



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
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September 21, 2020

Operations Division
Special Project and Policy Team
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SUBJECT: MVN-2014-01470-MB

PUBLIC NOTICE

Public Notice Purpose: Pursuant to Section 10 of the Rivers and Harbors Act of March 3, 1899 (30 Stat. 1151; 33 USC 403) and Section 404 of the Clean Water Act (86 Stat. 816; 33 USC 1344), the U.S. Army Corps of Engineers, New Orleans District, Regulatory Branch is soliciting comments from all interested parties on the development, utilization and long-term management of a proposed mitigation bank. The purpose of this mitigation bank is to provide compensatory mitigation for unavoidable impacts to wetland resources, including other waters of the United States, that result from projects authorized through the Department of the Army permit program.

PROPOSED RE-AUTHORIZATION OF MITIGATION BANK
IN ASCENSION PARISH

NAME OF APPLICANT: St. Gabriel Wildlife Refuge and Mitigation Bank, LLC, 36225 Swadow Wood Lane, Prairieville, Louisiana 70769 ATTN: Frank Bonifay.

LOCATION OF WORK: The proposed project area is located in Section 33, Township 8 South, Range 2 East, westerly of Prairieville, in Ascension Parish, Louisiana. Lake Pontchartrain Basin USGS Hydrologic Unit Code 08070203 (Lat. 30.304297 Long. -91.014411)

CHARACTER OF WORK: The Sponsor proposes enhancement and long-term protection of a 235.09 acre tract. The scope of work includes installation of three (3) 42-inch flapgated culverts in the Alligator Bayou/Braud Canal levee artificially separating Bluff Swamp from the remainder of Spanish Lake (completed in 2008) and other ongoing vegetative enhancements. The original +/- 1,240-acre proposal was previously authorized as suitable for compensatory mitigation in 1995. Most credits associated with the original proposal used were to satisfy an EPA Consent Decree. Credits associated with the subject acreage were not made available to the public and consists of 108.7 acres bottomland hardwood wetlands and 126.4 acres of cypress swamp habitats. This action would formalize establishment of this work as an approved mitigation bank. The mitigation banking prospectus is attached.

The Corps of Engineers is soliciting written comments from the public; federal, state, and local agencies and officials; Indian Tribes; and other interested parties. The comment period will close **30 days** from the date of this public notice advertisement. Written comments, including suggestions for modifications or objections to the proposed work, stating reasons thereof, are being solicited from anyone having interest in this prospectus. Letters must reference the applicant's name and the subject number, be addressed and mailed to the above address.

Corps of Engineers Permit Criteria

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

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

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

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

Utilizing the Information & Planning Consultation for Endangered Species in Louisiana (IPaC), dated January 27, 2020, 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.

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

Attachment

Prospectus for the Proposed
St. Gabriel Wildlife Refuge and Mitigation Bank, LLC



Ascension Parish, Louisiana

September 17, 2020

Landowner/Sponsor:
St. Gabriel Wildlife Refuge and Mitigation Bank
36225 Shadow Wood Lane
Prairieville, Louisiana 70769

Wetland Consultant:
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G. Paul Kemp & Associates LLC
633 Magnolia Wood Avenue
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MITIGATION BANKING INSTRUMENT

St. Gabriel Wildlife Refuge and Mitigation Bank

1. INTRODUCTION

St. Gabriel Wildlife Refuge and Mitigation Bank, LLC (SGWRMB or Bank) is both Owner and Sponsor of the proposed mitigation bank of the same name. This Prospectus will govern the administration and management of the SGWRMB in accordance with 33 CFR § 332.1 et seq. The Bank is a 235.09-acre tract in Ascension Parish, Louisiana (Figure C1), that will provide compensatory mitigation for unavoidable impacts to “Waters of the United States,” and, more specifically, Cypress-Tupelo Swamp (CTS) and Bottomland Hardwood (BLH) wetlands as authorized through the issuance of Department of the Army (DA) Permits by the U.S. Army Corps of Engineers (USACE) New Orleans District (CEMVN) pursuant to Sections 9 and 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act of 1972.

The Owner will protect the Bank by granting a perpetual conservation servitude over the entire tract as is discussed below (Section 7.4.). The Owner will be guided by the Interagency Review Team (IRT), composed of the U.S. Army Corps of Engineers New Orleans District (CEMVN), Region VI of the U.S. Environmental Protection Agency (EPA), and the Louisiana Department of Wildlife and Fisheries (LDWF) during all phases of construction, operation, monitoring and management of the Bank.

2. PHYSIOGRAPHY AND BANK LOCATION

2.1 PHYSIOGRAPHY

The Bank is located in the ‘Bluff Swamp,’ a portion of the Mississippi River Alluvial Valley that, under natural conditions would have flooded in most years from the Mississippi River, the channel of which is now 7.4 miles to the west. Plugging of Bayou Manchac where it leaves the Mississippi River in the early 19th Century ended this connection for the Spanish Lake Basin, of which the Bluff Swamp basin is the easternmost portion. Bluff Swamp formed in a Mississippi River channel meander scar that was filled over a period of 2,000 years by river sediments and organic swamp deposits as the river migrated to the west and periodically crevassed into the Spanish Lake Basin. Fisk (1944) shows this meander abutting and eroding the edge of a Pleistocene Loess Terrace that rises 20 to 30 feet higher on the eastern margin of Bluff Swamp (Figure C2). The geological map identifies Bluff Swamp as a “Rim Swamp” which includes the lowest elevation wetlands in the Spanish Lake watershed, with most below the 4-foot contour. The land gradually rises south and west toward the natural levee of the encircling Mississippi (Figure C3), so that the Cypress-Tupelo Swamp (CTS 126.43 acres) habitat is on eastern side of the Bank, while the Bottomland Hardwood Forest (BLH 108.66 acres) is the northern extension of Vincent Ridge and the east side of Alligator and Braud Bayous (Figure C4). The CTS is primarily growing on Fausse Association (FA) soil (Figure C5), while the BLH is largely on Sharkey Clay (Sc). The CTS in the Bank is very old containing hundreds of very large, old-growth cypress trees(>800 years), including many with the sell portion of the trunk buried.

Bluff Swamp was separated from the rest of the Spanish Lake basin in the 1950s by construction of the Alligator Bayou/Braud Canal levee and the Frog Bayou Locks (sluiceway). The Ascension Parish government did this to ensure that the Prairieville and Bluff Road communities to the east and south, respectively, could continue to drain into Bluff Swamp even when the rest of the Spanish Lake basin was full. The Agents oversaw installation in 2008 of the three controllable 42-inch pipes that constitute the EPA Lock to provide more management flexibility to enhance CTS and BLH habitat quality throughout the Bluff Swamp, but particularly for those of the Bank. Several small shallow streams or swales, with minor natural levees, extend from south to north in the swamp. They once discharged to Bayou Manchac, and remain important for hydrologic connectivity in the swamp during low water periods. During higher water periods in the wetlands, flow moves over the banks and overland.

The Bank is near the southern margin of the 'Amite' USGS HUC 8 (8-digit: 08070203) Watershed near its southern boundary (Figure C6). The entire Spanish Lake Basin and the natural levee of the Mississippi River is included in the 'Braud and Alligator Bayou Sub-watershed' (HUC 14) but the Bluff Swamp and the small portion of the terrace that it drains in the Prairieville area amount to only 5,285 acres. The 3,062 acres of terrace provides runoff via small streams into the 2,960 acres that make up Bluff Swamp (Figure C7). So, the upland watershed is roughly the same size as the receiving wetland basin. The St. Gabriel Wildlife Refuge and Mitigation Bank takes up about 10 percent of the area of Bluff Swamp, but is surrounded by other protected land.

2.2 PROPERTY LOCATION

The Property is located at latitude 30°18.139' N and longitude 91°01.004' W (approximate center point) in Ascension Parish, Louisiana (Figure C1), near the Iberville Parish line on the west side, and East Baton Rouge Parish to the north. It includes 235.09 acres more or less of jurisdictional wetlands on a portion of the Western half and Southeast quarter of Section 33, T8S, R2E. The Bank property is reached from Baton Rouge by following Highland Road (LA 42) south under Interstate 10 (I-10) to a right turn on Old Perkins Road (LA 427) toward Prairieville. A second right is made after 2 miles at the first traffic light onto Bluff Road. This road crosses the I-10 again. A third right turn is made at bottom of overpass onto Alligator Bayou Road (Figure C1). This road winds for about a mile down off a higher terrace onto a causeway (levee) built along the south bank of Bayou Manchac, passing over the existing Frog Bayou Sluice Gate and the future site of the newly permitted Fish Bayou Sluice (Figure C7). Water access with a boat - pass the Alligator Bayou Tour Center and cross Alligator Bayou and turn left into the Alligator Bayou Boat Launch (30°19'15"N, 91°1'16"W) continue down Alligator Bayou to the private pier approximately 3700 feet on east side of Alligator Bayou (30°18'41"N, 91°1'15"W). Vehicle access - turn left into a private gravel parking lot with a wooden building (former Alligator Bayou Tour Center) (30°19'18"N, 91°11'2"W) just before reaching the recently rebuilt Alligator Bayou Locks, which also pass under the road. In a 4WD or ATV, the owner will convey visitors on the levee road south along the east bank of

Alligator Bayou for 3,700 feet through the Spanish Lake Wildlife Refuge and Botanical Gardens to reach the northernmost point of the Bank at the Section line where three gated 42-inch pipes, collectively known as the “EPA Locks,” pass through the levee. The west boundary road meanders southwest from the EPA Locks atop the Alligator Bayou levee for approximately 3,783 feet, and then continues to follow the levee due south along the Braud Canal an additional 2,777 feet (Figure C1).

3. PROJECT GOALS AND OBJECTIVES

SGWRMB, LLC (Owner), as the owner in fee title, will record a conservation servitude for 235.09 acres in the Bluff Swamp Watershed at the Bank. SGWRMB (Sponsor) will continue to implement habitat improvements originally begun in 1994 when this acreage was first approved as a mitigation bank. SGWRMB, LLC will implement mitigation improvements, including continued enhancement of the BLH (108.66 acres) and TCS habitat (126.43 acres) by carrying out recommended timber-stand improvements through control of invasive tree species utilizing mechanical and/or chemical means (Tables 1a and 1b). Table 1b specifically lists 14.12 acres of the property not included in this Prospectus that is in the Spanish Lake Watershed.

Specifically, the project objectives are to improve and protect the physical, chemical and biological functions of a forested wetland system as follows:

- Ensure long-term viability and sustainability of the Bank through active and adaptive management including, but not limited to, invasive tree species control, appropriate monitoring;
- Ensure long-term water quality treatment of upland runoff through forested wetlands;
- Establish financial assurances to achievement of long-term success criteria;
- Ensure long-term viability and sustainability by implementing specific management strategies such as
 - active and adaptive management
 - establishment of financial assurances and long-term funding mechanisms
 - initial, intermediate, and long-term monitoring
 - initial, intermediate, and long-term maintenance
 - initial, intermediate, and long-term invasive tree species control;
- Restore forested habitat through natural reforestation of existing diverse indigenous forest species and active control of invasive/noxious tree species as well as monitoring;

- Natural regeneration of the existing forest and protection of the land surrounded by large, extant, and contiguous forested habitat which benefits breeding birds in accordance with existing bird conservation plans (2016);
- Provide for the long-term protection through the execution of a perpetual-term conservation servitude and establishment of a long-term fund to cover annual expenditures associated with maintenance and management of the Bank;

Table 1a. Habitat Breakdown for St. Gabriel Wildlife Refuge and Mitigation Bank in Bluff Swamp Watershed (acres)						
Area Sec. 33	BLH	CTS	UPLANDS	BAYOU	Wetlands	Property
NW Qtr	18	33	6	3	51	60
SW Qtr	73.66	60	6	3	133.66	142.66
SE Qtr	17	33.43	0	0	50.43	50.43
SG Total Area	108.66	126.43	12	6	235.09	253.09

Table 1b. Habitat Breakdown for St. Gabriel Wildlife Refuge and Mitigation Bank in Spanish Lake Watershed (14.12 acres not included in this Prospectus)						
Area Sec. 33	BLH	CTS	UPLANDS	BAYOU	Wetlands	Property
NW Qtr	0	5.03	0	0		
SW Qtr	0	9.09	0	0		
SL Total Area	0	14.12	0	0	14.12	14.12
SGWRMB, Total Area					249.21	267.21

4. ECOLOGICAL SUITABILITY OF THE SITE/BASELINE CONDITIONS

The Bank is located in Section 33, T8S, R2E Ascension Parish, Louisiana. The proposed SGWRMB is located in the northeastern portion of the Spanish Lake Basin that formed as a backwater swamp between the Pleistocene Terrace to the east now occupied by the town of Prairieville, and the expansive encircling natural levee ridge of the Mississippi River to the west and south (Jones et al. 1994). Although agricultural, industrial, light commercial and residential development have been actively pursued on the higher land surrounding the SLB, the ongoing flood risk has limited activities within the basin to timbering, oil and gas extraction, and recreational hunting and fishing. Despite its proximity to Baton Rouge and New Orleans, Louisiana’s two largest cities, the SLB remains uninhabited except by wildlife. The suitability of the Bluff Swamp and the Bank to achieve the stated objectives is well established as it is in relatively good condition today and requires limited hydrologic management driven by a well-conceived monitoring program. Habitat improvement through removal and control of invasive trees and shrubs will require constant attention and adaptation year in and year out to achieve optimal results for planned types of aquatic resources and functions.

4.1 Land Use

4.1.1 Historical Land Use

The Bluff Swamp has had pretty much its current characteristics since before the area was colonized by European settlers and enslaved Africans. The best timber was cut off the land during the 19th Century, but hundreds of large old-growth cypress were left alive because they were hollow or deformed or otherwise not worth the cost of processing into lumber. BLH across most of the Spanish Lake Basin has been logged multiple times since settlement, continuing into the 1990s. Mature BLH trees currently within the Bank are between 50 and 150 years old. The primary uses of the Bluff Swamp have not changed over time. First, it has served as a recreational mecca for those lucky enough to have access for hunting, trapping and birding. The Agents operated a much-loved ecotourism business for more than a decade, taking school groups down Alligator Bayou and using the swamp as an outdoor classroom.

Development of land within one mile of the Bank is residential, light-commercial and rural on the Pleistocene uplands around Prairieville (Figure C7). This is about a half-mile from the eastern boundary. The Bluff Road community on the Vincent Ridge is about 1.5 miles from the southern Bank boundary. Cypress-tupelo swamp constitutes most of the buffer area between developed land and the Bank.

4.1.2 Current Land Use

There was a proposal to clear-cut a majority of the acreage, but purchase of the property (1130+ acres) in 1994 and its incorporation into a mitigation bank ensured that it was not timbered. Approximately 901 acres were used to satisfy a Consent Decree between EPA and the Parish of Ascension. However, the remainder of credits associated with the total acreage were neither sold nor made available to the public. The (EPA), the U.S. Army Corps of Engineers (Corps), the U.S. Fish and Wildlife Service (FWS), the Louisiana Department of Wildlife and Fisheries (LDWF) and the Louisiana Department of Forestry (LDF) have inspected the site. LDWF and LDF have done preliminary studies on the site and have established potential guidelines for habitat improvements. LDWF and LDF have done preliminary studies on the site and have established potential guidelines for habitat improvements. Adjacent wetland use is for mitigation banks, while adjacent uplands are residential and commercial (Figure C7).

4.2 SOILS

The soil types present at the proposed Bank, as identified in the Ascension Parish Soil Survey vary slightly throughout the Bluff Swamp (Figure C5). Generally, Galvez (Gb) silty clay loam soil is shown along the natural “oak/swamp privet” ridges which are present in portions of the basin. Galvez (Gb) soil has a woodland classification of 2W5. Fause (FA) association soils are found in large areas throughout. This association is described as 75% Fause. The remaining 25% consists mostly of Sharkey (Sf) and Barbary. The description of a representative Fause clay profile found in the Ascension Parish Soil Survey was taken from the Bluff Swamp. Sharkey clay (Sf - frequently flooded) is found across the broad bottom areas interspersed with the Fause association. Both Sharkey and the Fause association are in woodland classification 3W6. These are all wetland soils with the exception of Galvez soil on the ridge crests, which occasionally flood. Field investigations and a wetland delineation conducted in 1995 and 2019 confirmed these soil types, along with hydric indicators.

4.3. HYDROLOGY

4.3.1 Contributing Watershed

The entire Spanish Lake Basin and the natural levee of the Mississippi River are included in the 'Braud and Alligator Bayou Sub-watershed' (HUC 14), which is part of the much larger "Amite River Watershed" (HUC 8), but the Bluff Swamp and the small portion of the terrace that it drains in the Prairieville area amount to only 5,285 acres. The 3,062 acres of the terrace provides runoff via small streams into the 2,960 acres that make up Bluff Swamp (Figure C7). So, locally, the upland watershed is roughly the same size as the receiving wetland basin. The St. Gabriel Wildlife Refuge and Mitigation Bank takes up about 10 percent of the area of Bluff Swamp, but is surrounded by other protected land.

4.3.2 Historical Drainage Patterns

The property is part of an ancient backwater swamp historically fed by the Mississippi River and the Amite River Basin. The Spanish Lake basin would seasonally flood, distributing seeds, sediment, and attracting spawning fish. The basin floodwaters would then flow into Alligator Bayou, Frog Bayou, and Fish Bayou, but eventually returning through Bayou Manchac to the Amite River, Lake Maurepas, and Lake Pontchartrain onward to the Gulf of Mexico.

The Alligator/Braud Bayou levee was constructed between the Bluff Swamp and Spanish Lake watershed in the 1950's, fundamentally altering the drainage pattern. Orr (1995) found much of the Bluff Swamp to be waterlogged prior to installation of the EPA water-control structures through the Alligator Bayou levee in 2008, with its three 42" gated drain pipes. The existing structure at Frog Bayou is too small to efficiently remove excess water levels within the Bluff Swamp watershed during the growing season. This led to prolonged periods of excessive water levels and inundation that were seriously affecting species composition of the bottomland hardwood forest. Debris and snags in the sloughs leading to Frog Bayou also contributed to impoundment.

4.3.3 Existing Drainage Patterns

The Bank lies between the northern extension of the Vincent Ridge (including Vincent Ridge) and up to the base of the Alligator Bayou/Braud Canal Levee (Figure C4). The only relief is provided by low natural levees on either side of small sloughs. Runoff enters the swamp through incised streams on the Prairieville terrace to the east that collect into a low central wetland area (Figure C7). Water also drains to a lesser degree from the crevasse ridge deposit on the south that is home to the Bluff Road community. This is where the people live who are most vulnerable to flooding, and this happens whenever the water level in the swamp rises above 8-feet (NAVD88) on the Frog Bayou gauge.

Hydrology in the Bank is driven directly by precipitation on the Bluff Swamp and its watershed on the Prairieville Terrace. This water collects in the swamp and slowly drains to the north into Bayou Manchac, or alternatively through the EPA Lock into Alligator Bayou. In the absence of rainfall, exchange can occur with Bayou Manchac through the Frog Bayou Lock. It is useful at times to allow inflow from Bayou Manchac to avoid growth of Cutgrass, tallow and willow in sloughs. Ultimately all drainage from the Bluff Swamp flows through Bayou Manchac into the Amite River and Lake Maurepas.

a. The Parish of Ascension manages the hydrology of the Bluff Swamp watershed via two water-control structures (Frog Bayou structure and the three 42” EPA water control structures (MVN 2007-877 CZ) in the Bluff Swamp watershed). These structures are meant to help ensure that the bottomland hardwood forest is not inundated at key seasonal stages. A third water-control structure, the Fish Bayou Lock, has received a DA permit (MVN 2018-0135-CQ) and is awaiting construction by Ascension Parish Government. The Ascension Parish Government is responsible for maintenance and operation of all three water-control structures. The property owner/agents advocated for installation of a recording water level gauge on their property by the U.S. Geological Survey (USGS) in the swamp near the Frog Bayou water-control structure. This gauge has made it possible to operate the Frog Bayou water-control structure for both drainage and ecological purposes.

b. Hydrologic enhancement with the EPA three 42” water control structure (MVN 2007-877 CZ) in the Alligator Bayou levee is used to control passage of Bluff Swamp water which drains west into Alligator Bayou, when the high water level of Bayou Manchac restricts the outflow of the Bluff Swamp watershed. The agents permitted and assisted with installation of the three 42" gated pipes installed through the Alligator Bayou levee, placed at the lowest point of the Bluff Swamp, enhancing the BLH (108.66 acres) and TC (126.43 acres) in the SGWRMB (Attachment D, photo 6). This point where the water-control structure is located is at the northern boundary of the Bank (Figure C7). Orr (2019) notes hydrologic improvement that occurred after the additional structures were installed in 2008. Orr (2019) notes that seedlings, saplings, and understory vegetation are denser than in the past.

c. The third water-control structure permitted for Fish Bayou (east of Frog Bayou) (MVN2018-0135-CQ) will consist of two 12’ x 12’ gated pipes that will allow outflow from Bluff Swamp into Bayou Manchac (Figure C7). The agents have worked closely with Ascension Parish Government to obtain funding for both the EPA and Fish Bayou Locks.

d. Two new USGS monitoring stations; one to the east of the Alligator Bayou levee in the Bluff Swamp watershed 30 feet south of SGWRMB, and the second to the west of the EPA water-control structure on the west side of the Alligator Bayou levee in the Spanish Lake watershed. These two monitors will be installed with the construction of the permitted Fish Bayou water-control structures.

4.3.4 JURISDICTIONAL WETLANDS SECTION

The entirety of the Bank with the exception of the Alligator Bayou/Braud Canal Levee has been determined by a licensed wetland delineator to meet all criteria for certification as Jurisdictional

Wetlands. Members of the IRT have visited the property and the CEMVN is expected to issue a preliminary jurisdictional determination (PJD) covering all acreage identified for inclusion in the Bank. Similar PJDs have previously been issued for a number of other mitigation banks approved in the Spanish Lake Basin.

4.4 VEGETATION

4.4.1 Historical Plant Community

Plant species which were likely present on the site historically included:

- Live Oak (*Quercus virginiana*)
- Water Tupelo (*Nyssa aquatica*)
- Drummond Red Maple (*Acer rubrum* L. var. *drummondii* (Hook. & Arn. ex Nutt.) Sarg.)
- American Elm (*Ulmus americana* L.)
- Sweetgum (*Liquidambar styraciflua* L.)
- Baldcypress (*Taxodium distichum* (L.) Rich.)
- Green Ash (*Fraxinus pennsylvanica* Marsh.)
- Honey Locust (*Gleditsia triacanthos*)
- Black Locust (*Robinia pseudoacacia*)
- Bitter Pecan (*Carya aquatica*)
- Sugar Berry (*Celtis laevigata*)
- Live Oak (*Quercus virginiana*)
- Laurel Oak (*Quercus laurifolia* Michx.)
- Willow Oak (*Quercus phellos* L.)
- Overcup Oak (*Quercus lyrata*)
- Nuttall Oak (*Quercus texana* Buckley)
- Water Oak (*Quercus nigra* L.)

4.4.2 Existing Plant Community

Forester Paul Orr has conducted three forest surveys that include the Bank area, in 1996, 2014 and 2019 based on identifying counting and measuring trees on the same one-fifth acre sample plots (Figure C9). His survey approach is somewhat different from that of the delineator. The most recent survey, for example, was taken primarily to develop prescriptions for management of invasive and noxious tree species.

Orr describes four forest types in the Bank. The first is of healthy BLH growing on natural ridges that are flooded only during extreme rain events. The soil type is a relatively thin silt-loam over a clay base. The topographic elevation here is caused by old distributary ridges associated with the crevasse to the south of the Bank. Remnant channels run down the center of both ridges. The over-story of this site is dominated by sweetgum (**Liquidambar styraciflua**), overcup oak (**Quercus lyrata**) and water oak (**Quercus nigra**) and also includes

hackberry (***Celtis laevigata***), live oak (***Quercus virginiana***), American elm (***Ulmus americana***), green ash (***Fraxinus pennsylvanica***) and baldcypress (***Taxodium distichum***). The over-story is closed and dense. Diameter growth was moderate to slow for the water oaks that were bored. This is likely due to the density of the stand. Average tree size for the water oaks and overcup oaks is 22 inches DBH, which are of mature size and age. Understory species include seedlings and saplings of water oak, elm, sweetgum, bitter pecan (***Carya aquatica***), persimmon (***Diospyros virginiana***), baldcypress and Chinese tallow tree (***Sapium sebiferum***). Other species found in the understory are palmetto (***Sabal minor***), hawthorn (***Crataegus viridis***), Chinese privet (***Ligustrum sinense***), deciduous holly (***Ilex decidua***), blackberry (***Rubus fruticosus***), greenbrier (***Smilax*** sp) and French mulberry (***Callicarpa Americana***). Palmetto dominates the understory in many places. Forage for wildlife is very good and includes abundant acorns from the oak species.

The second forest type identified by Orr (2014) is a medium elevation BLH (Figure C9). It is flooded seasonally but is dry for extended periods when rainfall is low. The soil is a heavy clay. The presence of large old-growth baldcypress is evidence that this area was once a cypress swamp that has received significant influxes of sediments that have raised the overall elevation. The area is dominated by overcup oak and hackberry. Nuttall oak (***Quercus nuttallii***) is present but in much smaller numbers than overcup oak. Other co-dominant trees include green ash, baldcypress, bitter pecan, red maple (***Acer rubra var. drummondii***), American elm, honey locust (***Gleditsia triacanthos***) and water oak. The canopy is mostly closed and dense with scattered openings caused by blow-downs. The oaks are growing slowly. The average diameter of the overcup oaks is 16-inches DBH, but these are mature trees. The understory includes seedlings and saplings of hackberry, baldcypress, nuttall oak, red maple, elm and tallow tree. Palmetto, swamp privet (***Forestiera acuminata***) and water elm (***Planera aquatica***) are also present in the understory. The understory is pretty open but with thickets of swamp privet and water elm covering approximately 20 percent of the area. Forage for wildlife is fair as acorns from the overcup oaks are abundant.

Orr (2014) also described as a third type a low-elevation BLH that could also be described as a marginal cypress swamp (Figure C9). The land is flooded up to four feet deep for extended periods. The soil is a heavy clay muck. This zone has a number of old-growth baldcypress scattered throughout with second-growth baldcypress also numerous. The dominant stand is green ash and black willow. Overcup oak, hackberry, Nuttall oak and American elm are also present in the overstory, but the overstory is not closed. Instead, thickets of swamp privet and water elm cover about 40 percent of the area. Growth of the relatively sparse oaks was moderate to slow, and conditions seem better for baldcypress and tupelo gum (***Nyssa aquatica***) than for BLH species. The understory has a few seedlings and saplings of green ash, hackberry and tallow tree. Water locust (***Gleditsia aquatica***) and buttonbush (***Cephalanthus occidentalis***) are present in some open areas.

Finally, Orr (2014) describes the lowest land of all, that dominated by baldcypress, what would clearly be called CTS, but tupelo gum trees are surprisingly rare. The land stays wet almost all the time and floods up to six feet seasonally. The soil is clay muck with a significant organic component. Black willow is present but in relatively low numbers along with a few green

ash, overcup oak and water locust. The canopy is thin in most areas except in scattered second-growth baldcypress stands. A relatively small number of old-growth baldcypress contribute significantly to the canopy. Large areas of understory thickets cover much of the area composed of buttonbush, swamp privet and water elm.

4.5 GENERAL NEED FOR PROJECT

The Bank property was originally purchased to prevent timbering of the old-growth cypress forest. Enhancements were undertaken to ensure stability of the BLH and TCS habitat. The Bank will provide compensation for unavoidable impacts associated with commercial, residential and industrial developments in the rapidly developing area immediately surrounding the Spanish Lake Basin. The Bank can also serve to mitigate for potential impacts associated with linear projects such as pipelines and roadways in the already highly industrialized and populated Lake Pontchartrain Basin. In addition to these impacts, the CEMVN currently has three separate projects within the Lake Pontchartrain Basin that will require BLH and CTS mitigation by April 2023. The proposed Comite River Diversion Project will require a minimum of 690 acres of BLH mitigation and is expected to be completed by February 2022. The proposed East Baton Rouge Flood Risk Reduction Project will require a minimum of 430 acres of BLH mitigation and is expected to be complete by February 2023. The proposed West Shore Lake Pontchartrain project will require a minimum of 150 acres of BLH mitigation and a minimum of 2,020 acres of CTS mitigation and is anticipated to be complete in April 2023. These three projects combined will need a minimum of 1,270 acres of BLH and 2,020 acres of Swamp mitigation within the next two to three years.

5. ESTABLISHMENT OF A MITIGATION BANK

5.1 SITE ENHANCEMENT PLAN

The Owner will, in collaboration with Ascension Parish Government, seek to improve the ecological benefits of water management in the Bluff Swamp. This will be accomplished primarily by reducing the duration of periods when runoff is ponded and stagnant on the land to no more than two continuous weeks. This effort will be particularly targeted at improving conditions in the Type 3, low-elevation BLH described above (Figure C8). Hydrology is recognized as an important component of the enhancement plan, though not the main focus. Construction of the EPA Lock as well as the anticipated installation of the Fish Bayou Lock has given the agents confidence that they will be able to provide an improving capacity to boost desirable tree growth rates and habitat quality in both BLH and CTS stands. But the main focus of this work plan is to address the degradation of the swamp by exotic and invasive understory species that severely inhibit recruitment and growth of young BLH co-dominants and reduce habitat quality for wildlife

5.2 TECHNICAL FEASIBILITY

The construction work required to develop the proposed Bank is based on experience and currently accepted restoration methods and is technically feasible. The sold-out Bayou Paul Bank and the Spanish Lake Restoration Banks are adjacent and/or within the same basin to the SGWRMB. The existence of forested wetlands within and adjacent to the Bank also suggests a high potential for successful restoration. Once invasive tree-species removal is undertaken, a more natural, historic forest will be enhanced.

5.3 CURRENT SITE RISK:

Potential Long-term Management Issues

Possible issues	Possible causes	Potential response	Responsible party
Damage to trees	Vandalism	Patrolling area and put posted signs every 500 ft. on perimeter	Sponsor
Inadequate timber-stand improvement by injection	Treatment failure	Retreat	Sponsor

The Owner is not aware of adverse impacts to the Bank that might result from a continuation of existing land uses within the watershed. Development in the Prairieville area will increase impermeable surfaces and increase runoff volume relative to precipitation. The region has experienced an increase in the intensity of rainfall events due to climate change. Both of these factors point to the importance of building the much larger Fish Bayou Lock.

5.4 LONG-TERM SUSTAINABILITY OF THE SITE

Long-term viability and sustainability of the Bank will be ensured through active and adaptive management including, but not limited to, invasive species control, appropriate monitoring, and long-term maintenance.

6. PROPOSED SERVICE AREA

The St. Gabriel Wildlife Refuge and Mitigation Bank is within the ‘Amite’ USGS HUC 8 (8-digit: 08070203) Watershed near its southern boundary. The service area of the Bank includes:

- 08070202: Amite River
- 08070203: Tickfaw River

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08070204: Lake Maurepas
08070205: Tangipahoa River
08090201: Liberty Bayou-Tchefuncta River
08090202: Lake Pontchartrain
08090203: Eastern Louisiana Coastal

7. OPERATION OF PROPOSED MITIGATION BANK

7.1 PROJECT REPRESENTATIVES

Landowner/Sponsor: St. Gabriel Wildlife Refuge and Mitigation Bank, LLC
36225 Shadow Wood Lane
Prairieville, Louisiana 70769
gatrtour@eatel.net
225-802-5816

Wetland Consultant:: G. Paul Kemp, Ph.D.
G. Paul Kemp & Associates LLC
633 Magnolia Wood Avenue
Baton Rouge, Louisiana 70808
gpkemp@lsu.edu
225-772-1426

Manager: Jason Day
Comite Resources, Inc.
11643 Pride Port Hudson Road
Zachary, LA 70791
jnday@comiteres.com
225-439-3931

7.2 QUALIFICATIONS OF THE SPONSOR

Frank Bonifay and James Ragland are the agents of SGWRMB, LLC and helped save the ancient forest in 1994. They know more about the history and changes in the SLB and BSB than anyone and remain passionate advocates for conservation of this unique landscape and for environmental education. They established and operated the adjoining Bluff Swamp Wildlife Refuge & Botanical Gardens Mitigation Bank in 1994. They hope to further these goals through the financial resources that the SGWRMB will provide and are fully supportive of the enhancement measures and monitoring outlined in this Prospectus. There are no mortgages or liens upon the property proposed for the SGWRMB.

Mr. Jason Day, Field Supervisor and Wetland Ecologist with Comite Resources, Inc. (CRI), will be responsible for SGWRMB land management and administration. Mr. Day holds a Wetland Delineation Certificate from the Wetland Training Institute and was responsible for conducting the delineation on the SGWRMB tract (Attachment E). He is also an excellent naturalist with a particular expertise in identifying birds by sight and ear. He will work closely with Mr. Paul Orr, a licensed forester, in carrying out recommendations on thinning and eradication of non-native tree species.

Comite Resources, Inc. (CRI) was established in 1998 by Dr. John Day, Jr., Distinguished Professor Emeritus in the Department of Oceanography and Coastal Sciences, who is widely regarded as Louisiana's leading wetland scientist, for the primary purpose of evaluating, designing, managing and monitoring wetland restoration projects in coastal Louisiana, including use of wetlands to lower nutrient and sediment concentrations in point and non-point source discharges (typically secondarily-treated municipal effluent) while documenting benefits from inputs of freshwater, increased vegetative productivity, and enhanced accretion rates.

Scientists with CRI in addition to Dr. Day include Drs. Robert Lane and Rachael Hunter. They collectively have over 100 years of combined scientific research and regulatory experience in wetland environments worldwide. Dr. Lane is a contributing author on numerous Ecological Baseline Studies (EBS) and specializes in experimental design and implementation of effective wetland monitoring programs. Dr. Hunter specializes in wetland biogeochemistry and restoration and has published extensively on use of ecological models. Drs. Lane and Hunter were co-authors of the Day et al. (2009) study of the Spanish Lake Basin ecosystem that established the template for hydrologic management discussed in this prospectus.

Comite Resources, Inc. is currently involved in several projects to enhance degraded baldcypress wetlands in coastal Louisiana, including seedling planting and innovative use of freshwater resources. Comite Resources, Inc. develops and implements environmental monitoring programs, including:

- Woody and herbaceous vegetation productivity and composition;
- Surface water, soil, and vegetation nutrients, metals, and other pollutants;
- Sediment accretion;
- Surface and groundwater hydrology; and
- Nutria assessment and control.

Dr. G. Paul Kemp will serve as Wetland Consultant. He is an experienced hydrologist and geologist who has worked on integrating flood control and wetland restoration. He has been appointed by two governors as a technical expert and Commissioner of the Southeast Louisiana Flood Protection Authority – East, the regional entity responsible for operating and maintaining levees, floodwalls and other structures rebuilt since Hurricane Katrina that protect the City of New Orleans. Dr. Kemp will be involved in placement of water level gauges, analysis of water level management and chief SGWRMB contact for Iberville Parish and the East Ascension Consolidated Drainage District #1 construction and management of the new water control structures at Alligator and Frog Bayous.

Dr. Kemp has had a long association with the wetlands of the Spanish Lake and Bluff Swamp Basins and shares the passion that AGENTS Frank Bonifay and James Ragland have had for conserving this unique ecological asset. In the late 1980s, he played an important role with Senator John Breaux in initiating coastal restoration of the Mississippi River delta, and in advocating expansion of this ambitious restoration program as Executive Director of the Coalition to Restore Coastal Louisiana and later as a Vice-President of the National Audubon Society. In addition to his role as Principal Scientist of his own consulting firm, he is an Adjunct Professor in the Department of Oceanography and Coastal Science at LSU where he teaches a class each year in Coastal Zone Management.

7.3 LONG-TERM OWNERSHIP AND SITE PROTECTION

The OWNER, or any heirs, assigns or purchasers shall be responsible for protecting lands contained within the SGWRMB in perpetuity. In order to provide for such protection, the OWNER will execute a perpetual conservation servitude (pursuant to the Louisiana Conservation Servitude Act, R.S. 9:1271 et seq.) on all acreage identified to be included in the SGWRMB and record it in the Mortgage and Conveyances Records Office of Ascension Parish. The conservation servitude will be held by a 501 C3 organization, the Louisiana Environmental Action Network (LEAN) whose mission is to retain or protect the land's natural habitat, open space, scenic, educational, recreational, historical, or cultural values. The servitude will prohibit activities such as cattle grazing, clear-cutting, fill discharges, or other commercial surface development that would diminish the quality or quantity of restored forested wetlands. The servitude may also specify permissive activities such as hunting, fishing, walkways, birdwatching, education and other activities that do not negatively affect the functions and values of the rehabilitated, reestablished and enhanced wetlands.

7.4 LONG-TERM STRATEGY

In order to fund long-term maintenance of the site, the OWNER will provide financial assurances sufficient to implement long-term maintenance and management. The details of the funding mechanism and arrangements will be spelled out within the MBI to be developed in consultation with the CEMVN. The site shall be constructed to be self-sustaining with management activities beyond the enhancement activities discussed in this Prospectus limited primarily to items such as inspections, invasive species control and boundary maintenance. The Sponsor will ensure the long-term success and sustainability of the Bank through site monitoring, invasive species management, establishment of financial assurances, and protection in perpetuity by conservation servitude. A long-term management plan will be included in the MBI that will include long-term management needs, costs and identify a funding mechanism in accordance with 33 CFR 332.7(d).

8.0 REFERENCES

Day, J.W, Shaffer, G.P., and R.G. Hunter. 2009. Review of Proposed Water Management for the New Alligator Bayou and Frog Bayou Water Control Structures and Related Environmental Impacts: Bayou Manchac, Louisiana. Final Report Submitted August 19, 2009, to Shaw Environmental and Infrastructure Group, Baton Rouge, LA.

Day, J.N., 2019. A Wetland Determination of the St. Gabriel Wildlife Refuge and Soils Report. Final Report to Frank A. Bonifay. 82 pp.

Fisk, H.N., 1944. Geological Investigation of the Alluvial Valley of the Lower Mississippi River. Mississippi River Commission, Vicksburg, MS. Accessed at http://lmymapping_erdg.usace.army.mil, February 16, 2016.

Jones, D., Kuttruff, C., Shuman, M. and Stevenson, J., 1994. The Kleinpeter Site (16EBR5): The History and Archaeology of a Multicomponent Site in East Baton Rouge Parish, Louisiana. Available through the National Archeological Database.

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SGWRMB

Louisiana Geological Survey 2000. Baton Rouge 30 x 60 Minute Geological Quadrangle. Accessed at <https://www.lsu.edu/lgs/maps/100k-Geology/Baton-Rouge.pdf> February 16, 2016

Orr Consulting 1995. Bluff Swamp Forest Survey. Prepared for Frank Bonifay. 5 pages.

Orr & Sons Consulting 2014. Bluff Swamp Preserve Forest Survey. Final Report October, 2014, prepared for Frank Bonifay. 16 pages.

Orr & Sons Consulting 2019. Bluff Swamp Wildlife Refuge and Botanical Gardens Mitigation Area and St. Gabriel Wildlife Refuge and Botanical Gardens Mitigation Area Forestry Addendum. Prepared for Frank Bonifay. 10 pages.

Rampano, B. 2009. Water Control Structures: Designs for Natural Resource Management on Coastal Floodplains. Report by the NSW Department of Industry and Investment, Port Stephens, NSW, Australia. 60pp.

Reese, C.A., 2000. Late-Holocene Vegetation Changes at Bluff Swamp, Louisiana. Unpubl. MS Thesis, Louisiana State University, Baton Rouge, LA, 111pp.

Reece, C.A., and Liu, K-l. 2001. Late Holocene vegetation changes at Bluff Swamp, Louisiana. *Southeastern Geographer* 41(1): 20-35.

MITIGATION PROSPECTUS

ATTACHMENT A

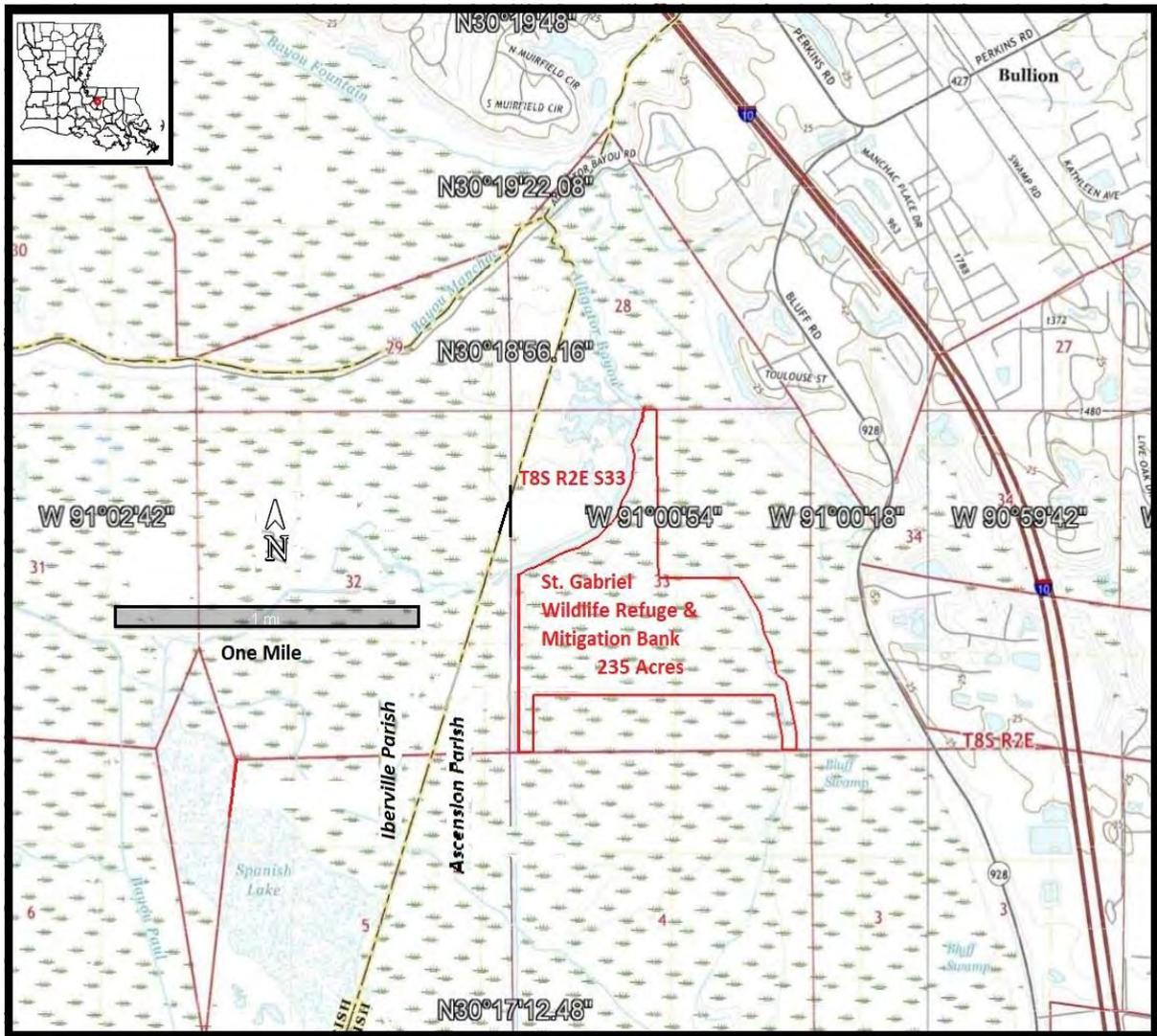


Figure C1. Location, Vicinity and Boundary of St. Gabriel Wildlife Refuge and Mitigation Bank shown on merge of 1:24,000 USGS St. Gabriel and Prairieville Quadrangles (2012).

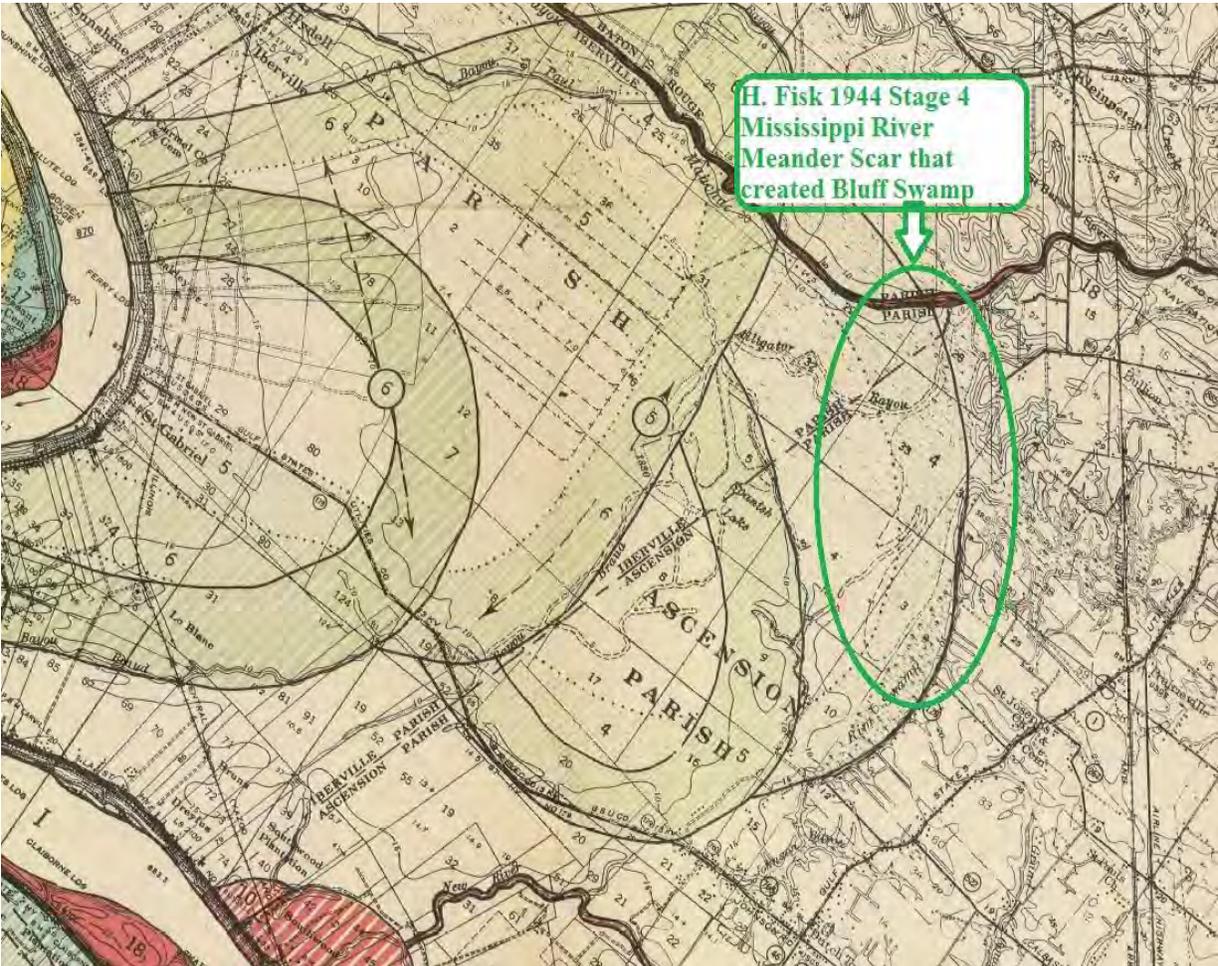


Figure C2. Excerpt from Fisk (1944, Plate 22, Sheet 15) showing location of Mississippi River channel at its easternmost position in the Bluff Swamp area, as well as locations of younger meanders occupied by the river as it moved west toward its current location 7 miles to the west.

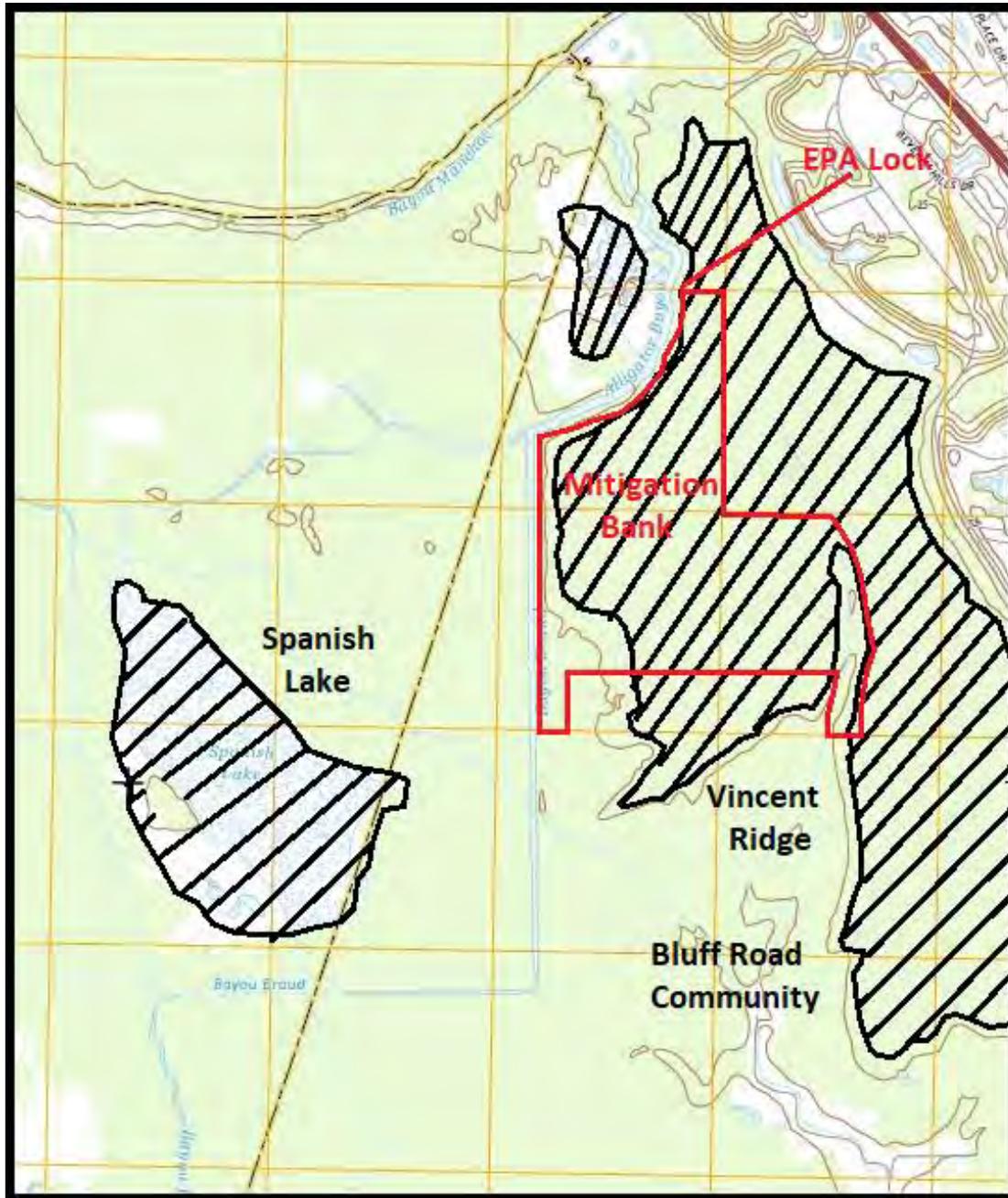


Figure C3. The only wetlands in the Spanish Lake Basin – other than those around Spanish Lake itself -- that are below 4-feet are in the Bluff Swamp (hatched area). The Vincent Ridge is barely over 5-feet where it extends north into the Bank. The EPA Lock is located in the lowest part of the Bluff Swamp.

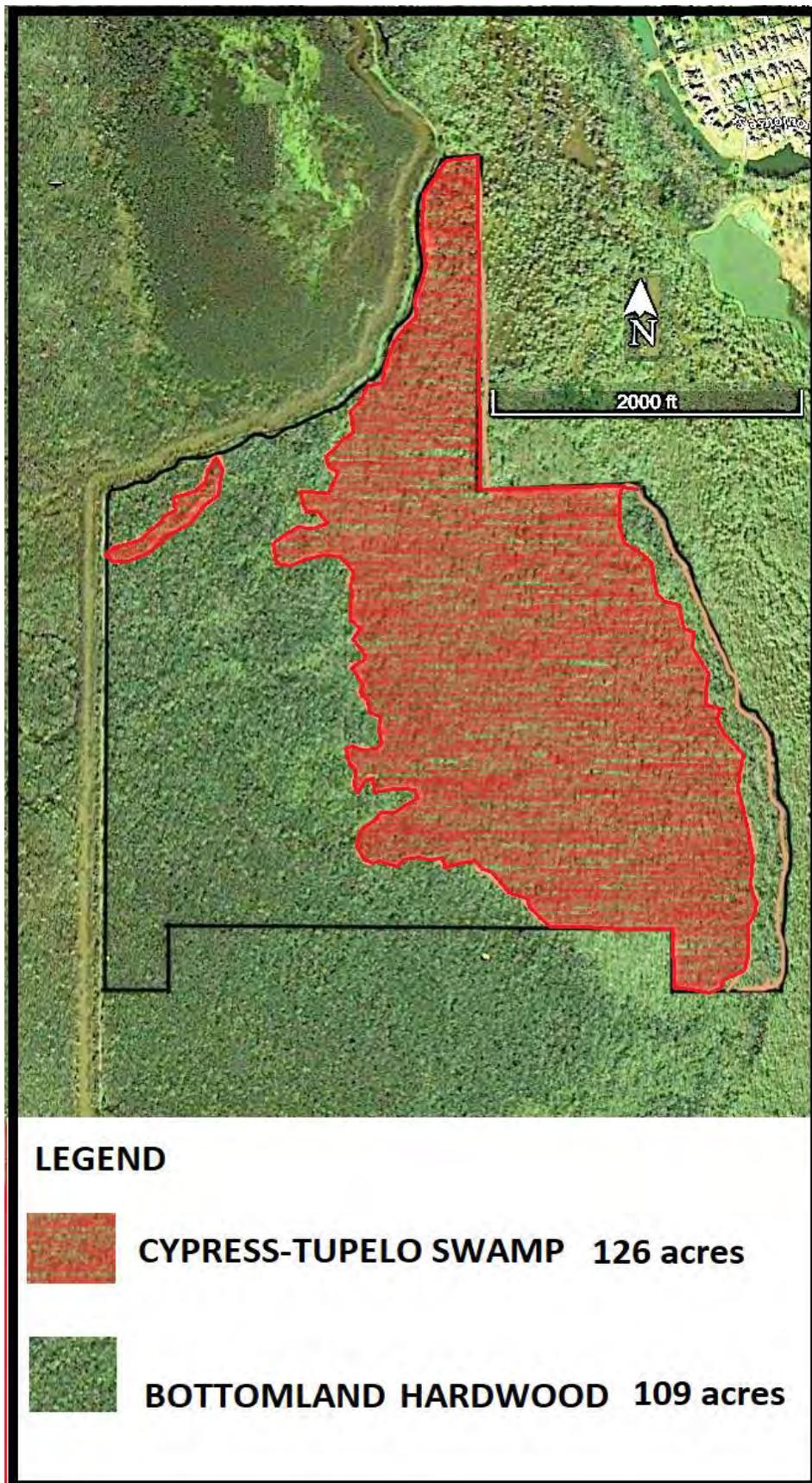


Figure C4. Jurisdictional wetlands in the St. Gabriel Wildlife Refuge and Mitigation Bank

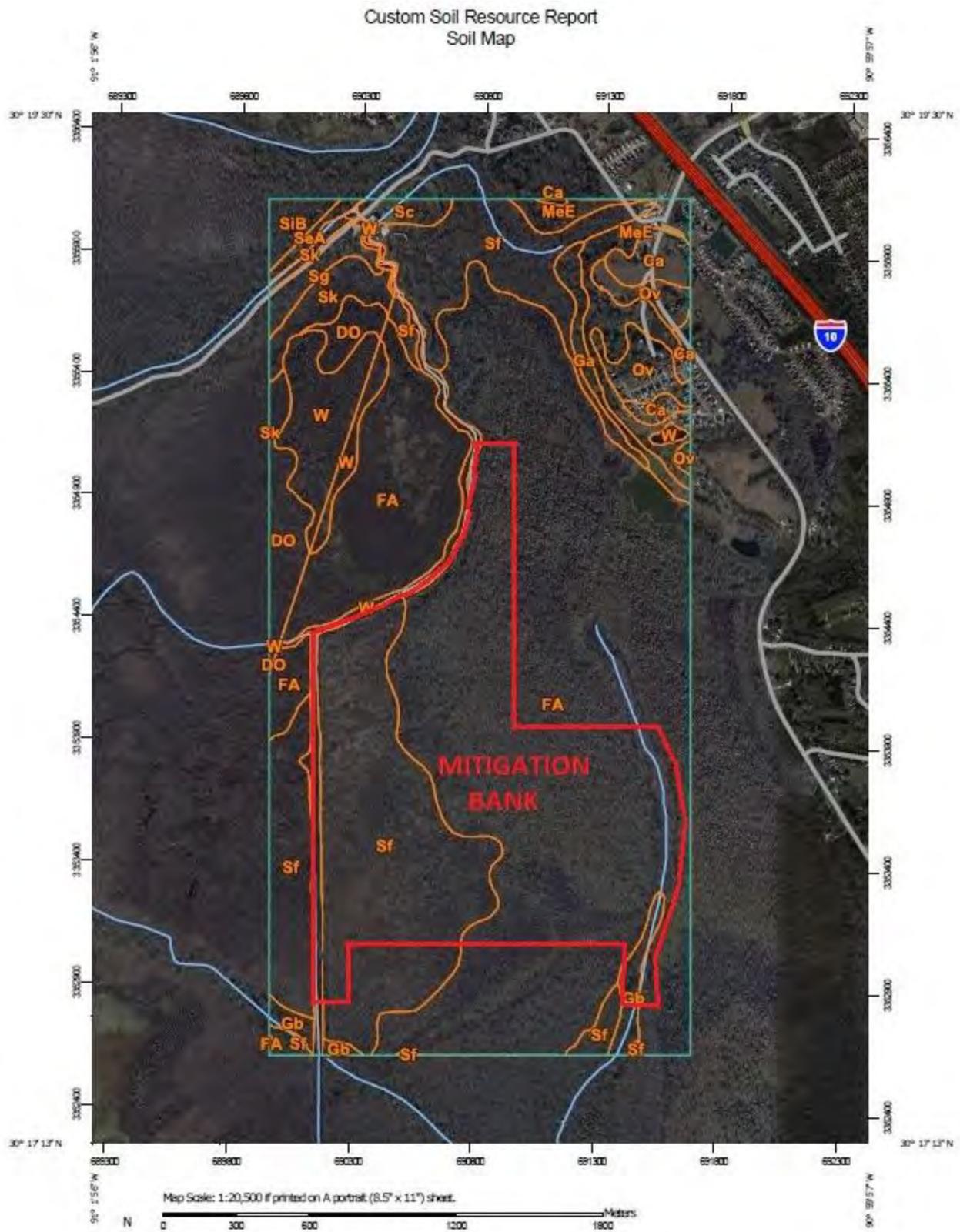


Figure C5. Soil types in the Bank: Fausse Association (FA), Sharkey Clay (Sc), Galvez Silty Clay Loam (Gb).



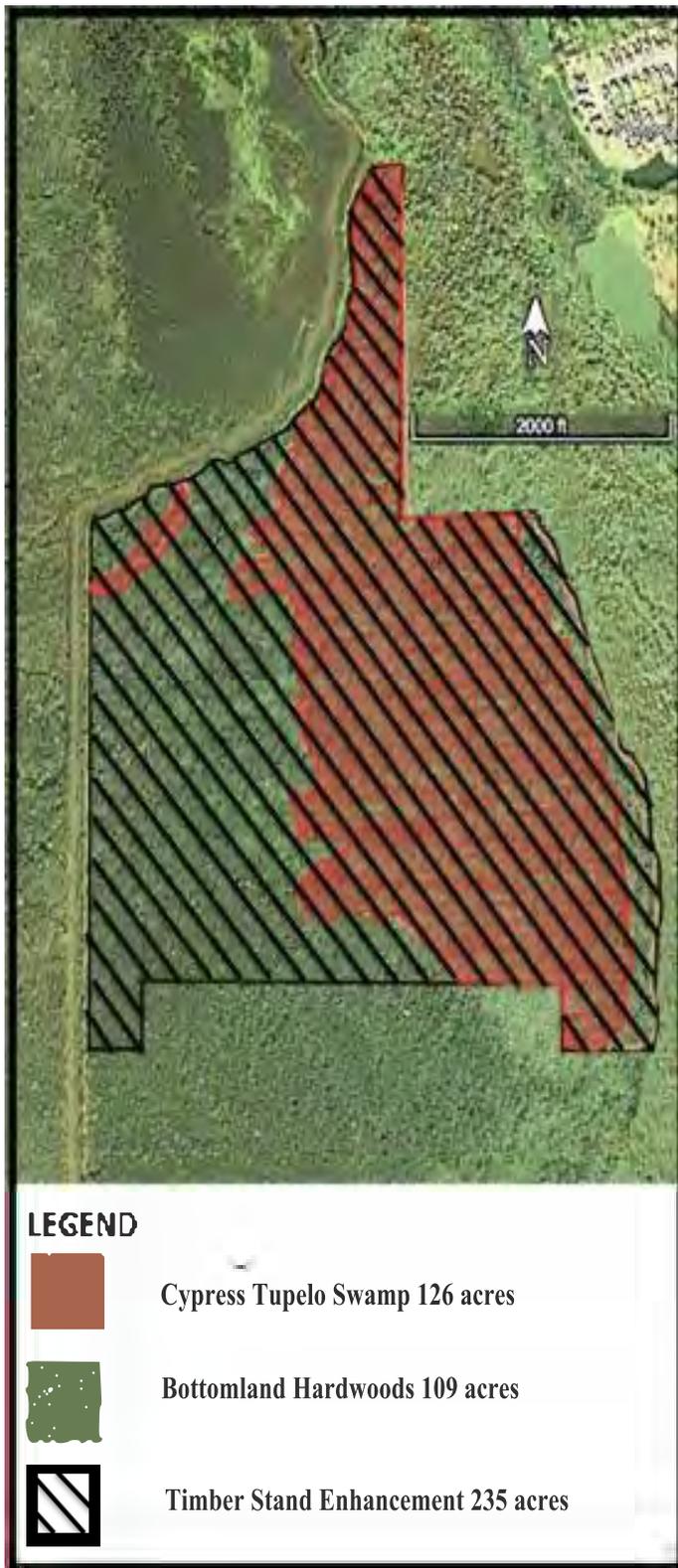
Figure C6. The St. Gabriel Wildlife Refuge and Mitigation Bank is within the ‘Amite’ USGS HUC 8 (8-digit: 08070203) Watershed near its southern boundary. The service area of the Bank includes:

- 08070202: Amite River
- 08070203: Tickfaw River
- 08070204: Lake Maurepas
- 08070205: Tangipahoa River
- 08090201: Liberty Bayou-Tchefuncta River
- 08090202: Lake Pontchartrain
- 08090203: Eastern Louisiana Coastal



Figure C7. Current hydrologic conditions. An estimated 3,062 acres of Pleistocene terrace drain into a similar area (2960 acres) of Bluff Swamp. The Bluff Swamp watershed westwardly drains into Alligator Bayou through the EPA Locks. Exchange with Bayou Manchac takes place at the Frog Bayou Lock.

ATTACHMENT B PROSPECTUS
WORK PLAN



A. Habitat Enhancement Procedures

1. Timber stand enhancement using chemical and/or mechanical techniques

- a. Initial invasive tree species removal in Years 1 through 3 at 5% spot treatment of 235 acres of SGWRMB annually.
- b. Interim invasive tree species removal in Years 4 through 15 at 2% spot treatment of 235 acres of SGWRMB annually.
- c. Long-term invasive tree species removal in Years 16 through 50 at 1% spot treatment of 235 acres of SGWRMB annually.

Reduce the number of undesirable tree species in the overstory through chemical and/or mechanical techniques. The overabundance of species such as sugar berry, willow and tallow will be treated as scheduled above to release the tree species which support wildlife.

Figure C8. Work to be performed.

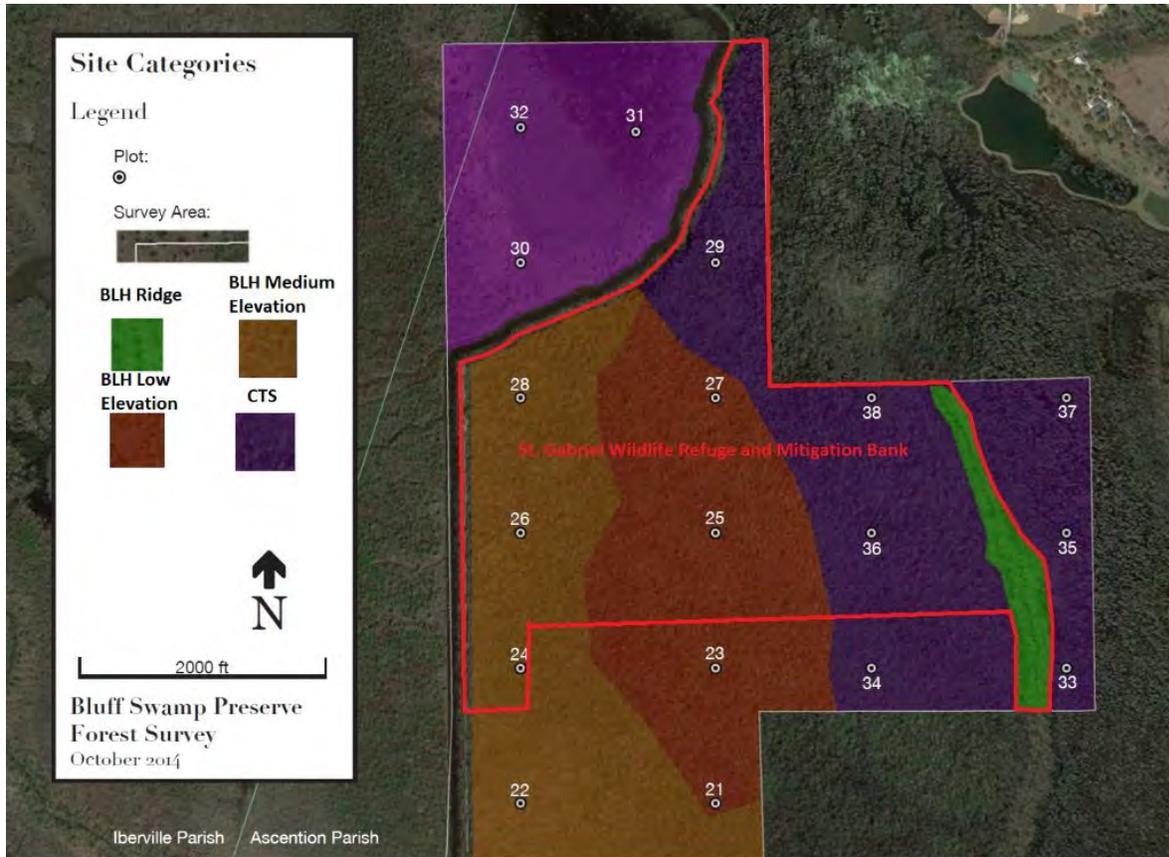
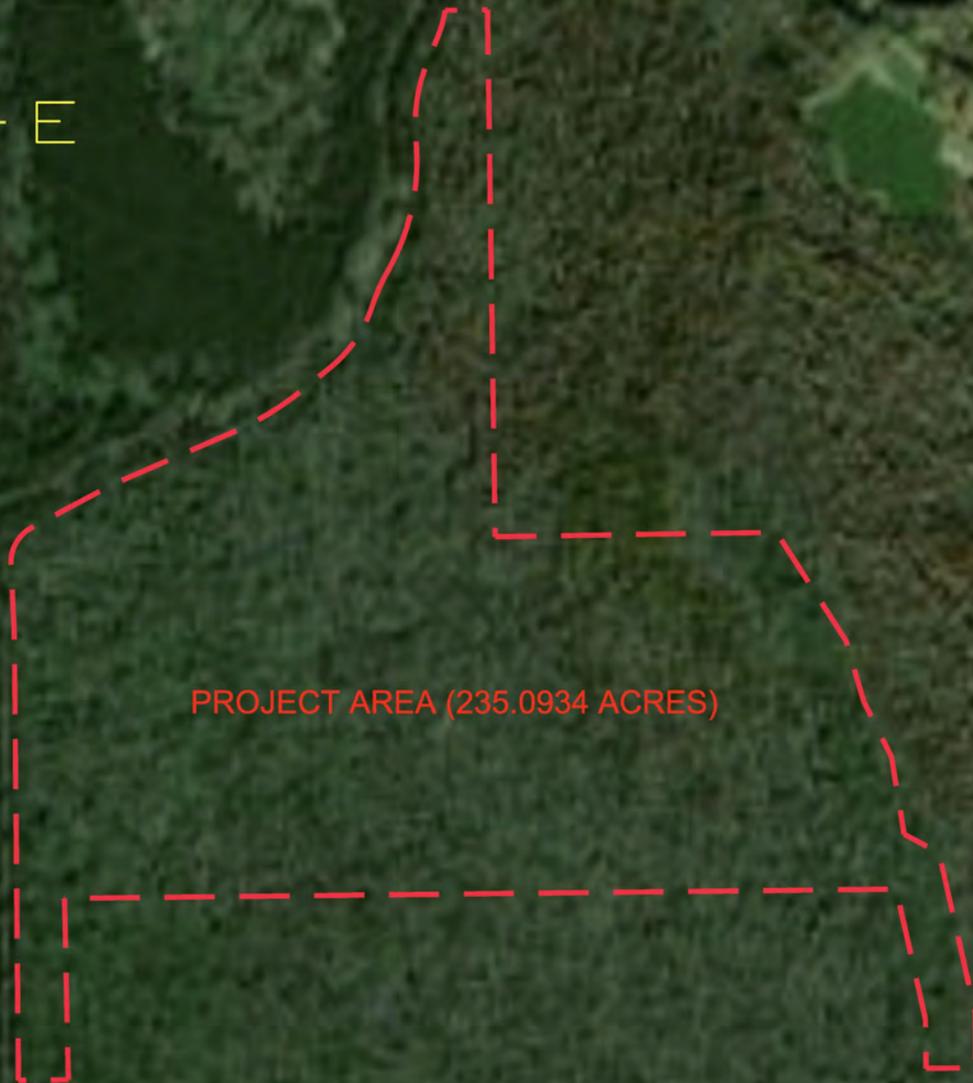


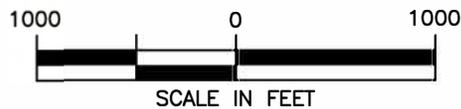
Figure C9. Forest Inventory Plot Locations and Types. Orr et al. (2014).



PROJECT AREA (235.0934 ACRES)

LA 928 (BLUFF RD.)

Map Notes:
Boundary shown is based on the boundary survey by Louisiana Land Surveying, Inc.



**ST. GABRIEL WILDLIFE REFUGE
& MITIGATION BANK, LLC**

Figure C10

LEGEND:

 **PROJECT AREA (235.0934 ACRES)**

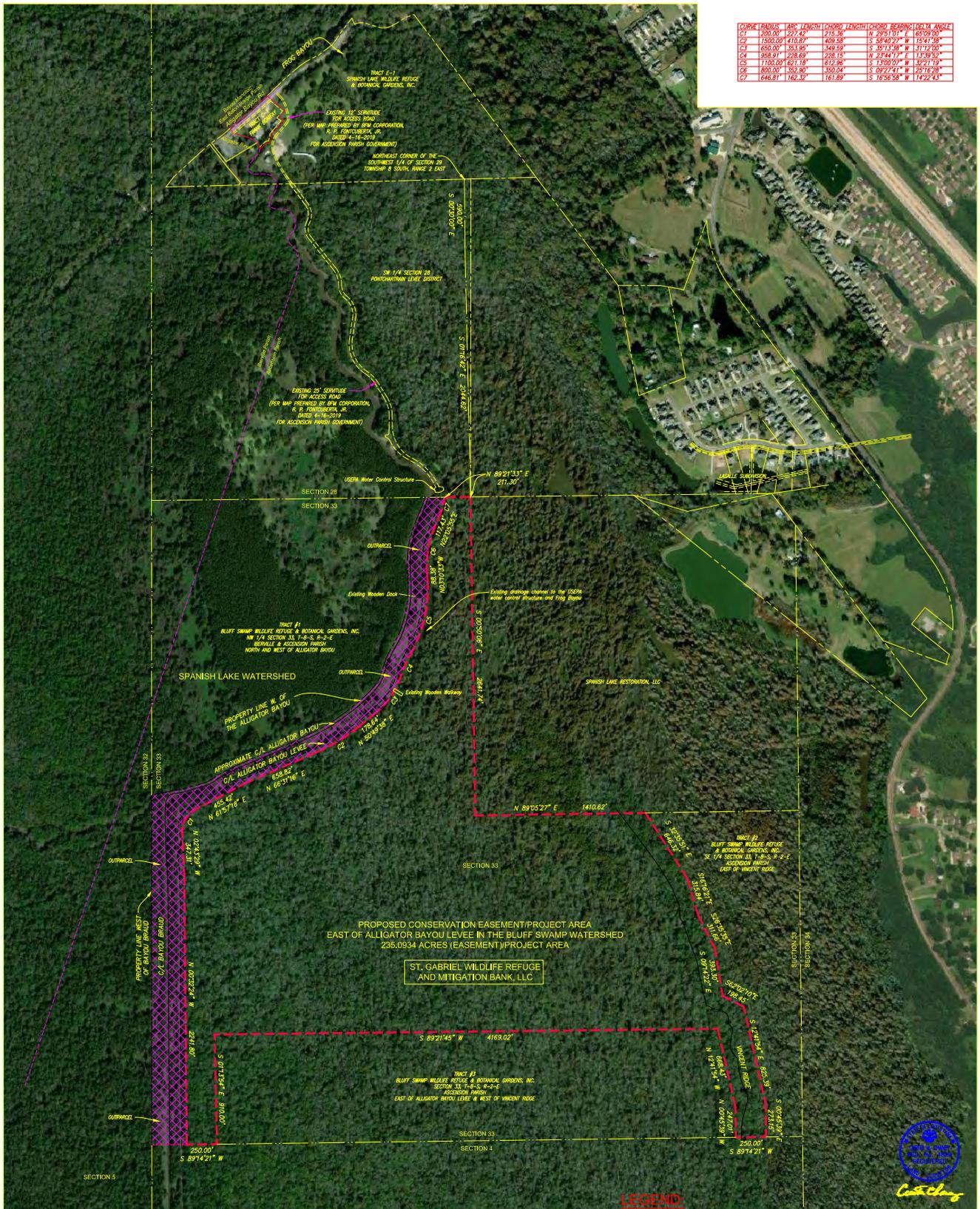
**LOUISIANA
LAND SURVEYING**

9522 Brookline Ave., Suite 107 225-753-5263 (LAND)
Baton Rouge, Louisiana 70809 info@lalsurvey.com

**2020 AERIAL LOCATION MAP
ASCENSION PARISH, LOUISIANA**

Project: 10-557 Date: 9-3-20 Approved: CMC

COMPUTED	AREA	LENGTH	COURSE	LENGTH	COURSE	BEARING	AREA
C1	200.00	275.42	N	275.42	E	S 25°10'	6399.00
C2	1000.00	410.87	S	410.87	W	S 24°07'	15471.00
C3	600.00	181.89	S	181.89	W	S 27°13'	11129.00
C4	858.91	228.69	N	228.69	E	N 23°47'	1319.25
C5	1100.00	621.08	S	621.08	W	S 23°00'	16271.00
C6	800.00	152.90	S	152.90	W	S 22°01'	12162.25
C7	646.81	162.32	S	162.32	W	S 16°56'	11422.43



CONSERVATION EASEMENT/ PROJECT AREA

LOCATED IN SECTION 33, T-8-S, R-2-E
ASCENSION PARISH, LA.
FOR THE BENEFIT OF

ST. GABRIEL WILDLIFE REFUGE AND MITIGATION BANK, LLC

-  PROJECT AREA-235.0934 ACRES
-  OUTPARCEL-32.121 ACRES
(Includes levee, Alligator Bayou and wetlands in the Spanish Lake Watershed)



**LOUISIANA LAND
SURVEYING, INC.**
17732 Highland Road • Suite G-128
Baton Rouge • Louisiana • 70810
Phone 753-5263(LAND) • Fax 752-5418

Figure C11 Conservation Easement In and Out Areas



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

REPLY TO
ATTENTION OF:

OCT 10 1995

Operations Division
Eastern Evaluation Section

SUBJECT: Spanish Lake/Bluff Swamp Mitigation Area

Mr. Frank Bonifay
Post Office Box 1281
Prairieville, Louisiana 70769

Dear Mr. Bonifay:

This letter is to acknowledge the receipt of your proposal, dated October 5, 1995, to establish the Spanish Lake Wildlife Refuge and Botanical Gardens as a mitigation area. This letter is also to inform you of our decision as to whether the work is appropriate and practicable compensatory mitigation as defined by the February 6, 1990, Memorandum of Agreement between the Corps of Engineers and Environmental Protection Agency.

We have reviewed the document and have received input from the Federal and state resource agencies that participated in the site evaluation. They agree with us that your proposal would be acceptable mitigation to offset adverse impacts to wetlands associated with implementation of authorized projects. Therefore, we have determined that your mitigation area can be included as a option for impacts to bottomland hardwood and swamp habitats where appropriate. In considering appropriateness, the mitigation should be in-kind and within or near the basin where impact occurs.

Due to the need for permits for the installation of water control structures and dredging of Frog Bayou and Cow Bayou, we can only allow the average annual habitat units realized through acquisition to be sold at this time. Should a permit be issued for these activities at the mitigation area, we will reconsider the sale of the credits associated with hydrologic manipulation and timber stand improvement.

FILE



-2-

Should you have any questions concerning this decision, you should contact Dr. James Barlow at (504) 862-2250.

Sincerely,

Ronald J. Ventola
Chief, Regulatory Functions Branch


BAHR
OD-SE


VENTOLA
OD-S

FILE

ATTACHMENT C PROSPECTUS
CREDIT ASSESSMENTS MVN MCM

ATTACHMENT D PROSPECTUS
PHOTOGRAPHS



Photo 1 - Satellite photos of the mitigation bank property. Orr (2019) states, “This surveyor believes that evidence abounds to support the premise that hydrologic improvements to the proposed mitigation area since 2008 have greatly enhanced the forest vegetation of the area. Forest stand conditions will continue to improve as time goes on.”

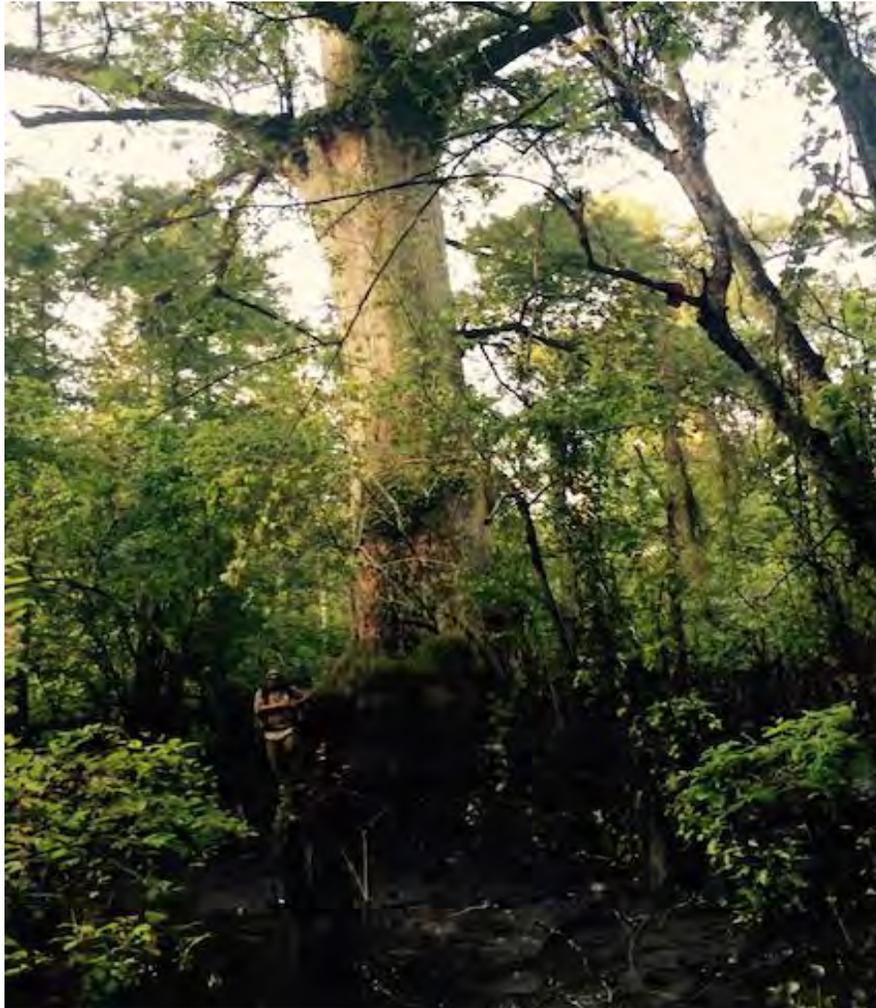


Photo 2 – Photograph of TC forest habitat typical to SGWRMB property.



Photo 3 – Photograph of the BLH habitat typical to the SGWRMB property.



Photo 4 – Photograph of the entrance near the old Alligator Bayou Tour Center (30°19'18"N, 91°11'2"W), leading to the SGWRMB property.



Photo 5 – Photograph of the boat launch entrance at Alligator Bayou (30°19'18"N, 91°11'2"W), leading to the SGWRMB property.

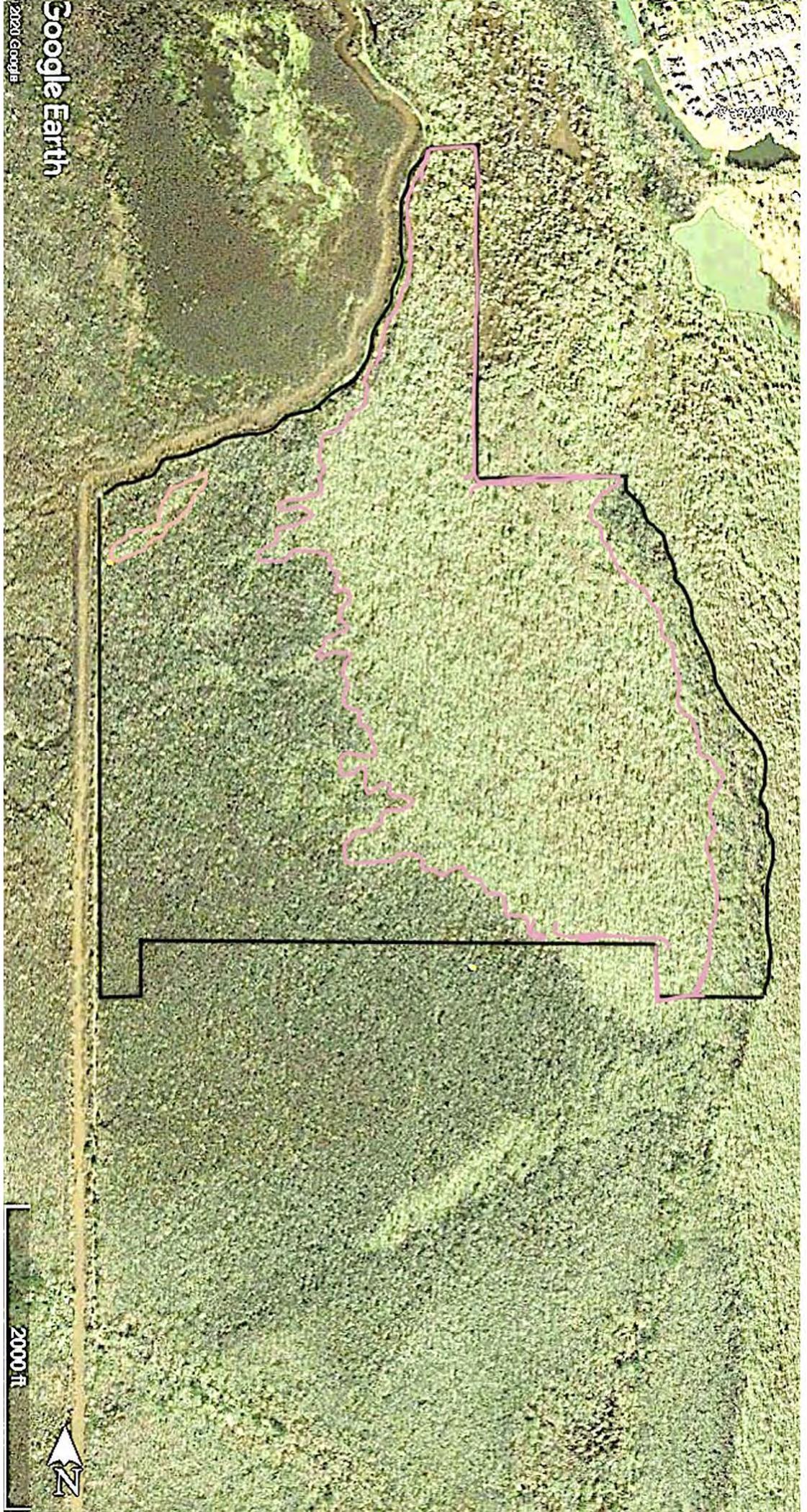


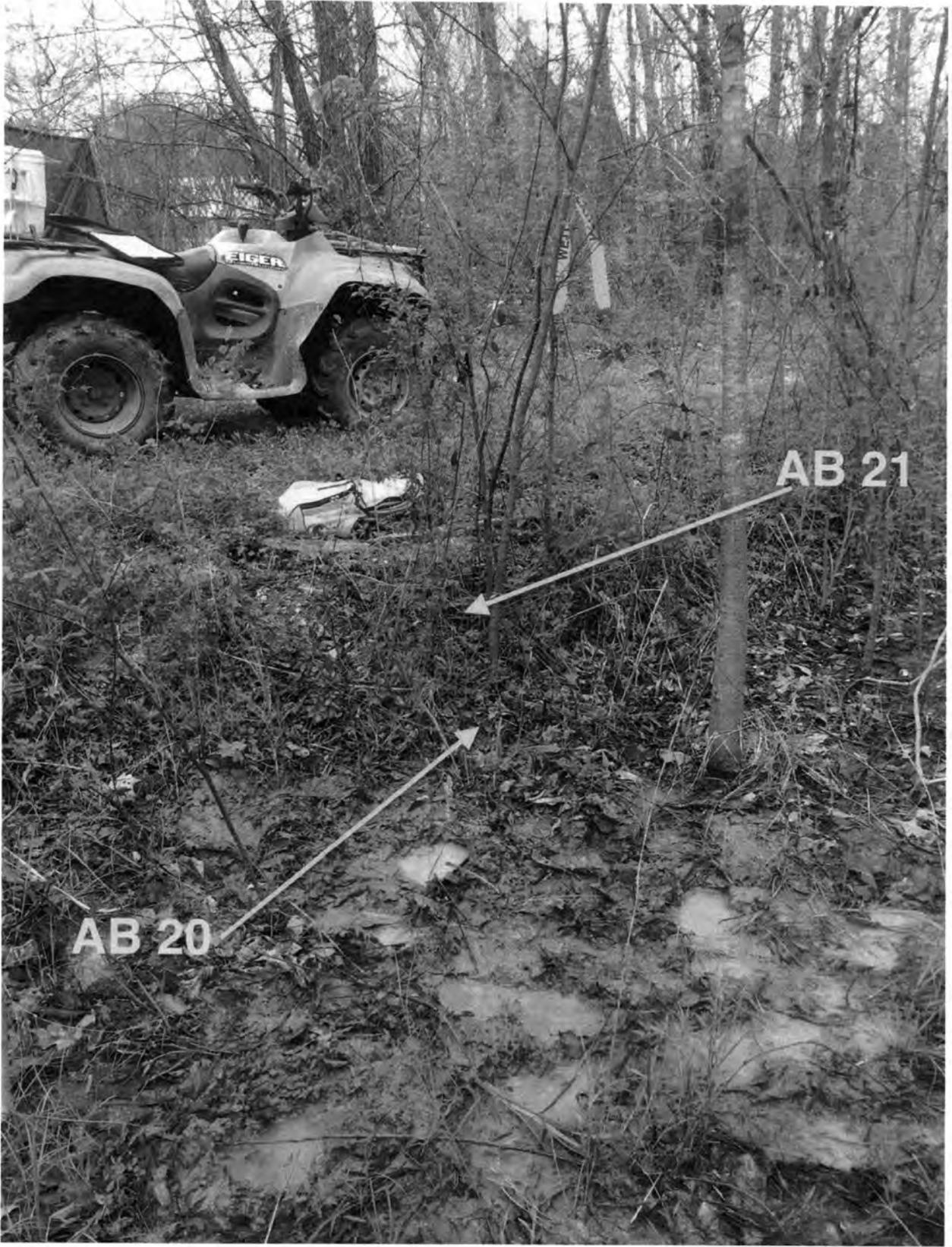
Photo 6 – The EPA water-control structure in the Alligator Bayou levee between the Bluff Swamp Watershed and the Spanish Lake Watershed.

ATTACHMENT E PROSPECTUS
WETLAND DELINEATION

WETLAND DELINEATION OF SECTIONS
1-C, 1-D & 1-E of the
ST. GABRIEL WILDLIFE REFUGE AND MITIGATION BANK.

-Documentation Forms
- Photo





WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Bluff Creek Wildlife Refuge City/County: Praireville Sampling Date: 3/19/15
 Applicant/Owner: Frank Bonifey State: LA Sampling Point: AB-21
 Investigator(s): Jason Day Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Urban Local relief (concave, convex, none): None Slope (%) _____
 Subregion (LRR or MLRA): AGCP Lat: 30 19 210 Long: 91 01 118 Datum: _____
 Soil Map Unit Name: Sfa key NWI classification: Hydric

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

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: Cleared urban area. Has been cleared and filled for over 20 years. Maintained	

HYDROLOGY

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

VEGETATION (Four Strata) – Use scientific names of plants

Sampling Point: AB-20

Tree Stratum (Plot size: <u>vis</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Celtis laevigata</u>	<u>25</u>	<u>Y</u>	<u>Facw</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Acer rubrum</u>	<u>10</u>	<u>N</u>	<u>Fac</u>	
3. <u>Triadica sebifera</u>	<u>10</u>	<u>N</u>	<u>Fac</u>	
4. <u>Taxodium distichum</u>	<u>10</u>	<u>N</u>	<u>Obl</u>	
5. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>5</u> x 1 = <u>2</u> FACW species <u>3</u> x 2 = <u>6</u> FAC species <u>6</u> x 3 = <u>18</u> FACU species _____ x 4 = <u>4</u> UPL species _____ x 5 = _____ Column Totals: <u>14</u> (A) <u>30</u> (B) Prevalence Index = B/A = <u>2.1</u>
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>55</u> = Total Cover 50% of total cover: <u>22.5</u> 20% of total cover: <u>11</u>				
Sapling/Shrub Stratum (Plot size: <u>vis</u>)				
1. <u>Acer rubrum</u>	<u>20</u>	<u>Y</u>	<u>Fac</u>	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Forestiera acuminata</u>	<u>20</u>	<u>Y</u>	<u>Obl</u>	
3. <u>Sabal minor</u>	<u>10</u>	<u>N</u>	<u>Facw</u>	
4. <u>Triadica sebifera</u>	<u>10</u>	<u>N</u>	<u>Fac</u>	
5. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>60</u> = Total Cover 50% of total cover: <u>30</u> 20% of total cover: <u>12</u>				
Herb Stratum (Plot size: <u>vis</u>)				
1. <u>Saururus cernuus</u>	<u>25</u>	<u>Y</u>	<u>Obl</u>	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. <u>Juncus effusus</u>	<u>10</u>	<u>N</u>	<u>Facw</u>	
3. <u>Alternanthera philoxeroides</u>	<u>10</u>	<u>N</u>	<u>Obl</u>	
4. <u>Polygonum punctatum</u>	<u>10</u>	<u>N</u>	<u>Obl</u>	
5. <u>Rubrus spp</u>	<u>5</u>	<u>N</u>	<u>Fac</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>60</u> = Total Cover 50% of total cover: <u>30</u> 20% of total cover: <u>12</u>				
Woody Vine Stratum (Plot size: <u>vis</u>)				
1. <u>Toxicodendron radicans</u>	<u>10</u>	<u>Y</u>	<u>Fac</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
Remarks: (if observed, list morphological adaptations below).				

SOIL

Sampling Point: AB-20

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type	Loc		
0-1	10yr 2/1	100					Clay	
1-12	4/5g4	75	7 5yr 4/6	10	c	m		

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Location: PL=Pore Lining, M=Matrix

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input checked="" type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input checked="" type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 153B)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Matenal (TF2)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input checked="" type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)
<input checked="" type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

Restrictive Layer (If observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants

Sampling Point: AB-21

	Absolute % Cover	Dominant Species?	Indicator Status																																																																																																																																																																																										
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