



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
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NEW ORLEANS LA 70118-3651

July 1, 2024

Regulatory Division
Special Projects and Policy Team

Project Manager:
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Application #: MVN-2023-00868-MG

PUBLIC NOTICE

Interested parties are hereby notified that a permit application has been received by the U.S. Army Corps of Engineers (USACE), New Orleans District (CEMVN) pursuant to: [] Section 10 of the Rivers and Harbors Act of March 3, 1899 (30 Stat. 1151; 33 USC 403); and/or [X] Section 404 of the Clean Water Act (86 Stat. 816; 33 USC 1344), and/or [] Section 14 of the Rivers and Harbors Act of 1899 (33 U.S.C. Section 408)

WAGON WHEEL UMBRELLA MITIGATION BANK IN ASCENSION AND LIVINGSTON PARISHES

NAME OF APPLICANT: RES Lake Pontchartrain L.L.C., c/o: Resource Environmental Solutions, LLC, attn.: Mr. Matt Genotte, 6575 West Loop South, Suite 300, Houston, Texas 77401.

LOCATION OF WORK: The Wagon Wheel Umbrella Mitigation Bank contains two sites, the Tickfaw Site and the Friendship River Site.

The Tickfaw Site is located in Sections 36 and 41, Township 7 South, Range 5 East of Livingston Parish, approximately 2 miles north of the Town of Springville, (lat. 30.399, long. -90.670), as shown within the attached drawings (Hydrologic Unit Code 08070203, Tickfaw Watershed).

The Friendship River Site is located in Sections 26 and 27, Township 9 South, Range 4 East of Ascension Parish, approximately 2 miles northeast of the Town of Acy, (lat. 30.234, long. -90.789) as shown within the attached drawings (Hydrologic Unit Code 08070204, Lake Maurepas Watershed).

CHARACTER OF WORK: The applicant has requested Department of Army authorization to remove invasive tree species and conduct supplemental plantings at

the Tickfaw and Friendship River sites for the establishment of the Wagon Wheel Umbrella Mitigation Bank.

The Tickfaw Site may have the potential to rehabilitate 138.3 acres of bottomland hardwood, enhance 9.8 acres of bottomland hardwood, enhance 28.5 acres of cypress/tupelo swamp, and preserve 20.4 acres of cypress/tupelo swamp, as well as protect a 4.8 acre non-mitigation buffer.

The Friendship River Site may have the potential to rehabilitate 139.0 acres of bottomland hardwood, enhance 26.4 acres of bottomland hardwood, enhance 47.7 acres of cypress/tupelo swamp, and preserve 106.5 acres of cypress/tupelo swamp, as well as protect a 179.8 acre non-mitigation buffer.

MITIGATION: The applicant states the proposed project was designed to avoid direct and secondary adverse impacts to the maximum extent practicable. The establishment of the mitigation sites will result in the enhancement and preservation of wetland functions and values within the watershed.

The comment period for the requested Department of Army Permit will close **30 days** from the date of this public notice. Written comments, including suggestions for modifications or objections to the proposed work, stating reasons thereof, are being solicited from anyone having interest in this permit request, and must be submitted so as to be received before or by the last day of the comment period. Letters and/or comments concerning the subject permit application must reference the Applicant's Name and the Permit Application Number and can be preferably emailed to the CEMVN's project manager listed above or forwarded to the CEMVN at the address above, **ATTENTION: REGULATORY DIVISION, RG, Mr. Brandon Gaspard**. This public notice is also available for review online at <https://go.usa.gov/xennJ>

USACE 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.

CEMVN is soliciting comments from area residents, 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 CEMVN 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 communities with environmental justice concerns, 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. Further, all factors that may be relevant to the proposal will be considered, including the potential cumulative effects associated with the proposed project.

CEMVN is presently unaware of properties listed on the National Register of Historic Places at or near the proposed work but is pending further review in accordance with the National Historic Preservation Act. The possibility exists that the proposed work may damage or destroy presently unknown archeological, scientific, prehistorical, historical sites, or data. As deemed necessary, copies of this public notice will be sent to the State Archeologist, State Historic Preservation Officer, and federally listed tribes regarding potential impacts to cultural resources.

Our initial finding is that the proposed work would have no effect on any species listed as endangered by the U.S. Department of Commerce, nor affect any habitat designated as critical to the survival and recovery of any such species.

Based on the Information Planning and Consultation (IPaC) tool for Endangered Species in Louisiana, as signed on January 27, 2020, between the CEMVN and the U.S. Fish and Wildlife Service, Ecological Services Office (USFWS), it has been determined that the proposed project would have no effect to any species listed as threatened or endangered by the USFWS, nor affect any habitat designated as critical to the survival and recovery of any such species.

This notice initiates the Essential Fish Habitat (EFH) consultation requirements of the Magnuson-Stevens Fishery Conservation and Management Act. The applicant's proposal may result in the destruction, alteration, and/or disturbance of **0.0** 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.

Any person may request, (preferably by email to the project manager, or 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 (Louisiana Coastal Zone Application P20240478 for the Tickfaw Site and P20240498 for the Friendship River Site). 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 Louisiana Department of Energy and Natural Resources. You are invited to communicate the information contained in this notice to any other parties whom you deem likely to have interest in the matter.

Sincerely,



Martin S. Mayer
Chief, Regulatory Division

Enclosure



Wagon Wheel Umbrella Mitigation Bank

Prospectuses for Proposed Tickfaw and Friendship River Sites

Lake Pontchartrain Service Basin, Louisiana
MVN-2023-00868-MG

Sponsor: HGS, LLC
c/o Resource Environmental Solutions, LLC

Submitted: June 10, 2024





Prospectuses for the Proposed Wagon Wheel Umbrella Mitigation Bank – Tickfaw & Friendship River Sites

Lake Pontchartrain Service Basin, Louisiana

June 10, 2024

Prepared By:

Resource Environmental Solutions, LLC
303 Rue Lousi XIV Blvd., Suite 204
Lafayette, LA 70508



Introduction

HGS, LLC (hereinafter the Sponsor) has prepared these prospectuses for submittal to the U.S. Army Corps of Engineers – New Orleans District (CEMVN) and Interagency Review Team (IRT) to provide an overview of the establishment and operation of the proposed Tickfaw and Friendship River Mitigation Sites (Mitigation Site).

List of Attachments

Attachment 1: Prospectus for Tickfaw Mitigation Site

Attachment 2: Prospectus for Friendship River Mitigation Site



Attachments



Attachment 1

Prospectus for Tickfaw Mitigation Site



Prospectus for the Tickfaw Mitigation Site

Located in: Livingston Parish, Louisiana

Submittal Date: June 10, 2024

Sponsor: RES Lake Pontchartrain, LLC
c/o Resource Environmental Solutions, LLC
Attn: Frank Cuccio
303 Rue Louie XIV Blvd., Suite 204
Lafayette, LA 70508

Agent: Resource Environmental Solutions, LLC
Attn: Matt Genotte
6575 West Loop South, Suite 300
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LIST OF ATTACHMENTS

Attachment 1: Preliminary Jurisdictional Determination



1. Introduction

HGS, LLC (hereinafter the Sponsor) has prepared this prospectus for submittal to the U.S. Army Corps of Engineers – New Orleans District (CEMVN) and Interagency Review Team (IRT) to provide an overview of the establishment and operation of the proposed Tickfaw Mitigation Site (Mitigation Site). The details pertaining to the use of this site as a mitigation site shall be specified in the subsequent Umbrella Mitigation Banking Instrument (MBI).

The Mitigation Site has the potential to provide compensatory mitigation requirements for bottomland hardwood (BLH) and bald cypress swamp (CYP) impacts in the Louisiana Wetland Rapid Assessment Method (LRAM) Lake Pontchartrain Basin (**Exhibit 1**). The Mitigation Site is in Livingston Parish, Louisiana and abuts the Tickfaw State Park. Additionally, a portion of the Mitigation Site will provide compensatory mitigation for unavoidable impacts to coastal wetland resources under the Louisiana Coastal Resources Program (LCRP) per the provisions of LAC 43:724 and RS 49:214.22 (8). The Site is in Livingston Parish, Louisiana and entirely within the Louisiana Coastal Zone (CZ) boundary.

The sponsor proposes to rehabilitate 138.3 acres of BLH, enhance 9.8 acres of BLH and 28.5 acres of CYP and preserve 20.4 acres of CYP habitat. The Mitigation Site will also include non-mitigating features composed of food plots (2.5 acres), access roads/areas (9.4 acres) and approximately 4.8 acres of upland restoration buffer totaling a 211.8-acre Mitigation Site (**Exhibit 2**).

1.1 Mitigation Site Location

The Mitigation Site is centered at Latitude 30.399° and Longitude -90.670° West in all or portions of Sections 36 and 41, Township 7 South and Range 5 East of Livingston Parish, Louisiana (**Exhibit 1**). The Mitigation Site is located 29 miles east of the City of Baton Rouge Louisiana within the Tickfaw River watershed (Hydrologic Unit Code [HUC] 08070203) of the Lake Pontchartrain LRAM Service Basin (**Exhibit 1**).

1.2 Driving Directions

From Baton Rouge take I-12 east to Hwy. 63 and From New Orleans take I-10 to I-55, to I-12 in Hammond and proceed west to Hwy. 63. Once on Hwy 63. From I-12 proceed south 0.7 miles. Turn left on Oliver Wheat Rd. and follow for 2.8 miles, then turn left on LA 24 for 1.6 miles. Turn right on Lobdell Rd. for one mile and the site will be on the right (**Exhibit 3**).

2. Project Goals and Objectives

The Sponsor proposes to rehabilitate 138.3 acres of BLH, enhance 9.8 acres of BLH and 28.5 acres of CYP, and preserve 20.4 acres of CYP. Approximately 2.5 acres of food plots and 9.4 acres of access roads/areas shall be maintained as non-mitigation acreage. In addition to the mitigation acreage, the sponsor will register 4.8 acres of habitat under conservation servitude along the eastern portion of the Mitigation Site boundary creating a restored buffer. The overall Mitigation Site area is 211.8 acres.

This project will aid in restoring, enhancing and/or preserving the following wetland functions:

1. Wildlife habitat (food, water, shelter);
2. Increased organic matter;
3. Flood retention;
4. Groundwater recharge;
5. Atmospheric maintenance;
6. Water quality improvement; and
7. Opportunities for recreation and education.

As defined by *The Natural Communities of Louisiana* published in 2009 by the Louisiana Department of



Wildlife and Fisheries (LDWF) and the Louisiana Natural Heritage program (LNHP), BLH forests are forested, alluvial wetlands occupying broad floodplain areas flanking large river systems (LNHP 2009). BLH forests may be called fluctuating water level ecosystems characterized and maintained by a natural hydrologic regime of alternating wet and dry periods. These forests support distinct assemblages of plants and animals associated with landforms, soils, and hydrologic regimes. They are important natural communities for maintenance of water quality, providing productive habitat for a variety of fish and wildlife and are important in regulation of flooding and stream recharge (LNHP 2009).

The CYP habitats are forested, alluvial swamps growing on intermittently exposed soils (LDWF 2010). The soils are inundated or saturated by surface water or groundwater on a nearly permanent basis throughout the growing season except during periods of extreme drought. Bayous commonly intersect these wetlands. There is relatively low floristic diversity. Bald cypress (*Taxodium distichum*) is the dominant overstory species and is often associated with tupelo gum (*Nyssa aquatica* and *Nyssa biflora*) (LDWF 2010).

2.1 Goals

The goals of the Mitigation Site are to: rehabilitate, enhance, and preserve the native vegetative communities on-site, enhance water quality, improve sediment retention, reduce non-point source pollution, and provide habitat and refuge to wildlife. The holistic goal is to establish self-sustaining BLH and CYP habitat resistant and resilient to disturbance events that shall maintain, restore, or preserve the aquatic ecosystem function and water quality within the Lake Pontchartrain Basin. Proposed Mitigation Site habitats were derived using the historical land use, land cover, soils and elevation data and current vegetation within the Mitigation Site (**Table 1** and **Exhibit 2**). LDENR acreages by mitigation habitat type are provided in **Exhibit 2 Figure 2**.

Table 1: Proposed Mitigation Site Habitats

BLH		CYP	
Mitigation Type	Acreage	Mitigation Type	Acreage
Rehabilitation	138.3	Preservation	20.4
Enhancement	9.8	Enhancement	28.5
Total BLH	148.1	Total CYP	48.9
Upland Restoration: 4.8			
Non-Mitigation Features: 10.0			
Total Site Size: 211.8			

2.2 Objectives

The goals of the Mitigation Site shall be accomplished through the following objectives:

- 1) Create self-sustainable BLH and CYP forested wetland habitat through selective planting of native species in rehabilitation areas, and intensive management of invasive species across the Mitigation Site;
- 2) Rehabilitation of the vegetative community structure through selective planting of native species and forest management strategies;
- 3) Vegetative plantings shall be used to restore natural vegetation across the Mitigation Site, increase species diversity, enhance water quality, and create a hard-to-soft mast ratio indicative of sustainable wetland forested areas;
- 4) Long-term maintenance shall prevent colonization by noxious plants, erosion along interfaces of drainageways, and trespass vandalism;
- 5) Control of invasive species, which shall reduce the negative impacts to the vegetative



community, as well as reduce the seed source that may infiltrate adjacent wetland areas;

- 6) Rehabilitation shall create improved wildlife habitat, as well as benefit water quality and various biochemical cycles;
- 7) Ensure system stability and continuity by protecting the Mitigation Site in perpetuity with a conservation easement; and
- 8) Ensure the long-term viability and sustainability of the Mitigation Site through active and adaptive management activities including, but not limited to, invasive species control, appropriate monitoring, and long-term maintenance.

3. Ecological Suitability of the Site/Baseline Conditions

This section describes the ecological suitability of the Mitigation Site to achieve the objectives of the proposed Mitigation Site, including the physical, chemical, and biological characteristics of the Mitigation Site and how that Mitigation Site will support the planned types of aquatic resources and function, as stated in 33 CFR 332.8(d)(2)(vii)(B) (Federal Register 2008). This section provides the baseline/current Mitigation Site conditions on and adjacent to the proposed Mitigation Site.

The Mitigation Site is ecologically suited to support BLH and CYP wetland habitats based on location, historic and current habitats, proximity to existing forested wetland habitats, historic hydrology, and soil types. These site characteristics provide ideal conditions for the establishment of a mitigation Site that will provide additional areas of contiguous forested wetland habitat to support resident and migratory wildlife native to BLH and CYP ecosystems.

3.1 Land Use

3.1.1 Historical Land Use

The Mitigation Site is in an area historically made up of primarily old growth BLH and cypress tupelo swamps. More specifically, the Mitigation Site is in Major Land Resource Area (MLRA) 134A – Southern Mississippi Valley Loess. This portion MLRA 134A is near MLRA 131A – Southern Mississippi River Alluvium and based on the landscape, has similar characteristics. According to the NRCS' MLRA report, this area once consisted entirely of BLH forests and mixed BLH/cypress swamps. Dominant tree and shrub species were and currently are cypress, water tupelo (*Nyssa aquatic*), water oak (*Quercus nigra*), green ash (*Fraxinus pennsylvanica*), red maple, black willow (*Salix nigra*), and buttonbush (*Cephalanthus occidentalis*).

The Mitigation Site historically contained CYP and BLH forested habitats, based on aerial photographs presented in **Exhibit 5**. Examination of historical aerial photographs show that the Mitigation Site has had the addition of several access trails and cleared openings in the BLH and CYP habitats since at least 1998. Storm damage to the overstory is evident in aerial photography in 2023. **Table 2** details the changes and observations on the Mitigation Site.



Table 2: Review of Historical Aerial Photograph

Aerial Date	Observations
1998	The Mitigation Site is forested with a few trails visible in the east-central portion. The land-use to the north is generally forested and rural dwellings. The surrounding land use to the east, south, and west is undeveloped forested land. Tickfaw River is visible to the east and Edwards Bayou is visible to the south.
2004	The Mitigation Site is has a few more trails visible and cleared areas. There are a few more features to the north, including a pond with some clearing adjacent to the pond. The land use to the east, south and west is unchanged.
2008	The Mitigation Site has an additional trail visible to the south. The adjacent land use to the north, east, and south is unchanged. There are some small clearings noticed to the west.
2010	The Mitigation Site and surrounding land use remains unchanged.
2023	The Mitigation Site has numerous downed trees visible. The surrounding land use remains the same.

3.1.2 Existing/Current Land Use

The habitat within the Mitigation Site is BLH and CYP. The BLH habitat had many downed trees due to recent storm events (likely a hurricane in late 2021) (**Exhibit 5**). In these areas, the newly opened canopy appears to have led to increased Chinese tallow (*Triadica sebifera*) recruitment. CYP habitat present within the Mitigation Site is dominated by bald cypress and tupelo accompanied by red maple (*Acer rubrum*). The shrub stratum contains Chinese tallow and red maple though not as prevalent. Sentinel-2 Land use/land cover data layer identifies the current land use on the Mitigation Site as trees (**Exhibit 6**).

The adjacent land use/land cover within a 1-mile radius of the Mitigation Site includes built areas, crops, water, trees, and rangeland (**Exhibit 7**). There is generally minimal development within one (1) mile of the Mitigation Site boundaries, however there are rural residences near the northern boundary.

3.2 Soils

The U.S. Department of Agriculture (USDA) National Resources Conservation Service (NRCS) soil survey for Livingston Parish identified three (3) soil map units for the Mitigation Site (**Table 3** and **Exhibit 8**).

Table 3: Mitigation Site Soils

MUN Symbol	MUN Name	% Hydric	Acres
Co	Colyell silt loam, 1 to 3 percent slopes, rarely flooded	3.2	6.9
Na	Natalbany silty clay loam, frequently flooded	50.1	108.8
OU	Ouachita, Ochlockonee and Guyton soils, 0 to 3 percent slopes, frequently flooded	46.8	101.6

Co is a gently sloping silty loam soil underlain with clay. **Co** soils are associated with farmland. The **Na** and **OU** soil types are gently sloping and level and are frequently flooded. **Na** is made up of silty clay loam, and **OU** is made up of silt loam. All mapped soils within the Mitigation Site are hydric (NRCS 2023).



The field delineation effort confirmed the presence of these soil types. The Na soils were generally associated with bottomland hardwood habitats and the OU soils complex was bottomland hardwoods and cypress habitat.

3.3 Hydrology

3.3.1 Contributing Watershed

The contributing watershed was identified using data from USGS National Hydrography Dataset (NHD) (**Exhibit 9**). Based on the NHD, the existing drainage area empties along the west and southern boundary into Gum swamp and Edwards Bayou. Along the eastern boundary the existing drainage into the Tickfaw River flows generally east and south into Lake Maurepas, approximately 15 miles east, southeast of the Mitigation Site area.

3.3.2 Historical Hydrology and Drainage Patterns

Historical sources of surface water on the Mitigation Site were likely precipitation and surface water flooding from the surrounding swamp (Gum Swamp), given the Sites' physiographic position in a backswamp area, and possible overflow from the nearby Edwards Bayou and Tickfaw River. The surface elevation data suggests the Mitigation Site drainage generally drains east, south, and west into the Tickfaw River, Gum Swamp, and Edwards Bayou and ultimately into Lake Maurepas (**Exhibit 10**).

3.3.3 Existing/Current Hydrology and Drainage Patterns

Hydrology on the site is influenced by rainfall, overland sheet flow, and backwater swamp flooding. Surface water drains from the uplands to the north onto the property and then disperses across the site generally to the south and west. Hydrology on the Mitigation Site has been maintained by the installation of culverts along an access path in the central portion of the proposed Mitigation Site. The culvert locations (**Exhibit 11**) do not appear to impede high flows as the overland flow overtops the 6-inch culverts. During the wetland delineation, wetland hydrology criteria were assessed based on observation of primary and/or secondary field indicators. Hydrology indicators observed at the Mitigation Site include surface water, high water table, saturation, water marks, sediment deposits, drift deposits, water-stained leaves, crayfish burrows, and positive FAC-Neutral Test.

3.3.4 Anticipated Post-Construction Hydrology

Hydrologic regimes on the site will not be altered by the proposed vegetative preservation and rehabilitation. The site's hydrology will continue to be driven by precipitation, run off, high-water tables and overbank flooding of Tickfaw River.

Sheet flow will remain unchanged in all directions across the site landscape and water will continue to be transported off the Mitigation Site via sheet flow to the Tickfaw River to the west. The existing culverts may be converted into low water crossings, but overland flow nullifies those culverts during rain events. Large variances in water depths will continue post construction (**Exhibit 13**).

3.3.5 Jurisdictional Wetlands

The Preliminary Jurisdictional Determination for the Site is included as Attachment 1. Approximately 205.5 acres of potential jurisdictional wetlands were identified.

3.4 Vegetation

3.4.1 Historical Plant Community

The U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory shows the vegetation within the Mitigation Site Freshwater Forested/Shrub Wetland (PFO1A, PF01C, PFO1/4A, and PFO2/1F).



The Mitigation Site is in the Mississippi Valley Loess Plains Level III Ecoregion and the Baton Rouge Terrace Level IV Ecoregion (74d; Environmental Protection Agency [EPA] 2003; Omernik 1987), the Mississippi Delta Cotton and Feed Grains Region Land Resource Region (LRR O), and the Southern Mississippi Valley Loess Major Land Resource Area (MLRA 134A; Natural Resources Conservation Service [NRCS] 2006).

The historical natural vegetation was dominated by bald cypress and tupelo gum, which are generally intolerant of brackish water except for short periods, such as during a hurricane. In areas flooded less frequently, cherrybark oak, swamp chestnut oak, water oak, sweetgum, sycamore, southern magnolia, beech, and elm. (Omernik 1987).

3.4.2 Existing Plant Community

BLH and CYP habits are present on the mitigation site. Within the BLH habitat, the dominant species in the tree stratum include Chinese tallow, laurel oak (*Quercus laurifolia*), and red maple (*Acer rubrum*). The shrub stratum includes smaller individuals of species in tree stratum and some cabbage palm (*Sabal palmetto*). The herbaceous stratum is dominated by lizard's tail (*Saururus cernuus*), savannah panic grass (*Phanopyrum gymnocarpon*), softtrush (*Juncus effusus*). Seedling red maple and Chinese tallow are also present in the groundcover.

Within the CYP habitat the tree canopy is dominated by bald cypress, tupelo, and red maple. The shrub stratum is sparse with a few bald cypress and cabbage palm. The groundcover within the CYP habitat is sparse and includes bald cypress, lizard's tail, and red maple.

Additionally, Chinese tallow stem percentages was determined within one-acre plots scattered across the property. The Tree Composition Survey Map (**Exhibit 14**) shows the locations of these plots. One-acre plots were randomly selected to determine the overall percentage of Chinese tallow across the acreage covering at least 10 percent of the acreage of each habitat. Total stems of Chinese tallow versus all other species were counted.

The percent Chinese tallow for each sample plot were then averaged across each habitat type to determine the overall percentage of Chinese tallow. The habitat area that was predominantly Chinese tallow (>50 percent average) was designated as the rehabilitation (rehab) area. Areas with Chinese tallow <50 percent were designated as enhancement (Enhance) areas. The data for each plot and habitat grouping is included in **Table 4** and **Exhibit 14**.



Table 4: Percentage Chinese Tallow for Tickfaw Tract

Plot #	Habitat	Date	Chinese Tallow	Other	Total Stem Count	Stem Percentage of Chinese Tallow
S1	BLH Rehab	5/8/2023	292	203	495	59.0%
S2	BLH Rehab	5/8/2023	1,332	884	2216	60.1%
S3	BLH Rehab	5/8/2023	920	572	1492	61.7%
S7	BLH Rehab	5/9/2023	708	156	864	81.9%
S8	BLH Rehab	5/9/2023	292	264	556	52.5%
S9	BLH Rehab	5/9/2023	162	210	372	43.6%
S10	BLH Rehab	5/9/2023	129	388	517	25.0%
S11	BLH Rehab	5/10/2023	504	668	1172	43.0%
S12	BLH Rehab	5/10/2023	316	312	628	50.3%
S13	BLH Rehab	5/10/2023	253	260	513	49.3%
S14	BLH Rehab	5/10/2023	272	368	640	42.5%
S15	BLH Rehab	5/10/2023	596	432	1028	58.0%
S16	BLH Rehab	5/10/2023	408	488	896	45.5%
S21	BLH Rehab	5/10/2023	384	184	568	67.6%
S22	BLH Rehab	5/10/2023	580	376	956	60.7%
Average BLH Rehab %:						53.4%
S4	BLH Enhance	5/9/2023	14	85	99	14.1%
S5	BLH Enhance	5/9/2023	11	218	229	4.8%
S6	BLH Enhance	5/9/2023	180	320	500	36.0%
Average BLH Enhance %:						18.3%
S17	CYP Enhance	5/10/2023	18	1,352	1370	1.3%
S18	CYP Enhance	5/10/2023	21	1,024	1045	2.0%
S19	CYP Enhance	5/10/2023	33	1348	1381	2.4%
S20	CYP Enhance	5/10/2023	82	1,804	1886	4.4%
Average CYP Enhance %:						2.5%

Details for the proposed mitigation habitats are provided below:

BLH Rehabilitation areas have Chinese tallow of 50 percent or more of total cover. Storm damage has removed portions of the overstory, and Chinese tallow are colonizing the openings (**Exhibit 4 Figure 6**). Removal of the invasive species and reforesting BLH habitat will rehabilitate the area back to healthy BLH by improving multiple aquatic resource functions and altering the composition of the vegetation present to a more natural and sustainable habitat. This area averaged 53.4 percent tallow stems per acre.



BLH Enhancement is defined as areas where BLH exists, but tallow percentages were below 50 percent at 18.3 percent. Removal of the invasive species and reforestation with BLH will enhance the existing habitat. Removal of the invasive species and planting of native BLH species shall improve multiple aquatic resource functions and alter the composition of the vegetation present to a more natural and sustainable habitat.

CYP Enhancement is defined as areas where CYP exists, damaged by storms, but not regenerating, and some tallow exists. Removal of the invasive species and reforestation CYP will rehabilitate the area back to healthy CYP by improving multiple aquatic resource functions and altering the composition of the vegetation present to a more natural and sustainable habitat.

CYP Preservation areas have minimal invasive species coverage, generally less than 10 percent. Removal of Chinese tallow will provide a higher quality habitat of the existing CYP wetlands and wildlife and reduce the spread of Chinese tallow to adjacent habitats.

3.5 General Need for the Project in this Area

Wetland losses in the northern Gulf Coastal Region of the United States have become a pressing issue that requires critical action to address. The Lake Pontchartrain basin is the largest watershed basin in Louisiana and includes several metropolitan areas including Baton Rouge, Hammond, Gonzales, Metairie, New Orleans, Covington, Mandeville, Lacombe, and Slidell. Commercial and residential development in and around these metropolitan areas are a major ongoing driver of mitigation demand, as well as public works and utility projects to support these communities. The southern part of the watershed, particularly around Geismar and near the Mississippi River, is a popular location in the state for large industrial complexes related to chemical operations and oil and gas. Wetlands within this basin are critical in that they not only provide storm protection, but they also serve as important wildlife habitats for a wide range of species including migratory waterfowl and other birds, finfish, shellfish, furbearers, and alligators.

The restoration of BLH and CYP wetlands on the Mitigation Site will provide additional wetland functions and values, which are not realized in the Site's current condition. These include, but are not limited to, expanding the acreage of existing BLH and CYP forest; increasing the quality of wildlife habitat; increased organic matter, and increasing watershed water quality.

BLH habitats, specifically, are important for a variety of fauna, important for water quality maintenance and important in regulating flooding and stream recharge. BLH forest loss is estimated to be 50 to 75 percent of the original pre-settlement acreage (LNHP 2009). Furthermore, BLH in Louisiana are known to support 61 Species of Greatest Conservation Need (SGCN) which include 1 mollusk species, 1 crustacean species, 6 arthropods species, 5 amphibian species, 4 reptile species, 20 bird species, 10 mammal species, and 14 plant species. Baldcypress-Tupelo-Blackgum Swamps support 37 SGCN which include 4 arthropod species, 3 amphibian species, 3 reptile species, 9 bird species, 6 mammal species, and 12 plant species. Freshwater floating marshes support 18 SGCN which include 1 arthropod species, 1 reptile species, 13 bird species, 1 mammal species, and 2 plant species (Holcombe et al. 2015).

CYP habitat has been reduced state-wide by an estimated 25 to 50 percent of the original pre-settlement acreage. All of Louisiana's swamps are threatened by land loss and encroaching interests which prevent adequate regeneration of these habitats (LNHP 2009). Furthermore, CYP habitats support 18 species of conservation concern. Therefore, the Site shall protect both habitats by adding to its diminishing acreage, reintroducing the natural hydrologic regime, and native vegetation.

The Pontchartrain Basin is constantly experiencing development and urbanization that will inevitably lead to unavoidable impacts to local wetlands.



This Mitigation Site is needed to allow for mitigation to offset industrial and population growth. Not only will this Mitigation Site provide offsets for projects such as pipelines and roadways, but it will also help with natural processes such as storm water retention, flood storage, and help provide a habitat for species of greatest conservation need.

3.5.1 Watershed Plans the Project Would Potentially Accommodate

- 1) Louisiana's Nutrient Reduction and Management Strategy (LNRMS) the December 2019 Edition, was developed as a concerted effort between numerous state and federal agencies and through engagement with stakeholders within Louisiana, for the purpose of managing nutrients (nitrogen and phosphorus) to protect, improve and restore water quality in Louisiana's inland and coastal waters. The vision is to manage nutrient levels in Louisiana to ensure the support of healthy aquatic communities, clean water for public, agricultural, and industrial use, to engage stakeholders at the local level and to actively support water quality protection, improvement, and restoration. Additionally, it is stated these protection, improvement and restoration strategies at the local level may have a cumulative and positive impact on the health of the receiving waterbodies both within the State and Gulf of Mexico.
- 2) Louisiana's Nonpoint Source Management Plan (NPSMP) is prepared by Louisiana Department of Environmental Quality (LDEQ) and numerous state and federal partners. The NPSMP has a plan for the Lake Pontchartrain River Basin, which encompasses the project area. The goal of NPSMP is to reduce nonpoint source pollution in urban and rural areas.

3.5.2 Watershed Benefits

The watershed benefits this project will provide based on watershed needs identified above are as follows:

- 1) This Mitigation Site accomplishes all aspects of the vision for the LNRMS by rehabilitating BLH and preserving and rehabilitating CYP, which shall increase the water quality benefits (McDaniels 2022) within the Mitigation Site and reduce nutrients in the receiving watersheds.
- 2) The Mitigation Site will protect BLH and CYP habitats by adding to their diminishing acreages, preserving their natural hydrologic regimes, and native vegetation in perpetuity.
- 3) The Mitigation Site will increase suitable habitat for faunal species of concern and wetland dependent species. Habitat may be improved or created for species that require wetland habitat by improving water quality, in- and near-stream forage, and providing stable conditions not subject to regular maintenance.
- 4) BLH habitats are important for a variety of fauna, maintenance of water quality and important in regulating flooding and stream recharge. BLH forest loss is estimated to be 50 to 75 percent of the original pre-settlement acreage (LNHP 2010).
- 5) The Mitigation Site is needed to provide wetland mitigation options to offset industrial and population growth. This basin needs mitigation following the permitting of USACE Levee projects which have removed large numbers of credits.

3.5.3 Site Selection

The following is a description of the site selection criteria used to determine the appropriateness of the Mitigation Site for use as compensatory mitigation:

- 1) The mitigation habitats needed to be compatible with the surrounding habitats, adjacent land uses, existing watershed plans and not adversely impact the surrounding lands;



- 2) The Mitigation Site had to facilitate habitat connectivity in that it needed to increase the acreages of existing wetland habitats or have the potential to do so in the future and not act as a stand-alone feature in the landscape;
- 3) Soil characteristics of the Mitigation Site had to be conducive to the establishment of the desired vegetative community;
- 4) Hydrology had to be such as to allow for hydrological restoration described in the USACE Wetland Delineation Manual, 1987 Manual;
- 5) The Mitigation Site had to be ecologically important to the watershed and aid in increasing the chemical, physical and biological functionalities important to the ecosystem; and
- 6) The Mitigation Site had to aid in achieving the goals of various State and local management plans, such as the State's non-point source management plan.

4. Establishment of a Mitigation Site

This section describes how the Mitigation Site will be established, as stated in 33 CFR 332.8(d)(2) (ii); the technical feasibility of the proposed Mitigation Site, as stated in 33 CFR 332.8(d)(2) (iv); and the assurance of sufficient water rights to support the long-term sustainability of the mitigation site, as stated in 33 CFR 332.8(d)(2)(vii)(A) (Federal Register 2008).

4.1 Site Restoration Plan

This section provides information on the proposed vegetative work that was determined to be necessary for rehabilitation, enhancement, and preservation of the proposed Mitigation Site (**Exhibit 12**).

The Mitigation Site is proposed to rehabilitate 138.3 acres of BLH, enhance 9.8 acres of BLH and 28.5 acres of CYP and preserve 20.4 acres of CYP. There are 4.8 acres of upland buffer. The Mitigation Site (211.8 acres) will be used to compensate for unavoidable wetland impacts within the Lake Pontchartrain Basin (**Exhibit 2**). To accomplish this task, the Sponsor shall complete the following habitat management work:

4.1.1 Construction Work Plan

4.1.1.1. Mechanical / Chemical Control of Undesirable Trees

Areas in need of treatment through mechanical and/or chemical control of Chinese tallow will be determined based on preliminary habitat assessment data.

The primary method of control will be through hack-and-squirt techniques, using approved herbicides.

4.1.1.2. Site Preparation for Planting Procedures

Following initial nuisance/invasive species eradication efforts, supplemental planting of desirable hardwood species will be conducted. Periodic maintenance through herbicide treatment (foliage application and/or hack and squirt methods) will be used to prevent recruitment of nuisance species and reduce the competition pressures. Nuisance species eradication and site preparation will begin immediately upon approval of the Work Plan.

4.1.2 Vegetative Work Plan

4.1.2.1 BLH and CYP Planting Specifications

Tree plantings shall consist of one (1) or two (2) year old bare-root seedlings composed of a mixture of the hard and soft mast species listed in **Table 5**, obtained from a Louisiana registered, licensed nursery



grower. If seedlings listed in **Table 5** are not available, then substitutions may be made as approved by the CEMVN. The Sponsor will mix species in such a manner that will ensure adequate species diversity and that monotypic tree rows will not be established. Adequate time will be allowed for reserving seedlings from nurseries. Seedlings will be hand planted into the existing forest to achieve a stand density of 538 seedlings per acre. Planting will occur between December 15 through March 15.

Hard and soft mast species will be planted to achieve an overall Mitigation Site composition, on average, of 60-70 percent hard mast species. The species mix for bottomland hardwood habitat may include any mixture of the native hard mast species listed in **Table 5**. CYP areas will only be reforested with cypress seedlings.

During recent wetland delineation and other data gathering events the Sponsor has observed very high concentrations of naturally recruited soft mast trees, primarily Drummond's red maple. RES believes that this species will naturally regenerate from local seed sources and should be omitted from the planting mix or used in very small percentages.

The specific list of planted species, which is dependent upon availability, shall be provided in the As-Built Report.

Table 5: Proposed BLH Planting List

Scientific Name	Common Name	Mast
<i>Quercus pagoda</i>	Cherry-Bark Oak	Hard
<i>Liquidambar styraciflua</i>	Sweet-Gum	Soft
<i>Quercus phellos</i>	Willow Oak	Hard
<i>Acer rubrum</i>	Red Maple	Soft
<i>Quercus michauxii</i>	Cow Oak	Hard
<i>Quercus laurifolia</i>	Laurel Oak	Hard
<i>Carya x lecontei</i>	Bitter Pecan	Hard
<i>Carya aquatica</i>	Water Hickory	Hard
<i>Quercus lyrata</i>	Overcup Oak	Hard
<i>Ulmus americana</i>	American Elm	Soft
<i>Quercus nigra</i>	Water Oak	Hard

4.1.3 Chemical Control of Invasive / Non-Native Plants

An herbicide maintenance plan utilizing chemical control of existing problematic invasive non-native/nuisance species will be implemented throughout the life of the Mitigation Site, post-planting.

4.1.4 Sources of Water

Source of water to the Mitigation Site include overbank flow, precipitation, and groundwater. During the wetland delineation, wetland hydrology criteria were assessed based on observation of primary and/or secondary field indicators. Hydrology indicators observed at the Mitigation Site include surface water, high water table, saturation, water marks, sediment deposits, water-stained leaves, crayfish burrows, and positive FAC-Neutral Test.

4.2 Technical Feasibility

The proposed mitigation activities include 1) initial nuisance species removal for site preparation, 2) vegetation planting and 3) monitoring. The presence of hydric soils and relatively low relief of the Mitigation Site indicate that minimal soil work shall be required for the successful rehabilitation of BLH and CYP habitat. The existence of BLH and CYP habitats adjacent to the Mitigation Site indicates a high potential for successful restoration. Drainage modifications will not be required to achieve hydrologic success at the site. Furthermore, the Mitigation Site's conservation objective shall be achieved through



protection of the Mitigation Site from future development activities through legal documentation (e.g. conservation easements/servitude).

4.3 Current Site Risks

The Sponsor does not foresee any adverse impacts to the Mitigation Site resulting from continued existence and operation of neighboring land uses. There are no existing hydrologic disturbances on or adjacent to the site at the present time.

The cumulative preservation, and rehabilitation of BLH and CYP within the site is approximately 197 acres. There are 14.8 acres of non-mitigation features on the site.

The Mitigation Site is otherwise free of encumbrances. The Mitigation Site and adjacent property is within unincorporated land and absent of zoning regulations.

4.4 Long-Term Sustainability of the Mitigation Site

The Sponsor shall be the responsible agent for the long-term management of the Mitigation Site unless a third-party entity is established and given authority to maintain the Mitigation Site in perpetuity through approval by the IRT.

The primary long-term strategy of the Mitigation Site is that it ultimately be self-sustaining with little to no maintenance. This management strategy is linked to the development stage of the mitigation banking process, particularly in the design and establishment of the Mitigation Site. Native canopy establishment and nuisance species removal will fortify the site. However, if the Mitigation Site is underperforming and not meeting the proposed performance standards, the Mitigation Site Sponsor shall provide maintenance or adaptive management to address the shortfalls observed. These methodologies may include exotic/invasive management or easement enforcement actions. Maintenance and adaptive management shall be tailored to specific disturbances to achieve optimal results.

Prior to final release and in accordance with the timelines established in the final MBI, the Mitigation Site Sponsor shall establish a non-wasting endowment supporting the Mitigation Site's long-term maintenance plan. As previously stated, the Mitigation Site Sponsor shall be the long-term manager of the Mitigation Site property. Any expenditure must be related to the maintenance of the Mitigation Site.

4.5 Assurance of Water Rights

Louisiana Civil Code, Article 490, treats water resources under the theory of absolute ownership and rule of capture, provided capture does not result in harm to neighbors. The Mitigation Site shall depend primarily on precipitation, runoff from surroundings areas and high-water tables. Therefore, long-term hydrology maintenance shall not be dependent upon the utilization of water captured from irrigation wells. As a result, sufficient water rights are ensured. The Sponsor does not foresee any adverse impacts on neighboring properties due to this project.

5. Proposed Service Area

This section identifies the proposed services areas as stated in 33 CFR § 332.8(d) (2) and the general need for the proposed mitigation site in this area as stated in 33 CFR § 332.8(d)(2)(iv).

The proposed service area was determined by identifying which watershed basin the Mitigation Site is in according to the watersheds identified in the USACE created LRAM document. The Site is in the LRAM Lake Pontchartrain Service Basin.

The proposed Mitigation Site was derived based on needs within the LRAM watershed by examining the following variables:



- 1) Shall provide mitigation for activities associated with the continued urban growth;
- 2) Shall provide mitigation for the area, which has a history of anthropogenic development;
- 3) Shall improve water quality in the local and downstream watershed;
- 4) Shall increase habitat for and support native flora and fauna;
- 5) Shall provide compensatory mitigation for the USACE New Orleans district approved projects within the Lake Pontchartrain LRAM Basin;
- 6) Shall increase the hydrological connection with the surrounding wetlands; and
- 7) Shall support the goals for various statewide approved management plans.

6. Operation of the Mitigation Site

This section describes how the proposed Mitigation Site will be operated, as stated in 33 CFR 332.8(d)(2) (ii) and provides details on the proposed ownership arrangements and long-term management strategy for the Mitigation Site, as stated in 33 CFR 332.8(d)(2) (v.)

6.1 Project Representatives

Sponsor/Landowner/Operations Manager:

*Sponsor: RES Lake Pontchartrain, LLC
c/o Resource Environmental Solutions, LLC
303 Rue Louie XIV Blvd., Suite 204
Lafayette, Louisiana 70508
Point of Contact: Frank Cuccio
Email: fcuccio@res.us
Phone Number: (337)443-6902*

*Landowner: Randy Stone
16741 Greenwell Springs Road
Greenwell Springs, LA 70739*

*Agent: Resource Environmental Solutions, LLC
6575 West Loop South, Suite 300
Houston, Texas 77401
Point of Contact: Matt Genotte
Email: mgenotte@res.us
Phone Number: (346) 310-6211*

6.2 Qualifications of the Sponsor

RES' experience includes:

- Restoration, enhancement, and preservation of 62,637 acres of wetlands
- Restoration of over 525 miles of streams
- Rehabilitation, preservation, and/or management of over 15,000 acres of special-status species habitat
- Currently, conduct monitoring and maintenance (including invasive species management) for over 50,000 acres of mitigation habitat



- Successful close-out of over 100 mitigation sites
- Permitting and development of over 200 permittee-responsible mitigation projects
- Design, permitting, management, and development of 197 wetland, stream, species, and conservation banks
- Delivery of 20,000 acres of custom, turnkey mitigation solutions
- Design and construction of over 350 stormwater management facilities
- Reductions of over 280 tons of water quality nutrients
- Planting of over 20,000,000 trees across all operating regions
- Development and operation of nurseries in six states including the largest coastal nursery in Louisiana
- Facilitation of compensatory mitigation and nutrient offsets for over 3,980 federal and state permits

We draw on our dedicated, in-house resources and deep experience across all phases of ecological restoration projects in defining our project approach, which seeks to balance performance and cost in the manner that is most beneficial to our clients.

6.3 Proposed Long-Term Ownership and Management Representatives

The MBI will provide detailed information regarding the Site's operation, including long-term management for review and approval by the IRT. Upon approval of the Site's long-term success by the IRT, the Site shall begin the long-term land stewardship period. The long-term steward shall be responsible for periodic inspection of the Site to ensure that restrictions required in the Conservation Servitude of the deed restriction document(s) are upheld. Financial assurances will be established and used to uphold easement and deed restrictions.

6.4 Site Protection

The Sponsor of the proposed Mitigation Site shall burden the Mitigation Site with perpetual conservation servitude in accordance with the Louisiana Conservation Servitude Act, R.S. 9:1271 et seq. The conservation servitude shall be signed and filed in the Livingston parish office with the MBI and Department of Army (DA) permits attached. The conservation servitude shall be filed prior to performing any work authorized by DA permit. After filing, a copy of the recorded conservation servitude, clearly showing the book, page, and date of filing, will be provided to CEMVN. Upon receipt of a copy of the recorded conservation servitude, CEMVN will advise the Sponsor in writing that work may proceed.

Prior to execution of the conservation servitude, the Sponsor shall ensure that the entity proposed to hold the conservation servitude is a CEMVN approved Holder by virtue of being either a governmental body empowered to hold an interest in immovable property under the laws of the State of Louisiana or the United States of America; or a non-profit corporation organized pursuant to Louisiana's Non-Profit Corporation Law, Title 12, Sections 201-269 of the Louisiana Revised Statutes, the purposes or powers of which include retaining or protecting the natural, scenic, or open-space values of immovable property; assuring the availability of immovable property for agricultural, forest, recreational or open-space use; protecting natural resources; maintaining or enhancing air or water quality; or preserving the historical, archaeological or cultural aspects of unimproved immovable property. Upon execution of the conservation servitude previously described, the Holder shall hold and enforce the conservation servitude placed on the Mitigation Site and the Mitigation Site shall be protected in perpetuity.

Modification of the conservation servitude is not permissible without prior written authorization from CEMVN. Any request to modify the conservation servitude, or to the rights and obligations created under it, shall be made in writing, and forwarded to CEMVN for review and approval. All requests must describe the existing language and the requested modification.



The Sponsor acknowledges and agrees that the conservation servitude applies to all the Mitigation Site within the boundary of the mitigation site and not just those portions of the Mitigation Site identified as wetlands.

6.5 Long-Term Strategy

The Long-Term Steward will undertake the management of the Site after closeout. The Long-Term Steward will be RES, unless a different Long-Term Steward is appointed in accordance with the 2008 Final Rule (33 CFR § 332.7(d)(1)) and subject to an approval by the USACE. The goal of long-term management is to foster the long-term viability of the Site's aquatic resources. The Long-Term Steward will conduct inspections of the Site to determine the specific needs of the Site to meet this goal. The Long-Term Steward actively manages the property as needed. To assist the Long-Term Steward in achieving this goal, the following is a list of objectives that will define the long-term viability:

1. The Long-Term Steward will maintain native vegetation on the Site by using the best available science and current forestry practices (i.e., planting, thinning, application of pesticides, removal of destructive wildlife.).
2. The Long-Term Steward will control the encroachment of invasive plant species on the Site by using the best available science and practices (i.e., herbicides, manual removal, burning, chainsaw).
3. The Long-Term Steward will repair erosion and obstructions to drainage at the Site utilizing appropriate natural materials to ensure the Site maintains riparian buffer conditions.

To ensure that funds are available to provide for the perpetual management of the Mitigation Site, the Sponsor will fund a long-term management investment account. The investment account is designed to be a non-wasting endowment with earnings sufficient to fund the annual maintenance cost while accounting for inflation.

7. References

Louisiana's Nutrient Reduction and Management Strategy (LNRMS) December 2019

Louisiana's Nonpoint Source Management Plan (NPSMP) (2023-2027)

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EXHIBITS

Exhibit 1 Figure 1 Vicinity and Service Area

Tickfaw Tract Livingston Parish, Louisiana

-  Project Locatoin
-  Lake Pontchartrain Basin
-  Service Area
-  8-digit HUC



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.
 Data Source: ESRI World Street Map
 Spatial Reference: NAD 1983 StatePlane Louisiana South FIPS 1702 Feet
 Date: 5/1/2024
 Project Number: 108084

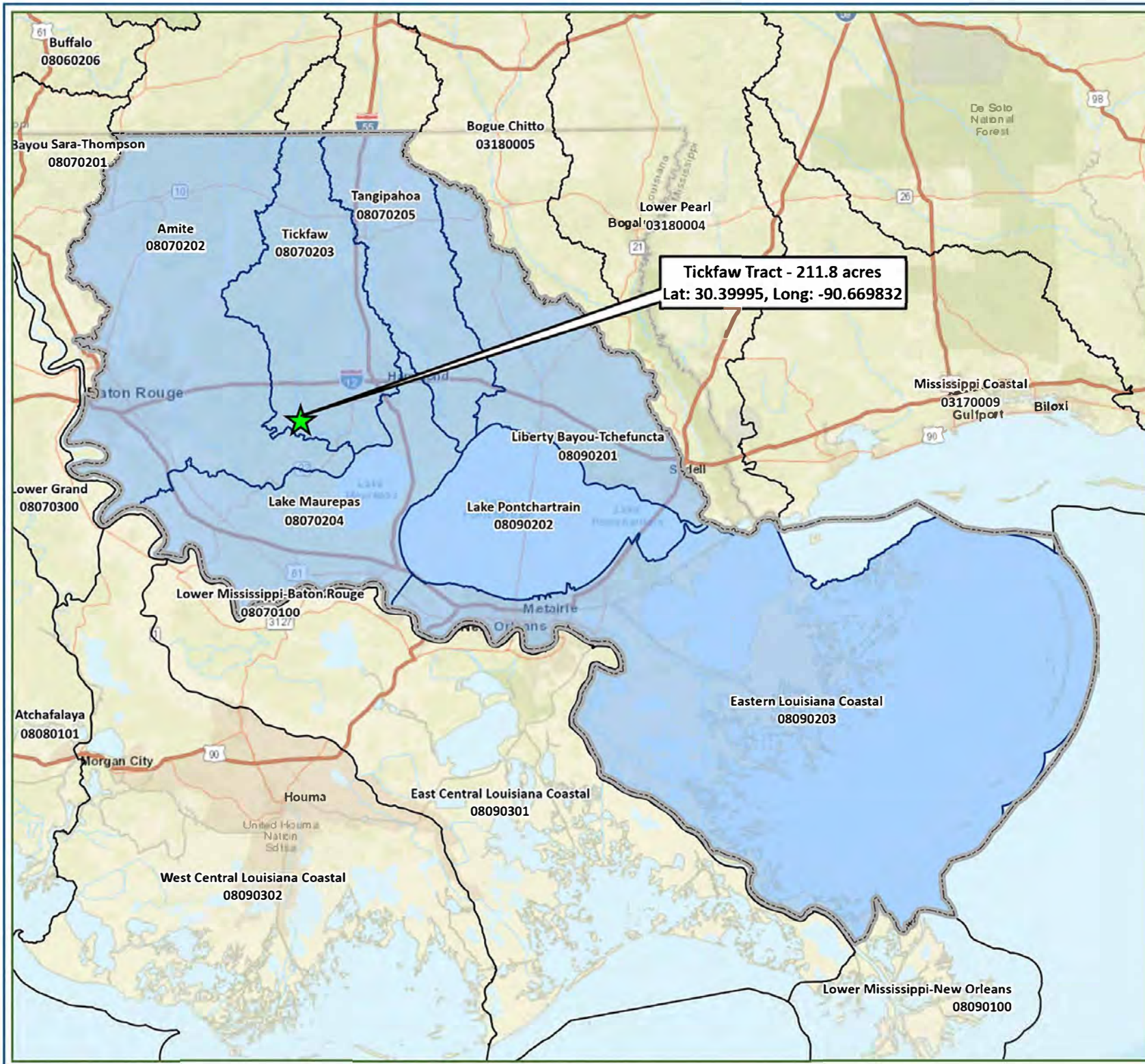


Exhibit 2 Figure 1 Mitigation Habitat Plan

Tickfaw Tract
Livingston Parish, Louisiana

-  Project Boundary (211.8 ac)
-  Proposed Low Water Crossing (10)
-  10' Access (2.7 ac)
-  12' Access (0.6 ac)
-  15' Access (0.2 ac)
-  20' Access (3.2 ac)
-  Bottomland Hardwood Enhancement (9.8 ac)
-  Bottomland Hardwood Rehabilitation (138.3 ac)
-  Cypress Enhancement (28.5 ac)
-  Cypress Preservation (20.4 ac)
-  Food Plot No. 1 (1.1 ac)
-  Food Plot No. 2 (0.7 ac)
-  Food Plot No. 3 (0.7 ac)
-  Upland Restoration (4.8 ac)
-  Non-mitigation (0.8 ac)

Gate Access



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: 2023 NAIP

Spatial Reference:

NAD 1983 2011 StatePlane Louisiana South FIPS 1702
Ft US

Date: 5/2/2024



















Project Number: 108084



Exhibit 2 Figure 2

LDNR Jurisdiction Below 5' Elevation Habitat

Tickfaw Tract
Livingston Parish, Louisiana

-  Project Boundary (211.8 ac)
-  10' Access (2.7 ac)
-  12' Access (0.6 ac)
-  15' Access (0.2 ac)
-  20' Access (3.2 ac)
-  Food Plot No. 1 (1.1 ac)
-  Food Plot No. 2 (0.7 ac)
-  Food Plot No. 3 (0.7 ac)
-  LDENR Bottomland Hardwood Enhancement (0.9 ac)
-  LDENR Bottomland Hardwood Rehabilitation (7.8 ac)
-  LDENR Cypress Enhancement (11.5 ac)
-  LDENR Cypress Preservation (6.7 ac)
-  CEMVN Bottomland Hardwood Enhancement (9.0 ac)
-  CEMVN Bottomland Hardwood Rehabilitation (130.4 ac)
-  CEMVN Cypress Enhancement (17.0 ac)
-  CEMVN Cypress Preservation (13.7 ac)
-  CEMVN Upland Area (4.8 ac)
-  Non-mitigation (0.8 ac)



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: USGS 2017 DEM

Spatial Reference:

NAD 1983 2011 StatePlane Louisiana South FIPS 1702
Ft US

Date: 6/5/2024


Project Number: 108084



Exhibit 3 Figure 1 Driving Directions

Tickfaw Tract
Livingston Parish, Louisiana

 Project Boundary
(211.8 ac)

-  From I12 head south on LA-63 S (0.7 Mile)
-  Turn left onto LA-42 E (1.6 Miles)
-  Turn left onto Oliver Wheat Rd (2.8 Miles)
-  Turn right onto Lobell Rd (1.5 Miles)
-  Turn right to stay on Lobell Rd (1 Mile)
-  Turn right to site



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.
Data Source: ESRI World Street Map
Spatial Reference:
 NAD 1983 2011 StatePlane Louisiana South FIPS 1702
 Ft US
Date: 5/1/2024
Project Number: 108084

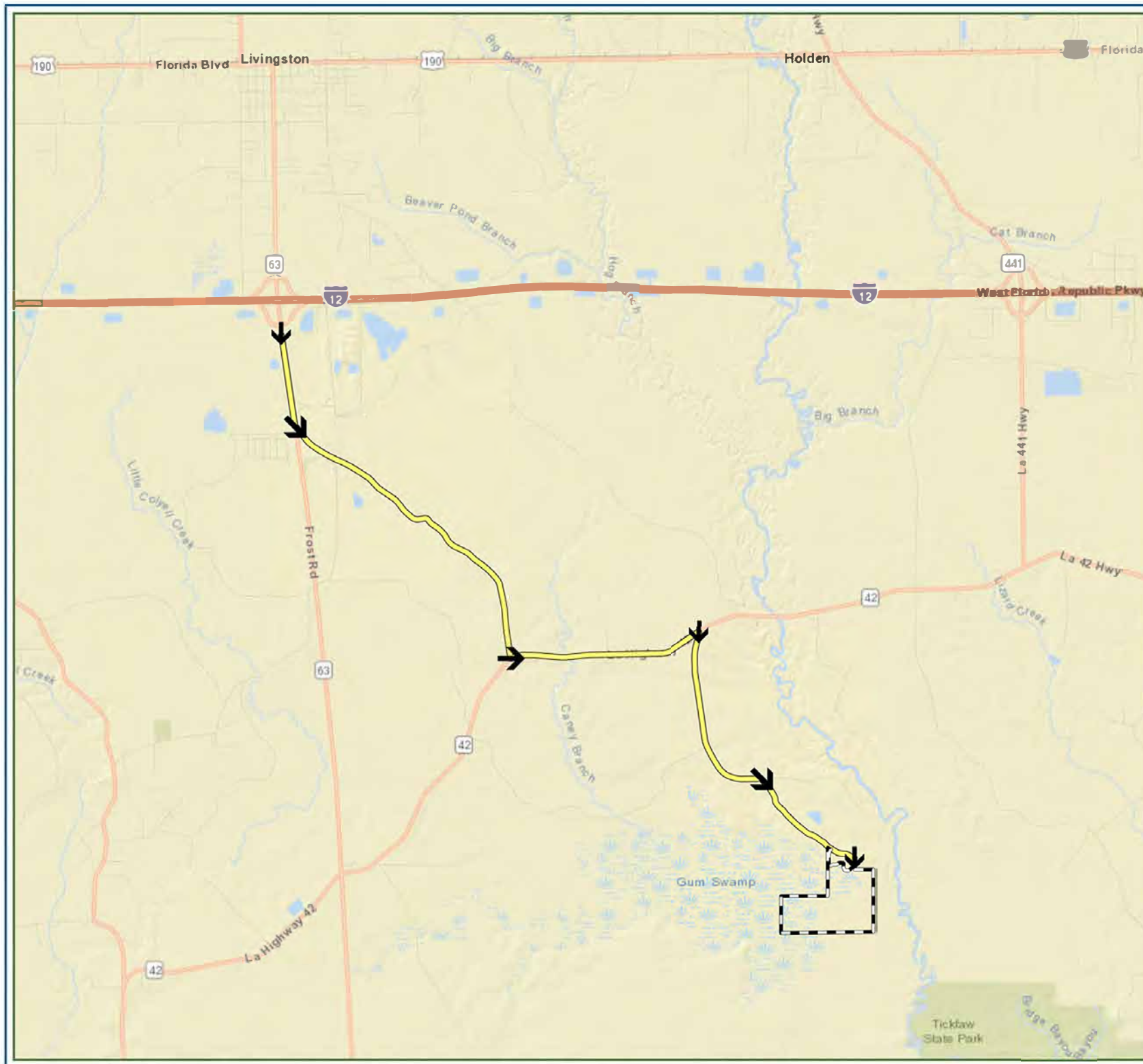


Exhibit 4 Figure 1 Topography Map

Tickfaw Tract
Livingston Parish, Louisiana

 Project Boundary (211.8 ac)



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: USGS Topo Map
Spatial Reference:
NAD 1983 2011 StatePlane Louisiana South FIPS 1702
Feet US
Date: 5/1/2024
Project Number: 108084

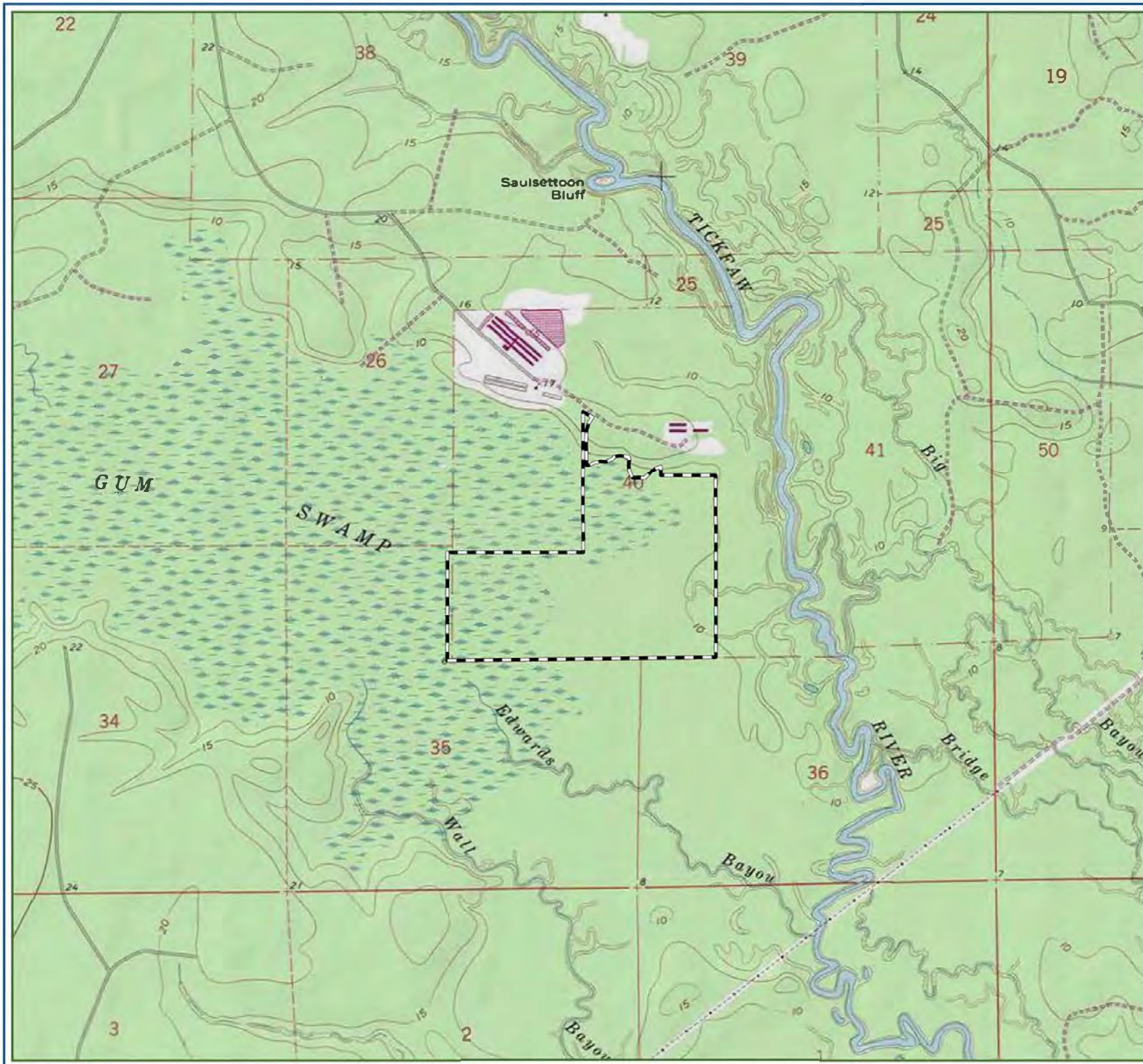


Exhibit 5 Figure 1
1998 Aerial

Tickfaw Tract
Livingston Parish, Louisiana

 Project Boundary (211.8 ac)



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: 1998 DOQQ

Spatial Reference:

NAD 1983 2011 StatePlane Louisiana South FIPS 1702

Foot US

Date: 5/1/2024

Project Number: 108084



Exhibit 5 Figure 2
2004 Aerial

Tickfaw Tract
Livingston Parish, Louisiana

 Project Boundary (211.8 ac)



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: 2004 DOQQ.

Spatial Reference:

NAD 1983 2011 StatePlane Louisiana South FIPS 1702

Ft US

Date: 5/1/2024

Project Number: 108084



Exhibit 5 Figure 3
2008 Aerial

Tickfaw Tract
Livingston Parish, Louisiana

 Project Boundary (211.8 ac)



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: 2008 DOQQ

Spatial Reference

NAD 1983 2011 StatePlane Louisiana South FIPS 1702

FT US

Date: 5/1/2024

Project Number: 108084



Exhibit 5 Figure 4
2010 Aerial

Tickfaw Tract
Livingston Parish, Louisiana

 Project Boundary (211.8 ac)



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: 2010 goltsep.

Spatial Reference:

NAD 1983 2011 StatePlane Louisiana South FIPS 1702

Feet US

Date: 5/1/2024

Project Number: 108084



Exhibit 5 Figure 5 Current Site Conditions

Tickfaw Tract
Livingston Parish, Louisiana

-  Project Boundary (211.8 ac)
-  Food Plots
-  Trails 10' - 40' Width



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: 2023 NAIP

Spatial Reference:

NAD 1983 2011 StatePlane Louisiana South FIPS 1702
Ft US

Date: 5/2/2024

Project Number: 108084



Exhibit 5 Figure 6

Aerial 2023

Fallen Trees

Tickfaw Tract

Livingston Parish, Louisiana



Project Boundary (211.8 ac)



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: 2023 NAIP

Spatial Reference:

NAD 1983 2011 StatePlane Louisiana South FIPS 1702

Ft US

Date: 5/1/2024

Project Number: 108084






Exhibit 6 Figure 1 Current Land Use

Tickfaw Tract
Livingston Parish, Louisiana

 Project Boundary (211.8 ac)

Sentinel-2 10m Land Use/Land
Cover Time Series

-  Water
-  Trees
-  Crops
-  Built Area
-  Rangeland

ortho_1-1_hn_s_la063_2023_1.sid

RGB

-  Red: Band_1
-  Green: Band_2
-  Blue: Band_3



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: Sentinel-2 10m land use/land cover time series of the world. Produced by Impact Observatory, Microsoft, and Esri.

Spatial Reference:
NAD 1983 2011 StatePlane Louisiana South FIPS 1702
Feet US

Date: 5/1/2024

Project Number: 108064



Exhibit 7 Figure 1

One-Mile Land Use/ Land Cover

Tickfaw Tract
Livingston Parish, Louisiana

 Project Boundary (211.8 ac)

 One Mile Radius

Sentinel-2 10m Land Use/Land
Cover Time Series

 Water

 Trees

 Crops

 Built Area

 Rangeland



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: Sentinel-2 10m land use/land cover time series of the world. Produced by Impact Observatory, Microsoft, and Esri.

Spatial Reference:
NAD 1983 2011 StatePlane Louisiana South FIPS 1702
Ft US

Date: 5/1/2024

Project Number: 108084



Soil Symbol	Soil Name	Hydric Rating	Acres	Percent Coverage
Co	Colyell silt loam, 1 to 3 percent slopes	7	2.6	1.2%
Na	Natalbany silty clay loam, frequently flooded	85	107.6	50.8%
OU	Ouachita, Ochlockonee, and Guyton soils, frequently flooded	60	101.6	48%


Exhibit 8 Figure 1


Soil Map


Tickfaw Tract

Livingston Parish, Louisiana

 Project Boundary (211.8 ac)

 Co, Colyell silt loam, 1 to 3 percent slopes

 Na, Natalbany silty clay loam, frequently flooded

 OU, Ouachita, Ochlockonee, and Guyton soils, frequently flooded

ortho_1-1_hn_s_la063_2023_1.sid

RGB

 Red: Band_1

 Green: Band_2

 Blue: Band_3



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: USDA gSSURGO.

Spatial Reference:

NAD 1983 2011 StatePlane Louisiana South FIPS 1702

Ft US

Date: 5/1/2024

Project Number: 108084





Exhibit 9 Figure 1 Contributing Watershed



Tickfaw Tract
Livingston Parish, Louisiana

 Project Boundary (211.8 ac)

NHD Flowlines

-  Artificial Path
-  Stream/River

NHD Waterbody

-  Swamp/Marsh
-  Lake/Pond



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: 2023 NAIP, USGS NHD Dataset Plus.
Spatial Reference:
NAD 1983 2011 StatePlane Louisiana South FIPS 1702
Ft US
Date: 5/1/2024
Project Number: 108084

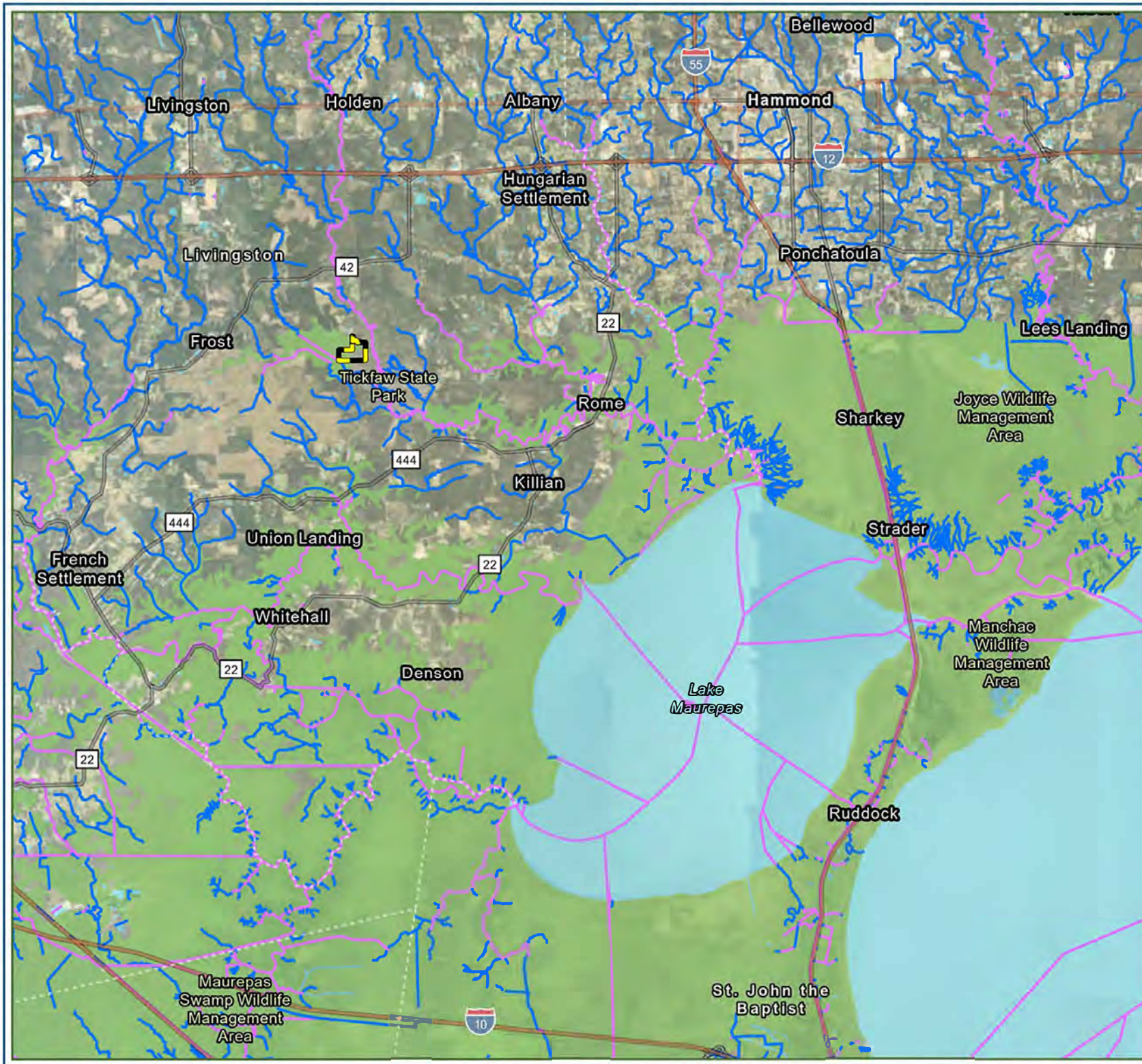




Exhibit 9 Figure 2 Contributing Watershed

Tickfaw Tract
Livingston Parish, Louisiana

 Project Boundary (211.8 ac)

NHD Flowlines

-  Artificial Path
-  Stream/River

NHD Waterbody

-  Swamp/Marsh
-  Lake/Pond



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: 2023 NAIP, USGS NHD Dataset Plus.
Spatial Reference:
NAD 1983 2011 StatePlane Louisiana South FIPS 1702
ft US
Date: 5/1/2024
Project Number: 108084

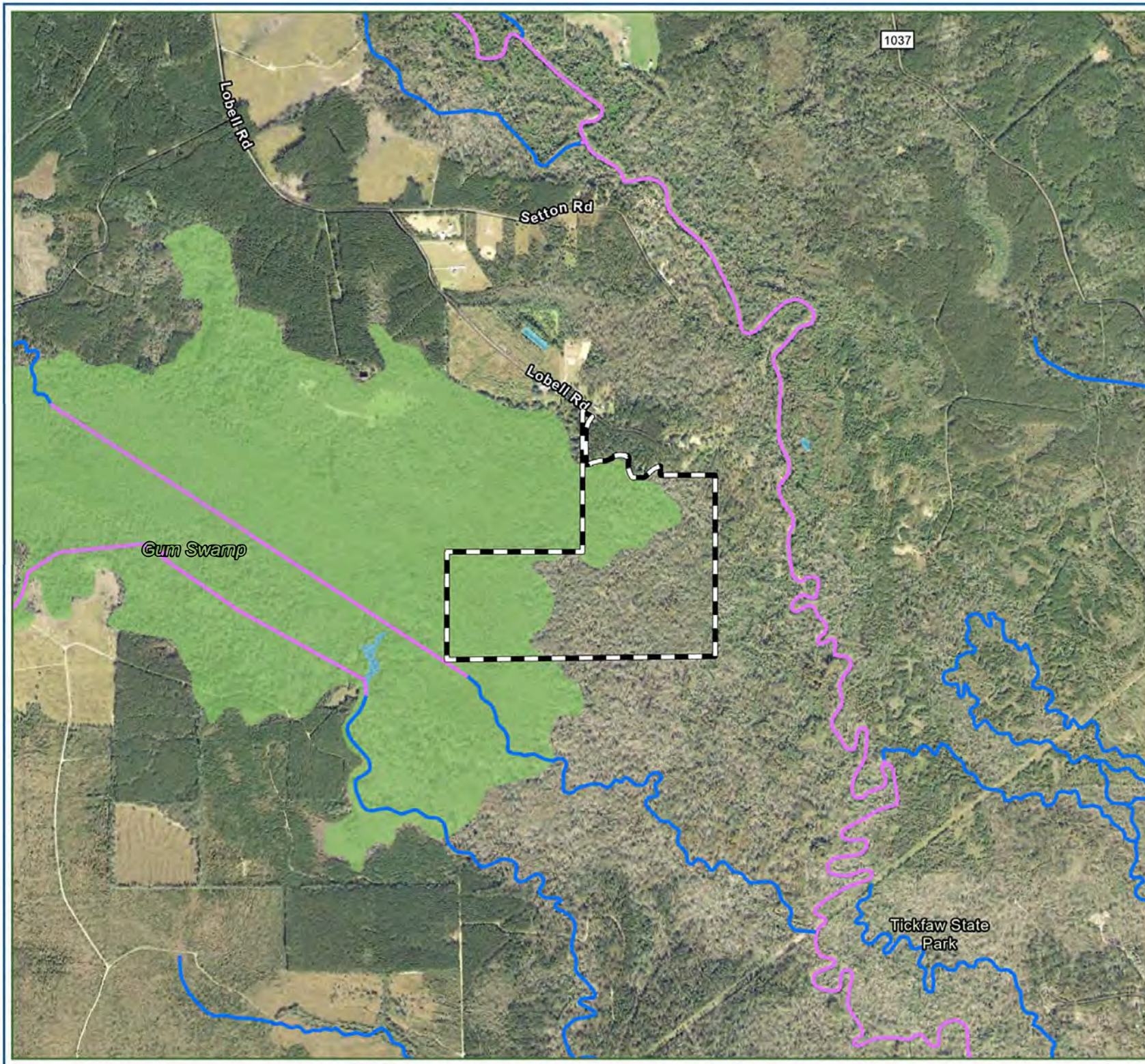


Exhibit 10 Figure 1 Elevations Map

Tickfaw Tract
Livingston Parish, Louisiana

-  Project Boundary (211.8 ac)
-  One Ft Contours
-  Two Ft Contours



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: USGS 2017 DEM.

Spatial Reference:

NAD 1983 2011 StatePlane Louisiana South FIPS 1702
ft US




Date: 5/1/2024

Project Number: 108084



Exhibit 11 Figure 1 Existing Hydrology Pre-Construction

Tickfaw Tract
Livingston Parish, Louisiana

-  Project Boundary (211.8 ac)
-  Existing Culverts (5)
-  Existing Hydrology



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: USGS Topo Map

Spatial Reference:

NAD 1983 2011 StatePlane Louisiana South FIPS 1702
Ft US

Date: 5/1/2024

Project Number: 108084

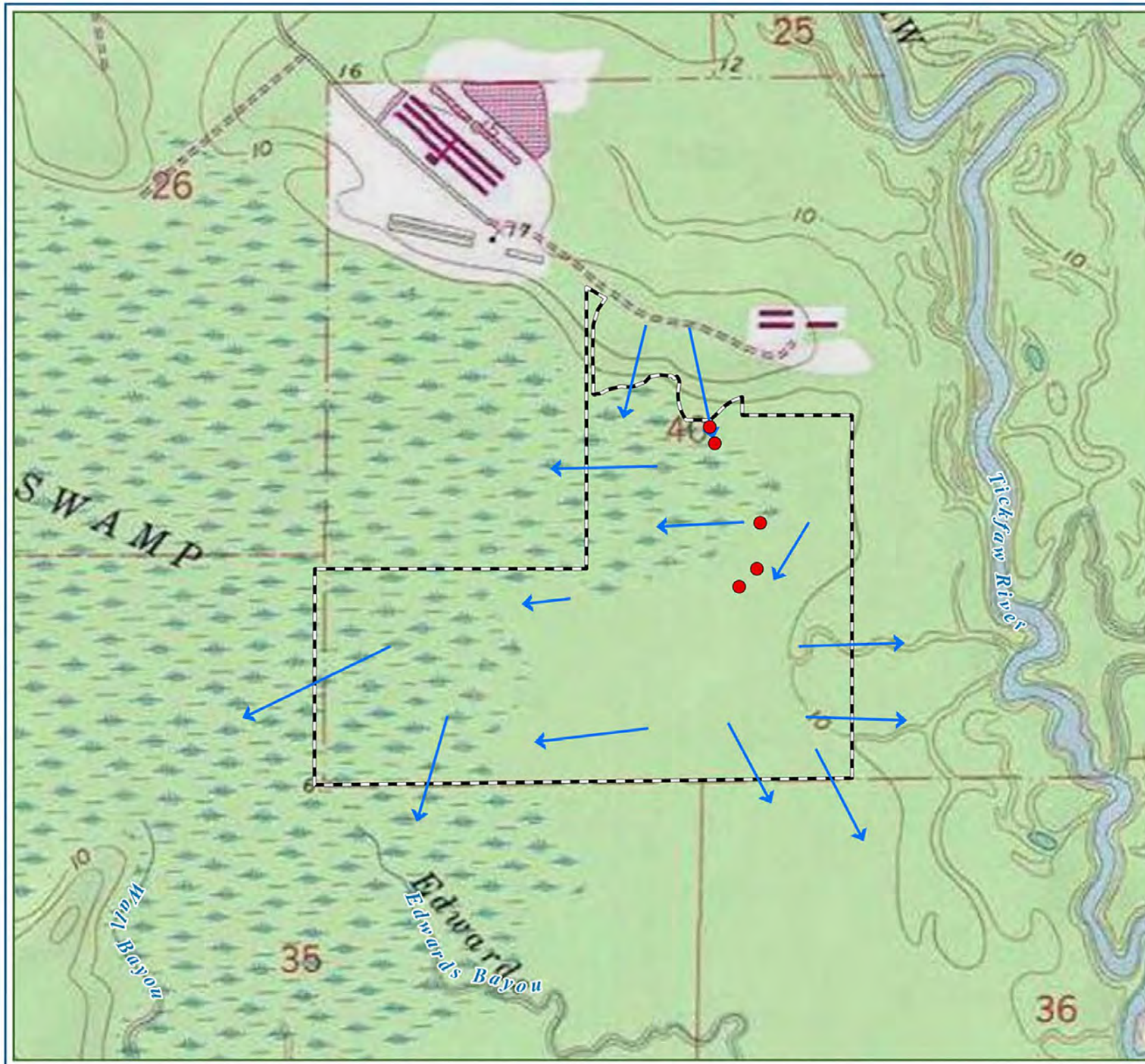
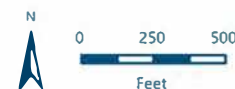
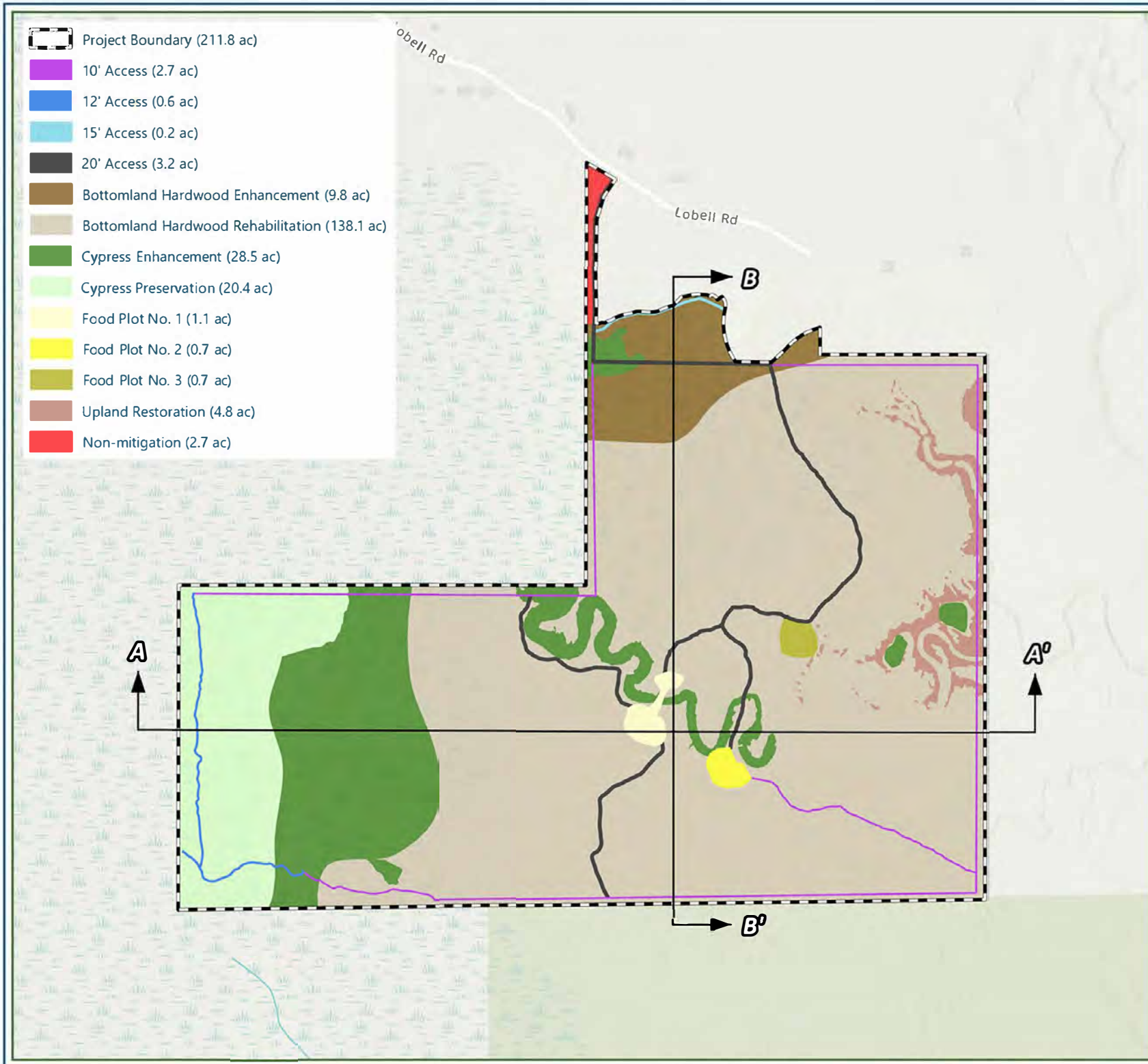


Exhibit 12 Figure 1 Hydrological Plan View

Tickfaw Tract
Livingston Parish, Louisiana



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: ESRI World Topographic Map.
Spatial Reference:
NAD 1983 2011 StatePlane Louisiana South FIPS 1702
Feet US
Date: 5/1/2024
Project Number: 108084



Exhibit 12 Figure 2
Cross-Section

Tickfaw Tract
Livingston Parish, Louisiana

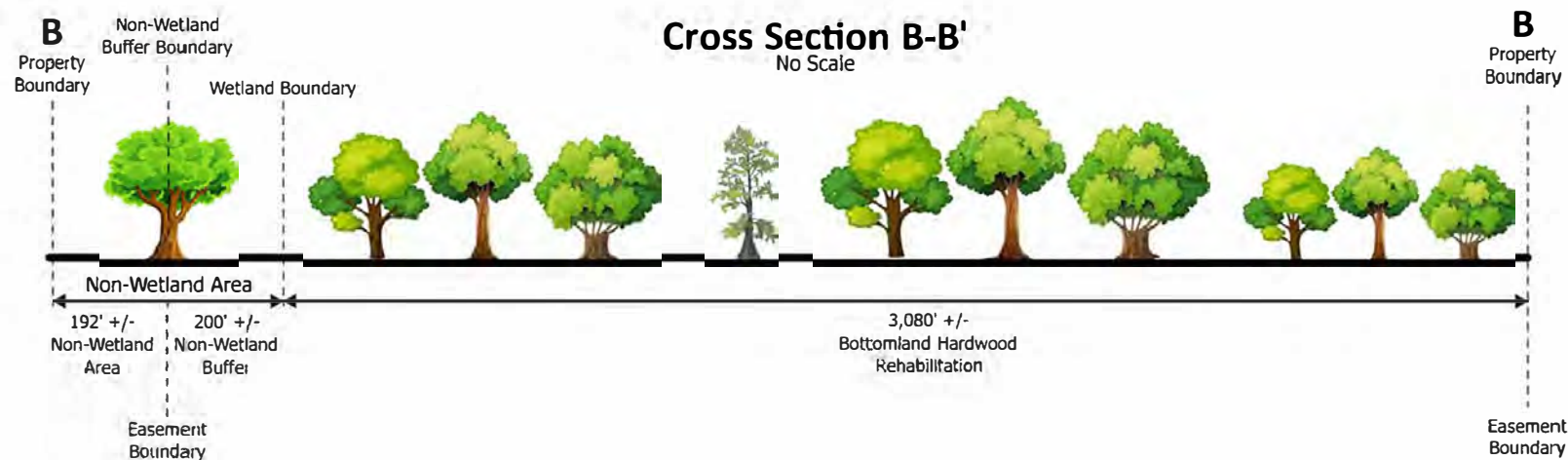
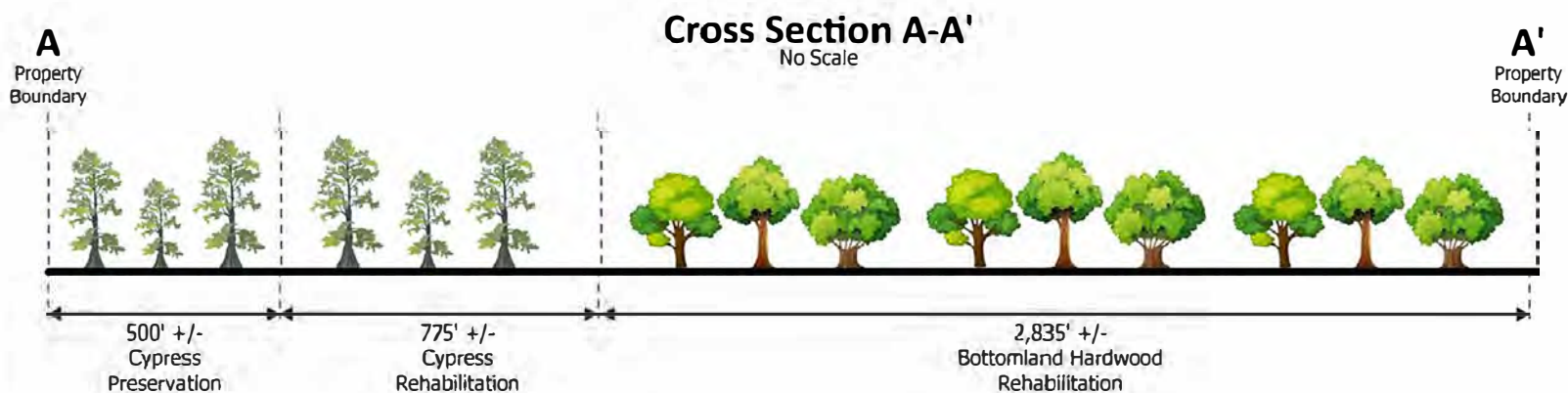




Exhibit 13 Figure 1 Existing Hydrology Post-Construction

Tickfaw Tract
Livingston Parish, Louisiana

-  Project Boundary (211.8 ac)
-  Existing Hydrology



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: USGS Topo Map

Spatial Reference:

NAD 1983 2011 StatePlane Louisiana South FIPS 1702
Ft US

Date: 5/1/2024

Project Number: 108084

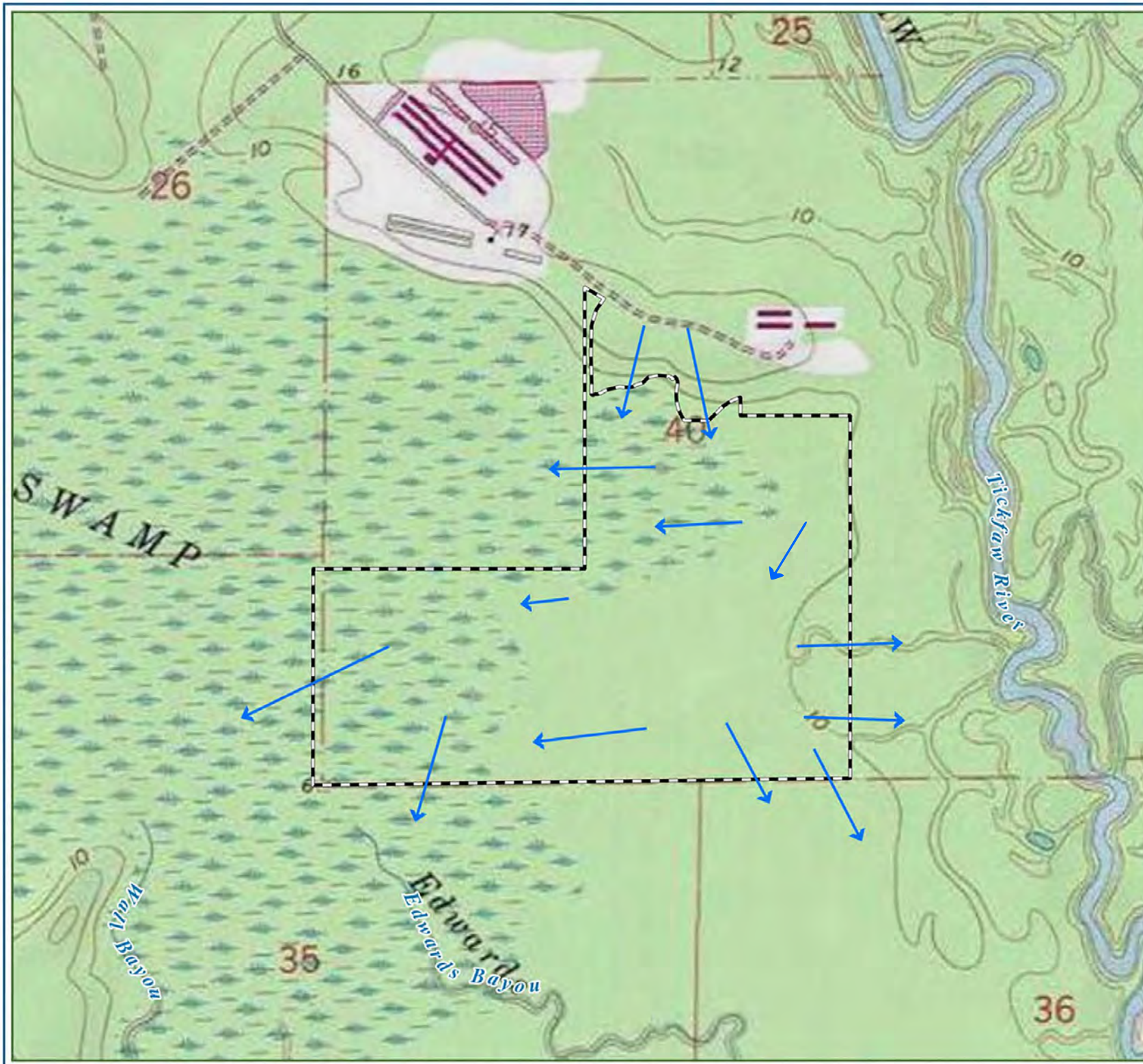
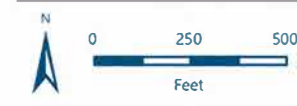


Exhibit 2 Figure 1 Mitigation Habitat Plan

Tickfaw Tract
Livingston Parish, Louisiana

Plot	Chinese Tallow %	Plot	Chinese Tallow %
S1	59.0%	S12	50.3%
S2	60.1%	S13	49.3%
S3	61.7%	S14	42.5%
S4	14.1%	S15	58.0%
S5	4.8%	S16	45.5%
S6	36.0%	S17	1.3%
S7	81.9%	S18	2.0%
S8	52.5%	S19	2.4%
S9	43.6%	S20	4.4%
S10	25.0%	S21	67.6%
S11	43.0%	S22	60.7%

- Project Boundary (211.8 ac)
- Habitat Assessment Plots
- 10' Access (2.7 ac)
- 12' Access (0.6 ac)
- 15' Access (0.2 ac)
- 20' Access (3.2 ac)
- Bottomland Hardwood Enhancement (9.8 ac)
- Bottomland Hardwood Rehabilitation (138.1 ac)
- Cypress Enhancement (28.5 ac)
- Cypress Preservation (20.4 ac)
- Food Plot No. 1 (1.1 ac)
- Food Plot No. 2 (0.7 ac)
- Food Plot No. 3 (0.7 ac)
- Upland Restoration (4.8 ac)
- Non-mitigation (2.7 ac)



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.
Data Source: 2023 NAIP
Scrubland Reference:
 R4AD 1983-2011 StatePlane Louisiana South FIPS 1702 R US
 Date: 5/1/2024
 Project Number: 108084





Attachments



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVE
NEW ORLEANS, LA 70118-3651

April 18, 2024

Regulatory Division
Jurisdiction and Enforcement Branch

Mr. Richard Greig
Power Engineers, Inc.
One American Place
301 Main Street, Suite 2200
Baton Rouge, LA 70802

Dear Mr. Greig:

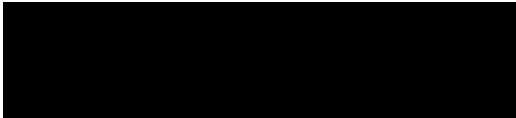
Reference is made to your request, on behalf of Resource Environmental Solutions, LLC, for a U.S. Army Corps of Engineers' (Corps) jurisdictional determination on property located in Section 35, Township 7 South, Range 5 East, Livingston Parish, Louisiana (enclosed map). Specifically, this property is identified as a 225- acre site and the proposed Tickfaw Tract Mitigation Bank located in Tickfaw.

Based on review of recent maps, aerial photography, soils data, the delineation report provided with your request, and site inspections conducted on October 18, 2023, and March 7, 2024, we have determined that part of the property contains wetlands that may be subject to Corps' jurisdiction. The approximate limits of the wetlands are designated in red on the map. A Department of the Army permit under Section 404 of the Clean Water Act will be required prior to the deposition or redistribution of dredged or fill material into waters of the U.S.

The delineation included herein has been conducted to identify the location and extent of the aquatic resources for purposes of the Clean Water Act for the particular site identified in this request. This delineation may not be valid for the Wetland Conservation Provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should discuss the applicability of an NRCS Certified Wetland Determination with the local USDA service center, prior to starting work.

You and your client are advised that this preliminary jurisdictional determination is valid for a period of 5 years from the date of this letter unless new information warrants revision prior to the expiration date. Additionally, this determination is only valid for the identified project or individual(s) only and is not to be used for decision-making by any other individual or entity.

Should there be any questions concerning these matters, please contact Mr. Michael Windham at (504) 862-1235 and reference our Account No. MVN-2023-00776-SK. If you have specific questions regarding the permit process or permit applications, please contact our Central Evaluation Branch at (504) 862-1581.


for Martin S. Mayer
Chief, Regulatory Division

Enclosures

Exhibit 1

Revised
Wetland Delineation

Stone Farms, LLC
Livingston Parish, Louisiana

USACE

FSV 10/18/23, 3/7/24

MICHAEL WINDHAM

FOR GREIG

ACCOUNT # MVN-2023-00776-SK

Tickfaw Tract (226.0 ac)

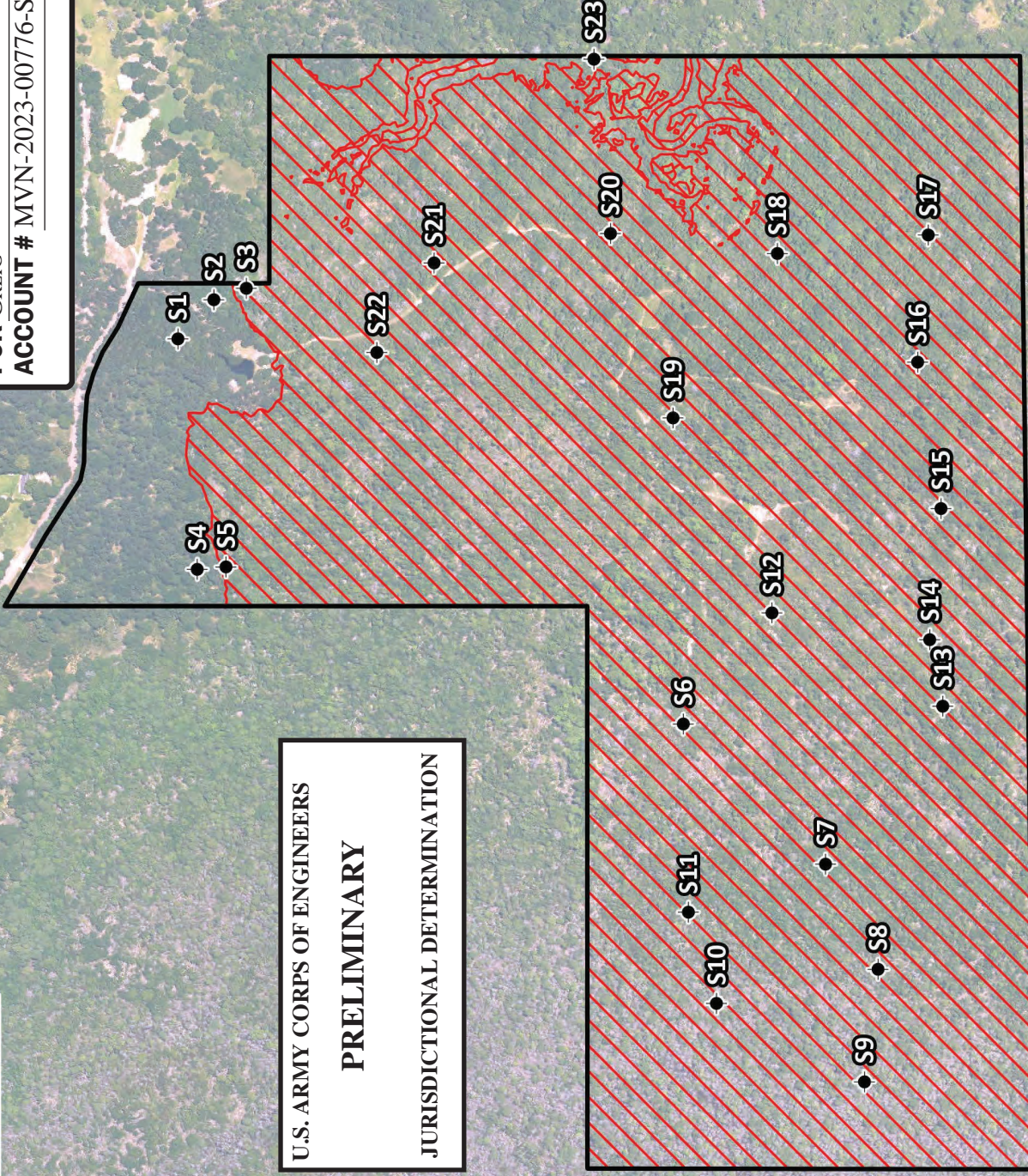
Datapoint

Forested Wetlands (205.5 ac)

U.S. ARMY CORPS OF ENGINEERS

PRELIMINARY

JURISDICTIONAL DETERMINATION



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.
Data Source: 2023 NAIP
Spatial Reference: NAD 1983 2011 StatePlane Louisiana South FIPS 1702 Feet US
Date: 4/8/2024
Project Number: 108084





Attachment 2

Prospectus for Friendship River
Mitigation Site



Prospectus for the Friendship River Mitigation Site

Located in: Ascension Parish, Louisiana

Submitted: June 10, 2024

Sponsor: RES Lake Pontchartrain, LLC
c/o Resource Environmental Solutions, LLC
Attn: Frank Cuccio
303 Rue Louie XIV Blvd., Suite 204
Lafayette, LA 70508

Agent: Resource Environmental Solutions, LLC
Attn: Matt Genotte
6575 West Loop South, Suite 300
Houston, TX 77401

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Attachment 1: Preliminary Jurisdictional Determination



1. Introduction

HGS, LLC and RES (hereinafter the Sponsor) has prepared this prospectus for submittal to the U.S. Army Corps of Engineers – New Orleans District (CEMVN) and Interagency Review Team (IRT) to provide an overview of the establishment and operation of the proposed Friendship River Mitigation Site (Mitigation Site). The details pertaining to the use of this Site as a mitigation Site shall be specified in the subsequent Mitigation Banking Instrument (MBI).

The Mitigation Site has the potential to provide compensatory mitigation requirements for bottomland hardwood (BLH) and bald cypress swamp (CYP) impacts in the Louisiana Wetland Rapid Assessment Method (LRAM) Lake Pontchartrain Basin (**Exhibit 1**). The Mitigation Site will provide compensatory mitigation for unavoidable impacts to coastal wetland resources under the Louisiana Coastal Resources Program (LCRP) per the provisions of LAC 43:724 and RS 49:214.22 (8). The Site is in Ascension Parish, Louisiana and entirely within the Louisiana Coastal Zone (CZ) boundary.

The Sponsor shall rehabilitate 156.6 acres of BLH, enhance 26.4 acres of BLH and 30.0 acres of CYP, and preserve 94.5 acres of CYP. The Mitigation Site will also include approximately 0.7-acres of non-mitigating features (Food plot and access trail) and approximately 191.8 acres of upland buffer totaling a 500-acre Mitigation Site (**Exhibit 2**).

1.1 Mitigation Site Location

The Mitigation Site is located at latitude 30.234 North and longitude – 90.789 West in all or portions of Sections 26 and 27 Township 9 South and Range 4 East of Ascension Parish. The Mitigation Site is located approximately 29 miles east of the City of Baton Rouge Louisiana within the Lake Maurepas watershed (Hydrologic Unit Code [HUC] 08070204) of the Lake Pontchartrain LRAM Service Basin (**Exhibit 1**).

1.2 Driving Directions

From Baton Rouge or New Orleans take I-10 to SR 22 (Exit 182 - Donalsonville, Sorrento). Take Exit 182 and go on SR 22 north for approximately 7.7 miles. Make a right on Snyder Lane (**Exhibit 3**).

2. Project Goals and Objectives

The Sponsor proposes to rehabilitate 139.0 acres of BLH, enhance 26.4 acres of BLH and 37.7 acres of CYP, and preserve 106.5 acres of CYP. Approximately 0.6-acres of existing food plot and access trail shall be maintained as non-mitigation acreage. In addition to the mitigation acreage, the sponsor will register 179.8 acres of adjacent forested habitat under conservation servitude along the east Mitigation Site boundary creating a buffer inclusion. The overall Mitigation Site area is 500 acres.

This project will aid in restoring, enhancing and/or preserving the following wetland functions:

1. Wildlife habitat (food, water, shelter);
2. Increased organic matter;
3. Flood retention;
4. Groundwater recharge;
5. Atmospheric maintenance;
6. Water quality improvement; and
7. Opportunities for recreation and education.

As defined by The Natural Communities of Louisiana published in 2009 by the Louisiana Department of Wildlife and Fisheries (LDWF) and the Louisiana Natural Heritage program (LNHP), BLH forests are forested, alluvial wetlands occupying broad floodplain areas flanking large river systems (LNHP 2009). BLH forests may be called fluctuating water level ecosystems characterized and maintained by a natural



hydrologic regime of alternating wet and dry periods. These forests support distinct assemblages of plants and animals associated with landforms, soils, and hydrologic regimes. They are important natural communities for maintenance of water quality, providing productive habitat for a variety of fish and wildlife and are important in regulation of flooding and stream recharge (LNHP 2009).

The CYP habitats are forested, alluvial swamps growing on intermittently exposed soils (LDWF 2010). The soils are inundated or saturated by surface water or groundwater on a nearly permanent basis throughout the growing season except during periods of extreme drought. Bayous commonly intersect these wetlands. There is relatively low floristic diversity. Bald cypress (*Taxodium distichum*) is the dominant overstory species and is often associated with tupelo gum (*Nyssa aquatica* and *Nyssa biflora*) (LDWF 2010).

2.1 Goals

The goals of the Mitigation Site are to rehabilitate, enhance, and preserve the native vegetative communities on-Site, enhance water quality, improve sediment retention, reduce non-point source pollution, and provide habitat and refuge to wildlife. The holistic goal is to establish self-sustaining BLH and CYP habitat resistant and resilient to disturbance events that shall maintain, restore, or preserve the aquatic ecosystem function and water quality within the Lake Pontchartrain Basin. Proposed Mitigation Site habitats were derived using the historical land use, land cover, soils and elevation data and current vegetation within the Mitigation Site (**Table 1 and Exhibit 2**).

Table 1: Proposed Mitigation Site Habitats

BLH		CYP	
Mitigation Type	Acreage	Mitigation Type	Acreage
Enhancement	26.4	Enhancement	47.7
Rehabilitation	139.0	Preservation	106.5
Total BLH	165.4	Total CYP	154.2
Buffer Inclusion: 179.8			
Non-Mitigation Features: 0.6			
Total Site Size: 500ac			

2.2 Objectives

The goals of the Mitigation Site shall be accomplished through the following objectives:

- 1) Create self-sustainable BLH and CYP forested wetland habitat through selective planting of native species in rehabilitation areas, and intensive management of invasive species across the Mitigation Site;
- 2) Rehabilitation of the vegetative community structure through selective planting of native species and forest management strategies;
- 3) Vegetative plantings shall be used to restore natural vegetation across the Mitigation Site, increase species diversity, enhance water quality, and create a hard-to-soft mast ratio indicative of sustainable wetland forested areas;
- 4) Long-term maintenance shall prevent colonization by noxious plants, erosion along interfaces of drainageways, and trespass vandalism;
- 5) Control of invasive species, which shall reduce the negative impacts to the vegetative community, as well as reduce the seed source that may infiltrate adjacent wetland areas;
- 6) Rehabilitation shall create improved wildlife habitat, as well as benefit water quality and various biochemical cycles;



- 7) Ensure system stability and continuity by protecting the Mitigation Site in perpetuity with a conservation easement; and
- 8) Ensure the long-term viability and sustainability of the Mitigation Site through active and adaptive management activities including, but not limited to, invasive species control, appropriate monitoring, and long-term maintenance.

3. Ecological Suitability of the Site/Baseline Conditions

This section describes the ecological suitability of the Mitigation Site to achieve the objectives of the proposed mitigation Site, including the physical, chemical, and biological characteristics of the Mitigation Site and how that Site will support the planned types of aquatic resources and function, as stated in 33 CFR 332.8(d)(2)(vii)(B) (Federal Register 2008). This section provides the baseline/current Mitigation Site conditions on and adjacent to the proposed Mitigation Site.

The Mitigation Site is ecologically suited to support BLH and CYP wetland habitats based on location, historic and current habitats, proximity to existing forested wetland habitats, historic hydrology, and soil types. These site characteristics provide ideal conditions for the establishment of a mitigation Site that will provide additional areas of contiguous forested wetland habitat to support resident and migratory wildlife native to BLH and CYP ecosystems.

3.1 Land Use

3.1.1 Historical Land Use

The Mitigation Site is in an area historically made up of primarily old growth BLH and cypress tupelo swamps. More specifically, the Mitigation Site is in Major Land Resource Area (MLRA) 131A – Southern Mississippi River Alluvium. This portion MLRA 131A is near MLRA 134A – Southern Mississippi Valley Loess and based on the landscape, can have similar characteristics. According to the NRCS' MLRA report, this area once consisted entirely of BLH forests and mixed BLH/cypress swamps. Dominant tree and shrub species were and currently are cypress (*Taxodium distichum*), water tupelo (*Nyssa aquatic*), water oak, green ash (*Fraxinus pennsylvanica*), red maple, black willow (*Salix nigra*), and buttonbush (*Cephalanthus occidentalis*).

The Mitigation Site historically contained CYP and BLH forested habitats, based on aerial photographs presented in **Exhibit 5**. Examination of historical aerial photographs show that the Mitigation Site has remained forested with BLH and CYP since at least 1998. Storm damage to the overstory is evident in aerial photography in late 2021. **Table 2** details the changes and observations of the Mitigation Site.



Table 2: Review of Historical Aerial Photographs

Aerial Date	Observations
1998	Mitigation Site is a forested swamp. The surrounding land use to the west is light residential and commercial, a highway and various canals/ waterways. Surrounding land use to the north, east, and south is generally forested swamps and marshes.
2004	Mitigation Site Unchanged. The surrounding land use is generally the same with a few more features.
2008	Largely unchanged from 2004.
2010	Largely unchanged from 2008.
2021	The Mitigation Site and surrounding land use remains the same. Numerous downed trees are evident.

3.1.2 Existing/Current Land Use

The habitat within the Mitigation Site is BLH and CYP. There are areas in the BLH that show signs of treefall due to storm events (likely a hurricane in late 2021) (**Exhibit 5**). In these areas, the open canopy has led to increased Chinese tallow (*Triadica sebifera*) recruitment. CYP present within the Mitigation Site is dominated by bald cypress and tupelo accompanied by red maple (*Acer rubrum*), and water oak (*Quercus nigra*). The shrub stratum contains Chinese tallow and red maple though not as prevalent. The groundcover within the CYP habitat includes savannah panic grass (*Phanopyrum gymnocarpon*), flat sedge (*Cyperus ligularis*), bald cypress, lizard's tail (*Saururus cernuus*), and red maple. Sentinel-2 Land use/land cover data layer identifies the current land use on the Mitigation Site as 100 percent trees with some built areas to the northwest and northeast (**Exhibit 6**).

The adjacent land use/land cover within a 1-mile radius of the Mitigation Site includes built areas, crops, water, trees, and rangeland (**Exhibit 7**). There is generally minimal development within one (1) mile of the Mitigation Site boundaries, however there are residences near portions of the western boundary.

3.2 Soils

The U.S. Department of Agriculture and Forestry National Resources Conservation Service (NRCS) soil survey for Ascension Parish identified four (4) soil map units for the Mitigation Site (**Table 3 and Exhibit 8**).

Table 3: Mitigation Site Soils

MUN Symbol	MUN Name	% Hydric	Acres
BA	Barbary muck, 0 to 1 percent slopes, frequently flooded	100	267.4
Es	Essen silt loam	10	0.3
Fo	Foley-Deerford complex	50	24.4
Sj	Schriever clay, 0 to 1 percent slopes, frequently flooded	100	206.8
Ss	Schriever silty clay loam, 0 to 1 percent slopes, rarely flooded	90	1.1

BA, Sj, Ss, and Es soils are gently sloping and level, frequently flooded soils that have a high to very high available water storage in the profile. **BA** has a thick mucky surface layer. **Sj** and **Ss** are made up largely of clay. **Fo** soils are silty loams formed on nearly level terraces of the Lower Mississippi Valley. All the mapped soils within the Mitigation Site are flooded/frequently flooded and hydric (NRCS 2023).



The field delineation effort confirmed the presence of these soil types. The Fo, Sj and Ss soils were generally associated with bottomland hardwood habitats and the BA soils complex was bottomland hardwoods and cypress habitat.

3.3 Hydrology

3.3.1 Contributing Watershed

The contributing watershed was identified using data from USGS National Hydrography Dataset (NHD) (**Exhibit 9**). Based on the NHD, the existing drainage area empties into the cypress-tupelo swamp to the north, east, and south. The existing drainage in the cypress-tupelo swamp flows generally east and south into Lake Maurepas, approximately 10 miles east and Lake Pontchartrain, approximately 20 miles east, southeast of the Mitigation Site area.

The levees on the west side of the Mitigation Site are part of a levee system to protect a portion of Ascension Parish from flooding of the Amite River and storm surges. The levee system is made up of the Marvin Braud north levee which extends approximately 5 miles to the north from the Marvin Braud Pump Station (MBPS) and Laurel Ridge levee that extends approximately 2.7 miles to the west from the end of the Marvin Braud north levee at Hwy 22 to Gold Place Rd.

3.3.2 Historical Hydrology and Drainage Patterns

Historical sources of surface water on the Mitigation Site were likely precipitation and surface water flooding from the surrounding swamp given the Sites' physiographic position in a backswamp area. The mitigation site is connected to and receives surface water from the swamp, the north and east. The surface elevation data suggests the historical drainage would have been mostly from the north and east with some input during high water backing up from the south (**Exhibit 10**).

Additionally, there is a flood protection levee to the west of the Mitigation Site and a natural ridge that supports highway 22 and several residential and commercial properties.

3.3.3 Existing/Current Hydrology and Drainage Patterns

Hydrology on the site is influenced by rainfall, overland sheet flow, and backwater swamp flooding. Surface water enters the property and then disperses across generally to the south and east (**Exhibit 11**). The levee and natural ridge along the western boundary prevent surface water from moving further west. During the wetland delineation, wetland hydrology criteria were assessed based on observation of primary and/or secondary field indicators. Hydrology indicators observed at the Mitigation Site include surface water, high water table, saturation, water marks, sediment deposits, water-stained leaves, crayfish burrows, and positive FAC-Neutral Test.

3.3.4 Anticipated Post-Construction Hydrology

Hydrologic regimes on the Site will not be altered by the proposed vegetative enhancement, preservation, and rehabilitation. The Site's hydrology will continue to be driven by sheet flow, precipitation, run off, high-water tables, and overbank flooding.

Sheet flow will remain changed in all directions across the Mitigation Site landscape and water will continue to be transported on to and off the Mitigation Site via sheet flow to and from the existing swamp. Existing variances in water depths will be unchanged post construction (**Exhibit 11**).

3.3.5 Jurisdictional Wetlands

The Preliminary Jurisdictional Determination for the Site is included as Attachment 1. Approximately 500.0 acres of potential jurisdictional wetlands were identified.



3.4 Vegetation

3.4.1 Historical Plant Community

The U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory shows the vegetation within the Mitigation Site as Freshwater Forested/Shrub Wetland (PFO1C, PFO2/1F, PFO1A, PFO1/2C, and PFO2/1C).

The Mitigation Site is in the Mississippi Alluvial Plain Level III Ecoregion and the Inland Swamps Level IV Ecoregion (73n; Environmental Protection Agency [EPA] 2003; Omernik 1987), the Mississippi Delta Cotton and Feed Grains Region Land Resource Region (LRR O), and the Southern Mississippi River Alluvium Major Land Resource Area (MLRA 131A; Natural Resources Conservation Service [NRCS] 2006).

The historical natural vegetation was dominated by bald cypress and tupelo gum, which are generally intolerant of brackish water except for short periods, such as during a hurricane. In areas flooded less frequently, live oak (*Quercus virginiana*) dominant forests, overcup oak (*Quercus lyrata*) – water hickory (*Carya aquatica*) forest, and oak (*Quercus spp.*) – sweetgum (*Liquidambar styraciflua*) forests were commonly found. In areas where freshwater flooding was more prolonged, the vegetation community was historically dominated by species of grasses, sedges, and rushes. Specifically, wetland vegetation in highly inundated areas typically included water hyacinths (*Eichhornia spp.*), water lily (*Nymphaea spp.*), cattails (*Typha spp.*), and duckweed (*Lemna spp.*) (EPA 2003).

3.4.2 Existing Plant Community

During the field survey of the site in March 2023, two different wetland habitats were found within the Mitigation Site. The dominant habitat type on the Mitigation Site is BLH.

Within the BLH wetland habitat on the Site, the dominant species in the tree stratum include Chinese tallow, laurel oak, and red maple. The shrub stratum includes smaller individuals of species in tree stratum plus high coverage of dwarf palmetto (*Sabal minor*). The herbaceous stratum of this habitat type is dominated by species including lizard's tail, dollarweed, and softrush. Sparse seedling red maple and Chinese tallow are also present in the groundcover. The BLH habitat exhibits some signs of treefall due to recent storms, in these areas, the newly opened canopy has led to increased Chinese tallow recruitment.

Within the CYP habitat the tree canopy is dominated by bald cypress, tupelo, and red maple. The shrub stratum is sparse with a few bald cypress and dwarf palmetto. The groundcover within the CYP habitat is sparse and includes bald cypress, lizard's tail, and red maple. The shrub stratum contains small numbers of Chinese tallow and red maple. The groundcover within the CYP habitat includes savannah panic grass, flat sedge, bald cypress, lizard's tail, and red maple.

Additionally, Chinese tallow stem percentages was determined within one-acre plots scattered across the property. The Tree Survey Composition Map (**Exhibit 13**) shows the locations of these plots. One-acre plots were randomly selected to determine the overall percentage of Chinese tallow across the acreage covering at least 10 percent of the acreage of each habitat. Total stems of Chinese tallow versus all other species were counted.

The percent Chinese tallow for each sample plot were then averaged across each habitat type to determine the overall percentage of Chinese tallow. The habitat area that was predominantly Chinese tallow (>50% average) was designated as the rehabilitation area. Areas with Chinese tallow <50% were designated as enhancement areas. The data for each plot and habitat grouping is included in **Table 4**.



Table 4: Percentage Chinese Tallow Data for Friendship River Site

Plot #	Plot Date	Chinese Tallow Stem Count	Other Tree Species Stem Count	Total Stem Count	Stem Percentage of Chinese Tallow
Rehabilitation					
F1	5/11/2023	85	200	285	29.80%
F2	5/11/2023	445	212	657	67.70%
F5	5/11/2023	236	100	336	70.20%
F6	5/11/2023	172	102	274	62.80%
F7	5/11/2023	1,012	136	1148	88.20%
F8	5/11/2023	92	420	512	18.00%
F9	5/15/2023	112	124	236	47.50%
F10	5/15/2023	143	112	255	56.10%
F11	5/15/2023	62	253	315	19.70%
F12	5/15/2023	480	176	656	73.20%
F13	5/15/2023	213	284	497	42.90%
F14	5/15/2023	228	264	492	46.30%
F15	5/15/2023	102	192	294	34.70%
F16	5/15/2023	8	676	684	1.20%
F17	5/15/2023	193	120	313	61.70%
F18	5/16/2023	173	272	445	38.90%
F19	5/16/2023	367	68	435	84.40%
F20	5/16/2023	112	104	216	51.90%
F21	5/16/2023	164	228	392	41.80%
F22	3/3/2024	45	405	450	10%
	Total	4,444	4,448	8,892	50%
Enhancement					
F3	5/11/2023	60	184	244	24.60%
F4	5/11/2023	47	102	149	31.50%
	Total	107	286	393	27%

Details for the proposed mitigation habitats are provided below:

BLH Enhancement area has Chinese tallow coverage greater than 30 percent. This area included plots F3 and F4 which comprised an average of 27% Chinese tallow stems. However, this area also had a preponderance of soft mast species. Removal of the invasive species and planting of native BLH species shall improve multiple aquatic resource functions and alter the composition of the vegetation present to a more natural and sustainable habitat.

BLH Rehabilitation areas have Chinese tallow of 50 percent or more of total cover. Removal of the invasive species and planting of native BLH species shall improve multiple aquatic resource functions and alter the composition of the vegetation present to a more natural and sustainable habitat. This area includes tallow percentage plots F1, F2 and F5 to F21 which averaged 52% tallow stems per acre.



CYP Preservation areas have minimal invasive species coverage, generally less than 10 percent. Removal of Chinese tallow will provide a higher quality habitat of the existing CYP wetlands and wildlife and reduce the spread of Chinese tallow to adjacent habitats.

CYP Enhancement areas contain minimal hard mast species and a significant portion of the existing overstory trees are severely stressed due to constant inundation. Removal of the invasive species and planting of baldcypress shall improve multiple aquatic resource functions and alter the composition of the vegetation present to a more natural and sustainable habitat.

The acreages of these habitat types and estimates of Chinese tallow in each habitat type is included in the **Exhibit 13** Tree Composition Survey.

3.5 General Need for the Project in this Area

Wetland losses in the northern Gulf Coastal Region of the United States have become a pressing issue that requires critical action to address. The Lake Pontchartrain basin is the largest watershed basin in Louisiana and includes several metropolitan areas including Baton Rouge, Hammond, Gonzales, Metairie, New Orleans, Covington, Mandeville, Lacombe, and Slidell. Commercial and residential development in and around these metropolitan areas are a major ongoing driver of mitigation demand, as well as public works and utility projects to support these communities. The southern part of the watershed, particularly around Geismar and near the Mississippi River, is a popular location in the state for large industrial complexes related to chemical operations and oil and gas. Wetlands within this basin are critical in that they not only provide storm protection, but they also serve as important wildlife habitats for a wide range of species including migratory waterfowl and other birds, finfish, shellfish, furbearers, and alligators.

The restoration of BLH and CYP wetlands on the Mitigation Site will provide additional wetland functions and values, which are not realized in the Site's current condition. These include, but are not limited to, expanding the acreage of existing BLH and CYP forest; increasing the quality of wildlife habitat; increased organic matter, and increasing watershed water quality.

BLH habitats, specifically, are important for a variety of fauna, important for water quality maintenance and important in regulating flooding and stream recharge. BLH forest loss is estimated to be 50 to 75 percent of the original pre-settlement acreage (LNHP 2009). Furthermore, BLH in Louisiana are known to support 61 Species of Greatest Conservation Need (SGCN) which include 1 mollusk species, 1 crustacean species, 6 arthropods species, 5 amphibian species, 4 reptile species, 20 bird species, 10 mammal species, and 14 plant species. Baldcypress-Tupelo-Blackgum Swamps support 37 SGCN which include 4 arthropod species, 3 amphibian species, 3 reptile species, 9 bird species, 6 mammal species, and 12 plant species. Freshwater floating marshes support 18 SGCN which include 1 arthropod species, 1 reptile species, 13 bird species, 1 mammal species, and 2 plant species (Holcombe et al. 2015).

CYP habitat has been reduced state-wide by an estimated 25 to 50 percent of the original pre-settlement acreage. All of Louisiana's swamps are threatened by land loss and encroaching interests which prevent adequate regeneration of these habitats (LNHP 2009). Furthermore, CYP habitats support 18 species of conservation concern. Therefore, the Site shall protect both habitats by adding to its diminishing acreage, reintroducing the natural hydrologic regime, and native vegetation.

The Pontchartrain Basin is constantly experiencing development and urbanization that will inevitably lead to unavoidable impacts to local wetlands.

This Mitigation Site is needed to allow for mitigation to offset industrial and population growth. Not only will this Mitigation Site provide offsets for projects such as pipelines and roadways, but it will also help with natural processes such as storm water retention, flood storage, and help provide a habitat for species of greatest conservation need.



3.5.1 Watershed Plans the Project Would Potentially Accommodate

- 1) Louisiana's Nutrient Reduction and Management Strategy (LDEQ 2019) the December 2019 Edition, was developed as a concerted effort between numerous state and federal agencies and through engagement with stakeholders within Louisiana, for the purpose of managing nutrients (nitrogen and phosphorus) to protect, improve and restore water quality in Louisiana's inland and coastal waters. The vision is to manage nutrient levels in Louisiana to ensure the support of healthy aquatic communities, clean water for public, agricultural and industrial use, to engage stakeholders at the local level and to actively support water quality protection, improvement, and restoration. Additionally, it is stated these protection, improvement and restoration strategies at the local level may have a cumulative and positive impact on the health of the receiving waterbodies both within the State and Gulf of Mexico.
- 2) Louisiana's Nonpoint Source Management Plan (NPSPPMP 2022) is prepared by the Louisiana Department of Environmental Quality (LDEQ) and numerous state and federal partners. The NPSMP has a plan for the Lake Pontchartrain River Basin, which encompasses the project area. The goal of NPSMP is to reduce nonpoint source pollution in urban and rural areas.

3.5.2 Watershed Benefits

The watershed benefits this project will provide based on watershed needs identified above are as follows:

- 1) This Mitigation Site accomplishes all aspects of the vision for the LNRMS by enhancing, preserving, and rehabilitating BLH and preserving CYP, which shall increase the water quality (McDaniels 2022) within the Mitigation Site, and reduce nutrients in the receiving watersheds.
- 2) The Mitigation Site will protect BLH and CYP habitats by adding to their diminishing acreages, preserving their natural hydrologic regimes, and native vegetation in perpetuity.
- 3) The Mitigation Site may offer some potential to enhance suitable habitat for species of concern and wetland dependent species. Habitat may be improved or created for species that require wetland habitat by improving water quality, in- and near-stream forage, and providing stable conditions not subject to regular maintenance.
- 4) BLH habitats are important for a variety of fauna, maintenance of water quality and important in regulating flooding and stream recharge. BLH forest loss is estimated to be 50 to 75 percent of the original pre-settlement acreage (LNHP 2009).
- 5) The Mitigation Site is needed to provide wetland mitigation options to offset industrial and population growth.

3.5.3 Site Selection

The following is a description of the Mitigation Site selection criteria used to determine the appropriateness of the Mitigation Site for use as compensatory mitigation:

- 1) The mitigation habitats needed to be compatible with the surrounding habitats, adjacent land uses, existing watershed plans and not adversely impact the surrounding lands.
- 2) The Mitigation Site had to facilitate habitat connectivity in that it needed to increase the acreages of existing wetland habitats or have the potential to do so in the future and not act as a stand-alone feature in the landscape.



- 3) Soil characteristics of the Mitigation Site had to be conducive to the establishment of the desired vegetative community.
- 4) Hydrology had to be such as to allow for hydrological restoration described in the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual, 1987 Manual.
- 5) The Mitigation Site had to be ecologically important to the watershed and aid in increasing the chemical, physical and biological functionalities important to the ecosystem.
- 6) The Mitigation Site had to aid in achieving the goals of various State and local management plans, such as the State's non-point source management plan.

4. Establishment of a Mitigation Site

This section describes how the Mitigation Site will be established, as stated in 33 CFR 332.8(d)(2) (ii); the technical feasibility of the proposed Mitigation Site, as stated in 33 CFR 332.8(d)(2) (iv); and the assurance of sufficient water rights to support the long-term sustainability of the Mitigation Site, as stated in 33 CFR 332.8(d)(2)(vii)(A) (Federal Register 2008).

4.1 Site Restoration Plan

This section provides information on the proposed vegetative work that was determined to be necessary for rehabilitation, enhancement, and preservation of the proposed Mitigation Site (**Exhibit 12**).

The Mitigation Site is proposed to rehabilitate 139.0 acres of BLH, enhance 26.4 acres of BLH and 47.7 acres of CYP and preserve 106.5 acres of CYP. There is a total of 0.6 acres of non-mitigation features on the Site (access path and a food plot), and a 179.8-acre buffer inclusion equating to a 500-acre Mitigation Site (**Exhibit 2**). To accomplish this task, the Sponsor shall complete the following habitat management work:

Mitigation work plan will consist of the removal of nuisance Chinese tallow, supplemental replanting of native vegetation, and ongoing mechanical/chemical maintenance and monitoring of nuisance/invasive species. Details for each of these methods are described in the subsections below.

4.1.1 Construction Work Plan

4.1.1.1. Mechanical / Chemical Control of Undesirable Trees

Areas in need of treatment through mechanical and/or chemical control of Chinese tallow will be determined based on preliminary habitat assessment data.

The primary method of control will be through hack-and-squirt techniques, using approved herbicides.

4.1.1.2. Site Preparation for Planting Procedures

Following initial nuisance/invasive species eradication efforts, supplemental planting of desirable hardwood species will be conducted. Periodic maintenance through herbicide treatment (foliage application and/or hack and squirt methods) will be used to prevent recruitment of nuisance species and reduce the competition pressures from weedy Nuisance species eradication and Site preparation will begin immediately upon approval of the Work Plan.



4.1.2 Vegetative Work Plan

4.1.2.1 BLH and CYP Planting Specifications

Tree plantings shall consist of one (1) or two (2) year old bare-root seedling species listed in **Table 5**, obtained from a Louisiana registered, licensed nursery grower. If seedlings listed in **Table 5** are not available, then substitutions may be made as approved by the CEMVN. The Sponsor will mix species in such a manner that will ensure adequate species diversity and that monotypic tree rows will not be established. Adequate time will be allowed for reserving seedlings from nurseries. BLH seedlings will be hand planted into the existing forest to achieve a stand density of approximately 538 seedlings per acre. CYP areas will only be reforested with cypress seedlings to achieve a stand density of approximately 302 seedlings per acre. Planting will occur between December 15 through March 15.

During recent wetland delineation and other data gathering events, the Sponsor has observed very high concentrations of naturally recruited soft mast trees growing within the BLH habitat. Therefore, only hard mast species will be planted to achieve an overall hard mast dominated forest. The species mix for bottomland hardwood habitat may include any mixture of the native hard mast species listed in **Table 5**.

The specific list of planted species, which is dependent upon availability, shall be provided in the As-Built Report.

Table 5: Proposed BLH Planting List

Scientific Name	Common Name	Mast
<i>Quercus pagoda</i>	Cherry-Bark Oak	Hard
<i>Quercus nigra</i>	Water Oak	Hard
<i>Quercus phellos</i>	Willow Oak	Hard
<i>Quercus michauxii</i>	Cow Oak	Hard
<i>Quercus laurifolia</i>	Laurel Oak	Hard
<i>Carya illinoinensis</i>	Sweet Pecan	Hard
<i>Carya aquatica</i>	Water Hickory	Hard
<i>Quercus lyrata</i>	Overcup Oak	Hard

4.1.3 Vegetation Maintenance Plan of Invasive/Non-Native Plants

An herbicide maintenance plan utilizing chemical control of existing problematic invasive non-native/nuisance species will be implemented throughout the life of the Mitigation Site, post-planting.

4.1.4 Sources of Water

Source of water to the Mitigation Site include rainfall, overland sheet flow, backwater swamp flooding and groundwater. Surface water enters the property and then disperses across generally to the south and east (**Exhibit 11**). The levee and natural ridge along the western boundary prevent surface water from moving further west. During the wetland delineation, wetland hydrology criteria were assessed based on observation of primary and/or secondary field indicators. Hydrology indicators observed at the Mitigation Site include surface water, high water table, saturation, water marks, sediment deposits, water-stained leaves, crayfish burrows, and positive FAC-Neutral Test.

4.2 Technical Feasibility

The proposed mitigation activities include 1) initial nuisance species removal for Site preparation, 2) vegetation planting and 3) monitoring. The presence of hydric soils and relatively low relief of the Mitigation Site indicate that minimal soil work shall be required for the successful restoration of BLH habitat. Existing BLH and CYP habitats adjacent to the Mitigation Site indicate a high potential for successful restoration. Drainage modifications will not be required to achieve hydrologic success at the Site. Furthermore, the Mitigation Site's conservation objective shall be achieved through preservation of



the Mitigation Site from future development activities through legal documentation (e.g., conservation easements).

4.3 Current Site Risks

The Sponsor does not foresee any adverse impacts to the Mitigation Site resulting from continued existence and operation of neighboring land uses. There are no existing hydrologic disturbances on or adjacent to the Site at the present time. In the 1990's, the levee on the western boundary was built to protect the residential and commercial development to the west from the swamp. The levee does not provide any risk to the proposed mitigation site and the adjacent swamp.

The Mitigation Site is otherwise free of encumbrances. The Mitigation Site and adjacent property is within unincorporated land and absent of zoning regulations.

4.4 Long-Term Sustainability of the Mitigation Site

The Mitigation Site Sponsor shall be the responsible agent for the long-term management of the Mitigation Site unless a third-party entity is established and given authority to maintain the Mitigation Site in perpetuity through approval by the IRT.

The primary long-term strategy of the Mitigation Site is that it ultimately be self-sustaining with little to no maintenance. This management strategy is linked to the development stage of the mitigation banking process, particularly in the design and establishment of the Mitigation Site. Native canopy establishment and nuisance species removal will fortify the site. However, if the Mitigation Site is underperforming and not meeting the proposed performance standards, the Mitigation Site Sponsor shall provide maintenance or adaptive management to address the shortfalls observed. These methodologies may include exotic/invasive management or easement enforcement actions. Maintenance and adaptive management shall be tailored to specific disturbances to achieve optimal results.

Prior to final release and in accordance with the timelines established in the final MBI, the Mitigation Site Sponsor shall establish a non-wasting endowment supporting the Mitigation Site's long-term maintenance plan. As previously stated, the Mitigation Site Sponsor shall be the long-term manager of the Mitigation Site property. Any expenditure must be related to the maintenance of the Mitigation Site.

4.5 Assurance of Water Rights

Louisiana Civil Code, Article 490, treats water resources under the theory of absolute ownership and rule of capture, provided capture does not result in harm to neighbors. The Mitigation Site shall depend primarily on precipitation, runoff from surroundings areas and high-water tables. Therefore, long-term hydrology maintenance shall not be dependent upon the utilization of water captured from irrigation wells. As a result, sufficient water rights are ensured. The Sponsor does not foresee any adverse impacts on neighboring properties due to this project.

5. Proposed Service Area

This section identifies the proposed services areas as stated in 33 CFR § 332.8(d) (2) and the general need for the proposed Mitigation Site in this area as stated in 33 CFR § 332.8(d)(2)(iv).

The proposed service area was determined by identifying which watershed basin the Mitigation Site is in according to the watersheds identified in the USACE created LRAM document.

The proposed Mitigation Site was derived based on needs within the LRAM watershed by examining the following variables:

- 1) Shall provide mitigation for activities associated with the continued urban growth;
- 2) Shall provide mitigation for the area, which has a history of anthropogenic development;



- 3) Shall improve water quality in the local and downstream watershed;
- 4) Shall increase habitat for and support native flora and fauna;
- 5) Shall provide compensatory mitigation for the CEMVN approved projects within the Lake Pontchartrain LRAM Basin;
- 6) Shall increase the hydrological connection with the surrounding wetlands; and
- 7) Shall support the goals for various statewide approved management plans.

6. Operation of the Mitigation Site

This section describes how the proposed Mitigation Site will be operated, as stated in 33 CFR 332.8(d)(2) (ii) and provides details on the proposed ownership arrangements and long-term management strategy for the Mitigation Site, as stated in 33 CFR 332.8(d)(2) (v.).

6.1 Project Representatives

Sponsor/Landowner/Operations Manager:

*Sponsor: RES Lake Pontchartrain, LLC
c/o Resource Environmental Solutions, LLC
303 Rue Louie XIV Blvd., Suite 204
Lafayette, Louisiana 70508
Point of Contact: Frank Cuccio
Email: fcuccio@res.us
Phone Number: (337)443-6902*

*Landowners: Donley, Kent E.
17453 Lake Iris
Baton Rouge, LA 70817*

*Agent: Resource Environmental Solutions, LLC
6575 West Loop South, Suite 300
Houston, Texas 77401
Point of Contact: Matt Genotte
Email: mgenotte@res.us
Phone Number: (346) 310-6211*

6.2 Qualifications of the Sponsor

RES' experience includes:

- Restoration, enhancement, and preservation of 62,637 acres of wetlands
- Restoration of over 525 miles of streams
- Rehabilitation, preservation, and/or management of over 15,000 acres of special-status species habitat
- Currently, conduct monitoring and maintenance (including invasive species management) for over 50,000 acres of mitigation habitat
- Successful close-out of over 100 mitigation Sites
- Permitting and development of over 200 permittee-responsible mitigation projects



- Design, permitting, management, and development of 197 wetland, stream, species, and conservation banks
- Delivery of 20,000 acres of custom, turnkey mitigation solutions
- Design and construction of over 350 stormwater management facilities
- Reductions of over 280 tons of water quality nutrients
- Planting of over 20,000,000 trees across all operating regions
- Development and operation of nurseries in six states including the largest coastal nursery in Louisiana
- Facilitation of compensatory mitigation and nutrient offsets for over 3,980 federal and state permits

We draw on our dedicated, in-house resources and deep experience across all phases of ecological restoration projects in defining our project approach, which seeks to balance performance and cost in the manner that is most beneficial to our clients.

6.3 Proposed Long-Term Ownership and Management Representatives

The MBI will provide detailed information regarding the Site's operation, including long-term management for review and approval by the IRT. Upon approval of the Site's long-term success by the IRT, the Site shall begin the long-term land stewardship period. The long-term steward shall be responsible for periodic inspection of the Site to ensure that restrictions required in the Conservation Servitude of the deed restriction document(s) are upheld.

6.4 Site Protection

The Owner of the proposed Mitigation Site shall burden the Mitigation Site with perpetual conservation servitude in accordance with the Louisiana Conservation Servitude Act, R.S. 9:1271 et seq. The conservation servitude shall be signed and filed in the Ascension Parish office with the MBI and Department of Army (DA) permits attached. The conservation servitude shall be filed prior to performing any work authorized by DA permit MVN-2023-00868-MG. After filing, a copy of the recorded conservation servitude, clearly showing the book, page, and date of filing, will be provided to CEMVN. Upon receipt of a copy of the recorded conservation servitude, CEMVN will advise the Sponsor in writing that work may proceed.

Prior to execution of the conservation servitude, the Sponsor shall ensure that the entity proposed to hold the conservation servitude is a CEMVN approved Holder by virtue of being either a governmental body empowered to hold an interest in immovable property under the laws of the State of Louisiana or the United States of America; or a non-profit corporation organized pursuant to Louisiana's Non-Profit Corporation Law, Title 12, Sections 201-269 of the Louisiana Revised Statutes, the purposes or powers of which include retaining or protecting the natural, scenic, or open-space values of immovable property; assuring the availability of immovable property for agricultural, forest, recreational or open-space use; protecting natural resources; maintaining or enhancing air or water quality; or preserving the historical, archaeological or cultural aspects of unimproved immovable property. Upon execution of the conservation servitude previously described, the Holder shall hold and enforce the conservation servitude placed on the Mitigation Site and the Mitigation Site shall be protected in perpetuity.

Modification of the conservation servitude is not permissible without prior written authorization from CEMVN. Any request to modify the conservation servitude, or to the rights and obligations created under it, shall be made in writing, and forwarded to CEMVN for review and approval. All requests must describe the existing language and the requested modification.

The Owner acknowledges and agrees that the conservation servitude applies to all the Mitigation Site within the boundary of the mitigation Site and not just those portions of the Mitigation Site identified as wetlands.



6.5 Long-Term Strategy

The Long-Term Steward will undertake the management of the Site after closeout. The Long-Term Steward will be RES, unless a different Long-Term Steward is appointed in accordance with the 2008 Final Rule (33 CFR § 332.7(d)(1)) and subject to an approval by the USACE. The goal of long-term management is to foster the long-term viability of the Site's aquatic resources. The Long-Term Steward will conduct inspections of the Site to determine the specific needs of the Site to meet this goal. The Long-Term Steward actively manages the property as needed. To assist the Long-Term Steward in achieving this goal, the following is a list of objectives that will define the long-term viability:

1. The Long-Term Steward will maintain native vegetation on the Site by using the best available science and current forestry practices (i.e., planting, thinning, application of pesticides, removal of destructive wildlife.).
2. The Long-Term Steward will control the encroachment of invasive plant species on the Site by using the best available science and practices (i.e., herbicides, manual removal, burning, chainsaw).
3. The Long-Term Steward will repair erosion and obstructions to drainage at the Site utilizing appropriate natural materials to ensure the Site maintains riparian buffer conditions.

To ensure that funds are available to provide for the perpetual management of the Mitigation Site, the Sponsor will fund a long-term management investment account. The investment account is designed to be a non-wasting endowment with earnings sufficient to fund the annual maintenance cost while accounting for inflation.

7. References

- Federal Register. 2008. Compensatory Mitigation for Losses of Aquatic Resources; Final Rule. 33 CFR §325, 328 and 332. (Volume 73, Number 70). Rules and Regulations. Accessed September 2020. Available URL: <https://www.federalregister.gov>.
- Louisiana Department of Environmental Quality (LDEQ). 2019. Louisiana Nutrient Reduction and Management Strategy. URL: <https://www.deq.louisiana.gov/page/nutrient-management-strategy>.
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Natural Resources Conservation Service (2006) Land Resource Regions and Major Land Resource Areas of the United States, the Caribbean, and the Pacific Basin. United States Department of Agriculture Handbook 296.

Omernik, J.M. (1987) Ecoregions of the Conterminous United States (map supplement): Annals of the Association of American Geographers, v. 77, no. 1, p. 118-125, scale 1:7,500,000.



Exhibits

Exhibit 1 Figure 1 Vicinity and Service Area

Friendship River Tract Ascension Parish, Louisiana

- ★ Project Location
- ▭ Lake Pontchartrain Basin
- ▭ Service Area
- ▭ 8-digit HUC











Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: ESRI World Street Map
Spatial Reference:
NAD 1983 StatePlane Louisiana South FIPS 1702 Feet
Date: 5/6/2024
Project Number: 107907



Exhibit 2 Figure 1 Mitigation Habitat Plan

Friendship River Tract Ascension Parish, Louisiana

-  Project Boundary (500.0 ac)
-  10' Access Path (0.4 ac)
-  Food Plot No. 2 (0.2 ac)
-  Bottomland Hardwood Enhancement (26.4 ac)
-  Bottomland Hardwood Rehabilitation (139.0 ac)
-  Wetland Buffer Inclusion (179.8 ac)
-  Cypress Preservation (106.5 ac)
-  Cypress Enhancement (47.7 ac)



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: 2023 NAIP

Spatial Reference:

NAD 1983 2011 StatePlane Louisiana South
FIPS 1702 Ft US

Date: 5/6/2024

Project Number: 107907

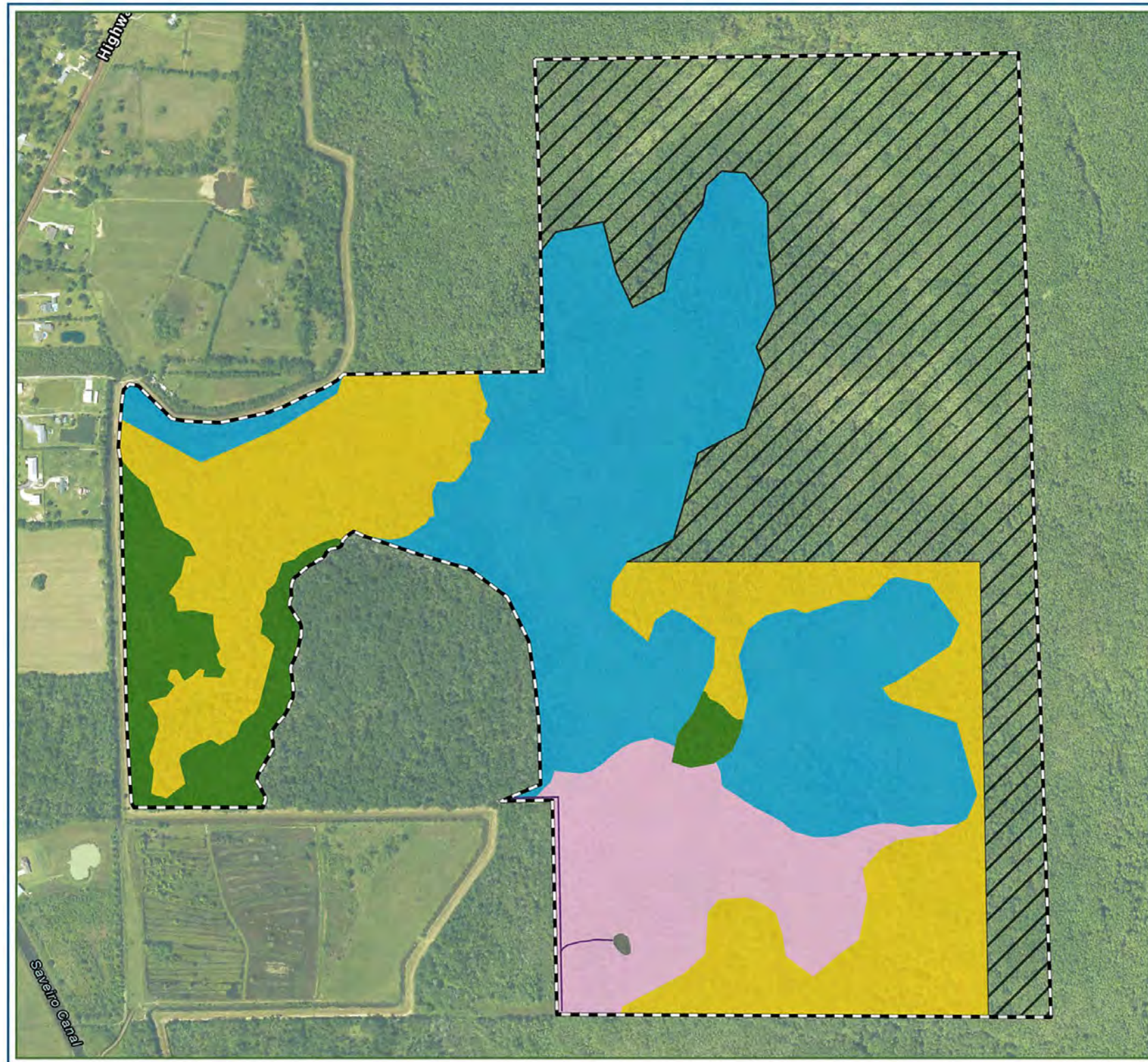


Exhibit 3 Figure 1 Driving Directions

Friendship River Tract Ascension Parish, Louisiana

 Project Boundary (500.0 ac)



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: ESRI World Street Map

Spatial Reference:

NAD 1983 2011 StatePlane Louisiana South
FIPS 1702 Ft US

Date: 7/8/2024

Project Number: 107907

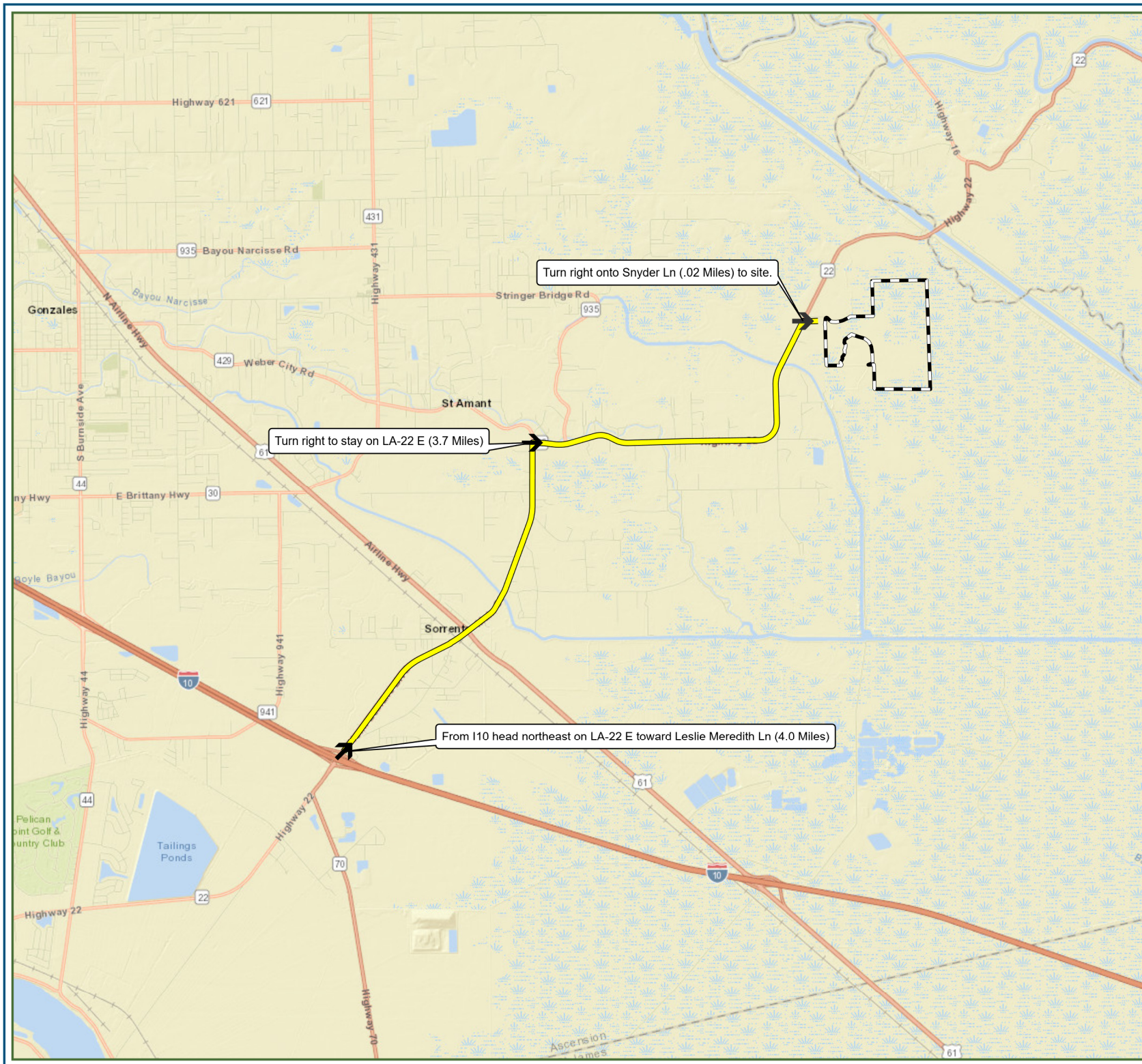


Exhibit 4 Figure 1 Topography Map

Friendship River Tract
Ascension Parish, Louisiana

 Project Boundary (500.0 ac)



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: USGS Topo Map.

Spatial Reference:

NAD 1983 2011 StatePlane Louisiana South
FIPS 1702 Ft US

Date: 5/6/2024

Project Number: 107907

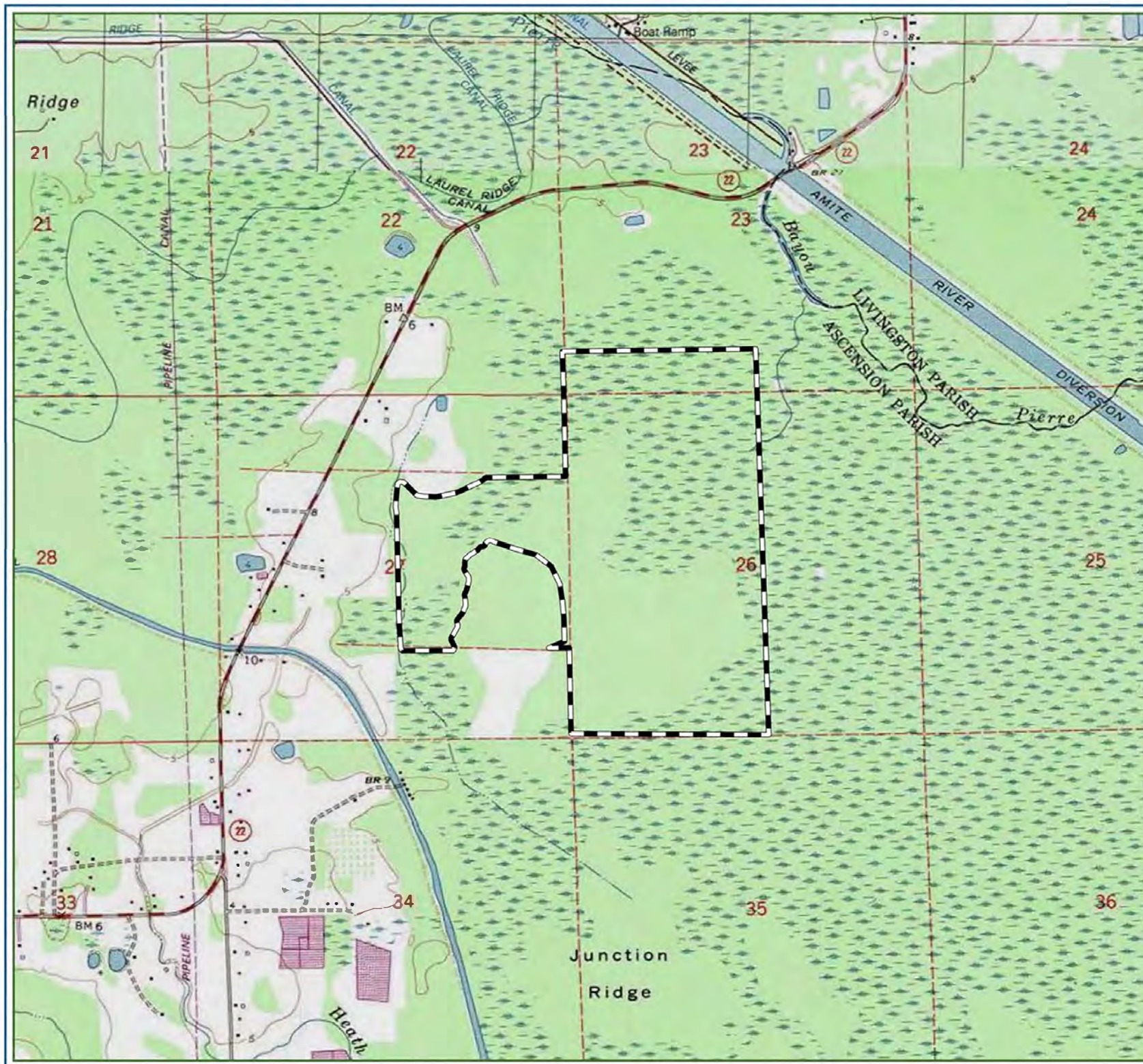


Exhibit 5 Figure 1
1998 Aerial

Friendship River Tract
Ascension Parish, Louisiana

 Project Boundary (500.0 ac)



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: 1998 DOQQ

Spatial Reference:

NAD 1983 2011 StatePlane Louisiana South
FIPS 1702 Ft US

Date: 5/6/2024

Project Number: 107907

Exhibit 5 Figure 2
2004 Aerial

Friendship River Tract
Ascension Parish, Louisiana

 Project Boundary (500.0 ac)



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: 2004 DOQQ.

Spatial Reference:

NAD 1983 2011 StatePlane Louisiana South
FIPS 1702 Ft US

Date: 5/6/2024

Project Number: 107907

Exhibit 5 Figure 3
2008 Aerial

Friendship River Tract
Ascension Parish, Louisiana

 Project Boundary (500.0 ac)



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: 2008 DOQQ.

Spatial Reference:

NAD 1983 2011 StatePlane Louisiana South
FIPS 1702 Ft US

Date: 5/6/2024

Project Number: 107907



Exhibit 5 Figure 4
2010 Aerial

Friendship River Tract
Ascension Parish, Louisiana

 Project Boundary (500.0 ac)



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: 2010 gohsep..

Spatial Reference:

NAD 1983 2011 StatePlane Louisiana South
FIPS 1702 Ft US

Date: 5/6/2024

Project Number: 107907

Exhibit 5 Figure 5
2019 Aerial

Friendship River Tract
Ascension Parish, Louisiana

 Project Boundary (500.0 ac)



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: 2019 NAIP.

Spatial Reference:

NAD 1983 2011 StatePlane Louisiana South
FIPS 1702 Ft US

Date: 5/6/2024

Project Number: 107907

Exhibit 5 Figure 6
Aerial 2021 - Fallen Trees

Friendship River Tract
Ascension Parish, Louisiana

 Project Boundary (500.0 ac)



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: 2021 NAIP.

Spatial Reference:

NAD 1983 StatePlane Louisiana South FIPS 1702 Feet

Date: 5/6/2024

Project Number: 107907

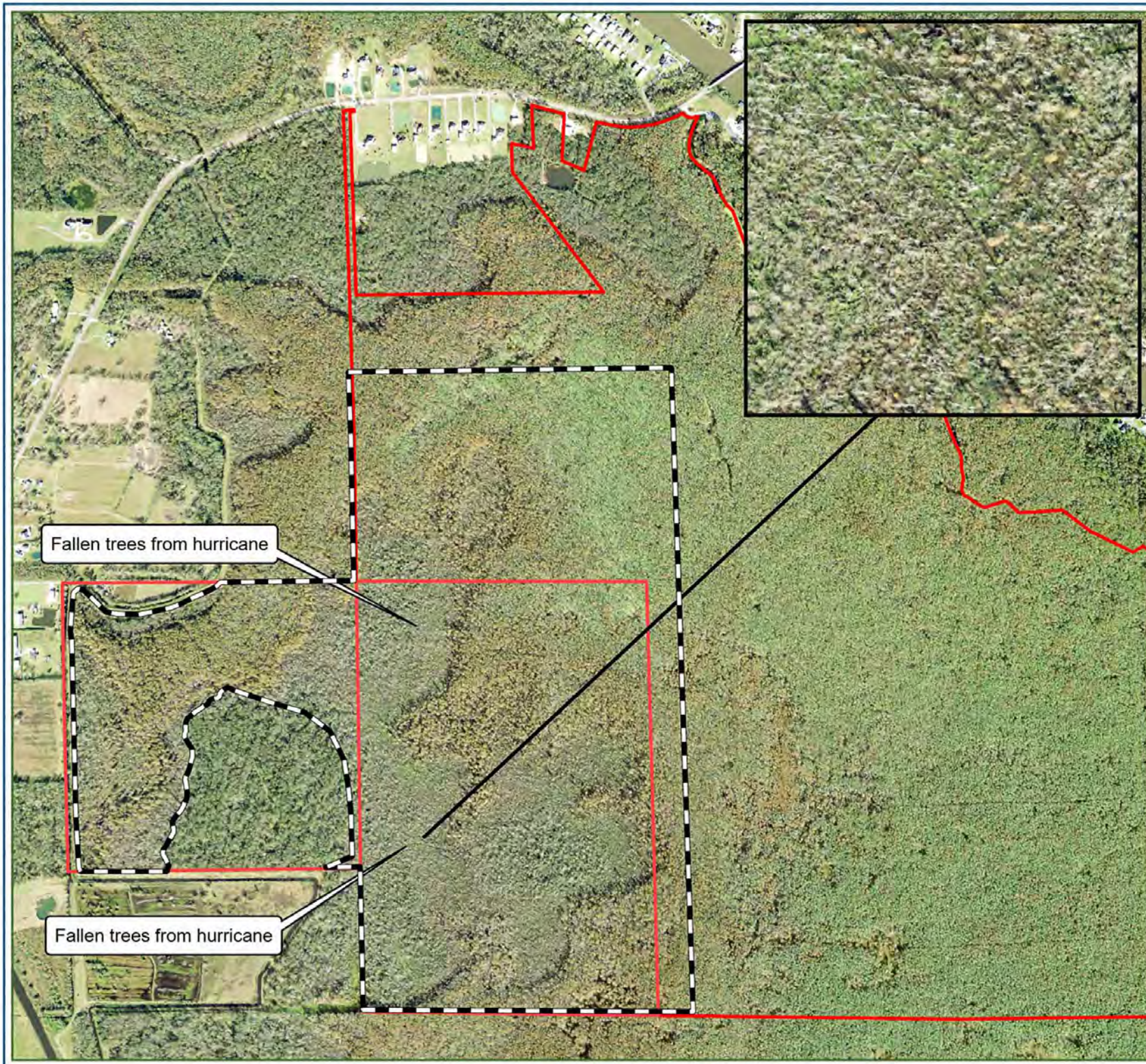



Exhibit 6 Figure 1 Current Land Use

Friendship River Tract Ascension Parish, Louisiana

 Project Boundary (500.0 ac)
Sentinel-2 10m Land Use/Land Cover
Time Series

-  Water
-  Trees
-  Crops
-  Built Area
-  Rangeland



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: Sentinel-2 10m land use/land cover time series of the world. Produced by Impact Observatory, Microsoft, and Esri.

Spatial Reference:
NAD 1983 2011 StatePlane Louisiana South FIPS 1702
Ft US


Date: 5/6/2024

Project Number: 107907

Exhibit 7 Figure 1

One-Mile Land Use/ Land Cover

Friendship River Tract
Ascension Parish, Louisiana

-  Project Boundary (500.0 ac)
-  One Mile Radius

Sentinel-2 10m Land Use/Land Cover
Time Series

-  Water
-  Trees
-  Crops
-  Built Area
-  Bare Ground
-  Rangeland



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: Sentinel-2 10m land use/land cover time series of the world. Produced by Impact Observatory, Microsoft, and Esri.

Spatial Reference:
NAD 1983 2011 StatePlane Louisiana South FIPS 1702
Ft US

Date: 5/6/2024







Project Number: 107907



Exhibit 8 Figure 1 Soil Map

Friendship River Tract
Ascension Parish, Louisiana

Soil Symbol	Soil Name	Hydric Rating	Acres	Percent Coverage
BA	Barbary muck, 0 to 1 percent slopes, frequently flooded	100	267.6	53.5%
Es	Essen silt loam	10	0.3	0.1%
Fo	Foley-Deerford complex	50	24.4	4.9%
Sj	Schriever clay, 0 to 1 percent slopes, frequently flooded	100	206.8	41.3%
Ss	Schriever silty clay loam, 0 to 1 percent slopes, rarely flooded	90	1.1	0.2%

-  Project Boundary (500.0 ac)
-  BA, Barbary muck, 0 to 1 percent slopes, frequently flooded
-  Es, Essen silt loam
-  Fo, Foley-Deerford complex
-  Sj, Schriever clay, 0 to 1 percent slopes, frequently flooded
-  Ss, Schriever silty clay loam, 0 to 1 percent slopes, rarely flooded



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: USDA Web Soil Survey.

Spatial Reference:

NAD 1983 2011 StatePlane Louisiana South
FIPS 1702 Ft US

Date: 5/6/2024

Project Number: 107907




Exhibit 9 Figure 1 Contributing Watershed



Friendship River Tract
Ascension Parish, Louisiana

 Project Boundary (500.0 ac)

NHD Flowlines

 Artificial Path
 Stream/River

NHD Waterbody

 Swamp/Marsh
 Lake/Pond



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: 2023 NAIP, USGS NHD Dataset Plus.
Spatial Reference:
NAD 1983 2011 StatePlane Louisiana South FIPS 1702
Feet US
Date: 5/6/2024
Project Number: 107097

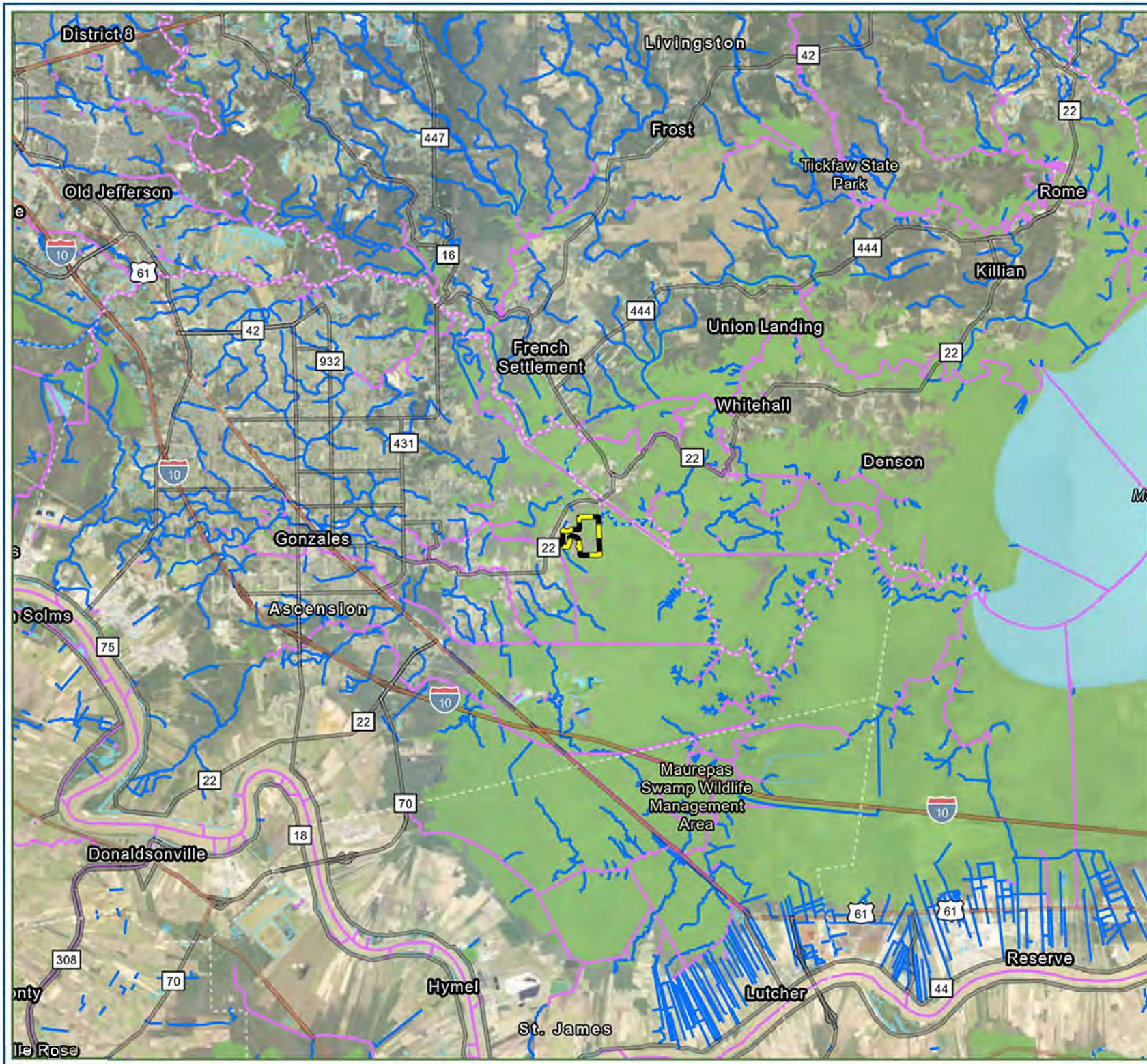


Exhibit 9 Figure 2 Contributing Watershed

Friendship River Tract
Ascension Parish, Louisiana

 Project Boundary (500.0 ac)

NHD Flowlines

 Artificial Path

 Stream/River

NHD Waterbody

 Swamp/Marsh

 Lake/Pond



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: 2023 NAIP, USGS NHD Dataset Plus.

Spatial Reference:
NAD 1983 2011 StatePlane Louisiana South FIPS 1702
ft US

Date: 5/6/2024

Project Number: 107097



Exhibit 10 Figure 1 Elevations Map

Friendship River Tract
Ascension Parish, Louisiana

 Project Boundary (500.0 ac)
 Elevation Contour



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: USGS 2017 DEM.

Spatial Reference:
NAD 1983 2011 StatePlane Louisiana South
FIPS 1702 Ft US

Date: 5/6/2024



Project Number: 107907



Exhibit 11 Figure 1

Hydrology Pre and Post-Construction

Friendship River Tract
Ascension Parish, Louisiana

-  Project Boundary (500.0 ac)
-  Hydrology



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: USGS Topographic Map.

Spatial Reference:

NAD 1983 2011 StatePlane Louisiana South
FIPS 1702 Ft US









Date: 5/6/2024

Project Number: 107907



Exhibit 12 Figure 1 Hydrological Plan View

Friendship River Tract Ascension Parish, Louisiana

-  Project Boundary (500.0 ac)
-  10' Access Path (0.4 ac)
-  Food Plot No. 2 (0.2 ac)
-  Bottomland Hardwood Enhancement (26.4 ac)
-  Bottomland Hardwood Rehabilitation (139.0 ac)
-  Wetland Buffer Inclusion (179.8 ac)
-  Cypress Preservation (106.5 ac)
-  Cypress Enhancement (47.7 ac)



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

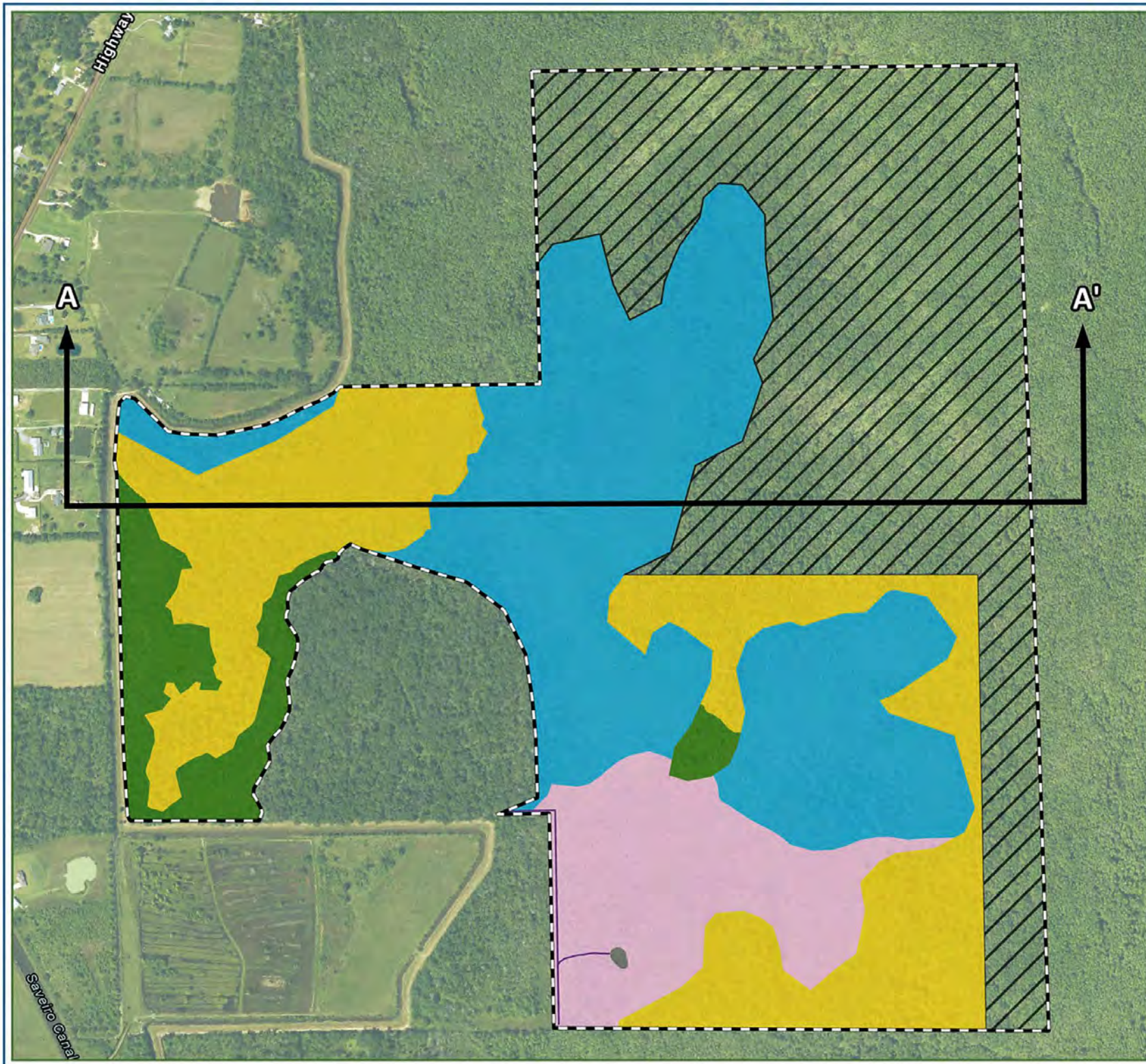
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Spatial Reference:

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Date: 5/6/2024

Project Number: 107907



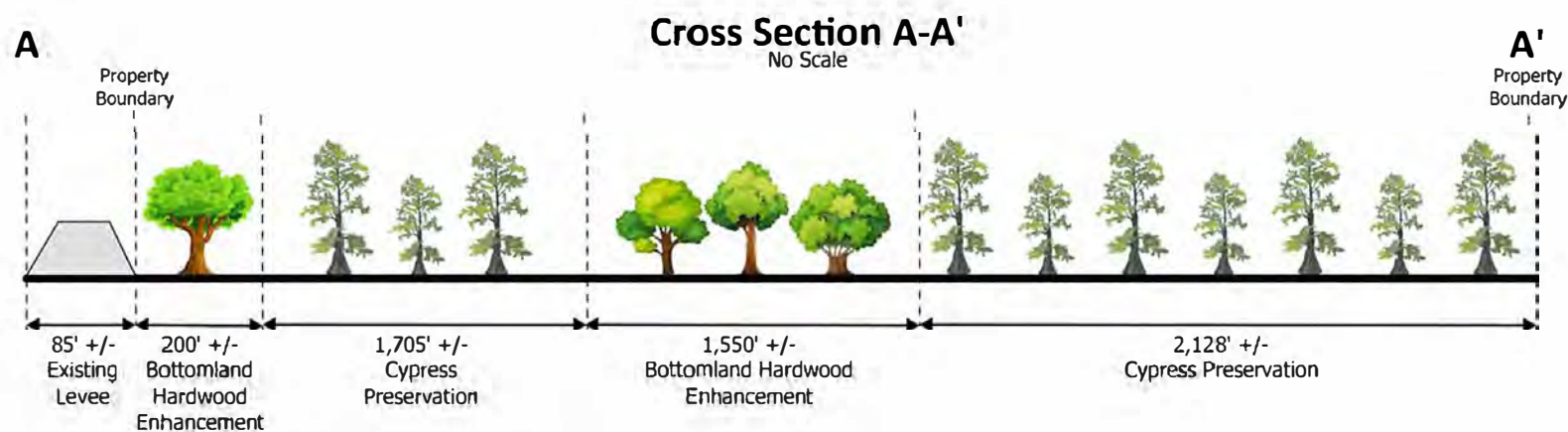


Exhibit 13 Figure 1 Tree Composition

Friendship River Tract
Ascension Parish, Louisiana

Plot ID	Percentage of Invasive Species (Chinese Tallow)
F1	29.8%
F2	67.7%
F3	24.6%
F4	31.5%
F5	70.2%
F6	62.8%
F7	88.2%
F8	18%
F9	47.5%
F10	56.1%
F11	19.7%

Plot ID	Percentage of Invasive Species (Chinese Tallow)
F12	73.2%
F13	42.9%
F14	46.3%
F15	34.7%
F16	1.2%
F17	61.7%
F18	38.9%
F19	84.4%
F20	51.9%
F21	41.8%
F22	10%

- Project Boundary (500.0 ac)
- Habitat Assessment Plots
- 10' Access Path (0.4 ac)
- Food Plot No. 2 (0.2 ac)
- Bottomland Hardwood Enhancement (26.4 ac)
- Bottomland Hardwood Rehabilitation (139.0 ac)
- Wetland Buffer Inclusion (179.8 ac)
- Cypress Preservation (106.5 ac)
- Cypress Enhancement (47.7 ac)



Reference: Project limits are approximate. The property boundaries depicted on this map have not been surveyed and are for prospect assessment purposes only. This information is not to be used as final legal boundaries.

Data Source: 2023 NAIP

Spatial Reference:

NAD 1983 2011 StatePlane Louisiana South
FIPS 1702 Ft US

Date: 5/6/2024

Project Number: 107907





Attachments



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVE
NEW ORLEANS, LA 70118-3651

March 29, 2024

Regulatory Division
Jurisdiction and Enforcement Branch

Richard Greig
Power Engineers, Inc.
301 Main Street, Suite 2200
Baton Rouge, Louisiana 70802

Dear Mr. Greig:

Reference is made to your request for a U.S. Army Corps of Engineers' (Corps) jurisdictional determination on property located in Sections 23, 26, and 27, Township 9 South, Range 4 East, Ascension Parish, Louisiana (enclosed map). Specifically, this property is identified as a 500-acre site (centered at 30.234877, -90.780058).

Based on review of recent maps, aerial photography, soils data, the delineation report provided with your request, and a site inspection conducted on March 7, 2024, we have determined that part of the property contains wetlands that may be subject to Corps' jurisdiction. The approximate limits of the wetlands are designated in red on the map. A Department of the Army (DA) permit under Section 404 of the Clean Water Act will be required prior to the deposition or redistribution of dredged or fill material into waters of the U.S. A portion of the wetlands may also be subject to Section 10 of the Rivers and Harbors Act (RHA). A DA permit will be required prior to any work in waters of the U.S. subject to Section 10 of the RHA.

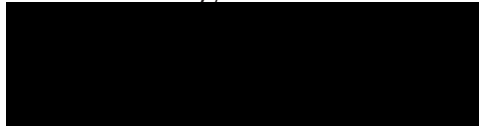
The delineation included herein has been conducted to identify the location and extent of the aquatic resource boundaries and/or the jurisdictional status of aquatic resources for purposes of the Clean Water Act for the particular site identified in this request. This delineation and/or jurisdictional determination may not be valid for the Wetland Conservation Provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should discuss the applicability of a certified wetland determination with the local USDA service center, prior to starting work.

Please be advised that this property is in the Louisiana Coastal Zone and a Coastal Use Permit may be required prior to initiation of any activities on this site. For additional information, contact Ms. Christine Charrier, Office of Coastal Management, Louisiana Department of Natural Resources at (225) 342-7953.

You and your client are advised that this preliminary jurisdictional determination is valid for a period of 5 years from the date of this letter unless new information warrants revision prior to the expiration date. Additionally, this determination is only valid for the identified project or individual(s) only and is not to be used for decision-making by any other individual or entity.

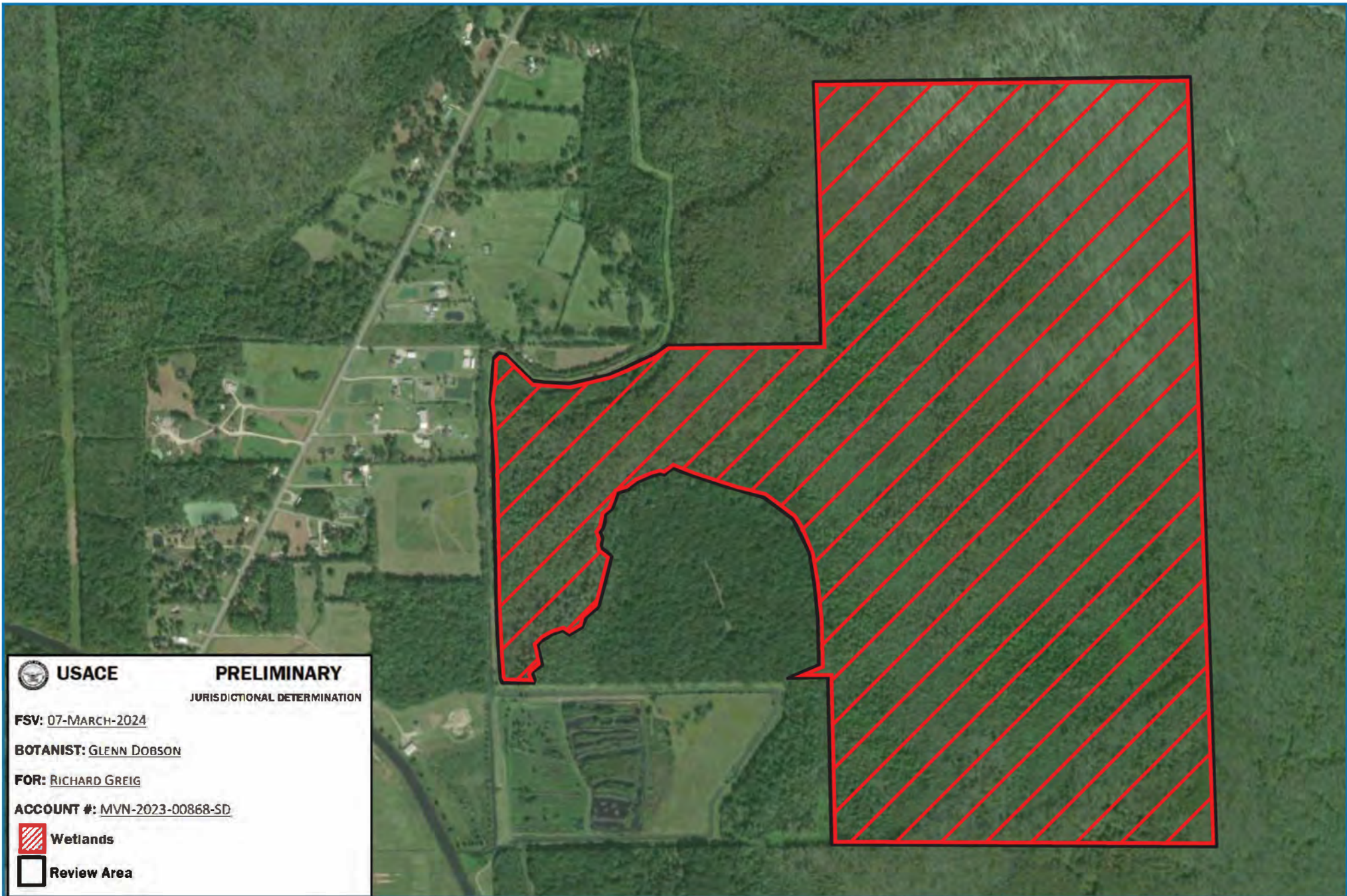
Should there be any questions concerning these matters, please contact Mr. Glenn Dobson at (504) 862-1588 and reference our Account No. MVN-2023-00868-SD. If you have specific questions regarding the permit process or permit applications, please contact our Central Evaluation Branch at (504) 862-1581.

Sincerely,



Chief, Regulatory Division

Enclosures



USACE

PRELIMINARY

JURISDICTIONAL DETERMINATION

FSV: 07-MARCH-2024

BOTANIST: GLENN DOBSON

FOR: RICHARD GREIG

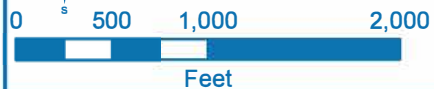
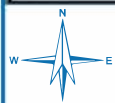
ACCOUNT #: MVN-2023-00868-SD



Wetlands



Review Area



**FRIENDSHIP RIVER TRACT
WETLAND DELINEATION**

ASCENSION PARISH, LOUISIANA

Date: 7/27/2023

Drawn by: KFM

Checked by: RG

