

DEPARTMENT OF THE ARMY CORPS OF ENGINEERS, NEW ORLEANS DISTRICT 7400 LEAKE AVENUE NEW ORLEANS, LOUISIANA 70118

06/3/2019

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SUBJECT: MVN 2018-01446-MS

PUBLIC NOTICE

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

PROPOSED COW BRANCH COASTAL MITIGATION BANK IN TANGIPAHOA PARISH

NAME OF APPLICANT: Delta Land Services, LLC, 1090 Cinclare Drive, Port Allen, Louisiana 70767

LOCATION OF WORK: The 500.6 acre proposed site is located in Sections 7 and 22, Township 7 South, Range 9 East, south of LA 22 approximately 9 miles east of Ponchatoula, Louisiana. The site is centered on the point 30.407788° N, -90.286562° W, located in Hydrologic Unit Code 08070205, as shown in the attached prospectus.

CHARACTER OF WORK: Site restoration shall be accomplished through cessation of silvicultural activities, hydrological restoration and afforestation of the native vegetative community. This includes removal of raised beds utilized for planted pine stems, site preparation and replanting of appropriate species in order to generate bottomland hardwood credits that could be used as compensation for unavoidable impacts to wetlands associated with Department of the Army (DA) permits authorized under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. Additional details of the mitigation plan are included in the attached prospectus.

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

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

Martin S. Mayer Chief, Regulatory Branch

Enclosure

PROSPECTUS FOR THE PROPOSED COW BRANCH COASTAL MITIGATION BANK MVN-2018-01446

TANGIPAHOA PARISH, LOUISIANA



May 17, 2019

PREPARED BY:

DELTA LAND SERVICES, LLC 1090 CINCLARE DRIVE PORT ALLEN, LOUISIANA 70767

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1. Introduction

Delta Land Services, LLC (DLS) has prepared this prospectus in accordance with 33 CFR § 332.8(d)(2) to establish and operate the Cow Branch Coastal Mitigation Bank (Bank). The Bank is a 500.6-acre tract of land proposed to provide compensatory mitigation for unavoidable impacts to "Waters of the United States" authorized through the issuance of Department of the Army (DA) Permits by the U.S. Army Corps of Engineers (USACE) New Orleans District (CEMVN) pursuant to Sections 9 and 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act of 1972. Additionally, the CBCMB may provide compensatory mitigation for unavoidable impacts to coastal wetland resources under the Louisiana Coastal Resources Program (LCRP)¹ per the provisions of LAC 43:724 and RS 49:214.22 (8).

DLS will be the owner and sponsor of the Bank and will construct, operate, monitor, and manage the Bank. DLS will protect the Bank project area by granting the conservation servitude as described in Section 7.4.

2. Physiography and Site Location

The Bank is located in the Mississippi Alluvial Plain and the Southern Coastal Plain Level III Ecoregions, and both the Inland Swamps and Gulf Coast Flatwoods Level IV Ecoregions (73n and 75a); the Mississippi Delta Cotton and Feed Grains as well as the Atlantic and Gulf Coast Lowland Forest Crop land resource regions (LRR O and LRR T); the Southern Mississippi River Alluvium and Eastern Gulf Coast Flatwoods Major Land Resource Areas (MLRA 131A and 152A; NRCS 2006). The regions are characterized by fertile, medium-textured mineral soils, smooth to undulating topography, and a long growing season. Some convex areas exist as narrow rolling intervening ridges with broad and flat interfluves.

The Bank is in Tangipahoa Parish south of Louisiana Highway 22 approximately 9 miles east of Ponchatoula, Louisiana and 8 miles west of Madisonville, Louisiana in Sections 22 and 7 of Township 7 South, Range 9 East (Figures 1 and 2). The approximate site center is located at Latitude 30.407788° and Longitude -90.286562°². The site is located entirely within the Louisiana Coastal Zone Boundary and adjacent to the approximately 28,000-acre Joyce Wildlife Management Area (WMA) management by the Louisiana Department of Wildlife and Fisheries (LDWF).

To get to the site, proceed from the intersection of Interstate Highway 12 and Louisiana Highway 445, proceed south on LA 445 to its intersection with Louisiana Highway 22. Turn left on LA 22 and proceed east for approximately 1.6

¹ The Office of Coastal Management (OCM) of the Louisiana Department of Natural Resources (LDNR) is the agency responsible for implementing the LCRP under the authority of the Louisiana State and Local Coastal Resources Management Act of 1978, as amended (Act 361, La. R.S. 49:214.21 et seq).

² All geographic coordinates are based on North American Datum of 1983 (NAD83)

miles before turning right onto Edwards Road. Drive south on Edwards Road for 0.7 miles and turn right onto Traino Road. Proceed west on Traino Road for 0.3 miles and turn left onto Traino Landing Road. Drive 0.86 miles south on Traino Landing Road to a gravel driveway and gated entrance to the property on the right.

The site lies within the Tangipahoa Subregion as defined by United States Geological Survey (USGS) Hydrologic Unit Code (HUC) 08070205. Natural elevations on the site range from <0 feet on the southern portion to >5 feet³ on the northern portion (Figure 3). Most of the site is in flood zone AE per the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM; Figure 4).

3. Project Goals and Objectives

Most of the site is a pine plantation managed for the purpose of commercial wood production. The goal of the Bank is the rehabilitation⁴, enhancement⁵, and preservation⁶ of coastal spruce pine-hardwood flatwood and bottomland hardwood forested wetland ecosystems and restoration of a forested hardwood buffer as described by the LDWF Natural Heritage Program (LNHP 2009) (Table 1, Figure 5). According to the habitat description of LNHP (2009) and USACE (2017), spruce pine-hardwood flatwoods are natural mixed forest community indigenous to the western Florida parishes in southeast Louisiana. The wetlands variation of this community occupies poorly drained flats, depressional areas and small drainages that lie in a mosaic with higher, nonwetland areas. Hardwoods usually dominate the forest composition but spruce pine (*Pinus glabra*)⁷ can dominate areas within the stand with loblolly pine (Pinus taeda) also present at some level. The topography is flat to gently undulating and several inches of water may occur on the surface during winter months with soil saturation continuing into the spring (LNHP 2009 and USACE 2017). With regards to credit type, USACE (2017) classifies hardwood flatwoods as in-kind habitats with bottomland hardwoods (BLH). Access trails and herbaceous areas will be maintained as non-mitigation acreage within the Bank. The purposes of these features are to provide edge habitat for the benefit of wildlife and to facilitate

³ All elevations referenced within the report are from digital elevation models (DEM) derived from light detection and ranging (LIDAR) datasets obtained from the Louisiana State University CADGIS Research Laboratory and adjusted per field data collected with real time correction. Elevations are purported in the North American Vertical Datum of 1988 (NAVD) Geoid 12A.

⁴ Reha^bilitation is defined in 33 CFR § 332.2 as the manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function but does not result in a gain in aquatic resource area.

⁵Enhancement is defined in 33 CFR § 332.2 as the manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s) Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

⁶ Preservation is defined in 33 CFR § 332.2 as the removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

⁷ This and all subsequent scientific nomenclature is from NRCS 2018^a

monitoring/maintenance activities associated with Bank establishment, long-term management and continued recreational use of the property.

The primary threat to hardwood flatwoods is a change of land use, which is the result of converting flatwoods to agriculture or pine plantation (LHNP 2009). The rapid commercial and residential developments along the Interstate 12 corridor and conversion to commercial pine plantation represents the greatest loss of hardwood flatwood habitat. Other threats include the construction of roads, pipeline and utility corridors, invasive and exotic species, physical damage from timber harvesting, and chemical contamination (LHNP 2009; Holcomb et al. 2015). The proposed bank will develop and promote long-term maintenance of healthy flatwoods by restoring and maintaining natural species composition, removing and controlling invasive species, and removing bedding and other soil disturbances that may alter natural water flow patterns (LHNP 2009). The restoration⁸ and protection of BLH forest, specifically a pine-hardwood flatwood, within the 500.6-acre Bank will provide additional wetland functions and values that are not currently realized under existing conditions and land use. The cessation of intensive silvicultural activities and reforestation⁹ with native wetland tree species will provide localized improvement to upstream and downstream waters. Wildlife habitat will improve for resident biota and nearctic-neotropical migrating bird species (e.g., staging, resting, feeding, escape cover, etc.) through reforestation with native wetland tree and shrub species. Holcombe et al. (2015) described spruce pine-hardwood flatwoods as being important habitat for 29 species of greatest conservation need which include 1 species of crustacean, 3 species of amphibians, 5 species of reptiles, 11 species of birds, and 9 species of mammals.

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

- Restoring and protecting historic and self-sustaining surface hydrology within the 500.6-acre Bank through hydrological restoration activities such as degrading raised beds and excessive rutting in existing pine plantations;
- The restoration (i.e. rehabilitation) of 144.1 acres of managed pine plantation to a native spruce pine-hardwood flatwood forested wetland (e.g. Bottomland Hardwood [BLH] communities through the removal of planted pine stems, degradation of raised beds, and reforestation of native species;

⁸ Restoration is defined in 33 CFR §332.2 as the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation. ⁹ The SAF (2018) defines reforestation as the reestablishment of forest cover either naturally (by natural seeding, coppice, or root suckers) or artificially (by direct seeding or planting) —note reforestation usually maintains the same forest type and is done promptly after the previous stand or forest was removed —synonym regeneration".

- The enhancement of 205.4 acres of mature, managed pine plantation to native BLH forest through the removal of mature, commercially planted pine stems, reforestation with native species; the protection of suitable natural regeneration;
- The preservation and protection of 134.7 acres of existing BLH through the inclusion of these areas in the 500.6-acre perpetual conservation servitude that is adjacent to a large, existing conservation area (Joyce WMA);
- The restoration of 7.0 acres of managed pine plantation to a native hardwood forest buffer.
- Ensuring long-term viability and sustainability of the Bank through active and adaptive management including, but not limited to, invasive species control, appropriate monitoring, and long-term maintenance;
- Establishing financial assurances to achievement of long-term success criteria;
- Ensuring long-term viability and sustainability by implementing specific management strategies such as
 - o active and adaptive management
 - establishment of financial assurances (e.g., construction, establishment) and long-term funding mechanisms
 - o initial, intermediate, and long-term monitoring
 - o initial, intermediate, and long-term maintenance
 - o initial, intermediate, and long-term invasive species control;
- Providing for the long-term protection through the execution of a perpetual-term conservation servitude and establishment of a long-term fund to cover annual expenditures associated with maintenance and management of the Bank;
- Restoring forested habitat for aquatic fauna through reforestation of a diverse assemblage of indigenous forest species and control of invasive/noxious species; and
- Reforestation and protection of land surrounded by large, extant, and contiguous forested habitat which benefits breeding birds in accordance with existing bird conservation plans (2016).

4. Ecological Suitability of the Site/Baseline Conditions

This section describes the ecological suitability of the site to achieve the objectives of the proposed mitigation bank, including the physical, chemical, and biological characteristics of the bank 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). Additionally, this section provides the baseline/current site conditions on and adjacent to the proposed site.

4.1 Land Use

4.1.1 Historical Land Use

The Bank and adjacent land uses were historically forested wetlands. A review of historical aerial photography reveals that a majority of the site's conversion to pine plantation began sometime prior to 1959 with what appears to be the first thinning operation. Since that time, multiple timber harvest events have occurred, with the most recent clearcutting and subsequent replanting of the northern portion of the site taking place between the years of 2012 and 2015.

4.1.2 Existing/Current Land Use

The existing/current land use of the northern portion of the Bank is intensive pine plantation silviculture. The southern plantation is a mature pine forest with a significant hardwood midstory that has developed since planting and establishment. The US Fish and Wildlife Service (USFWS 2011) identifies portions of property as Palustrine Forested, Broad-Leaved Deciduous Seasonally Flooded (PFO1A); Palustrine Forested, Broad-Leaved Deciduous, Temporarily Flooded (PFO1C); Palustrine Forested, Broad-Leaved Deciduous / Needle-Leaved Evergreen, Seasonally Flooded (PFO1/4A); Palustrine Forested, Needle-Leaved Evergreen / Broad-Leaved Deciduous, Seasonally Flooded (PFO4/1A); and Palustrine Forested, Broad-Leaved Deciduous / Needle-Leaved Deciduous, Semipermanently Flooded - Tidal (PFO1/2T) per the Cowardin classification system (Cowardin et al. 1979; Figure 6). The land use within a one-mile buffer of the Bank boundary is dominated by woody wetlands (72.2%), evergreen forest (11.5%) and emergent herbaceous wetlands (6.2%). The remaining land use consists of development (5.10%), cultivated crops (2.4%), hay/pasture (0.8%), herbaceous (1.0%), mixed forest (0.1%), scrub-shrub (0.3%), and open water (0.4%) (Figure 7).

4.2 Soils

The soils are mapped as OG: Ouachita, Ochlockonee, and Guyton soils, 0-3% slopes, frequently flooded; Gy: Guyton silt loam, 0-1% slopes, rarely flooded; Go: Guyton silt loam, 0-1% slopes, occasionally flooded; BA: Barbary muck, 0-1% slopes, frequently flooded; and Aa: Abita silt loam, 0-2% slopes (NRCS 2018^b, Figure 8). Based on Section 4/3/4 of the wetland delineation report provided to the CEMVN, all the soils within the proposed restoration and preservation areas of the Bank area exhibit hydric characteristics and were delineated as wetlands.

4.3 Hydrology

4.3.1 Contributing Watershed

The site drains to Cow Branch which drains to the Tangipahoa River and Lake Pontchartrain. The site is part of the Skulls Creek-Tangipahoa River Subwatershed as defined by USGS12-digit HUC 080702050403 (Figure 9). Restoration of optimally functioning wetlands on this site will have a positive impact on the ecology of the Skulls Creek-Tangipahoa River system, as well as downstream benefits for the larger Tangipahoa sub-basin and Lake Pontchartrain system.

4.3.2 Historical Hydrology and Drainage Patterns

Prior to the conversion to pine plantation, the historical hydrology of the northern portion of the site was primarily from precipitation, local high-water tables, and overland flow from the surrounding areas. The southern portion of the proposed Bank still exhibits a natural state of surface hydrology as drainage alterations were not part of the work associated with development of this area for commercial pine production. Though the extent of tidal influence may have changed over time, surface water from tidal action along the southern boundary was most likely always present.

4.3.3 Existing/Current Hydrology and Drainage Patterns

Surface hydrology in the Bank is primarily driven from precipitation and surface flow from adjacent properties. During the conversion from forested wetlands to pine plantations, the site was cleared, disked, and tilled to create raised beds for commercial plantings. Bedding is the establishment of raised beds with a plow in potentially wet areas during site preparation on which seedlings are planted (SAF 2018). This has been a common silvicultural practice used in commercial pine production throughout the Florida parishes. These bedding treatments improve surface soil tillage and soil aeration and reduce shrub competition (Fox et. Al. 2004). These raised beds as well as unintended rutting between rows are impediments to the natural sheet flow and limit surface flow across the site. The southernmost portion of the site exhibits a natural state of surface hydrology as it is directly connected to a large expanse of unmanaged flooded forested mixed BLH-swamp habitat.

Surface flow is generally from north to south, with varying degrees of tidal inflow from the southern property boundary (Figure 10). These tidal inflows reach various portions of the property intermittently and are typically associated with tropical events which produce either higher than normal tides or storm surges within Lake Pontchartrain.

4.3.4 Jurisdictional Wetlands Status

A preliminary jurisdictional determination (PJD) was issued for the entirety of the proposed bank site on May 9, 2019 and is included as Attachment B. Per the delineation report, all areas proposed for rehabilitation, enhancement and preservation were mapped as wetlands per USACE 1987 and the 2010 regional supplement.

4.4 Vegetation

4.4.1 Historical Plant Community

Prior to the pine plantation conversion, the historical plant community was a BLH forest and most likely best described as spruce pine-hardwood flatwood. 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), spruce pine-hardwood flatwoods are natural mixed forest community indigenous to the western Florida parishes in southeast Louisiana. The wetlands variation of this community occupies poorly drained flats, depressional areas and small drainages that lie in a mosaic with higher, nonwetland areas. Hardwoods usually dominate the forest composition but spruce pine (*Pinus glabra*) can dominate areas within the stand with loblolly pine (*Pinus taeda*) also present at some level. These forests support distinct assemblages of plants and animals associated with particular landforms, soils, and hydrologic regimes. They are important natural communities for maintenance of water quality, providing a very productive habitat for a variety of fish and wildlife, and are important in regulation of flooding and stream recharge.

4.4.2 Existing Plant Community

The site consists of four distinct habitat communities as follows: 1) young pine plantation which was bedded and planted in 2014 and 2015; 2) a mature pine plantation which was planted in 1973¹⁰; 3) a hardwood-pine wetland forest, and 4) a mixed BLH-swamp (Figure 11). The mature pine plantation was likely bedded in 1973 but the beds have since degraded. The mature pine within this stand range in diameters at breast height (dbh) from 12 inches to 24 inches. Cores from increment borings taken from these trees on December 4, 2018 indicate an approximate age of 43 to 45 years.

Dominant species in the young pine plantation include, but are not limited to loblolly pine (*Pinus taeda*), willow oak (*Quercus phellos*), sweetgum (*Liquidambar styraciflua*), winged sumac (*Rhus copallinum*), and Chinese tallowtree (*Triadica sebifera*) in the shrub stratum¹¹; winged primrose-willow (*Ludwigia alata*), sand spikerush (*Eleocharis montevidensis*), Louisiana sedge (*Carex louisianica*),

¹⁰ The age of these stands was provided on a stand map from Soterra LLC which currently manages the timber assets on the property.

¹¹ Stratum are defined in the USACE Atlantic and Gulf Coastal Regional Supplement (USACE 2010).

sugarcane plumegrass (*Saccharum giganteum*) and sawtooth blackberry (*Rubus argutus*) in the herbaceous stratum. Some residual, mature species such as live oak (*Quercus virginiana*) are present as individual trees scattered through portions of this community. The density of pine within this community is approximately 470 stems per acre and represent over 80% of the species stems within the shrub strata with a majority having been planted on raised beds.

Dominant species in the mature pine plantation include, but are not limited to, loblolly pine in the tree stratum; water oak (*Quercus nigra*), bottomland post oak (*Quercus similis*), laurel oak (*Quercus laurifolia*), cow oak (*Quercus michauxii*) and dwarf palmetto (*Sabal minor*) in the sapling/shrub stratum; and Indian woodoats (*Chasmanthium latifolium*) in the herbaceous strata. Within the tree stratum, pine represents 49% of the stem density and 86% of the basal area (Table 2).

Species in the hardwood-pine forest include, but are not limited to willow oak, laurel oak, cow oak, Nuttall oak (*Quercus texana*), live oak, sweetgum, loblolly pine, and red maple (*Acer rubrum*) in the tree stratum; dwarf palmetto and red maple in the sapling/shrub stratum; and Indian woodoats and peppervine (*Ampelopsis arborea*) in the herbaceous stratum.

Species in the mixed BLH-swamp community include, but are not limited to swamp blackgum (*Nyssa biflora*), red maple, pumpkin ash (*Fraxinus profunda*), and baldcypress (*Taxodium distichum*) in the tree stratum; wax myrtle, red bay (*Persea borbonia*), Drummond red maple, deciduous holly (*Ilex decidua*) and saw palmetto in the sapling/shrub strata; and swamp smartweed (*Persicaria hydropiperoides*) and savannah-panic grass (*Phanopyrum gymnocarpon*) in the herbaceous stratum.

4.5 General Need for the Project in this Area

In addition to providing compensation for impacts associated with local commercial and residential developments, the proposed Bank will serve to mitigate for potential impacts¹² associated with linear projects such as pipelines and roadways in the already highly developed industrial Lake Pontchartrain basin. In addition to these impacts, there are federally-funded¹³ flood control and risk-reduction infrastructure projects within the basin that will require mitigation. These include the Comite River Diversion Project, the East Baton Rouge Flood Risk Reduction Project and the West Shore Lake Pontchartrain Project. By the CEMVN's estimates, these projects will require approximately 1,270 acres of mitigation for BLH and 2,020 acres for Swamp within the next five years¹⁴.

¹² Impacts as used in this report are those in which are determined to be unavoidable impacts to waters of the United States per 33 CFR §332.1 (a) through (c)

¹³ Funding per the Bipartisan Budget Act of 2018 signed into law February 9, 2018.

¹⁴ Per the presentation by the CEMVN at the Mitigation Industry Day on September 7, 2018 and available at

https://www.mvn.usace.army.mil/Portals/56/docs/PD/Projects/Ágenda%20Slide%20Mitigation%20Industry%20Day.pdf. As of January 28, 2019.

Development of wetland restoration sites such as this proposed Bank in an area of increasing development and urbanization will provide an important resource regarding storm water retention and flood storage. Major soil resource concerns exist in this area due to the generally unconsolidated nature of loess sediments from which the landscape is formed. These concerns include water erosion, maintenance of organic matter content and productivity, and management of soil moisture. Water erosion is a hazard in sloping areas that are bare due to timber harvest operations. Though many of the soils in this region remain wet or have a high-water table for some or most of the year, forested wetland restoration projects such as the proposed Bank serve to increase the amount of precipitation interception and increase flood/storm water retention time. These functions serve to reduce potential erosion hazards and aid in the accumulation and maintenance of soil organic matter (carbon sequestration).

5. Establishment of a Mitigation Bank

This section describes how the mitigation bank will be established (33 CFR § 332.8(d)(2)(ii)); the technical feasibility of the proposed mitigation bank (33 CFR § 332.8(d)(2)(iv)); and the assurance of sufficient water rights to support the long-term sustainability of the mitigation bank (33 CFR § 332.8(d)(2)(iv)).

5.1 Site Restoration Plan

This Bank will provide 7.0 acres of restored hardwood buffer, 144.1 acres of rehabilitated coastal BLH, 205.4 acres of enhanced coastal BLH, and 134.7 acres of preserved coastal BLH and hardwood swamp to compensate for unavoidable wetland impacts within the Lake Pontchartrain Basin watershed. To accomplish this task, the Sponsor shall complete the following soils/hydrologic and habitat work.

5.1.1 Soils/Hydrologic Work

The proposed hydrology restoration work within the rehabilitation areas will involve the clearing of planted pine stems and the degrading of raised beds associated with previous establishment of pine plantation areas. Site preparation may include shearing, roll chopping, burning, disking, ripping and pre-emergent herbicide treatments. These activities will adequately remove any hydrologic impediments associated with the plantation bedding. On average, these beds are approximately 17 inches in height from the top of the row to the trough between rows, which are approximately 8-feet apart. The degradation of the beds should result in a natural grade which is approximately 8 to 9 inches below the elevation of the top of the beds. Hydrology restoration drawings including a plan view and typical cross-sections are included as Attachment C.

No soil work is anticipated within the enhancement or preservation areas as these area does not exhibit the hydrologic modifications that are present in the more recently developed plantation areas. Bedding operations were not as prevalent in the time period during which these plantation areas were established.

5.1.2 Vegetative Work

Mature pine stems will be removed from the canopy layer of the enhancement area through a combination of mechanical harvest, felling in place, and deadening in place. This activity will be conducted in a manner as to minimize further site disturbance with care being taken to avoid damage to residual, desirable trees and shrubs. Trees that are felled in place will serve as downed woody material (DWM) in the form of fine woody material (FWM), coarse woody material (CWM), and large logs. Trees killed and left standing will serve as snags which will eventually become DWM. As these species of pine are not known to re-sprout, this will reduce the amount of herbicide needed to accomplish this task. The ecosystem services that deadwood within southeastern bottomland hardwoods provide for various species of insects, reptiles, amphibians, birds and mammals as well as inorganic Nitrogen retention are described in Evans (2012) and Baily et al (2006).

Within the Rehabilitation and Enhancement areas, reforestation activities will include the planting of native BLH species during the first planting season (December 15 through March 15) following site preparation. The species selected for each habitat type will be site-appropriate in terms of habitat design, soil-moisture regime, and species richness. The planting will consist of tree and shrub species as described by Lester et al (2005) and LNHP¹⁵. Prior to planting, seedlings will be mixed and packaged off-site so that reforested areas do not develop as monotypic communities (Twedt and Best 2004). Tables 3 and 4 describe the species suitable for the proposed habitat type.

The exact species and quantities for planting will be determined by the availability of such species from commercial nurseries providing localized ecotype seedlings. The final BLH and Buffer planting assemblage should consist of 10 or more species which is enough to insure adequate species richness (Twedt and Best 2004). BLH planting densities in rehabilitation and hardwood buffer areas will be no less than 538 stems per acre and hard mast species should account for approximately 70% - 80% of all plantings. Planting densities for the enhanced forests will be limited to 302 stems per acre and consist entirely of hard mast species due to the presence of codominant soft mast stems and the established source of soft mast seed present. The increased hard mast species percentage is based on previous experience with reforestation efforts in similar landscape and soil conditions and the presence of seed-producing soft mast species present both within the proposed bank and surrounding forest. The distribution of species across the Bank landscape will create a mosaic of hard

¹⁵ LNHP Tracking List and Fact Sheets (available URL <u>http://coastal.la.gov/a-common-vision/2012-coastal-master-plan/</u>).

and soft mast species to provide seasonally available forages for a wide range of indigenous and migratory wildlife.

The reforestation effort utilizes fast-growing soft mast species and slowergrowing hard mast species to allow for greater vertical structural diversity which is necessary habitat for forest breeding birds of highest conservation importance. The integration of rapid growth, early successional species mimics early natural succession and provides natural habitat and partial cover for late successional species which exhibit increased growth in partial cover and dappled sunlight exposure (Twedt and Portwood 1997). The early successional species create biotic and abiotic environmental conditions that promote seedling emergence and survival of late successional species (Harper et al. 1965, Twedt and Portwood 1997). The species planted within the wetland areas will predominately have an indicator status of Obligate (OBL), Facultative Wetland (FACW) or Facultative (FAC) as described by Lichvar et al. (2016).

5.2 Technical Feasibility

The construction work required to develop the proposed Bank is based on experience and currently accepted restoration methods and is technically feasible. The construction work will consist of 1) site preparation, 2) degrading existing raised beds, and 3) reforestation. The relatively low landscape position and the presence of hydric soils indicate that minimal soil work will be required for successful restoration of wetland hydrology and forested wetlands in the areas currently being used as pine plantations. The existence of forested wetlands within and adjacent to the Bank also suggests a high potential for successful restoration. Once artificial drainage modifications are rendered ineffective through restoration efforts, a more natural, historic water regime will be restored.

5.3 Current Site Risks

The Sponsor does not foresee any adverse impacts to the mitigation site resulting from the continued existence and operation of the neighboring land uses. Much of the land use and cover type surrounding the Bank are existing palustrine forested wetlands. These areas have remained in this land use over the past 78 years as evidenced in the historical and recent aerial photographic records (Figures 12 through 17).

5.4 Long-Term Sustainability of the Site

Long-term viability and sustainability of the Bank will be ensured through active and adaptive management including, but not limited to, invasive species control with emphasis on Chinese tallow and Chinese privet (*Ligustrum sinense*); appropriate monitoring, and long-term maintenance. No long-term structural

management will be required because there are no water control structures to maintain.

Article 490 of the Louisiana Civil Code treats water resources under the theory of absolute ownership and rule of capture provided that such capture does not result in harm to neighboring properties. The proposed Bank will depend primarily on precipitation, perched water table, and runoff from surrounding areas, locally high-water tables, and potential overbank/backwater flooding of surrounding creeks. As such, long-term hydrology maintenance will not depend on the utilization of water captured from irrigation wells or any other artificial source; therefore, sufficient water rights are ensured for such purposes. The Sponsor does not foresee any adverse impacts on neighboring properties resulting from this project.

6. Proposed Service Area

The Pontchartrain Basin will serve as the service area for the Bank (Figure 18). The use of credits outside of the defined service area will be handled on a case specific basis by the CEMVN and will be specified as such in the subsequent MBI.

This Basin is comprised of the Amite Subbasin (USGS Hydrologic Unit Code [HUC] 08070202), the Tickfaw Subbasin (USGS HUC 08070203), the Lake Maurepas Subbasin (USGS HUC 08070204), the Tangipahoa Subbasin (USGS HUC 08070205), the Liberty Bayou-Tchefuncta Subbasin (USGS HUC 08090201), the Lake Pontchartrain Subbasin (USGS HUC 08090202), and the Eastern Louisiana Coastal Subbasin (USGS HUC 08090203). Some of Louisiana's most densely populated areas are contained within the Lake Pontchartrain River Basin. These include the cities of Hammond, Baton Rouge, and New Orleans. Also, within the Bank's service area are towns such as Clinton, Kentwood, Amite, Denham Springs, Gonzales, Covington, and Mandeville. These communities and their surrounding municipalities provide a high likelihood for residential and commercial expansion. Major industrial areas exist along the Mississippi River from Baton Rouge to New Orleans and large transportation corridors such as U.S. Highway 190, Interstate Highway 10, Interstate Highway 12, and Interstate Highway 55 traverse this basin. Therefore, it is likely that unavoidable impacts associated with this infrastructure such as pipelines, utilities, and transportation development could be compensated for by proposed Bank. The Bank restoration site would consolidate the mitigation for these types of impacts within a single, strategic location. The Bank will provide the most benefit to the watershed through the restoration and protection of a larger block of sensitive habitat and offsetting any cumulative effect of smaller, spatially fragmented projects.

7. Operation of the Mitigation Bank

This section describes how the proposed Bank will be operated (33 CFR § 332.8(d)(2)(ii)) and provides details on the proposed ownership arrangements and long-term management strategy for the mitigation bank (33 CFR § 332.8(d)(2)(v.)).

7.1 Project Representatives

Sponsor:/Agent:	Delta Land Services, LLC 1090 Cinclare Drive Port Allen, LA 70767 Attn: Daniel Bollich Phone: 225-388-5146 daniel@deltaland-services.com
Landowner:	Delta Land Services, LLC 1090 Cinclare Drive Port Allen, LA 70767 Attn: Winship Songy Phone: 225-388-5187

7.2 Qualifications of the Sponsor

Per 33 CFR § 332.8(d)(2)(vi.), this section describes the Sponsor's, Landowner's and Agent's qualifications to successfully complete all work associated with establishment and operation of the proposed Bank.

winship@deltaland-services.com

DLS will serve as the Sponsor, Agent, and Owner of the Bank and is a land management and restoration company whose technical staff includes Certified Wildlife Biologists, Professional Wetland Scientists, Certified Ecological Restoration Practitioners, and Certified Foresters. In addition, DLS has construction specialists experienced in wetland construction activities such as heavy equipment operation, vegetation establishment, herbicide application, and contractor management. The biographies of DLS personnel are available at www.deltaland-services.com.

DLS currently operates, either as a Sponsor or restoration manager, 15 approved wetland and/or stream mitigation banks totaling 8,576.4 acres in four USACE districts including CEMVN, Vicksburg (CEMVK), Galveston (CESWG) and Forth Worth (CESWF). In addition to mitigation banking, DLS serves as the responsible party for the establishment and maintenance of 3,937.6 acres of approved Permittee-Responsible Mitigation (PRM) wetland and stream projects within CEMVN and CESWG.

7.3 Proposed Long-Term Ownership and Management Representatives

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

7.4 Site Protection

To provide conservation protection, DLS shall execute a perpetual conservation servitude (pursuant to the Louisiana Conservation Servitude Act, R.S. 9:1271 *et seq.*) on all acreage identified as the Bank and record it in the Mortgage and Conveyances Records Office of Tangipahoa Parish. DLS will utilize a not-for-profit conservation group as the entity that will hold the servitude.

7.5 Long-Term Strategy

Long-term management will consist of monitoring, vegetation management, invasive species control, boundary maintenance, site protection, and the funding of such activities. The forest will be managed to maintain or increase the biological, chemical and physical wetland functions and to achieve and maintain the desired forest conditions, which will provide forested habitat capable of supporting populations for priority wildlife species. The desired forest conditions are defined by the LMVJV (2007). A long-term management plan will be included with the MBI, which will detail long-term management needs, costs and identify a funding mechanism in accordance with 33 CFR § 332.7 (d). The Sponsor (or Long-term Steward) and the Owner (or its heirs, assigns or purchasers) shall be responsible protecting lands contained within the Bank in perpetuity.

8. References

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Attachment A: Tables and Figures





0



Date : 01/25/2019 F01_VicinityMap.mxd ELTA













Developed, Open Space (4.0%)

Emergent Herbaceuous Wetlands (6.2%)

Evergreen Forest (11.5%)

Mixed Forest (0.1%) Open Water (0.4%) Shrub/Scrub (0.3%)

Woody Wetlands (72.2%)

Note: Land Use data obtained from 2011 National Land Cover Database.



Created : TSC/ARCVIEW Approved : JMJ\DEB

F07 LULC OneMile.mxd

Date : 01/28/2019

	0 500 1,000 2,000 Feet
Source: Esti, DigitalGloba, Ge USDA, USGS, AaroGRID, IGN	oEye, Earthstar Geographics, CNE3/Alrbus DS, , and the GIS User Community
Project Area (500.6 ac) OG: Ouachita, Ochlockonee and Guyton soils, 0 to 3 percent slopes, frequently flooded (146.6 ac)	Cow Branch Coastal Mitigation Bank

- Gy: Guyton silt loam, 0 to 1 percent slopes, rarely flooded (125.5 ac)
- Go: Guyton silt loam, 0 to 1 percent slopes, occassionally flooded (79.4 ac)
- BB: Barbary muck, 0 to 1 percent slopes, frequently flooded (79.2 ac)
- Aa: Abita silt loam, 0 to 2 percent slopes (69.9 ac)

Tangipahoa Parish,	LA
Created : TSC/ARCVIEW	- Ale
Approved : JMJ	
Date : 01/25/2019	Mrs.
Map No. : F08_Soils	21 J



















0	500	1,000	

FIGURE 15









Table 1. Post-Restoration Mitigation Habitat Types at the Cow Branch Coastal Mitigation Bank in Tangipahoa Parish, Louisiana.	Acres
Coastal Spruce Pine – Hardwood Flatwood (BLH) Rehabilitation	144.1
Total Forested Restoration	144.1
Coastal Spruce Pine – Hardwood Flatwood (BLH) Enhancement	205.4
Total Forested Enhancement	205.4
Coastal Bottomland Hardwood Forest Preservation	134.7
Total Forested Preservation	134.7
Restored Hardwood Buffer	7.0
Hardwood Buffer	7.0
Perimeter Access Trail	5.4
Monitoring/Maintenance Access Road	4.0
Total Non-Mitigation Credit Area	9.4
Total Project Acreage	500.6

Table 2: Relative Density and Dominance of Species within the Tree Stratum of the 205.4-acreMature Pine Plantation at the Cow Branch Coastal Mitigation Bank in Tangipahoa Parish, Louisiana1.						
Species ² Stems/Acre Basal Area (sq ft/acre) Average DBH (in) Percent Density of Stems/Acre Percent Dominance						
Pinus taeda	85	107	15.2	48.6%	85.5%	
Quercus similis	10	7	11.0	5.7%	5.3%	
Quercus nigra	25	3	4.7	14.3%	2.4%	
Acer rubrum	20	3	5.1	11.4%	2.3%	
Quercus laurifolia	15	3	5.7	8.6%	2.1%	
Quercus pagoda	10	2	5.5	5.7%	1.3%	
Quercus michauxii	10	1	5.0	5.7%	1.1%	
Total 175 125 100.0% 100.0%						

¹ The tree stratum is defined in the US Army Corps of Engineers Atlantic and Gulf Coastal Plain Regional Supplement, version 2.0 (<u>https://usace.contentdm.oclc.org/utils/getfile/collection/p266001coll1/id/7594</u>) as Woody Plants, excluding woody vines, approximately \geq 20 feet in height or >3 inches diameter at breast height (DBH).

² Scientific names from 2016 National Wetland Plant List (<u>http://wetland_plants.usace.army.mil/</u>) except where otherwise noted

 Table 3: Planting Composition of Wetland Rehabilitation and Hardwood Buffer Areas at the Proposed Cow Branch Coastal Mitigation Bank in Tangipahoa Parish, Louisiana¹.

Hard Mast Species ² (approximately 70-80% overall composition)						
Common Name	Scientific Name ³	Indicator Status	Composition ^₄	Growth Habit⁵		
laurel oak	Quercus laurifolia	FACW	<u><</u> 25%	Tree		
cow oak	Quercus michauxii	FACW	<u><</u> 25%	Tree		
water oak	Quercus nigra	FAC	<u><</u> 25%	Tree		
cherrybark oak	Quercus pagoda	FACW	<u><</u> 25%	Tree		
willow oak	Quercus phellos	FACW	<u><</u> 25%	Tree		
bottomland post oak	Quercus similis	FACW	<u><</u> 25%	Tree		
bitternut hickory	Carya cordiformis	FAC	<u><</u> 15%	Tree		
Soft Mast Species ² (appr	oximately 20-30% of overall con	nposition)				
Common Name	Scientific Name	Indicator Status	Indicator Status Composition			
Drummond red maple	Acer rubrum var. drummondii	OBL	<u><</u> 15%	Tree		
Buttonbush	Cephalanthus occidentalis	OBL	<u><</u> 15%	Shrub/Tree		
mayhaw	Crataegus opaca	OBL	<u><</u> 15%	Shrub/Tree		
green haw	Crataegus viridus	FACW	<u><</u> 15%	Shrub/Tree		
common persimmon	Diospyros virginiana	FAC	<u><</u> 15%	Tree		
Carolina ash ⁷	Fraxinus caroliniana	OBL	<u><</u> 15%	Shrub/Tree		
green ash	Fraxinus pennsylvanica	FACW	<u><</u> 15%	Tree		
deciduous holly	llex decidua	FACW	<u><</u> 15%	Shrub/Tree		
sweetgum	Liquidambar styraciflua	FAC	<u><</u> 15%	Tree		
southern magnolia	Magnolia grandiflora	FAC	<u><</u> 15%	Tree		
sweetbay magnolia	Magnolia virginiana	FACW	<u><</u> 15%	Shrub/Tree		
wax-myrtle	Morella cerifera	FAC	<u><</u> 15%	Shrub/Tree		
blackgum	Nyssa sylvatica	FAC	<u><</u> 15%	Tree		
spruce pine	Pinus glabra	FACW	<u><</u> 15%	Tree		
American sycamore	Platanus occidentalis	FAC	<u><</u> 15%	Tree		
Baldcypress	Taxodium distichum	OBL	<u><</u> 10%	Tree		

¹Not all species listed on the above-referenced table are likely to be available however the Sponsor will take steps to try to obtain and plant at least 10 species from the list.

² For the purpose of this list, hard mast is defined as any oak, hickory or pecan species. All other species are considered soft mast species.

³ Scientific name and indicator status from 2016 National Wetland Plant List

(http://wetland_plants.usace.army.mil/) except where otherwise noted

⁴ The composition represents the maximum percentage a species may comprise of the entire planting mosaic regardless of mast type. Exact species and quantities to be determined by seedling availability from commercial sources providing seedlings grown from localized ecotypes.

⁵ Growth habit per the USDA Plants Database, available at <u>http://plants.usda.gov</u> and accessed on March 30, 2017.

Table 4: Planting Composition of the Wetland Enhancement Areas at the Proposed Cow Branch Coastal Mitigation Bank in Tangipahoa Parish, Louisiana ¹ .					
Hard Mast Species ² (100% planting composition due to established soft mast seed source)					
Common Name Scientific Name ³ Indicator Status Composition ⁴ Growth Habit ⁵					
laurel oak	Quercus laurifolia	FACW	<u><</u> 25%	Tree	
cow oak	Quercus michauxii	FACW	<u><</u> 25%	Tree	
cherrybark oak	Quercus pagoda	FACW	<u><</u> 25%	Tree	
willow oak	Quercus phellos	FACW	<u><</u> 25%	Tree	
bottomland post oak Quercus similis FACW <a> 25% Tree			Tree		
bitternut hickory Carya cordiformis FAC <a> 15% Tree					

¹Not all species listed on the above-referenced table are likely to be available however the Sponsor will take steps to try to obtain and plant at least 10 species from the list.

² For the purpose of this list, hard mast is defined as any oak, hickory or pecan species. All other species are considered soft mast species.

³ Scientific name and indicator status from 2016 National Wetland Plant List

(http://wetland_plants.usace.army.mil/) except where otherwise noted

⁴ The composition represents the maximum percentage a species may comprise of the entire planting mosaic regardless of mast type. Exact species and quantities to be determined by seedling availability from commercial sources providing seedlings grown from localized ecotypes.

⁵ Growth habit per the USDA Plants Database, available at <u>http://plants.usda.gov</u> and accessed on March 30, 2017.

Attachment B: Jurisdictional Determination



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

May 9, 2019

Operations Division Surveillance and Enforcement Section

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

Dear Mr. Jarreau:

Reference is made to your request for a U.S. Army Corps of Engineers' (Corps) jurisdictional determination on property located in Section 27, Township 7 South, Range 9 East, Tangipahoa Parish, Louisiana (enclosed map). Specifically, this property is identified as the Proposed Cow Branch Coastal Mitigation Tract.

Based on review of recent maps, aerial photography, soils data, information submitted with your request, and a brief site inspection on April 23, 2019, we have determined that part of the property is wetland and may be subject to Corps' jurisdiction. The approximate limits of the wetland are designated in red on the map. A Department of the Army permit under Section 404 of the Clean Water Act will be required prior to the deposition or redistribution of dredged or fill material into wetlands that are waters of the United States.

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.

Should there be any questions concerning these matters, please contact Mr. Brian Oberlies at (504) 862-2275 and reference our Account No. MVN-2018-01446-SY. If you have specific questions regarding the permit process or permit applications, please contact our Eastern Evaluation Section at (504) 862-2292.

Sincerely,

NETHERY.WILLIAM. Digitally signed by NETHERY.WILLIAM.RYAN.1247763410 Date: 2019.05.09 11:25:37 -05'00' for Martin S. Mayer Chief, Regulatory Branch



BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: May 9, 2019

B. NAME AND ADDRESS OF PERSON REQUESTING PJD:

Mr. Jace Jarreau Delta Land Resources 1090 Cinclare Dr. Port Allen, LA 70767

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: MVN-2018-01446-SY

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION: (USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: Louisiana County/parish/borough: Tangipahoa City: Bedico

Center coordinates of site (lat/long in degree decimal format):

Lat.: 30.40394 ° Long.: -90.290277°

Universal Transverse Mercator:

Name of nearest waterbody: Cow Branch

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

S Office (Desk) Determination. Date: 4/10/2019

 \times Field Determination. Date(s): 4/23/19

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
1	30.40394	-90.290277	510.9 ac	Wetland	404

SUPPORTING DATA. Data reviewed for PJD (check all that apply)

Checked items should be included in subject file.	Appropriately reference sources
below where indicated for all checked items:	

\times	Maps, plans, plots or plat submitted by or on behalf of the PJD requestor: Map. Vicinity map
	 Data sheets prepared/submitted by or on behalf of the PJD requestor. Office concurs with data sheets/delineation report. Office does not concur with data sheets/delineation report. Rationale:
	Data sheets prepared by the Corps:
	Corps navigable waters' study:
\mathbf{X}	U.S. Geological Survey Hydrologic Atlas:
\mathbf{X}	U.S. Geological Survey map(s). Cite scale & quad name: <u>1.24k, Policial dua NE</u> .
$\boldsymbol{\times}$	Natural Resources Conservation Service Soil Survey. Citation: NRCS web soil survey.
	National wetlands inventory map(s). Cite name:
	State/local wetland inventory map(s):
	FEMA/FIRM maps:
	100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
Х	Photographs: X Aerial (Name & Date): 98,04,05,15
	or Other (Name & Date):
	Previous determination(s). File no. and date of response letter:
	Other information (please specify):

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

OBERLIES.BRIAN.M C INNIS.1230779739 Date: 2019.05.09 11:07:45 -05'00'

Signature and date of Regulatory staff member completing PJD Requesed by applicant

Signature and date of person requesting PJD (REQUIRED, unless obtaining the signature is impracticable)¹

¹ Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Delta Land Resources File Number: MVN-2018-01446-SY Date: May 9, 2019					
At	ached is:		See Section below		
	INITIAL PROFFERED PERMIT (Standard Po	ermit or Letter of permission)	A		
	PROFFERED PERMIT (Standard Permit or	Letter of permission)	В		
	PERMIT DENIAL		С		
	APPROVED JURISDICTIONAL DETERMIN	ATION	D		
	✓ PRELIMINARY JURISDICTIONAL DETERM	INATION	E		
SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/appeals.aspx or Corps regulations at 33 CFR Part 331.					
A:	INITIAL PROFFERED PERMIT: You may accept	ot or object to the permit.			
•	ACCEPT: If you received a Standard Permit, you may s final authorization. If you received a Letter of Permissio Your signature on the Standard Permit or acceptance of waive all rights to appeal the permit, including its terms a associated with the permit.	sign the permit document and return it to the n (LOP), you may accept the LOP and your the LOP means that you accept the permit and conditions, and approved jurisdictional o	district engineer for work is authorized. in its entirety, and determinations		
•	OBJECT: If you object to the permit (Standard or LOP) that the permit be modified accordingly. You must comp engineer. Your objections must be received by the distr forfeit your right to appeal the permit in the future. Upor objections and may: (a) modify the permit to address all objections, or (c) not modify the permit having determine evaluating your objections, the district engineer will send Section B below.	because of certain terms and conditions the lete Section II of this form and return the for ict engineer within 60 days of the date of thi receipt of your letter, the district engineer v of your concerns, (b) modify the permit to a ed that the permit should be issued as previo d you a proffered permit for your reconsidera	rein, you may request m to the district s notice, or you will vill evaluate your ddress some of your ously written. After ation, as indicated in		
B:	PROFFERED PERMIT: You may accept or appe	al the permit			
•	ACCEPT: If you received a Standard Permit, you may s final authorization. If you received a Letter of Permissio Your signature on the Standard Permit or acceptance of waive all rights to appeal the permit, including its terms a associated with the permit.	ign the permit document and return it to the n (LOP), you may accept the LOP and your the LOP means that you accept the permit and conditions, and approved jurisdictional o	district engineer for work is authorized. in its entirety, and determinations		
•	APPEAL: If you choose to decline the proffered permit you may appeal the declined permit under the Corps of of this form and sending the form to the division enginee days of the date of this notice.	(Standard or LOP) because of certain terms Engineers Administrative Appeal Process b r. This form must be received by the division	and conditions therein, y completing Section II on engineer within 60		
C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.					
D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.					
•	ACCEPT: You do not need to notify the Corps to accept date of this notice, means that you accept the approved	t an approved JD. Failure to notify the Corp JD in its entirety, and waive all rights to app	is within 60 days of the beal the approved JD.		
•	APPEAL: If you disagree with the approved JD, you ma Administrative Appeal Process by completing Section II form must be received by the division engineer within 60	y appeal the approved JD under the Corps of this form and sending the form to the divi) days of the date of this notice.	of Engineers sion engineer. This		
E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.					

Attachment C: Proposed Hydrology Restoration Drawings









Attachment D: Preliminary Louisiana Rapid Assessment Method (LRAM)

	CEMVN Acct #		W	<mark>/N-2018-01446</mark>			Bank	Name	
	Acres Mitigation	484.2					Cow Branch	<mark>Coastal - BLH</mark>	
	Watershed Basin			LakePont					
		Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8
	Mitigation Type	Rehab	Enhanc	Preser	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		5.0	3.0	0.4	0.0	0.0	0.0	0'0	0.0
SJO	Management	None	None	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
otos		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
s7 r	Negative Influences	None	None	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
tior		0.0	0'0	0.0	0.0	0.0	0'0	0'0	0.0
sbij	Size	>500	>500	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
iΜ		0.5	9.0	0.0	0.0	0.0	0.0	0.0	0.0
	Buffer / Upland	Restored	Restored	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
	Sum:	6.0	4.0	0.4	0.0	0.0	0.0	0'0	0.0
	Area:	144.1	205.4	134.7					
	Sum x Area Affected:	864.6	821.6	53.9	0.0	0.0	0.0	0.0	0.0
	(Σ Mitigation:	1740.1
							Mitig	jation Potential:	3.6
					COMN	IENTS			
	Mitigation Type	A1 is Rehabiliatio Rest/Enh).	on of BLH. A2 BLH	H wetland Enhanc	ement. A3 is Pre	servation of exist	ng mixed BLH-Sw	vamp habitat (38%	6 of total
	Management	None							

Mitigation Type	A1 is Rehabiliation of BLH. A2 BLH wetland Enhancement. A3 is Preservation of existing mixed BLH-Swamp habitat (38% of total Rest/Enh).
Management	None
Negative Influences	None
Size	All wetland restoration, enhancement, and preservation is on 496.1 contigous acres south of Traino Landing Road but is adjacent to the 27,965-acre Joyce Wildlife Management Area.
Buffer/Upland	7.0 acres of pine plantation restored to native hardwood buffer (2.3 acres north of Traino Landing Rd; 4.7 acres south of Traino Landing Rd)

LOUISIANA WETLAND RAPID ASSESSMENT METHOD (LRAM) 2.0

Attachment E: Site Photographs



Bedded area in young pine plantation at the Cow Branch Coastal Mitigation Bank in Tangipahoa Parish, Louisiana, December 4, 2018.



Aerial view of intensive pine plantation silviculture at the proposed Cow Branch Coastal Mitigation Bank Mitigation Bank in Tangipahoa Parish, Louisiana, August 23, 2018.



Young pine plantation at the proposed Cow Branch Coastal Mitigation Bank in Tangipahoa Parish, Louisiana, August 23, 2018.



Young pine plantation at the proposed Cow Branch Coastal Mitigation Bank in Tangipahoa Parish, Louisiana, August 23, 2018.



Young pine plantation with residual live oak at the proposed Cow Branch Coastal Mitigation Bank in Tangipahoa Parish, Louisiana, August 23, 2018.



Ecotone of young pine plantation and mature pine plantation at the proposed Cow Branch Coastal Mitigation Bank in Tangipahoa Parish, Louisiana, August 23, 2018.



Aerial view of young pine plantation – mature pine plantation ecotone at the proposed Cow Branch Coastal Mitigation Bank in Tangipahoa Parish, Louisiana, August 23, 2018.



Mature pine plantation at the proposed Cow Branch Coastal Mitigation Bank in Tangipahoa Parish, Louisiana, August 23, 2018.



Existing hardwood – pine flatwood at the proposed Cow Branch Coastal Mitigation Bank in Tangipahoa Parish, Louisiana, August 23, 2018.



Mixed bottomland hardwood-swamp at the proposed Cow Branch Coastal Mitigation Bank in Tangipahoa Parish, Louisiana, December 4, 2018.



Old residual live oak within the mature pine plantation at the proposed Cow Branch Coastal Mitigation Bank in Tangipahoa Parish, Louisiana, August 23, 2018.



Mature pine plantation with area of desirable bottomland hardwood midstory and understory at the proposed Cow Branch Coastal Mitigation Bank in Tangipahoa Parish, Louisiana, August 23, 2018.



Mixed bottomland hardwood-swamp and mature pine plantation ecotone at the proposed Cow Branch Coastal Mitigation Bank in Tangipahoa Parish, Louisiana (area left of utility right-of-way is Joyce Wildlife Management Area), August 23, 2018.



Increment Boring of mature pine showing an age of approximately 43 years within the mature pine plantation at the proposed Cow Branch Coastal Mitigation Bank in Tangipahoa Parish, Louisiana, December 4, 2018.