC. 10/404 TRIBUTARY OF SOUTH FORK BLACK BAYOU

PROPERTY BOUNDARY

NONWETLAND

PRELIMINARY
JURISDICTIONAL DETERMINATION

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office: New Orleans District | File/ORM #: 2013-02069-SR | PJD Date: Sep 24, 2013

State: LA | City/County: Cameron

Nearest Waterbody: unnamed trib to South Fork Black Bayou

Location: TRS, LatLong or UTM: T12S, R8W, Sections 3 and 10
Lat: 30.039762, Long: -93.172438

Name/ Address of Person Requesting PJD: Jace Jarreau
Delta Land Services, LLC
1090 Clnclare Drive
Port Allen, Louisiana 70767

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters: 8690 linear ft | width | acres | Stream Flow: Perennial

Wetlands: 464 acre(s) | Cowardin Class: Palustrine, emergent

Name of Any Water Bodies on the Site Identified as Section 10 Waters: Tidal: unnamed trib to South Fork Black Bayou | Non-Tidal:

☑ Office (Desk) Determination
☐ Field Determination: Date of Field Trip:

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

- ☑ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- ☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☑ U.S. Geological Survey Hydrologic Atlas:
  - ☐ USGS NHD data.
  - ☑ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite quad name: Lake Charles
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: NRCS wss
- ☐ National wetlands inventory map(s). Cite name:
- ☐ State/Local wetland inventory map(s):
- ☑ FEMA/FIRM maps: LIDAR
- ☐ 100-year Floodplain Elevation is:
- ☑ Photographs: ☑ Aerial (Name & Date): CIR: 98, 04
  - ☑ Other (Name & Date): Google Earth
- ☑ Previous determination(s). File no. and date of response letter: 2008-2851 (9-16-08); 2008-2222 (10-14-08); 2012-2370 (2-6-13); 2012-2276 (7-27-12); 2013-1465 (7-24-13); 2013-1755 (8-13-13)
- ☑ Other information (please specify): FSA crop history

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Rose Schwarzenfeld 9-24-13
Signature and Date of Regulatory Project Manager
(REQUIRED)

Jace Jarreau by mail dated 9-13-13
Signature and Date of Person Requesting Preliminary JD
(REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P.O. BOX 60267
NEW ORLEANS, LOUISIANA 70160-0267

REPLY TO
ATTENTION OF

JUL 14 2014

Operations Division
Surveillance and Enforcement Section

Mr. Jace Jarreau
Delta Land Services, LLC
1090 Cinclaire Drive
Port Allen, Louisiana 70767

Dear Mr. Jarreau:

Reference is made to your request for a U.S. Army Corps of Engineers' (Corps) jurisdictional determination on property located in Sections 34 and 35, Township 11 South, Range 8 West, Calcasieu Parish, Louisiana (enclosed map). Specifically, this property is identified as 980.6 acres on and south of Helms Road and on and west of Bill Gayle Road.

During a review of our files, we discovered that our letter incorrectly advised you regarding the wetland status of a portion of this property. An additional field inspection was conducted on June 4, 2014. Based on the results of this investigation and a review of the previous data collected, we have determined that a larger portion of the property is in a wetland subject to US Army Corps of Engineers' jurisdiction. Our previous letter and map under Account No. MVN-2014-00765-SR are hereby rescinded, and replaced by the attached map.

Based on review of recent maps, aerial photography, soils data, the information provided with your request, a previous determination, and a field inspection of the property conducted on June 4, 2014, we have determined that part of the property is wetland and may be subject to Corps' jurisdiction. The approximate limits of the wetland are designated in red on the map. A Department of the Army (DA) permit under Section 404 of the Clean Water Act will be required prior to the deposition or redistribution of dredged or fill material into wetlands that are waters of the United States. Additionally, a DA permit will be required if you propose to deposit dredged or fill material into other waters subject to Corps' jurisdiction. Other waters that may be subject to Corps' jurisdiction are indicated in blue on the map. Furthermore, waters that may be subject to Corps' jurisdiction under Section 10 of the Rivers and Harbors Act (RHA) are indicated in blue on the map. A DA permit will be required prior to any work in waters subject to Corps' jurisdiction under Section 10 of the RHA.

This delineation/determination has been conducted to identify the limits of the Corps' Clean Water Act jurisdiction for the particular site identified in your request. This delineation/determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985, as amended. If the property owner or tenant is a USDA

farm participant, or anticipates participation in USDA programs, a certified wetland determination should be requested from the local office of the Natural Resources Conservation Service prior to starting work.

You are advised that this preliminary jurisdictional determination is valid for a period of 5 years from the date of this letter unless new information warrants revision prior to the expiration date or the District Commander has identified, after public notice and comment, that specific geographic areas with rapidly changing environmental conditions merit re-verification on a more frequent basis.

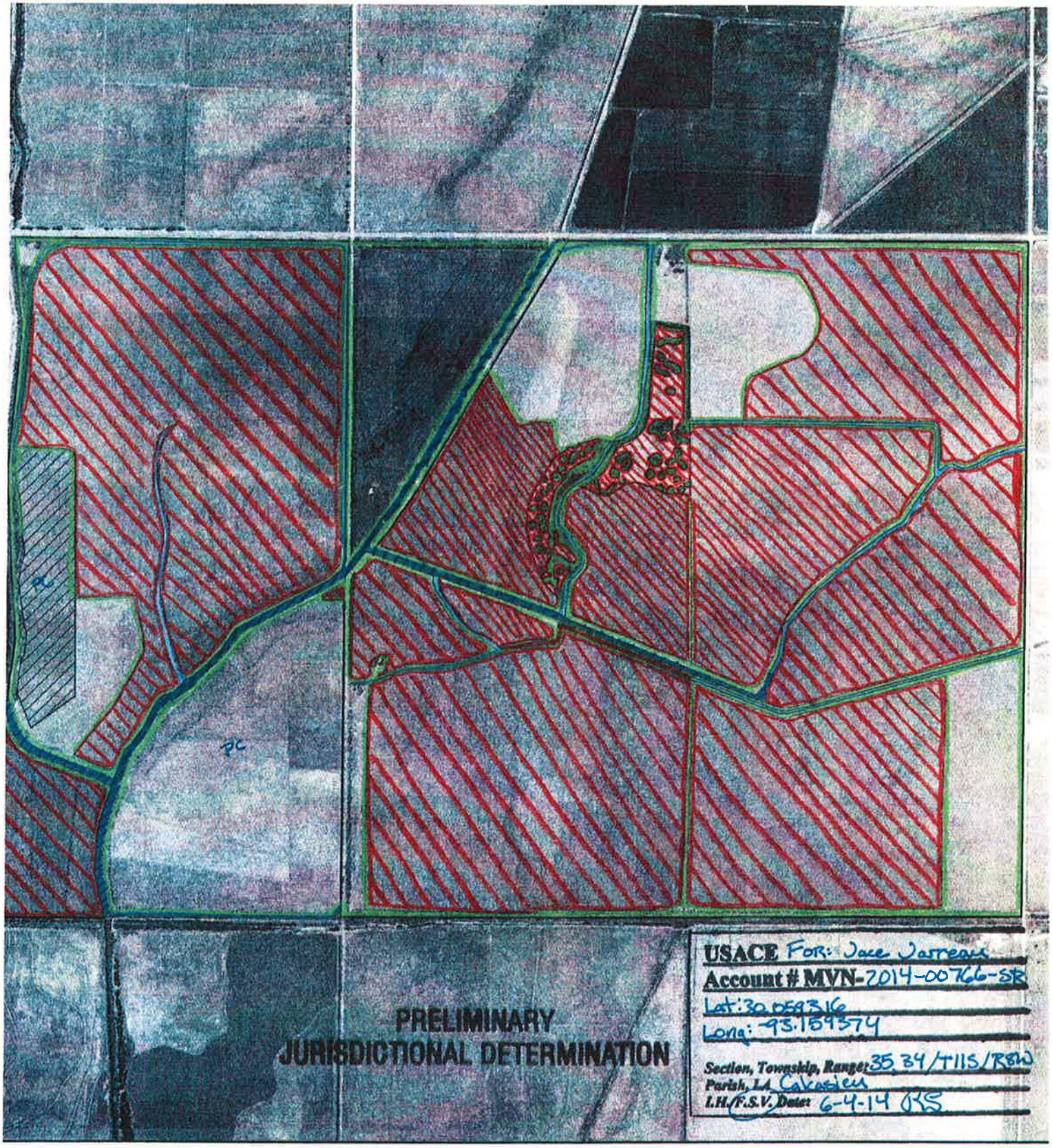
Should there be any questions concerning these matters, please contact Dr. Rosie Schwamenfeld at (337) 291-3045 and reference our Account No. MVN-2014-00766-SR. If you have specific questions regarding the permit process or permit applications, please contact our Western Evaluation Section at (504) 862-2261.

Sincerely,

Robert A. Huffman

for Martin S. Mayer
Chief, Regulatory Branch

Enclosures



egend

- Data Point
- Boundary (834.7 ac.)
- Non-wetlands ([redacted])
- Wetlands ac.) See 404
- Other Waters of the U.S. Section 10 ([redacted]) and section 404
- Other Waters of the U.S. Section 404

N

1,200 600 0 1,200

Feet

Prairie Lands Property
Tract 2

REVISED DELINEATION MAP

Calcasieu Parish, LA

Created :	TSC/ArcView10
Approved :	KMW
Date :	6/6/2014
Map # :	F06_Delineation_revised

DELTA LAND SERVICES

FIGURE 6

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office: New Orleans District | File/ORM #: 2014-00766-SR | PJD Date: Jun 23, 2014

State: LA | City/County: Calcasieu

Nearest Waterbody: unnamed tributaries to South Fork Black Bayou

Location: TRS, LatLong or UTM: T11A, R8W, Sections 34 and 35
Lat: 30.0059316, Long: -93.159374

Name/ Address of Person Requesting PJD: Jace Jarreau
Delta Land Services, LLC
1090 Cinclare Drive
Port Allen, Louisiana 70767

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters: linear ft | width 24.1 acres | Stream Flow: Perennial

Wetlands: 635.41 acre(s) | Cowardin Class: Palustrine, emergent

Name of Any Water Bodies on the Site Identified as Section 10 Waters: Tidal: unnamed tributaries (see map) | Non-Tidal:

☐ Office (Desk) Determination
☑ Field Determination: Date of Field Trip: Jun 4, 2014

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

- ☑ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☑ U.S. Geological Survey Hydrologic Atlas:
  - ☐ USGS NHD data.
  - ☑ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite quad name: Lake Charles
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: NRCS wss
- ☐ National wetlands inventory map(s). Cite name:
- ☐ State/Local wetland inventory map(s):
- ☐ FEMA/FIRM maps:
- ☐ 100-year Floodplain Elevation is:
- ☑ Photographs: ☑ Aerial (Name & Date): CIR: 98, 04, 10
  - ☐ Other (Name & Date):
- ☑ Previous determination(s). File no. and date of response letter: 2014-00765-SR (4-22-14)
- ☑ Other information (please specify): NRCS PC report and FSA crop history and lidar

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Rose Schwarzenfeld 6-23-14
Signature and Date of Regulatory Project Manager
(REQUIRED)

Jace Jarreau by mail dated 3-24-14
Signature and Date of Person Requesting Preliminary JD
(REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

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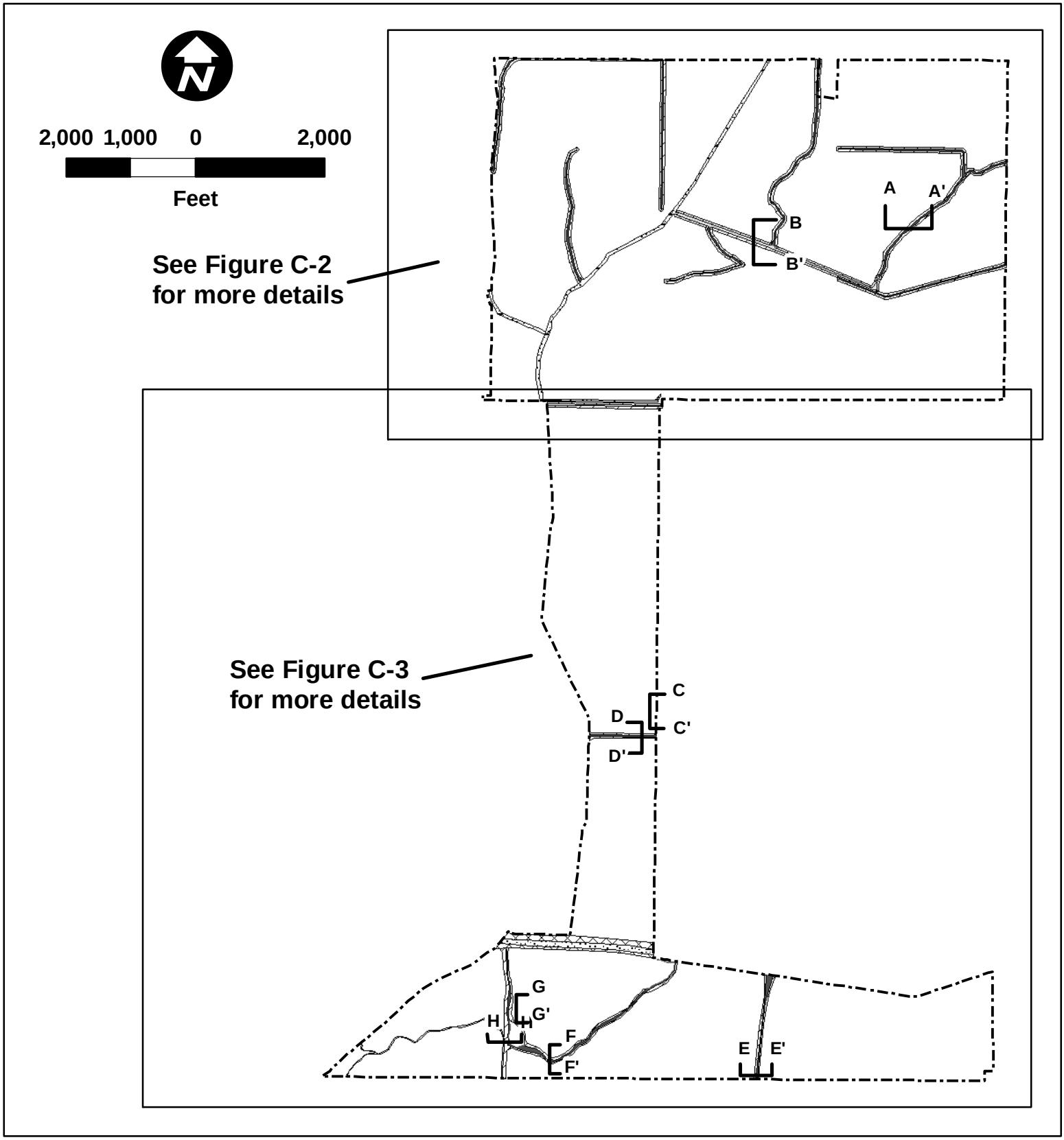
ATTACHMENT C

HYDROLOGY RESTORATION DRAWINGS



Legend

- South Fork Coastal Mitigation Bank (1,609.4 Acres)
- Nonwetland Spoil Bank to Remain (7.6 Acres)
- Nonwetland Spoil Bank to be Degraded (44.5 Acres)
- Other Waters (Section 10) to Be Filled (3.1 Acres)
- Other Waters (Section 404) to Be Filled (14.9 Acres)
- Other Waters to be Avoided (15.0 Acres)

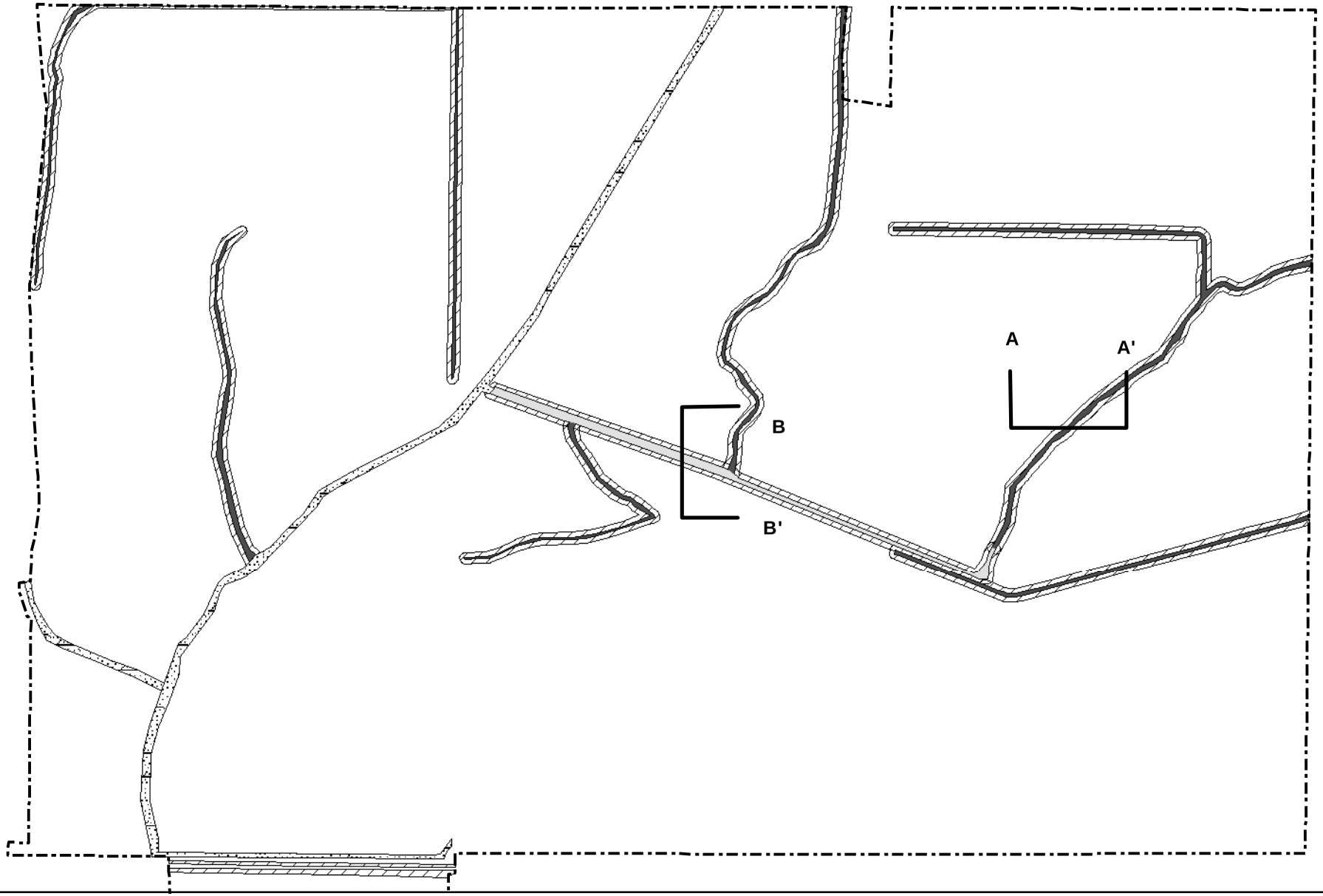
Proposed South Fork Coastal Mitigation Bank

OVERALL PLAN VIEW

Cameron and Calcasieu Parishes, La

Created :	LJW/ArcView10.2
Approved :	
Date :	7/11/2014
Map # :	FC-1_OverallPlanView.mxd

Figure C-1



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- Other Waters to be Avoided (15.0 Acres)

N

1,000 500 0 1,000

Feet

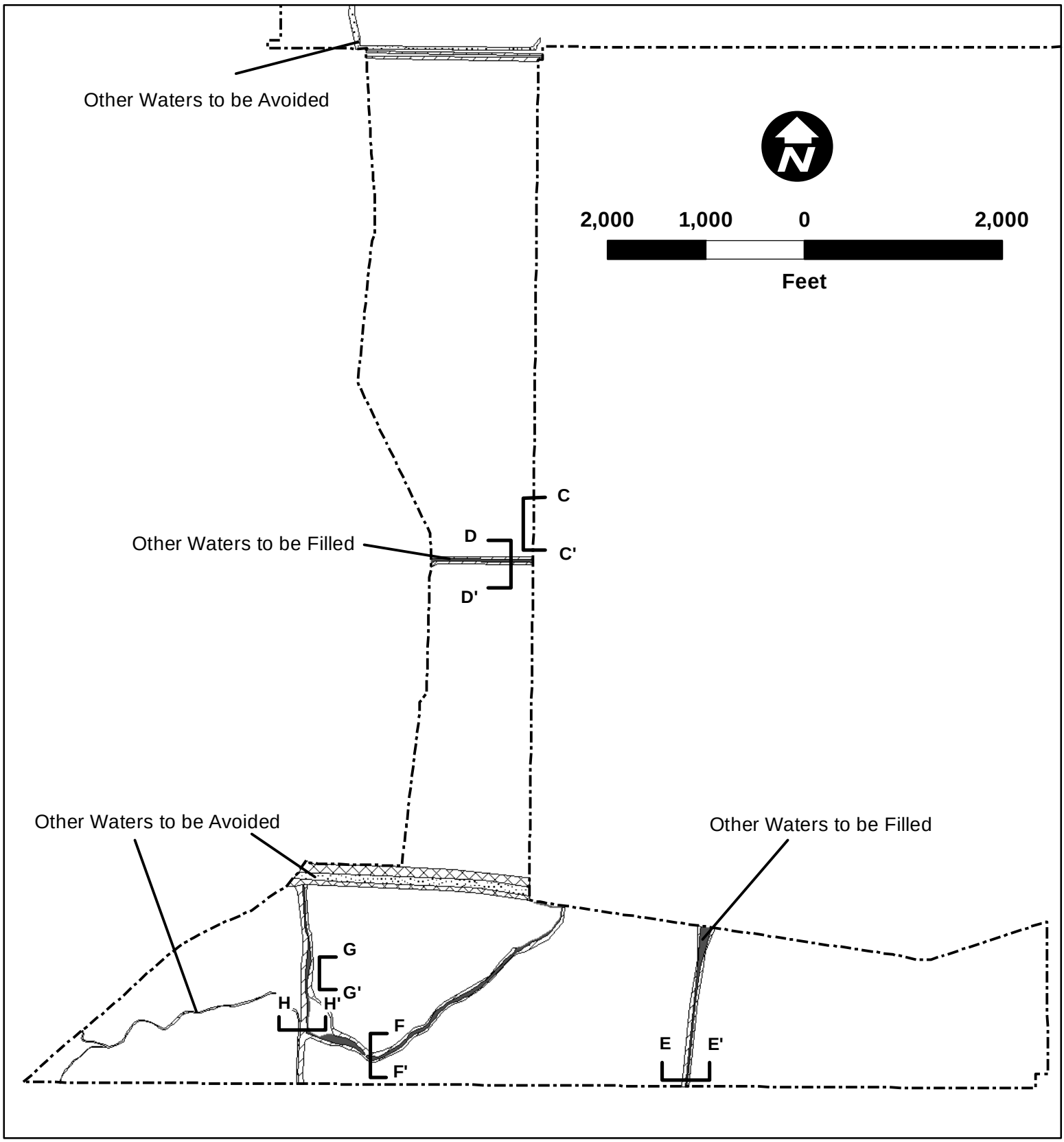
Proposed South Fork Coastal Mitigation Bank

DETAIL PLAN VIEW

Cameron and Calcasieu Parishes, La

Created : LJW/ArcView10.2	
Approved :	
Date : 7/11/2014	
Map # : FC-2_DetailPlanView.mxd	

Figure C-2



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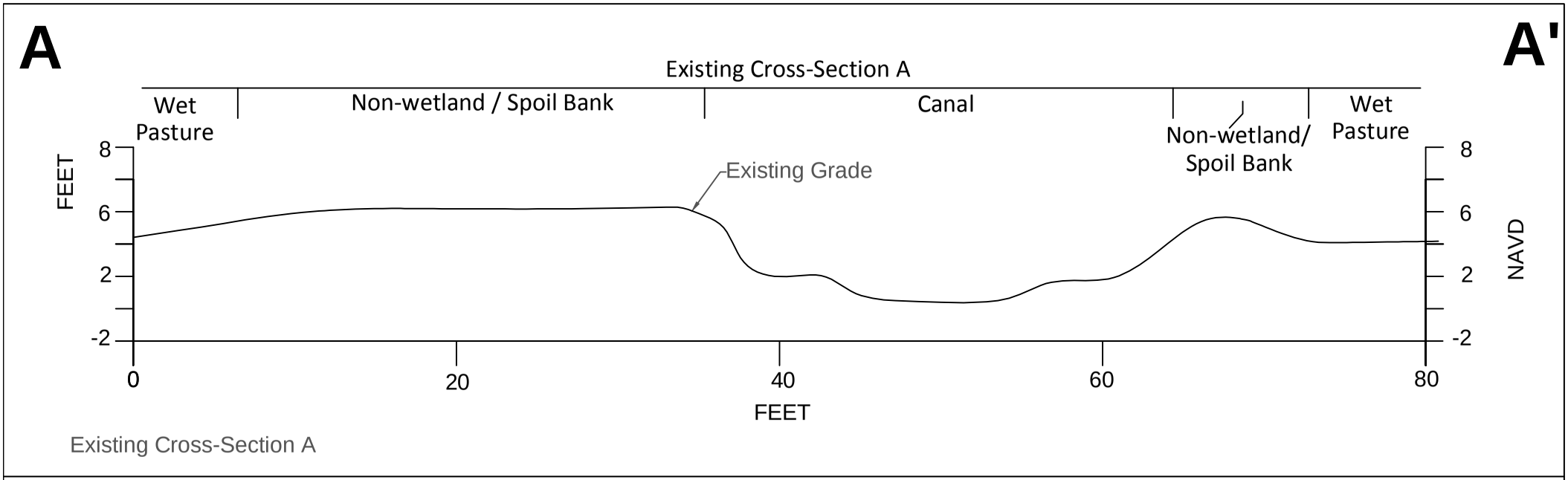
Proposed South Fork Coastal Mitigation Bank

DETAIL PLAN VIEW

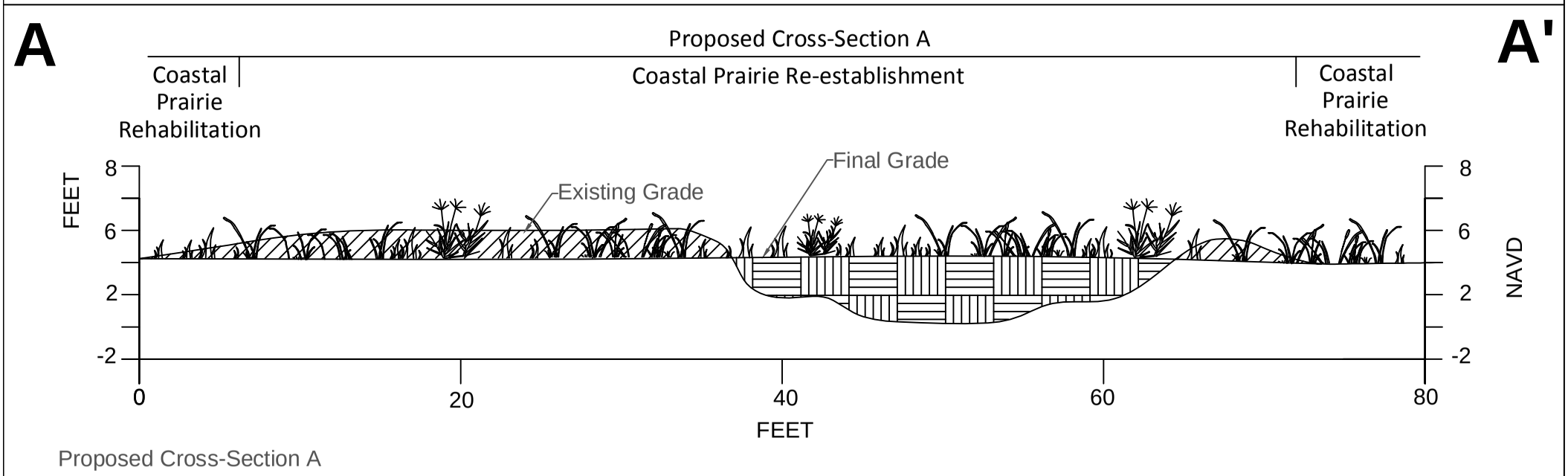
Cameron and Calcasieu Parishes, La

Created :	LJW/ArcView10.2
Approved :	
Date :	7/11/2014
Map # :	FC-3_DetailPlanView.mxd

Figure C-3



Existing Cross-Section A



Proposed Cross-Section A

Proposed Excavation

Proposed Earthen Fill

MHWL = MEAN HIGH WATER LEVEL IS 2.9 FEET
MWL = MEAN WATER LEVEL IS 2.2 FEET
MLWL = MEAN LOW WATER LEVEL IS 1.7 FEET

Note: Water level data from Calcasieu Lock-East on Intracoastal Waterway (Gage ID 76880) from 1/1/2009 to 12/31/2013

Proposed South Fork Coastal Mitigation Bank

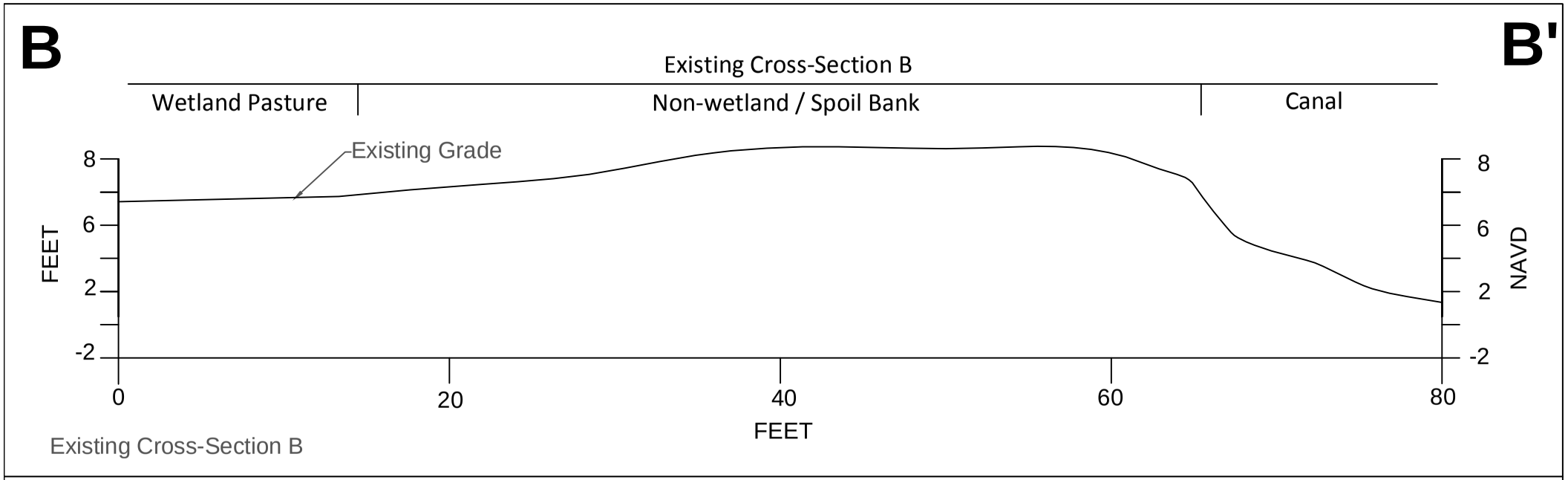
Existing Condition
with Proposed Swale

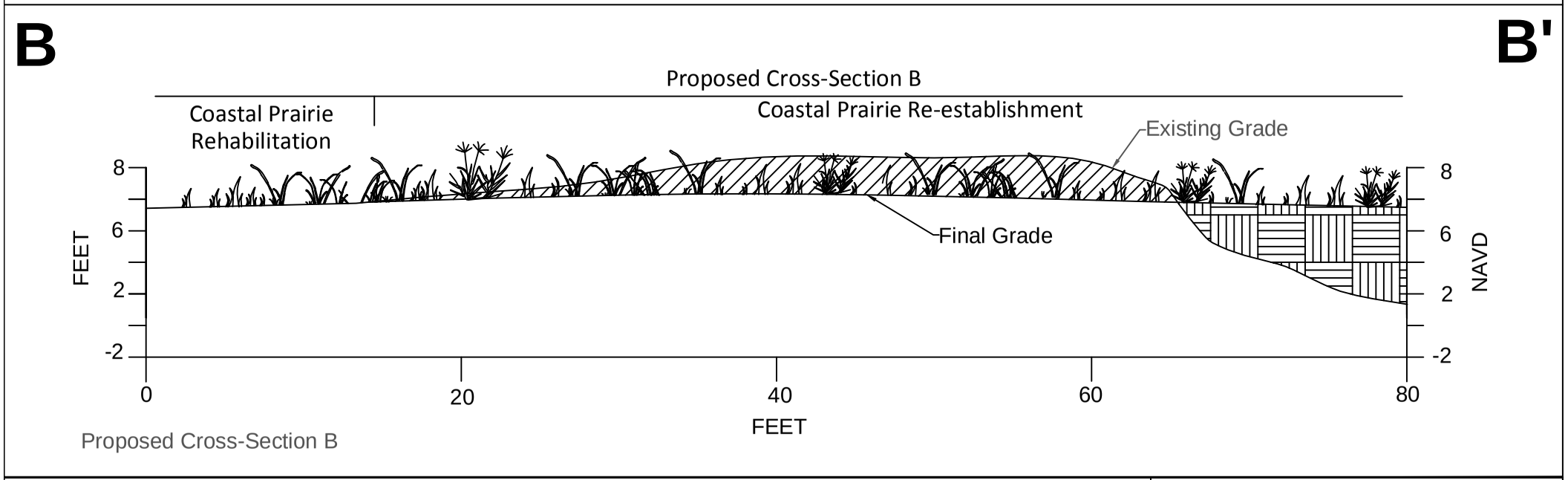
CAMERON AND CALCASIEU PARISHES, LA

Created:	TSC/AutoCAD
Approved:	LJW
Date:	7/7/14
Dwg. No.:	SouthForkBank.dwg

DELTA LAND SERVICES

Attachment C-4





Proposed Excavation

Proposed Earthen Fill

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Proposed South Fork Coastal Mitigation Bank

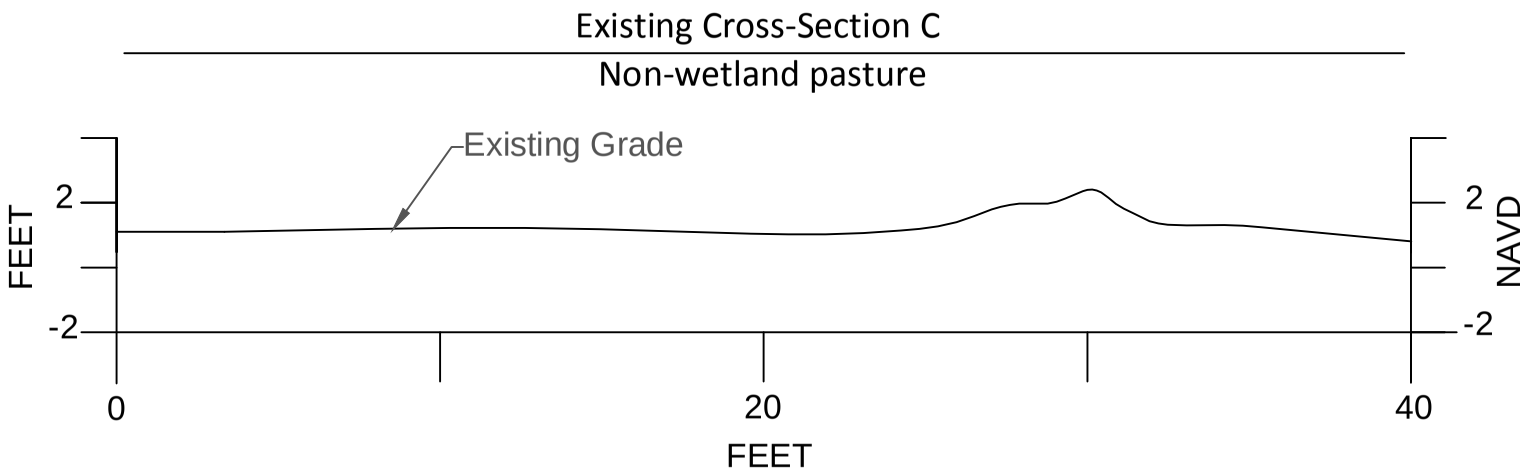
Existing Condition
with Proposed Swale

CAMERON AND CALCASIEU PARISHES, LA

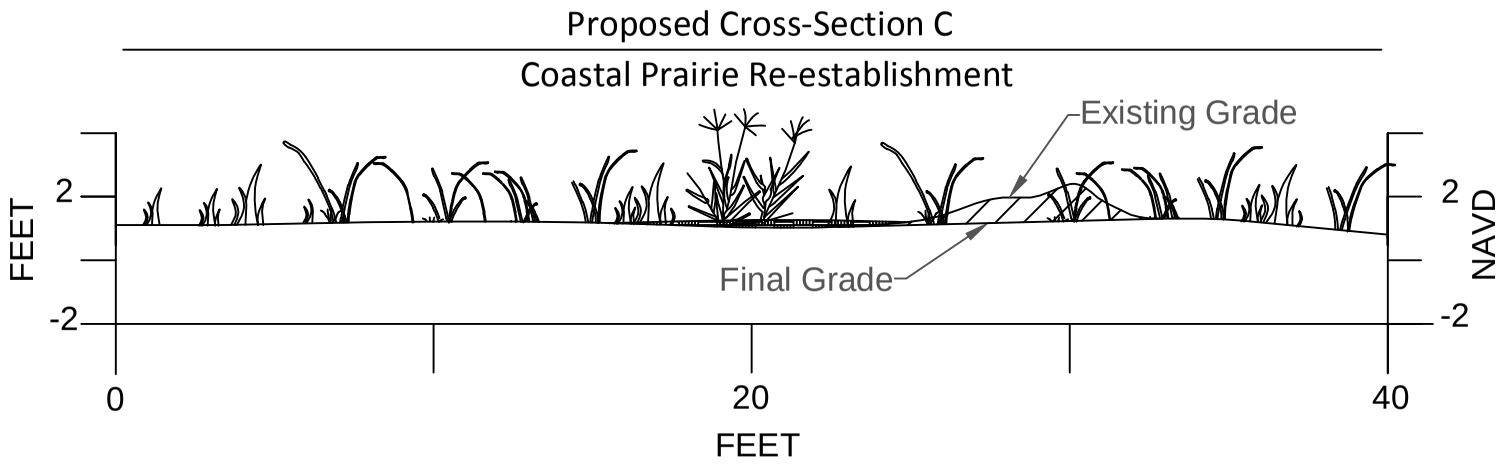
Created:	TSC/AutoCAD
Approved:	
Date:	7/3/14
Dwg. No.:	SouthForkBank.dwg

DELTA LAND SERVICES

Attachment C-5



Existing Cross-Section C



Proposed Cross-Section C

Proposed Excavation

Proposed Earthen Fill

MHWL = MEAN HIGH WATER LEVEL IS 2.9 FEET
MWL = MEAN WATER LEVEL IS 2.2 FEET
MLWL = MEAN LOW WATER LEVEL IS 1.7 FEET

Note: Water level data from Calcasieu Lock-East on Intracoastal Waterway (Gage ID 76880) from 1/1/2009 to 12/31/2013

Proposed South Fork Coastal Mitigation Bank

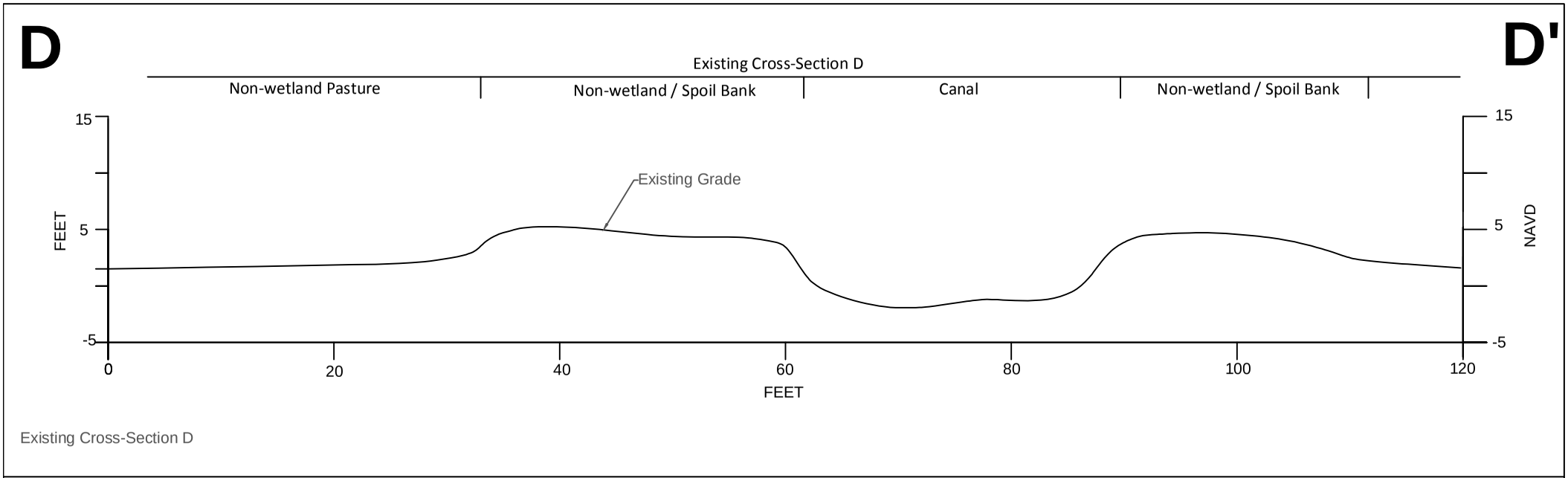
Existing Condition
with Proposed Swale

CAMERON AND CALCASIEU PARISHES, LA

Created:	TSC/AutoCAD
Approved:	LJW
Date:	7/7/14
Dwg. No.:	SouthForkBank.dwg

Attachment C-6

DELTA LAND SERVICES



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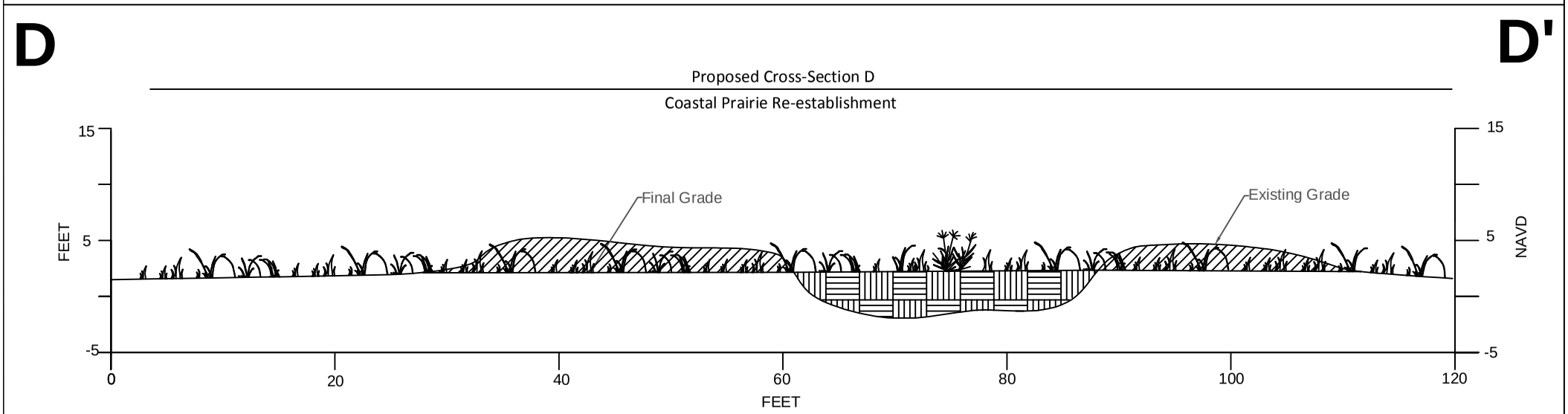


Proposed Cross-Section D

Proposed Excavation

Proposed Earthen Fill

MHWL = MEAN HIGH WATER LEVEL IS 2.9 FEET
MWL = MEAN WATER LEVEL IS 2.2 FEET
MLWL = MEAN LOW WATER LEVEL IS 1.7 FEET

Note: Water level data from Calcasieu Lock-East on Intracoastal Waterway (Gage ID 76880) from 1/1/2009 to 12/31/2013

Proposed South Fork Coastal Mitigation Bank

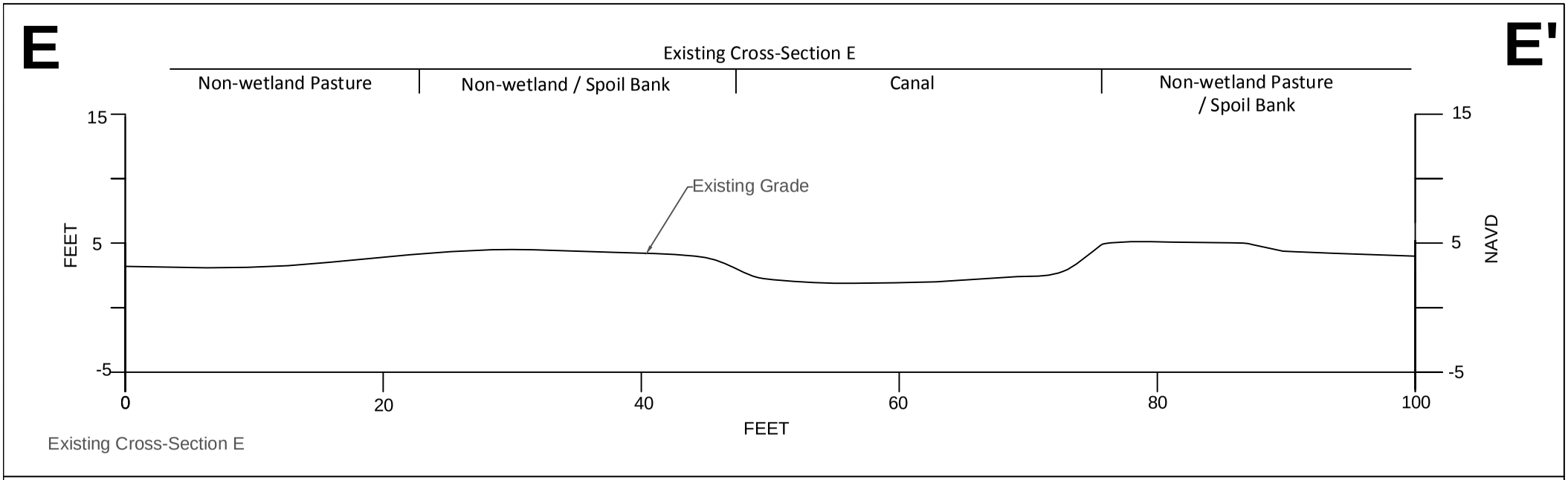
Existing Condition
with Proposed Swale

CAMERON AND CALCASIEU PARISHES, LA

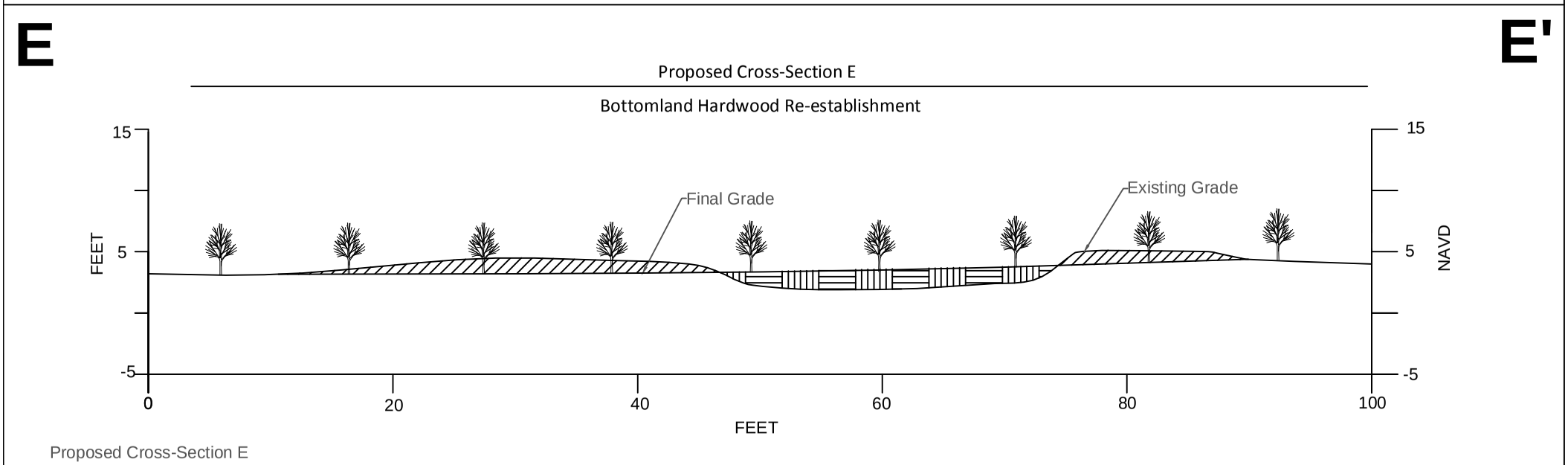
Created:	TSC/AutoCAD
Approved:	LJW
Date:	7/7/14
Dwg. No.:	SouthForkBank.dwg

DELTA LAND SERVICES

Attachment C-7



Existing Cross-Section E



Proposed Cross-Section E

Proposed Excavation

Proposed Earthen Fill

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Note: Water level data from Calcasieu Lock-East on Intracoastal Waterway (Gage ID 76880) from 1/1/2009 to 12/31/2013

Proposed South Fork Coastal Mitigation Bank

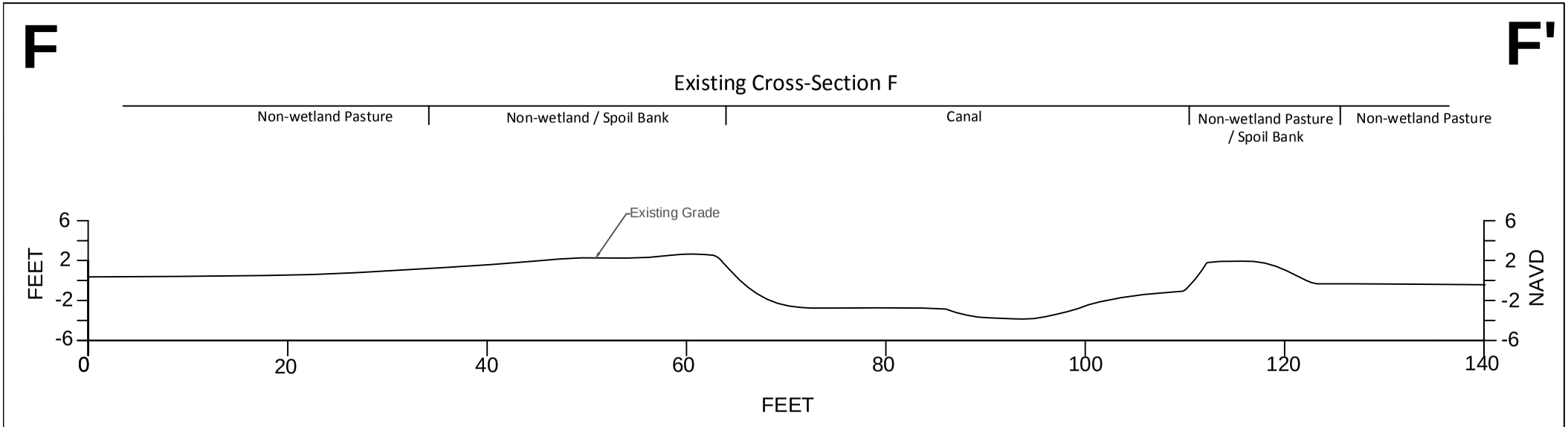
Existing Condition
with Proposed Swale

CAMERON AND CALCASIEU PARISHES, LA

Created:	TSC/AutoCAD
Approved:	LJW
Date:	7/7/14
Dwg. No.:	SouthForkBank.dwg

DELTA LAND SERVICES

Attachment C-8



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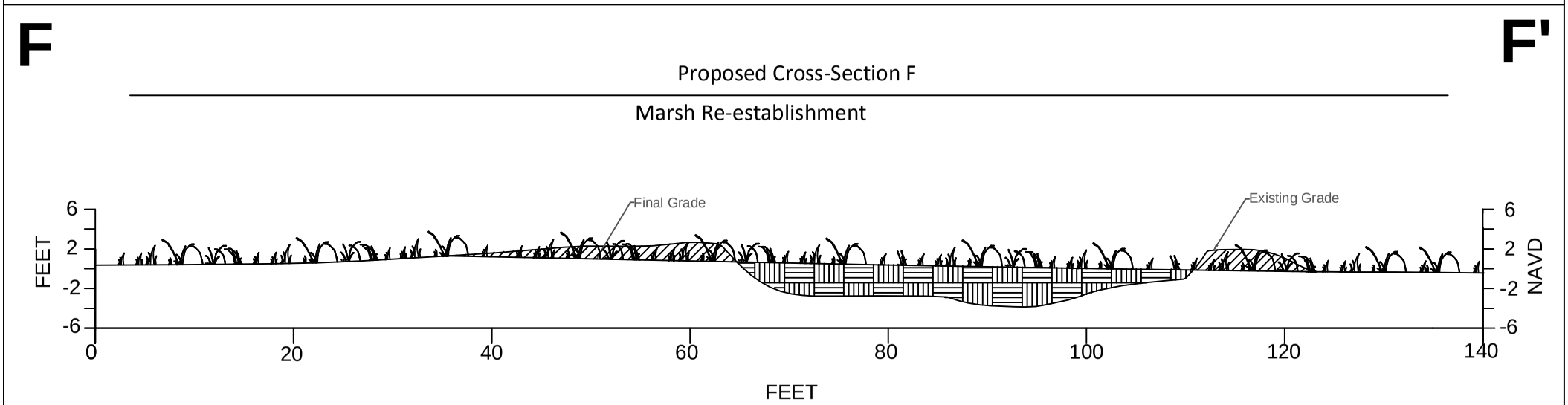

Proposed Cross-Section F

Proposed Excavation

Proposed Earthen Fill

MHWL = MEAN HIGH WATER LEVEL IS 2.9 FEET
MWL = MEAN WATER LEVEL IS 2.2 FEET
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Note: Water level data from Calcasieu Lock-East on Intracoastal Waterway (Gage ID 76880) from 1/1/2009 to 12/31/2013

Proposed South Fork Coastal Mitigation Bank

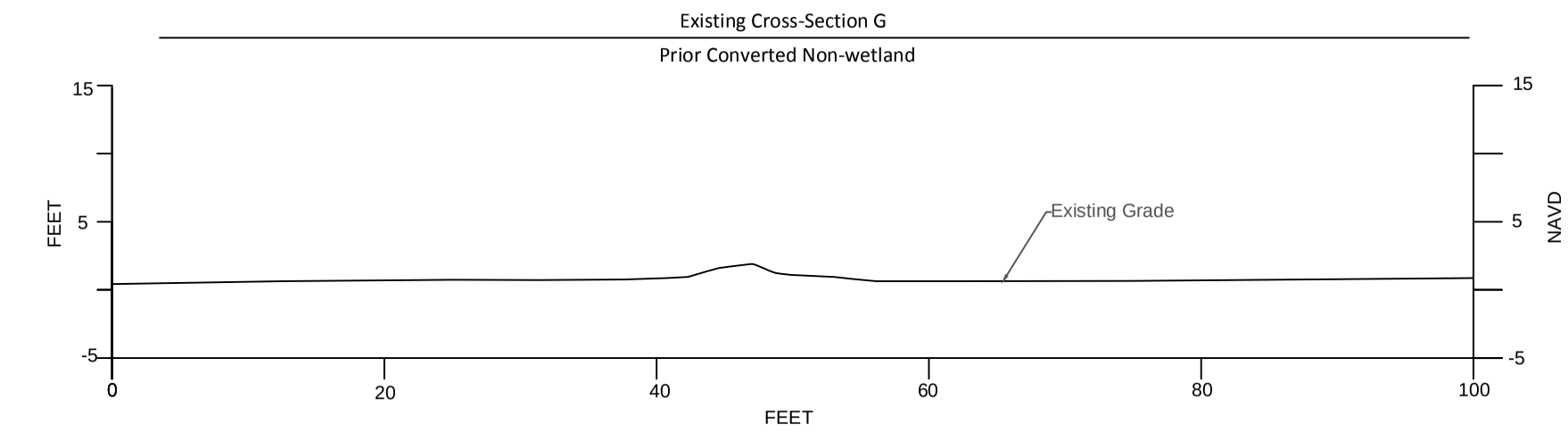
Existing Condition
with Proposed Swale

CAMERON AND CALCASIEU PARISHES, LA

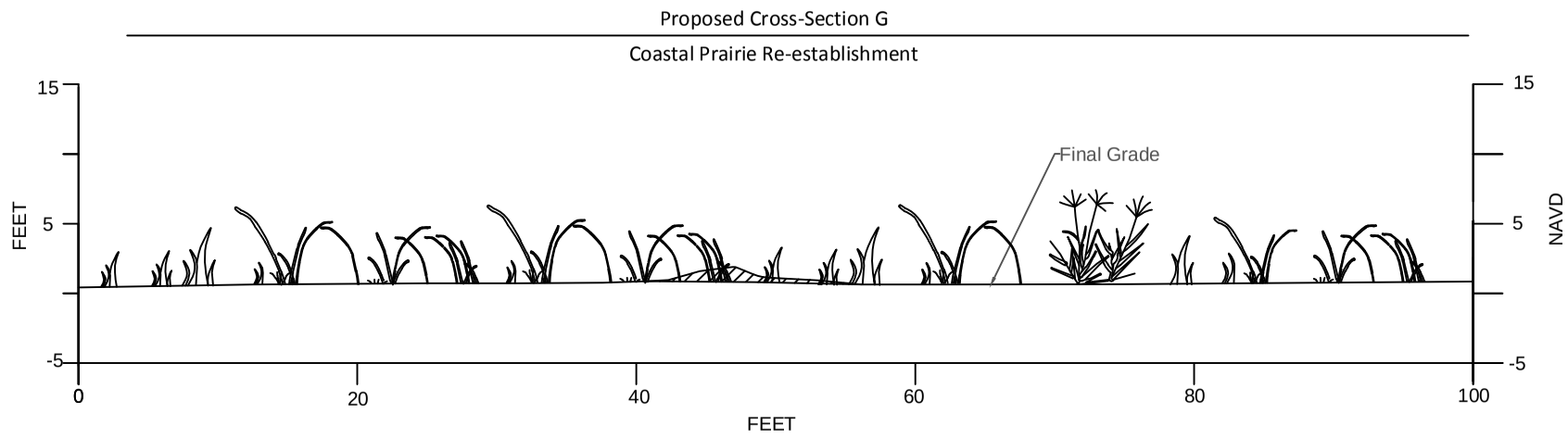
Created:	TSC/AutoCAD
Approved:	LJW
Date:	7/7/14
Dwg. No.:	SouthForkBank.dwg

Attachment C-9

DELTA LAND SERVICES



Existing Cross-Section G



Proposed Cross-Section G

Note: Earthen fill from excavation will be evenly distributed in surrounding non-wetland area.

Proposed Excavation

MHWL = MEAN HIGH WATER LEVEL IS 2.9 FEET
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MLWL = MEAN LOW WATER LEVEL IS 1.7 FEET

Note: Water level data from Calcasieu Lock-East on Intracoastal Waterway (Gage ID 76880) from 1/1/2009 to 12/31/2013

Proposed South Fork Coastal Mitigation Bank

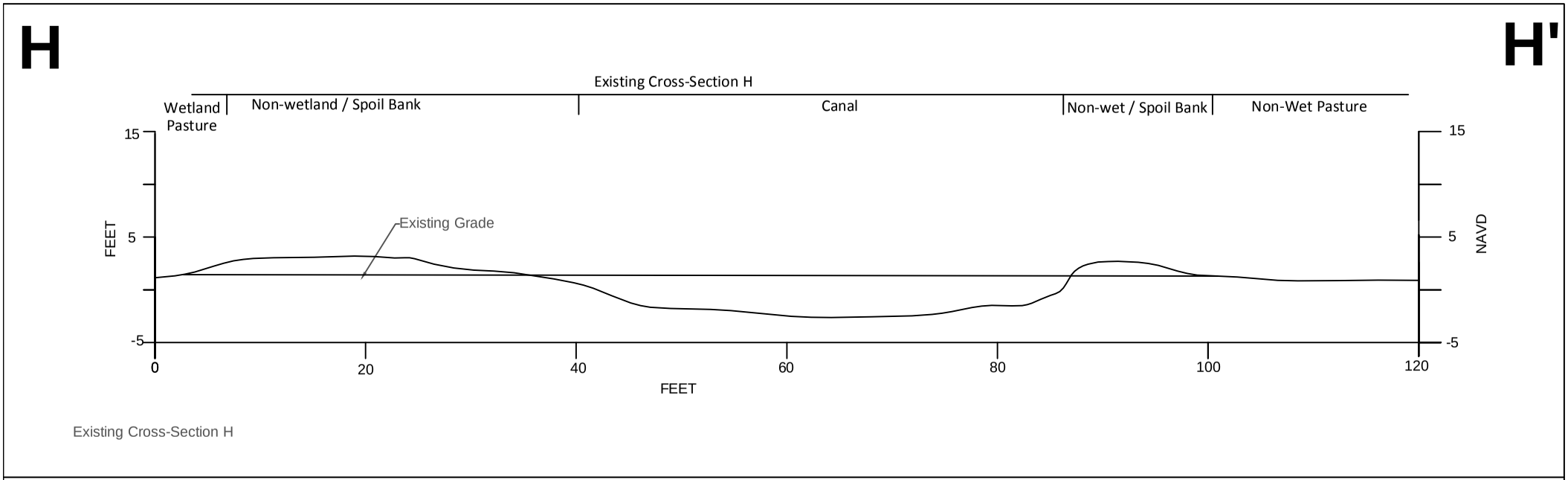
Existing Condition
with Proposed Swale

CAMERON AND CALCASIEU PARISHES, LA

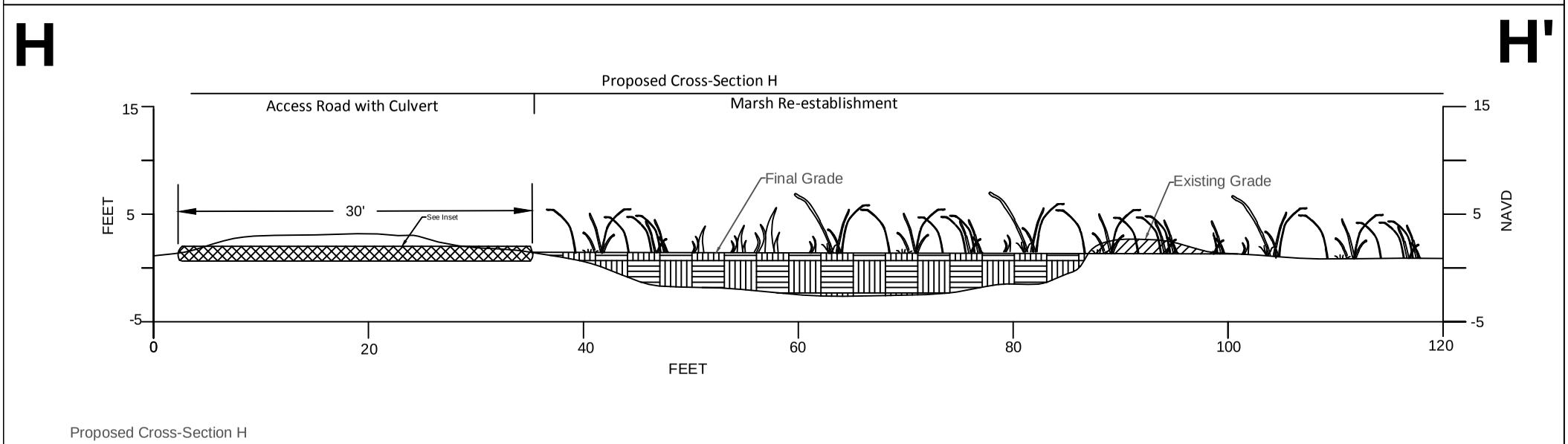
Created:	TSC/AutoCAD
Approved:	LJW
Date:	7/7/14
Dwg. No.:	SouthForkBank.dwg

DELTA LAND SERVICES

Attachment C-10



Existing Cross-Section H



Proposed Cross-Section H

Proposed Excavation

Proposed Earthen Fill

Proposed Pipe Arch Culvert

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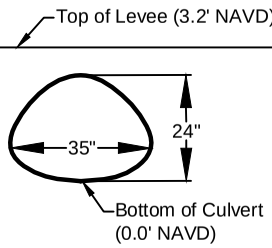
Note: Water level data from Calcasieu Lock-East on Intracoastal Waterway (Gage ID 76880) from 1/1/2009 to 12/31/2013

Inset : Culvert Cross Section



Proposed South Fork Coastal Mitigation Bank

Existing Condition
with Proposed Swale

CAMERON AND CALCASIEU PARISHES, LA

Created:	TSC/AutoCAD
Approved:	LJW
Date:	7/7/14
Dwg. No.:	SouthForkBank.dwg

DELTA LAND SERVICES

Attachment C-11

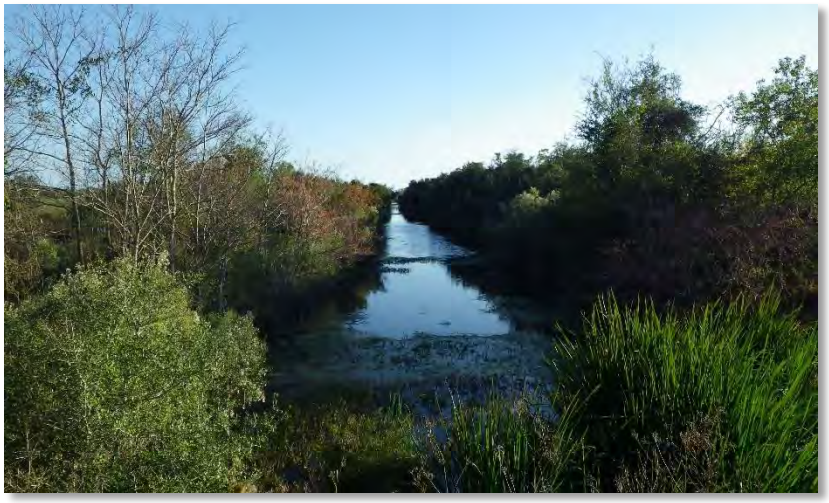
ATTACHMENT D

PHOTOGRAPHS

Typical view of herbaceous field (May 13, 2013)

Typical view of herbaceous field (May 13, 2013)

Typical view of agriculture field
(October 22, 2012)



Typical view of agriculture drain
(September 24, 2013)

Typical view of herbaceous field in north portion of project area
(March 10, 2014)

Typical view of agriculture field
(March 10, 2014)

Typical view of herbaceous field in north portion of project area
(March 10, 2014)

Cattle grazing in herbaceous field (December 4, 2013)