JOINT PUBLIC NOTICE

February 25, 2019

United States Army
Corps of Engineers
New Orleans District
Regulatory Branch
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New Orleans, La. 70160-0267
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Jacqueline.R.Farabee@usace.army.mil
Project Manager
Jacqueline Farabee
Permit Application Number
MVN-2017-00658 MR

State of Louisiana
Department of Environmental Quality
Post Office Box 4313
Baton Rouge, La. 70821-4313
Attn: Water Quality Certifications
(225) 219-3225 FAX (225) 325-8250
Elizabeth.Hill@la.gov
Project Manager
Elizabeth Hill
WQC Application Number
WQC # 190219-01

Interested parties are hereby notified that a permit application has been received by the New Orleans District of the U.S. Army Corps of Engineers pursuant to: [ ] Section 10 of the Rivers and Harbors Act of March 3, 1899 (30 Stat. 1151; 33 USC 403); and/or [X] Section 404 of the Clean Water Act (86 Stat. 816; 33 USC 1344).

Application has also been made to the Louisiana Department of Environmental Quality, for a Water Quality Certification (WQC) in accordance with statutory authority contained in Louisiana Revised Statutes of 1950, Title 30, Chapter 11, Part IV, Section 2074 A(3) and provisions of Section 401 of the Clean Water Act (P.L.95-17).

DIXIE RICE FARMS MITIGATION BANK IN CAMERON PARISH

NAME OF APPLICANT: Dixie Rice Mitigation LLC; Care of: Pangea Conservation & Compliance LLC; Attention: Leonard McCauley; P.O. Box 40345; Baton Rouge, Louisiana 70835.

LOCATION OF WORK: The 702.2 acre site is located approximately 11.0 miles south of Lake Arthur, Louisiana, on Oak Ridge Rd., Cameron Parish, as shown on attached drawings (Latitude: 29.982387° N, Longitude:–92.71872° W). The Project is located within the Mermentua Basin, Hydrologic Unit 08080202.

CHARACTER OF WORK: Removal of existing spoil banks and rice dikes with the deposition of in-situ earthen material to fill adjacent ditches or spread over adjacent fields. An appropriate assemblage of coastal prairie and fresh marsh species will be established through plantings and natural recruitment on the site. All work is being done for the purpose of constructing a mitigation bank with fresh marsh and coastal prairie habitat.

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. After receipt of comments from this public notice the Corps will evaluate potential impacts and consult with the State Historic Preservation Officer and Native American Tribes in accordance with Section 106 of the national Historic Preservation Act, as appropriate.

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

Utilizing Standard Local Operating Procedure for Endangered Species in Louisiana (SLOPES), dated October 22, 2014, between the U.S. Army Corps of Engineers, New Orleans and U.S. Fish and Wildlife Service, Ecological Services Office, the Corps has determined that the proposed activity would have no effect on any species listed as endangered by the U.S. Department of the Interior.

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(s) 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 applicable 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 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.

for

Martin S. Mayer
Chief, Regulatory Branch

Enclosure

FINAL PROSPECTUS FOR THE PROPOSED DIXIE RICE MITIGATION BANK MVN 2017-00658

Fresh Marsh and Coastal Prairie: Reestablishment and Preservation

Cameron Parish, Louisiana

January 2019

Sponsored By:

Dixie Rice Mitigation, LLC
400 Poydras Street, Suite 2100
New Orleans, La 70130

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DIXIE RICE MITIGATION BANK
PROSPECTUS

1.0 INTRODUCTION

Dixie Rice Mitigation, LLC (Sponsor) submits this Prospectus to the U.S. Army Corps of Engineers - New Orleans District (CEMVN) and the Interagency Review Team (IRT) and to the Louisiana Department of Natural Resources (LDNR) to initiate evaluation of the proposed Dixie Rice Mitigation Bank (DRMB) in accordance with 33 CFR 332.8(d)(2). The details pertaining to the use of this site as a mitigation bank will be specified in the subsequent mitigation banking instrument (MBI). DRMB consists of 702.2 acres currently used for agricultural and recreational purposes (Figures 1 and 2).

1.1 Site Location

The center point of the property is located at latitude 29.982387N and longitude –92.712872W (approximate center point) in Cameron Parish, Louisiana. This location includes all or portions of Sections 19, 20, and 30; Township 12 South; and Range 3 West. The property is located in the Hydrologic Unit Code (HUC) 08080202 (Mermentau drainage basin).

Driving directions to the site are as follows:

The property is located approximately 11.0 miles south of Lake Arthur, Louisiana. To reach the property from I-10 (near Jennings, La), take exit 64 from I-10 onto Louisiana Highway 26. Follow Louisiana Highway 26 south for 10.6 miles to Louisiana Highway 14. Follow Louisiana Highway 14 south for 4.6 miles to Louisiana Highway 717. Turn right onto Louisiana Highway 717 and continue for 4.8 miles. Turn left onto Oak Ridge Rd. (unpaved agricultural road) and continue for 1.5 miles. Oak Ridge Rd. will dead end into the northern boundary of the property.

2.0 PROJECT GOALS AND OBJECTIVES

2.1 Aquatic Resource Type and Functions to be Restored/Enhanced/Preserved

This Bank will re-establish and preserve 238.5 acres of coastal prairie (CP) and 463.7 acres of fresh marsh (FM).

Table 1: Current Habitat Types and Landuse (see Figure 3)

Habitat Type	Landuse	Acreage
Agricultural (Prior Converted / NW)	Agricultural	**433.7**
Non-Wetlands	Spoil Banks	**7.8**
Marsh	Recreational	**245.7**
Other U.S. Waters	Natural Drains / Drainage Canals	**15.0**
Total	---	**702.2**

Table 2: Proposed Mitigation Bank Habitat Types (see Figure 4)

Habitat Type	Acreage	Mitigation Type
Coastal Prairie	***238.5***	Re-establishment
Fresh Marsh	***217.9***	Re-establishment
	245.8	Preservation
Total	***702.2***	---
Total Mitigation and Inclusions	***702.2***	---

As defined by *The Natural Communities of Louisiana* published in 2009 by the Louisiana Department of Wildlife and Fisheries (LDWF) and the Louisiana Natural Heritage program (LNHP):

Coastal prairies, are prairies located within southwestern Louisiana, once very extensive but today are limited to small, remnant parcels. Coastal prairies located along the southern portion of the state may occur on "islands" or ridges surrounded by marsh. Soils are typically saturated in winter and dry in late spring and fall. The region is underlain by a clay pan 6 to 18 inches below the surface that prevents downward percolation of water and inhibits upward movement of capillary water. The diverse vegetation is most often dominated by grasses (with an abundance of forbs); however, trees can be found within coastal prairies within higher elevation (and better drained) areas near stream sides or along ridges, forming "gallery forests". These trees act to divide the Coastal Prairie into many subunits or "coves". The natural demarcation line between the forest and grassland is very sharp. Many plants in Coastal Prairie are the same as ones found in the pine savannahs and flatwoods that occur immediately north of the coastal prairie region. Fire plays a critical role in this natural community. Certain woody species may invade without periodic fire. The transition zone from coastal prairie to pine savannah is extremely diverse as it contains species from both communities.

Fresh marsh, are palustrine systems with emergent vegetation. The frequency and duration of flooding in these areas are determined by their microtopography, which together are the primary factors governing species distributions. These areas have the greatest plant diversity and highest soil organic matter content of any marsh. The species composition of these areas varies from site to site but is often dominated by *Panicum hemitomon* (maidencane). Intermediate marsh, as described in "The Natural Communities of Louisiana," is an estuarine system with intertidal emergent vegetation. It has an irregular tidal regime, is oligohaline, and is dominated by narrow-leaved, persistent species. It is characterized by a diversity of species and is often dominated by *Spartina patens* (wire grass). These two types of habitats are located adjacent to each other with fresh marshes existing along the northern extent of the coastal marshes, although they may occur beside coastal Bays where freshwater is entering the bay.

This project will re-establish and preserve fresh marsh and coastal prairie habitat wetland communities so that they become species rich/diverse, sustainable wetland ecosystems. This shall be accomplished through removal of the site from agricultural use; degrading of spoil banks and rice dikes, thereby restoring sheetflow across the property; allowing waters to rise and recede more naturally; and through vegetative plantings in order to restore a natural assemblage of species, which will create additional wildlife habitat throughout.

2.2 Watershed Contributions

2.2.1 Watershed Need

The DRMB is proposed to provide compensatory mitigation for CEMVN approved projects within the Mermentau watershed, which encompasses approximately 1,150 square miles. In recent years, the watersheds to be serviced by the DRMB have seen the some of the highest demand for wetland mitigation in the New Orleans District.

Due to development and agriculture, very little native prairie habitat remains in the vicinity of the site, providing limited habitat for migratory birds and terrestrial wildlife. The restoration of this site will provide 702.2 acres of much needed natural habitat. The site will be converted to a more natural ecosystem, while also improving the water quality in the receiving waters downstream of this site.

2.2.2 Watershed Benefits

The DRMB project area is located in the drainage area to Subsegment LA050702 (Intracoastal Waterway – from Mermentau River to Vermilion Locks) as designated by Louisiana Department of Environmental Quality (LDEQ). The project area flows to the south via natural marsh and small unnamed canals to the Intracoastal Waterway (1.5 miles south of the southern boundary of the project). The Intracoastal Waterway then flows to the southeast and drains to Grand Lake (approximately 2.0 miles downstream of the project). Grand Lake then flows to the south and drains to the Mermentau River (approximately 9.5 miles downstream of the project). Mermentau River then flows to the south and drains to the Gulf of Mexico (approximately 24 miles downstream of the project).

Although not identified as impaired in the current 2016 final LDEQ 303(d) list, the LDEQ-designated uses of Fish and Wildlife Propagation (FWP) and Primary Contact Recreation (PCR) for Subsegment LA050702 were identified as impaired in the 2014 final LDEQ 303(d) list. Identified impairments include chlorides, sulfates, temperature, and total dissolved solids (due to natural sources), as well as fecal coliforms (due to septic systems and similar decentralized systems). Due to its past water quality impairments, a Total Maximum Daily Load (TMDL) for total suspended solids was completed for Subsegment LA050702 (Intracoastal Waterway) in January 2001. Additional TMDLs for pesticides (carbofuran) and for dissolved oxygen and nutrients (ammonia and total phosphorus) were completed for Subsegment LA050702 in September 2001 and October 2001, respectively.

The cessation of agricultural activities along with degrading of spoil banks and rice dikes, and restoration of native habitats for this project will aid in meeting the current and future TMDLs through the resulting water quality improvements due to increased filtration and plant uptake (i.e., nonpoint source pollution prevention).

In addition to improvement in water quality due to reduction in non-point source pollution, DRMB will improve plant and wildlife habitat and provide increased wetland function over that which is currently performed by the bank given its current condition.

3.0 ECOLOGICAL SUITABILITY OF THE SITE

This section contains both the historical and current ecological and physical information about the Bank Site.

3.1 Land Use

3.1.1 Historical Land Use

The area was leveed and cleared of wetland vegetation and converted to agricultural use prior to the 1970's (as evidenced by aerial imagery). This was accomplished via the construction of levees and water control structures.

3.1.2 Current Land Use

The property is currently used for agricultural and recreational purposes. The northern portion of the property is leveed and pumped for agricultural use with yearly crop rotations. The southern portion of the property currently exists as natural marsh.

3.2 Soils

The Cameron Parish Soil Surveys map the soils located on the site as Ged muck (GB), Kaplan silt loam (Ka), Edgerly loam (Mr), Allemands muck (AE), Crowley

Vidrine (Cw), Judice silt clay (Ju), and Midland silty clay loam (Mn). A soil map for the DRMB is provided as Figure 6.

- GE: Ged clay soils are very poorly drained, very slowly permeable soils that formed in recent, very fluid clayey alluvium of Pleistocene age. These soils are on the landward side of freshwater marshes that have encroached on low coastal prairies. Slopes are less than 1 percent.
- Ka: Kaplan silt loam soils are level, somewhat poorly drained soils on broad, slightly convex ridges on the Gulf Coastal Prairies. Slopes are typically less than 1 percent.
- Mr: Edgerly loam soils are level, poorly drained soils located on broad flats on Gulf Coast Prairies. Slopes are less than 1 percent.
- AE: Allemands mucky peat soils are level, poorly drained organic soils found in freshwater marshes. These soils are usually ponded and frequently flooded. Slopes are less than 1 percent.
- Cw: Crowley-Vidrine soils are loamy, poorly drained, and level soils located broad flats on the Gulf Coast Prairies. Slopes are generally 0 to 5 percent.
- Ju: Judice silty clay soils are poorly drained, and level soils located on concave areas on the Gulf Coast Prairies. Slopes are generally less than one (1) percent.
- Mn: Midland silty clay loam consists of poorly drained, very slowly permeable soils located within broad flats and in slightly concave areas on the Gulf Coast Prairies. Slopes are generally less than one (1) percent.

A wetland delineation conducted in 2017 confirmed that these soils are present on the site as depicted within the Cameron Parish Soil Surveys, do present hydric indicators, and are hydric soils as identified by the Natural Resources Conservation Service.

Agricultural use of this property in the past and present has modified the topography and hydrology of the project site.

3.3 Hydrology

3.3.1 Historical Hydrology and Drainage Patterns

DRMB is located within the Mermentau watershed and is currently utilized for agricultural activities and recreational activities. Prior to conversion to agricultural use, surface water was able to rise and recede from adjacent drainageways and sheetflow across the site.

Historical drainage patterns are believed to have been similar to those shown on Figure 8 as proposed (post-restoration) drainage patterns.

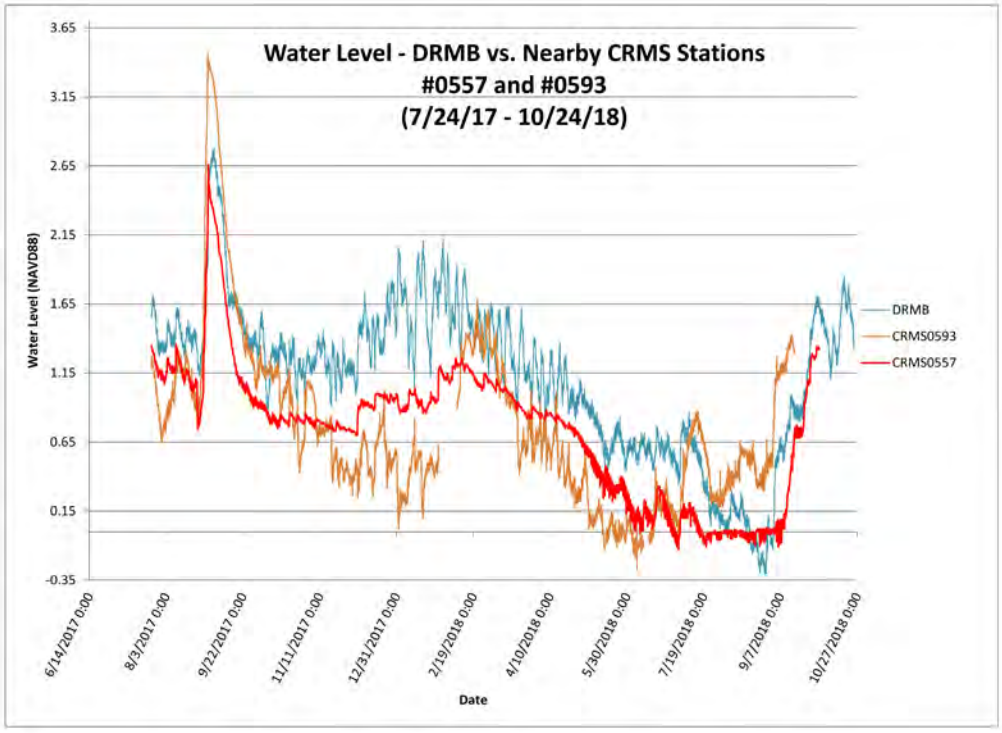
Historical water sources to the Bank included direct precipitation and overbank flooding from nearby drainageways. Drainage of this property has been impacted by the construction of levees/spoil banks/rice dikes and canals within the property (see Figure 7).

Jurisdictional determination MVN 2017-00658 for this property dated October 4, 2018 (Attachment A).

3.3.2 Existing Hydrology and Drainage Patterns

Natural hydrology has been altered by levees and pumping implemented to improve site conditions for agriculture (since approximately the 1950's). Currently, wetlands and drainageways on-site are hydrologically isolated due to rice dikes and spoil banks along ditches and drainageways (with the exception of the 245.8-acre Fresh Marsh preservation area). Wetland hydrology on the northern portion of the site is currently driven by direct precipitation, which is pumped on and off. Current and proposed drainage patterns are depicted on Figures 7 and 8. The drainage area associated with the property is depicted on Figure 9, and LIDAR elevations are depicted on Figure 10.

The hydrographs below depict water levels within at CRMS Station 0557 (located 3.1 miles southeast of DRMB), CRMS station 0593 (located 2.1 miles from western boundary), and the southern boundary of DRMB (Figure 1). The three sites show similar marsh surface elevations (Mean Surface Elevation 0.53 feet) and water level ranges (Mean Low/High Water Level 0.3 feet – 1.3 feet).



The 245.8-acre Fresh Marsh preservation area is not located within areas impounded by levees, rice dikes, and spoil banks; therefore, water is able to rise and recede within the preservation area (as it does in other surrounding natural marsh areas).

Those Fresh Marsh re-establishment areas (currently under pump) and Fresh Marsh preservation area (not under pump) on the site all have ground elevations of 0.5 feet NGVD or below. The nearby CRMS stations 0557 and 0593 serve as a Fresh Marsh reference sites, and have ground elevations of 0.22 and 0.84 feet NGVD.

Due to current scarcity of Coastal Prairie habitat in this area, no Coastal Prairie reference sites are available for elevation comparison.

3.4 Vegetation

3.4.1 Historical Plant Community

Species assemblages historically present on this site can be assumed to have been similar to existing native habitats in the vicinity of the site and as defined by *The Natural Communities of Louisiana* published in 2009 by the Louisiana Department of Wildlife and Fisheries (LDWF) and the Louisiana Natural Heritage program (LNHP). (See descriptions of habitat types in Section 2.1 of this Prospectus).

3.4.2 Existing Plant Community

Existing plant communities within agricultural fields have been altered as part of the on-going management (tilling, pumping, burning, etc.). The emergent vegetation found in the fields is indicative of a FACW-OBL community heavily impacted by hydrologic modification and agricultural use.

Marsh species present in the 245.8-acre preservation area: *Zizaniopsis miliacea, Typha latifolia L., Sagittaria lancifolia L., Pontederia cordata, Hydrocotyle spp.*, and *Alternanthera philoxeroides (Mart.) Griseb.*

3.5 General Need for the Project in this Area

The DRMB is proposed to provide compensatory mitigation for CEMVN approved projects within the Mermentau watershed, which encompasses approximately 1,150 square miles. In recent years, the watersheds to be serviced by the DRMB have seen the some of the highest demand for wetland mitigation in the New Orleans District.

Due to development and agriculture, very little native prairie habitat remains in the vicinity of the site (see Figure 5), providing limited habitat for migratory birds and terrestrial wildlife. The restoration of this site will provide 702.2 acres of much needed natural habitat. The site will be converted to a more natural ecosystem, while also improving the water quality in the receiving waters downstream of this site.

3.6 Technical Feasibility

The DRMB has the potential to re-establish and preserve 238.5 acres of coastal prairie (CP) and 463.7 acres of fresh marsh (FM). These lands will be protected by a conservation servitude and maintained by a long-term maintenance and protection fund.

The properties directly abutting DRMB to the east and south are enrolled in the Wetland Reserve Program (WRP See Figure 1) and the entirety of DRMB lies within the Coastal Zone Boundary and is below the 5 foot elevation contour.

The site is underlain by hydric soils, according to the NRCS soil survey and verified via field investigations. Despite hydrologic modification of Bank lands, the hydric soil indicators have persisted.

Following hydrologic restoration (i.e., removal of levees, rice dikes, and spoil banks), water in the nearby drainageways will be allowed to rise and recede on Bank lands during high water events as they did historically.

Reference sites (on-site and adjacent to the site) were used to determine the species assemblages which historically existed at the project site.

4.0 ESTABLISHMENT OF THE MITIGATION BANK

4.1 Site Restoration Plan

4.1.1 Hydrologic Restoration

Spoil Banks / Rice Dikes:

Currently, overbank flooding on the northern portion of the property is impeded by spoil banks and rice dikes. During flood stages sufficient to overtop these impediments, flood waters become impounded behind them. Removal of these impediments will contribute to the ability of flood waters on the northern portion of the property to rise and recede in a more natural regime.

Spoil bank material excavated during restoration will be used to fill adjacent ditches or spread over adjacent fields, so as not to significantly alter topography or will be removed from site.

Figure 11 depicts the locations of cross-sections, and Figures 11a-11d are cross-sections which depict pre-restoration ground elevations at locations of levees, rice dikes, and spoil banks to be removed.

Cameron Parish Drainage Board (CPDB) has been consulted with, in regards to the proposed drainage modification to the levees and canals. The CPDB does not currently conduct drainage maintenance in this area, and hence has no objection at this time to the current plan to establish DRMB. CPDB will be updated periodically, if the current plan is modified.

4.1.2 Vegetative Restoration

4.1.2.1 Coastal Prairie Re-establishment Measures

For those 238.5 acres proposed for designation as Coastal Prairie re-establishment, an appropriate assemblage of coastal prairie species will be planted. Species assemblages will be selected and planted based on landscape position. Proposed species assemblages to be planted will be representative of a species assemblage historically common to surrounding wetland prairies of the area. These species assemblages are identified in *The Natural Communities of Louisiana* (Louisiana Natural Heritage Program, August 2009, available at: http://www.wlf.louisiana.gov). A proposed list of possible species to be planted is presented in Table 3.

Proposed coastal prairie areas designated as re-establishment will be prepared by applying herbicides and tilling soil to remove invasive species prior to planting. Coastal prairie areas will be replanted with seed from Louisiana suppliers or harvested from local habitats. Sponsor will provide LDNR/OCM with a certification stating that plant materials are of Louisiana ecotypes and have been acclimated to Louisiana climatic and habitable conditions for at least 90 days. Coastal prairie habitat will be maintained by prescribed burning on a 1-3 year cycle. Escrow or bond sum release rates and monitoring requirements will be consistent with other recently implemented CEMVN approved mitigation banks.

Table 3. Proposed Potential Coastal Prairie Species to be established

Scientific Name	Common Name (USDA)	CP Coefficient of Conservation (USGS)	Wetland Indicator Status Region 2 (USDA)
Coastal Prairie			
Agalinis fasciculata	Beach Purple False Foxglove	3	FAC
Agalinis purpurea	Purple False Foxglove	W6	FACW
Agrostis hyemalis	Winter Bent Grass	4	FAC
Amsonia tabernaemontana	Eastern Bluestar	6	FACW
Andropogon gerardii	Big Bluestem	9	FAC
Andropogon glomeratus	Bushy Bluestem	3	FACW
Andropogon gyrans	Elliot's Bluestem	-	FAC
Andropogon virginicus	Broomsedge	2	FAC
Aristida purpurascens	Three Awn Grass	8	FACW
Arnoglossum ovatum	Egg-leaf Indian Plantain	9	FAC
Aster praealtus	Tall Blue Aster	-	FACW

Scientific Name	Common Name (USDA)	CP Coefficient of Conservation (USGS)	Wetland Indicator Status Region 2 (USDA)
Coastal Prairie			
Aster puniceus	Roughstem Aster	-	OBL
Bidens aristosa	Beaded Beggar's Ticks	3	FACW
Buchnera Americana	American Blue Hearts	9	FAC
Carex spp.	Caric Sedges	-	FACW
Chaerophyllum tainturieri	Wild Chervil	1	FAC
Coreopsis pubescens	Star Tickseed	-	FAC
Coreopsis tinctoria	Plains Tickseed	3	FAC
Coreopsis tripteris	Tall Tickseed	7	FAC
Ctenium aromaticum	Toothache Grass	8	FACW
Dichanthelium commutatum	Variable Panic Grass	W5	FAC
Dichanthelium dichotomum	Cypress Panic Grass	W6	FAC
Dichanthelium	Panic Grass	-	OBL
Dichanthelium acuminatum	Tapered rosette grass	7	FAC
Dichanthelium scoparium	Velvet Panic Grass	4	FACW
Eleocharis parvula	Dwarf Spikerush	W3	OBL
Eragrostis elliottii	Elliot Lovegrass	-	FACW
Eragrostis refracta	Coastal Love Grass	-	FACW
Erigeron philadelphicus	Showy Daisy Fleabane	0	FAC
Erigeron strigosus	Fleabane	5	FAC
Eryngium yuccifolium	Button Snakeroot	9	FAC
Eupatorium perfoliatum	Boneset	4	FACW
Eupatorium rotundifolium	Roundleaf Boneset	7	FAC
Euthamia leptocephala	Flat-topped Goldenrod	5	FACW
Helenium vernale	Vernal Sneezeweed	-	FACW
Helianthus angustifolius	Narrow Leaf Sunflower	5	FACW
Hibiscus moscheutos	Crimsoneyed Mallow	W7	OBL
Juncus effusus	Soft Rush	2	FACW
Liatris spicata	Blazing Star	10	FAC
Lobelia puberula	Purple Dew Drop	-	FACW
Muhlenbergia capillaris	Coastal Muhly Grass	8	FAC
Panicum anceps	Beaked Switchgrass	-	FAC
Panicum virgatum	Switchgrass	6	FAC
Paspalum floridanum	Florida Paspalum	8	FACW
Paspalum plicatulum	Brownseed Paspalum	6	FAC
Penstemon digitalis	Smooth Beardtongue	9	FAC
Penstemon laxiflorus	Beardtongue	8	FAC
Prunella vulgaris	Common Self-heal	2	FAC
Psoralea simplex	Single Stem Snakeroot	-	FAC
Pycnanthemum albescens	Whiteleaf Mountain Mint	6	FAC
Pycnanthemum muticum	Lowland Mt. Mint	7	FAC

Scientific Name	Common Name (USDA)	CP Coefficient of Conservation (USGS)	Wetland Indicator Status Region 2 (USDA)
Coastal Prairie			
Pycnanthemum tenuifolium	Thin Leaf Mt. Mint	7	FACW
Rhexia mariana	Maryland Meadow Beauty	7	FACW
Rhynchospora caduca	Anglestem Beaksedge	7	OBL
Scutellaria integrifolia	Helmet Flower	9	FAC
Sisyrinchium angustifolium	Narrowleafed Blue-eyed	5	FACW
Solidago rugosa	Roughleaf Goldenrod	-	FAC
Solidago sempervirens	Seaside Goldenrod	10	FACW
Symphyotrichum dumusom	Rice Button Aster	-	FAC
Symphyotrichum lateriflorum	Calico Aster	W4	FAC
Tradescantia ohiensis	Common Spiderwort	-	FAC
Tridens ambiguus	Pine Barren Tridens	-	FACW
Tridens strictus	Long-spike Tridens	4	FACW
Tripsacum dactyloides	Eastern Gamma	9	FAC
Vernonia gigantea	Giant Ironweed	5	FAC

4.1.2.2 Fresh Marsh Re-establishment & Rehabilitation & Preservation Measures

For those 217.9 acres proposed for designation as Fresh Marsh re-establishment, an appropriate assemblage of fresh marsh species will be established via planting and natural recruitment. Species assemblages will be selected and planted based on elevation. Proposed species assemblages to be planted will be representative of a species assemblage historically common to surrounding fresh marsh of the area. These species assemblages are identified in *The Natural Communities of Louisiana* (Louisiana Natural Heritage Program, August 2009, available at: http://www.wlf.louisiana.gov). A proposed list of possible species to be planted is presented in Table 4.

Table 4. Proposed Potential Fresh Marsh Species to be established

Scientific Name	Common Name (USDA)	Wetland Indicator Status Region 2 (USDA)
Fresh Marsh		
Panicum hemitomon	Maidencane	OBL
Eleocharis spp.	Spikerush	OBL
Sagittaria lancifolia	Bulltongue	OBL
Juncus roemerianus	Black needle rush	OBL
Spartina patens	Marshhay	FACW
Bacopa monnieri	Coastal water hyssop	OBL
Polygonum punctatum	Smartweed	OBL
Cyperus odoratus	Fragrant flatsedge	FACW
Pontederia cordata	Pickerelweed	OBL

Peltandra virginica	Arrow arum	OBL
Hydrocotyle spp.	Pennnyworts	OBL
Zizaniopsis miliacea	Gaint cut grass	OBL
Nymphaea odorata	White waterlilly	OBL

Proposed fresh marsh areas designated as re-establishment and rehabilitation will be prepared by applying herbicides to invasive species, burning, and tilling soil where rice levees may have compacted soils prior to planting. Fresh marsh areas will be planted with nursery stock from Louisiana suppliers or seed harvested from adjacent/local habitats. Sponsor will provide LDNR/OCM with a certification stating that plant materials are of Louisiana ecotypes and have been acclimated to Louisiana climatic and habitable conditions for at least 90 days. Escrow or bond sum release rates and monitoring requirements will be consistent with other recently implemented CEMVN approved mitigation banks.

For those 245.8 acres proposed for designation as Fresh Marsh preservation, those areas will be protected in perpetuity by a conservation servitude. This will provide for connectivity of Fresh Marsh land to those restored acres to the north and west.

4.1.2.3 Invasive Species Control

Invasive plant species such as Chinese tallowtree (*Triadica sebiferum*) will be removed by cutting or herbicidal treatment during initial planting. The percent cover of invasive plants will be monitored during long-term and short-term success monitoring, and appropriate action will be taken if needed.

4.1.2.4 Monitoring

Monitoring and reporting activities (to be detailed in the MBI) will be commensurate with other recently approved mitigation banks and current MBI templates.

4.2 Current Site Risks

While there is no immediate threat of conversion to a more intensive landuse for this site (or any known proposed development on any adjacent properties), continued use of this site for agricultural purposes would further degrade the water quality of the receiving water bodies and would provide limited benefit to wildlife habitat.

DRMB is free of liens and encumbrances. DRMB and adjacent properties are within unincorporated land and are absent of zoning regulations. The properties to the east and south are enrolled in the WRP program.

Louisiana Civil Code, Article 490, treats water resources under the theory of absolute ownership and rule of capture, provided capture does not result in harm to neighbors.

4.3 Long-Term Sustainability of the Site

DRMB will be self-sustaining, requiring minimal maintenance after the final success criteria are met. No structures are proposed or would be necessary to assure hydrologic or vegetative restoration.

5.0 PROPOSED SERVICE AREA

DRMB is located primarily in the Hydrologic Unit Code (HUC) 08080202.

DRMB will provide FM mitigation credits primarily to the HUC 08080202 area and secondarily to the Chenier plains (HUCs 08080206 and 08080103) (Figure 12).

DRMB will provide Coastal Prairie mitigation credits primarily to the HUC 08080202 area and secondarily to HUCs 08080201, 08080203, 08080204, 08080205, 08080206, 08080102, and 08080103 (Figure 13).

These proposed service areas are consistent with the LRAM and other CEMVN approved mitigation banks within this region.

6.0 OPERATION OF THE MITIGATION BANK

6.1 Project Representatives

Sponsor / Long-Term Mitigation Bank Manager:
Dixie Rice Mitigation, LLC
400 Poydras Street, Suite 2100
New Orleans, La 70130

Agent:
Pangaea Conservation & Compliance, LLC
P.O. Box 40345
Baton Rouge, LA 70835

Landowner / Current and Long-Term Agricultural Manager:
Dixie Rice Farm, LLC
400 Poydras Street, Suite 2100
New Orleans, La 70130

Qualifications of the Sponsor

Dixie Rice Mitigation staff members have extensive experience in land management and currently manage 8,000+ acres of agricultural land and recreational wildlife habitat in Cameron Parish. The Sponsor has owned and managed the proposed bank site for 4 years.

6.2 Proposed Long-Term Ownership and Management Representatives

The long-term owner of the bank is proposed to be Dixie Rice Mitigation, LLC, and the long-term management of the bank is proposed to be conducted by Dixie Rice Mitigation, LLC. The current landowner is Dixie Rice Farm, LLC. If the bank is approved under acceptable conditions to the Sponsor, the bank lands will be transferred to Dixie Rice Mitigation, LLC. If the bank is not approved, the current landowner will retain ownership, and the land will remain in agricultural use.

A long-term maintenance and protection escrow account will provide funding for long-term boundary maintenance and site protection, into perpetuity. These long-term maintenance and site protection activities will be conducted by the Sponsor. The conservation servitude will protect the site from any activities that would diminish the quality of restored wetlands on the site. No structures are proposed or would be necessary to assure hydrologic or vegetative restoration.

6.3 Site Protection

DRMB will be protected in perpetuity by a conservation servitude pursuant to Louisiana Revised Statute 9:1271 et seq. The servitude will be held by U.S. Land Conservancy (Holder), a conservation-oriented 501(c)(3) organization. The servitude will inure and run with the property title.

The servitude will prohibit activities, such as clear cutting, fill discharges, cattle grazing, or other commercial surface development that would diminish the quality or quantity of restored wetlands.

6.4 Long-Term Strategy

A long-term maintenance and protection escrow account will provide funding for long-term boundary maintenance and site protection, into perpetuity. These long-term maintenance and site protection activities will be conducted by the Sponsor. The conservation servitude will protect the site from any activities that would diminish the quality of restored wetlands on the site. No structures are proposed or would be necessary to assure hydrologic or vegetative restoration.

7.0 REFERENCES

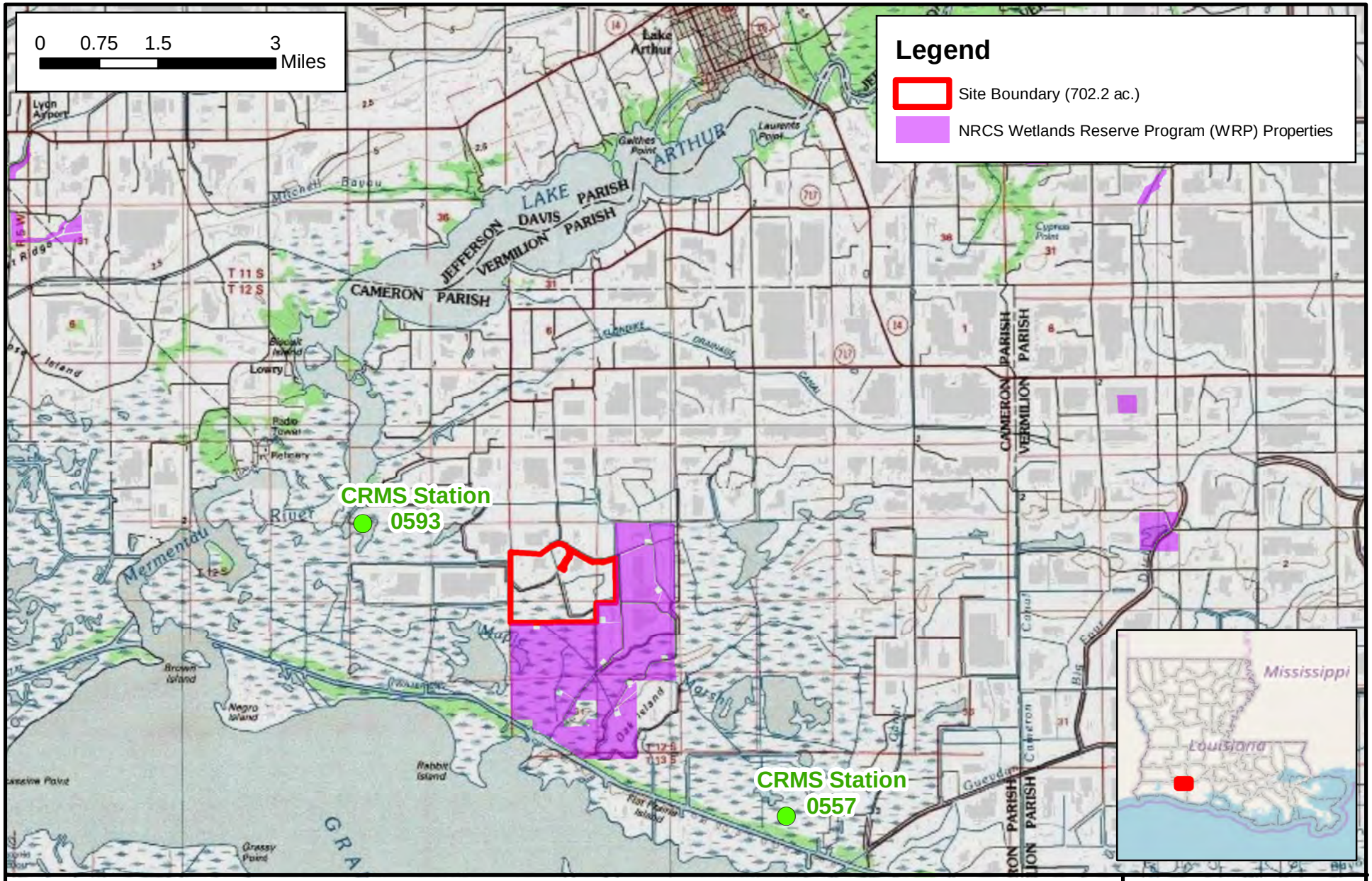
Code of Federal Regulations, Title 33, Parts 325 and 332 and Title 40, Part 230, as published on pages 19594-19704 in the Federal Register dated 10 April 2008.

United States Department of Agriculture – Natural Resources Conservation Service, Web Soil Survey, Cameron Parish, Louisiana, Retrieved December 2017. http://soils.usda.gov/survey/online_surveys/louisiana/index.html

United States Department of Agriculture – Natural Resources Conservation Service, PLANTS Database – USDA PLANTS, Retrieved December 2017. http://plants.usda.gov/

Louisiana Department of Environmental Quality 303(d) Impaired Waterbodies List, 2016.

FIGURES



N

SITE VICINITY MAP

Dixie Rice Mitigation Bank
Cameron Parish, Louisiana
S19,20,30 / T12S / R3W (29.982387, -92.712872)

PANGAEA
Conservation and Compliance, LLC

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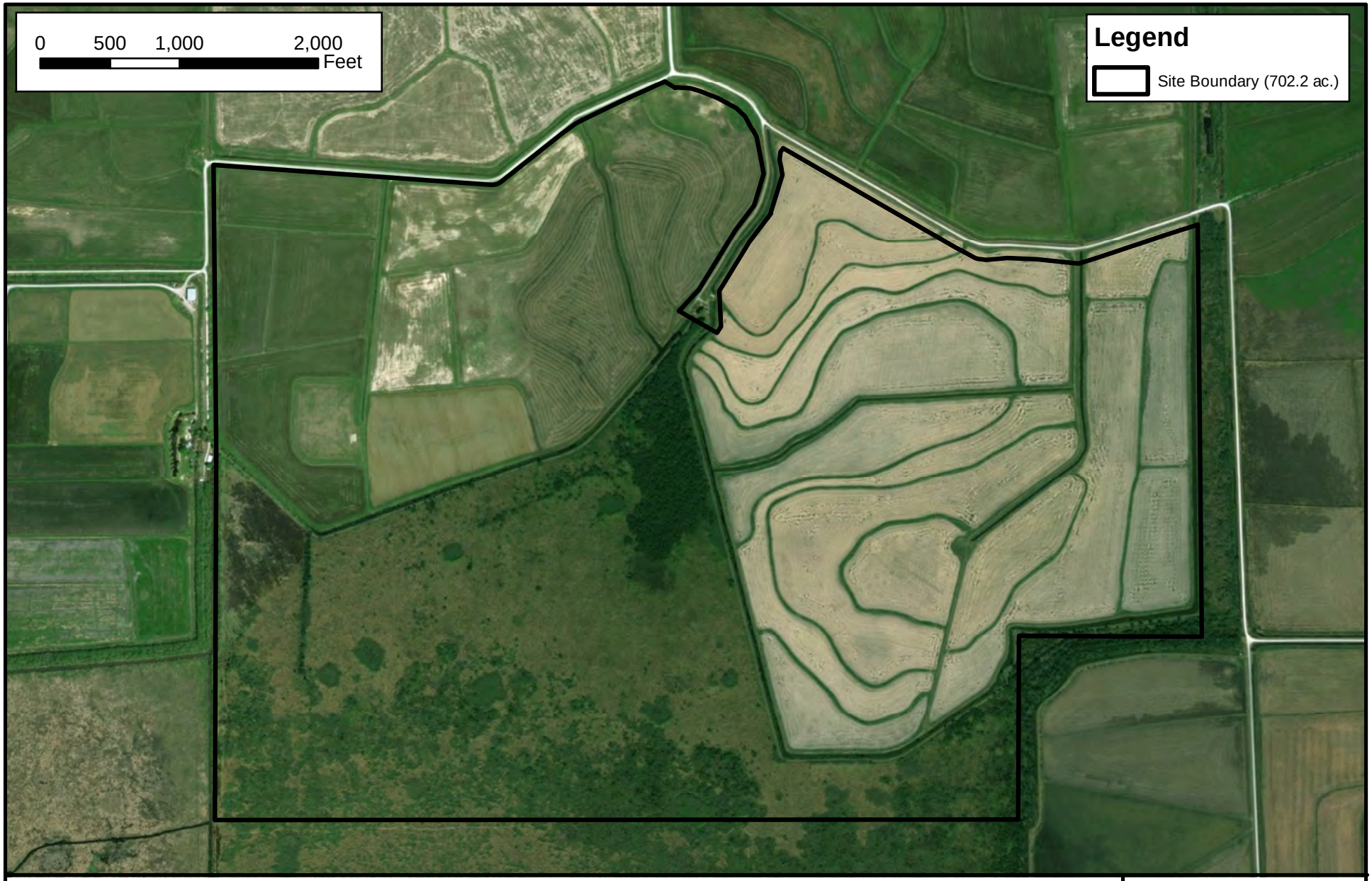

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SITE BOUNDARY

Dixie Rice Mitigation Bank
Cameron Parish, Louisiana
S19,20,30 / T12S / R3W (29.982387, -92.712872)

PANGAEA
Conservation and Compliance, LLC

Figure: 2
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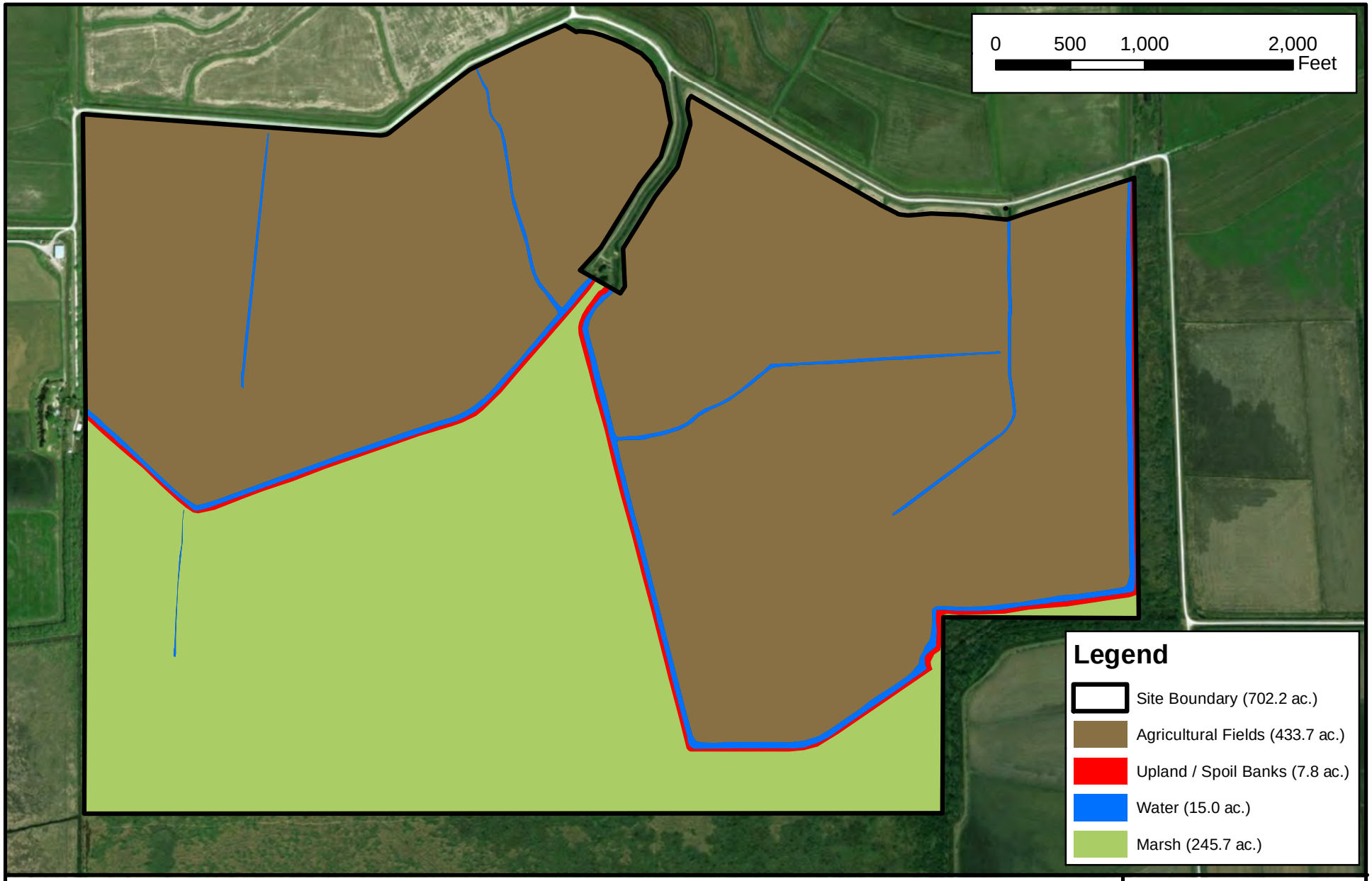

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EXISTING CONDITIONS

Dixie Rice Mitigation Bank
Cameron Parish, Louisiana
S19,20,30 / T12S / R3W (29.982387, -92.712872)

PANGAEA
Conservation and Compliance, LLC

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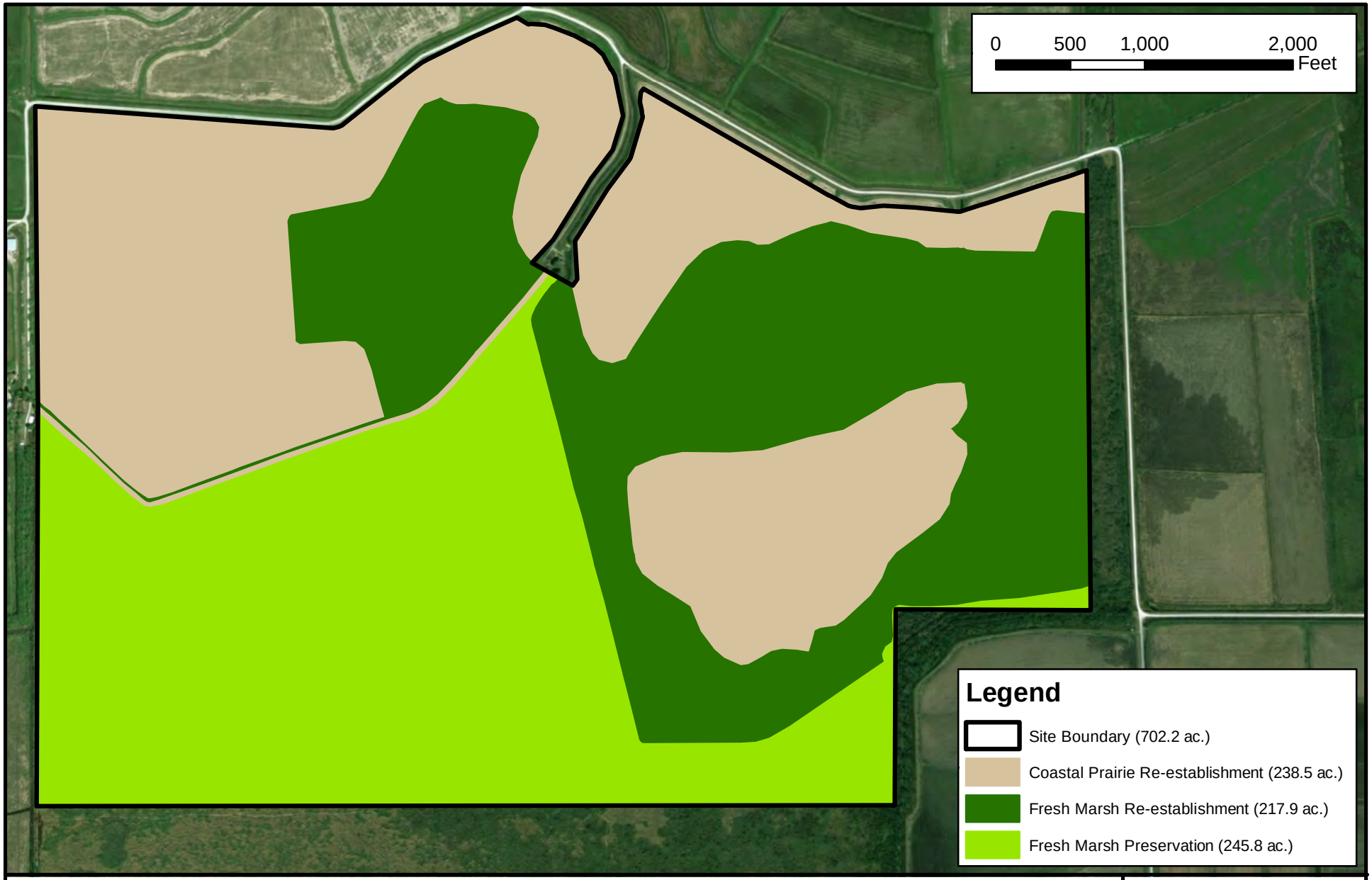

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MITIGATION TYPES

Dixie Rice Mitigation Bank
Cameron Parish, Louisiana
S19,20,30 / T12S / R3W (29.982387, -92.712872)

PANGAEA
Conservation and Compliance, LLC

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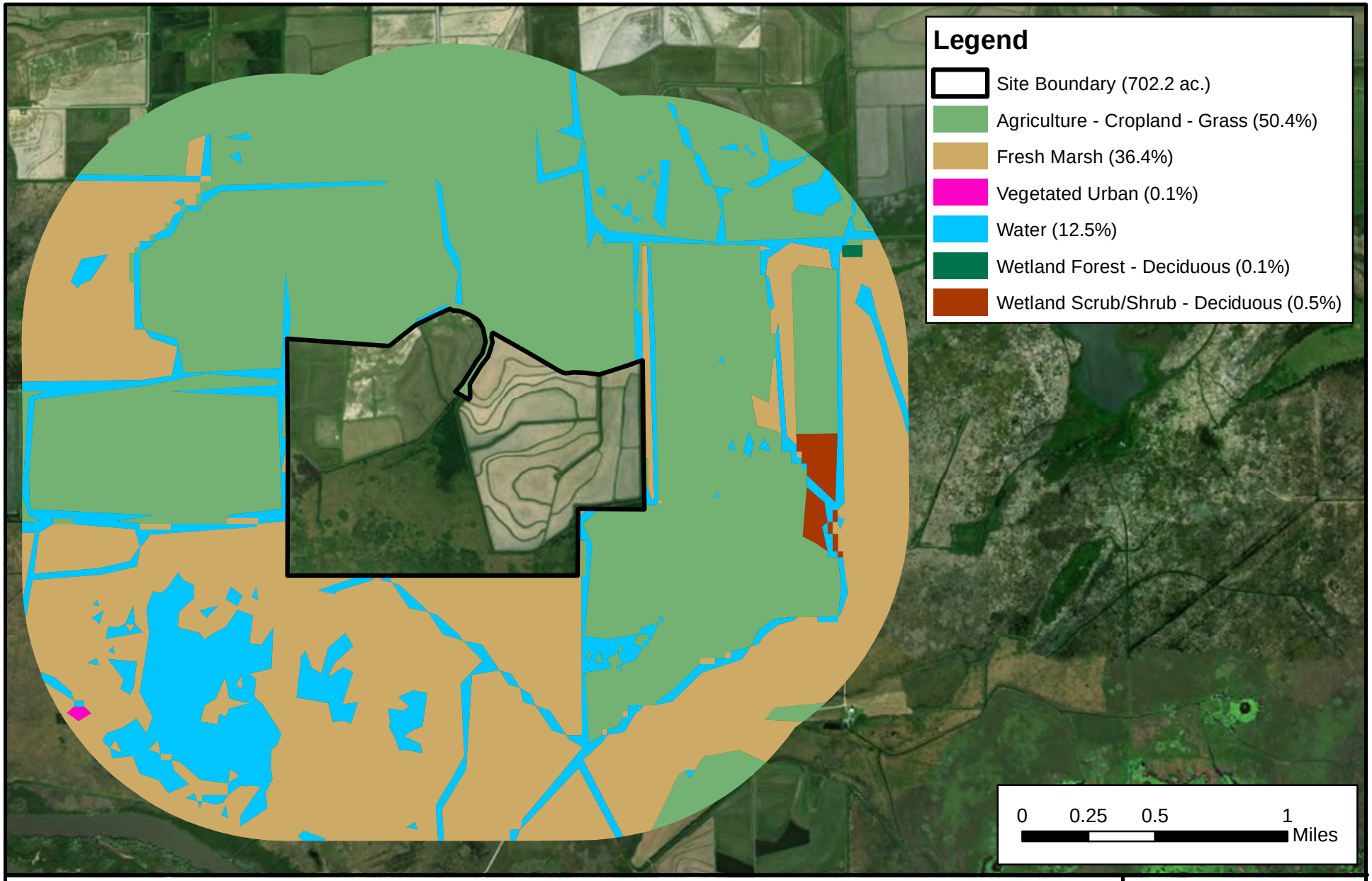

N

LAND USE/LAND COVER WITHIN 1 MILE BUFFER

Dixie Rice Mitigation Bank
Cameron Parish, Louisiana
S19,20,30 / T12S / R3W (29.982387, -92.712872)

PANGAEA
Conservation and Compliance, LLC

Figure:	5
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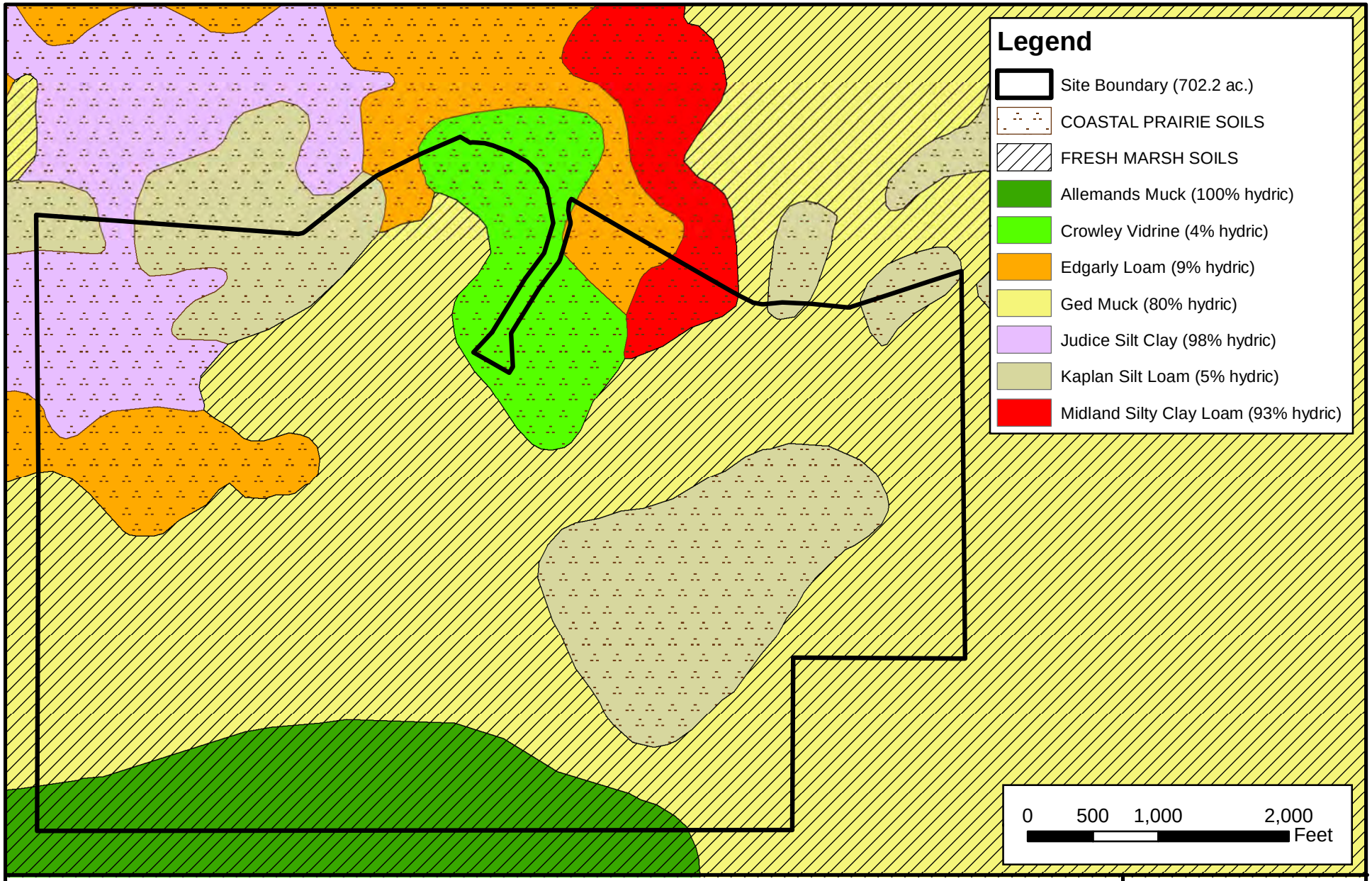

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SOILS MAP

Dixie Rice Mitigation Bank
Cameron Parish, Louisiana
S19,20,30 / T12S / R3W (29.982387, -92.712872)

PANGAEA
Conservation and Compliance, LLC

Figure: 6
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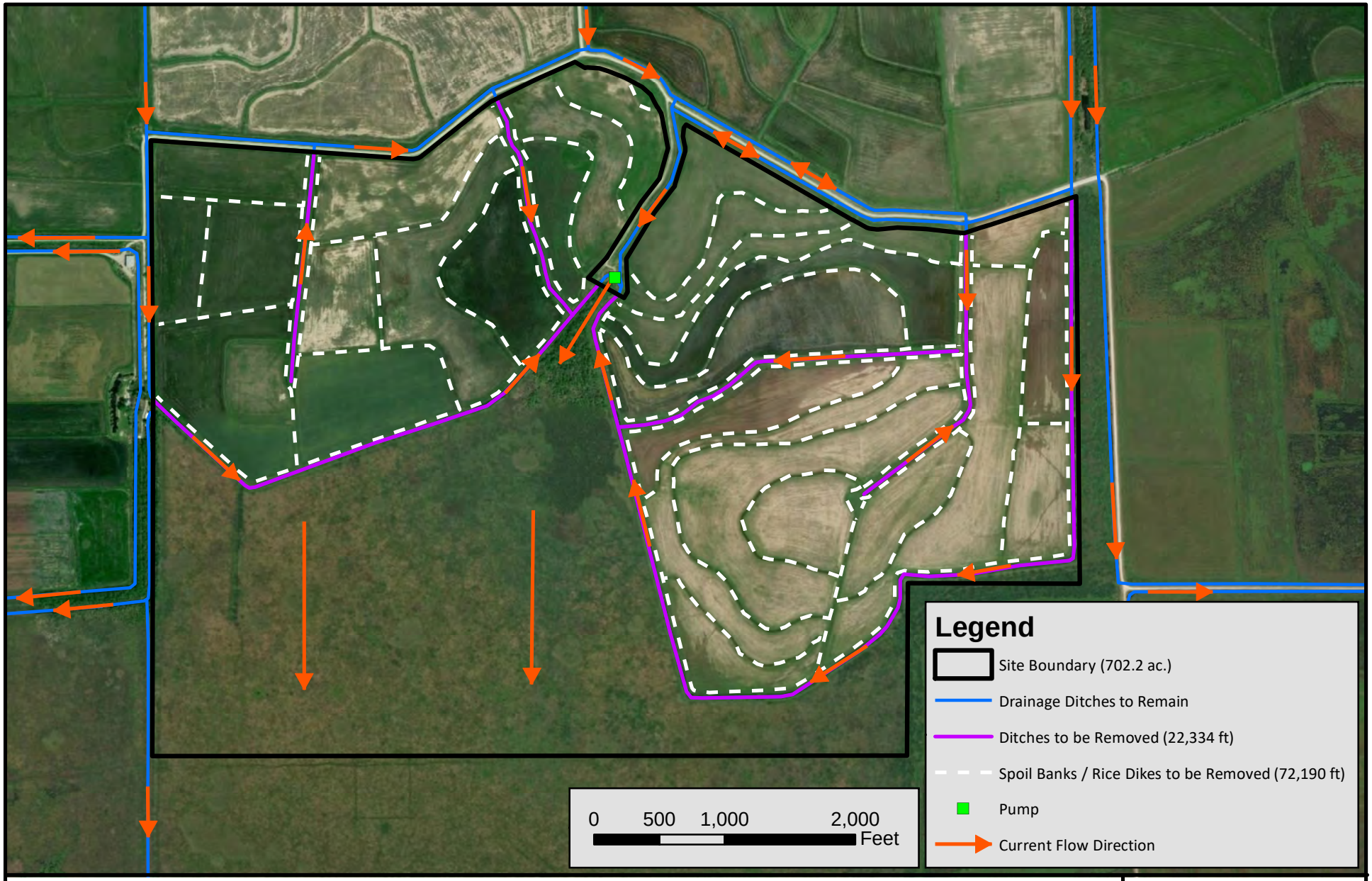

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EXISTING DRAINAGE

Dixie Rice Mitigation Bank
Cameron Parish, Louisiana
S19,20,30 / T12S / R3W (29.982387, -92.712872)

PANGAEA
Conservation and Compliance, LLC

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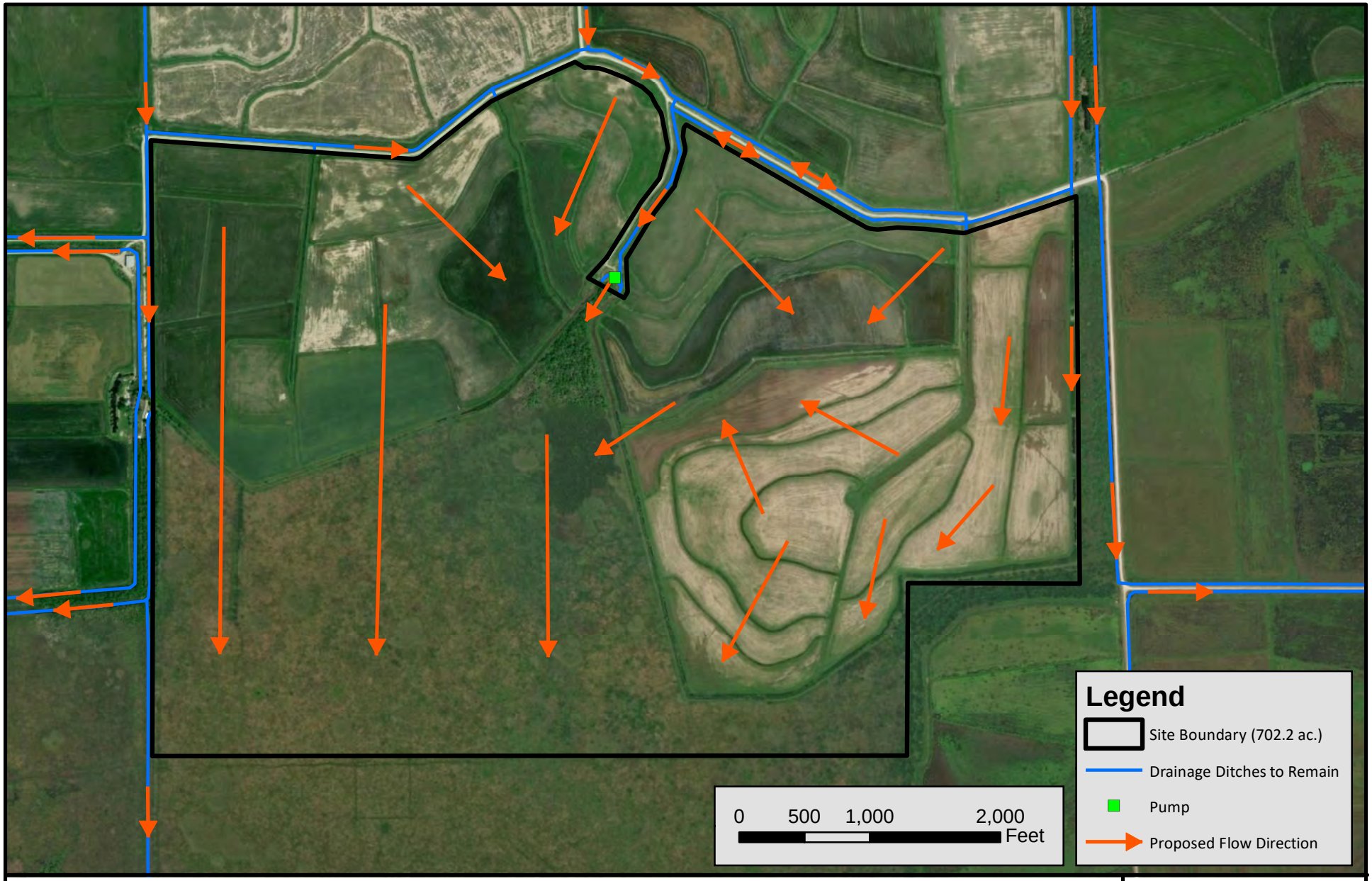

PROPOSED DRAINAGE

Dixie Rice Mitigation Bank
Cameron Parish, Louisiana
S19,20,30 / T12S / R3W (29.982387, -92.712872)

PANGAEA
Conservation and Compliance, LLC

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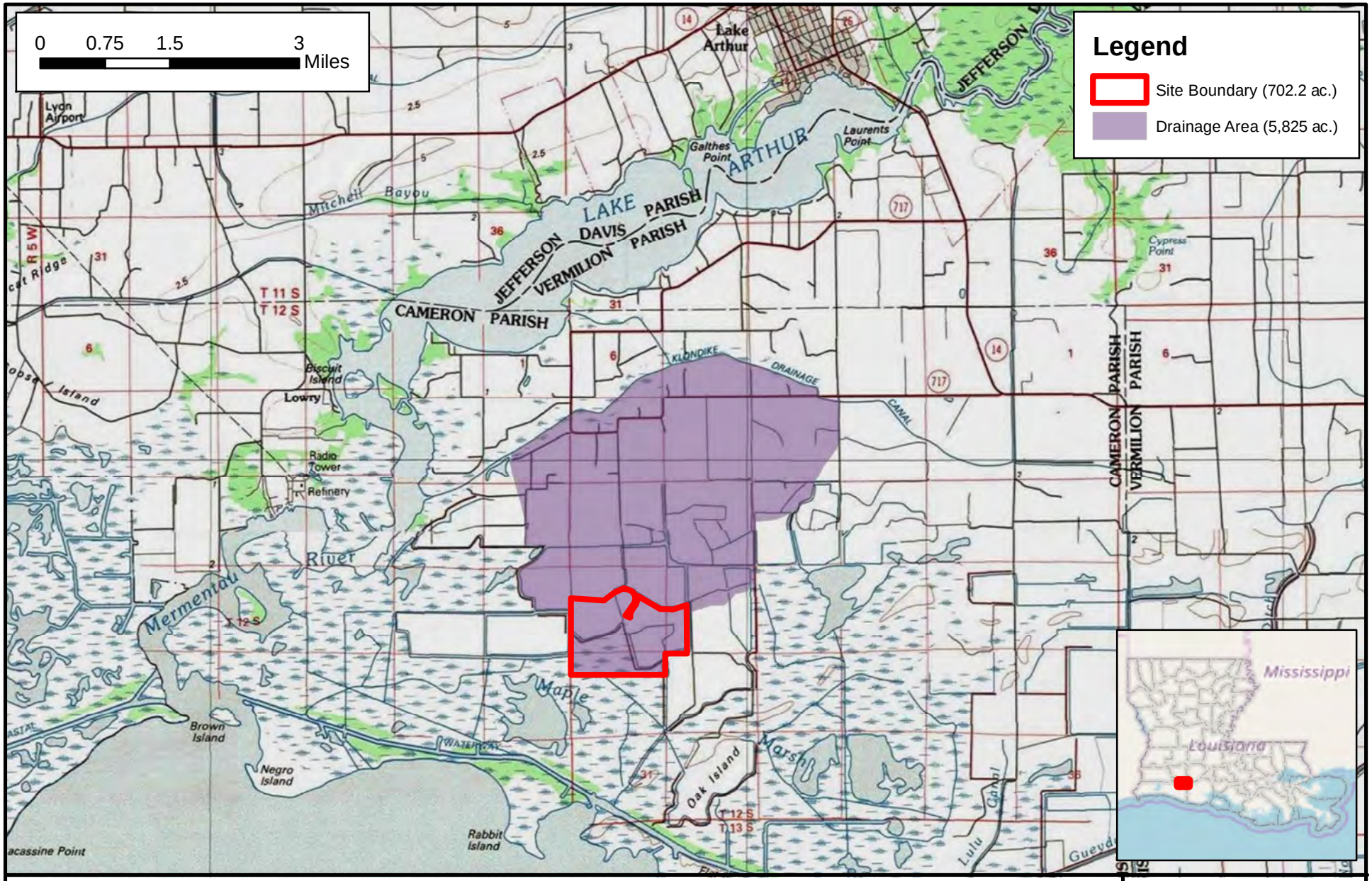

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DRAINAGE AREA

Dixie Rice Mitigation Bank
Cameron Parish, Louisiana
S19,20,30 / T12S / R3W (29.982387, -92.712872)

PANGAEA
Conservation and Compliance, LLC

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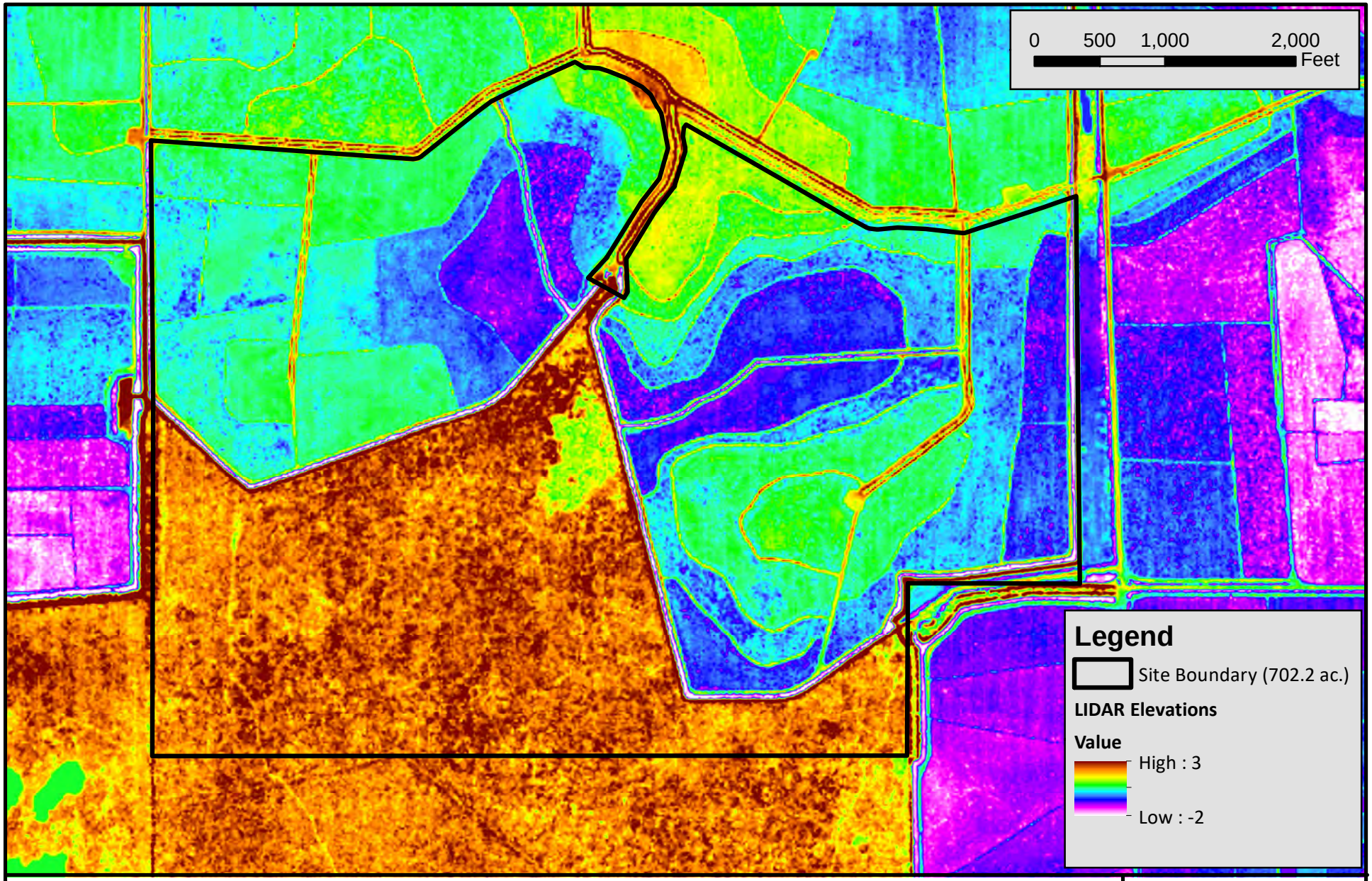

N

LIDAR ELEVATIONS

Dixie Rice Mitigation Bank
Cameron Parish, Louisiana
S19,20,30 / T12S / R3W (29.982387, -92.712872)

PANGAEA
Conservation and Compliance, LLC

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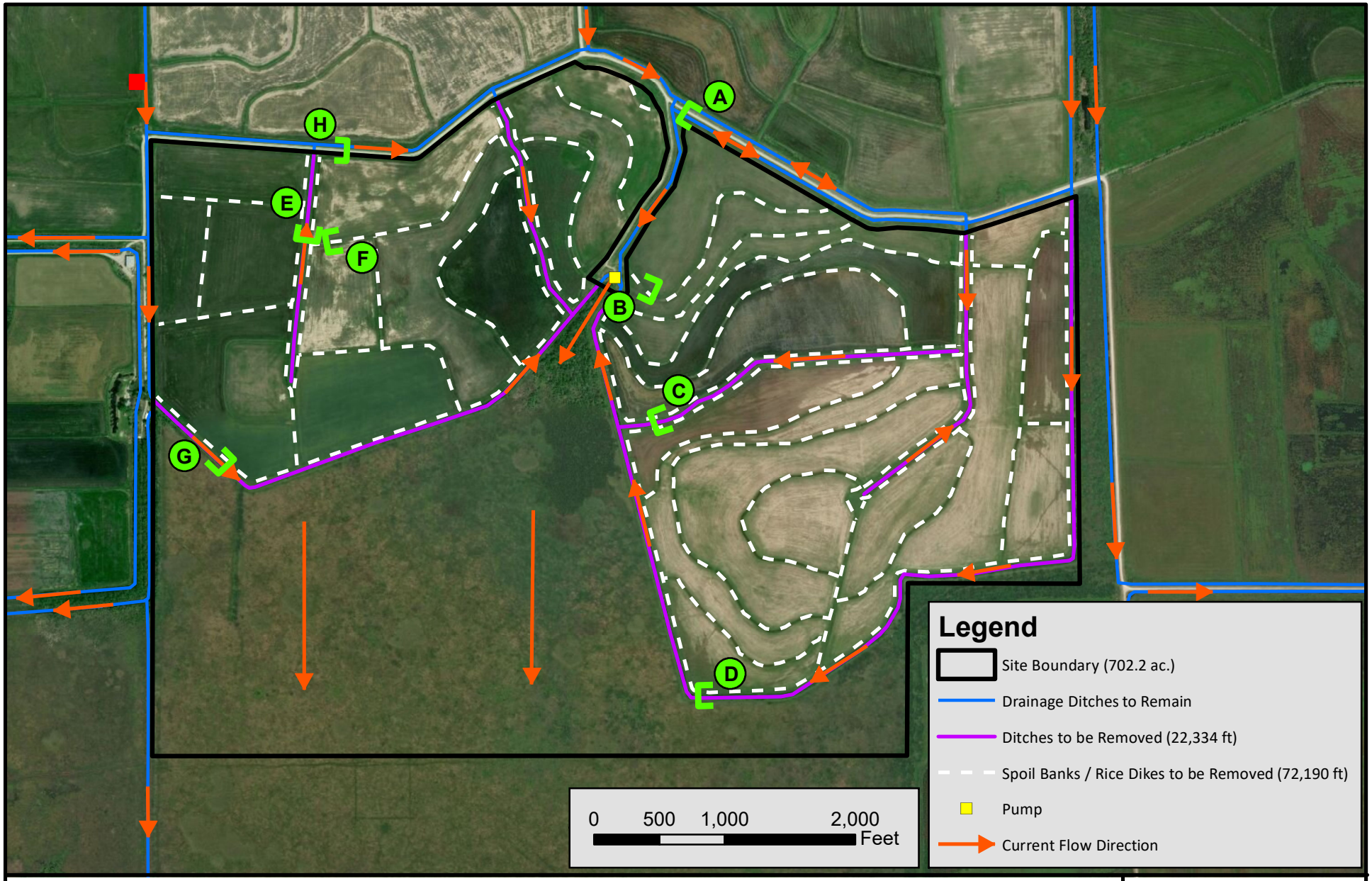

PLAN VIEW - CROSS-SECTIONS

Dixie Rice Mitigation Bank
Cameron Parish, Louisiana
S19,20,30 / T12S / R3W (29.982387, -92.712872)

PANGAEA
Conservation and Compliance, LLC

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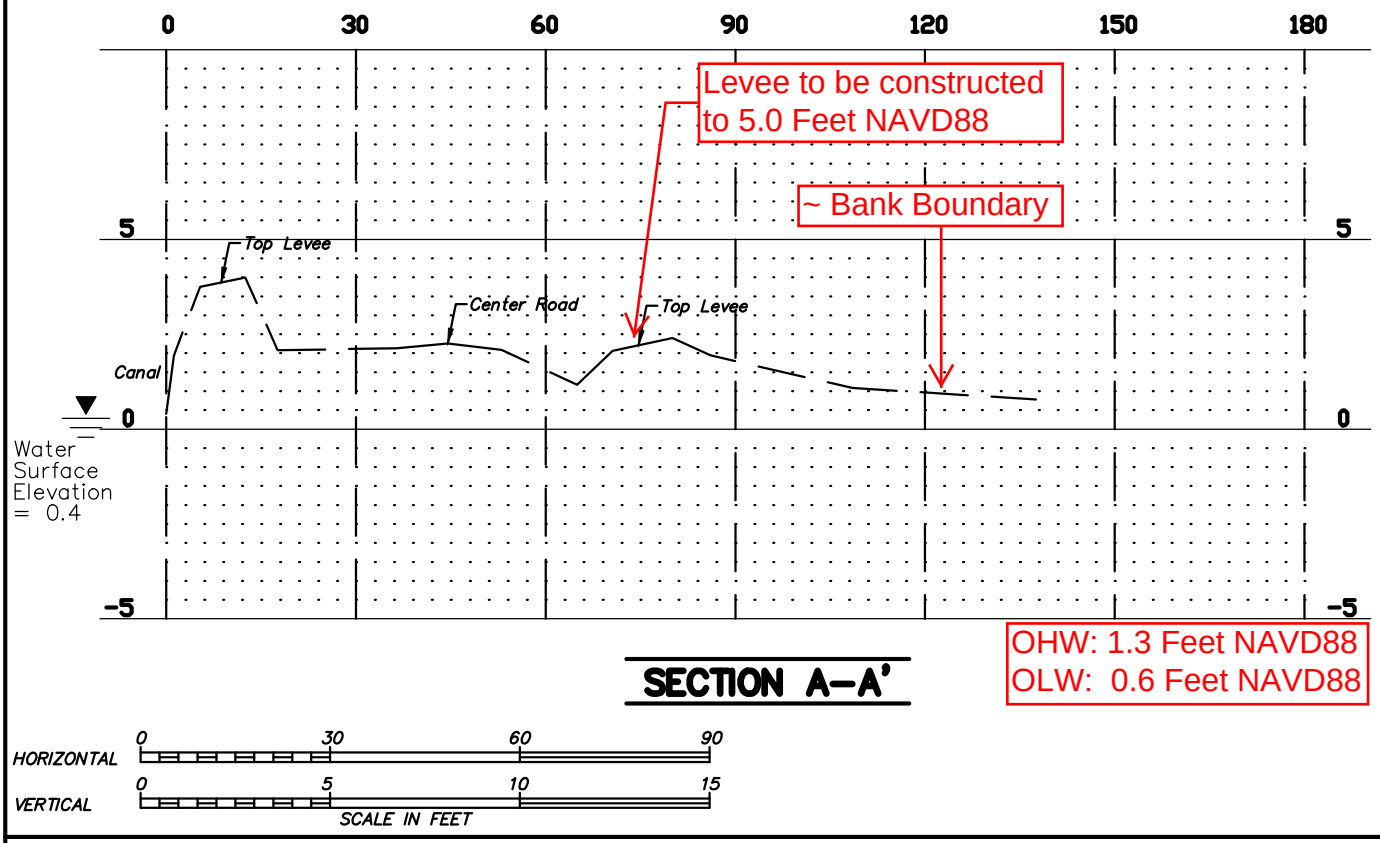

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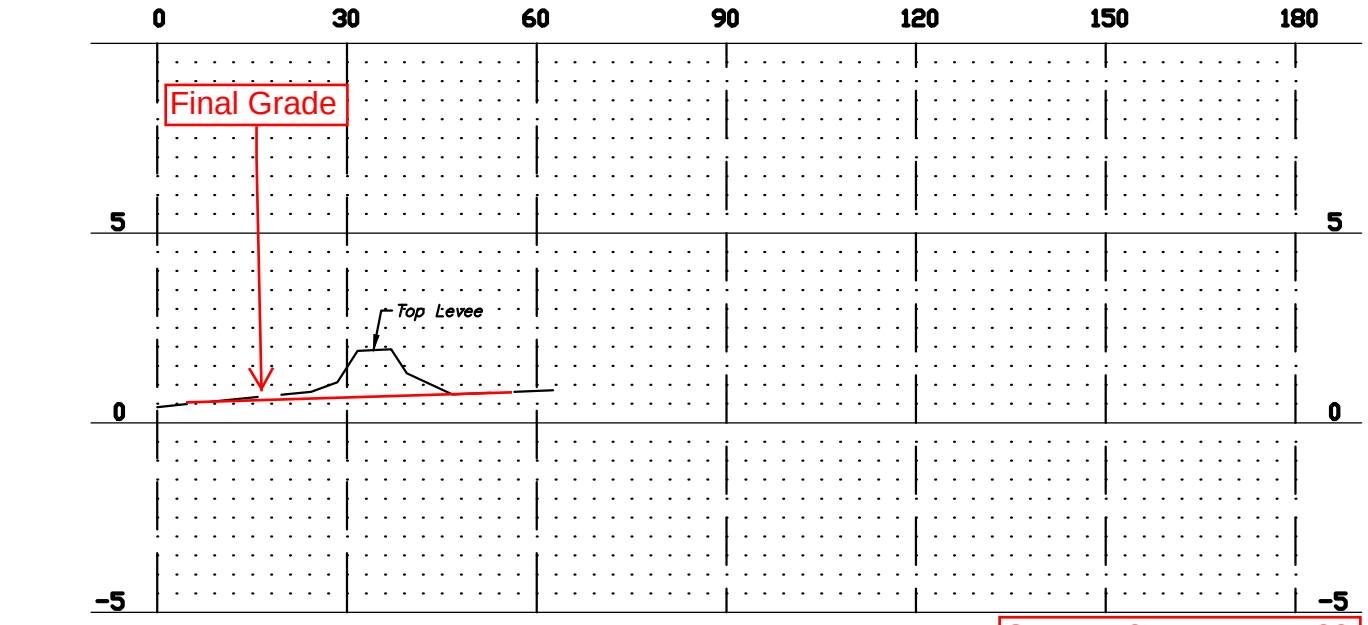

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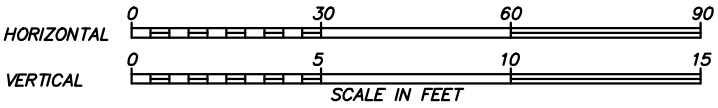


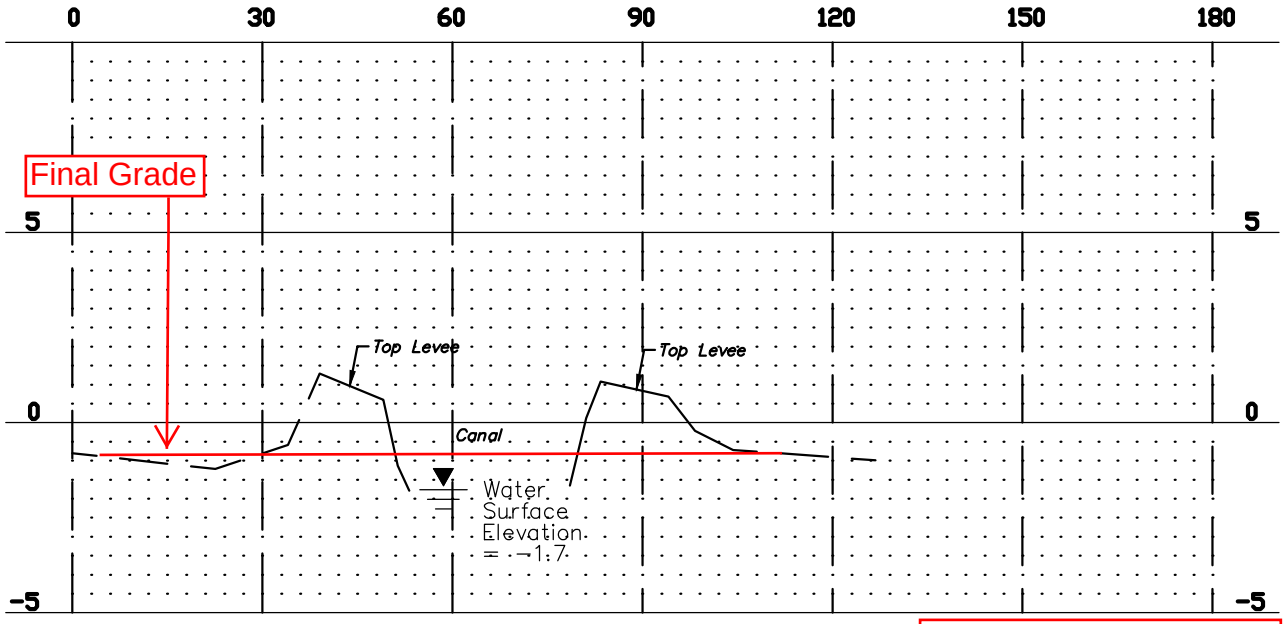
ELEVATIONS ARE NAVD 88

SECTIONS A & B

DIXIE RICE FARM

Prepared by: PRIMEAUX, TOUCHET & ASSOCIATES., L.L.C.
Consulting Engineers & Land Surveyors
Abbeville, Louisiana

AUGUST 2017



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OLW: 0.6 Feet NAVD88

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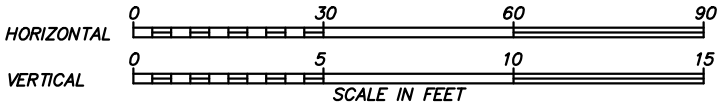

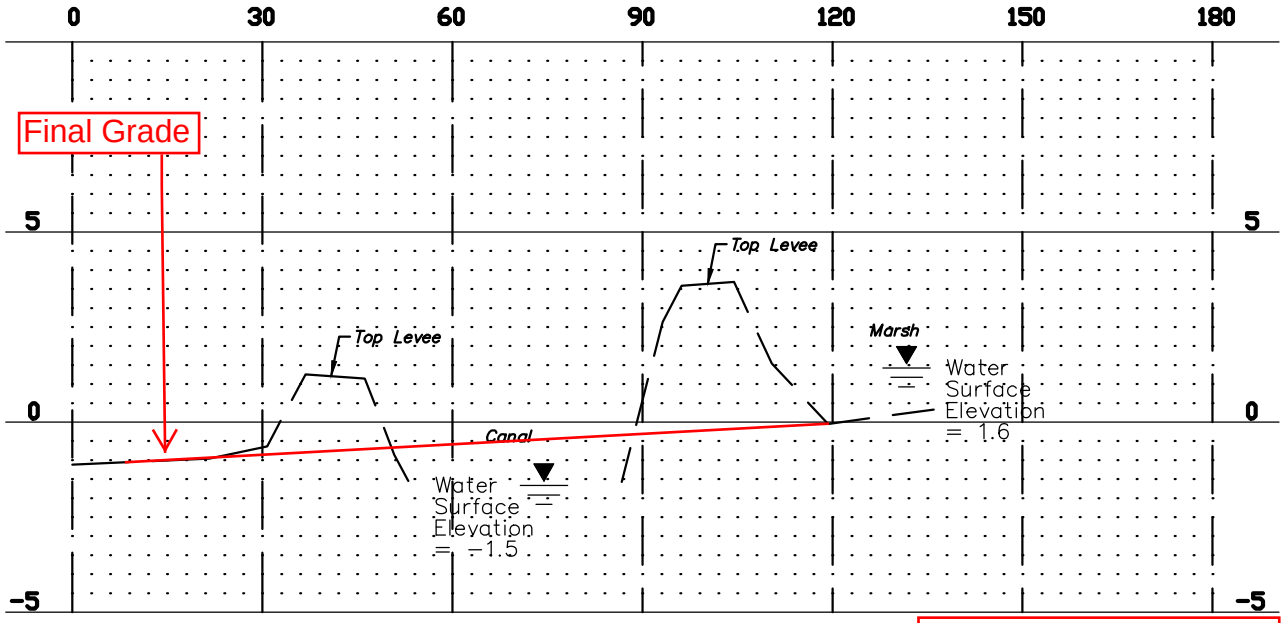

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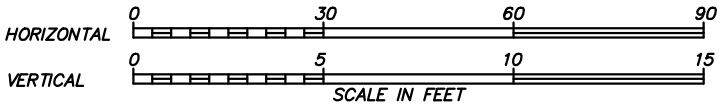


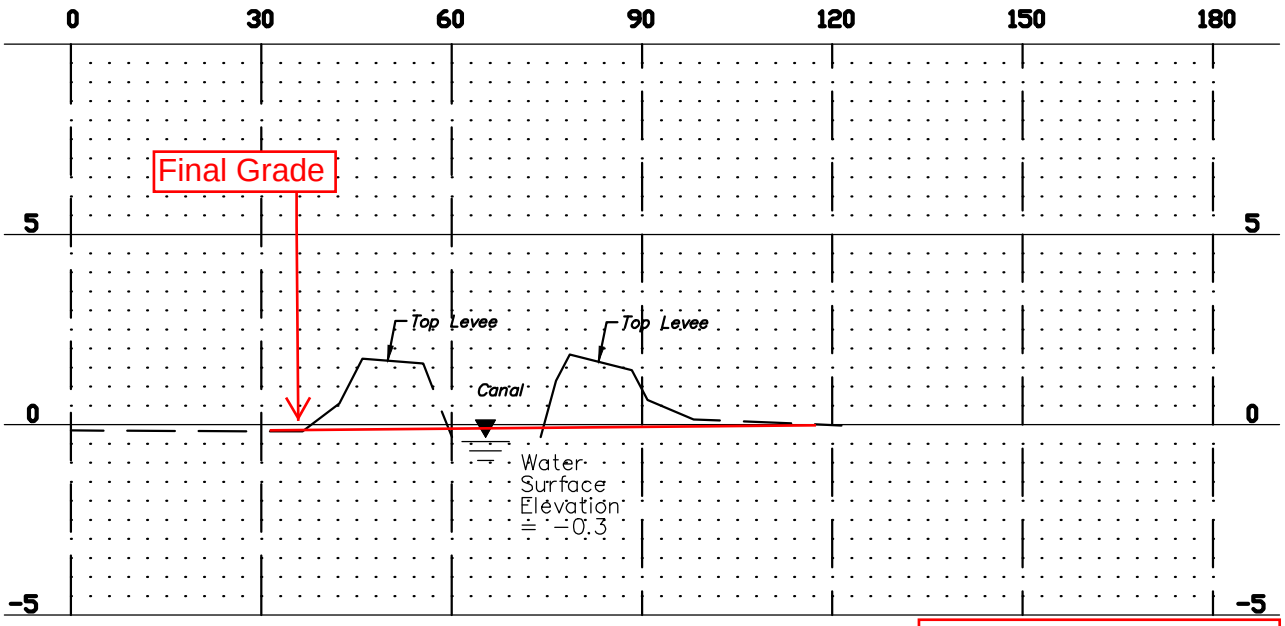
ELEVATIONS ARE NAVD 88

SECTIONS C & D

DIXIE RICE FARM

Prepared by: PRIMEAUX, TOUCHET & ASSOCIATES., L.L.C.
Consulting Engineers & Land Surveyors
Abbeville, Louisiana

AUGUST 2017



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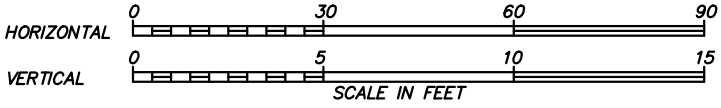

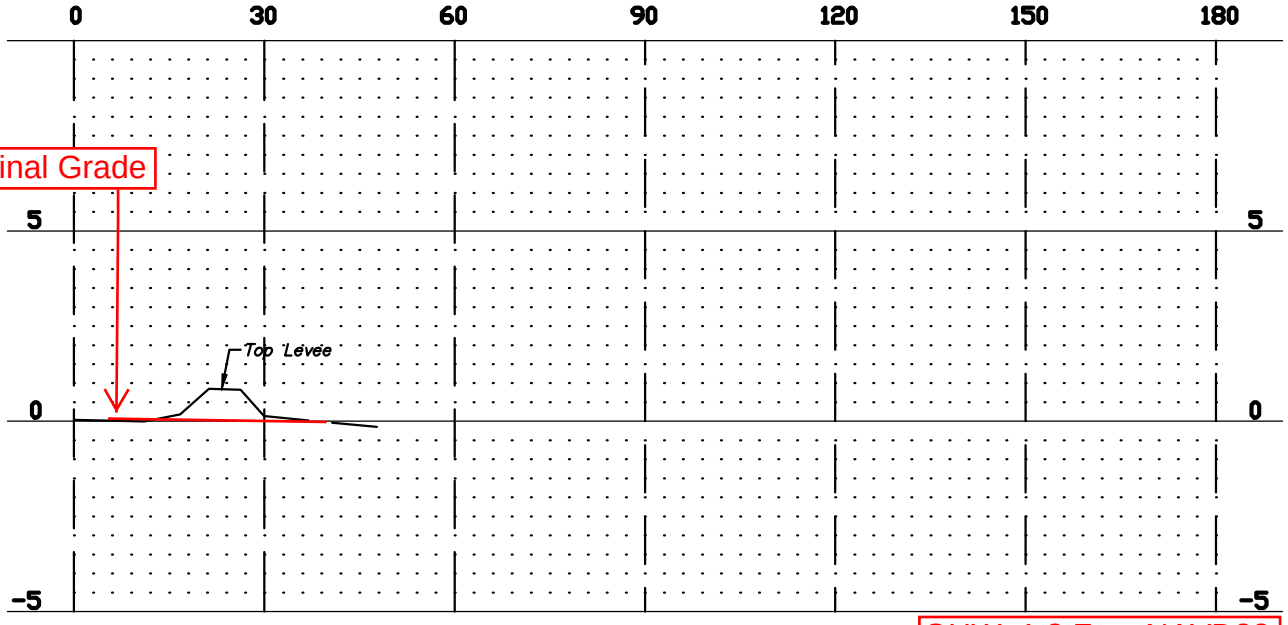

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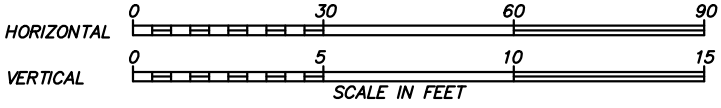


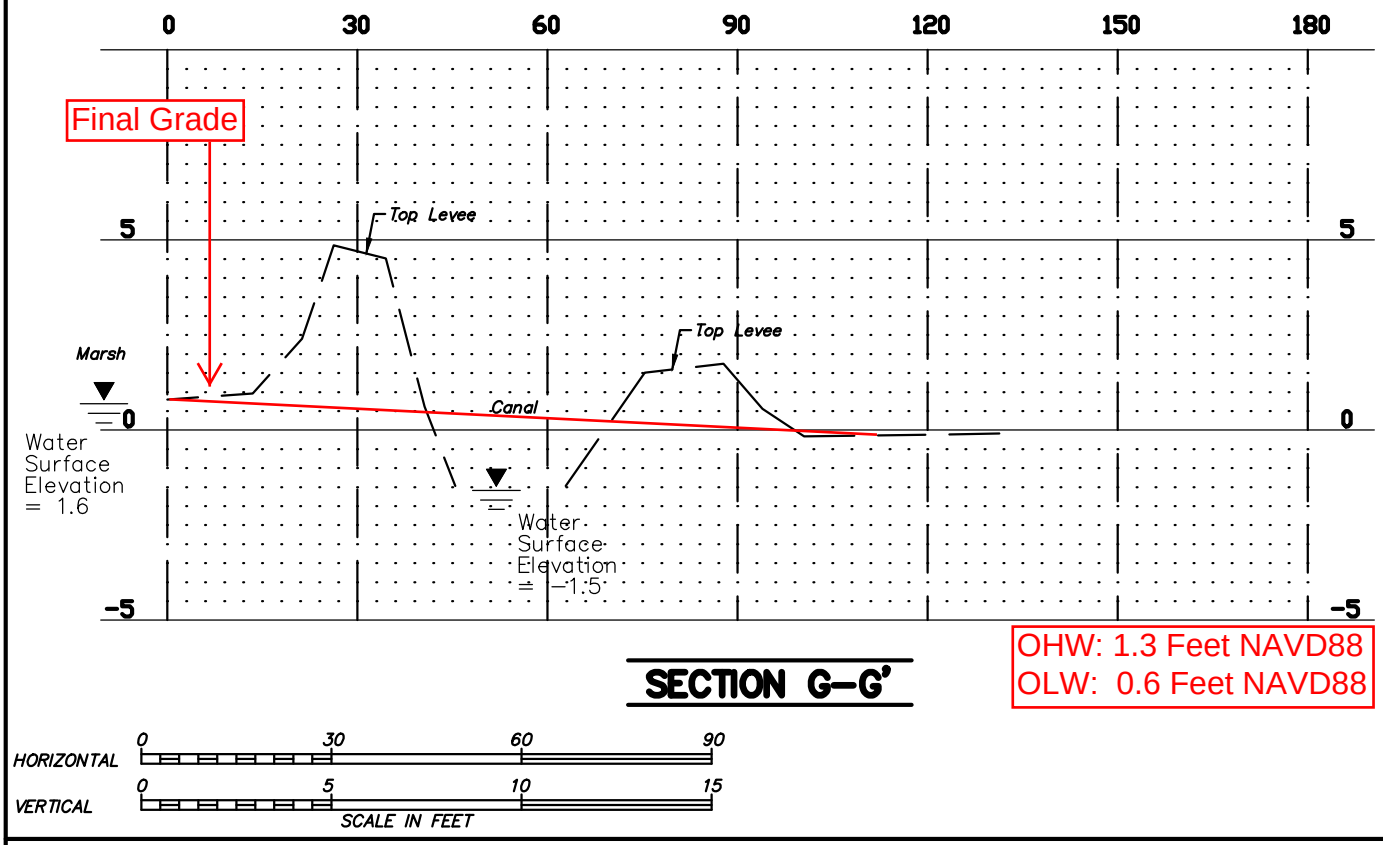
ELEVATIONS ARE NAVD 88

SECTIONS E & F

DIXIE RICE FARM

Prepared by: PRIMEAUX, TOUCHET & ASSOCIATES., L.L.C.
Consulting Engineers & Land Surveyors
Abbeville, Louisiana

AUGUST 2017



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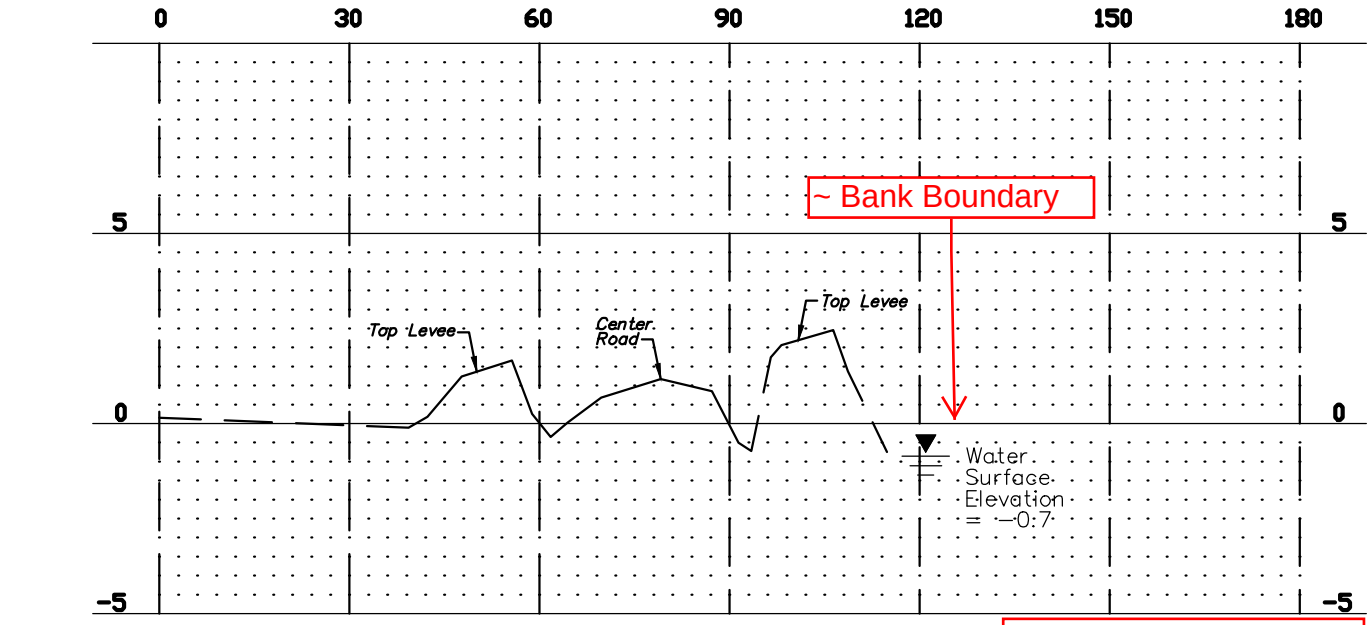

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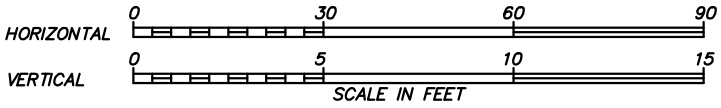


ELEVATIONS ARE NAVD 88

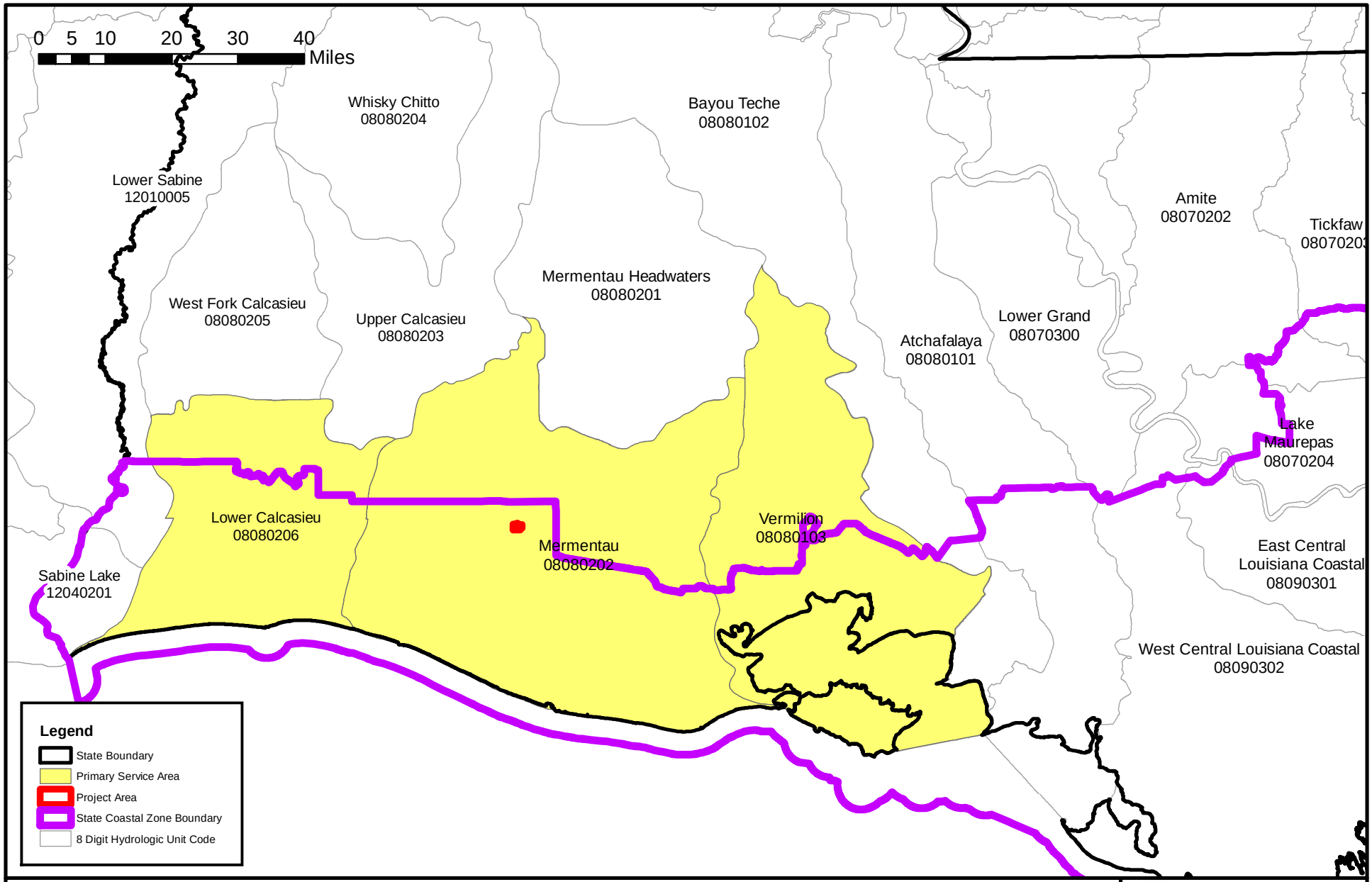
SECTIONS G & H

DIXIE RICE FARM

Prepared by: PRIMEAUX, TOUCHET & ASSOCIATES., L.L.C.
Consulting Engineers & Land Surveyors
Abbeville, Louisiana

AUGUST 2017

JOB 17-109
SHEET 5 of 5



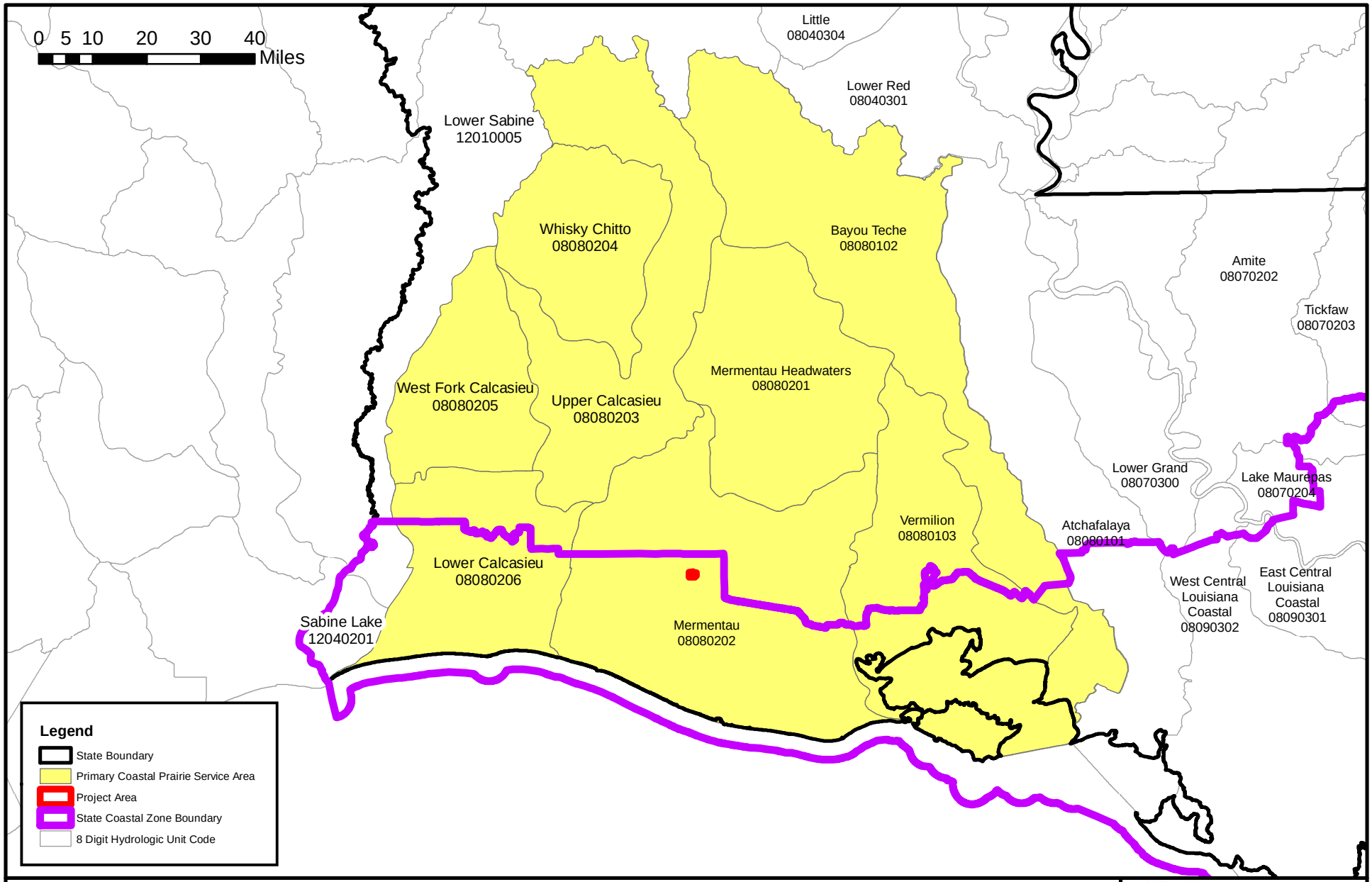
N

FRESH MARSH SERVICE AREA MAP

Dixie Rice Mitigation Bank
Cameron Parish, Louisiana
S19,20,30 / T12S / R3W (29.982387, -92.712872)

PANGAEA
Conservation and Compliance, LLC

Figure: 12
Date: January 2018
Scale: 1:1,300,000



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COASTAL PRAIRIE SERVICE AREA MAP

Dixie Rice Mitigation Bank
Cameron Parish, Louisiana
S19,20,30 / T12S / R3W (29.982387, -92.712872)

PANGAEA
Conservation and Compliance, LLC

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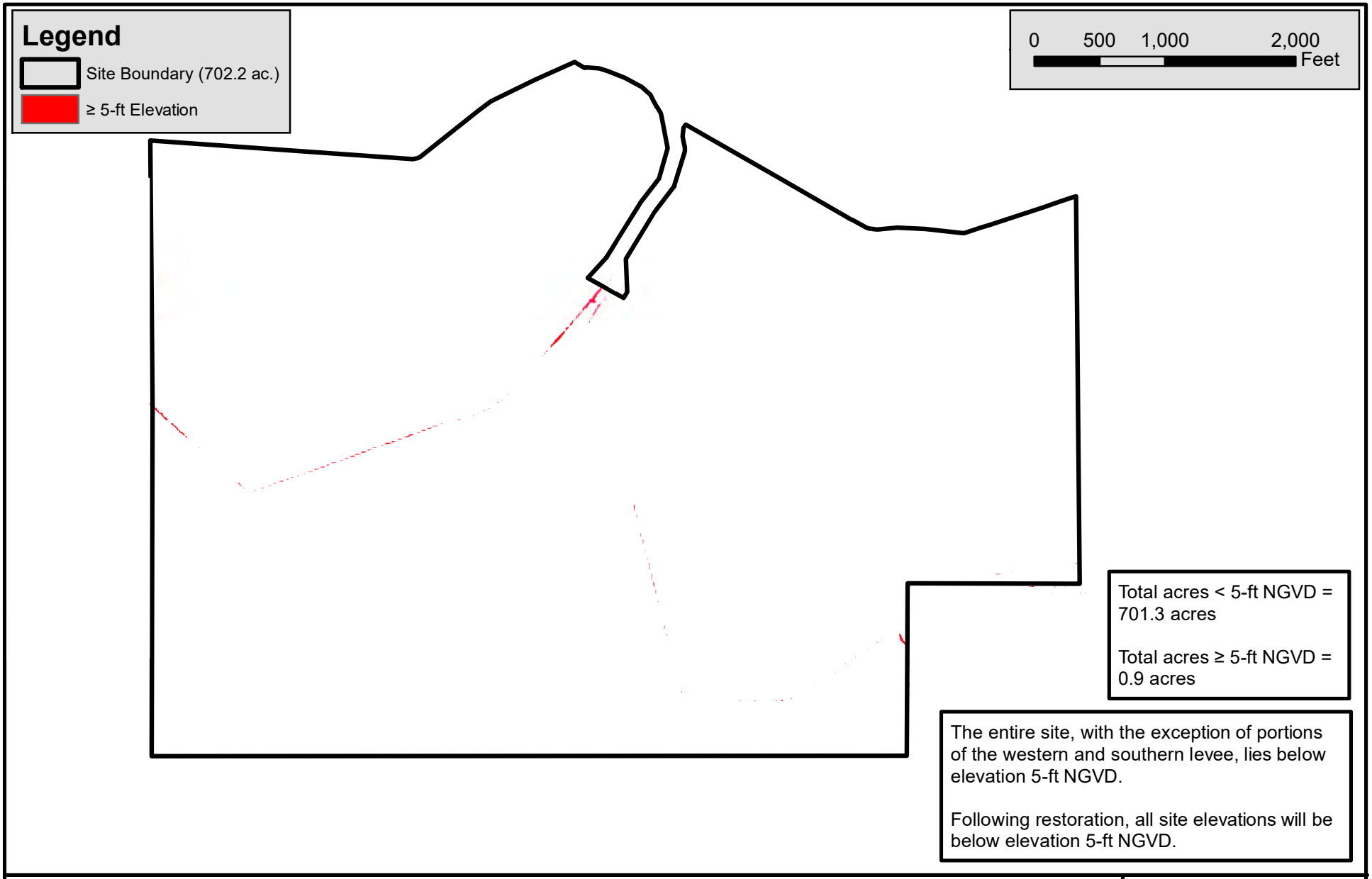

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AREAS ≥ 5 FT NGVD ELEVATION

Dixie Rice Mitigation Bank
Cameron Parish, Louisiana
S19,20,30 / T12S / R3W (29.982387, -92.712872)

PANGAEA
Conservation and Compliance, LLC

Figure: 14
Date: January 2019
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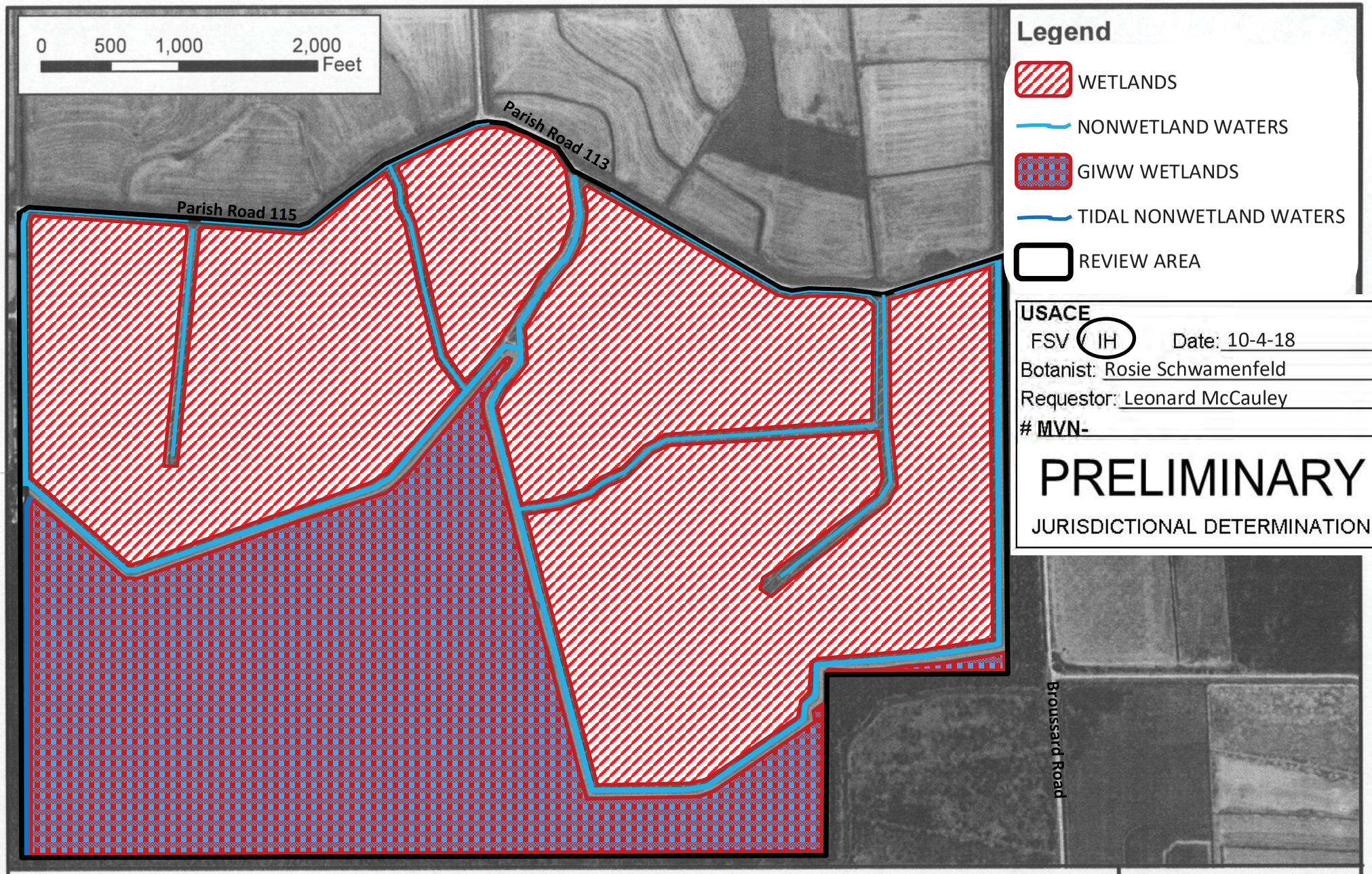
ATTACHMENT A



N

WETLANDS MAP

Dixie Rice Farms - S19,20,30 / T12S / R3W (29.982387, -92.712872)
Cameron Parish, Louisiana

PANGAEA Conservation and Compliance, LLC

Figure: 2
Date: September 2017
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