

JOINT PUBLIC NOTICE

June 16, 2014

United States Army
Corps of Engineers
New Orleans District
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Permit Application Number
MVN-2014-00294 MR

State of Louisiana
Department of Environmental Quality
Attention: Water Quality Certifications
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Project Manager
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WQC Application Number
WQC 140606-01

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: [X] Section 10 of the Rivers and Harbors Act of March 3, 1899 (30Stat. 1151; 33USC 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 LRS30:2047 A(3), and provisions of Section 401 of the Clean Water Act (P.L.95-17).

PROPOSED BULL ISLAND MITIGATION BANK IN VERMILLION PARISH

NAME OF APPLICANT: JMB Partnership, LLC, 203 Main St., Franklin, Louisiana 70538, Attention: Russell Walters.

LOCATION OF WORK: Approximately a 560 acre site located 11.2 miles southwesterly of Kaplan, Louisiana (Latitude: 29.85083N; Longitude:-92.3733888W) (HUC: 08080202) as shown in the attached drawings.

CHARACTER OF WORK: Excavation of approximately 3,440 cubic yards of material on site for use in the restoration of approximately 180.7 acres of bottomland hardwoods, 188.7 acres of cypress-tupelo, and 99.7 acres of fresh marsh along with removal of pumps, degradation of interior levees and ditches, and installation of replacement culverts all for the purpose of establishing a mitigation bank.

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 the permit and/or this WQC request 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 proposal 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 is Not Likely to Adversely 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** acres 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, Water Quality Certifications, 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.

Martin S. Mayer
Chief, Regulatory Branch

ENCLOSURE

Prospectus for the Proposed Bull Island Mitigation Bank

Vermilion Parish, Louisiana



April 30, 2014
Amended May 23, 2014

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1.0 INTRODUCTION

JMB Partnership, LLC (JMB), submits this Prospectus to the U.S. Army Corps of Engineers - New Orleans District (CEMVN) and the CEMVN Mitigation Banking Interagency Review Team (IRT) in sponsorship of establishing Bull Island Mitigation Bank (BIMB). The Project area is located in Vermilion Parish approximately 12 miles south east of Kaplan within the Louisiana Coastal Zone Boundary. BIMB is intended to provide compensatory mitigation for wetland impacts within the mitigation service areas of the Mermentau Basin and the Louisiana Coastal Zone Boundary (Figure 1.0 and 2.0).

BIMB is comprised of approximately 485 acres of cattle grazing fallow rice fields on natural ridges (Figure 2.1). The project area has potential to be restored to high quality fresh marsh (FM), cypress-tupelo (CT), and bottomland hardwoods (BLH). BIMB will be preserved and protected by a Conservation Servitude. Implementation of re-establishment and rehabilitation of Mitigation Types as defined in the Corps of Engineers, New Orleans District (CEMVN) Modified Charleston Method (MCM), *Guidebook for the Use of the Excel Workbook* (March 2013), resulting in a total of 469.1 acres of wetlands.

1.1 Site Location

The project area is located on Bull Island Road and Doc Road, South of the Gulf Intracoastal Waterway (GIWW), and 12 miles south of Kaplan, Louisiana. More specifically, the project area is located in Sections 32 and 33, T-13-S, R-1-E, and Sections 3, 4, 5, 9, and 10, T-14-S, R-1-E in Vermillion Parish, Louisiana. NAD83, Louisiana South 1702 X=2,950,957.2 ft.; Y=492,446.3 ft. BIMB is located in the Hydrologic Unit, Cataloging Code No. 08080202 Mermentau. The project area is bordered by the GIWW to the east, fallow and productive agricultural fields and cow pastures to the west and south, and bottomland hardwood forest neighboring to the north. (Figure 1.0 and 2.0)

1.2 Historical Aerial Imagery

Historical aerial imagery from 1935 and 1940 reveal the ridge and swale topography within the project area boundaries (Figure 2.5 and 2.6). Characteristics within the imagery such as the bridge in the northern half of the southern portion of the proposed mitigation bank are indicative of consolidated sediments along the ridges to support travel.

Tree density is relatively sparse; however logging activities are known to have occurred within this area. This can be seen on the western portion of the north half of the project area. The 1935 imagery indicates trees are present on the ridge however in the 1940 imagery the trees are no longer present. It is also known that this area has historically been utilized for cattle grazing.

2.0 PROJECT GOALS AND OBJECTIVES

The goal of BIMB is the cumulative re-establishment and re-habilitation of approximately 196.8 acres of bottom land hardwoods (BLH), 188.0 acres of cypress-tupelo (CT) and 100.2 acres of fresh marsh (FM) (Figure 3.0). This candidate acreage represents actual acreage of bottomland hardwood, cypress-tupelo and fresh marsh to be re-established. Acreage associated with non-mitigation features, existing roads, ditches and drainage areas, existing rights-of-way, and servitudes, have been excluded.

Table: 1 Mitigation Plan Summary: Habitats; Methods; and Area Affected.

Mitigation Plan Summary			
Current Habitat	Acres	Proposed Habitat	Acres
Chinese Tallow Forest (wet)	2.9	Fresh Marsh	100.2
Cattle Grazing Pasture (wet)	360.1	Cypress-Tupelo Swamp	188
Cattle Grazing Pasture (non-wet)	122	Bottomland Hardwoods	196.8
Total Acreage	485	Total Acreage	485

BIMB is strategically situated in the Mermentau Basin and capable of reinstating a range of physical, hydrological, biogeochemical, biotic, and atmospheric functions to the watershed. Therefore the objectives of the mitigation bank area are diverse. The re-establishment and rehabilitation of fresh marsh, cypress-tupelo swamp, and bottomland hardwood assorted with coastal live oak-hackberry like habitats will positively affect the physical structure of the area by serving as a protection from storm surge from hurricanes and tropical storms. Restoration of BIMB’s topography and vegetative habitats can institute reclamation of the organic material to the systems soil and filter sediment deposition runoff into the GIWW and Warren Canal. Hydrologic restoration would restore natural hydrologic cycling and flood storage which would inundate soils and return them to their natural historic hydric process. Re-building marsh and swamp habitats can restore biogeochemical processes in the soil considerably via additional plant and invertebrate detritus. Restoration will also provide improved biotic conditions and create habitat for hundreds of species of migratory birds including threatened and endangered species such as the Whooping Crane (*Grus americana*). All of these functions working together also provide atmospheric maintenance and natural aesthetics.

3.0 ECOLOGICAL SUITABILITY OF SITE

3.1 Historical Ecological Characteristics of the Site

Historically, hydrology in the project area has been intensively managed through a combination of levees, drainage ditches, detention ditches and lift pumps. This forced drainage was necessary to make area suitable for agriculture and cattle grazing use. The mechanized clearing and hydrologic alteration of this site began in the early 1900’s or sooner, prior to aerial photography.

The National Wetlands Research Center lists five different NWI habitat classifications within Project Area. The majority of the area is classified as Upland agriculture or Upland range. The remaining three classifications consist of: Palustrine forested broad-leaved deciduous temporarily flooded, Palustrine scrub shrub broad-leaved deciduous temporarily flooded, and Upland forested evergreen.

The five locks and control structures surrounding the Mermentau Basin were constructed primarily to control saltwater intrusion into the freshwater reservoir and maintain a sufficient water level for navigation. The control structures would not have been necessary were it not for construction of the GIWW, the Inland Waterway, and the Freshwater Bayou Canal, and the expansion of the lower Mermentau River. (LCWCRTF pg. 31)

Reference sites with similar geology and potentially similar historical/current habitat type would include the areas adjacent to Goat Island, Big Woods Island, and Palmetto Island “Palmetto State Park”

3.2 Current Ecological Characteristics of the Site

3.2.1 Existing Soil

According to the Vermilion Parish Soil Survey (2005) maps of the subject property the following soils are found to occur: Gueydan muck; Judice-Kaplan complex, gently undulating; Crowley silt loam; Kaplan silt loam; and Udifluents. Said study characterized approximately 87% of the restoration tracts as mostly hydric soils and 13% as non-hydric soils. (Figures 5.0 and 5.1) However the southern boundary is listed as non-hydric but was determined to be hydric during the Jurisdictional Determination. The majority of the soil type within the project area is Judice-Kaplan Silt loam and generally associated with coastal prairies but also supports forested sites, as stated in the Vermilion Parish Soil Survey. The geology and elevation of the project area is similar to that of area adjacent to Goat Island, Big Woods Island and Palmetto Island which contains forested wetlands.

Table 2: Current Site Conditions: Existing Soils, Water Table, and Potential Habitat.

NRCS Vermilion Parish Soil Data for Bull Island Mitigation Bank								
Soil and Hydric Rating		High Water Table			Potential for Habitat Element			
Soil Name	Hydric Rating	Depth Ft	Kind	Months	Wetland Plants	Herbaceous Plants	Shrubs	Hardwood Trees
Gueydan muck	Mostly Hydric	1.0 - 3.0	Apparent	Jan-Dec	Good	Fair	Fair	Fair
Judice-Kaplan Complex	Mostly Hydric	0 - 1.5	Apparent	Dec-Apr	Good	Fair	Good	Good
Crowley Silt Loam	Not Hydric	0.5 - 1.5	Perched	Dec-Apr	Good	Fair	Good	Fair
Kaplan Silt Loam	Not Hydric	1.5 - 2.5	Apparent	Dec-Apr	Good	Fair	Good	Good
Udifluents	Not Hydric	N/A	N/A	N/A	Good	Very Poor	Very Poor	Very Poor

3.2.2 Existing Vegetation

During multiple site visits and during the wetland delineation performed by JMB biologists, diverse vegetation was observed in different topographical and historical agriculture areas. (Figure 2.1)

In areas of the site that have been historically managed for agriculture use are now mostly maintained for grazing. Species observed include: Bermuda grass (*Cynodon dactylon*), Carpet grass (*Axonopus affinis*) and Mountain spikerush (*Eleocharis montana*).

Areas of lower elevation exhibited wetter varieties of plants; Species observed include: Tapertip rush (*Juncus acuminatus*), Bulltongue (*Sagittaria lancifolia*), Alligator weed (*Alternanthera plioxeroides*) and *Typhya sp.*

Areas not historically used for agriculture production consisted of a habitat similar to a coastal live oak-hackberry forest. Species observed include: live oak (*Quercus virginiana*), hackberry (*Celtis laevigata*), green ash (*Fraxinus pennsylvanica*), and water oak (*Quercus nigra*).

3.2.3 Existing Hydrology

The Mermentau Basin lies in the eastern portion of the Chenier Plain in Vermillion, Cameron, Jefferson Davis, Acadia and Calcasieu Parishes. The 734,000-acre basin is bounded on the east by Freshwater Bayou Canal, on the South by the Gulf of Mexico, on the west by Louisiana State Highway 27, and on the north by the coastal prairie. The Grand Chenier and Pecan Island ridge systems are linked by Louisiana Highway 82 and divide the basin into two distinct sub-basins: the Lakes Sub-basin which BIMB is located, north of the highway and the Chenier Sub-basin south of the highway (CWPPRA).

The average annual rainfall over the Mermentau Basin ranges from about 58 inches along the coastal area to about 60 inches in the northern part of the watershed. During the year July is the wettest month and September is the driest. Slightly over 50 percent of the rainfall occurs during the six month period April through September (NRCS). Watershed sources include inputs from surface runoff, precipitation delivery.

3.2.4 Hydrological Influences

The Project Site is located with the Mermentau Hydrologic Unit, Cataloging Code No. 08080202. Site hydrology has been manipulated historically for the production of rice and the grazing of cattle. Remnants of unmaintained agriculture levees from past rice production influences hydrology. There is internal drainage located between fields that eventually drain into man-made canals along the perimeter and within the property which in turn moves west towards the Warren Canal or north east, where it is eventually pumped into the GIWW (Figure 2.2 and 4.1).

3.2.5 Jurisdictional Determination

Based on the routine field investigation and wetland delineation conducted by JMB companies in November 2013 the following was information was assembled. The project site contains approximately 339 acre or 74.8% of potential jurisdictional wetlands. Additionally, approximately 19,600 linear feet of potential waters of the U.S. are located in the project area in the form of drainage ditches along the perimeter and through the interior of the property. The final JD was finalized by the New Orleans district under MVN-2013-02585-SC and MVN-02858-1-SC . (Figure 2.3)

3.3 General Bank Need

Wetlands loss in the Mermentau Basin and its watershed has been studied by several research efforts and the findings indicate a need for wetlands restoration. Human activities related to wildlife management, navigation improvement, flood control, agriculture, and petrochemical exploitation have dramatically altered the hydrology of the Mermentau Basin (LDWF). That and other natural factors has caused a total of 104,380 acres of marsh to be converted into open water since 1932, a loss of 19% of the historical wetlands in the basin which represents 9% of wetland loss in Louisiana (LaCoast 2005). Bottomland hardwood forest loss is estimated to be 50 to 75 % of the original presettlement acreage, statewide (Smith 1993). Old-growth examples of BLH are very rare. According to CWPPRA In absence of remedial action, about 18 percent, or 62,900 acres, of the land in the Mermentau Basin Lakes Sub-basin would be lost over 50 years. This loss would occur in wetlands adjacent to the shorelines of White and Grand Lakes and the banks of the GIWW and Freshwater Bayou Canal (CWPPRA).

BIMB would also accommodate the vision, goals, and objectives of the Mermentau Basin Watershed “Basin Plan” plan stated by CWPPRA. Plan includes:

1. The short-term supporting projects within the Lakes Sub-basin protect interior wetlands by hydrologic restoration, and protect shorelines and banks (along the GIWW).
2. The long-term supporting projects within the Lakes Sub-basin treat critical loss areas by hydrologic restoration and vegetative plantings (GIWW).

BIMB would also accommodate the vision, goals, and objectives for LDWF Habitat Conservation Strategies for BLH, CT, and FM. Plan includes

1. Work with private landowners, etc. to promote corridors of BLH forests for wildlife species.
2. Partner with state and federal agencies, NGOs’ private landowners, etc. to increase conservation efforts on natural ridges.
3. Develop methods to encourage landowners to removed cattle from natural ridges and manage the land for wildlife conservation.
4. Work with LCA, CWPPRA to broaden coastal restoration projects to include freshwater marsh.

Therefore, the general need for a mitigation bank to re-establish natural habitats of BLH, CT, and FM is greatly needed. BIMB will provide compensatory mitigation primarily for the 08080202 HUC. This area is well-suited to provide compensatory mitigation for CEMVN permitted projects with unavoidable wetland impacts. In the aftermath of Hurricane Lili, Rita, Gustav, and Ike there has been an increased need for mitigation banks in this area due to increased oil and gas activity, industrial development, residential development, agriculture development and the need to expand the hurricane and flood protection levee system statewide.

3.4 Technical Feasibility

The construction work required to develop the bank is routine in nature and feasible. The mitigation activities involve primarily reforestation using bare-root seedlings. These activities have long been utilized in wetland restoration and mitigation projects and are proven methods. The Sponsor has the necessary funds and personnel to successfully implement the proposed vegetative plantings. A more specific examination of the technical restoration methods is presented in Section 4.0.

4.0 ESTABLISHMENT OF THE MITIGATION BANK

4.1 Site Restoration Plan

In order to achieve the goals and objectives of the mitigation bank, the Sponsor proposes to re-establish and restore certain hydrologic and soil conditions and to conduct the necessary seedling plantings. (Figure 3.0)

4.1.1 Hydrologic

During the process of conversion and management as agricultural crop land, certain hydrologic modifications were put in place. In order to restore the area to a natural hydrologic state, these modifications must be removed. To that end a breach will be made on the north side of project area to connect the GIWW tidally with BIMB. Also the perimeter and internal levees will be mechanically degraded to permit tidally influenced outside waters to enter and exit the restoration tracts via the GIWW and Warren Canal.

The lift pumps currently in use to pump off waters from the fallow agricultural fields with in BIMB will be removed from the Mitigation Bank area and placed on landowner’s adjacent property for hydrological control of areas not under the conservation servitude. All surface gravity drainage ditches and subsurface tiles in the restoration tracts will be filled and removed, respectively. Culverts that are part of the drainage system of the restoration tracts will be removed or expanded (Figure 3.2).

Areas included in the proposed mitigation bank were chosen based on upon State sponsored Lidar with an average elevation of less than Five (5) feet NAVD88 (Figure 2.4). Since average water levels in the GIWW, near and around the proposed mitigation bank are approximately +1.6 feet NAVD88, it is believed that this will allow tidal movement of waters within the project area and maintain the proper ratio on wet and dry periods, allowing for the establishment of a functioning BLH, CT, and FM ecosystem. (Figure 2.4 and 3.2)

4.1.2 Soil Preparation

Soil preparation has been shown to significantly increase reforestation success in BLH and CT restoration (Lockhart et al., 2003). Prior to perimeter levee degradation and after interior ditches and tiles have been removed, restoration tracts will have the soils mechanically prepared to receive vegetative plantings. The soil surface will be disk plowed. Subsequently subsoiling using a ripping implement will be used at a depth of 18 inches to alleviate soil compaction and encourage air and water pore space for root growth (Allen et al., 2004). If needed aerial application of herbicides will be used to control weeds and reduce competition for seedlings.

4.1.3 Vegetative Plantings

The Sponsor intends to re-establish the original BLH and CT wetland vegetation in the former rice/cattle grazing areas by conducting plantings within the mitigation areas. Based on the established FM currently on BIMB, FM areas will be allowed to regenerate naturally with no plantings. The BLH and CT planting will be conducted during the first planting season, approximately December 15 to March 15. The site will first be prepared by conducting mowing, grading, and the application of herbicides. The goal is to match plant species to the closest extent possible to those species on adjacent wetlands. Commercial species will be chosen where appropriate to tolerate the same hydrological conditions as those on the adjacent lands and according to elevations on the proposed sites. Appropriate seedlings of mixed BLH species or CT, where appropriate, will then be planted at approximately 9’ X 9’ spacing at a minimum initial stand density of 538 stems per acre. Hard mast species for the BLH areas shall comprise of not less than 50% or greater than 80% of the planted seedlings.

Table 3: Representative Species Suitable for BIMB:

CYPRESS TUPELO AREAS	SOFT MAST
Bald cypress (<i>Taxodium distichum</i>)	X
Black gum (<i>Nyssa sylvatica</i> var <i>biflora</i>)	X

BOTTOMLAND HARDWOOD SPECIES	SOFT MAST	HARDMAST	MIDSTORY <15% of Total
Willow oak (<i>Quercus phellos</i>)		x	
Laurel oak (<i>Quercus laurifolia</i>)		X	
Nuttall oak (<i>Q. nuttallii</i>)		X	
Bald cypress (<i>Taxodium distichum</i>)	X		
Sweetgum (<i>Liquidambar styraciflua</i>)	X		
Hackberry (<i>Celtis laevigata</i>)	X		
Swamp Chestnut oak		X	
Bitter Pecan (<i>Carya aquatica</i>)		X	
Water oak (<i>Q. nigra</i>)		X	
American elm (<i>Ulmus americana</i>)	X		
Drummond maple (<i>Acer rubrum</i> var <i>Drummondii</i>)	X		
Red mulberry (<i>Morus rubra</i>)	X		
Green ash (<i>Fraxinus pennsylvanica</i>)	X		
Elderberry (<i>Sambucus canadensis</i>)			X
Deciduous holly (<i>I. decidua</i>)			X
Wax Myrtle (<i>Myrica Cerifera</i>)			X

4.1.4 Noxious Plant Control

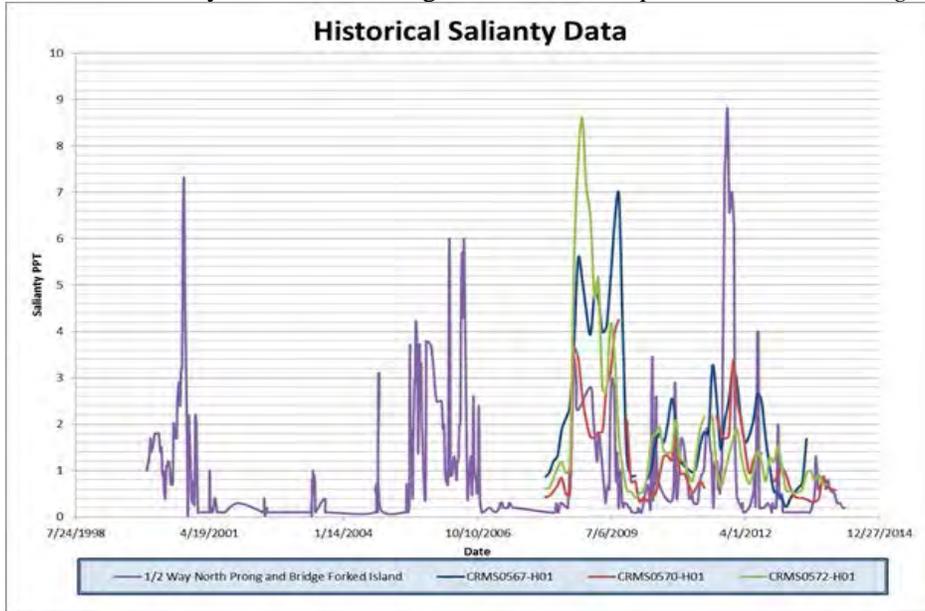
The Sponsor intends to use all prudent efforts, physical, chemical, or mechanical, to eliminate existing undesirable/exotic vegetation present such as Chinese tallow (*Triadica sebiferum*) on the site. These noxious plants will be treated with herbicide so as to reduce long-term presence to 1% per acre or less. In addition, following the planting in the re-establishment areas of the Bank, the Sponsor will control these undesirable/exotic species as part of the maintenance and monitoring plan.

4.2 Current Site Risk

Environmental threats associated with BIMB are extensive flooding from the GIWW and the erosion of banklines of the GIWW due to heavy barge and tugboat traffic. Currently the encumbrances located on the property are a parish road right of way and a USACE dredge spoil disposal easement adjacent to the GIWW. The parish road right of way will not be included in the conservation easement. The sponsor has been working with the New Orleans District Real Estate Section to have the disposal easement released. The district engineer has stated that the easement can be released upon completion of environmental testing of the spoil placed on the property. There are no mortgages, liens, or oil and gas leases on the property. Also, there is no zoning in the area and there are no plans of development adjacent to the proposed bank site.

After research into the risk of “Salt Water Intrusion” on the proposed BIMB JMB has learned with natural rainfall sheet flow into the GIWW and the Leland Bowman locks the proposed habitat will not be significantly affected by salinity. Salinity data from the Army Corps of Engineers and surrounding CRMS sites shows that there are short term spikes of salinity but there is no data/evidence (even during major hurricanes) that there is no long term high salinity events associated with this area. As a good management practice JMB will consult with approved forestry consultants to create a mix of tree species that could handle a spike in salinity and prolonged ponding conditions, to help the long term sustainability and success of the habitat.

Table 4: Historical Salinity Data Surrounding BIMB. *For date point locations see Figure 4.2*



4.3 Long-Term Sustainability of the Site

Due to its location and project design, the proposed Mitigation bank has a very high likelihood of success. BIMB will be restored to the types of communities that were historically present in the project area. The natural hydrologic and landscape processes that have been altered for agriculture production will be reversed by a hydrological connection to the GIWW and Warren Canal, tying them into the region’s natural hydrologic processes. No weirs or structures will be required to maintain the BIMB’s post-restoration hydrologic regime, so structural maintenance will not be an issue. Similarly, the reliance on the systems natural vs. engineered hydrology will ensure that the restored habitats are subject to a regionally-appropriate, natural hydro-period. All existing culverts used to support an existing ROW will be replaced with either a bridge span or box culvert. Additionally, if the implementation of a culvert for access is deemed necessary after a period of time, appropriate action will be taken with IRT approval for long term management of the site.

5.0 PROPOSED SERVICE AREA

Considering a watershed approach JMB suggest using the Mermentau Basin as its service area for unavoidable impacts to wetlands and “Waters of the United States”. The primary service area for BIMB will be the southern region of the Mermentau Basin (USGS) Code No. 08080202 Mermentau, Hydrologic Unit, which includes Vermillion, Cameron, Jefferson Davis, Acadia and Calcasieu Parishes. The northern region of the Mermentau Basin (USGS) Code No.8080201 Mermentau Headwaters, Hydrologic Unit which includes St. Landry, Evangeline, Allen, Jefferson Davis, and Acadia Parishes will serve as the secondary service area. BIMB is located within the coastal zone boundary set by Louisiana Department of Natural Resources (DNR). Because of this ideal location and BIMB’s hydrological connectivity to the vast marshes of the Mermentau Basin JMB suggest that the service area also include the Chenier Plain within the coastal zone boundary set by DNR. Use beyond this area will be determined by the CEMVN on a case by case basis. (Figure 4.0)

6.0 OPERATION OF THE MITIGATION BANK

6.1 Project Representatives

6.1.1 Sponsor and Operations Manager

JMB Partnership, LLC
203 Main Street
Franklin, Louisiana 70538
(337) 522-7207
POC: Russell Walters
russell@jmbcompanies.com

6.1.2 Landowner

Richard Family, LLC
8228 Hwy 82 North
Youngsville, Louisiana 70592
POC: Russell Richard
russell@jmbcompanies.com

6.2 Qualifications of the Sponsor

JMB Partnership, LLC is a subsidiary of the JM Burguières Co. Limited which is a family legacy partnership established in 1877. The sponsor has 113 years of land management experience in Louisiana such as raising sugar cane and cattle ranching. JMB also has an established Mitigation Banking business and is currently managing five mitigation banks in Louisiana: Cypremort-Teche, Cypress Creek, Bee Bayou, Kilgore Plantation, and Nabours No Hope Mitigation Bank. JMB currently has a staff of qualified scientists that have multiple years' experience in wetland science and land management. An essential element of the family vision is rehabilitating and preserving its land holdings, as practicable, in first-class condition. Mitigation banking fits this vision.

6.3 Proposed Long-Term Ownership and Management Representatives

The property encompassing the proposed 485 acre BIMB is currently owned by Richard Family, LLC who will remain the legal owner upon implementation as a mitigation bank (i.e. conservation servitude filing and implementation of the mitigation work plan). JMB Partnership LLC will serve as the mitigation service provider (Sponsor) and the long-term steward of BIMB.

6.4 Site Protection

Pursuant to the Louisiana Conservation Servitude Act, R.S. 9:1271 et seq., a perpetual conservation servitude will be placed on the 485 acre BIMB. This servitude will be held by a conservation-oriented 501(c)(3) organization to be determined. The conservation servitude will be binding to and run with the title of the property. This conservation servitude will prohibit activities that would reduce the quality and quantity of the restored/enhanced wetlands, such as clear cutting, the discharge of fill, construction activities, and cattle grazing or other agricultural activities.

The servitude will also specify permissive activities such as hunting, fishing, recreational use, and mineral exploration given that the activity does not negatively affect the functions and values of the rehabilitated, reestablished, and enhanced wetlands (Figure 3.1)

6.5 Long-Term Strategy

The amount of the required short and long term financial assurances must be determined by the CEMVN in consultation with JMB Partnership, LLC.

In determining the assurance amount, the CEMVN may consider the following:

1. Cost of providing replacement mitigation;
2. Including costs for land acquisition;
3. Planning and engineering;
4. Legal fees;
5. Mobilization; and
6. Construction and monitoring.

It is our plan to establish a Letter of Credit with a suitable banking institution for the Short Term financial Assurances. The Long Term Financial Assurances will be in the form of an Escrow Account funded either annually or as credits are sold. This will be defined in the mitigation banking instrument. These funds will generate annual interest (revenues) based on anticipated maintenance and management costs, which shall be entitled to the long-term steward of the Bank.

7.0 REFERENCES

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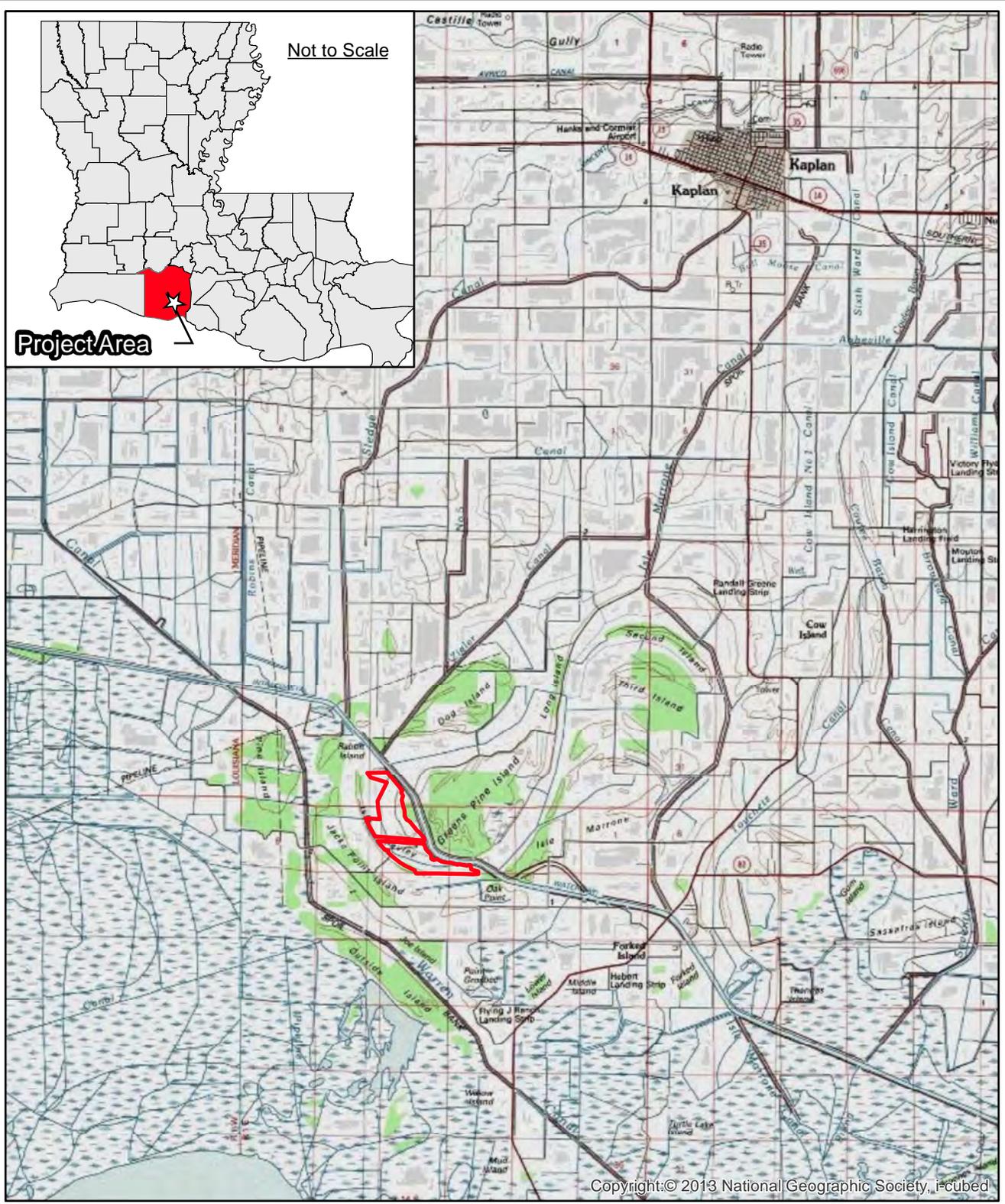
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Legend

 Bull Island Project Boundary

0 0.5 1 2 3 4
Miles



**PROPOSED BULL ISLAND
MITIGATION BANK**

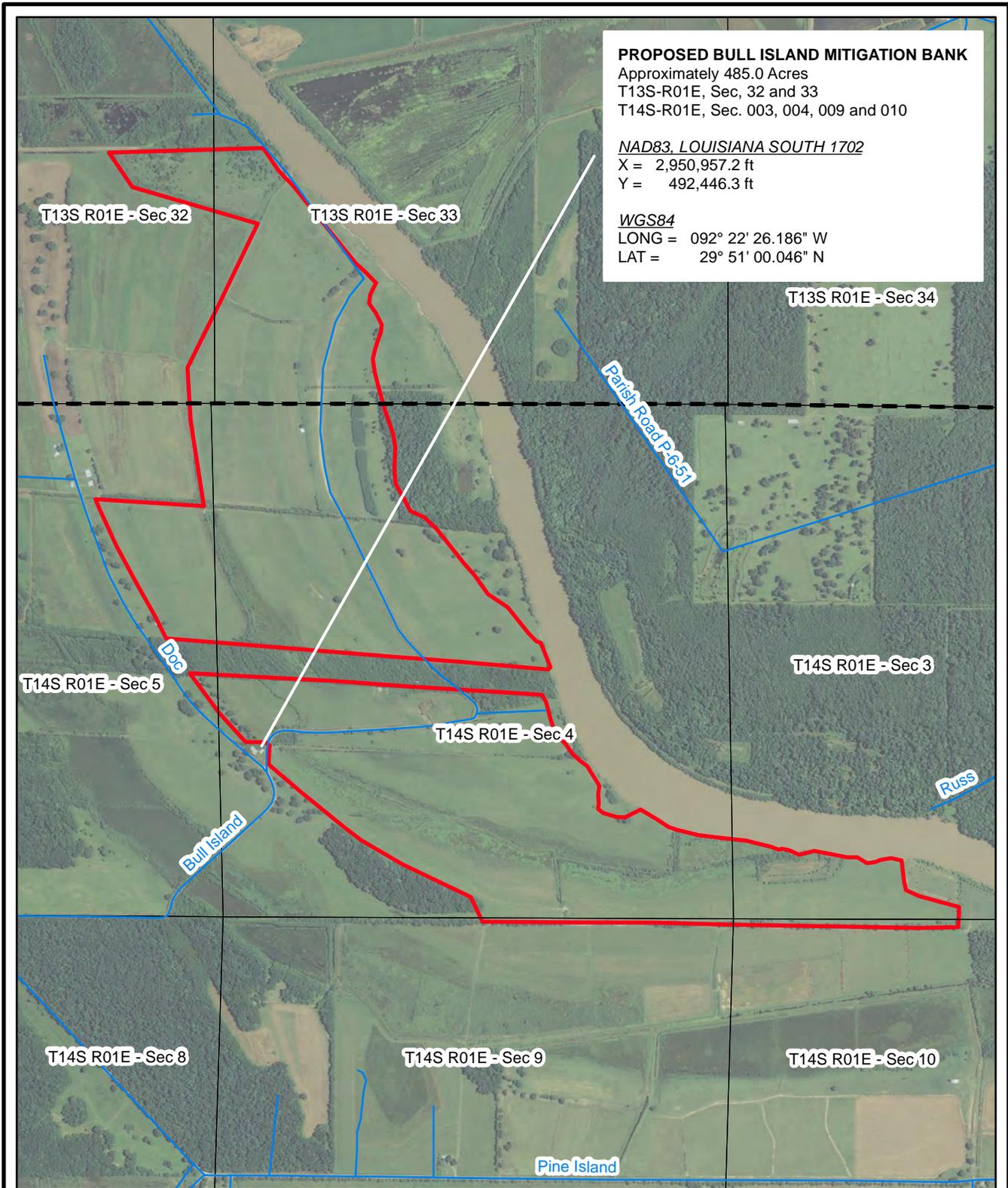
VICINITY EXHIBIT
VERMILION PARISH, LA

Drawing No.: R:\Mitigation Banks\Bull Island\GIS\BIMB_Vicinity.mxd
Date: 01/02/14 Author: BDS

FIGURE 1.0



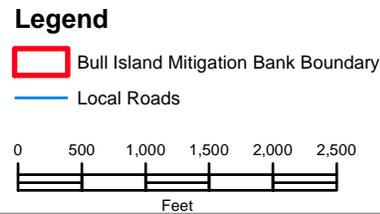
J.M. Burguières Co., LTD



PROPOSED BULL ISLAND MITIGATION BANK
 Approximately 485.0 Acres
 T13S-R01E, Sec. 32 and 33
 T14S-R01E, Sec. 003, 004, 009 and 010

NAD83, LOUISIANA SOUTH 1702
 X = 2,950,957.2 ft
 Y = 492,446.3 ft

WGS84
 LONG = 092° 22' 26.186" W
 LAT = 29° 51' 00.046" N

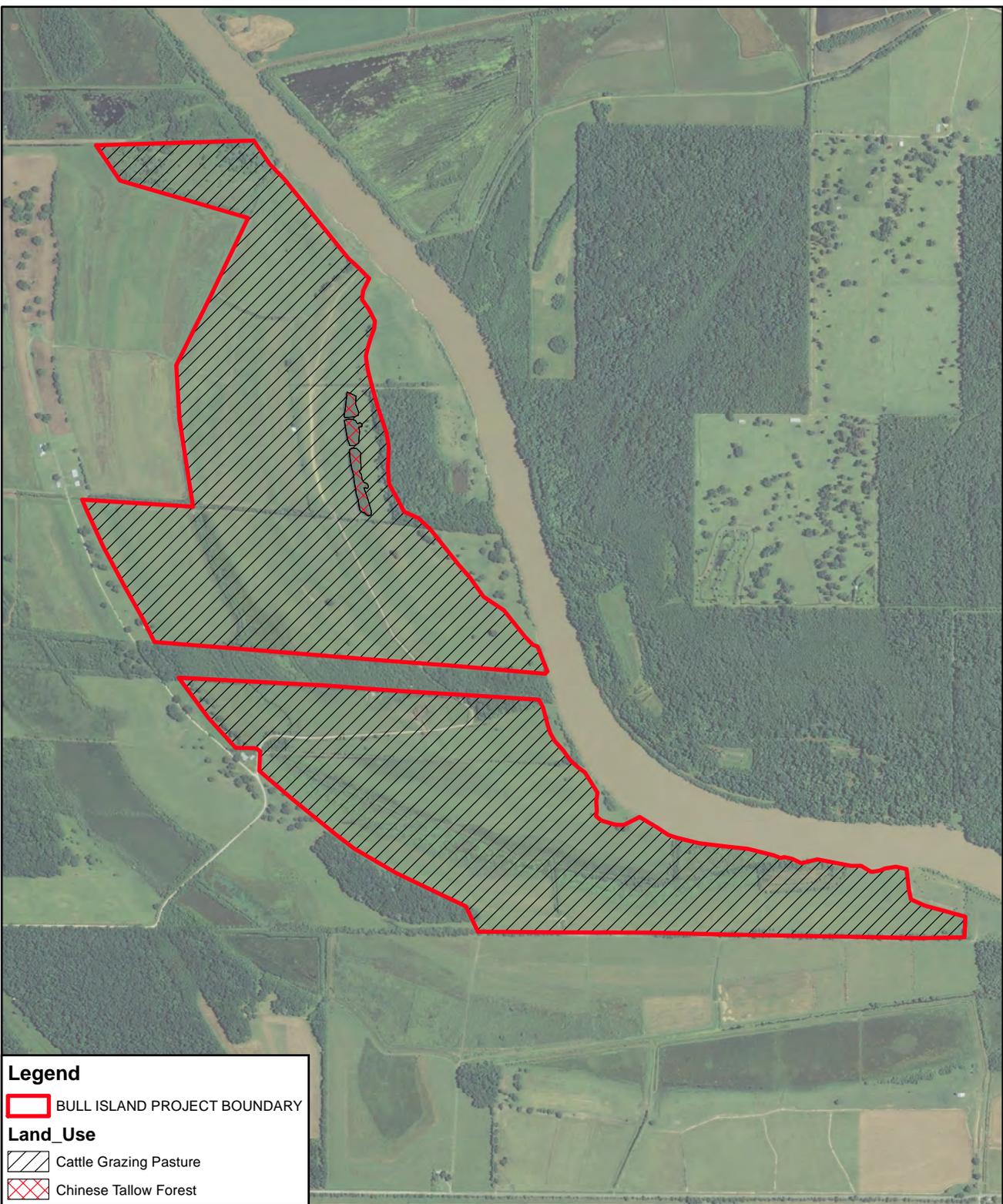


**PROPOSED BULL ISLAND
 MITIGATION BANK
 BOUNDARY EXHIBIT
 VERMILION PARISH, LA**

Date: 05/22/14 Author: BDS

FIGURE 2.0





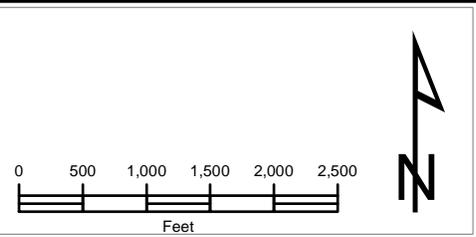
Legend

 BULL ISLAND PROJECT BOUNDARY

Land_Use

 Cattle Grazing Pasture

 Chinese Tallow Forest



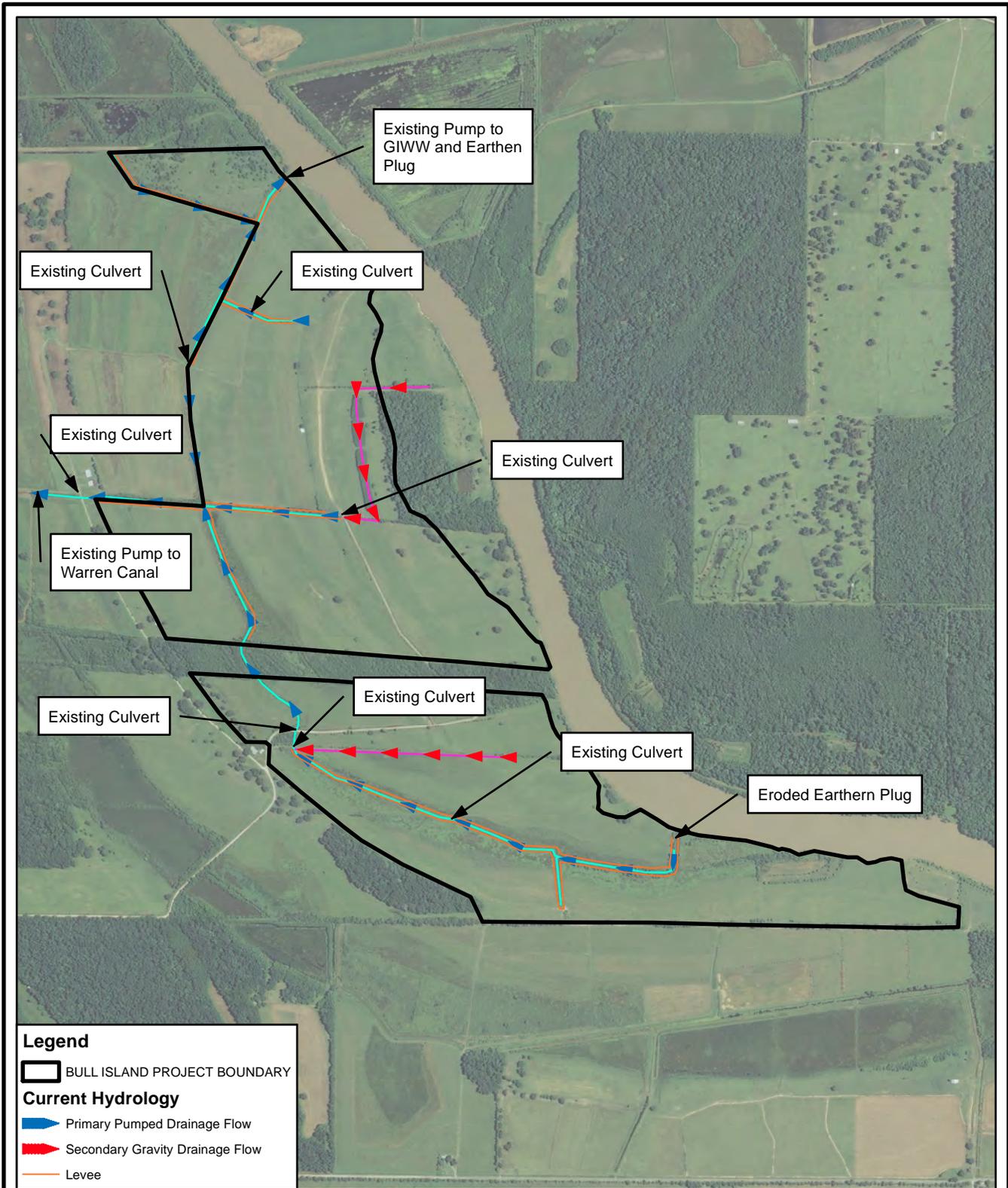
**PROPOSED BULL ISLAND
MITIGATION BANK**

CURRENT LAND USE EXHIBIT
VERMILION PARISH, LA

Date: 05/22/14 Author: BDS

FIGURE 2.1

J.M. Burguières Co., LTD



Legend

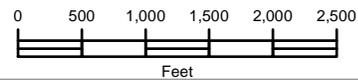
BULL ISLAND PROJECT BOUNDARY

Current Hydrology

Primary Pumped Drainage Flow

Secondary Gravity Drainage Flow

Levee



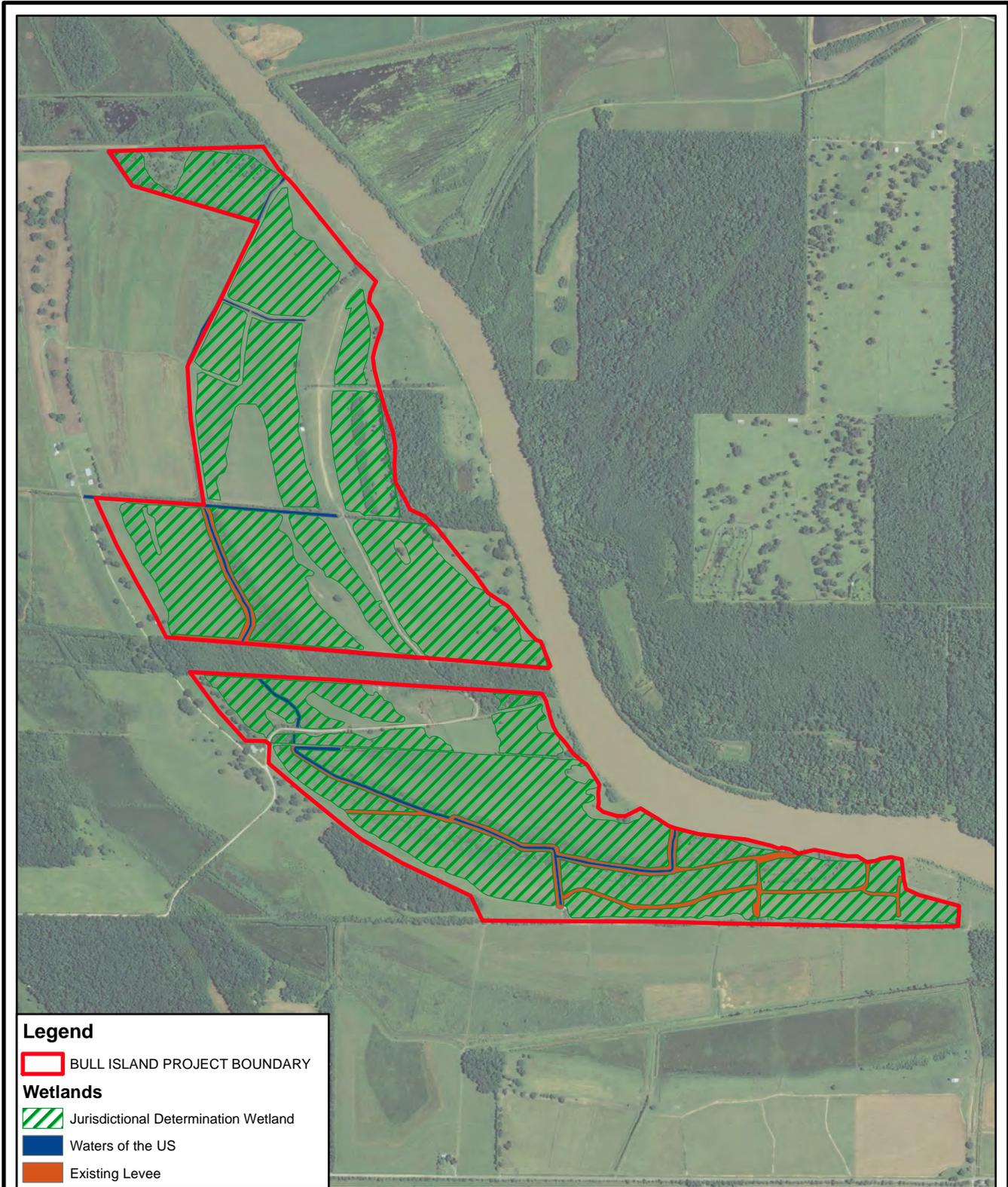
**PROPOSED BULL ISLAND
MITIGATION BANK
CURRENT HYDROLOGY EXHIBIT
VERMILION PARISH, LA**

Date: 05/22/14

Author: BDS

FIGURE 2.2





Legend

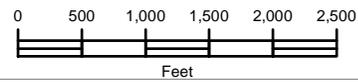
 BULL ISLAND PROJECT BOUNDARY

Wetlands

 Jurisdictional Determination Wetland

 Waters of the US

 Existing Levee



**PROPOSED BULL ISLAND
MITIGATION BANK**

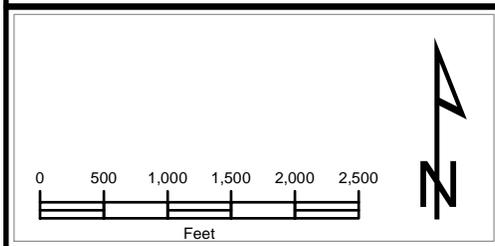
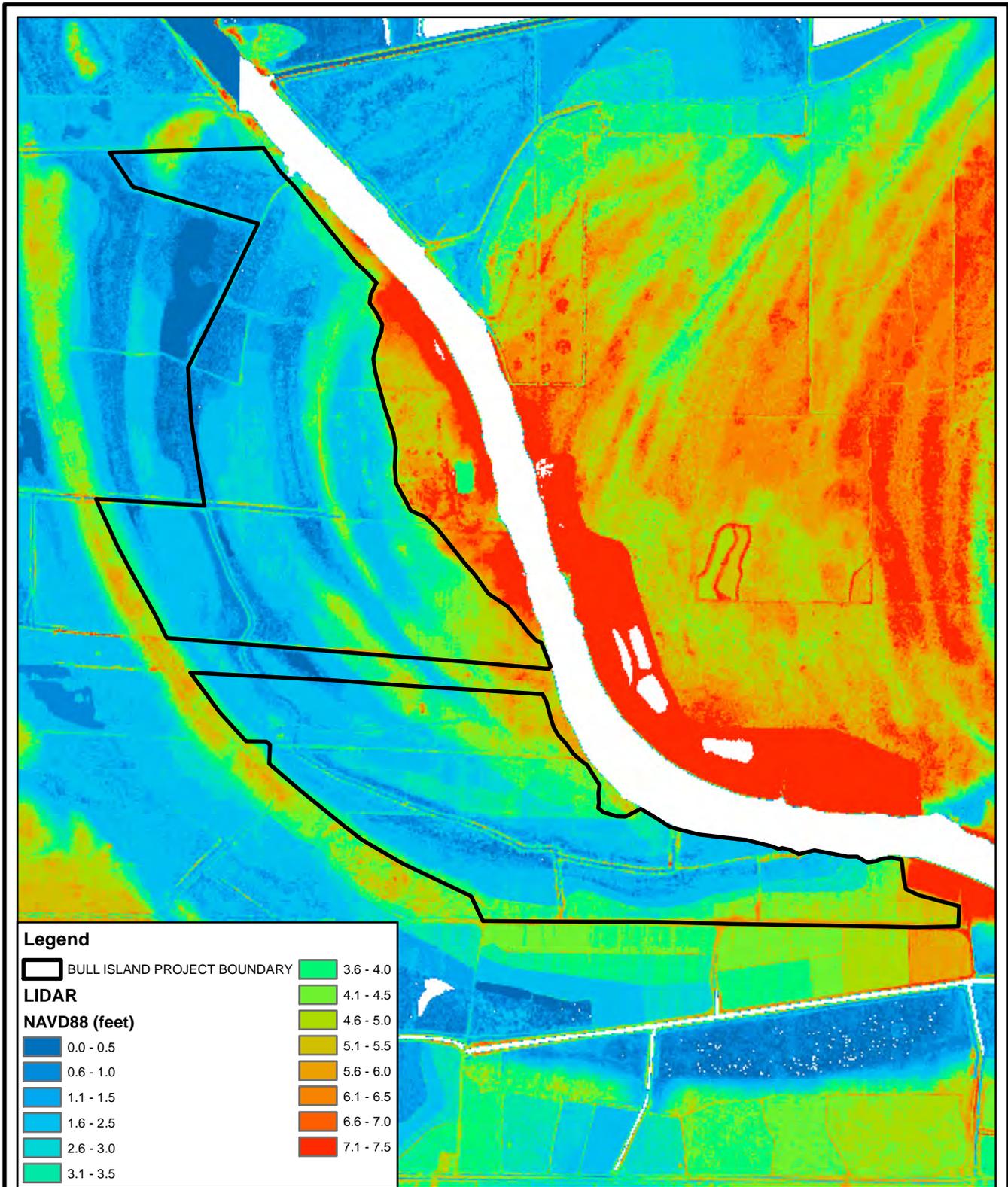
PRE JD WETLANDS EXHIBIT
VERMILION PARISH, LA

Date: 05/22/14

Author: BDS

FIGURE 2.3





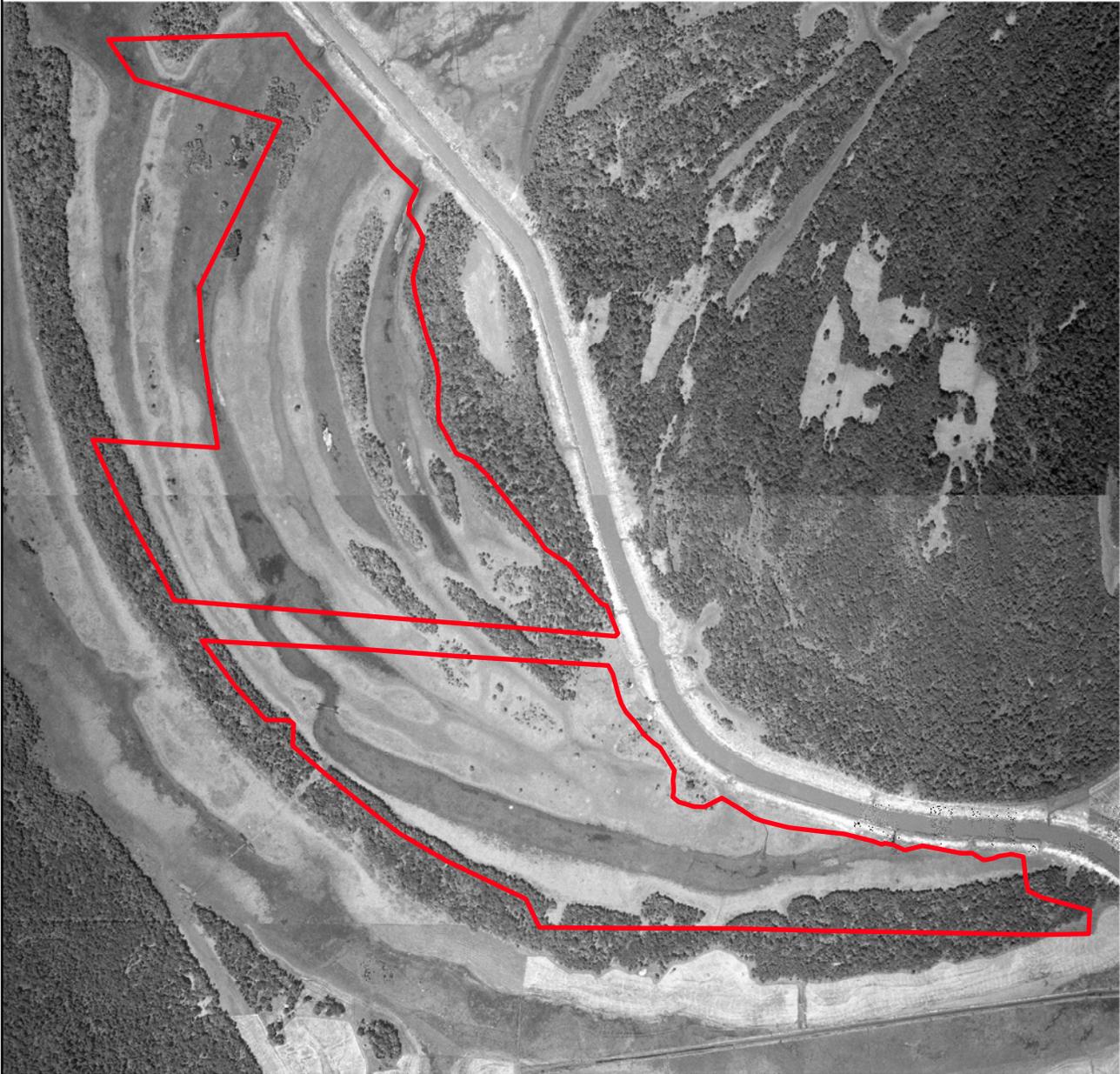
**PROPOSED BULL ISLAND
MITIGATION BANK**

LIDAR EXHIBIT
VERMILION PARISH, LA

Date: 05/22/14 Author: BDS

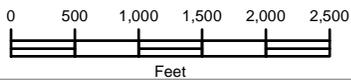
FIGURE 2.4





Legend

 BIMB Mitigation Bank Outline



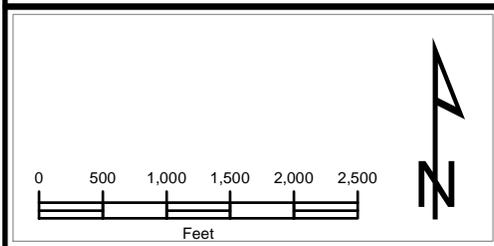
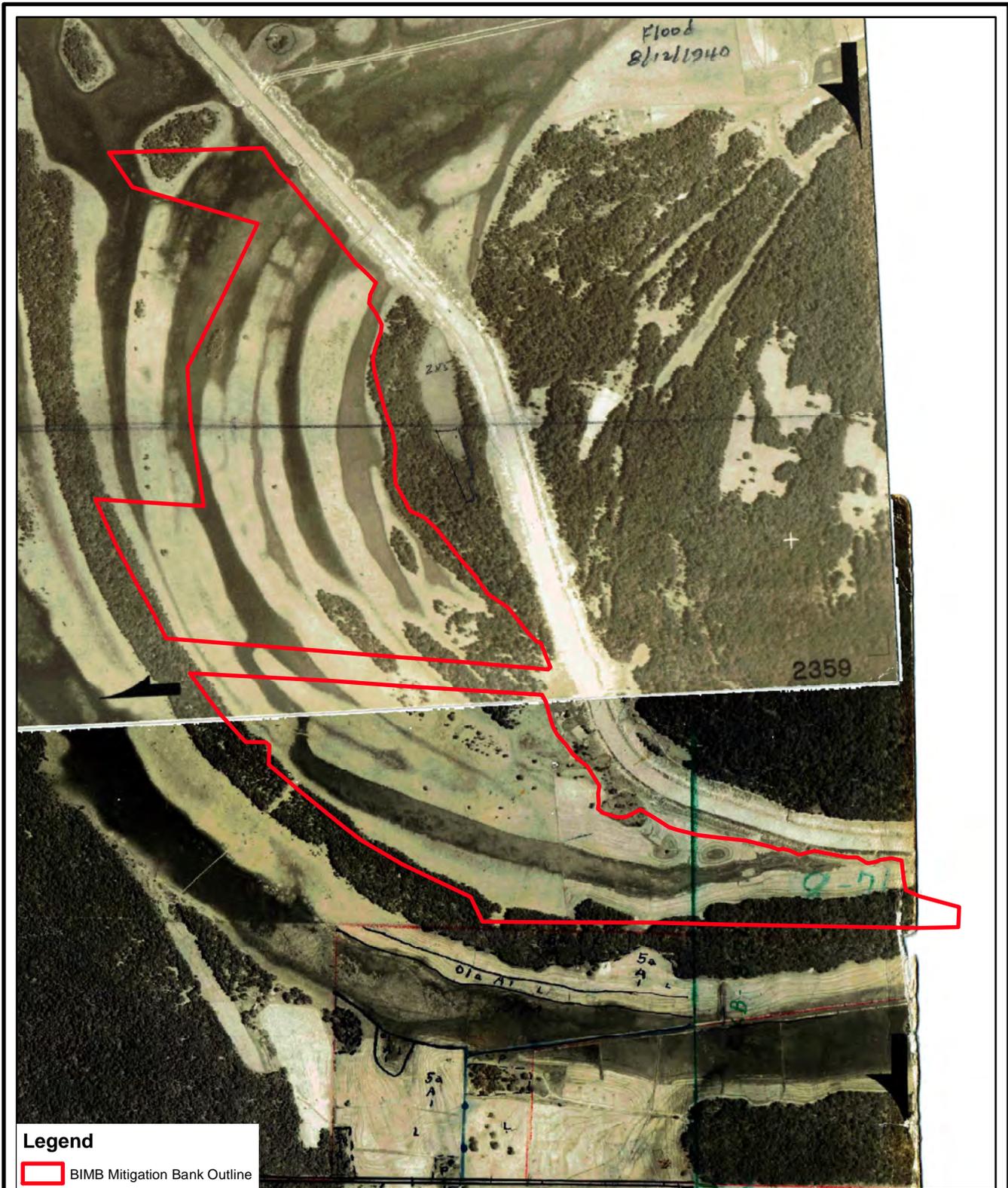
**PROPOSED BULL ISLAND
MITIGATION BANK**
1935 AERIAL IMAGERY EXHIBIT
VERMILION PARISH, LA

Date: 05/19/14

Author: BDS

FIGURE 2.5





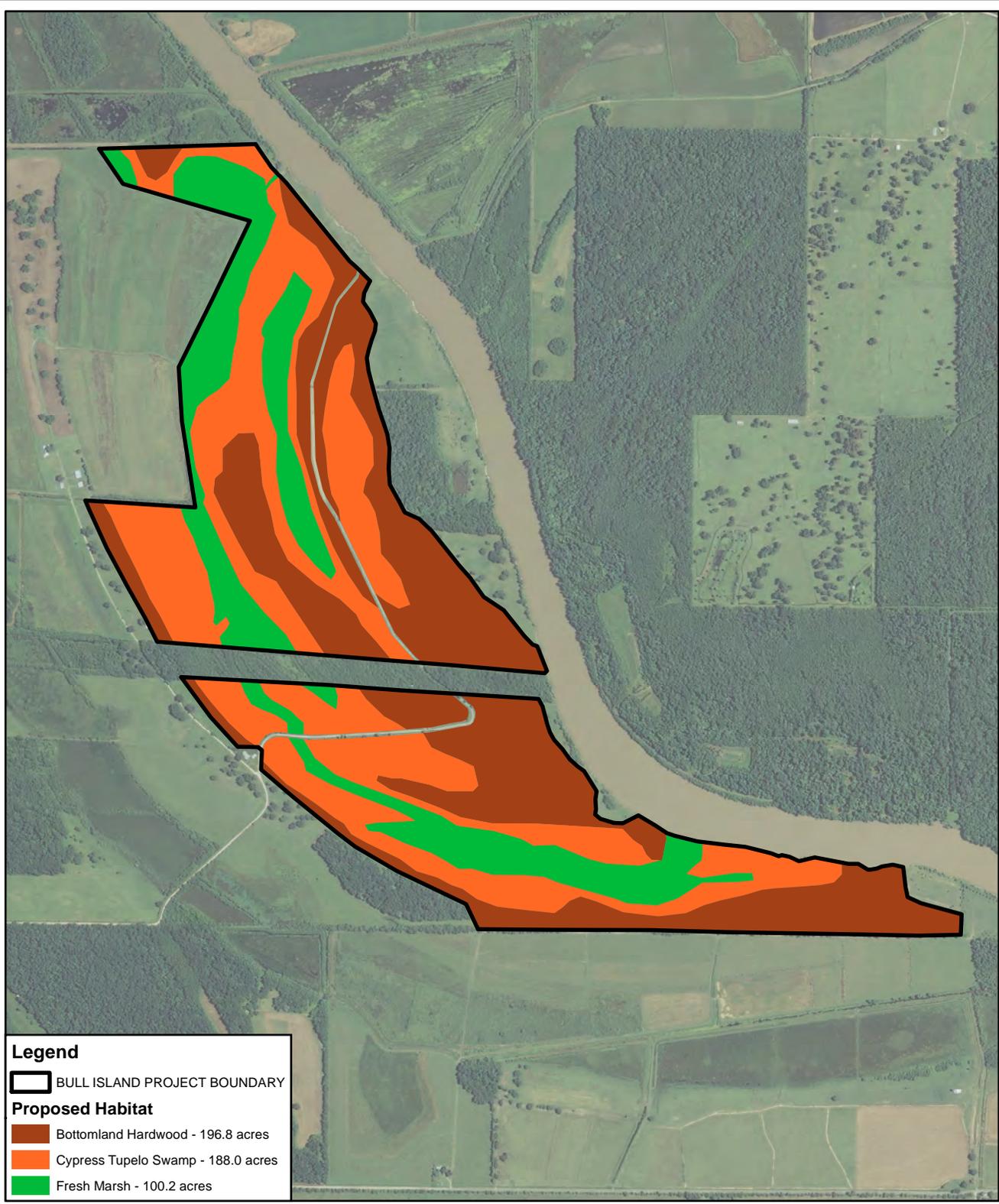
**PROPOSED BULL ISLAND
MITIGATION BANK**

1940 AERIAL IMAGERY EXHIBIT
VERMILION PARISH, LA

Date: 05/19/14 Author: BDS

FIGURE 2.6





Legend

BULL ISLAND PROJECT BOUNDARY

Proposed Habitat

- Bottomland Hardwood - 196.8 acres
- Cypress Tupelo Swamp - 188.0 acres
- Fresh Marsh - 100.2 acres

0 500 1,000 1,500 2,000 2,500
Feet

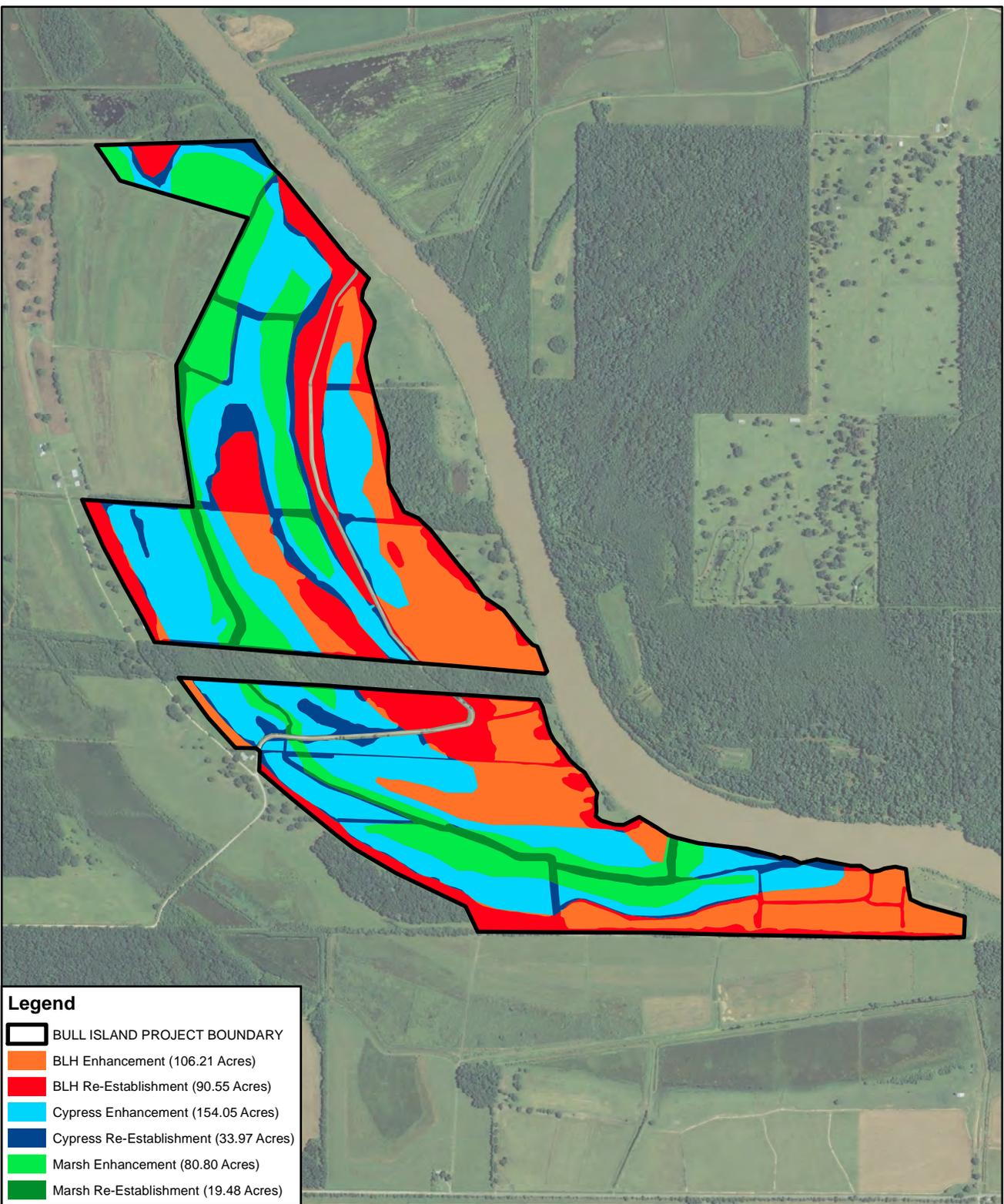
**PROPOSED BULL ISLAND
MITIGATION BANK**

PROPOSED MITIGATION TYPE EXHIBIT
VERMILION PARISH, LA

Date: 05/22/14 Author: BDS

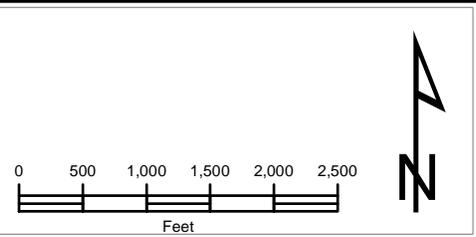
FIGURE 3.0

J.M. Burguières Co., LTD



Legend

	BULL ISLAND PROJECT BOUNDARY
	BLH Enhancement (106.21 Acres)
	BLH Re-Establishment (90.55 Acres)
	Cypress Enhancement (154.05 Acres)
	Cypress Re-Establishment (33.97 Acres)
	Marsh Enhancement (80.80 Acres)
	Marsh Re-Establishment (19.48 Acres)

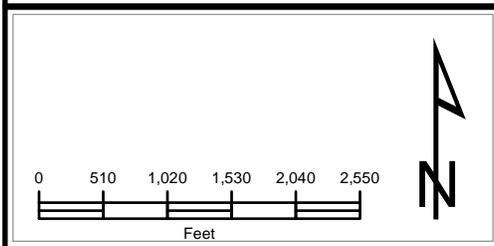
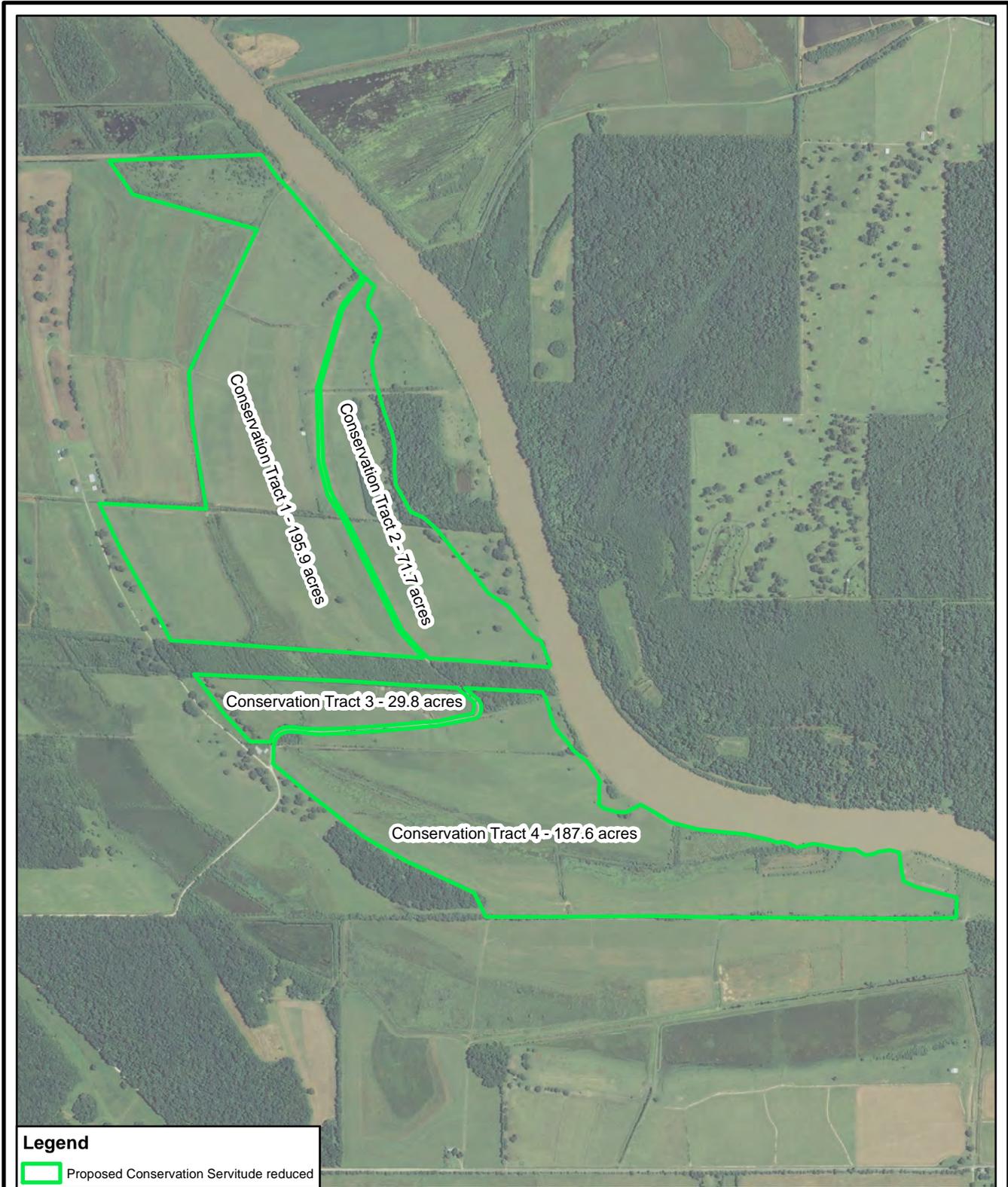


**PROPOSED BULL ISLAND
MITIGATION BANK**

PROPOSED MITIGATION TYPE EXHIBIT
VERMILION PARISH, LA

Date: 06/06/14 Author: BDS



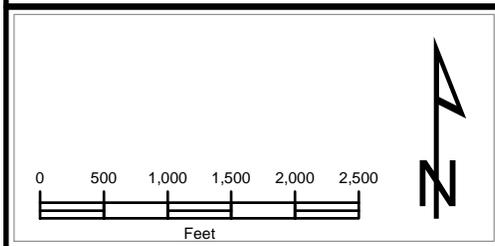
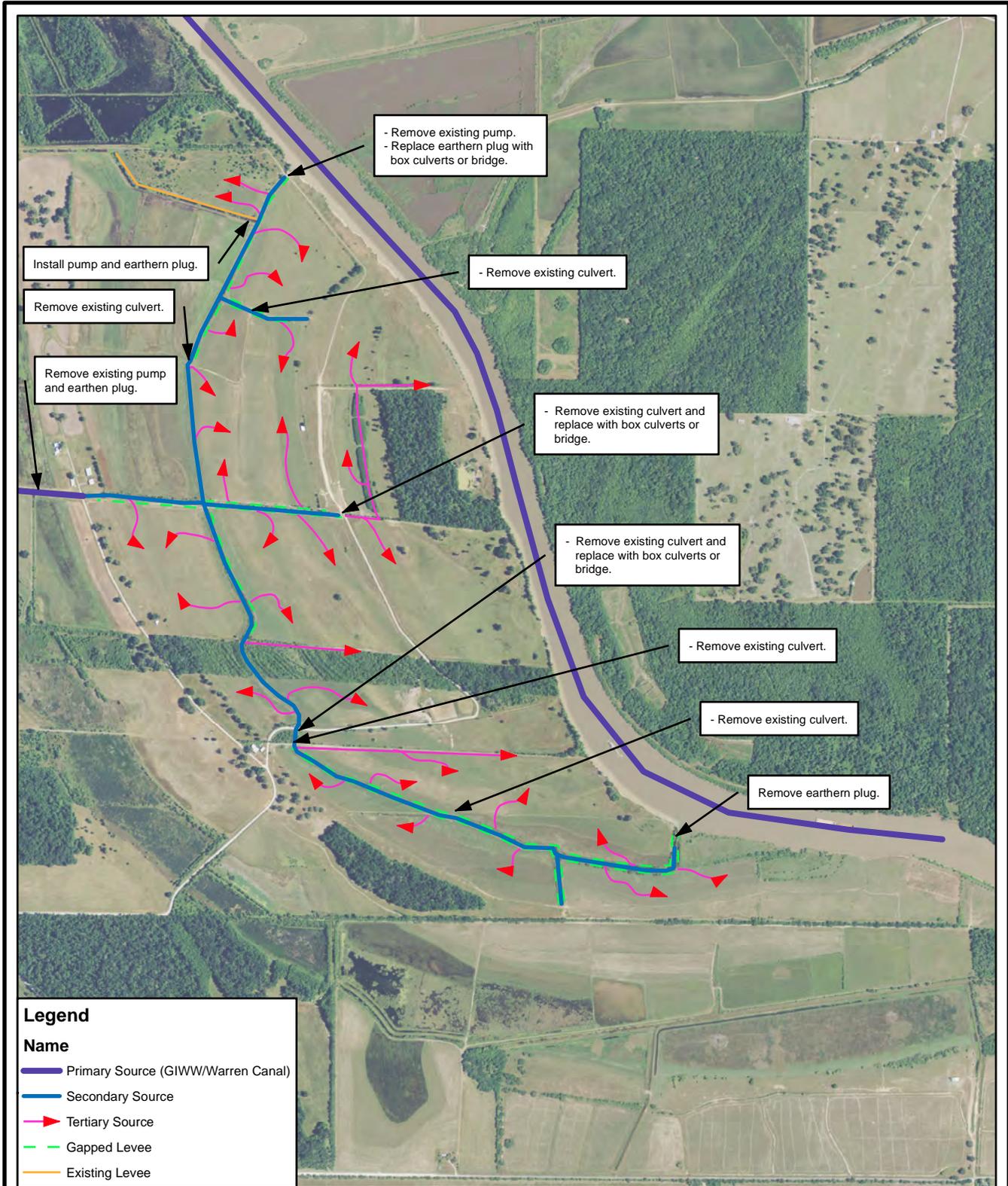


**PROPOSED BULL ISLAND
 MITIGATION BANK**
 CONSERVATION SERVITUDE EXHIBIT
 VERMILION PARISH, LA

Date: 05/22/14 Author: BDS

FIGURE 3.1



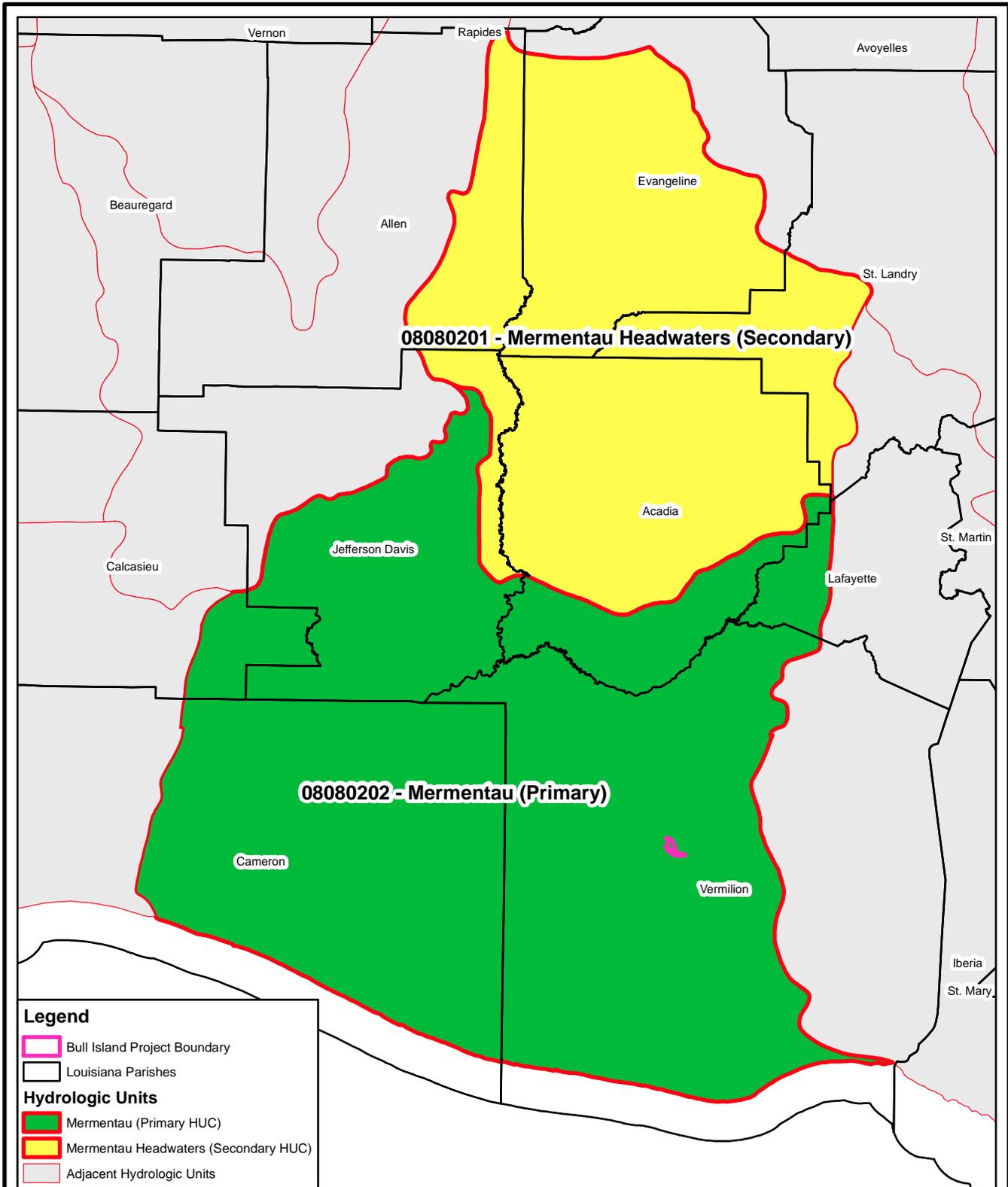


**PROPOSED BULL ISLAND
MITIGATION BANK**
HYDROLOGY MODIFICATION EXHIBIT
VERMILION PARISH, LA

Drawing No.: R:\Mitigation Banks\Bull Island\GIS\BIMB_Proposed_Hydrology.mxd
Date: 01/09/14 Author: BDS



FIGURE 3.2



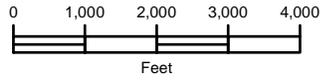
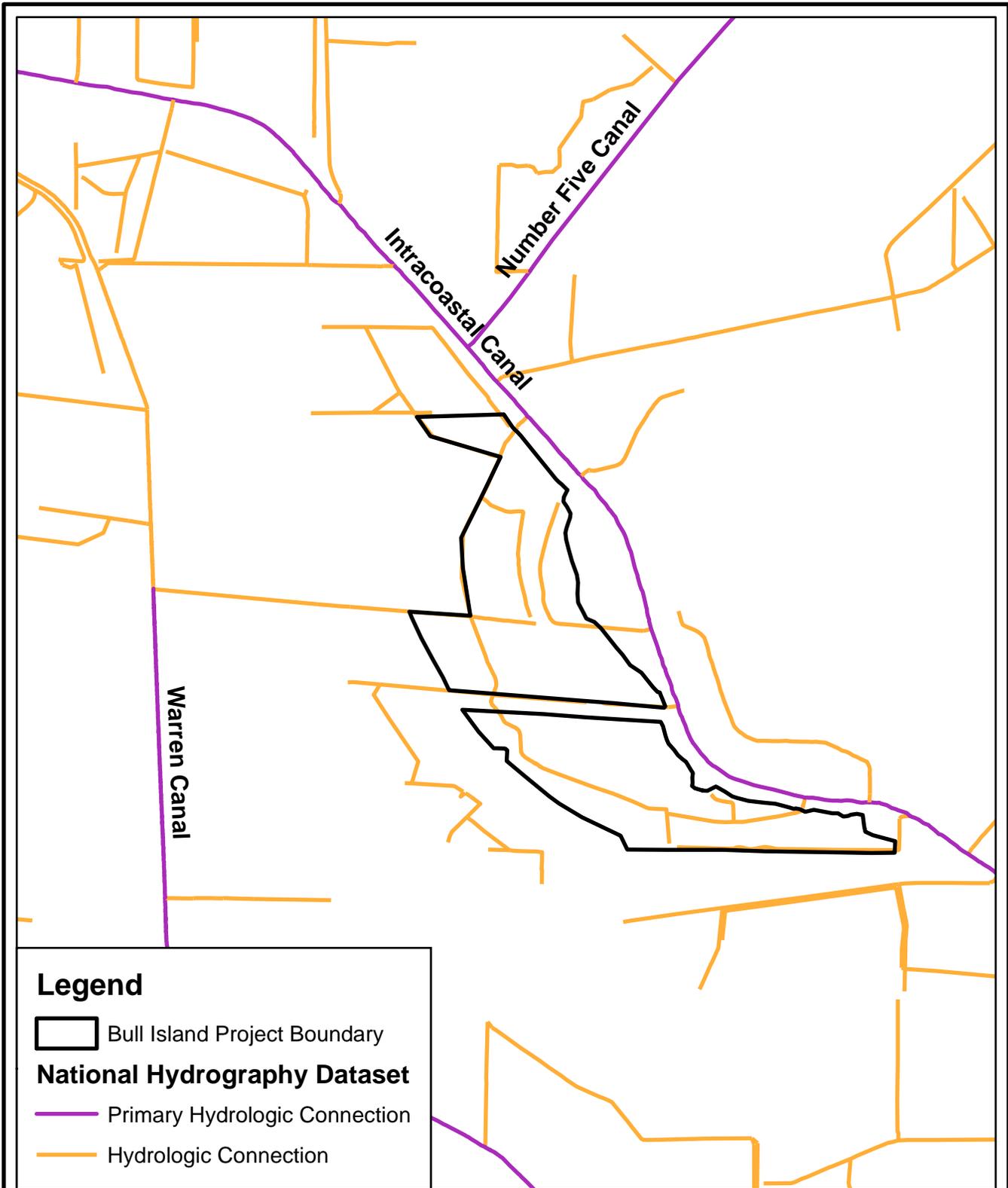
**PROPOSED BULL ISLAND
MITIGATION BANK**

HYDROLOGIC UNIT EXHIBIT
VERMILION PARISH, LA

Drawing No.: R:\Mitigation Banks\Bull Island\GIS\BIMB_HUC.mxd
Date: 01/09/14 Author: BDS

FIGURE 4.0





**PROPOSED BULL ISLAND
MITIGATION BANK**
 NAT'L HYDROGRAPHY DATASET EXHIBIT
 VERMILION PARISH, LA

Drawing No.: R:\Mitigation Banks\Bull Island\GIS\BIMB_NHD.mxd
 Date: 05/22/14 Author: BDS



FIGURE 4.1



Legend

 Proposed BIMB Boundary



**PROPOSED BULL ISLAND
MITIGATION BANK**

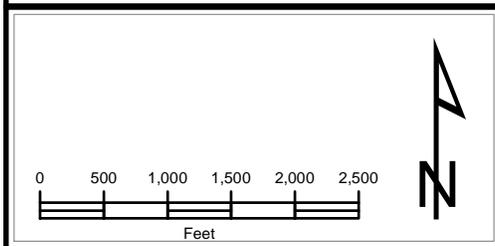
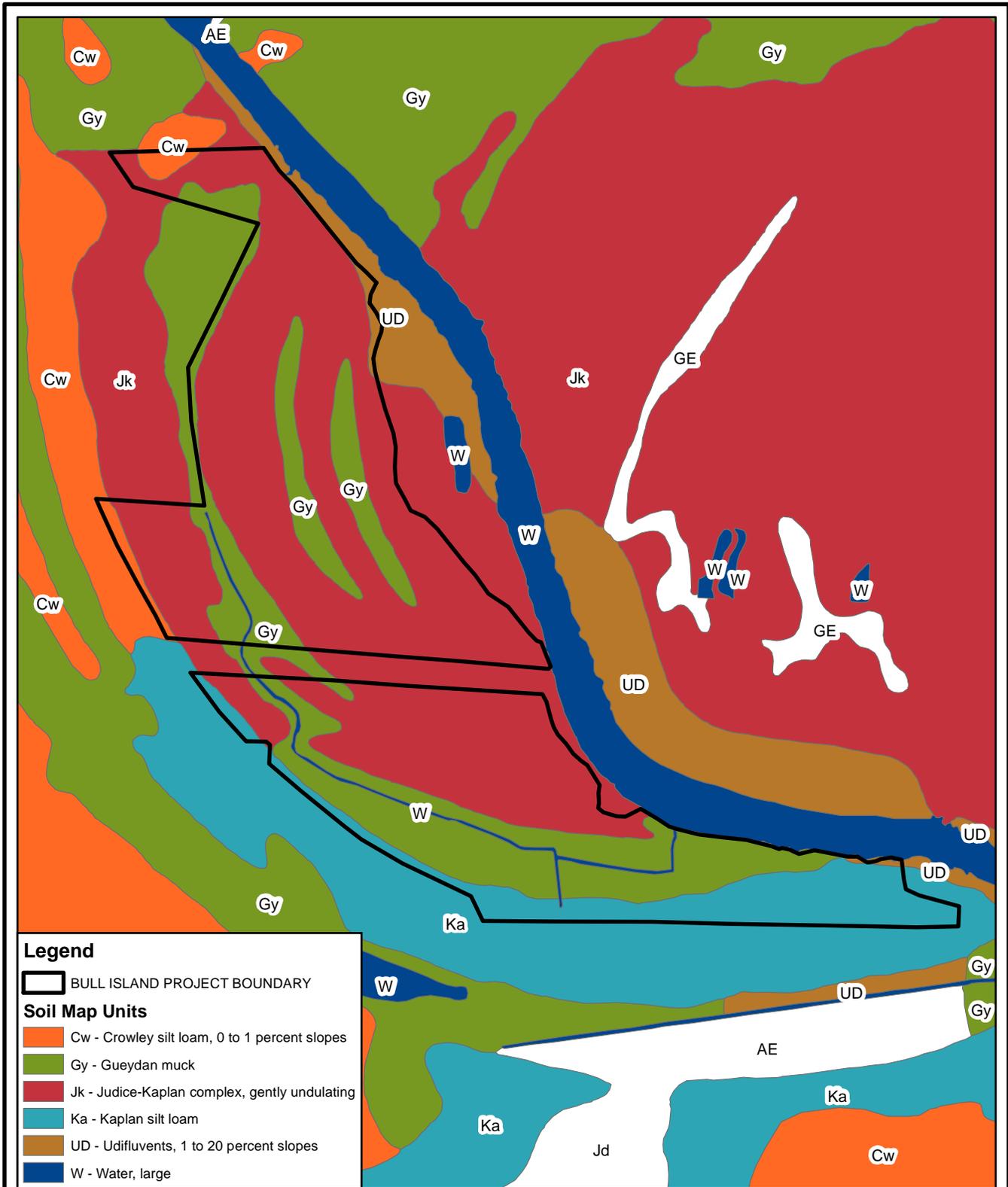
SALINITY EXHIBIT
VERMILION PARISH, LA

Date: 04/15/14

Author: BDS

FIGURE 4.2



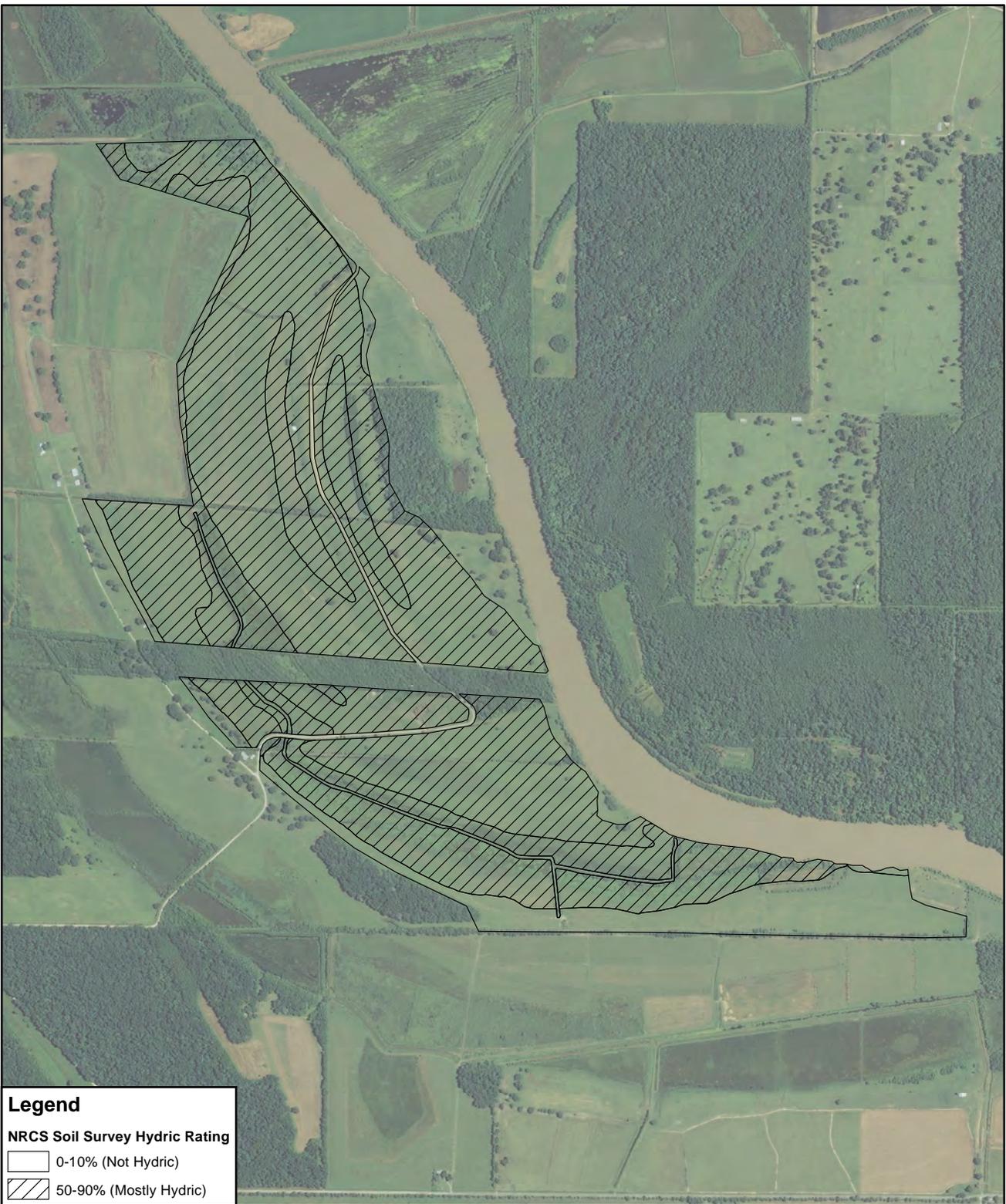


**PROPOSED BULL ISLAND
MITIGATION BANK**
NRCS SOILS EXHIBIT
VERMILION PARISH, LA

Date: 05/22/14 Author: BDS

FIGURE 5.0





Legend

NRCS Soil Survey Hydric Rating

-  0-10% (Not Hydric)
-  50-90% (Mostly Hydric)

0 500 1,000 1,500 2,000 2,500

Feet

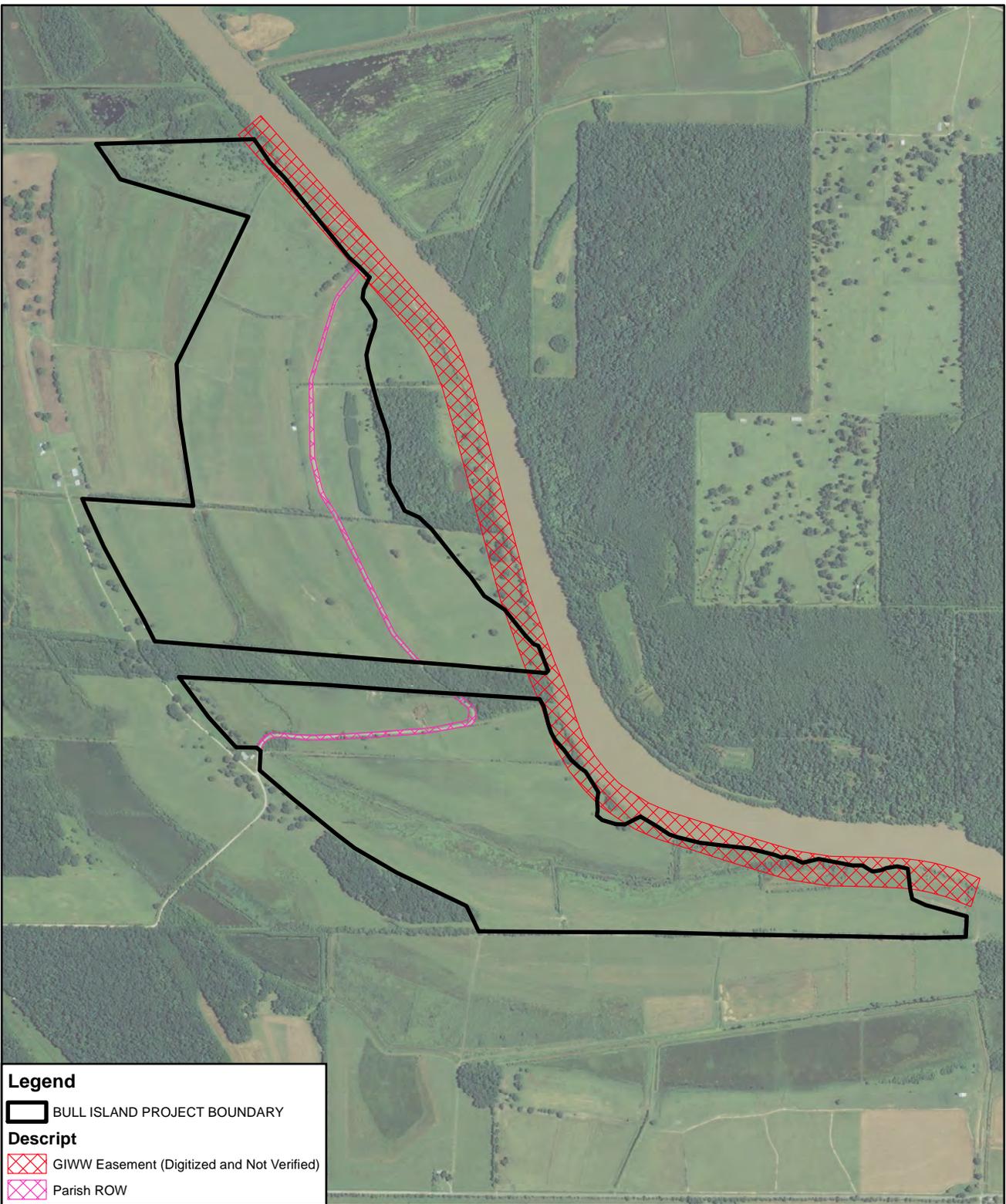
**PROPOSED BULL ISLAND
MITIGATION BANK**

NRCS HYDRIC SOILS RATING EXHIBIT
VERMILION PARISH, LA

Date: 05/22/14 Author: BDS

FIGURE 5.1

J.M. Burguières Co., LTD



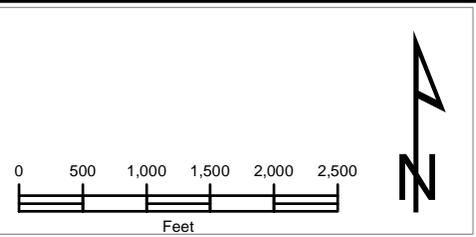
Legend

BULL ISLAND PROJECT BOUNDARY

Descript

GIWW Easement (Digitized and Not Verified)

Parish ROW

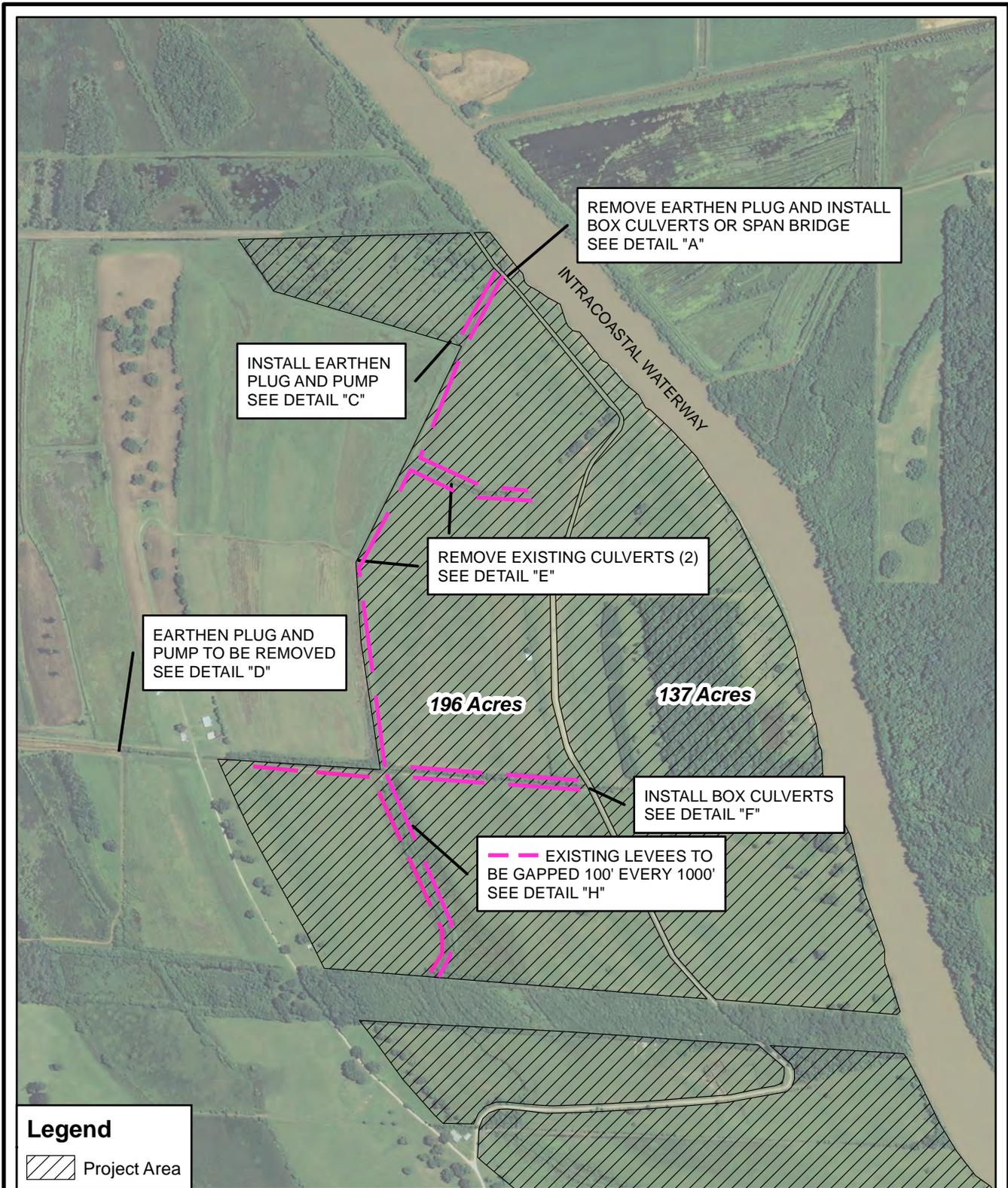


**PROPOSED BULL ISLAND
MITIGATION BANK**

ROW AND EASEMENT EXHIBIT
VERMILION PARISH, LA

Date: 06/06/14 Author: BDS



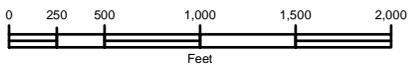


Legend

 Project Area

NOTES:

THESE PLANS WERE PREPARED EXCLUSIVELY FOR OBTAINING REGULATORY CLEARANCES, AND DO NOT PURPORT TO BE ENGINEERING DRAWINGS, OR SPECIFICATIONS. THESE PLANS DO NOT PURPORT TO ACCURATELY PORTRAY PROPERTY BOUNDARIES.

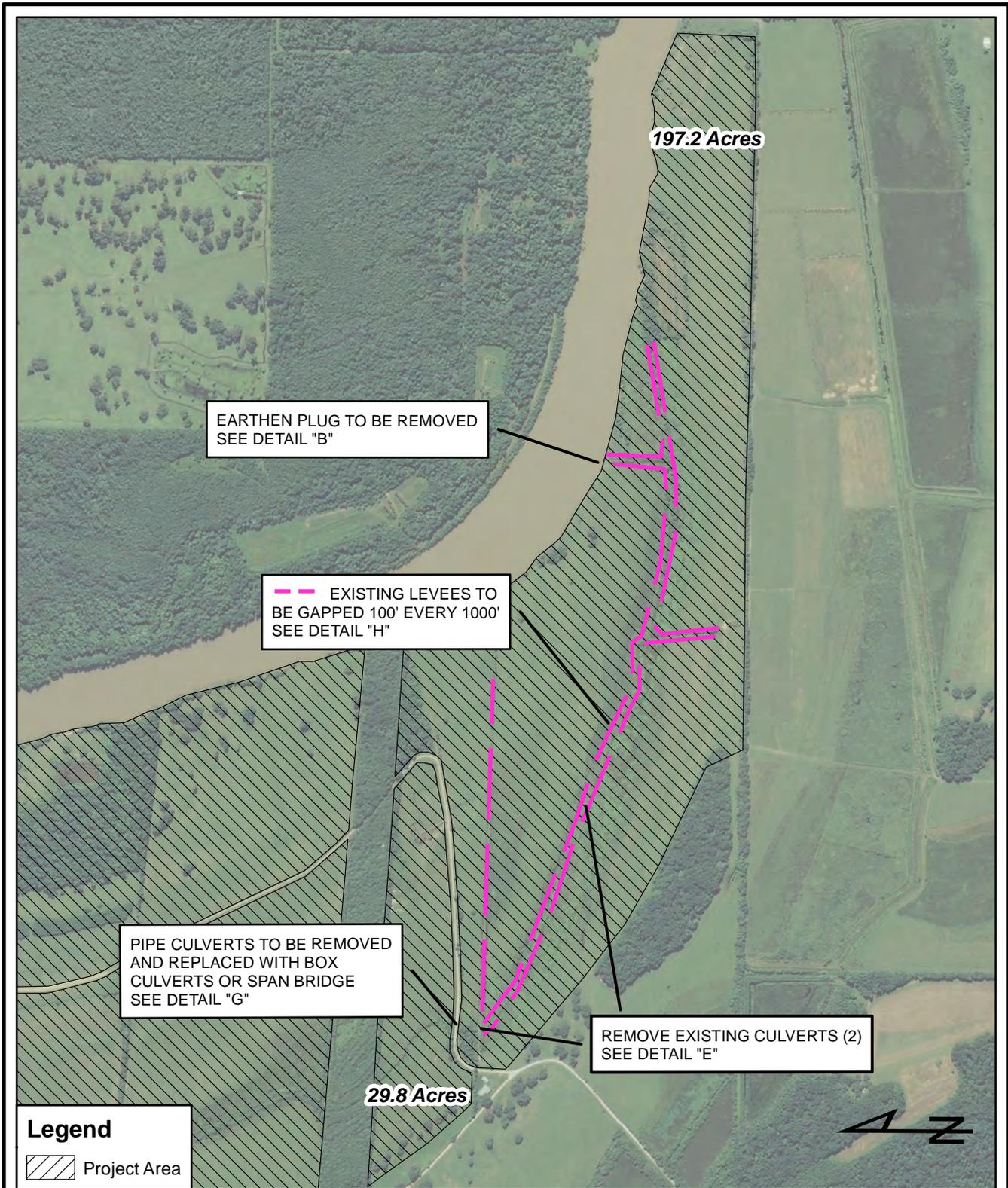


**PROPOSED BULL ISLAND
MITIGATION BANK
NORTHERN CONSTRUCTION EXHIBIT
VERMILION PARISH, LA**

Drawing No.: R:\Mitigation Banks\Bull Island\GIS\COE Plans\BIMB 3.mxd
Date: 03/03/14 Author: BDS



J.M. Burguières Co., LTD



Legend
 Project Area

NOTES:
 THESE PLANS WERE PREPARED EXCLUSIVELY FOR OBTAINING REGULATORY CLEARANCES, AND DO NOT PURPORT TO BE ENGINEERING DRAWINGS, OR SPECIFICATIONS. THESE PLANS DO NOT PURPORT TO ACCURATELY PORTRAY PROPERTY BOUNDARIES.

0 250 500 1,000 1,500 2,000
 Feet

PROPOSED BULL ISLAND MITIGATION BANK
 SOUTHERN CONSTRUCTION EXHIBIT
 VERMILION PARISH, LA

Drawing No.: R:\Mitigation Banks\Bull Island\GIS\COE Plans\BIMB 4.mxd
 Date: 03/03/14 Author: BDS

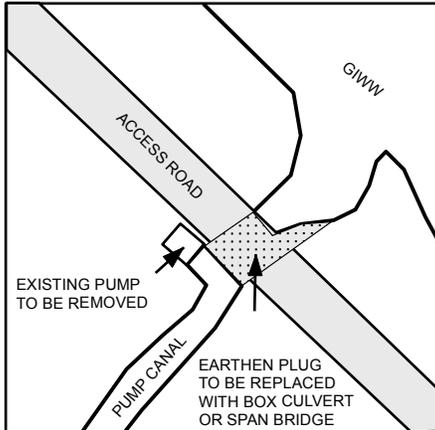
PAGE 4 OF 9



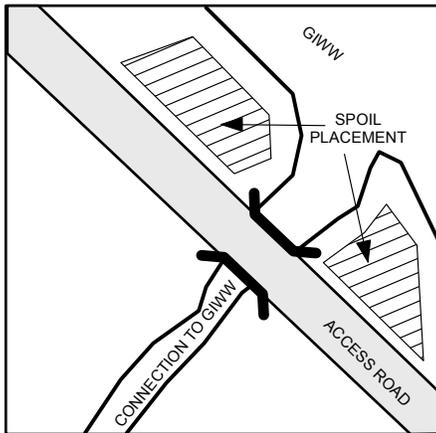
DETAIL "A"

**NORTHERN BOUNDARY GAP TO
INTRACOASTAL WATERWAY**

EXISTING CONDITION



PROPOSED CONSTRUCTION



NOTES:

20' x 35' x 5' EARTHEN PLUG TO BE REMOVED.

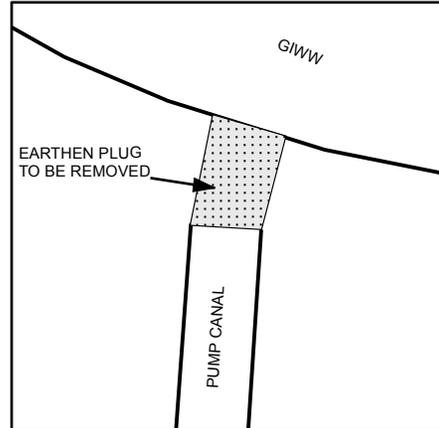
APPROXIMATELY **129.6 CU YDS** OF MATERIAL TO BE DISPLACED.

EXCAVATED MATERIAL TO BE STACKED ≤ 1 FOOT AND PLACED ON EXISTING UPLAND AREA (0.09 acres).

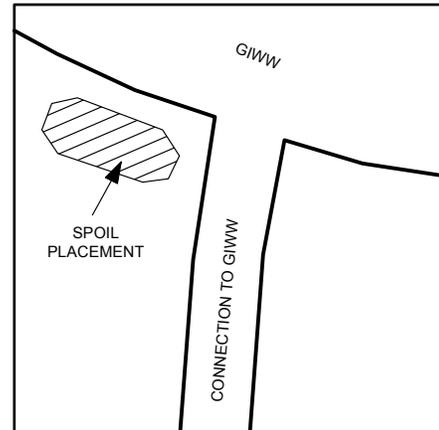
DETAIL "B"

**SOUTHERN BOUNDARY GAP TO
INTRACOASTAL WATERWAY**

EXISTING CONDITION



PROPOSED CONSTRUCTION



NOTES:

20' x 50' x 4' EARTHEN PLUG TO BE REMOVED.

APPROXIMATELY **148.1 CU YDS** OF MATERIAL TO BE DISPLACED.

EXCAVATED MATERIAL TO BE STACKED ≤ 1 FOOT AND PLACED ON EXISTING UPLAND AREA (0.10 acres).

NOTES:

THESE PLANS WERE PREPARED EXCLUSIVELY FOR OBTAINING REGULATORY CLEARANCES, AND DO NOT PURPORT TO BE ENGINEERING DRAWINGS, OR SPECIFICATIONS. THESE PLANS DO NOT PURPORT TO ACCURATELY PORTRAY PROPERTY BOUNDARIES.

**PROPOSED BULL ISLAND
MITIGATION BANK
PROPOSED GIWW GAPS EXHIBIT
VERMILION PARISH, LA**

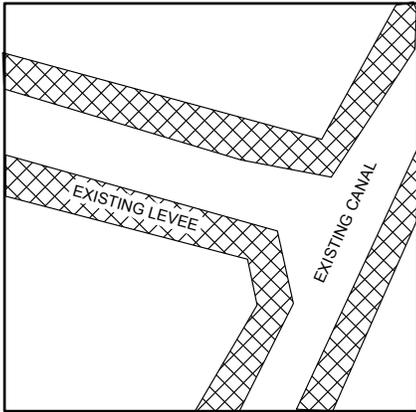
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Date: 03/03/14 Author: BDS



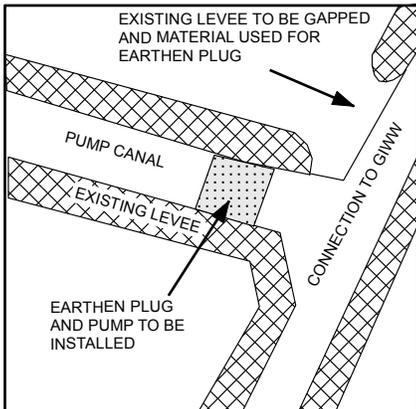
DETAIL "C"

INSTALL EARTHEN PLUG AND PUMP

EXISTING CONDITION



PROPOSED CONSTRUCTION



NOTES:

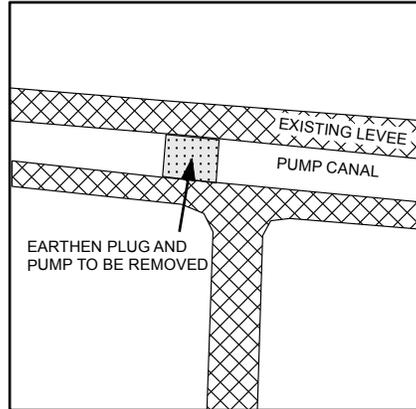
20' x 30' x 8' EARTHEN PLUG TO BE INSTALLED (0.01 ACRES).

APPROXIMATELY **177.7 CU YDS** OF FILL MATERIAL TO BE USED.

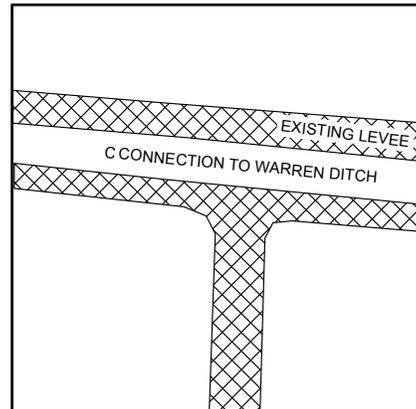
DETAIL "D"

REMOVE EXISTING EARTHEN PLUG AND PUMP

EXISTING CONDITION



PROPOSED CONSTRUCTION



NOTES:

10' x 10' x 8' EARTHEN PLUG TO BE REMOVED.

APPROXIMATELY **29.6 CU YDS** OF MATERIAL TO BE DISPLACED.

EXCAVATED MATERIAL TO BE STACKED ≤ 1 FOOT ON EXISTING UPLAND LEVEE (0.02 acres).

NOTES:

THESE PLANS WERE PREPARED EXCLUSIVELY FOR OBTAINING REGULATORY CLEARANCES, AND DO NOT PURPORT TO BE ENGINEERING DRAWINGS, OR SPECIFICATIONS. THESE PLANS DO NOT PURPORT TO ACCURATELY PORTRAY PROPERTY BOUNDARIES.

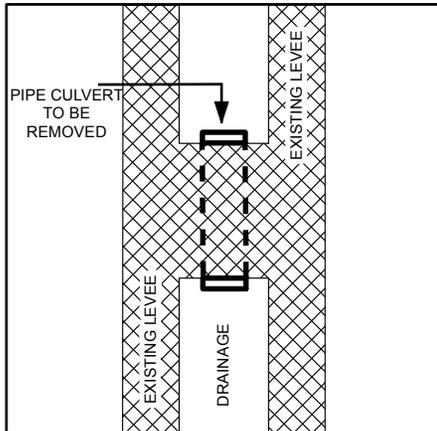
PROPOSED BULL ISLAND MITIGATION BANK
PROPOSED CONSTRUCTION EXHIBIT
 VERMILION PARISH, LA

Drawing No.: R:\Mitigation Banks\Bull Island\GIS\COE Plans\BIMB 6.mxd
 Date: 03/03/14 Author: BDS

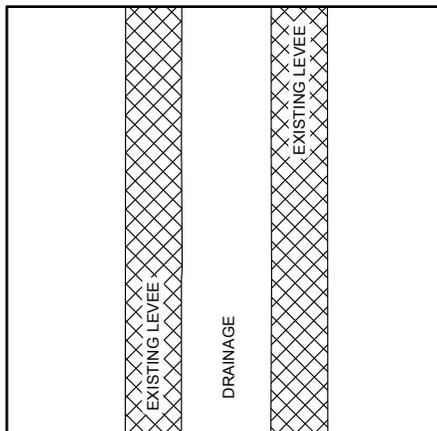


DETAIL "E"
REMOVE INTERNAL CULVERTS
(TYPICAL)

EXISTING CONDITION



PROPOSED CONSTRUCTION



NOTES:

FOUR (4) - 20" CULVERTS TO BE REMOVED.

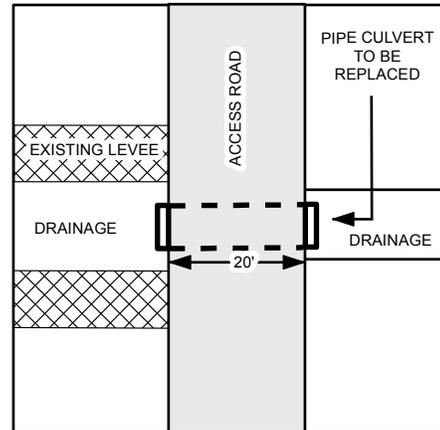
EACH WORK AREA IS APPROXIMATELY 8' x 10' x 4' AND ESTIMATED 11.0 CU YDS OF MATERIAL TO BE DISPLACED.

TOTAL OF **44 CU YDS** TO BE DISPLACED FOR ALL CULVERT REMOVAL.

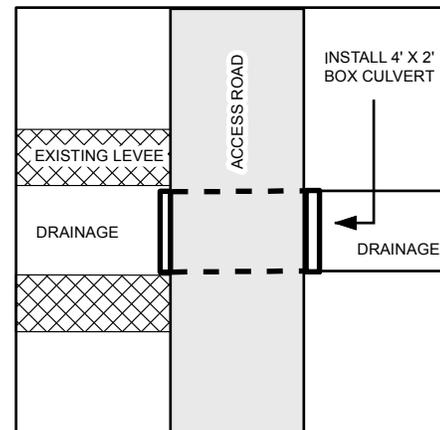
EXCAVATED MATERIAL TO BE STACKED ≤ 1 FOOT AND PLACED ON EXISTING LEVEE (0.03 acres).

DETAIL "F"
INSTALL BOX CULVERTS
(TYPICAL)

EXISTING CONDITION



PROPOSED CONSTRUCTION



NOTES:

ONE (1) - 20" PIPE CULVERT TO BE REMOVED AND REPLACED WITH 4' x 2' x 20' BOX CULVERT.

APPROXIMATELY **4.3 CU YDS** OF MATERIAL TO BE DISPLACED.

EXCAVATED MATERIAL TO BE STACKED ≤ 1 FOOT AND PLACED ON EXISTING LEVEE (0.01 acres).

NOTES:

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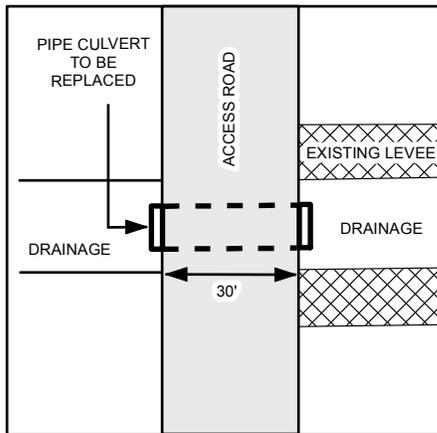
**PROPOSED BULL ISLAND
 MITIGATION BANK**
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 VERMILION PARISH, LA

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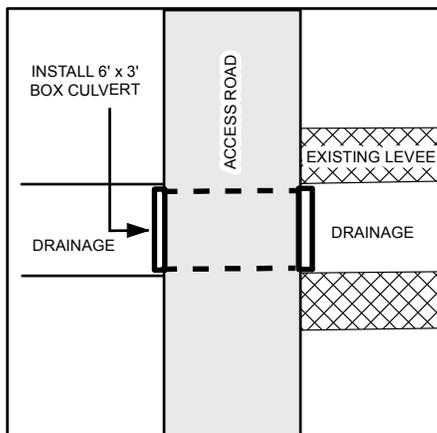


DETAIL "G"
REMOVE INTERNAL CULVERTS
(TYPICAL)

EXISTING CONDITION



PROPOSED CONSTRUCTION



NOTES:

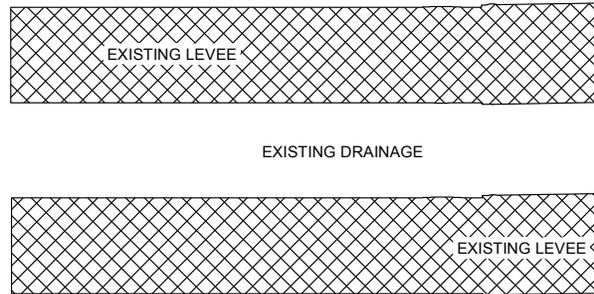
ONE (1) - 20" CULVERT TO BE REMOVED AND REPLACED WITH 6'x3'x30' BOX CULVERT.

APPROXIMATELY **17.6 CU YDS** OF MATERIAL TO BE DISPLACED.

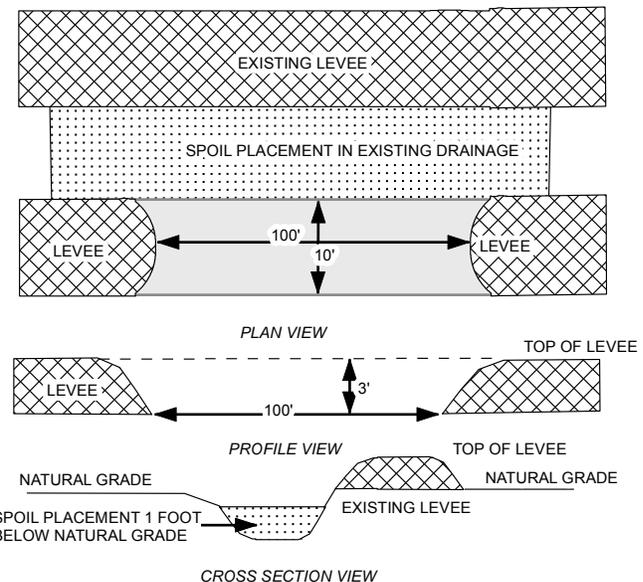
EXCAVATED MATERIAL TO BE STACKED ≤ 1 FOOT AND PLACED ON EXISTING LEVEE (0.01 acres).

DETAIL "H"
CREATE GAPS INTO
EXISTING LEVEE
(TYPICAL)

EXISTING CONDITION



PROPOSED CONSTRUCTION



NOTES:

EACH 100' x 10' x 3' GAP IS APPROXIMATELY 111.1 CU YDS.

TOTAL LINEAR FOOTAGE OF LEVEE TO BE GAPPED IS 25,800'.

APPROXIMATELY 26 GAPS ARE PROPOSED IN THE PROJECT AREA.

APPROXIMATELY **2,888.6 CU YDS** OF MATERIAL TO BE DISPLACED. EXCAVATED MATERIAL TO BE STACKED 1 FOOT BELOW NATURAL AND PLACED IN EXISTING DRAINAGE (1.19 acres).

NOTES:

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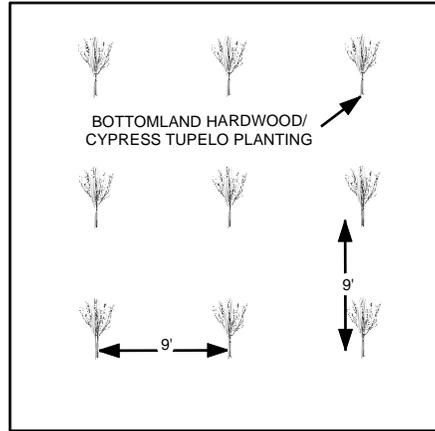
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 Date: 03/05/14 Author: BDS

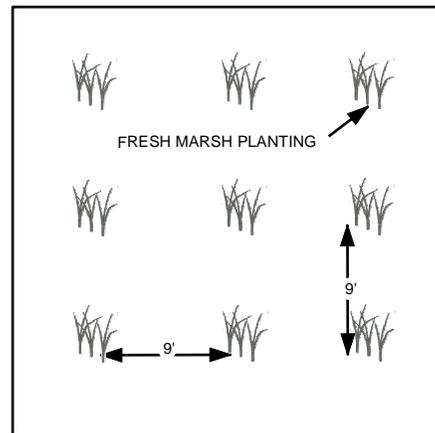


DETAIL "I"
VEGETATIVE PLANTING

**BOTTOMLAND HARDWOODS/
CYPRESS TUPELO SWAMP**



FRESH MARSH



NOTES:

BOTTOMLAND HARDWOODS TO BE PLANTED AT 9 FOOT SPACING. PROPOSED TREE DENSITY IS 538 TREES PER ACRE.

FRESH MARSH VEGETATION WILL BE PLANTED (if required) AT 9 FOOT SPACING.

NOTES:

A TOTAL OF **3,440 CU YDS OR 1.46 ACRES** OF MATERIAL IS ESTIMATED TO BE DISPLACED IN ASSOCIATION WITH PROPOSED BULL ISLAND MITIGATION BANK PROJECT CONSTRUCTION.

AS-BUILT DRAWING SHALL BE SUBMITTED WITHIN 30 DAYS OF COMPLETION OF THIS PROJECT TO THE LOUISIANA DEPT. OF NATURAL RESOURCES, COASTAL MANAGEMENT DIVISION, P.O. BOX 44487, BATON ROUGE, LA 70804-4487.

NOTES:

THESE PLANS WERE PREPARED EXCLUSIVELY FOR OBTAINING REGULATORY CLEARANCES, AND DO NOT PURPORT TO BE ENGINEERING DRAWINGS, OR SPECIFICATIONS. THESE PLANS DO NOT PURPORT TO ACCURATELY PORTRAY PROPERTY BOUNDARIES.

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MITIGATION BANK
VEGETATIVE PLANTING EXHIBIT
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