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

8/19/2019

Operations Division
Regulatory Branch
Project Manager: Stephen Pfeffer
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SUBJECT: MVN 2018-01505-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 PONTCHARTRAIN BASIN UMBRELLA MITIGATION BANK IN LIVINGSTON PARISH

NAME OF APPLICANT: Weyerhaeuser NR Company, 406 Cole Road, Hattiesburg, Mississippi 39402 and Delta Land Services, LLC, 1090 Cinclare Drive, Port Allen, Louisiana 70767

LOCATION OF WORK: The 7,383.2 acre proposed site is located in Section 36, Township 7 South, Range 4 East, Sections 27-33, and 34 Township 7 South, Range 5 East, Sections 1,11-13, Township 8 South, Range 4 East, and Sections 2-11,16-18,21,37,44 and 46, Township 8 South, Range 5 East approximately 6.5 miles northeast of Port Vincent, Louisiana. The site is centered on the point 30.368233° N, -90.730883° W, located in Hydrologic Unit Codes 08070202 and 08070203, 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 **30 days** from the date of this public notice advertisement. Written comments, including suggestions for modifications or objections to the proposed work, stating reasons thereof, are being solicited from anyone having interest in this prospectus. Letters must reference the applicant's name and the subject number, be addressed and mailed to the above address,
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 PONTCHARTRAIN BASIN UMBRELLA MITIGATION BANK
MVN-2018-01505

Barbary Bayou, Dodes Creek, East ICR, West ICR, North Wall Bayou, and South Wall Bayou Tracts

LIVINGSTON PARISH, LOUISIANA

August 8, 2019

PREPARED BY:

WEYERHAEUSER NR COMPANY
406 Cole Road
Hattiesburg, Mississippi 39402

AND

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

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1. Introduction

Weyerhaeuser NR Company (WNR) and Delta Land Services, LLC (DLS) have prepared this prospectus in accordance with 33 CFR § 332.8(d)(2) to establish and operate the Pontchartrain Basin Umbrella Mitigation Bank Phase One (Bank). The Bank is a cumulative 7,383.2-acre[1] proposed umbrella mitigation bank comprised of six distinct sites/tracts 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.

Weyerhaeuser Company, the parent company of WNR, is the current owner of the Bank properties but intends to convey ownership of the properties to WNR. WNR and DLS will be co-sponsors and as such will construct, operate, monitor, and manage the Bank. WNR will protect the Bank project area by granting conservation servitudes as described in Section 7.4. This prospectus specifically pertains to six spatially separated tracts (Tracts) which would comprise the first tracts of the proposed Umbrella Bank (Table 1). These Tracts are known as East ICR (3,855.4 acres), Dodes Creek (2,209.7 acres), West ICR (961.1 acres), South Wall Bayou (294.9 acres), North Wall Bayou (35.2 acres) and Barbary Bayou (26.9 acres). The Tracts are in Livingston Parish, Louisiana.

2. Physiography and Site Locations

The Tracts are located 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 South Atlantic and Gulf Slope Cash Crops, Forest, and Livestock Land Resource Region (LRR P), and the Southern Mississippi Valley Loess Major Land Resource Area (MLRA 134; Natural Resources Conservation Service [NRCS] 2006). The restoration site is located in the Mississippi Alluvial Plain Section of MLRA 134 and is typically 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. Stream valleys are typically narrow in the upper reaches but broaden rapidly downstream and have wide, flat flood plains and meandering stream channels. Other features include natural levees and undulating terraces and spoil banks from the natural and artificial deepening of drainageways across the landscape.

The Tracts are approximately 6.5 miles northeast of the village of Port Vincent, Louisiana and are located in Sections 29, 30, 31, 32, 33, and 36 of Township 7 South, Range 4 East and in Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11,

[1] All acreage as they pertain to tracts are preliminary and may be subject to change based on property surveys which may be conducted. All acreage will be finalized in the Mitigation Banking Instrument.

12, 13, 14, 16, 17, 18, 21, 23, 24, 29, 30, 31, 32, 33, 36, 37, 39, 44, and 46 in Livingston Parish, Louisiana (Figures 1 and 2). The approximate centroid location of the Bank Tracts is located at Latitude 30.368233°, Longitude -90.730883°[2]. The acreage and latitude and longitude for each Tract is shown in Table 1. To get to the site, proceed south on Louisiana Highway 63 (LA 63) from the intersection of Interstate Highway 12 (I-12) southern exit ramp and LA 63 for approximately 4.8 miles. The northwest corner of the West ICR Tract will be on the west side of Hwy 63 at this point. This point is approximately 0.2 miles south of the intersection of Louisiana Highway 42 (LA 42) and LA 63. Gum Swamp Road, a local parish road, also traverses the West ICR and East ICR Tracts.

The Tracts lie within the confluence of the Amite Watershed (United States Geological Survey (USGS) Hydrologic Unit Code (HUC) 08070202) and the Tickfaw Watershed (USGS HUC 08070203). The western and southern portions of the Tracts contain the headwaters for both Dodes Creek and Roderick Creek which drain into Colyell Creek; and Beaver Creek which drains into Bayou Barbary. Both Colyell Creek and Bayou Barbary drain to the Amite River. The northern and eastern portions of the Tracts drain to Gum Swamp and Wall Bayou which ultimately drain to the Tickfaw River. Both the Amite and Tickfaw Rivers drain to Lake Maurepas and Lake Pontchartrain. Natural elevations on the Bank Tracts range from approximately 1 to 26 feet[3] (Figure 3). Portions of the site are located within the 100-year flood zone per the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM; Figure 4).

3. Project Goals and Objectives

Most of the site consists of pine plantations managed for the purpose of commercial wood product production. The goal of the Bank is the rehabilitation[4] and preservation[5] of hardwood flatwood forested wetland ecosystems as described by the Louisiana Department of Wildlife and Fisheries (LDWF) Natural Heritage Program (LNHP 2009) (Figure 5). Existing areas of non-hydric soils and uplands will be restored along with the forested wetlands but will be classified as

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

[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. Elevations are purported in North American Vertical Datum of 1988 (NAVD), GEOID99.

[4] Rehabilitation 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.*

[5] 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.*

restored buffers[6]. Features such as access trails and set aside (reserved) areas will be maintained as non-mitigation acreage within the Bank. The purposes of these are to provide wildlife openings, future mineral exploration sites and to facilitate monitoring/maintenance activities associated with Bank establishment, long-term management and continued recreational use of the property.

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] and loblolly pine (*Pinus taeda*) can dominate areas within the stand. 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).

The primary threat to hardwood flatwoods is land use, which is the result of converting flatwoods to agriculture or pine plantation (LHNP 2009). The conversion to pine plantation represents the greatest loss of hardwood flatwood habitat. Other threats include the construction of roads, pipelines and utility corridors, invasive and exotic species, physical damage from timber harvesting, and chemical contamination (herbicides, fertilizers) (LHNP 2009). 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 that may alter natural water flow patterns (LHNP 2009). The restoration[8] and protection of BLH forest within the 7,383.2-acre Bank Tracts 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 reforestation[9] 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.

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[6] Buffers are defined in 33 CFR § 332.2 as *an upland, wetland, and/or riparian area that protects and/or enhances aquatic resource functions associated with wetlands, rivers, streams, lakes, marine, and estuarine systems from disturbances associated with adjacent land uses*.

[7] This and all subsequent scientific nomenclature are from NRCS 2019[a] and Lichvar et al. 2016.

[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 (2011) defines reforestation as the re-establishment 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".

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

- Restoration and protection of historic and self-sustaining surface hydrology across 7,383.2 acres of Bank Tracts through hydrological restoration activities such as degrading raised beds in existing pine plantations;
- Restore (i.e. rehabilitate) 5,055.0 acres of managed pine plantation to native hardwood flatwood forested wetlands (e.g. BLH communities through the removal of planted pine stems, degradation of raised beds, and reforestation of native species;
- Enhance 78.9 acres of mature, managed pine plantation to native BLH forest through the removal of mature pine stems, supplemental plantings with native species; the protection of suitable natural regeneration;
- Preservation of existing BLH forest (1,042.3 acres) and other BLH wetlands and upland forest (90.0 acres[10]) through the inclusion of these stands in the 7,383.2 acres of perpetual conservation servitudes to be executed;
- Re-establishment of an upland buffer (692.1 acres) that will provide a valuable upland to the restored BLH forested wetland area, as well as vital habitat to fauna species that utilize both wetland and upland systems throughout their lifecycle;
- Ensure 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;
- Establish financial assurances to achievement of long-term success criteria;
- Ensure long-term viability and sustainability by implementing specific management strategies such as
    - active and adaptive management
    - establishment of financial assurances (e.g., construction, establishment) and long-term funding mechanisms
    - initial, intermediate, and long-term monitoring
    - initial, intermediate, and long-term maintenance
    - initial, intermediate, and long-term invasive species control;
- Provide for the long-term protection through the execution of a perpetual-term conservation servitude and establishment of a long-term fund to

[10] This acreage includes 79.4 acres of existing upland hardwoods and 10.6 acres of existing bottomland hardwood wetlands not considered as preservation credit acres.

cover annual expenditures associated with maintenance and management of the Bank;

- Restore forested habitat for aquatic fauna through reforestation of a diverse assemblage of indigenous forest species and control of invasive/noxious species; and

- Reforest and protect 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 Bank Tracts to achieve the objectives of the proposed mitigation bank, including the physical, chemical, and biological characteristics of the Bank and how the sites will support the planned types of aquatic resources and function, as stated in 33 CFR §332.8(d)(2)(vii)(B). This section provides the baseline/current site conditions on and adjacent to the proposed Tracts.

4.1 Land Use

4.1.1 Historical Land Use

These Tracts have always been in some type of forested land use. Based on the physiographic characteristics of the Tracts and remnant natural forests present within the region, the Tracts and adjacent lands were historically deciduous forested wetlands with some upland deciduous forest. For the past 90+ years, much of this area has been under the ownership of wood and paper manufacturing companies and has been managed for such purpose. Intensive timber management for pine began within the past 45+ years or more. Many of the stands within these Tracts have been logged and reforested in multiple rotations under this type of management.

4.1.2 Existing/Current Land Use

The entire property consists of various stands managed by Weyerhaeuser Company. Many of these stands are currently managed in an even-aged silvicultural system for the commercial production of pine timber[11]. At the beginning of each rotation, each stand is intensively prepared, bedded, and planted with loblolly pine at a rate of 518 stems per acre. Bedding is the establishment of raised beds with a plow in potentially wet areas during site preparation on which seedlings are planted. During the rotational cycle, these

[11] Even-aged management is a planned sequence of treatments designed to create or maintain a stand with predominantly one age class. The range of tree ages for even-aged forest is generally assumed to be 20% or less of the rotation age.

stands are intermittently thinned and clearcut at approximately 24 years of age (i.e. trees are 19 to 29 years of age in any given stand) then subsequently reforested. The actual rotational cycle for a given stand may vary depending on several factors such as the desired wood product based on changing markets (i.e. saw timber, pulp, biomass, etc.); variances in silvicultural prescriptions, differing growth rates within individual stands, occurrences of insect or disease within a given stand or stands; logging contractor availability; mill capacities; and weather causing unfavorable conditions for operations. Based upon stand data obtained from Weyerhaeuser Company in May 2019, intensively managed pine stands within the rotation age cycle made up approximately 5,747.2 acres of the proposed wetland and upland habitat features[12] within the Tracts. The current age these stands ranged from 0 to 39 years with the average being 15 years in age. The pine plantations which were planted (i.e. $\geq$1 year in age) were in various stages of growth dominated by pines at a rate of approximately 95% of density (i.e. stems per acre) and 96% of the basal area of the shrub, sapling and tree strata[13]. Approximately 93% of these areas were $\leq$24 years in age. The remaining portions of these intensively managed pine plantation areas were areas that had been recently harvested and are in various stages of site preparation to prepare for the reforestation of loblolly pines for the next rotation (i.e. age 0 years in age).

More mature pine plantations that have exceeded their rotational cycle made up approximately 78.9 acres of the proposed wetland and upland habitat features. These stands ranged from 29 to 39 years in age with the average being 32 years. These stands typically have exceeded their rotation length due to difficulties in access or other factors preventing efficient timber harvests. Pines in the tree strata make up 64% of the density and 67% of the basal area.

Existing hardwood stands comprised 1,132.3 acres of the proposed wetland and upland habitat features and are typically > 50 years in age. These areas are typically forested areas located within streamside management zones (SMZs), natural hardwood communities which were too wet to efficiently manage for pine plantation, or old pine plantations which were never harvested and thus reverted to a more naturalized hardwood or mixed hardwood-pine community. Various hardwood species in the tree strata make up 79% of the density and 81% of the basal area.

The remaining acreage of the Tracts were comprised of non-forested and/or non-vegetated area features such as open water, roads, access areas, etc. Figures 6-8 depict aerials from within the past 20+ years and Table 9 shows the percentage of pine component within various age classes of stands proposed for wetland and upland forested restoration, enhancement or preservation.

[12] These include wetland and upland restoration, enhancement, preservation and inclusion acres.
[13] The use of the term strata is defined as one of the five strata defined in the USACE 2010.

The land use within a one-mile buffer of the Bank boundary is dominated by woody wetlands (35%), evergreen forest (22%) and scrub/shrub (21%) (Figure 9). The remaining land use consists of development (5%), herbaceous (4%), hay/pasture (3%), cultivated crops (2%), emergent herbaceous wetland (1%) and open water (>1%).

4.2 Soils

The soils are mapped as BA: Barbary muck, 0 to 1% slopes, frequently flooded, Co: Colyell silt loam, 0 to 1% slopes, rarely flooded; En: Encrow silt loam, occasionally flooded; Na: Natalbany silty clay loam, frequently flooded; OU: Ouachita, Ochlockonee and Guyton soils, 0 to 3 percent slopes, frequently flooded; Sp: Springfield silt loam; and Ve: Verdun silt loam (NRCS 2019[b]; Figure 10). Based on the wetland delineations conducted in support of the Jurisdictional Determination described in Section 4.3.4, all the soils within the proposed restoration and preservation areas of the Bank area exhibit hydric characteristics and were delineated and verified as wetlands.

4.3 Hydrology

4.3.1 Contributing Watershed

The Bank receives backwater flooding from the surrounding bayous and wetlands. Much of this area sits on a low, flat ridge perched above surrounding swamps and other wetlands. As such, most of the contributing hydrologic contribution is from rainfall. Some areas of the Bank do receive discharges from Greasy Branch. The low, flat ridge helps the area retain rainfall and does not allow for the rapid exodus of rainwater through surface runoff. Groundwater levels are also high. The Bank Tracts are located within the Amite and Tickfaw watersheds within the Lake Pontchartrain Basin. All drainage within the Bank Tracts is toward the Amite and Tickfaw Rivers and eventually into Lake Maurepas. Tracts west of LA 63 (i.e. Dodes Creek) are located mostly within the headwaters of Dodes Creek and Roderick Creek with a portion draining into Gum Swamp and Wall Bayou. Dodes Creek and Roderick Creek drain to Colyell Bay and subsequently to the Amite River. Tracts east of LA 63 (i.e. East and West ICR; North and South Wall Bayou; and Barbary Bayou) are in the Gum Swamp and Wall Bayou drainage area as well as the headwaters of Beaver Creek and Bayou Barbary. Gum Swamp and Wall Bayou drain to the Tickfaw River. Beaver Creek and Bayou Barbary drain to the Amite River.

4.3.2 Historical Hydrology and Drainage Patterns

Prior to the conversion to pine plantations, the historical hydrology of the site was primarily from precipitation, local high-water tables, overland flow from surrounding areas and flooding from bayous, creeks and swamps.

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 and as part of a typical rotation cycle for managed pine plantation, the sites are disked and tilled to create raised beds for commercial plantings of pine seedlings, primarily loblolly pine. 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 to the target species, loblolly pine (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 older stands, whether naturally occurring bottomland hardwood or older, managed pine areas which have long exceeded their typical rotation age, exhibit a natural state of surface hydrology. In the older, previously managed stands, any relict bedding that was done has deteriorated to a more natural grade. Surface flows are typically in a direction perpendicular with the nearest, defined drainage feature (Figure 11).

4.3.4 Jurisdictional Wetlands

The CEMVN issued two preliminary jurisdictional determinations (PJD) on February 10, 2017 (MVN-2008-00531-1) and on May 14, 2019 (MVN-2008-00531-2). These PJDs cover over 8,700 acres of property owned by WNR and encompass all six Tracts identified in this prospectus. All acreage to be utilized for wetland rehabilitation, enhancement and preservation were identified as wetlands per these determinations (Attachment B).

4.4 Vegetation

4.4.1 Historical Plant Community

Prior to the pine plantation conversion, the historical plant community was BLH forest. According to the LNHP (2009), the overstory in these BLH forests were comprised of overcup oak (*Quercus lyrata*), nuttall oak (*Quercus texana*), green ash (*Fraxinus pennsylvanica*), water hickory (*Carya aquatica*), sugarberry (*Celtis laevigata*), American elm (*Ulmus americana*), water oak (*Quercus nigra*), American sycamore (*Platanus occidentalis*), sweetgum (*Liquidambar styraciflua*), spruce pine (*Pinus glabra*) and red maple (*Acer rubrum*) in the overstory. The midstory was likely comprised of dwarf palmetto (*Sabal minor*), swamp dogwood (*Cornus foemina*), hawthorn (*Crataegus* spp.) and deciduous holly (*Ilex decidua*).

4.4.2 Existing Plant Community

As described in Section 4.1.2, most of the existing plant community on these Tracts consists of stands of intensively managed, even-aged pine plantations dominated by loblolly pine (Figure 12). Other species within the pine plantations

include Chinese tallowtree (*Triadica sebifera*), Chinese privet (*Ligustrum sinense*), sweetgum, water oak, willow oak (*Quercus phellos*), laurel oak (*Quercus laurifolia*), rough-leaf dogwood *(Cornus drummondii*), and palmetto.

The remaining plant communities within the Tracts are BLH forests that are either in large stands that are too low and wet to be productive for commercial loblolly pine or occur in streamside management zones (SMZ) within pine plantations. The existing BLH forests are dominated by overcup oak, nuttall oak, water hickory, black tupelo (*Nyssa sylvatica*), Drummond red maple (*Acer rubrum* var. *drummondii*) and green ash. The midstory and understory are dominated by southern bayberry (*Morella cerifera*), Eastern swamp-privet (*Foresteria acuminata*), dwarf palmetto, bushy bluestem (*Andropogon glomeratus*), late goldenrod (*Solidago gigantea*), marsh fleabane (*Pluchea odorata*), angle-stem beaksedge (*Rhynchospora caduca*), common spike-rush (*Eleocharis palustris*), lamp rush (*Juncus effusus*), and laurel-leaf greenbrier (*Smilax laurifolia*). Due to the landscape position and elevation, the transition areas between the pine plantations and BLH forests are dominated by Chinese tallowtree.

4.5 General Need for the Project in this Area

In addition to providing compensation for unavoidable impacts associated with commercial, residential and industrial developments; the proposed Bank will serve to mitigate for potential impacts associated with linear projects such as pipelines and roadways in the already highly industrialized and populated Lake Pontchartrain Basin. In addition to these impacts, the CEMVN currently has three separate projects within the Lake Pontchartrain Basin that will require BLH and baldcypress swamp (Swamp) mitigation by April 2023. The proposed Comite River Diversion Project will require a minimum of 690 acres of BLH mitigation and is expected to be completed by February 2022. The proposed East Baton Rouge Flood Risk Reduction Project will require a minimum of 430 acres of BLH mitigation and is expected to be complete by February 2023. The proposed West Shore Lake Pontchartrain project will require a minimum of 150 acres of BLH mitigation and a minimum of 2,020 acres of Swamp mitigation and is anticipated to be complete in April 2023. These three projects combined will need a minimum of 1,270 acres of BLH and 2,020 acres of Swamp mitigation within the next four to five years[14].

Development of wetland restoration sites such as the Bank Tracts in an area of increasing development and urbanization will provide an important resource for 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

[14] Information presented by the CEMVN at the CEMVN Compensatory Mitigation Industry Day on September 7, 2018 and available at the following URL: https://www.mvn.usace.army.mil/Portals/56/docs/PD/Projects/Agenda%20Slide%20Mitigation%20Industry%20Day.pdf

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).

The restoration and reforestation of the Bank near larger tracts of forested lands will provide benefit to various species of wildlife such as nearctic-neotropical migrant birds. Twedt et al. (1999) lists 14 forest breeding species of high concern. The planting and management of densely spaced seedlings will provide structural diversity within large forested landscapes, which is an identified strategy for recruiting breeding populations of scrub-dwelling (thamnic) and silvicolous (woodland) bird species (Twedt et al. 1999; Twedt et al. 2010).

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)(vii)(A)).

5.1 Site Restoration Plan

This Bank Tracts will provide 5,055.0 acres of rehabilitated BLH, 78.9 acres of BLH enhancement, 1,042.3 acres of preserved BLH, 692.1 acres of forested upland buffer restoration and 90.0 acres of upland and wetland forested hardwood inclusion 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 areas do 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. Deadwood within southeastern bottomland hardwoods provide habitat 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). BLH hardwood species will be interplanted throughout these areas.

Within the restoration and enhancement areas, reforestation and interplanting activities will include the planting of native 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 LNHP 2009[15]. 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 10 -12 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 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. Within the BLH rehabilitation areas, hard mast species should account for approximately >70% of all plantings as natural regeneration of soft mast species is expected based on the monitoring of the adjacent Gum Swamp Mitigation Bank since its construction. Planting densities for the enhanced forests will be less per acre and of varying percentages depending on the residual stand density once targeted species are removed.

[15] LNHP Tracking List and Fact Sheets for LNHP 2009 are available URL http://coastal.la.gov/a-common-vision/2012-coastal-master-plan/).

These inter-plantings will 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 species planted within the wetland rehabilitation and enhancement areas will have an indicator status of Obligate (OBL), Facultative Wetland (FACW) or Facultative (FAC) as defined by Lichvar et al. (2012) and purported in Lichvar et al. (2016). Upland restoration areas will include native species with Facultative Upland (FACU) or Upland (UPL) indicators (Lichvar et al. 2016). Many of the same species occur within the wetland rehabilitation planting list and the upland buffer restoration lists. Given the priority is on the planting of the wetland rehabilitation area within given parameters of percentages and ratios, no percentages of species or ratios of hard to soft mast are defined within the upland buffer restoration areas. However, preference will be toward hardmast species as seedling availability allows. The distribution of species across the Bank landscape either by artificial or natural regeneration will create a mosaic of native hard and soft mast species to provide seasonally available forages for a wide range of indigenous and migratory wildlife. The sponsors will make diligent efforts to control invasive species, with emphasis on Chinese tallowtree, throughout the site preparation and establishment period of the Bank following planting operations.

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 East ICR and North Wall Bayou Tracts are adjacent to the existing 1,125-acre Gum Swamp Mitigation Bank (MVN-2008-00892) which is sponsored by WNR; was approved by the CEMVN; and constructed in 2012-2013. The construction work for the Bank Tracts will be like that of the Gum Swamp Mitigation Bank and 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.

Given the size and complexity of the Bank, each Tract will have its own construction schedule and corresponding release schedule based upon achievement of defined performance standard for each Tract. The approach of utilizing different tracts within an umbrella banking instrument allows a more efficient flow and flexibility to complete these projects and minimize risk with regard to logistical issues such as equipment and labor availability; seedling availability and weather-related factors which can affect the timing of construction on a large scale. Additionally, the larger Tracts such as East ICR and Dodes Creek may incorporate additional phasing to further allow for separate

accounting within each Tract in order to more efficiently streamline credit releases associated with each phase as performance standards are met. Any phasing plans for a given Tract will be further identified in the Mitigation Banking Instrument (MBI). The establishment of an Umbrella Bank will facilitate a stream-lined approach per 33 CFR § 332.8 (g) and 33 CFR § 332.8 (h) for the addition of future tracts and sites. The criteria for the consideration of additional bank sites will be defined in the MBI.

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 is forested (Figure 9). These areas have remained in this land use over the past 70 years as evidenced in the historical and recent aerial photographic records (Figures 6 through 8). As is the case for many restorative projects, invasive species are a potential concern. However, the sponsors are planning on conducting an aggressive invasive species control plan during the construction and establishment phase of the Bank. This plan will primarily focus on Chinese tallowtree as this species is the most prevalent invasive species known to this area.

As the owner, WNR does hold the mineral interests and is reserving acreage for any future production activities. These areas are identified in this prospectus as reserved acreage which are non-mitigation features and non-credit acre features. However, WNR is further evaluating the footprint in order to utilize, to the maximum extent possible, upland and non-wetland areas located close to existing roads and access areas while still meeting their future needs. This will minimize any future direct impacts on aquatic resources. The final footprint and acreage of these will be detailed in the MBI.

5.4 Long-Term Sustainability of the Site and Water Rights

Long-term viability and sustainability of the Bank will be ensured through active and adaptive management including, but not limited to, invasive species control, appropriate monitoring, and long-term maintenance. 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, surface flows from surrounding areas, locally high-water tables, and potential overbank from existing creeks and backwater from the floodplains of nearby large waterways and swamps. As such, long-term hydrology maintenance will not depend on the utilization of water

captured from irrigation wells or any other artificial source; therefore, 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 Lake Pontchartrain Basin will serve as the service area for the Bank (Figure 13). 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.

The 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 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 the 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.

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

Proposed Sponsors:

Weyerhaeuser NR Company
Doug Hughes
406 Cole Road
Hattiesburg, Mississippi 39402
doug.hughes@weyerhaeuser.com
601-909-9334

Delta Land Services, LLC
1090 Cinclare Drive
Port Allen, LA 70767
Attn: Daniel Bollich
Phone: 225-388-5146
daniel@deltaland-services.com

Proposed Landowner:

Weyerhaeuser NR Company
Doug Hughes
406 Cole Road
Hattiesburg, Mississippi 39402
doug.hughes@weyerhaeuser.com
601-909-9334

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. WNR and DLS will serve as co-Sponsors of the Bank. WNR and its parent company, Weyerhaeuser Company, have been actively involved in environmentally sound land management programs across North America. Weyerhaeuser Company has over 100 years of experience in forest ecosystems and land management and owns or manages over 20 million acres of forestland. WNR has successfully established 12 wetland and/or stream mitigation banks and 2 Permittee-Responsible Mitigation (PRM) projects totaling 13,974 acres in Louisiana, Arkansas, Mississippi, Georgia, Florida, South Carolina and North Carolina. These banks are within the CEMVN, Vicksburg (CEMVK), Jacksonville (CESAJ), Savannah (CESAS), Charleston (CESAC) and Wilmington (CESAW) districts. WNR is currently developing an additional five wetland/stream banks totaling 11,685 acres. These are in the CESAW and CESAC districts. WNR's mitigation experience is available at https://www.weyerhaeuser.com/land/mitigation-banking.

DLS currently sponsors or manages 20 approved wetland and/or stream mitigation bank projects totaling 8,784 acres in Louisiana, Mississippi and Texas. These banks are within the CEMVN, CEMVK, CESWG and CESWF districts.

DLS currently has pending mitigation bank projects that are under review with the CEMVN, CEMVK and CESWG totaling 12,741 acres. In addition to mitigation banking, DLS serves as the responsible party for the establishment and maintenance of 3,075 acres on 26 approved Permittee-Responsible Mitigation (PRM) wetland and stream projects within the CEMVN and CESWG. DLS' technical staff includes Certified Wildlife Biologists (CWB), Professional Wetland Scientists (PWS), Certified Ecological Restoration Practitioners (CERP), and Certified Foresters (CF). In addition, DLS has construction specialists experienced in wetland construction activities such as heavy equipment operation, vegetation establishment, herbicide application, and contractor management. DLS' experience and the biographies of DLS personnel are available at www.deltaland-services.com.

7.3 Proposed Long-Term Ownership and Management Representatives

WNR 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, WNR shall execute a perpetual conservation servitude (pursuant to the Louisiana Conservation Servitude Act, R.S. 9:1271 *et seq*.) on all Tracts identified as part of the Bank and record it in the Mortgage and Conveyances Records Office of Livingston Parish. WNR 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 within 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 for protecting lands contained within the Bank in perpetuity.

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Attachments

Attachment A: Tables and Figures

Table 1. Site Acreage[1] and Locations[2] Associated with the Proposed Pontchartrain Basin Umbrella Mitigation Bank Tracts, Livingston Parish, Louisiana			
Tract	**Acres**	**Latitude**	**Longitude**
East ICR	3,855.4	30.37266179°	-90.71271322°
Dodes Creek	2,209.7	30.37395915°	-90.75083141°
West ICR	961.1	30.38903751°	-90.73151643°
South Wall Bayou	294.9	30.36668905°	-90.67997091°
North Wall Bayou	35.2	30.38885804°	-90.69120265°
Barbary Bayou	26.9	30.34438056°	-90.71475224°
Total Acreage	**7,383.2**		

1. All site acreage listed above and in subsequent tables is preliminary and subject to change upon a final boundary survey.
2. Geographic coordinates are based on North American Datum of 1983 (NAD83)

Table 2. Post-Restoration Mitigation Habitat Types at the East ICR Tract of the Proposed Pontchartrain Basin Umbrella Mitigation Bank Tracts, Livingston Parish, Louisiana.		
Baseline[1]	**Mitigation Habitat**	**Acres**
Wet Managed Pine Plantation Stands	Spruce Pine – Hardwood Flatwood (Bottomland Hardwood) Rehabilitation	2,521.0
Wet Managed Pine Plantation Stands	Spruce Pine – Hardwood Flatwood (Bottomland Hardwood) Enhancement	41.4
Wet Hardwood-Dominated Stands	Bottomland Hardwood Preservation	580.4
	Total Bottomland Hardwood Forested Restoration Area	***2,521.0***
	Total Bottomland Hardwood Forested Enhancement Area	***41.4***
	Total Bottomland Hardwood Forested Preservation Area	***580.4***
Non-Wet Managed Pine Plantation Stands	Restored Upland Hardwood Buffer	426.8
Non-Wet Hardwood-Dominated Stands	Upland Hardwood Inclusion	56.5
	Total Restored Buffer Area	***426.8***
	Total Buffer Inclusion Area	***56.5***
Water	Water	13.3
	Total Water Area	***13.3***
Existing Stand Access Roads or Rights-of-Way	Access/ Rights-of-Way	32.5
Existing Parish Roads	Roads	16.9
Mixed Use Areas[2]	Reserved	166.6
	Total Other Non-Mitigation, Non-Water and Non-Buffer/Inclusion Feature Areas	***216.0***
	Total Project Acreage	**3,855.4**

[1]Baseline conditions based on stand data provided by Weyerhaeuser in May 2019 and Preliminary Jurisdictional Determinations MVN-2008-00531-1-SY and MVN-2008-00531-2-SG issued by the CEMVN on February 10, 2017 and May 14, 2019, respectively.
[2]Mixed use areas consists of several differing land uses such as wetland and non-wetland managed pine plantations, hardwood stands, clearings, trails and other areas.

Table 3. Post-Restoration Mitigation Habitat Types at the Dodes Creek Tract of the Proposed Pontchartrain Basin Umbrella Mitigation Bank Tracts, Livingston Parish, Louisiana.		
Baseline[1]	**Mitigation Habitat**	**Acres**
Wet Managed Pine Plantation Stands	Spruce Pine – Hardwood Flatwood (Bottomland Hardwood) Rehabilitation	1,601.8
Wet Managed Pine Plantation Stands	Spruce Pine – Hardwood Flatwood (Bottomland Hardwood) Enhancement	37.5
Wet Hardwood-Dominated Stands	Bottomland Hardwood Preservation	240.6
	Total Bottomland Hardwood Forested Restoration Area	***1,601.8***
	Total Bottomland Hardwood Forested Enhancement Area	***37.5***
	Total Bottomland Hardwood Forested Preservation Area	***240.6***
Non-Wet Managed Pine Plantation Stands	Restored Upland Hardwood Buffer	176.7
Non-Wet Hardwood-Dominated Stands	Upland Hardwood Inclusion	21.9
	Total Restored Buffer Area	***176.7***
	Total Hardwood Inclusion Area	***21.9***
Water	Water	4.4
	Total Water Area	**4.4**
Existing Stand Access Roads or Rights-of-Way	Access/ Rights-of-Way	23.6
Mixed Use Areas[2]	Reserved	103.2
	Total Other Non-Mitigation, Non-Water and Non-Buffer/Inclusion Feature Areas	***126.8***
	Total Project Acreage	**2,209.7**

[1]Baseline conditions based on stand data provided by Weyerhaeuser in May 2019 and Preliminary Jurisdictional Determinations MVN-2008-00531-1-SY and MVN-2008-00531-2-SG issued by the CEMVN on February 10, 2017 and May 14, 2019, respectively.
[2]Mixed use areas consists of several differing land uses such as wetland and non-wetland managed pine plantations, hardwood stands, clearings, trails and other areas.

Table 4. Post-Restoration Mitigation Habitat Types at the West ICR Tract of the Proposed Pontchartrain Basin Umbrella Mitigation Bank Tracts, Livingston Parish, Louisiana.		
Baseline[1]	**Mitigation Habitat**	**Acres**
Wet Managed Pine Plantation Stands	Spruce Pine – Hardwood Flatwood (Bottomland Hardwood) Rehabilitation	656.7
Wet Hardwood-Dominated Stands	Bottomland Hardwood Preservation	206.7
	Total Bottomland Hardwood Forested Restoration Area	***656.7***
	Total Bottomland Hardwood Forested Preservation Area	***206.7***
Non-Wet Managed Pine Plantation Stands	Restored Upland Hardwood Buffer	50.2
Non-Wet Hardwood-Dominated Stands	Upland Hardwood Inclusion	1.0
	Total Restored Buffer Area	***50.2***
	Total Buffer Inclusion Area	***1.0***
Water	Water	2.7
	Total Water Area	**2.7**
Existing Stand Access Roads or Rights-of-Way	Access/ Rights-of-Way	4.6
Existing Parish Roads	Parish Roads	6.0
Mixed Use Areas[2]	Reserved	33.2
	Total Other Non-Mitigation, Non-Water and Non-Buffer/Inclusion Feature Areas	***43.8***
	Total Project Acreage	**961.1**

[1]Baseline conditions based on stand data provided by Weyerhaeuser in May 2019 and Preliminary Jurisdictional Determinations MVN-2008-00531-1-SY and MVN-2008-00531-2-SG issued by the CEMVN on February 10, 2017 and May 14, 2019, respectively.
[2]Mixed use areas consists of several differing land uses such as wetland and non-wetland managed pine plantations, hardwood stands, clearings, trails and other areas.

Table 5. Post-Restoration Mitigation Habitat Types at the South Wall Bayou Tract of the Proposed Pontchartrain Basin Umbrella Mitigation Bank Tracts, Livingston Parish, Louisiana.		
Baseline[1]	**Mitigation Habitat**	**Acres**
Wet Managed Pine Plantation Stands	Spruce Pine – Hardwood Flatwood (Bottomland Hardwood) Rehabilitation	237.2
Wet Hardwood-Dominated Stands	Bottomland Hardwood Preservation	5.2
	Total Bottomland Hardwood Forested Restoration Area	***237.2***
	Total Bottomland Hardwood Forested Preservation Area	***5.2***
Non-Wet Managed Pine Plantation Stands	Restored Upland Hardwood Buffer	34.6
	Total Restored Buffer Area	***34.6***
Water	Water	1.9
	Total Water Area	***1.9***
Existing Stand Access Roads or Rights-of-Way	Access/ Rights-of-Way	2
Mixed Use Areas[2]	Reserved Areas	14.0
	Total Other Non-Mitigation, Non-Water and Non-Buffer/Inclusion Feature Areas	***16.0***
	Total Project Acreage	**294.9**

[1]Baseline conditions based on stand data provided by Weyerhaeuser in May 2019 and Preliminary Jurisdictional Determinations MVN-2008-00531-1-SY and MVN-2008-00531-2-SG issued by the CEMVN on February 10, 2017 and May 14, 2019, respectively.
[2]Mixed use areas consists of several differing land uses such as wetland and non-wetland managed pine plantations, hardwood stands, clearings, trails and other areas.

Table 6. Post-Restoration Mitigation Habitat Types at the North Wall Bayou Tract of the Proposed Pontchartrain Basin Umbrella Mitigation Bank Tracts, Livingston Parish, Louisiana.		
Baseline[1]	**Mitigation Habitat**	**Acres**
Wet Managed Pine Plantation Stands	Spruce Pine – Hardwood Flatwood (Bottomland Hardwood) Rehabilitation	30.0
Wet Hardwood-Dominated Stands	Bottomland Hardwood Preservation	5.2
	Total Bottomland Hardwood Forested Restoration Area	***30.0***
	Total Bottomland Hardwood Forested Preservation Area	***5.2***
	Total Project Acreage	**35.2**

[1]Baseline conditions based on stand data provided by Weyerhaeuser in May 2019 and Preliminary Jurisdictional Determinations MVN-2008-00531-1-SY and MVN-2008-00531-2-SG issued by the CEMVN on February 10, 2017 and May 14, 2019, respectively.

Table 7. Post-Restoration Mitigation Habitat Types at the Barbary Bayou Tract of the Proposed Pontchartrain Basin Umbrella Mitigation Bank Tracts, Livingston Parish, Louisiana.		
Baseline[1]	**Mitigation Habitat**	**Acres**
Wet Managed Pine Plantation Stands	Spruce Pine – Hardwood Flatwood (Bottomland Hardwood) Rehabilitation	8.3
Hardwoods	Bottomland Hardwood Preservation	4.2
	Total Bottomland Hardwood Forested Restoration Area	***8.3***
	Total Bottomland Hardwood Forested Preservation Area	***4.2***
Non-Wet Managed Pine Plantation Stands	Restored Hardwood Upland Buffer	3.8
Wet Hardwood-Dominated Stands	Bottomland Hardwood Wetland Inclusion[2]	10.6
	Total Restored Buffer Area	**3.8**
	Total Buffer Inclusion Area[3]	**10.6**
	Total Project Acreage	**26.9**

[1] Baseline conditions based on stand data provided by Weyerhaeuser in May 2019 and Preliminary Jurisdictional Determinations MVN-2008-00531-1-SY and MVN-2008-00531-2-SG issued by the CEMVN on February 10, 2017 and May 14, 2019, respectively.

[2] The Bottomland Hardwood Wetland Inclusion represents the balance of Bottomland Hardwood Preservation which exceeds 50% of the restoration acres.

Table 8. Summary of Mitigation Project Habitat Types by Tract at the Proposed Pontchartrain Basin Umbrella Mitigation Bank Tracts, Livingston Parish, Louisiana.		
Tracts	**Mitigation Habitat**	**Acres**
East ICR, Dodes Creek, West ICR, South Wall Bayou, North Wall Bayou, and Barbary Bayou	Bottomland Hardwood Forested Restoration Area	5,055.0
East ICR and Dode's Creek	Bottomland Hardwood Forested Enhancement Area	78.9
East ICR, Dodes Creek, West ICR, South Wall Bayou, North Wall Bayou, and Barbary Bayou	Bottomland Hardwood Forested Preservation Area	1,042.3
	Total Bottomland Hardwood Restoration and Preservation Area	***6,176.2***
East ICR, Dodes Creek, West ICR, South Wall Bayou, and Barbary Bayou	Restored Upland Buffer Area	**692.1**
East ICR, Dodes Creek and West ICR,	Upland Hardwood Inclusion	**79.4**
Barbary Bayou	Total Bottomland Hardwood Wetland Inclusion[1]	**10.6**
	Total Buffer-Inclusion Area	**782.1**
East ICR, Dodes Creek, West ICR and South Wall Bayou	Water	22.3
	Total Water Area	***22.3***
East ICR, Dodes Creek, and West ICR	Access/ Rights-of-Way	62.7
East ICR and West ICR	Roads	22.9
East ICR, Dodes Creek, and West ICR	Reserved	317.0
	Total Other Non-Mitigation, Non-Water and Non-Buffer/Inclusion Feature Areas	***402.6***
	Total Project Acreage	**7,383.2**

[1] The Bottomland Hardwood Wetland Inclusion represents the balance of Bottomland Hardwood Preservation which exceeds 50% of the Restoration acres.

Table 9: Baseline Pine to Hardwood Density and Dominance within the Tree, Sapling and Shrub Strata[1] within the Proposed Wetland and Upland Restoration/Protection Areas on the Proposed Pontchartrain Basin Umbrella Mitigation Bank Tracts in Livingston Parish, Louisiana.

Proposed Area & Baseline Condition Age Class[2]	Acres	Average Stand Age (years)[2]	Pine Stems per Acre	Total Stems per Acre	Pine Relative Density	Pine Basal Area (sq.ft./acre)	Total Basal Area (sq.ft./acre)	Pine Relative Dominance	Pine QMD (in)[3]
Restoration 0 Years	578.1	0	0	0	0%	0	0	0%	0
Restoration 1 to 6 Years	730.5	3	394	394	100%	14	14	100%	3
Restoration 7 to 11 Years	837.4	9	365	372	98%	78	80	98%	6
Restoration 12 to 40 Years	3,601.2	21	152	168	91%	85	91	93%	10
Enhancement 12 to 40 Years	78.9	32	85	132	64%	68	102	67%	12
Protection 12 to 40 Years	116.7	26	47	150	31%	31	102	31%	11
Protection >40 Years	1,015.6	83	26	122	21%	19	99	19%	12

[1] The strata are defined in the US Army Corps of Engineers Atlantic and Gulf Coastal Plain Regional Supplement, version 2.0 (https://usace.contentdm.oclc.org/utils/getfile/collection/p266001coll1/id/7594)
[2] The stand age purported in this table is the age provided in stand data obtained from Weyerhaeuser in May 2019. Due to rotational harvesting and subsequent regeneration of stands, the age may be reduced at any given time.
[3] Quadratic Mean Diameter (QDM) is the diameter at breast height of a tree which is based on the average per tree basal area.

Table 10: Planting Composition of the 5,055.0 Acres of Wetland Rehabilitation at the Proposed Pontchartrain Basin Umbrella Mitigation Bank Sites, Livingston Parish, Louisiana[1].				
Hard Mast Species[2] (approximately >70% overall composition)				
Common Name	**Scientific Name[3]**	**Indicator Status**	**Composition[4]**	**Growth Habit[5]**
laurel oak	*Quercus laurifolia*	FACW	≤30%	Tree
cow oak	*Quercus michauxii*	FACW	≤30%	Tree
water oak	*Quercus nigra*	FAC	≤30%	Tree
cherrybark oak	*Quercus pagoda*	FACW	≤30%	Tree
willow oak	*Quercus phellos*	FACW	≤30%	Tree
Shumard's oak	*Quercus shumardii*	FAC	≤30%	Tree
bottomland post oak	*Quercus similis*	FACW	≤30%	Tree
Nuttall oak	*Quercus texana*	FACW	≤30%	Tree
overcup oak	*Quercus lyrata*	OBL	≤20%	Tree
bitternut hickory	*Carya cordiformis*	FAC	≤20%	Tree
Soft Mast Species[2] (approximately <30% of overall composition)				
Common Name	**Scientific Name**	**Indicator Status**	**Composition**	**Growth Habit**
Drummond red maple	*Acer rubrum* var. *drummondii*	OBL	≤15%	Tree
pawpaw	*Asimina triloba*	FAC	≤15%	
buttonbush	*Cephalanthus occidentalis*	OBL	≤15%	Shrub/Tree
mayhaw	*Crataegus opaca*	OBL	≤15%	Shrub/Tree
green haw	*Crataegus viridus*	FACW	≤15%	Shrub/Tree
common persimmon	*Diospyros virginiana*	FAC	≤15%	Tree
Carolina ash[7]	*Fraxinus caroliniana*	OBL	≤15%	Shrub/Tree
green ash	*Fraxinus pennsylvanica*	FACW	≤15%	Tree
deciduous holly	*Ilex decidua*	FACW	≤15%	Shrub/Tree
sweetgum	*Liquidambar styraciflua*	FAC	≤15%	Tree
southern magnolia	*Magnolia grandiflora*	FAC	≤15%	Tree
sweetbay magnolia	*Magnolia virginiana*	FACW	≤15%	Shrub/Tree
wax-myrtle	*Morella cerifera*	FAC	≤15%	Shrub/Tree
blackgum	*Nyssa sylvatica*	FAC	≤15%	Tree
spruce pine	*Pinus glabra*	FACW	≤15%	Tree
American sycamore	*Platanus occidentalis*	FAC	≤15%	Tree
baldcypress	*Taxodium distichum*	OBL	≤15%	Tree

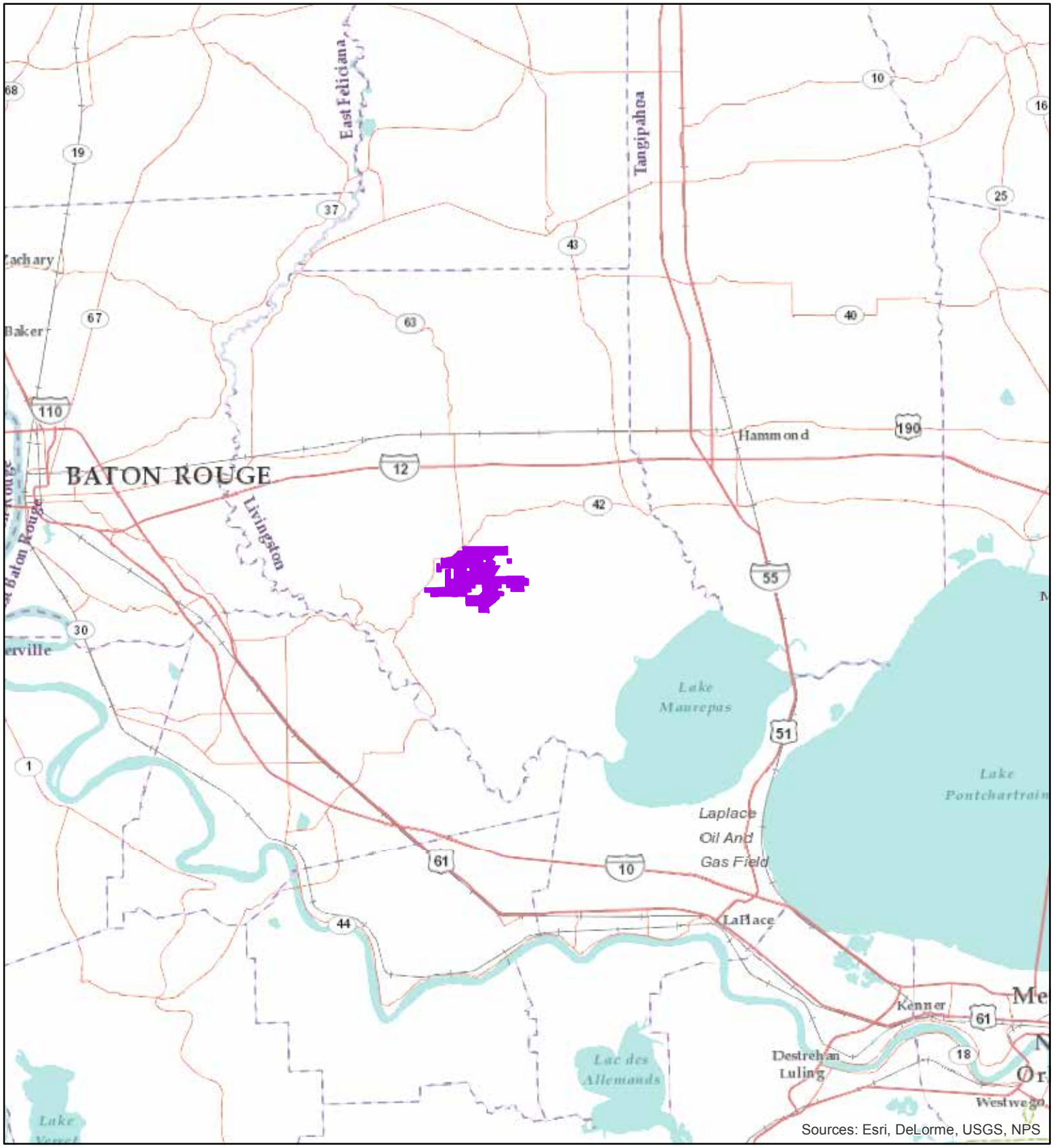
[1]Not all species listed on the above-referenced table are likely to be available however the Sponsor will take steps to try to obtain and plant at least 10 species from the list.
[2] For the purpose of this list, hard mast is defined as any oak, hickory or pecan species. All other species are considered soft mast species.
[3] Scientific name and indicator status from 2018 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 http://plants.usda.gov and accessed on March 30, 2019.

Table 11: Planting Composition of the 78.9 Acres of Wetland Enhancement at the Proposed Pontchartrain Basin Umbrella Mitigation Bank Sites, Livingston 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	TBD	Tree
cow oak	*Quercus michauxii*	FACW	TBD	Tree
cherrybark oak	*Quercus pagoda*	FACW	TBD	Tree
willow oak	*Quercus phellos*	FACW	TBD	Tree
Shumard's oak	*Quercus shumardii*	FAC	TBD	Tree
bottomland post oak	*Quercus similis*	FACW	TBD	Tree
Nuttall oak	*Quercus texana*	FACW	TBD	Tree
overcup oak	*Quercus lyrata*	OBL	TBD	Tree
bitternut hickory	*Carya cordiformis*	FAC	TBD	Tree

[1]Not 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 2018 National Wetland Plant List (http://wetland_plants.usace.army.mil/) except where otherwise noted
[4] The composition in this planting area is to be based on the remaining, residual species composition once stand improvement activities have been conducted. 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 http://plants.usda.gov and accessed on March 30, 2017.

Table 12: Planting Composition of the 692.1 Acres of Restored Upland Buffer at the Proposed Pontchartrain Basin Umbrella Mitigation Bank Sites, Livingston Parish, Louisiana[1].				
Hard Mast Species[2]				
Common Name	**Scientific Name[3]**	**Indicator Status**	**Composition[4]**	**Growth Habit[5]**
pignut hickory	*Carya glabra*	FACU	TBD	Tree
sweet pecan	*Carya illinoinensis*	FACU	TBD	Tree
white oak	*Quercus alba*	FACU	TBD	Tree
southern red oak	*Quercus falcata*	FACU	TBD	Tree
laurel oak	*Quercus laurifolia*	FACW	TBD	Tree
cow oak	*Quercus michauxii*	FACW	TBD	Tree
water oak	*Quercus nigra*	FAC	TBD	Tree
cherrybark oak	*Quercus pagoda*	FACW	TBD	Tree
willow oak	*Quercus phellos*	FACW	TBD	Tree
Shumard's oak	*Quercus shumardii*	FAC	TBD	Tree
bottomland post oak	*Quercus similis*	FACW	TBD	Tree
post oak	*Quercus stellata*	UPL	TBD	Tree
Nuttall oak	*Quercus texana*	FACW	TBD	Tree
live oak	*Quercus virginiana*	FACU	TBD	Tree
Soft Mast Species[2]				
Common Name	**Scientific Name**	**Indicator Status**	**Composition**	**Growth Habit**
pawpaw	*Asimina triloba*	FAC	TBD	Shrub/Tree
green haw	*Crataegus viridus*	FACW	TBD	Shrub/Tree
common persimmon	*Diospyros virginiana*	FAC	TBD	Tree
white ash	*Fraxinus americana*	FACU	TBD	Tree
green ash	*Fraxinus pennsylvanica*	FACW	TBD	Tree
deciduous holly	*Ilex decidua*	FACW	TBD	Shrub/Tree
sweetgum	*Liquidambar styraciflua*	FAC	TBD	Tree
southern magnolia	*Magnolia grandiflora*	FAC	TBD	Tree
sweetbay magnolia	*Magnolia virginiana*	FACW	TBD	Shrub/Tree
wax-myrtle	*Morella cerifera*	FAC	TBD	Shrub/Tree
red mulberrry	*Morus rubra*	FACU	TBD	Tree
blackgum	*Nyssa sylvatica*	FAC	TBD	Tree
spruce pine	*Pinus glabra*	FACW	TBD	Tree
American sycamore	*Platanus occidentalis*	FAC	TBD	Tree

[1]Not 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 2018 National Wetland Plant List (http://wetland_plants.usace.army.mil/) except where otherwise noted.
[4] The in the upland areas are not specific to any defined performance standards applicable to upland restoration. Preference will be given to hardmast over softmast. Exact species and quantities to be determined by seedling availability from commercial sources providing seedlings grown from localized ecotypes. The priority for any species with a FAC or wetter indicator will be applied to providing suitable percentage to wetland restoration areas first.
[5] Growth habit per the USDA Plants Database, available at http://plants.usda.gov and accessed on March 30, 2019.



Project Area (7,383.2 ac)

0 4 8 16

Miles

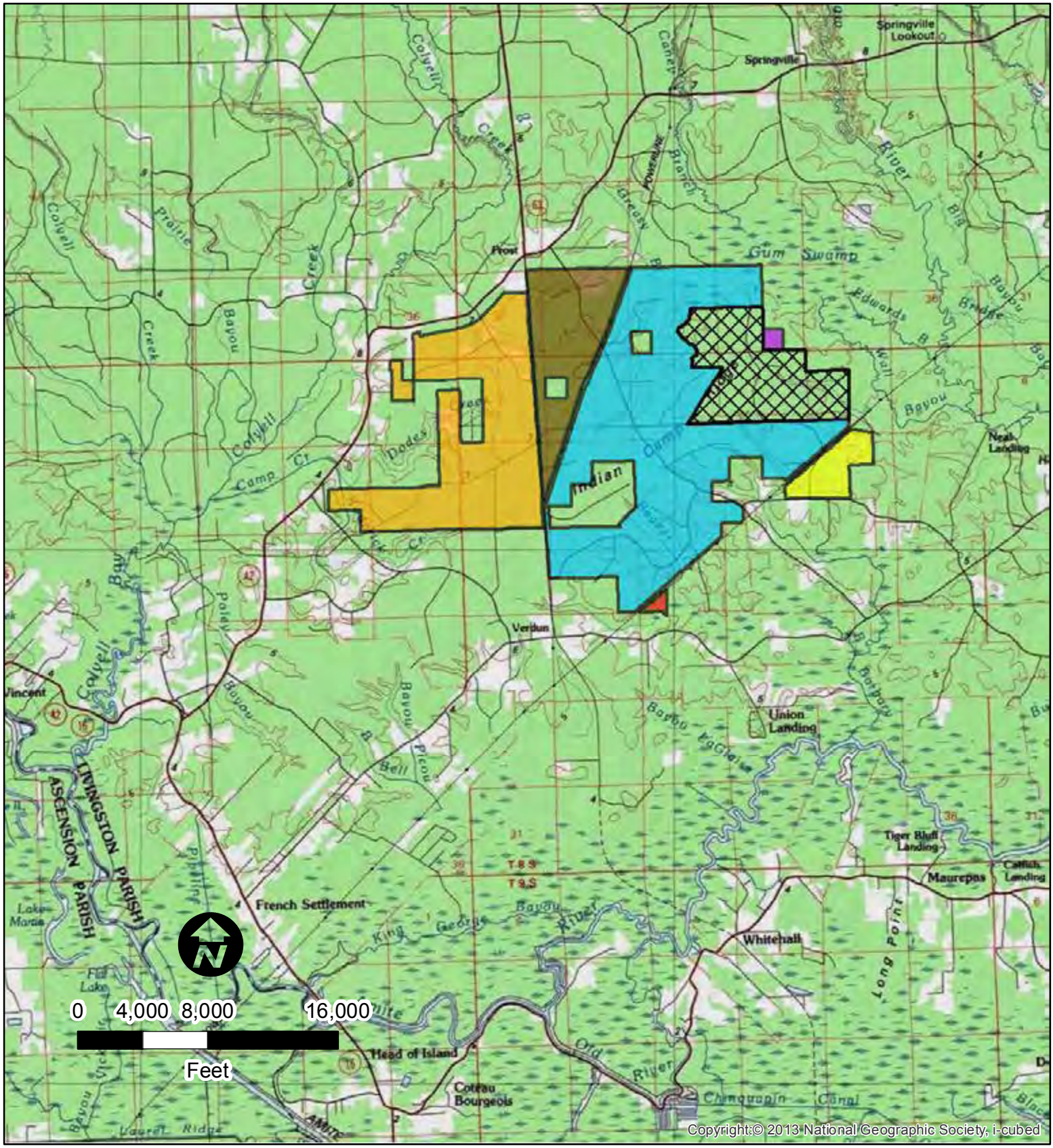
Pontchartrain Basin Umbrella Mitigation Bank

VICINITY MAP

Livingston Parish, LA

Created : LJW/ARCVIEW	
Approved : DEB	
Date : 07/24/2019	
Map No. : F01_VicinityMap	

FIGURE 1



- East ICR Tract (3,855.4 ac)
- Dodes Creek Tract (2,209.7 ac)
- West ICR Tract (961.1 ac)
- South Wall Bayou (294.9 ac)
- North Wall Bayou (35.2 ac)
- Barbary Bayou (26.9 ac)
- Existing Gum Swamp Mitigation Bank (1,125 ac)

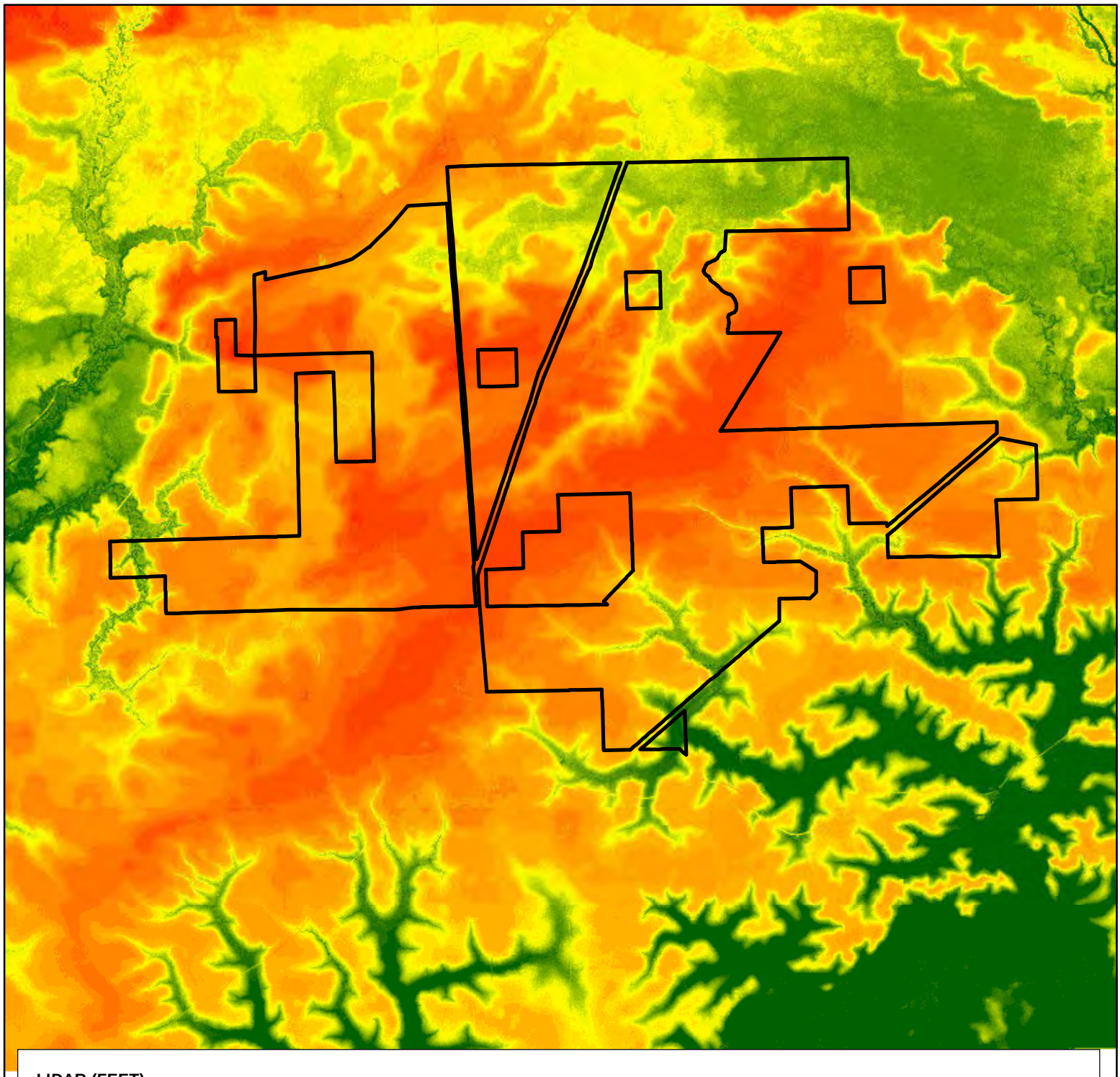
Pontchartrain Basin Umbrella Mitigation Bank

USGS QUADRANGLE MAP

Livingston Parish, LA

Created : LJW/ARCVIEW	
Approved : DEB	
Date : 07/24/2019	
Map No. : F02_QuadMap	

FIGURE 2



Project Tracts (7,383.2 ac)

N

0 2,500 5,000 10,000

Feet

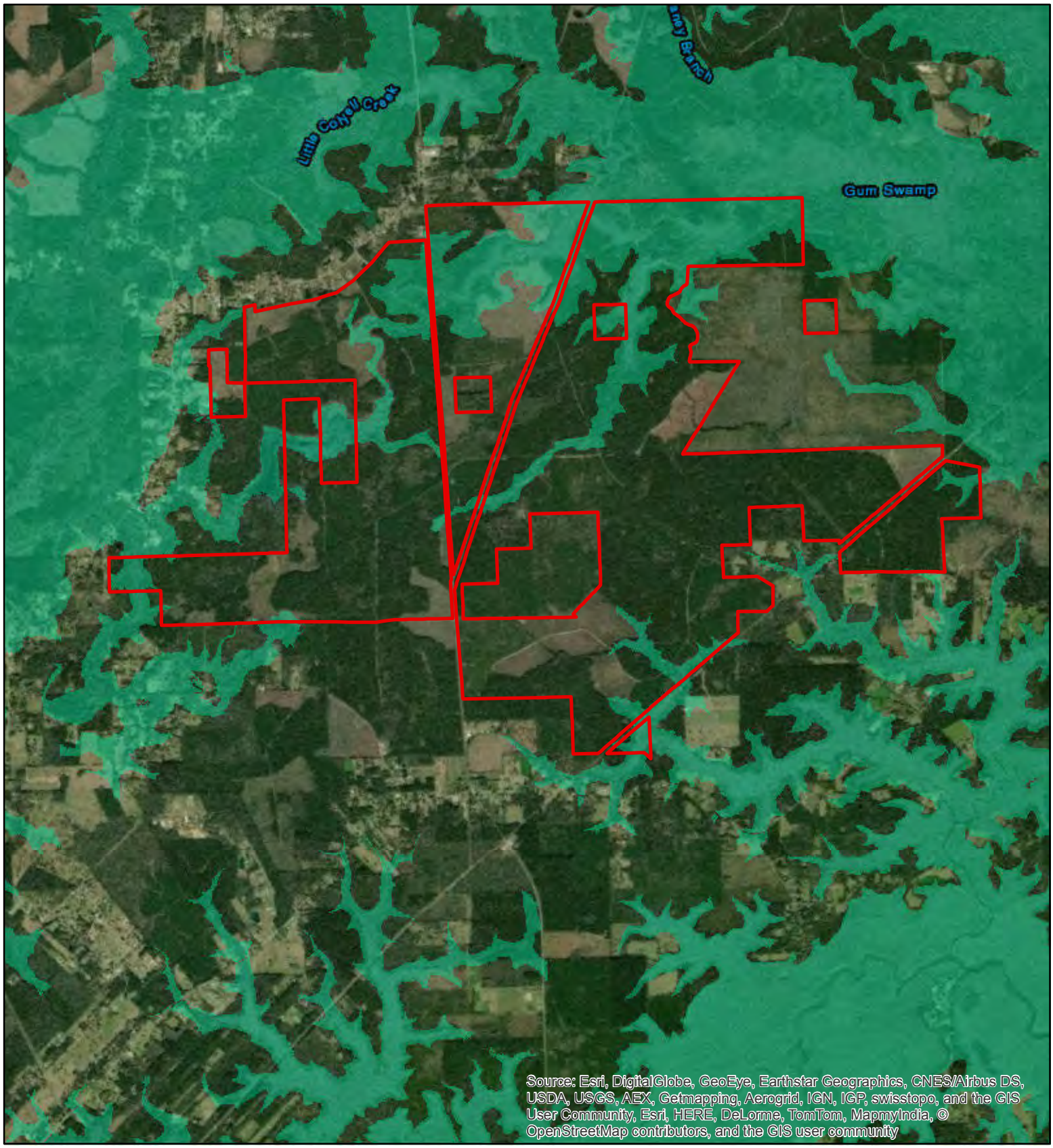
Pontchartrain Basin Umbrella Mitigation Bank

LIDAR DIGITAL ELEVATION MODEL

Livingston Parish, LA

Created : LJW/ARCVIEW	
Approved : DEB	
Date : 07/24/2019	
Map No. : F03_LidarMap	

FIGURE 3



Project Tracts (7,383.2 ac)

FEMA 100-year Flood Zone A

0 2,500 5,000 10,000

Feet

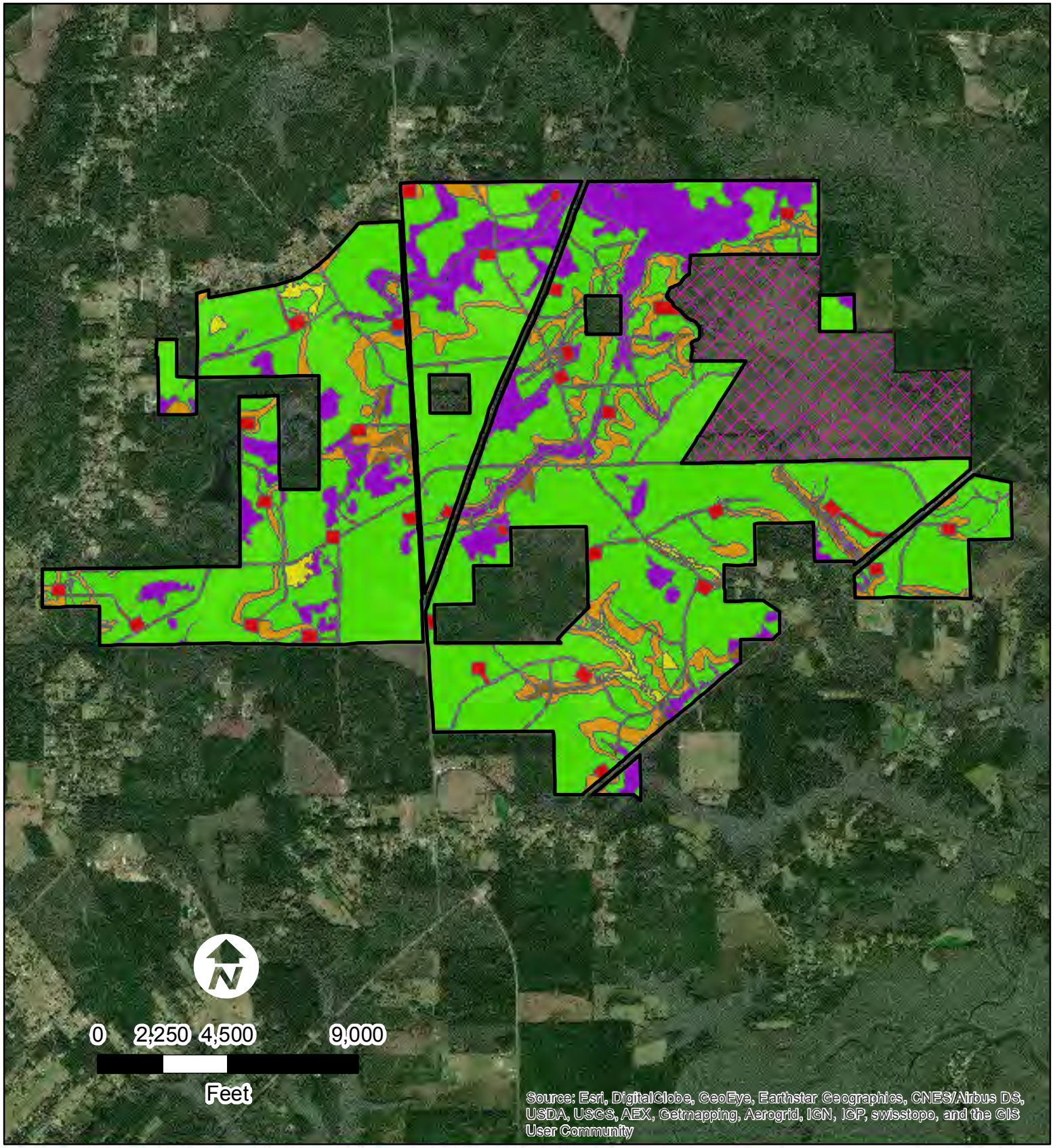
Pontchartrain Basin Umbrella Mitigation Bank

FEMA FIRM FLOOD ZONE MAP

Livingston Parish, LA

Created : LJW/ARCVIEW	
Approved : DEB	
Date : 07/24/2019	
Map No. : F04_FEMA	

FIGURE 4



- Project Tracts (7,383.2 ac)
- Bottomland Hardwood Rehabiliation (5,055.0 ac)
- Bottomland Hardwood Enhancement (78.9 ac)
- Bottomland Hardwood Preservation (1,042.3 ac)
- Restored Upland Buffer (692.1 ac)
- Upland Hardwood Inclusion (79.4 ac)
- Bottomland Hardwood Inclusion (10.6 ac)
- Acess Areas/Roads/Reserved Areas (402.6 ac)
- Water (22.3 ac)
- Existing Gum Swamp Mitigation Bank (1,125 ac) (MVN 2008-00892)

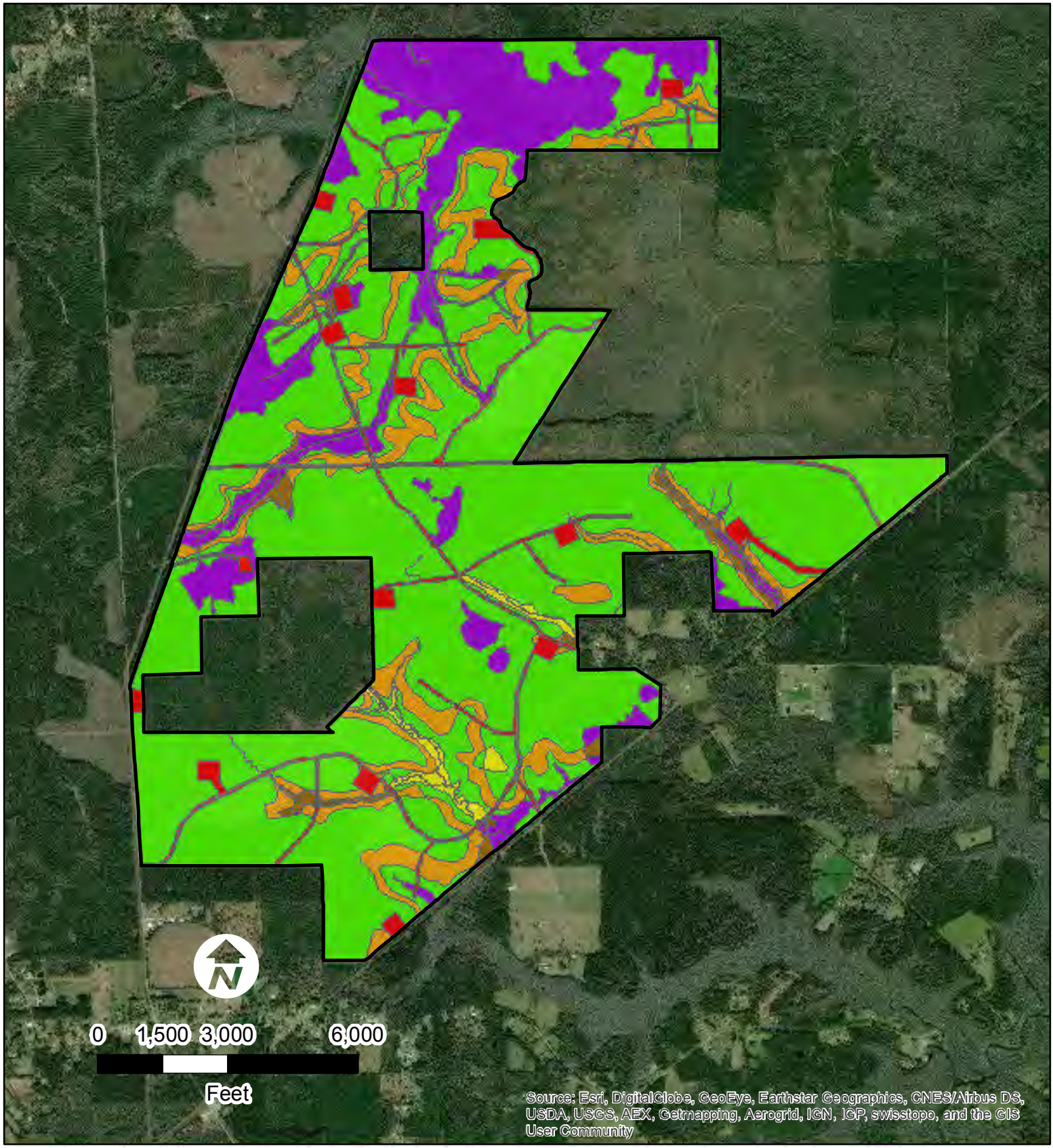
Pontchartrain Basin Umbrella Mitigation Bank

PROPOSED MITIGATION FEATURES

Livingston Parish, LA

Created : LJW/ARCVIEW	
Approved : DEB	
Date : 07/24/2019	
Map No. : F05_Features	

FIGURE 5



- East ICR Tract (3,855.4 ac)
- Bottomland Hardwood Rehabiliation (2,521.0 ac)
- Bottomland Hardwood Enhancement (41.4 ac)
- Bottomland Hardwood Preservation (580.4 ac)
- Restored Upland Buffer (426.8 ac)
- Upland Hardwood Inclusion (56.5 ac)
- Acess/Roads/Reserved Areas (216.0 ac)
- Water (13.3 ac)

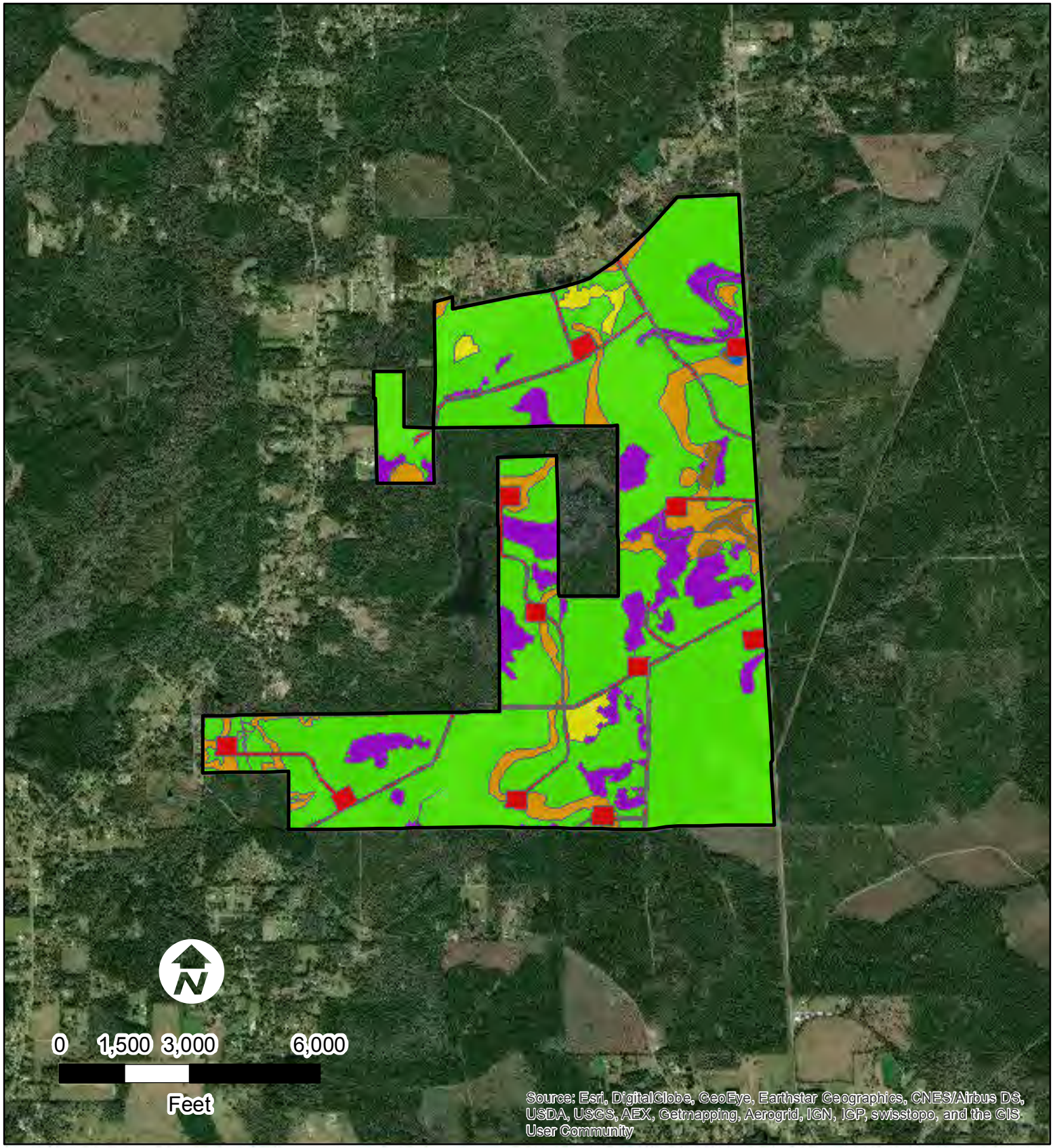
Pontchartrain Basin Umbrella Mitigation Bank

EAST ICR TRACT
PROPOSED MITIGATION FEATURES

Livingston Parish, LA

Created : LJW/ARCVIEW	
Approved : DEB	
Date : 07/24/2019	
Map No. : F05a_EastICR_Features	

FIGURE 5a



- Dodes Creek Tract (2,209.7 ac)
- Bottomland Hardwood Rehabiliation (1,601.8 ac)
- Bottomland Hardwood Enhancement (37.5 ac)
- Bottomland Hardwood Preservation (240.6 ac)
- Restored Upland Buffer (176.7 ac)
- Upland Hardwood Inclusion (21.9 ac)
- Acess/Roads/Reserved Areas (126.8 ac)
- Water (4.4 ac)

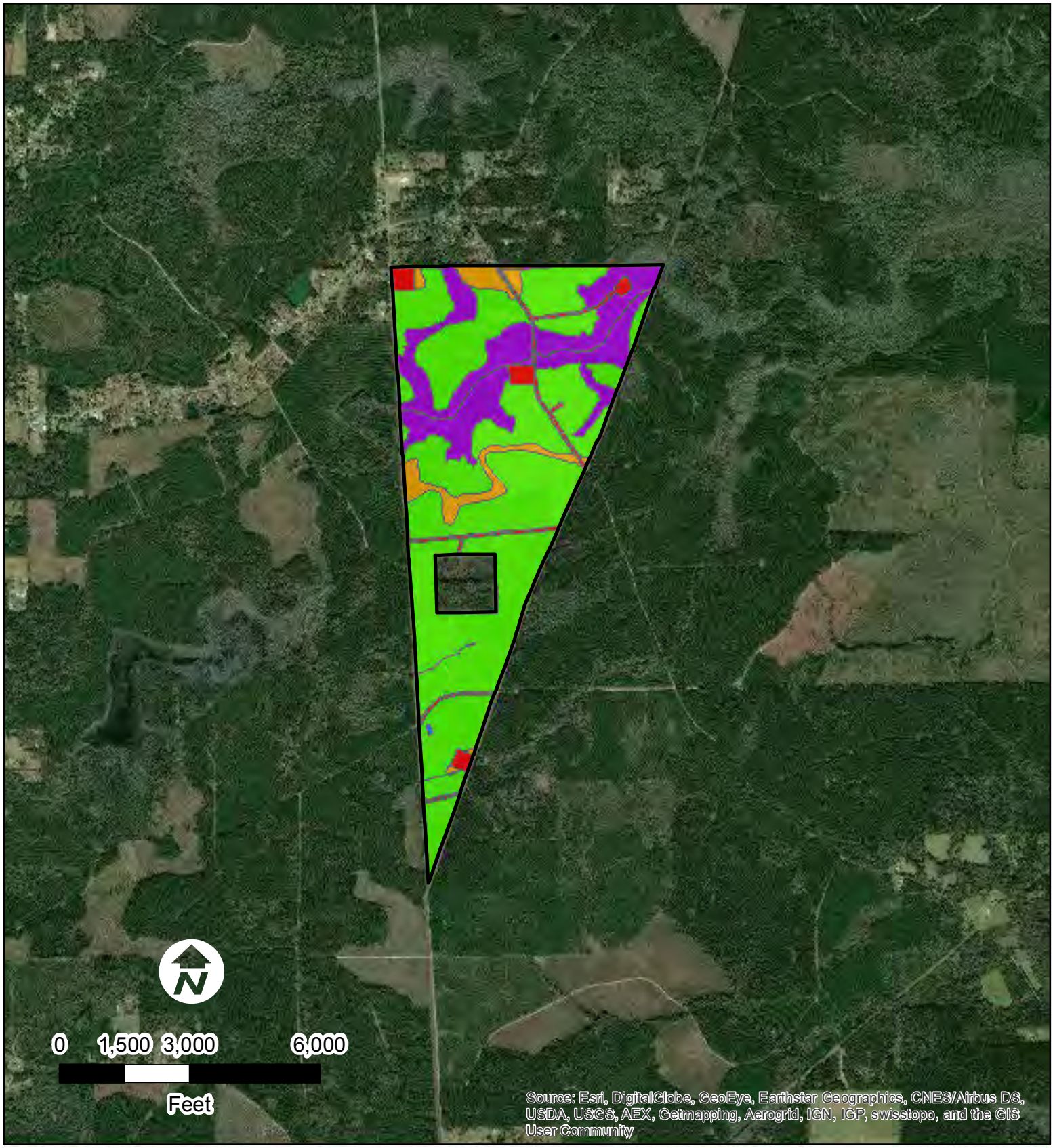
Pontchartrain Basin Umbrella Mitigation Bank

DODES CREEK TRACT
PROPOSED MITIGATION FEATURES

Livingston Parish, LA

Created : LJW/ARCVIEW	
Approved : DEB	
Date : 07/24/2019	
Map No. : F05b_Dodes_Features	

FIGURE 5b



- West ICR Tract (961.1 ac)
- Bottomland Hardwood Rehabiliation (656.7 ac)
- Bottomland Hardwood Preservation (206.7 ac)
- Restored Upland Buffer (50.2 ac)
- Upland Hardwood Inclusion (1.0 ac)
- Acess/Roads/Reserved Areas (43.8 ac)
- Water (2.7 ac)

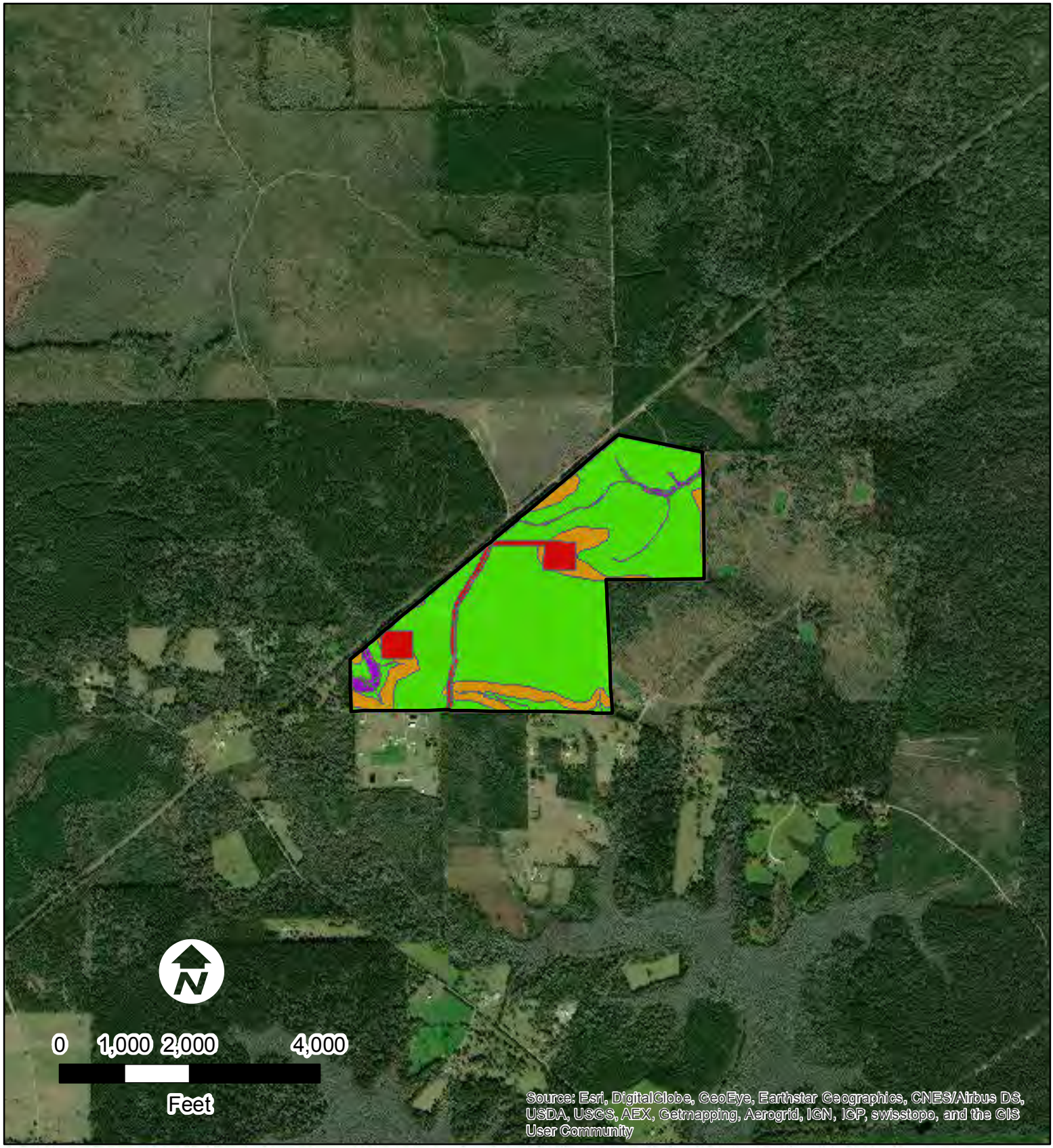
Pontchartrain Basin Umbrella Mitigation Bank

WEST ICR TRACT
PROPOSED MITIGATION FEATURES

Livingston Parish, LA

Created : LJW/ARCVIEW	
Approved : DEB	
Date : 07/24/2019	
Map No. : F05c_WestICR_Features	

FIGURE 5c



- South Wall Bayou Tract (294.9 ac)
- Bottomland Hardwood Rehabiliation (237.2 ac)
- Bottomland Hardwood Preservation (5.2 ac)
- Restored Upland Buffer (34.6 ac)
- Acess/Roads/Reserved Areas (16.0 ac)
- Water (1.9 ac)

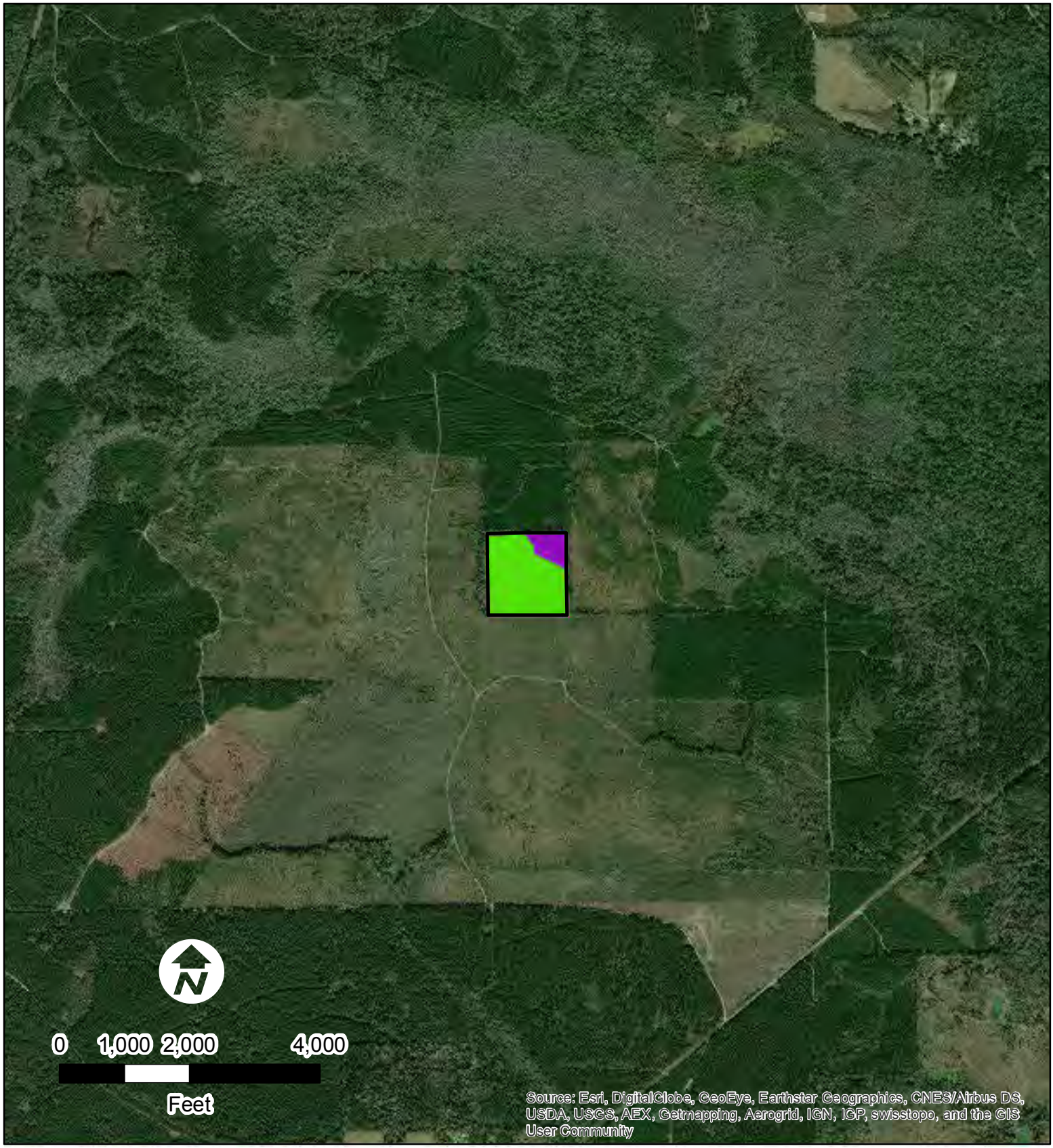
Pontchartrain Basin Umbrella Mitigation Bank

SOUTH WALL BAYOU TRACT
PROPOSED MITIGATION FEATURES

Livingston Parish, LA

Created : LJW/ARCVIEW	
Approved : DEB	
Date : 07/24/2019	
Map No. : F05d_SWallBayou_Feat	

FIGURE 5d



North Wall Bayou Tract (35.2 ac)
Bottomland Hardwood Rehabiliation (30.0 ac)
Bottomland Hardwood Preservation (5.2 ac)

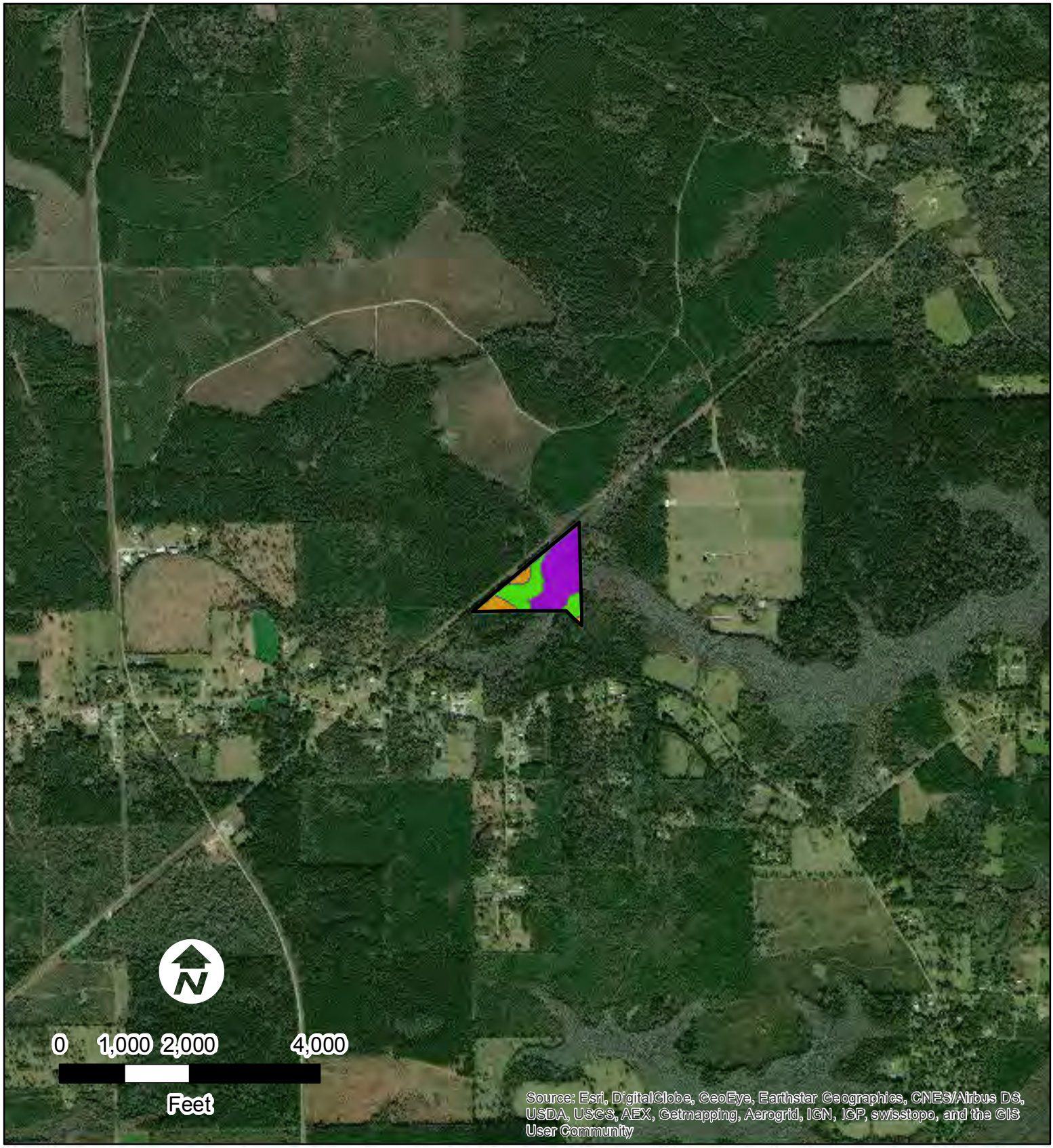
Pontchartrain Basin Umbrella Mitigation Bank

NORTH WALL BAYOU TRACT
PROPOSED MITIGATION FEATURES

Livingston Parish, LA

Created : LJW/ARCVIEW	
Approved : DEB	
Date : 07/24/2019	
Map No. : F05e_NWallBayou_Feat	

FIGURE 5e



- Barbary Bayou Tract (26.9 ac)
- Bottomland Hardwood Rehabiliation (8.3 ac)
- Bottomland Hardwood Preservation (4.2 ac)
- Restored Upland Buffer (3.8 ac)
- Upland Hardwood Inclusion (10.6 ac)

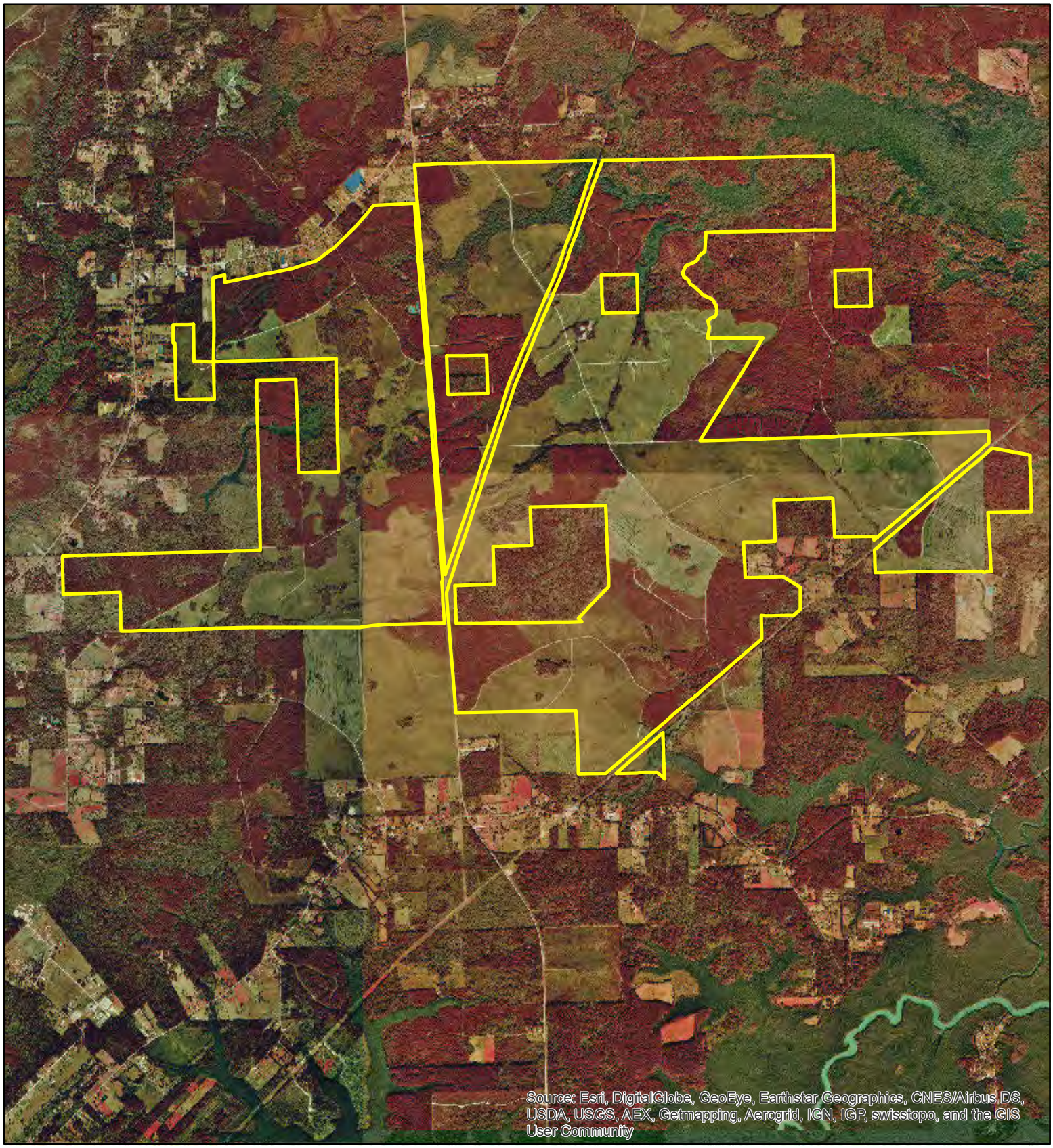
Pontchartrain Basin Umbrella Mitigation Bank

BARBARY BAYOU TRACT
PROPOSED MITIGATION FEATURES

Livingston Parish, LA

Created : LJW/ARCVIEW	
Approved : DEB	
Date : 07/24/2019	
Map No. : F05f_BarbaryBayou_Feat	

FIGURE 5f



Project Tracts (7,383.2 ac)

0 2,250 4,500 9,000

Feet

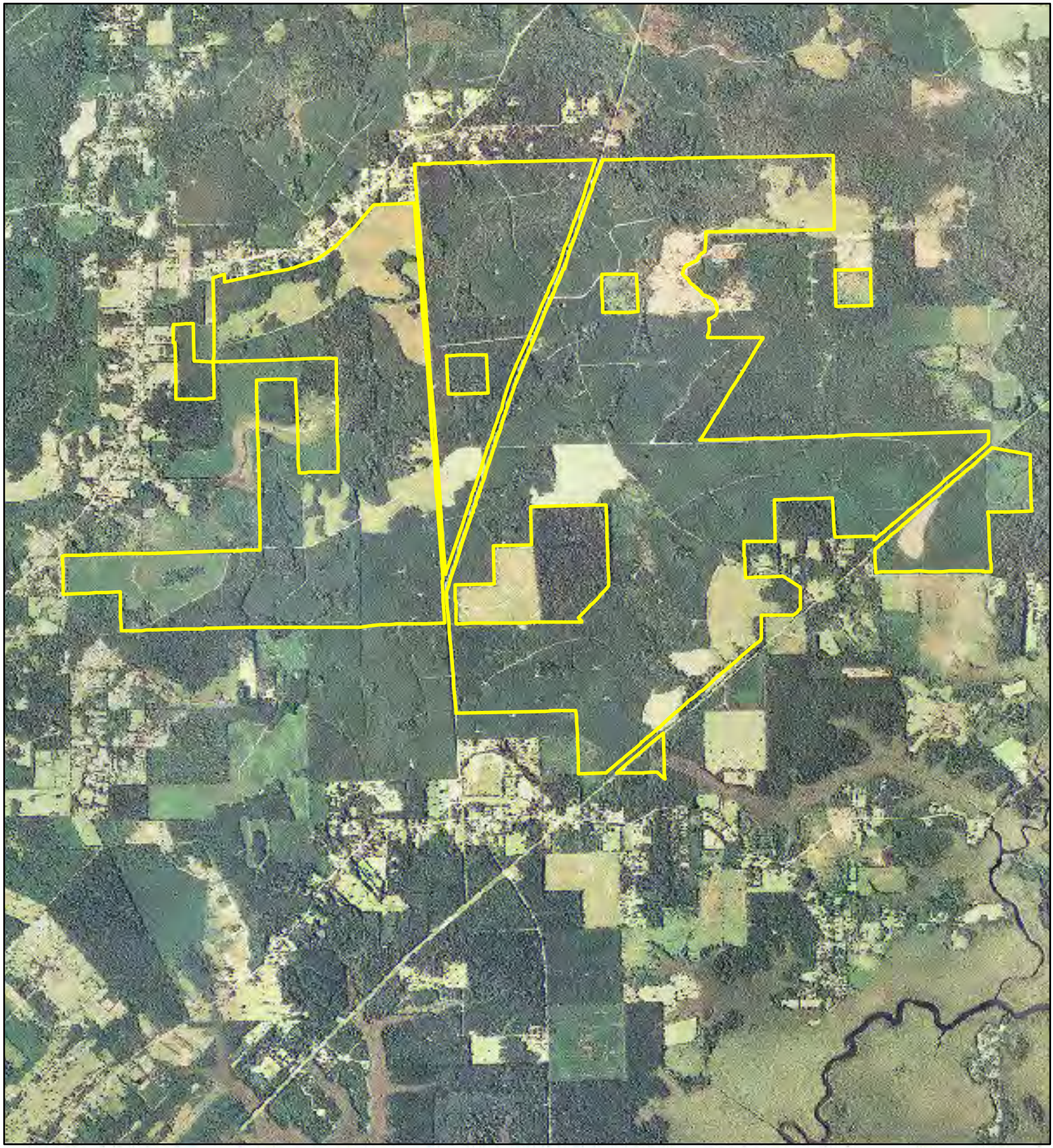
Pontchartrain Basin Umbrella Mitigation Bank

1998 AERIAL

Livingston Parish, LA

Created : LJW/ARCVIEW	
Approved : DEB	
Date : 07/24/2019	
Map No. : F06_1998	

FIGURE 6



Project Tracts (7,383.2 ac)

0 2,250 4,500 9,000

Feet

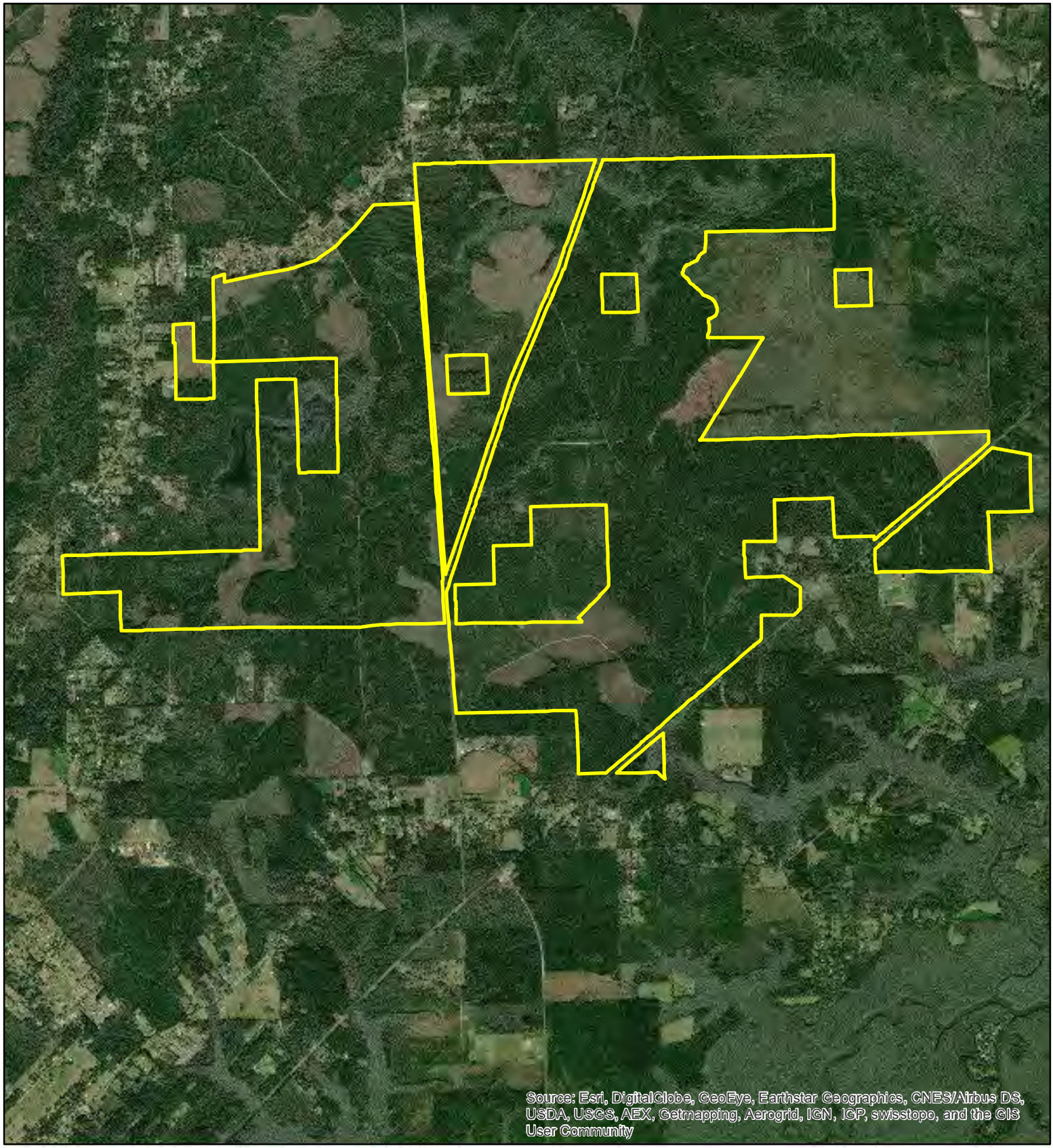
Pontchartrain Basin Umbrella Mitigation Bank

2007 AERIAL

Livingston Parish, LA

Created : LJW/ARCVIEW	
Approved : DEB	
Date : 07/24/2019	
Map No. : F07_2007	

FIGURE 7



Project Tracts (7,383.2 ac)

N

0 2,250 4,500 9,000

Feet

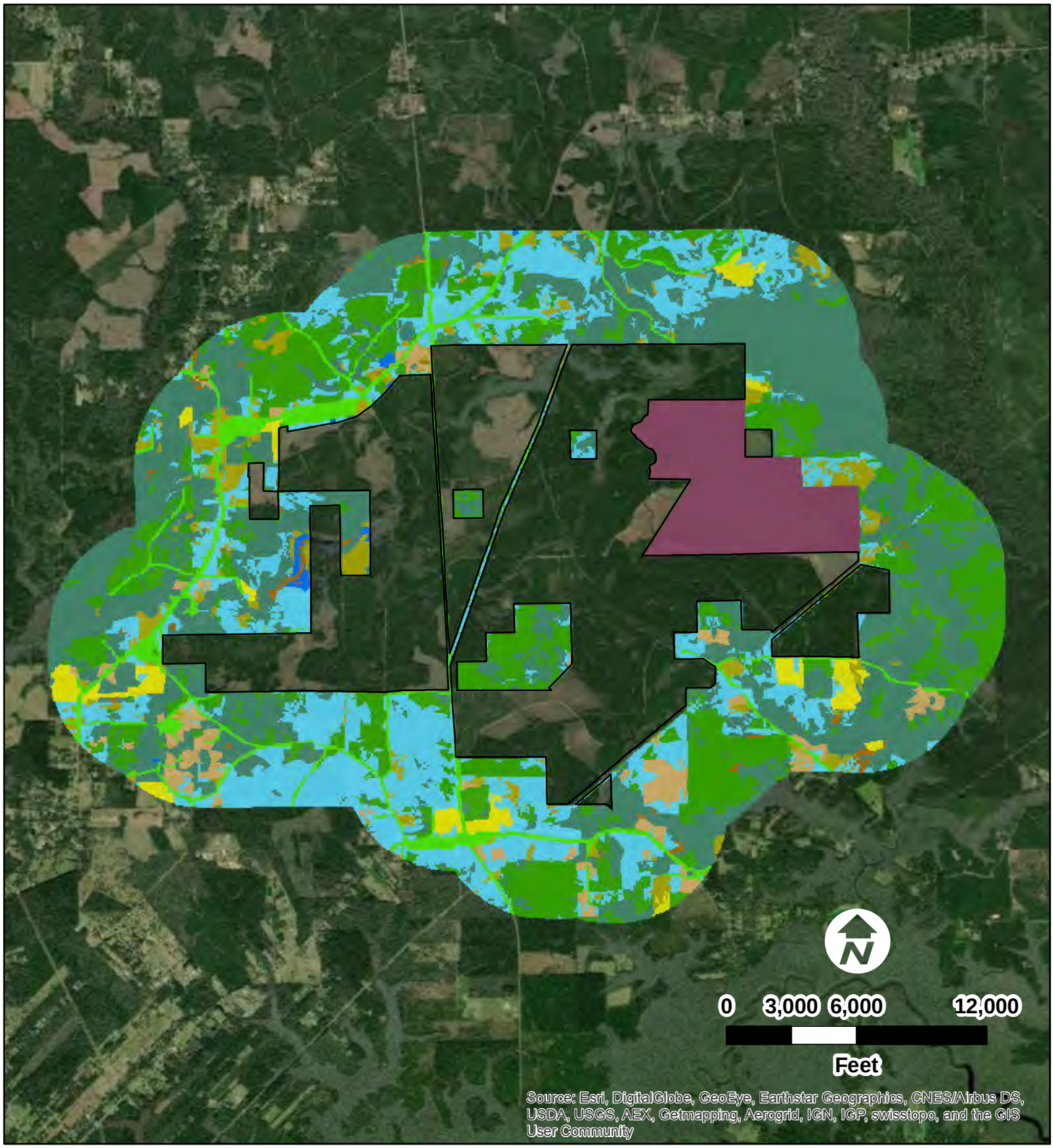
Pontchartrain Basin Umbrella Mitigation Bank

2017 AERIAL

Livingston Parish, LA

Created : LJW/ARCVIEW	
Approved : DEB	
Date : 07/24/2019	
Map No. : F08_2017	

FIGURE 8



- Project Tracts (7,383.2 ac)
- Woody Wetlands (35%)
- Evergreen Forest (22%)
- Shrub/Scrub (21%)
- Gum Swamp Mitigation Bank (7%)
- Developed (5%)
- Herbaceuous (4%)
- Hay/Pasture (3%)
- Cultivated Crops (2%)
- Emergent Herbaceuous Wetlands (1%)
- Open Water (>1%)

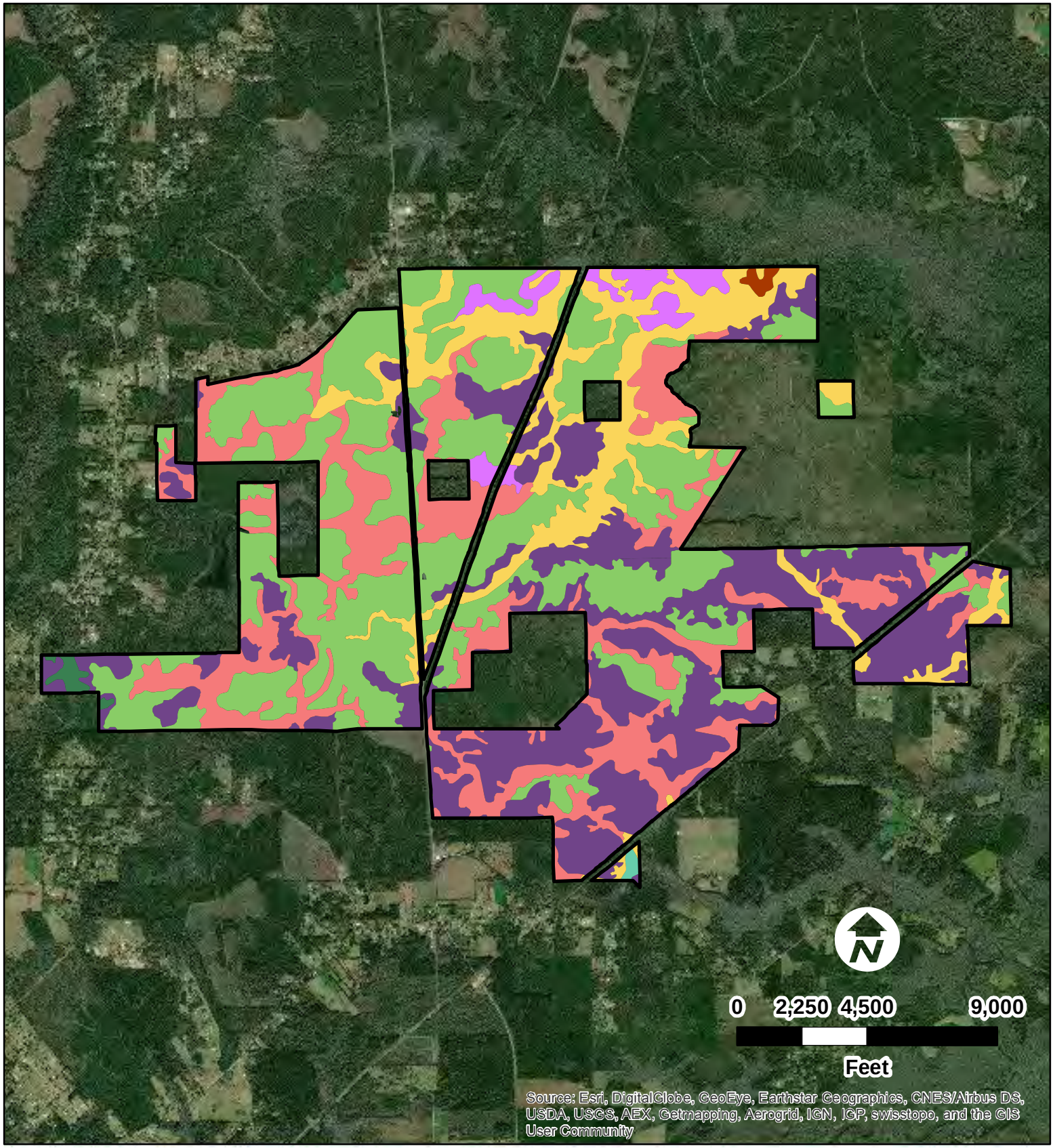
Pontchartrain Basin Umbrella Mitigation Bank

LAND USE LAND COVER WITHIN ONE MILE

Livingston Parish, LA

Created : LJW/ARCVIEW	
Approved : DEB	
Date : 07/24/2019	
Map No. : F09_LULC	

FIGURE 9



- Project Tracts (7,383.2 ac)
- BA: Barbary muck, 0 to 1 percent slopes, frequently flooded
- Co: Colyell silt loam, 1 to 3 percent slopes, rarely flooded
- Cy: Colyell-Springfield silt loams, frequently flooded
- En: Encrow silt loam, occasionally flooded
- Na: Natalbany silty clay loam, frequently flooded
- OU: Ouachita, Ochlockonee and Guyton soils, 0 to 3 percent slopes, frequently flooded
- Sp: Springfield silt loam
- Ve: Verdun silt loam

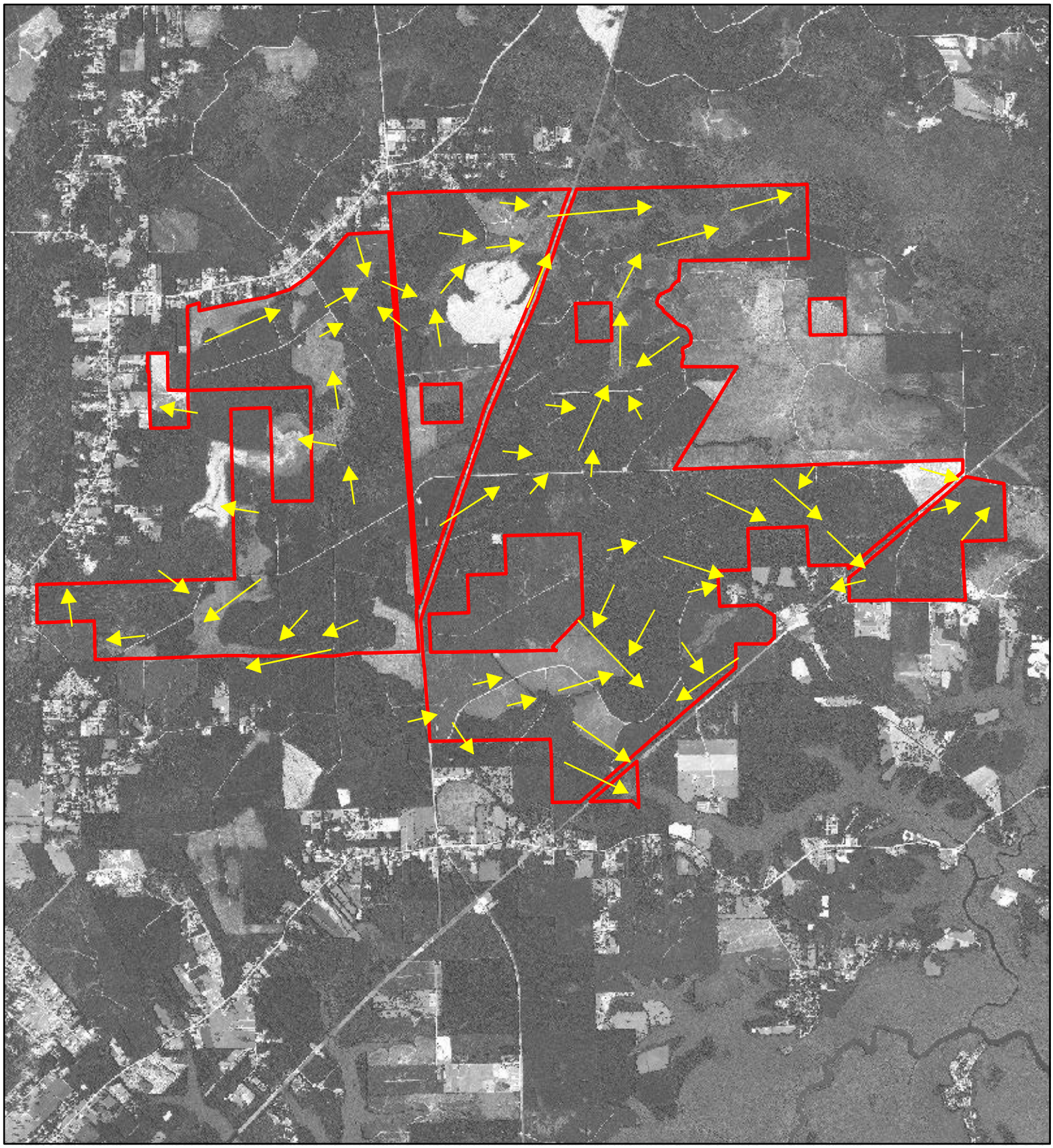
Pontchartrain Basin Umbrella Mitigation Bank

SOIL MAP UNITS

Livingston Parish, LA

Created : LJW/ARCVIEW	
Approved : DEB	
Date : 07/24/2019	
Map No. : F10_Soils	

FIGURE 10



Project Tracts (7,383.2 ac)

Flow Direction

N

0 2,250 4,500 9,000

Feet

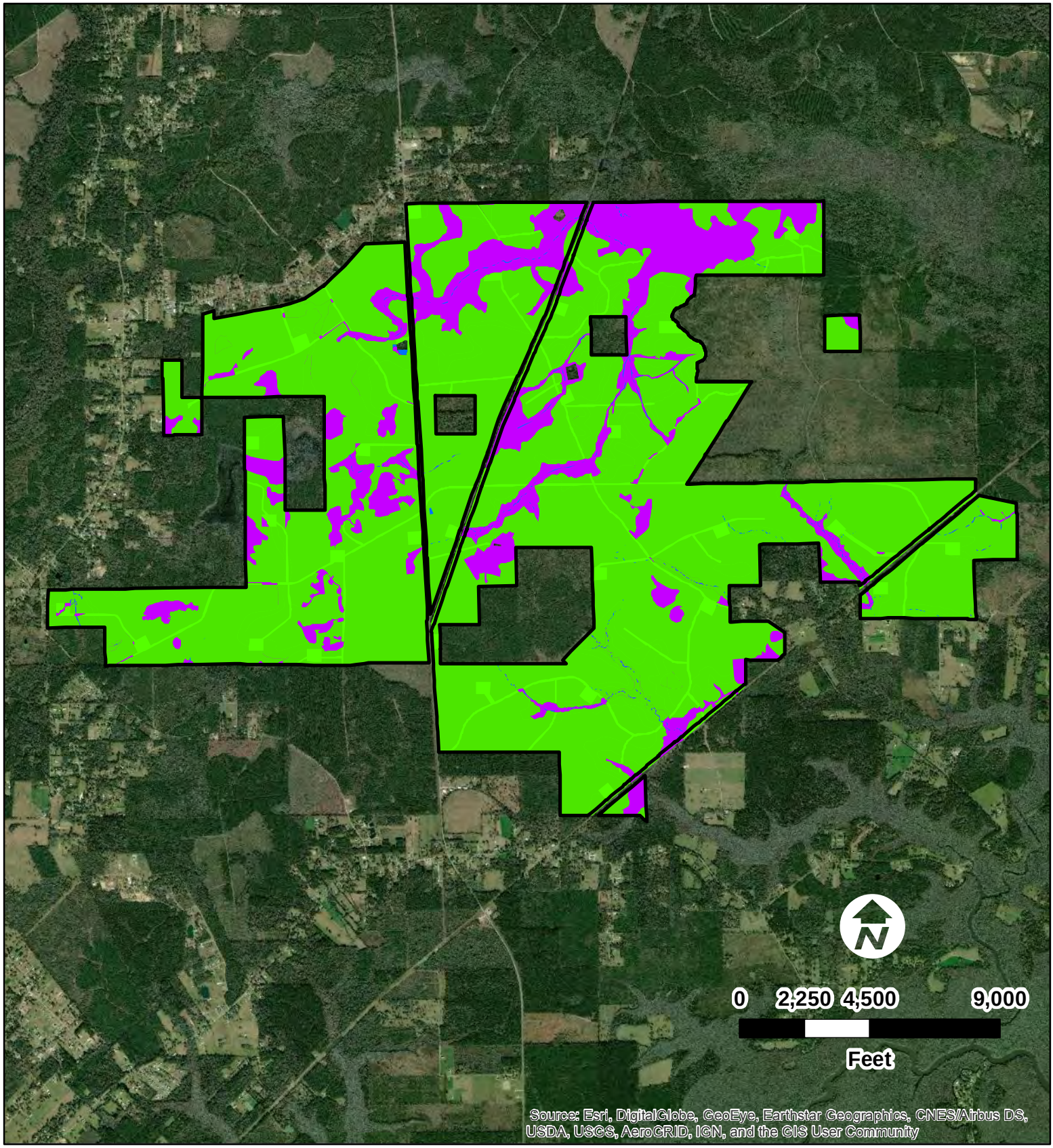
Pontchartrain Basin Umbrella Mitigation Bank

EXISTING SITE HYDROLOGY

Livingston Parish, LA

Created : LJW/ARCVIEW	
Approved : DEB	
Date : 07/24/2019	
Map No. : F11_ExistingHydro	

FIGURE 11



Project Tracts (7,383.2 ac)
Pine Plantation
Bottomland Hardwood
Water

Pontchartrain Basin Umbrella Mitigation Bank

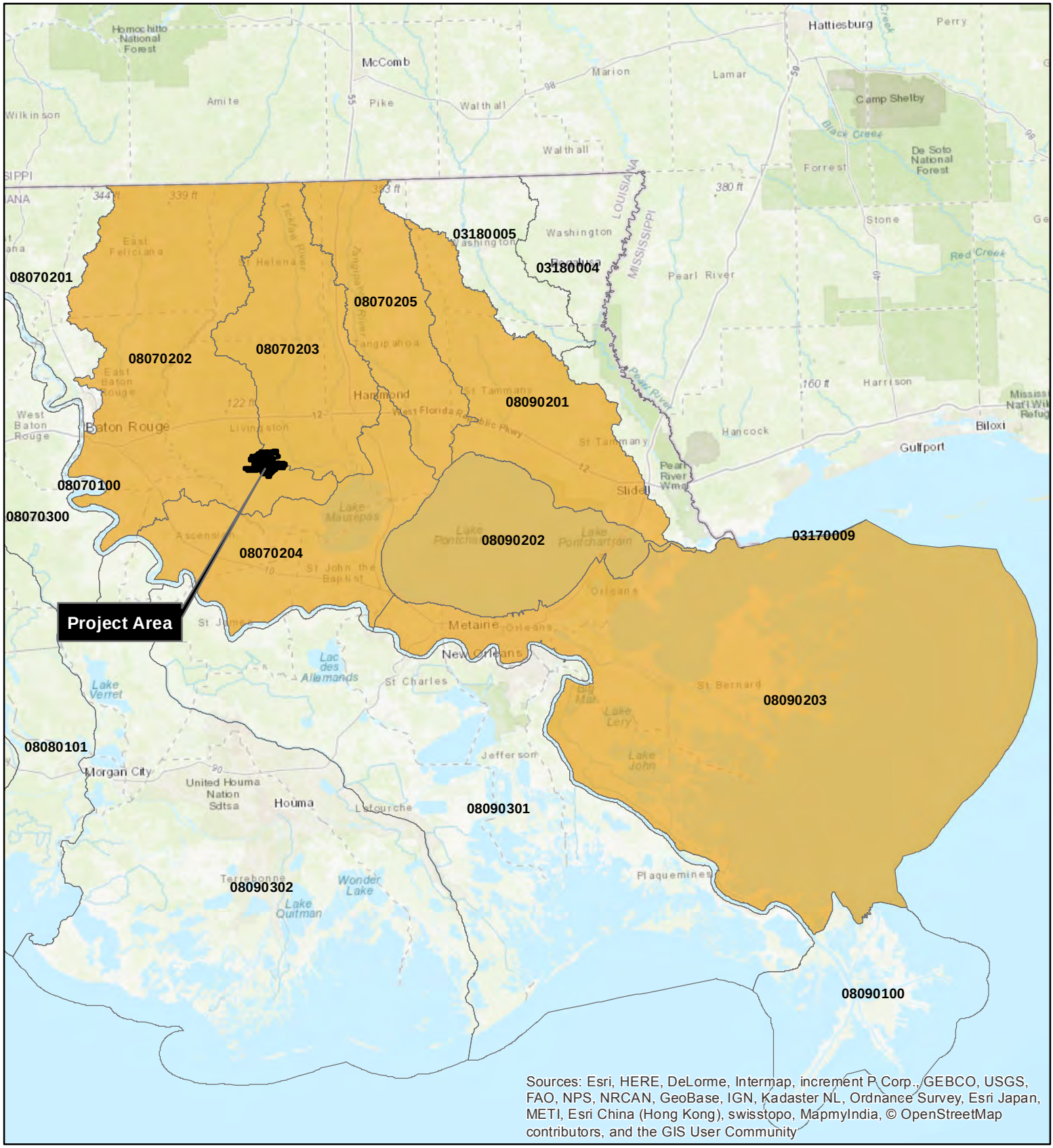
EXISTING PLANT COMMUNITY

Livingston Parish, LA

Created : LJW/ARCVIEW	
Approved : DEB	
Date : 07/24/2019	
Map No. : F12_ExPlantComm	

DELTA LAND SERVICES

FIGURE 12



Project Area (7,383.2 ac)

USGS 8-Digit HUC

Pontchartrain Basin

0 10 20 40

Miles

Pontchartrain Basin Umbrella Mitigation Bank

BANK SERVICE AREA

Livingston Parish, LA

Created : LJW/ARCVIEW	
Approved : DEB	
Date : 07/24/2019	
Map No. : F13_ServiceArea	

FIGURE 13

Attachment B: Jurisdictional Determinations

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

February 10, 2017

REPLY TO
ATTENTION OF

Operations Division
Surveillance and Enforcement Section

Mr. Charles E. Jones
Matrix New World
4451 Bluebonnet Blvd.
Baton Rouge, Louisiana 70809

Dear Mr. Jones:

Reference is made to your request, on behalf of Weyerhaeuser NR Company, for a U.S. Army Corps of Engineers' (Corps) jurisdictional determination on property located in Sections 31, 32, 33, and 34, Township 7 South, Range 5 East, and Sections 4, 5, 6, 9, 11, 37 and 44, Township 8 South, Range 5 East, Livingston Parish, Louisiana (enclosed map). Specifically, this property is identified as the Gum Swamp Addendum Tract.

Based on review of recent maps, aerial photography, soils data, and the information provided with your request, 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 (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 wetlands that are waters of the United States. Additionally, a DA permit will be required if you propose to deposit dredged or fill material into other waters subject to Corps' jurisdiction. Other waters that may be subject to Corps' jurisdiction are indicated in blue on the map.

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 or the District Commander has identified, after public notice and comment, that specific geographic areas with rapidly changing environmental conditions merit re-verification on a more frequent basis.

Please be advised that this property is in the Louisiana Coastal Zone. For additional information regarding coastal use permit requirements, contact Ms. Christine Charrier, Coastal Management Division, Louisiana Department of Natural Resources at (225) 342-7953.

Should there be any questions concerning these matters, please contact Mr. Brian Oberlies at (504) 862-2275 and reference our Account No. MVN-2008-00531-1-SY. If you have specific questions regarding the permit process or permit applications, please contact Mr. Brian Breaux at (504) 862-1938.

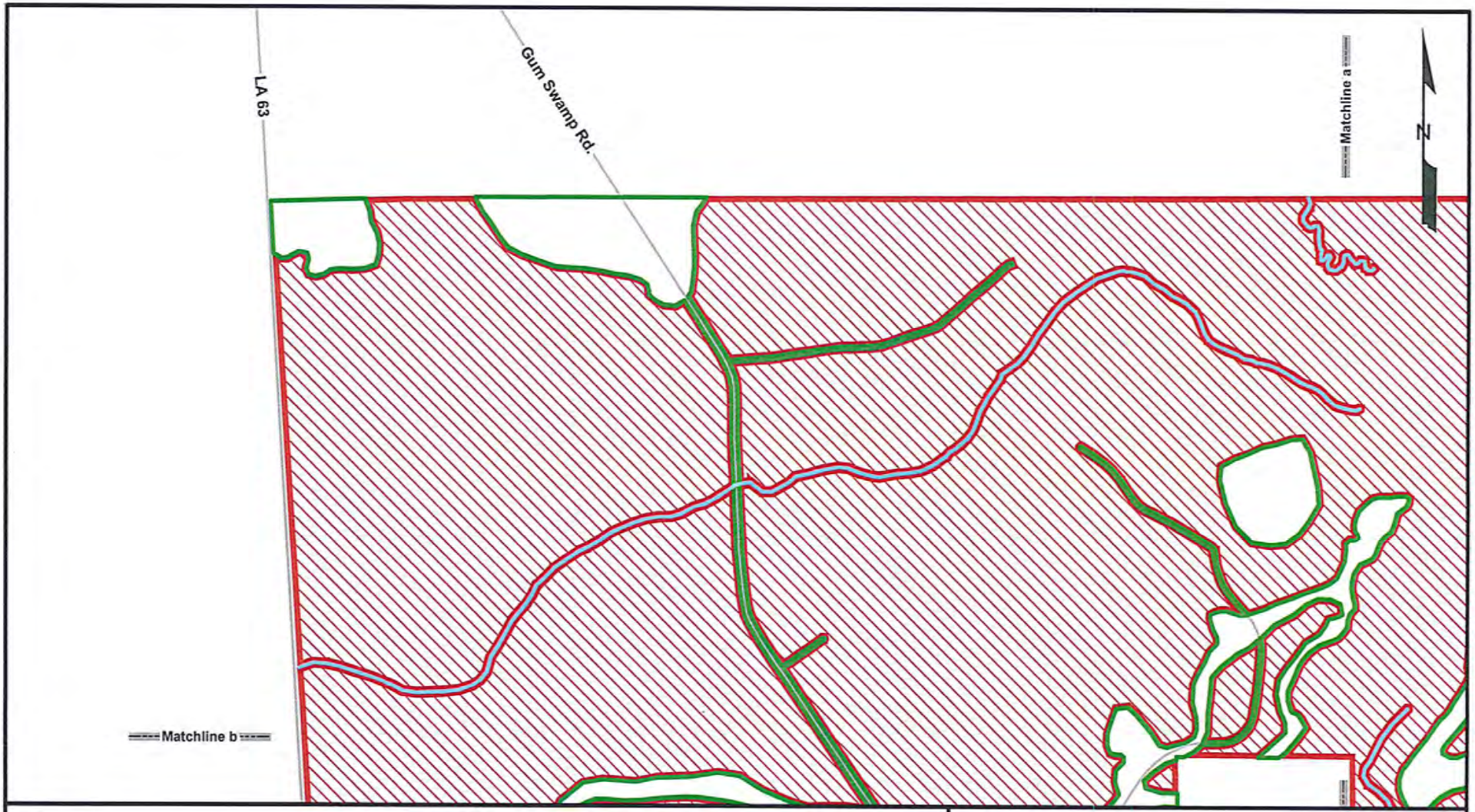
Sincerely,

NETHERY.WILLIAM.RYAN.1247763410

Digitally signed by NETHERY.WILLIAM.RYAN.1247763410
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=NETHERY.WILLIAM.RYAN.1247763410
Date: 2017.02.10 08:39:55 -06'00'

Martin S. Mayer
Chief, Regulatory Branch

Enclosures



Legend

- Uplands (333.20 acres)
- Wetlands (2,475.14 acres)
- Non-Wetland Waters (8.95 acres)
- Gum Swamp Mitigation Bank
- Existing Roads

Sheet 1 of 7

USACE

(FSV) / IH Date: **24 JAN 2017**

Botanist: **B.Oberlies**

Requestor: **Jones**

MVN– **2008-00531-1-SY**

- UPLAND
- WETLAND
- NONWETLAND WATERS

Site Plan

Wetland Data Report/Request for Preliminary Jurisdictional Determination

Livingston Parish, Louisiana

Weyerhaeuser NR Company

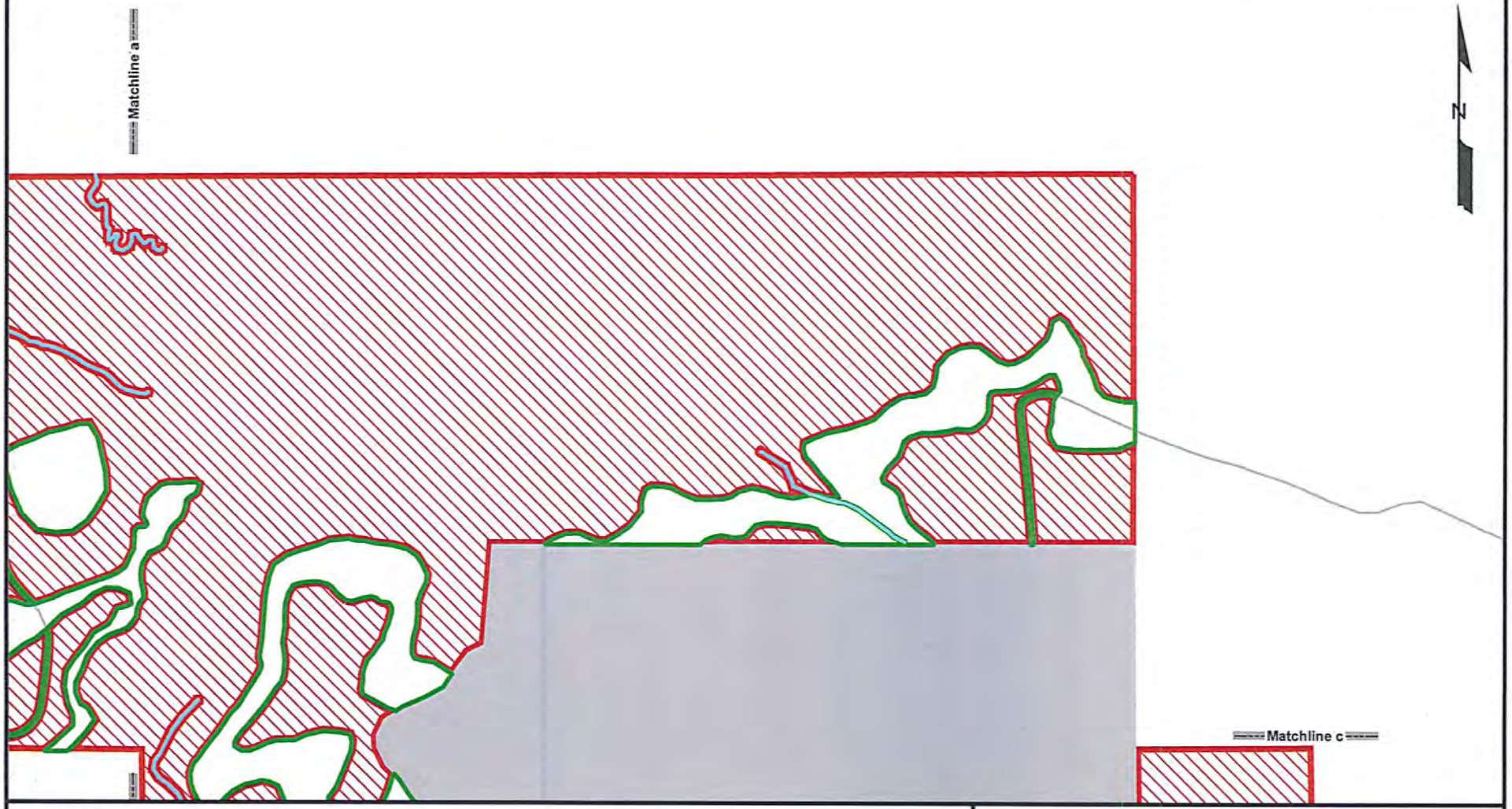
Gum Swamp Addendum

1,000 500 0 1,000 Feet

MATRIXNEWORLD
Engineering Progress

Approved By	CEJ
Date	1/24/2017
Drawing No.	16-325-A045

3a
Figure No.



Legend

- Uplands (333.20 acres)
- Wetlands (2,475.14 acres)
- Non-Wetland Waters (8.95 acres)
- Gum Swamp Mitigation Bank
- Existing Roads

Sheet 2 of 7

USACE

(FSV) / IH Date: **24 JAN 2017**

Botanist: **B.Oberlies**

Requestor: **Jones**

 # MVN– 2008-00531-1-SY

- UPLAND
- WETLAND
- NONWETLAND WATERS

Site Plan

Wetland Data Report/Request for Preliminary Jurisdictional Determination

Livingston Parish, Louisiana

Weyerhaeuser NR Company

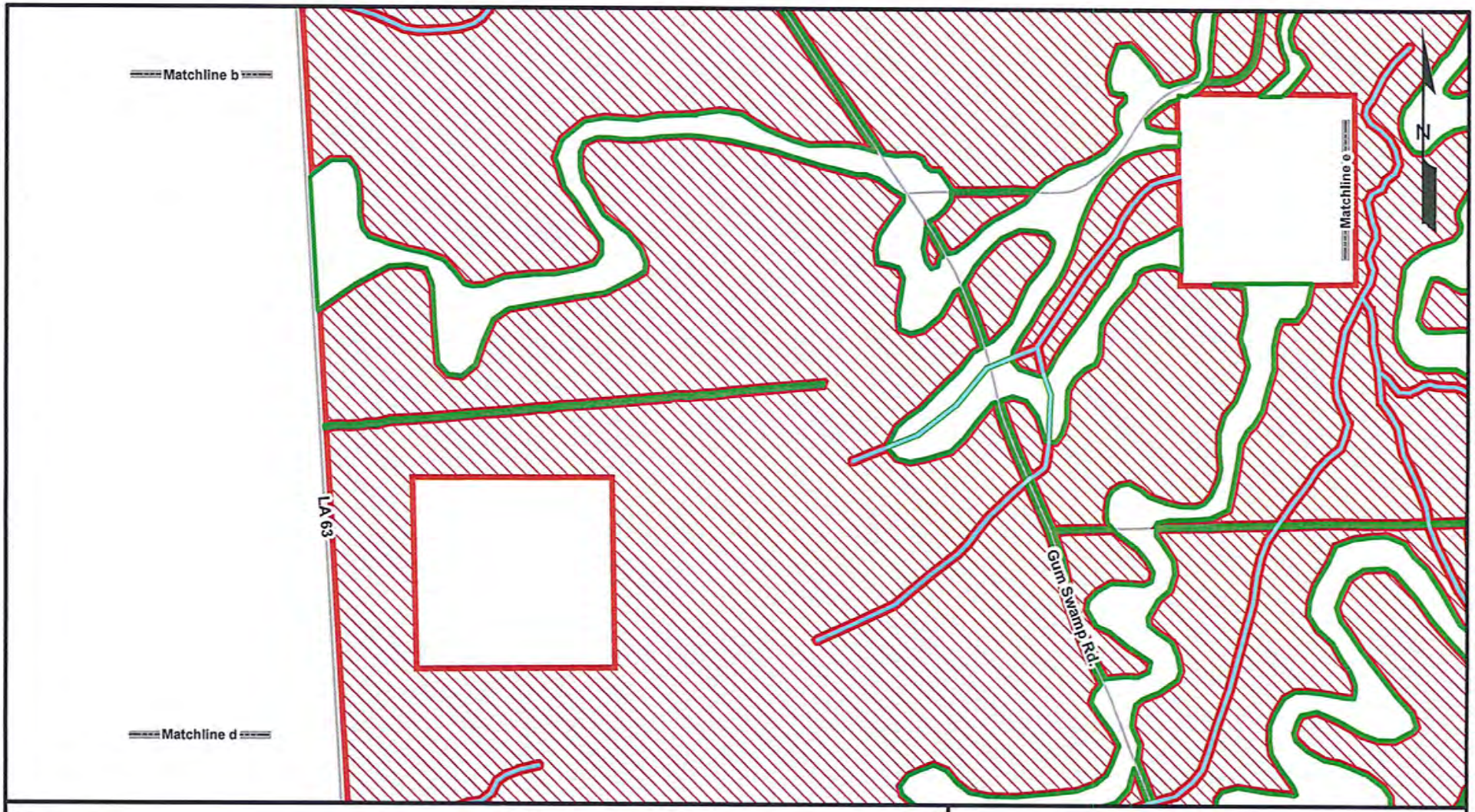
Gum Swamp Addendum

1,000 500 0 1,000 Feet

MATRIXNEWORLD
Engineering Progress

Approved By	CEJ
Date	1/24/2017
Drawing No.	16-325-A045

3b
Figure No.



Legend

- Uplands (333.20 acres)
- Wetlands (2,475.14 acres)
- Non-Wetland Waters (8.95 acres)
- Gum Swamp Mitigation Bank
- Existing Roads

Sheet 3 of 7

USACE

(FSV) / IH Date: **24 JAN 2017**

Botanist: **B.Oberlies**

Requestor: **Jones**

MVN– **2008-00531-1-SY**

- UPLAND
- WETLAND
- NONWETLAND WATERS

Site Plan

Wetland Data Report/Request for Preliminary Jurisdictional Determination

Livingston Parish, Louisiana

Weyerhaeuser NR Company

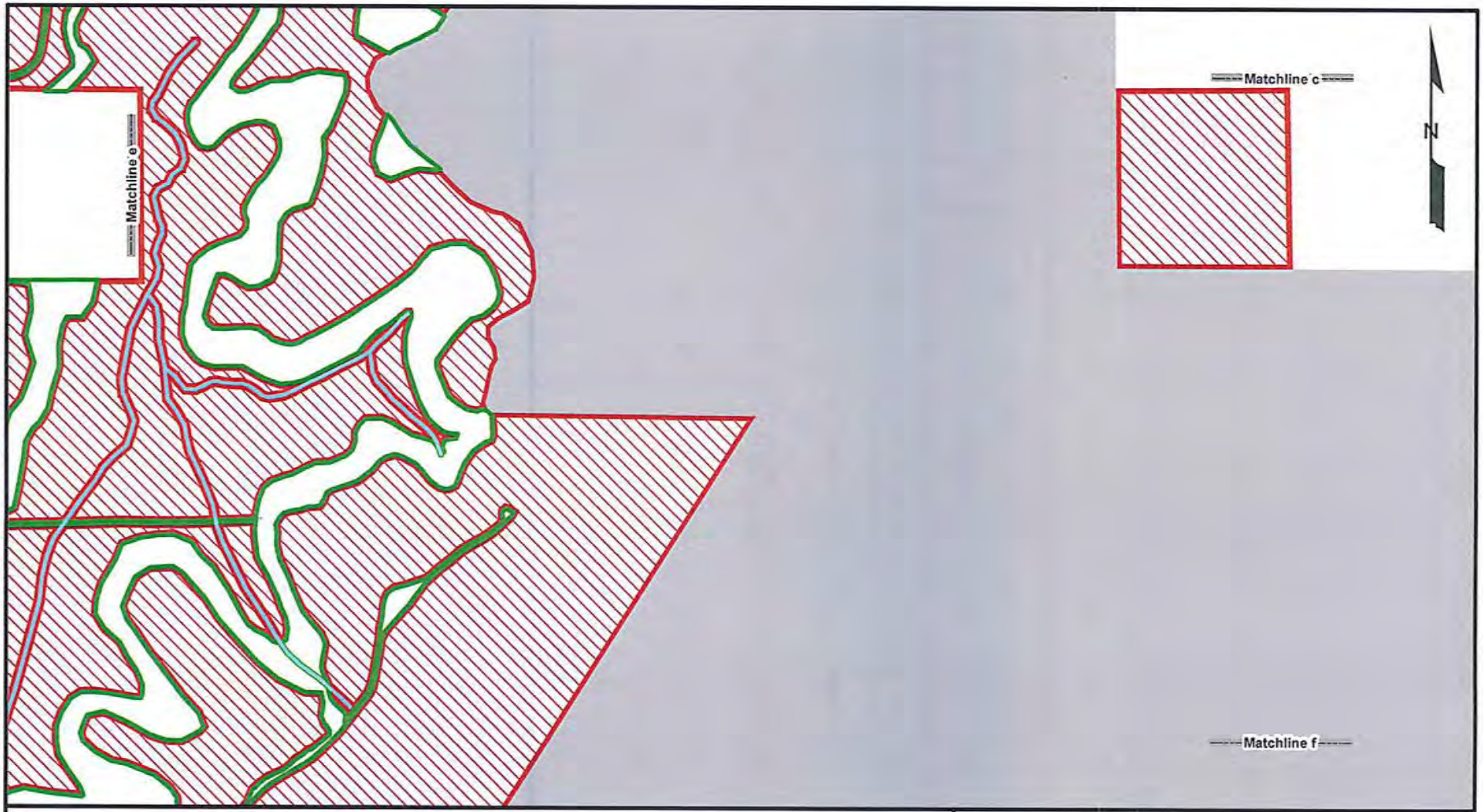
Gum Swamp Addendum

1,000 500 0 1,000 Feet

MATRIXNEWORLD
Engineering Progress

Approved By	CEJ
Date	1/24/2017
Drawing No.	16-325-A045

3c
Figure No.



Legend

- Uplands (333.20 acres)
- Wetlands (2,475.14 acres)
- Non-Wetland Waters (8.95 acres)
- Gum Swamp Mitigation Bank
- Existing Roads

Sheet 4 of 7

USACE

(FSV) / IH Date: **24 JAN 2017**

Botanist: **B.Oberlies**

Requestor: **Jones**

MVN– **2008-00531-1-SY**

- UPLAND
- WETLAND
- NONWETLAND WATERS

Site Plan

Wetland Data Report/Request for Preliminary Jurisdictional Determination

Livingston Parish, Louisiana

Weyerhaeuser NR Company

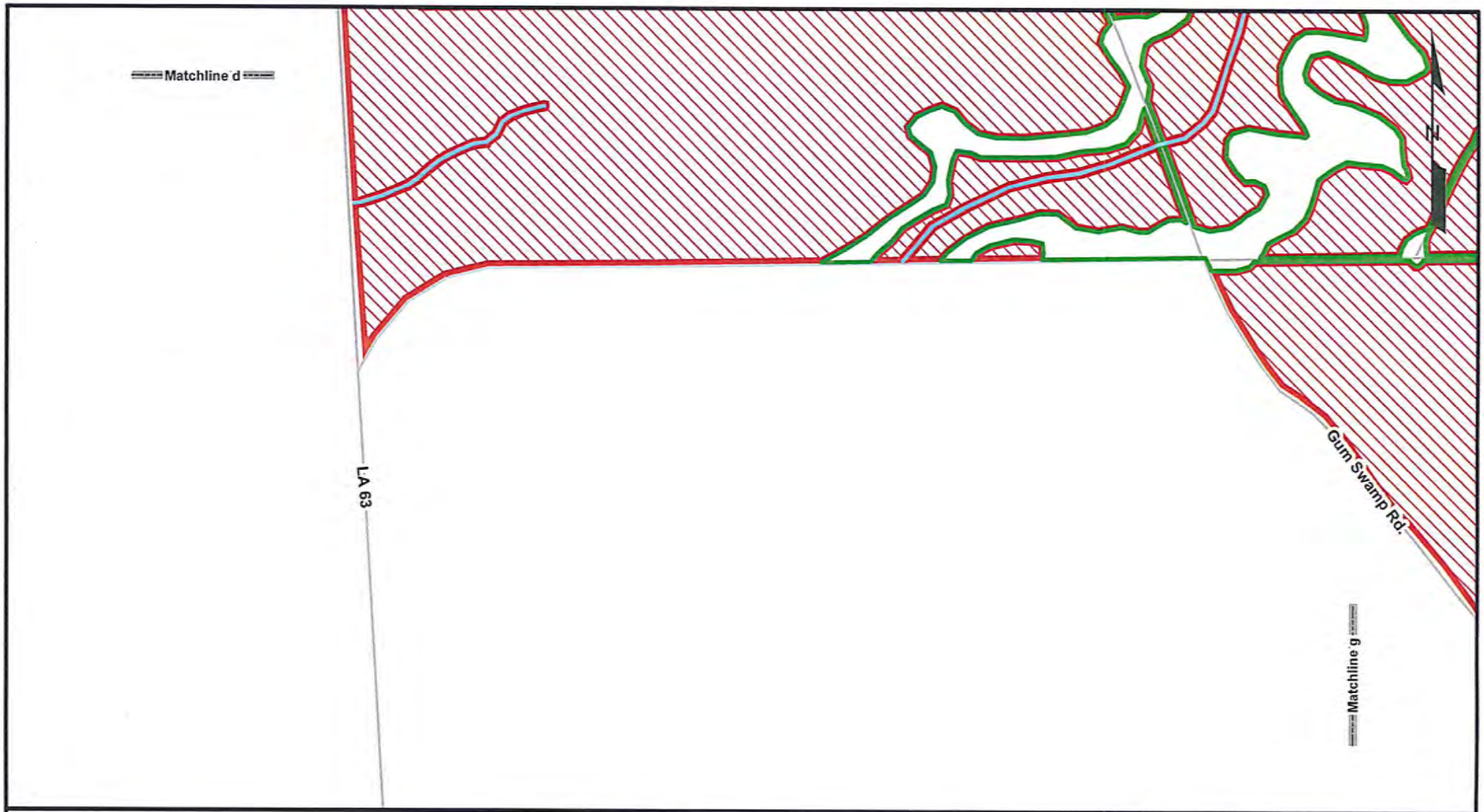
Gum Swamp Addendum

1,000 500 0 1,000 Feet

MATRIXNEWORLD
Engineering Progress

Approved By	CEJ
Date	1/24/2017
Drawing No.	16-325-A045

3d
Figure No.



Legend

- Uplands (333.20 acres)
- Wetlands (2,475.14 acres)
- Non-Wetland Waters (8.95 acres)
- Gum Swamp Mitigation Bank
- Existing Roads

Sheet 5 of 7

USACE

(FSV) / IH Date: **24 JAN 2017**

Botanist: **B.Oberlies**

Requestor: **Jones**

MVN– **2008-00531-1-SY**

- UPLAND
- WETLAND
- NONWETLAND WATERS

Site Plan

Wetland Data Report/Request for Preliminary Jurisdictional Determination

Livingston Parish, Louisiana

Weyerhaeuser NR Company

Gum Swamp Addendum

1,000 500 0 1,000 Feet

MATRIXNEWORLD
Engineering Progress

Approved By	CEJ
Date	1/24/2017
Drawing No.	16-325-A045

3e
Figure No.

Legend

- Uplands (333.20 acres)
- Wetlands (2,475.14 acres)
- Non-Wetland Waters (8.95 acres)
- Gum Swamp Mitigation Bank
- Existing Roads

Sheet 6 of 7

USACE

(FSV) / IH Date: **24 JAN 2017**

Botanist: **B.Oberlies**

Requestor: **Jones**

MVN– **2008-00531-1-SY**

- UPLAND
- WETLAND
- NONWETLAND WATERS

Site Plan

Wetland Data Report/Request for Preliminary Jurisdictional Determination

Livingston Parish, Louisiana

Weyerhaeuser NR Company

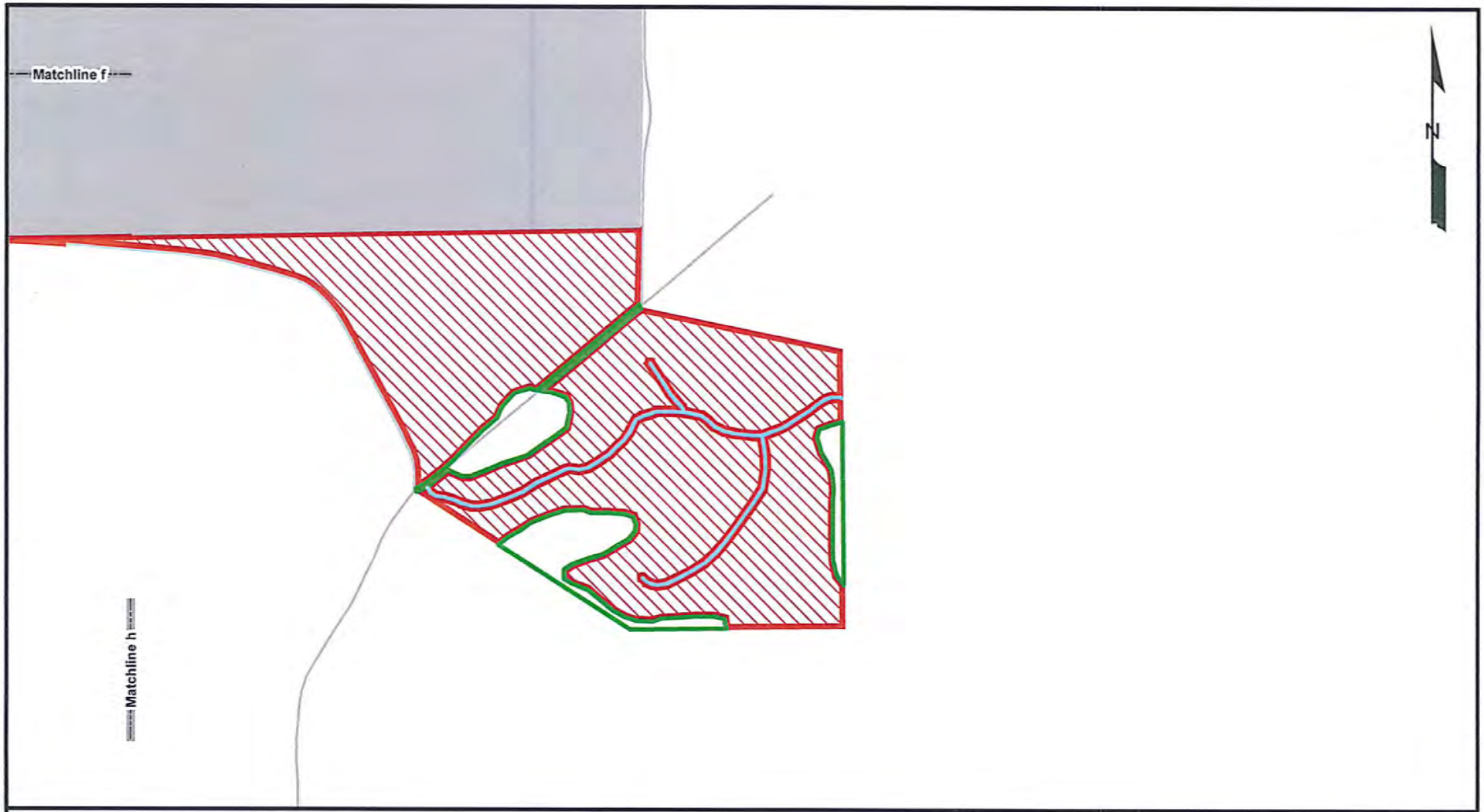
Gum Swamp Addendum

1,000 500 0 1,000 Feet

MATRIXNEWORLD Engineering Progress

Approved By	CEJ
Date	1/24/2017
Drawing No.	16-325-A045

3f Figure No.



Legend

- Uplands (333.20 acres)
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- Non-Wetland Waters (8.95 acres)
- Gum Swamp Mitigation Bank
- Existing Roads

Sheet 7 of 7

USACE

(FSV) / IH Date: **24 JAN 2017**

Botanist: **B.Oberlies**

Requestor: **Jones**

 # MVN– 2008-00531-1-SY

- UPLAND
- WETLAND
- NONWETLAND WATERS

Site Plan

Wetland Data Report/Request for Preliminary Jurisdictional Determination

Livingston Parish, Louisiana

Weyerhaeuser NR Company

Gum Swamp Addendum

1,000 500 0 1,000 Feet

MATRIXNEWORLD Engineering Progress

Approved By	CEJ
Date	1/24/2017
Drawing No.	16-325-A045

3g Figure No.

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

May 14, 2019

Operations Division
Surveillance and Enforcement Section

Mr. Chad Turner
Matrix New World
2798 O'Neal Lane
Baton Rouge, LA 70816

Dear Mr. Turner:

Reference is made to your request, on behalf of Weyerhaeuser NR Company, for a U.S. Army Corps of Engineers' jurisdictional determination on property located in multiple Sections, Townships, and Ranges in Livingston Parish, Louisiana (enclosed map). Specifically, this property is identified as the Weyerhaeuser NR Company tract.

Field inspections of the property were conducted on May 2 and May 6 of 2019. Based on the results of this investigation and the information provided with your request, 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 (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 wetlands that are waters of the United States. Additionally, a DA permit will be required if you propose to deposit dredged or fill material into non-wetland waters subject to Corps' jurisdiction. Non-wetland waters that may be subject to Corps' jurisdiction are indicated in blue on the map.

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 or the District Commander has identified, after public notice and comment, that specific geographic areas with rapidly changing environmental conditions merit re-verification on a more frequent basis.

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.

Should there be any questions concerning these matters, please contact Mr. Jon Barmore at (504) 862-1704 and reference our Account No. MVN-2008-00531-2-SG. If

you have specific questions regarding the permit process or permit applications, please contact our Central Evaluation Section at (504) 862-1581.

Sincerely,

OBERLIES.BRIAN.MC
INNIS.1230779739

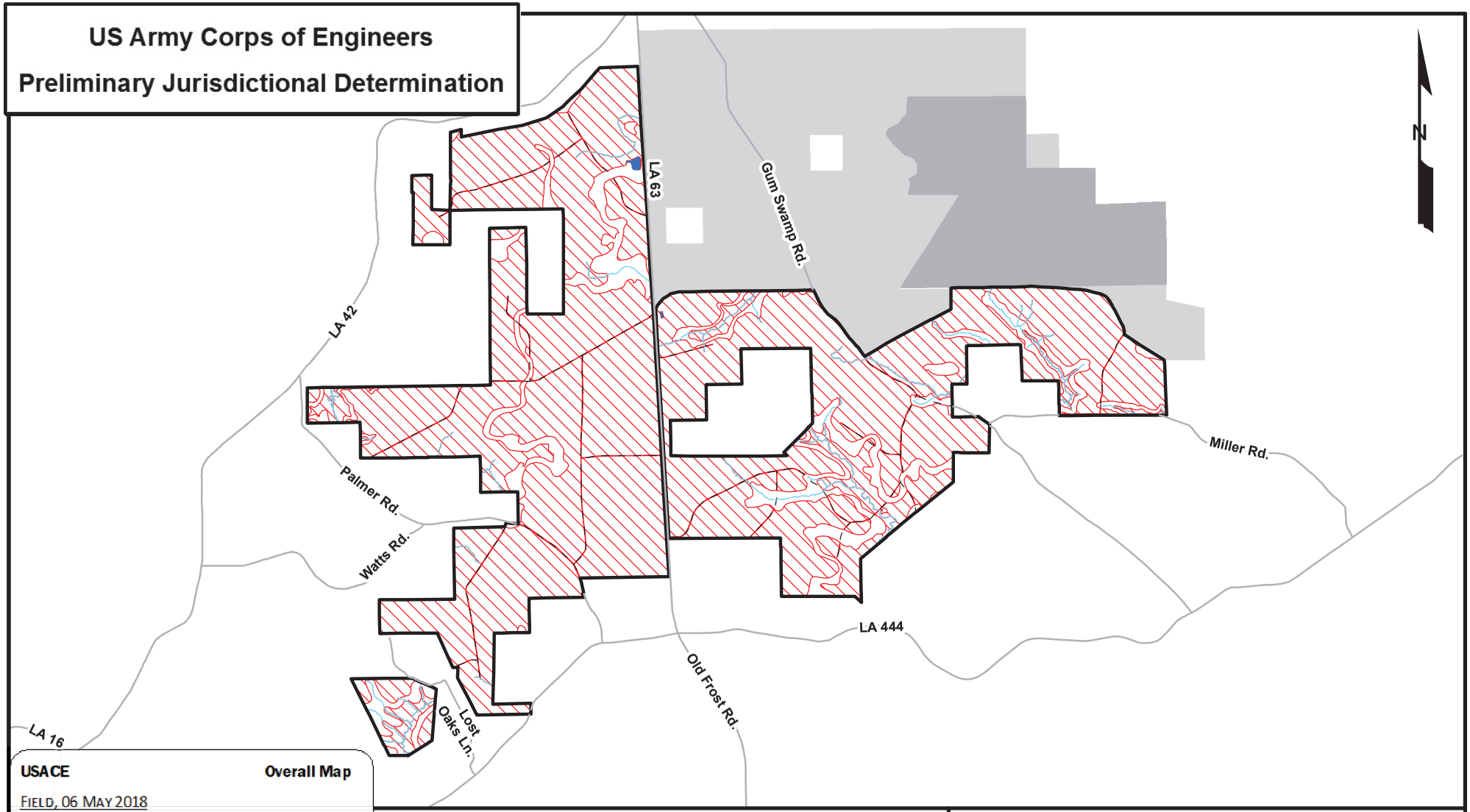
Digitally signed by OBERLIES.BRIAN.MC
INNIS.1230779739
Date: 2019.05.14 10:30:27 -05'00'

for Martin S. Mayer
Chief, Regulatory Branch

Enclosures

US Army Corps of Engineers

Preliminary Jurisdictional Determination



USACE **Overall Map**

FIELD, 06 MAY 2018

BOTANIST MR. JON BARMORE

FOR Matrix New World

ACCOUNT # MVN-2008-00531-2-SG

Wetlands

Non-wetland waters

JD Review Area

ge 4 East; Section 31, Township 7 South, Range 5 East; Sections 1, 11-14, 23-24, and 39, , 21, 37, 44, and 46, Township 8 South, Range 5 East.

Site Plan Overview

Wetland Data Report/Request for Preliminary Jurisdictional Determination

Livingston Parish, Louisiana

Weyerhaeuser NR Company

MVN-2008-00531-SY (2019 Addendum)

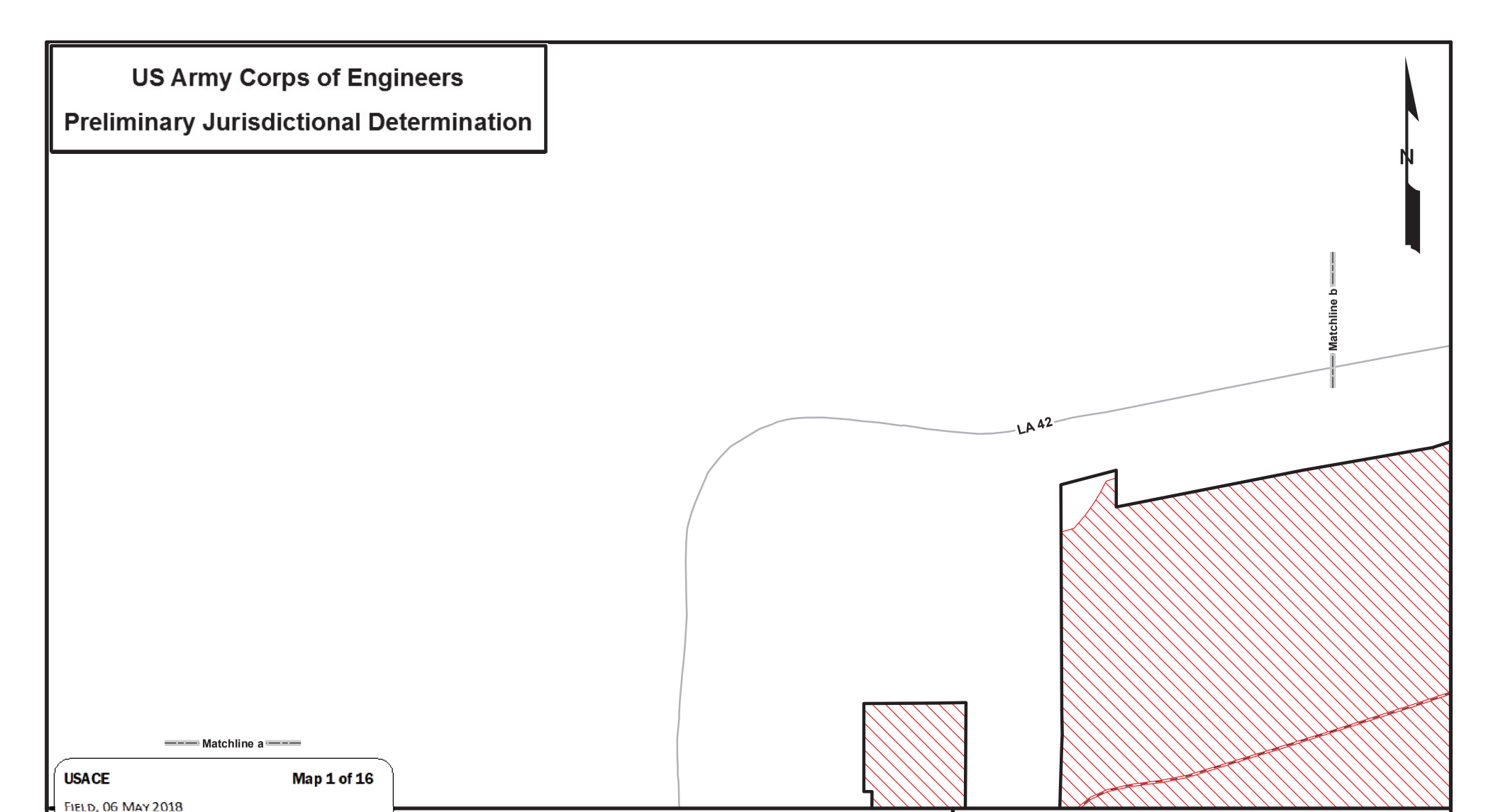
1 0.5 0 1 Miles

MATRIXNEWORLD Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	5/10/2019
Drawing No.	18-1115-A017

3 Figure No.

US Army Corps of Engineers
Preliminary Jurisdictional Determination



USACE **Map 1 of 16**

FIELD, 06 MAY 2018

BOTANIST MR. JON BARMORE

FOR Matrix New World

ACCOUNT # MVN-2008-00531-2-SG

Wetlands

Non-wetland waters

JD Review Area

ge 4 East; Section 31, Township 7 South, Range 5 East; Sections 1, 11-14, 23-24, and 39,
8, 21, 37, 44, and 46, Township 8 South, Range 5 East.

Site Plan

Wetland Data Report/Request for
Preliminary Jurisdictional Determination

Livingston Parish, Louisiana

Weyerhaeuser NR Company

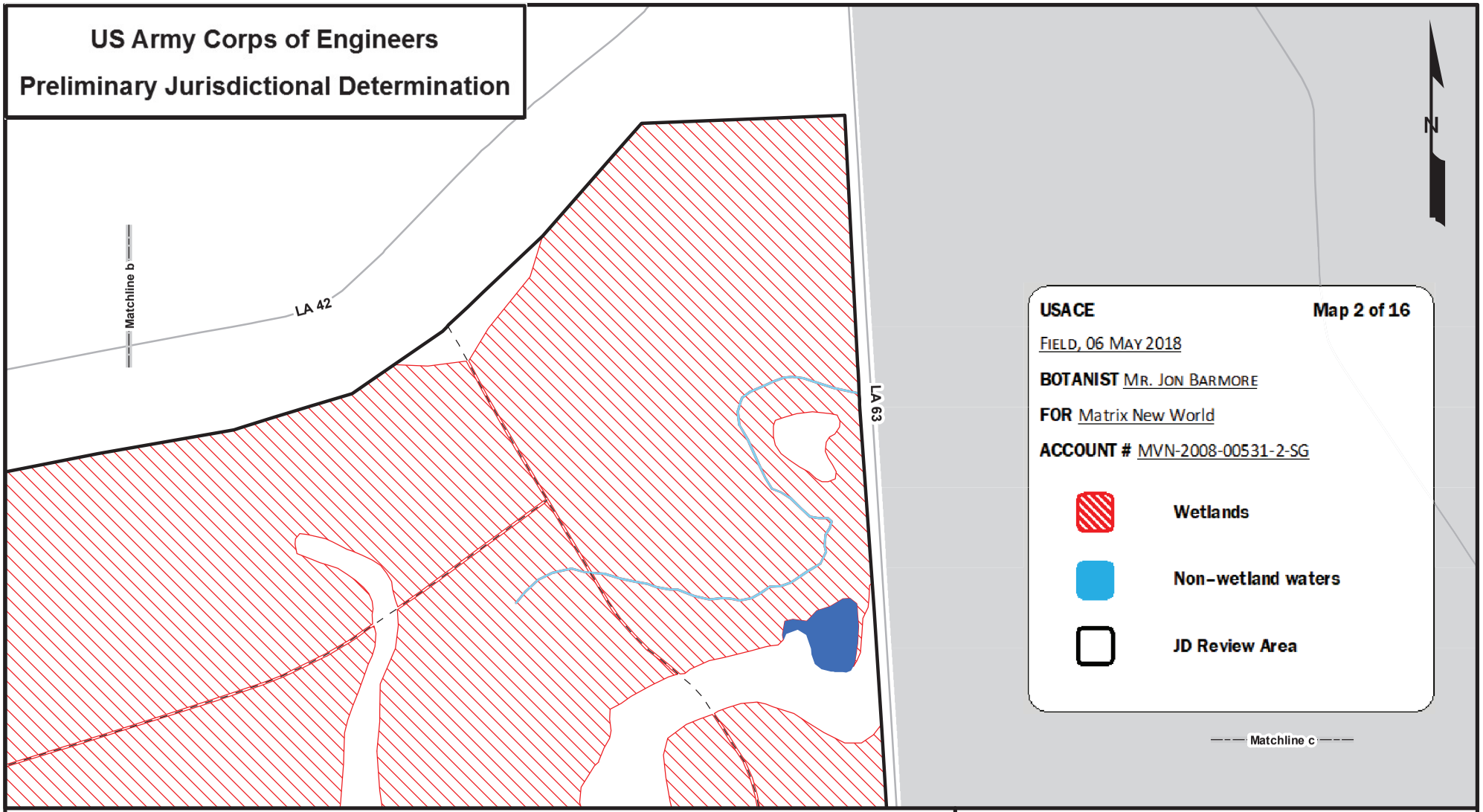
MVN-2008-00531-SY (2019 Addendum)

1,000 500 0 1,000 Feet

MATRIXNEWORLD
Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	5/10/2019
Drawing No.	18-1115-A018

3a
Figure No.



Site Plan

Wetland Data Report/Request for Preliminary Jurisdictional Determination

Livingston Parish, Louisiana

Weyerhaeuser NR Company

MVN-2008-00531-SY (2019 Addendum)

1,000 500 0 1,000 Feet

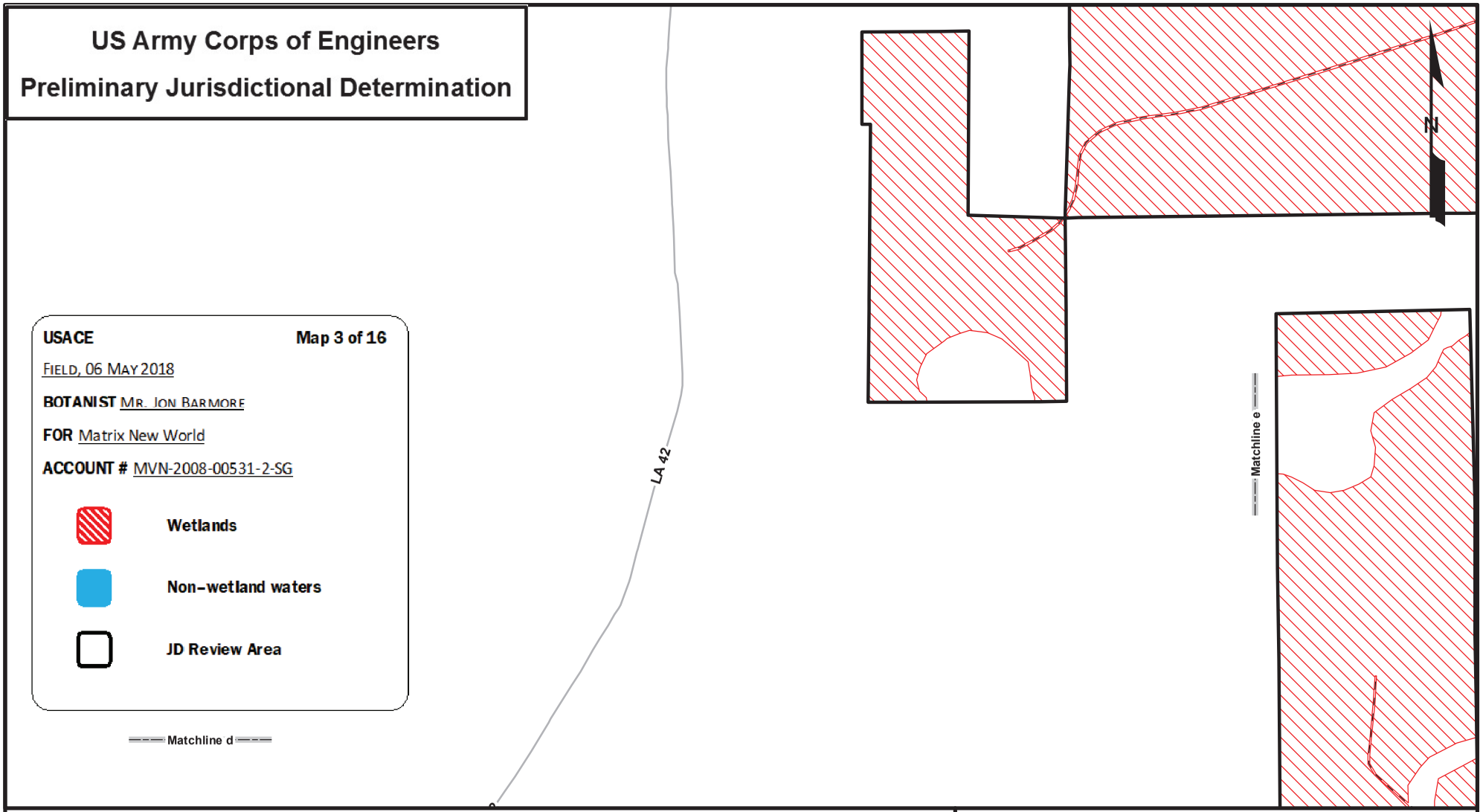
MATRIXNEWORLD Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	5/10/2019
Drawing No.	18-1115-A018

3b Figure No.

Note: Site is located in Section 36, Township 7 South, Range 4 East; Section 31, Township 7 South, Range 5 East; Sections 1, 11-14, 23-24, and 39, Township 8 South, Range 4 East; and Sections 4-10, 16-18, 21, 37, 44, and 46, Township 8 South, Range 5 East.

US Army Corps of Engineers
Preliminary Jurisdictional Determination



Site Plan

Wetland Data Report/Request for Preliminary Jurisdictional Determination

Livingston Parish, Louisiana

Weyerhaeuser NR Company

MVN-2008-00531-SY (2019 Addendum)

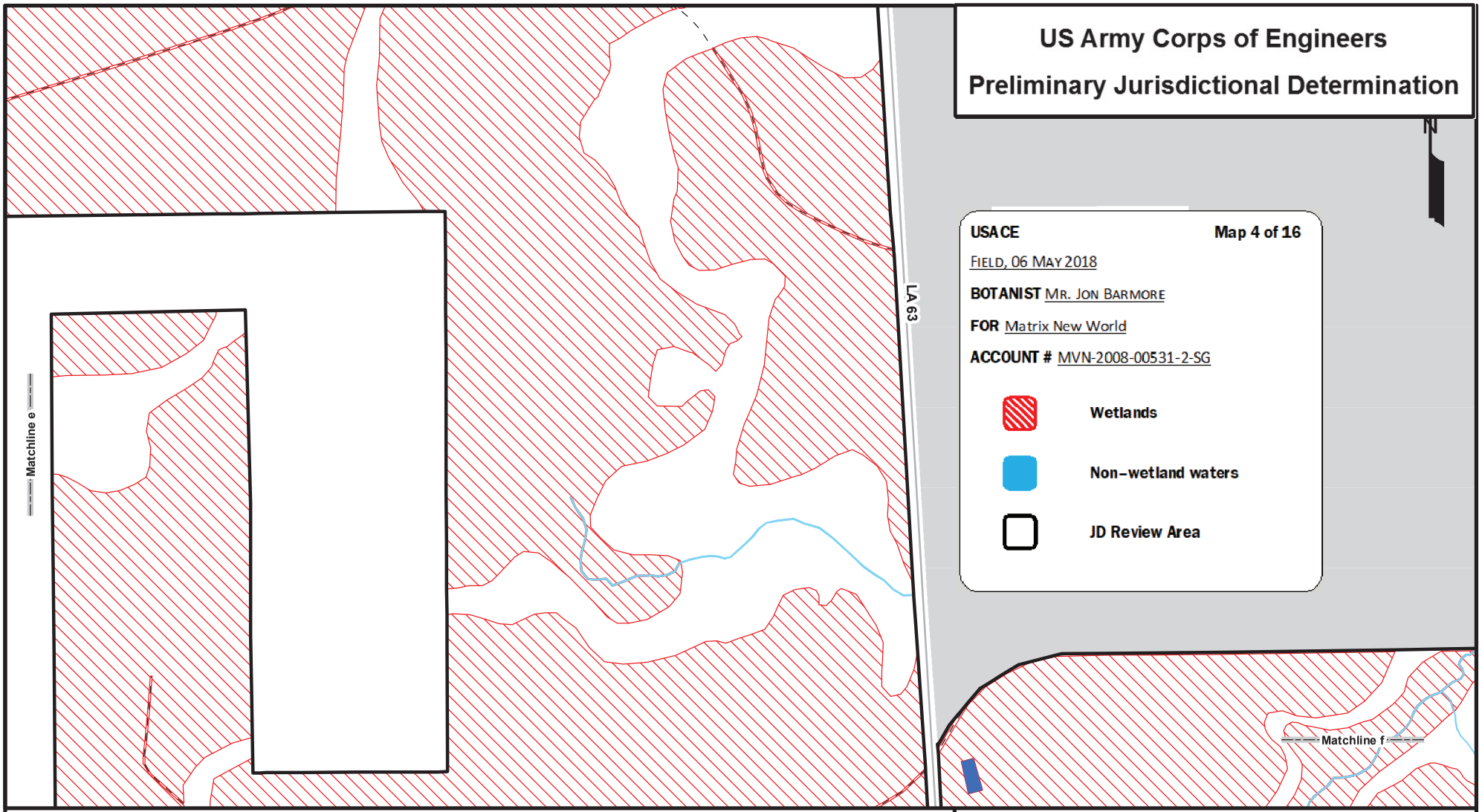
1,000 500 0 1,000 Feet

MATRIXNEWORLD Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	5/10/2019
Drawing No.	18-1115-A018

3c Figure No.

Note: Site is located in Section 36, Township 7 South, Range 4 East; Section 31, Township 7 South, Range 5 East; Sections 1, 11-14, 23-24, and 39, Township 8 South, Range 4 East; and Sections 4-10, 16-18, 21, 37, 44, and 46, Township 8 South, Range 5 East.



Site Plan

Wetland Data Report/Request for Preliminary Jurisdictional Determination

Livingston Parish, Louisiana

Weyerhaeuser NR Company

MVN-2008-00531-SY (2019 Addendum)

1,000 500 0 1,000 Feet

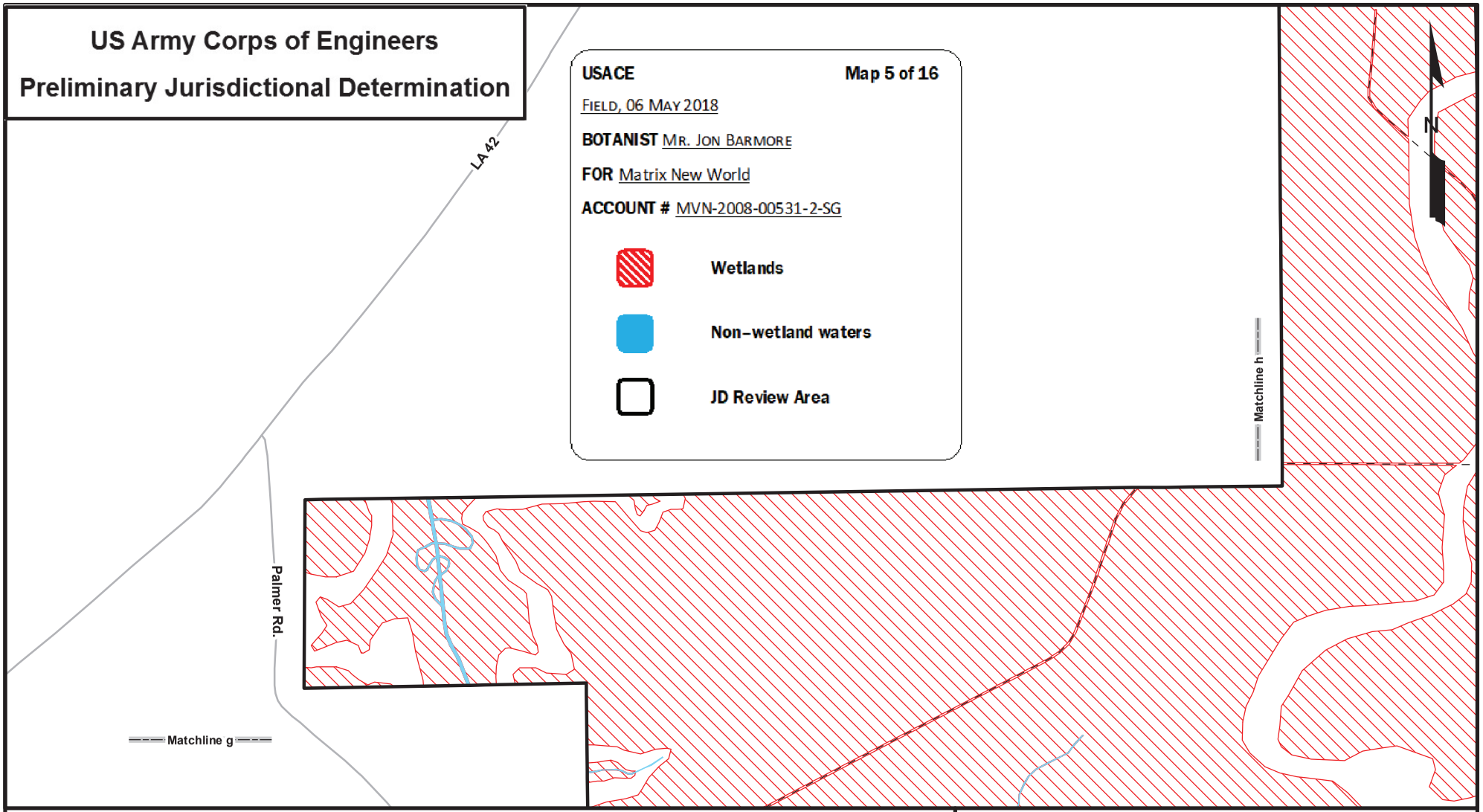
MATRIXNEWORLD Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	5/10/2019
Drawing No.	18-1115-A018

3d Figure No.

Note: Site is located in Section 36, Township 7 South, Range 4 East; Section 31, Township 7 South, Range 5 East; Sections 1, 11-14, 23-24, and 39, Township 8 South, Range 4 East; and Sections 4-10, 16-18, 21, 37, 44, and 46, Township 8 South, Range 5 East.

US Army Corps of Engineers
Preliminary Jurisdictional Determination



Site Plan

Wetland Data Report/Request for Preliminary Jurisdictional Determination

Livingston Parish, Louisiana

Weyerhaeuser NR Company

MVN-2008-00531-SY (2019 Addendum)

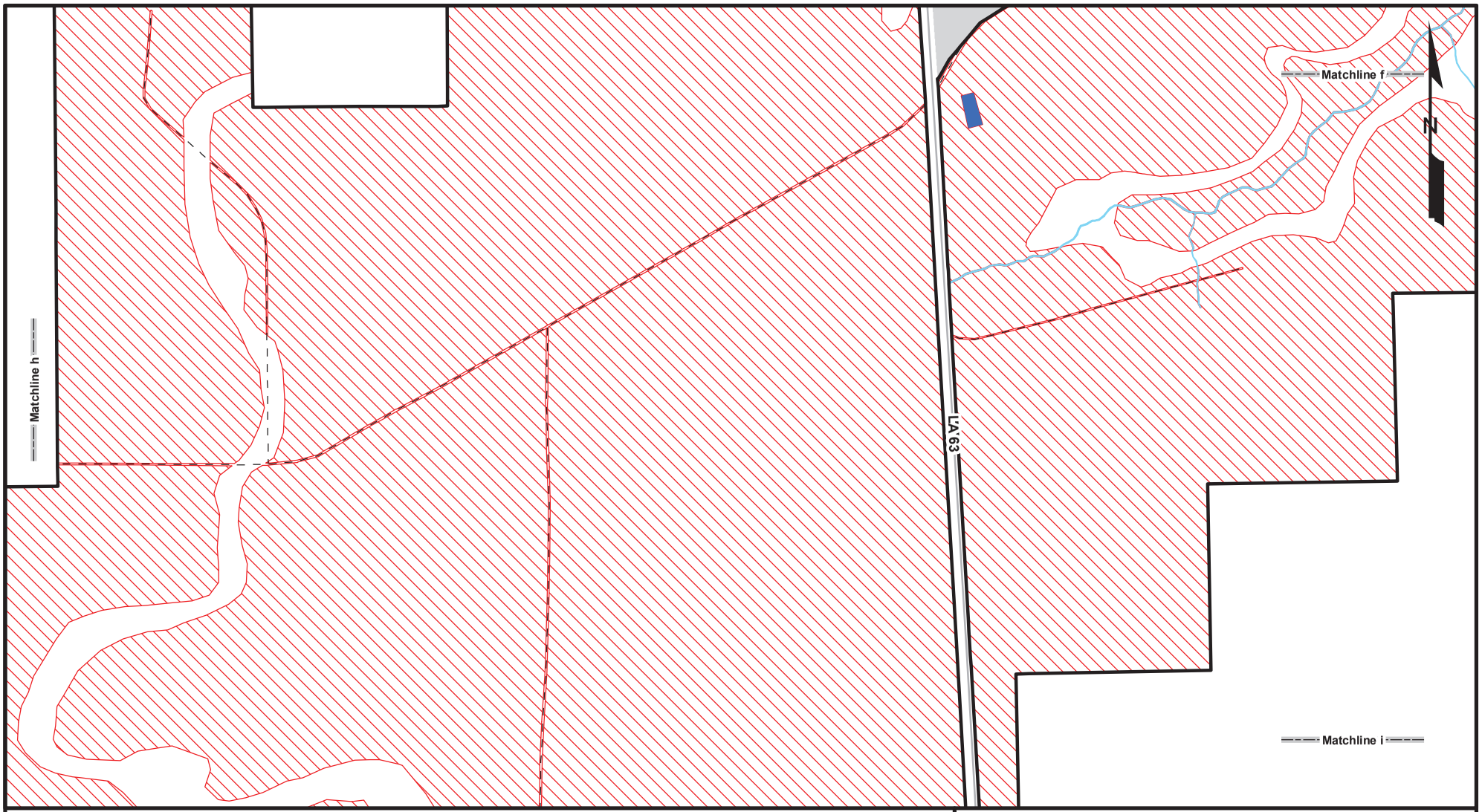
1,000 500 0 1,000 Feet

MATRIXNEWORLD Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	5/10/2019
Drawing No.	18-1115-A018

3e Figure No.

Note: Site is located in Section 36, Township 7 South, Range 4 East; Section 31, Township 7 South, Range 5 East; Sections 1, 11-14, 23-24, and 39, Township 8 South, Range 4 East; and Sections 4-10, 16-18, 21, 37, 44, and 46, Township 8 South, Range 5 East.



USACE **Map 6 of 16**

FIELD, 06 MAY 2018

BOTANIST MR. JON BARMORE

FOR Matrix New World

ACCOUNT # MVN-2008-00531-2-SG

Wetlands

Non-wetland waters

JD Review Area

Note: S… ge 4 East; Section 31, Township 7 South, Range 5 East; Sections 1, 11-14, 23-24, and 39, Townsh… , 21, 37, 44, and 46, Township 8 South, Range 5 East.

US Army Corps of Engineers
Preliminary Jurisdictional Determination

Weyerhaeuser NR Company

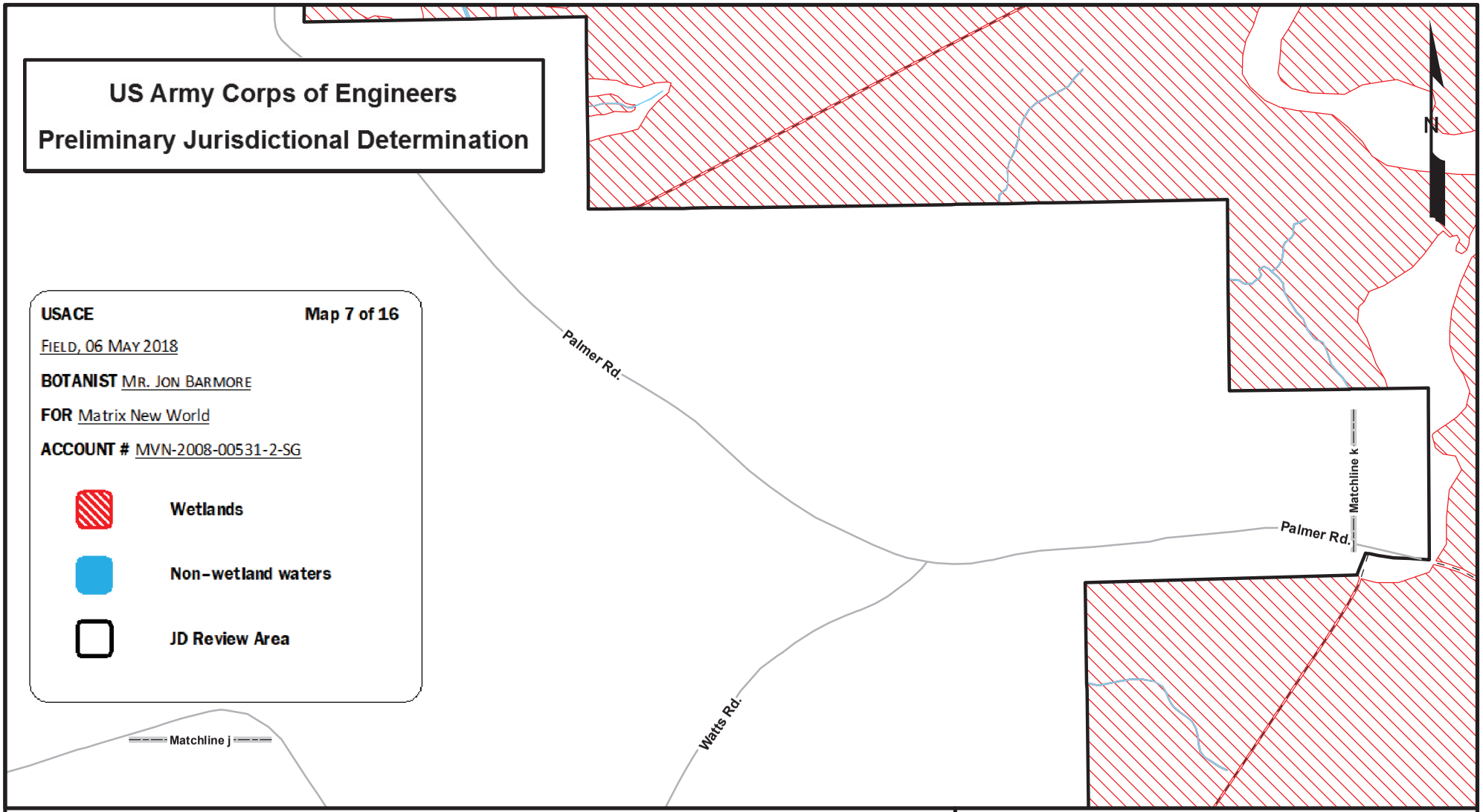
MVN-2008-00531-SY (2019 Addendum)

1,000 500 0 1,000 Feet

MATRIXNEWORLD Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	5/10/2019
Drawing No.	18-1115-A018

3f Figure No.



Site Plan

Wetland Data Report/Request for Preliminary Jurisdictional Determination

Livingston Parish, Louisiana

Weyerhaeuser NR Company

MVN-2008-00531-SY (2019 Addendum)

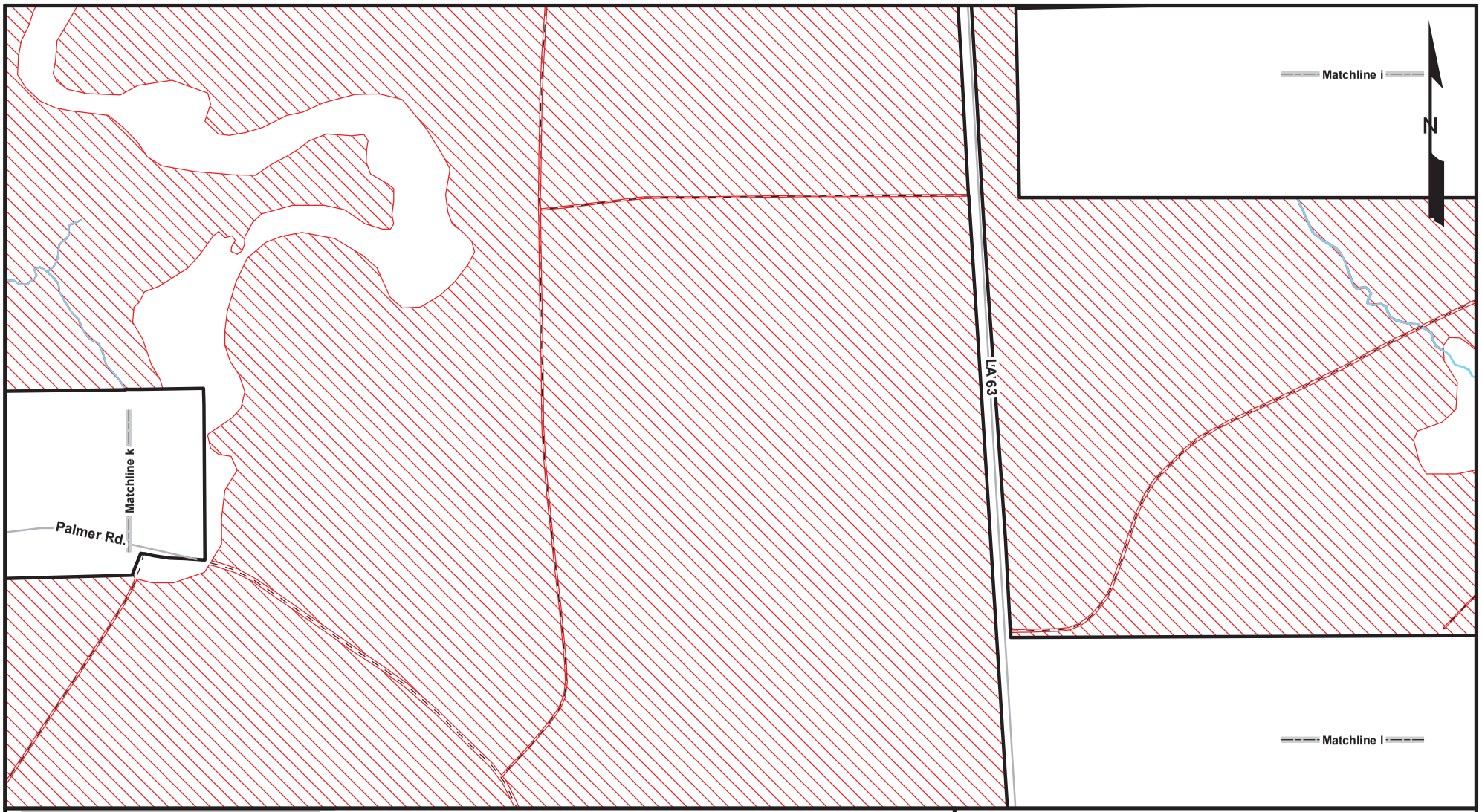
1,000 500 0 1,000 Feet

MATRIXNEWORLD Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	5/10/2019
Drawing No.	18-1115-A018

3g Figure No.

Note: Site is located in Section 36, Township 7 South, Range 4 East; Section 31, Township 7 South, Range 5 East; Sections 1, 11-14, 23-24, and 39, Township 8 South, Range 4 East; and Sections 4-10, 16-18, 21, 37, 44, and 46, Township 8 South, Range 5 East.



USACE **Map 8 of 16**

FIELD, 06 MAY 2018

BOTANIST MR. JON BARMORE

FOR Matrix New World

ACCOUNT # MVN-2008-00531-2-SG

Wetlands

Non-wetland waters

JD Review Area

, Range 4 East; Section 31, Township 7 South, Range 5 East; Sections 1, 11-14, 23-24, and 39, 16-18, 21, 37, 44, and 46, Township 8 South, Range 5 East.

US Army Corps of Engineers

Preliminary Jurisdictional Determination

Weyerhaeuser NR Company

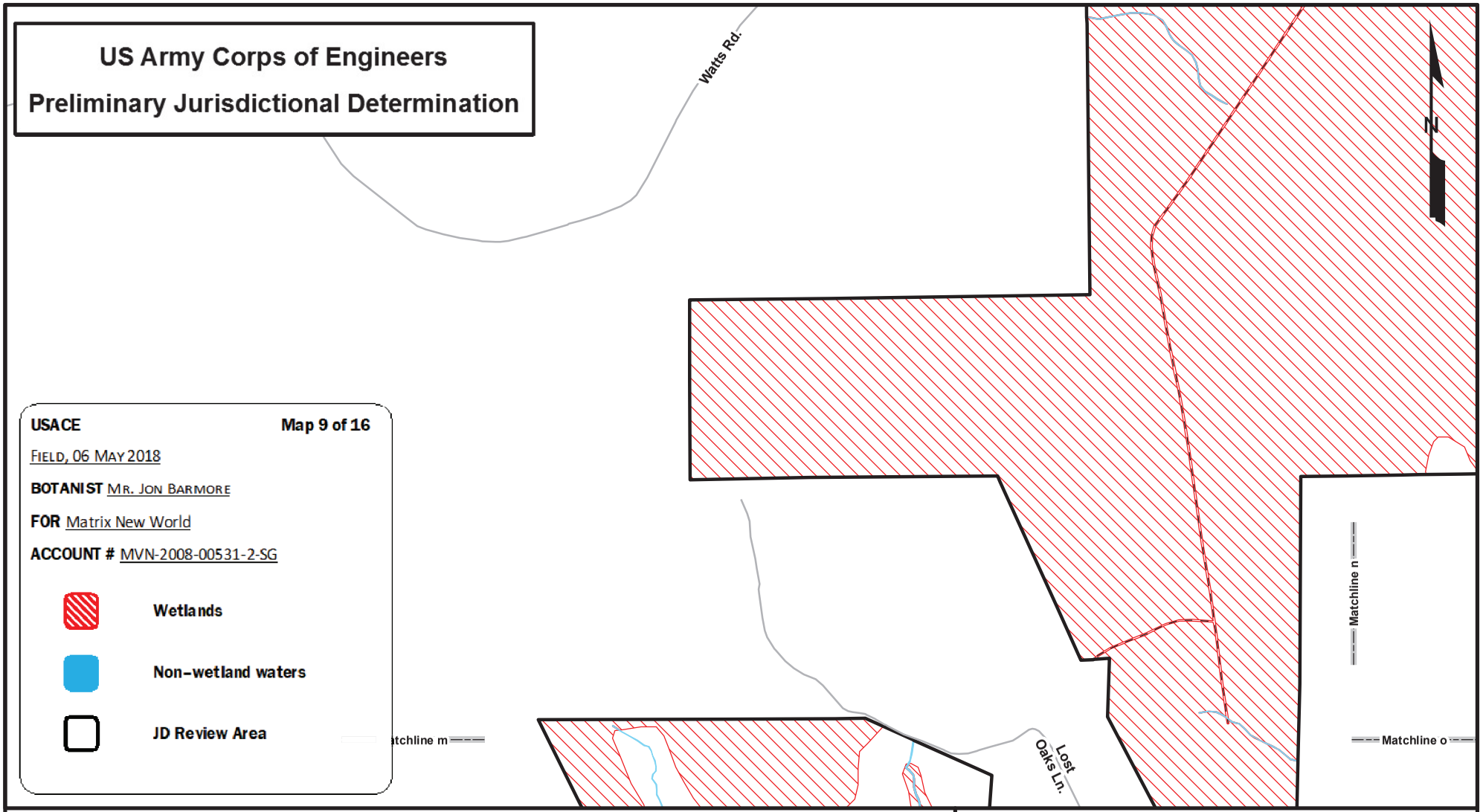
MVN-2008-00531-SY (2019 Addendum)

1,000 500 0 1,000 Feet

MATRIXNEWORLD Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	5/10/2019
Drawing No.	18-1115-A018

3h Figure No.



Site Plan

Wetland Data Report/Request for Preliminary Jurisdictional Determination

Livingston Parish, Louisiana

Weyerhaeuser NR Company

MVN-2008-00531-SY (2019 Addendum)

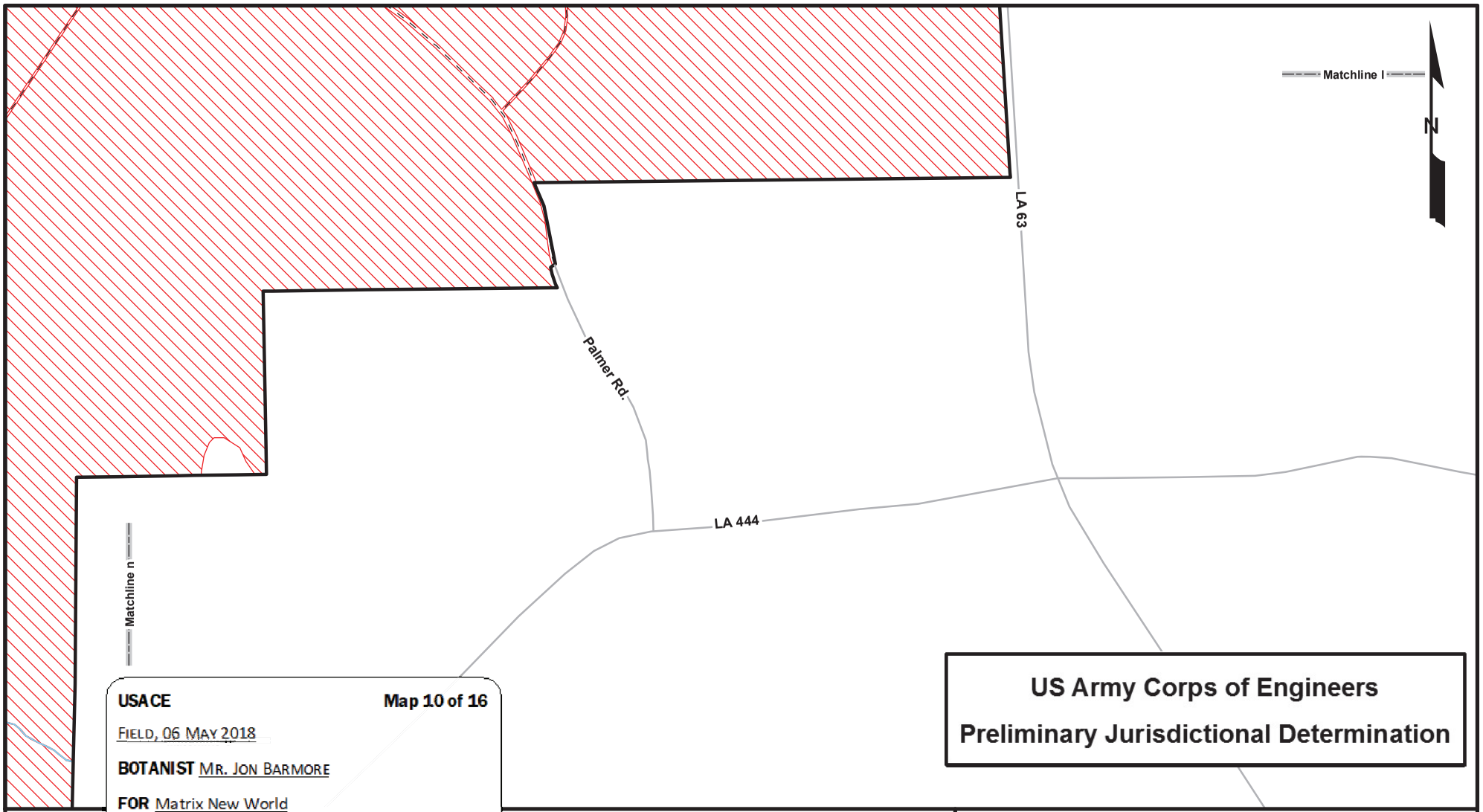
1,000 500 0 1,000 Feet

MATRIXNEWORLD Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	5/10/2019
Drawing No.	18-1115-A018

3i
Figure No.

Note: Site is located in Section 36, Township 7 South, Range 4 East; Section 31, Township 7 South, Range 5 East; Sections 1, 11-14, 23-24, and 39, Township 8 South, Range 4 East; and Sections 4-10, 16-18, 21, 37, 44, and 46, Township 8 South, Range 5 East.



US Army Corps of Engineers

Preliminary Jurisdictional Determination

USACE **Map 10 of 16**

FIELD, 06 MAY 2018

BOTANIST MR. JON BARMORE

FOR Matrix New World

ACCOUNT # MVN-2008-00531-2-SG

Wetlands

Non-wetland waters

JD Review Area

Site Plan

Wetland Data Report/Request for Preliminary Jurisdictional Determination

Livingston Parish, Louisiana

Weyerhaeuser NR Company

MVN-2008-00531-SY (2019 Addendum)

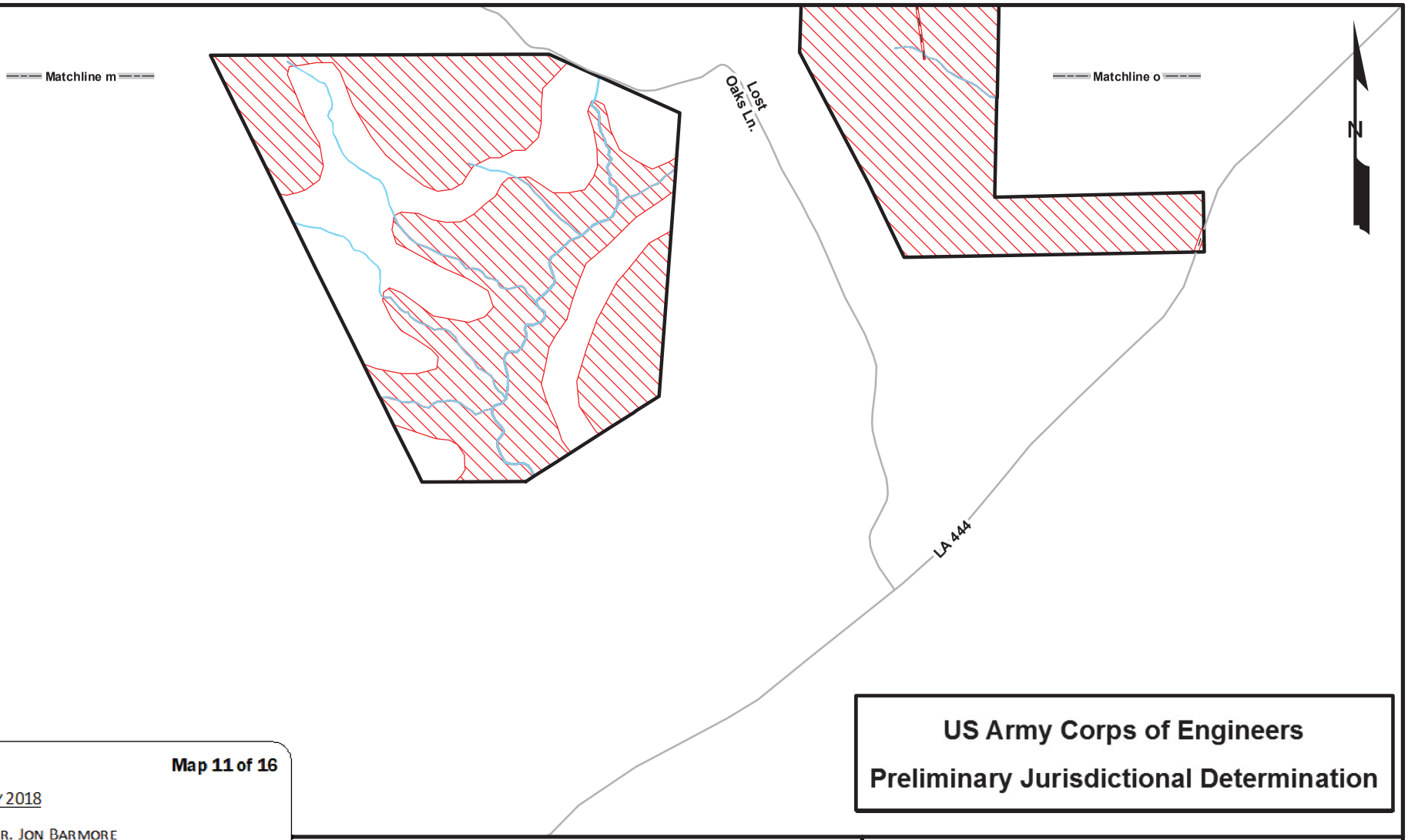
1,000 500 0 1,000 Feet

MATRIXNEWORLD Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	5/10/2019
Drawing No.	18-1115-A018

3j Figure No.

Note: Site is located in Section 36, Township 7 South, Range 4 East; Section 31, Township 7 South, Range 5 East; Sections 1, 11-14, 23-24, and 39, Township 8 South, Range 4 East; and Sections 4-10, 16-18, 21, 37, 44, and 46, Township 8 South, Range 5 East.



US Army Corps of Engineers

Preliminary Jurisdictional Determination

USACE **Map 11 of 16**

FIELD, 06 MAY 2018

BOTANIST MR. JON BARMORE

FOR Matrix New World

ACCOUNT # MVN-2008-00531-2-SG

Wetlands

Non-wetland waters

JD Review Area

East; Section 31, Township 7 South, Range 5 East; Sections 1, 11-14, 23-24, and 39,
37, 44, and 46, Township 8 South, Range 5 East.

Site Plan

Wetland Data Report/Request for Preliminary Jurisdictional Determination

Livingston Parish, Louisiana

Weyerhaeuser NR Company

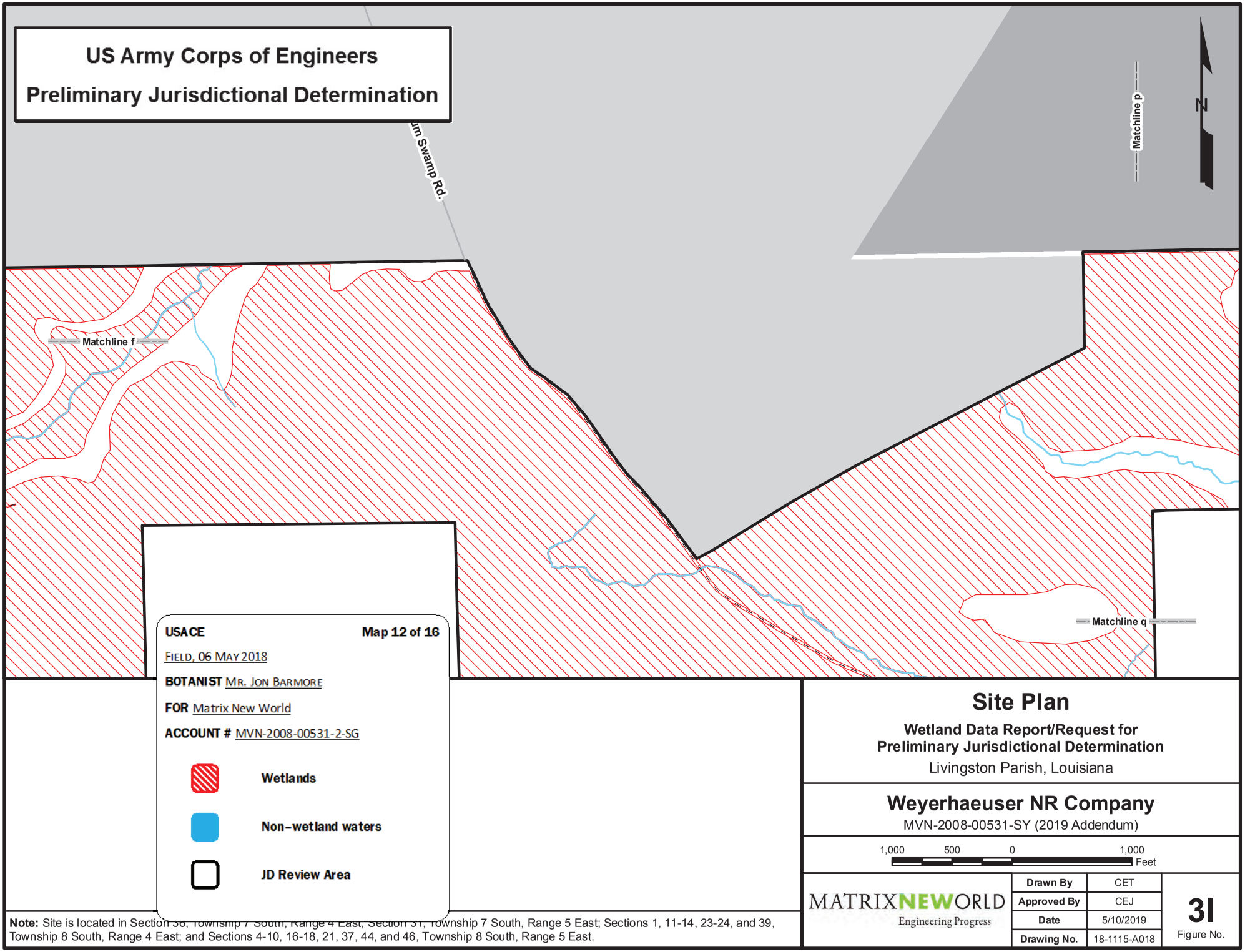
MVN-2008-00531-SY (2019 Addendum)

1,000 500 0 1,000 Feet

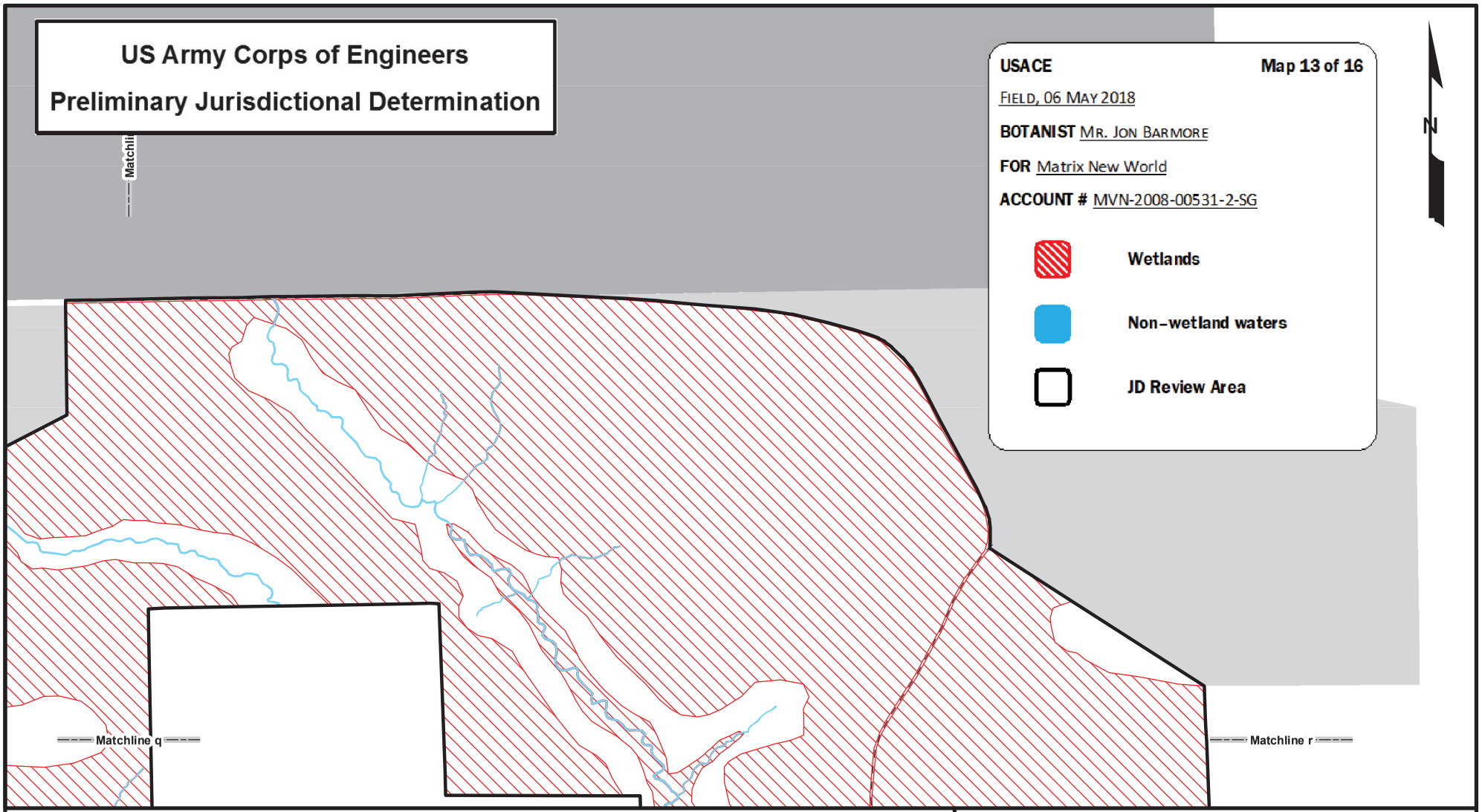
MATRIXNEWORLD Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	5/10/2019
Drawing No.	18-1115-A018

3k Figure No.



Note: Site is located in Section 36, Township 7 South, Range 4 East, Section 31, Township 7 South, Range 5 East; Sections 1, 11-14, 23-24, and 39, Township 8 South, Range 4 East; and Sections 4-10, 16-18, 21, 37, 44, and 46, Township 8 South, Range 5 East.



Site Plan

Wetland Data Report/Request for Preliminary Jurisdictional Determination

Livingston Parish, Louisiana

Weyerhaeuser NR Company

MVN-2008-00531-SY (2019 Addendum)

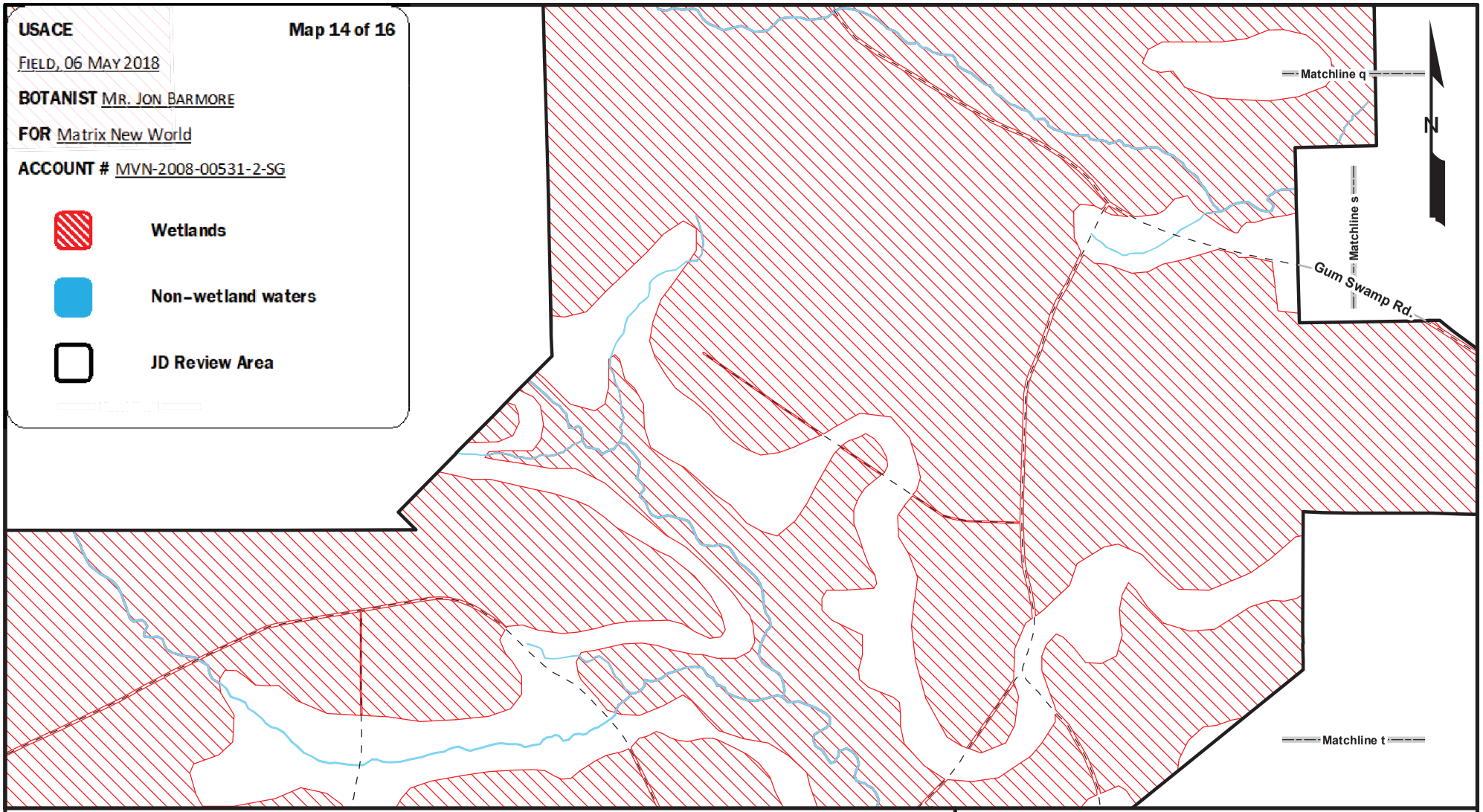
1,000 500 0 1,000 Feet

MATRIXNEWORLD Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	5/10/2019
Drawing No.	18-1115-A018

3m
Figure No.

Note: Site is located in Section 36, Township 7 South, Range 4 East; Section 31, Township 7 South, Range 5 East; Sections 1, 11-14, 23-24, and 39, Township 8 South, Range 4 East; and Sections 4-10, 16-18, 21, 37, 44, and 46, Township 8 South, Range 5 East.



US Army Corps of Engineers
Preliminary Jurisdictional Determination

Weyerhaeuser NR Company

MVN-2008-00531-SY (2019 Addendum)

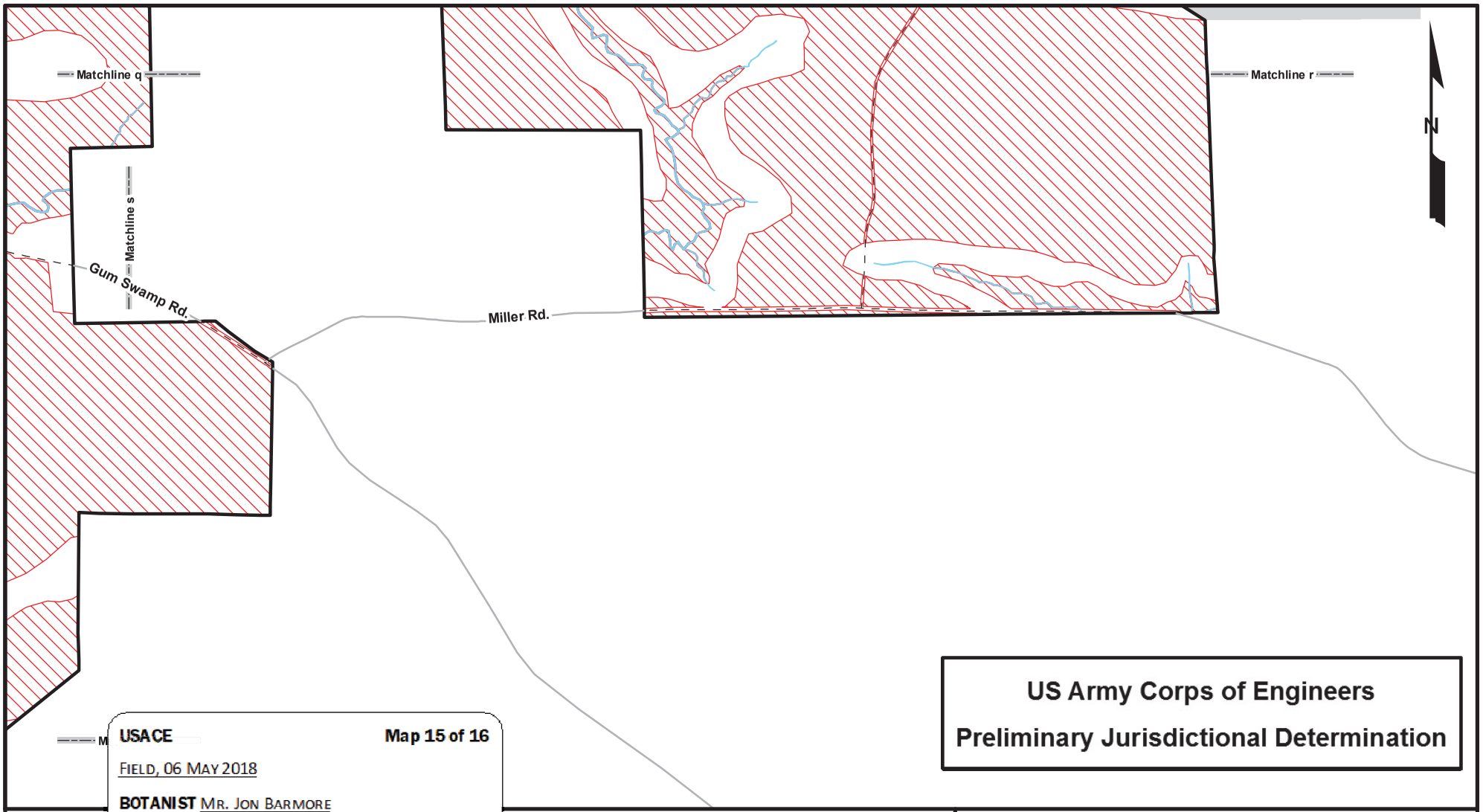
1,000 500 0 1,000 Feet

MATRIXNEWORLD
Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	5/10/2019
Drawing No.	18-1115-A018

3n
Figure No.

Note: Site is located in Section 36, Township 7 South, Range 4 East; Section 31, Township 7 South, Range 5 East; Sections 1, 11-14, 23-24, and 39, Township 8 South, Range 4 East; and Sections 4-10, 16-18, 21, 37, 44, and 46, Township 8 South, Range 5 East.



US Army Corps of Engineers

Preliminary Jurisdictional Determination

USACE **Map 15 of 16**

FIELD, 06 MAY 2018

BOTANIST MR. JON BARMORE

FOR Matrix New World

ACCOUNT # MVN-2008-00531-2-SG

Wetlands

Non-wetland waters

JD Review Area

Note: Site is loc , Township 7 South, Range 5 East; Sections 1, 11-14, 23-24, and 39, Township 8 Sou Township 8 South, Range 5 East.

Site Plan

Wetland Data Report/Request for Preliminary Jurisdictional Determination

Livingston Parish, Louisiana

Weyerhaeuser NR Company

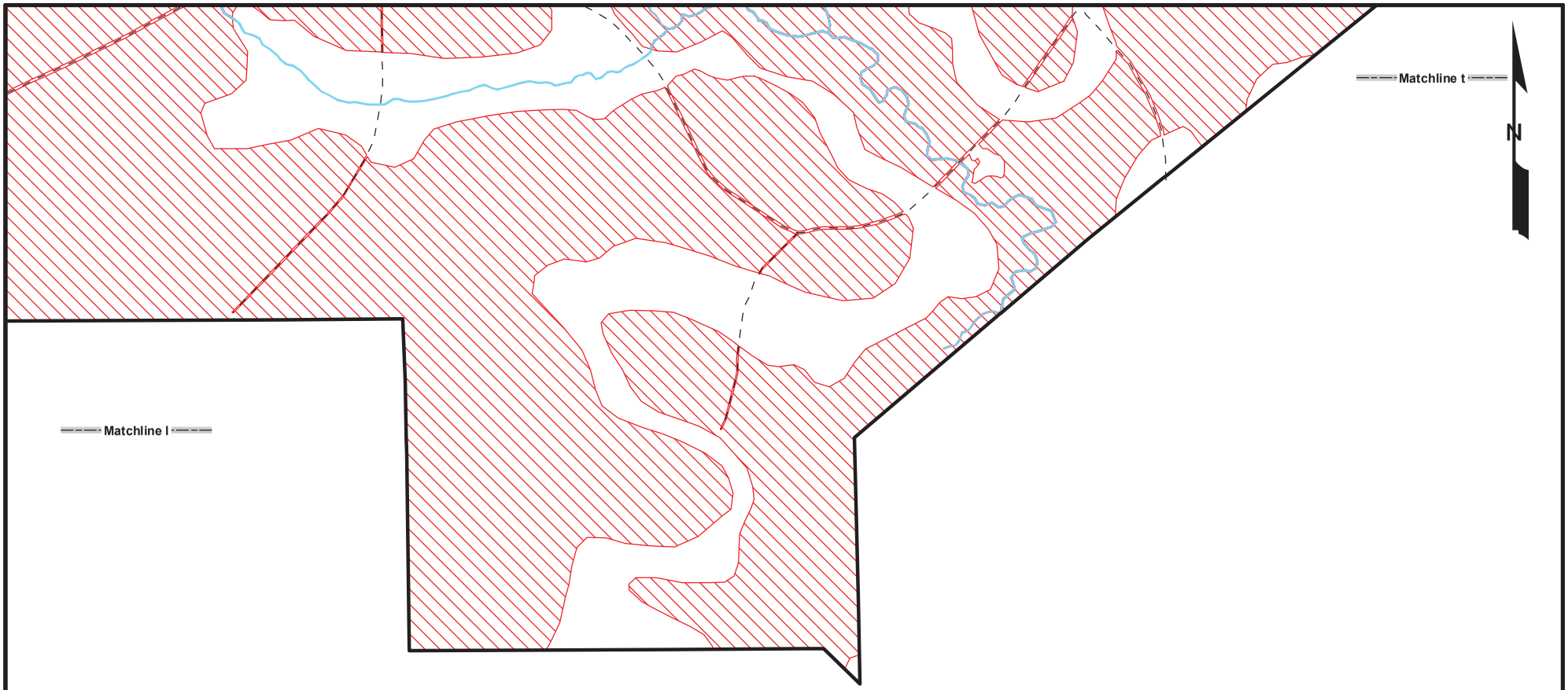
MVN-2008-00531-SY (2019 Addendum)

1,000 500 0 1,000 Feet

MATRIXNEWORLD Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	5/10/2019
Drawing No.	18-1115-A018

3o
Figure No.



US Army Corps of Engineers

Preliminary Jurisdictional Determination

USACE **Map 16 of 16**

FIELD, 06 MAY 2018

BOTANIST MR. JON BARMORE

FOR Matrix New World

ACCOUNT # MVN-2008-00531-2-SG

Wetlands

Non-wetland waters

JD Review Area

t; Section 31, Township 7 South, Range 5 East; Sections 1, 11-14, 23-24, and 39, 44, and 46, Township 8 South, Range 5 East.

Site Plan

Wetland Data Report/Request for Preliminary Jurisdictional Determination

Livingston Parish, Louisiana

Weyerhaeuser NR Company

MVN-2008-00531-SY (2019 Addendum)

1,000 500 0 1,000 Feet

MATRIXNEWORLD Engineering Progress

Drawn By	CET
Approved By	CEJ
Date	5/10/2019
Drawing No.	18-1115-A018

3p Figure No.

PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: 5/14/19

B. NAME AND ADDRESS OF PERSON REQUESTING PJD:

Mr. Chad Turner
Matrix New World
2798 O'Neal Lane
Baton Rouge, LA 70816

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: MVN-2008-00531-2-SG

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: Livingston City:

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

Lat.: 30.36307 ° Long.: -90.73475 °

Universal Transverse Mercator:

Name of nearest waterbody: Beaver Creek-Amite River

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

☒ Office (Desk) Determination. Date: 2/25/2019

☒ Field Determination. Date(s): 4/2/2019, 5/2/2019

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	30.36307	-90.73475	±5,234.15 ac	wetland	Sec 404
1	30.36307	-90.73475	±23.35 ac	non-wetland waters	Sec 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:

☒ Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
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: _____.

☒ U.S. Geological Survey Hydrologic Atlas: _____.
☐ USGS NHD data.
☒ USGS 8 and 12 digit HUC maps.

☒ U.S. Geological Survey map(s). Cite scale & quad name: 1:24,000 Whitehall.

☒ Natural Resources Conservation Service Soil Survey. Citation: 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)

☒ Photographs: ☒ Aerial (Name & Date): 1989,1998,2006,2008,2010,2013,2015,2017,2018.
or ☒ Other (Name & Date): 1998,2004,2005.

☐ Previous determination(s). File no. and date of response letter: _____.

☒ Other information (please specify): LiDAR.

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.

BARMORE.JONATHAN.GEORGE.1522131179 Digitally signed by BARMORE.JONATHAN.GEORGE.1522131179 Date: 2019.05.13 08:20:17 -05'00'

Signature and date of Regulatory staff member completing PJD

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.

Attachment C: Proposed Hydrology Restoration Drawings

Project Tracts (7,383.2 ac)

Bottomland Hardwood Rehabiliation (5,055.0 ac)

0 2,250 4,500 9,000

Feet

Pontchartrain Basin Umbrella Mitigation Bank

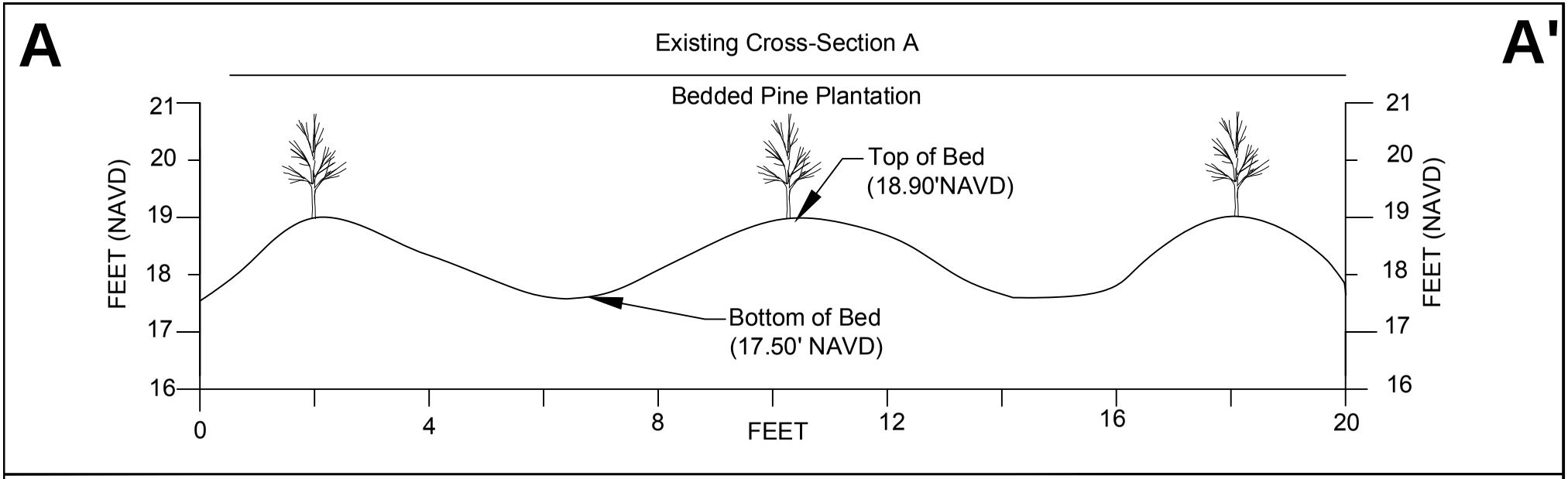
PLAN VIEW

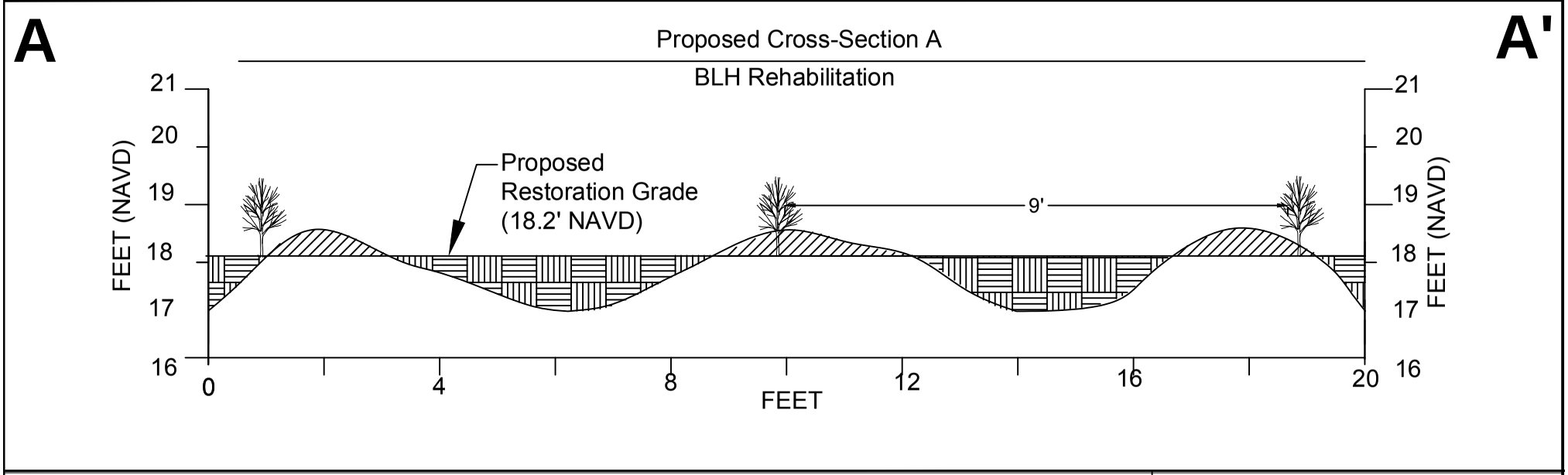
Livingston Parish, LA

Created : LJW/ARCVIEW	
Approved : DEB	
Date : 07/24/2019	
Map No. : FC1_PlanView	

DELTA LAND SERVICES

FIGURE C-1





PROPOSED EXCAVATION

PROPOSED FILL

Note:

1. All elevational data are based on GEOID99.

Pontchartrain Basin Umbrella Mitigation Bank

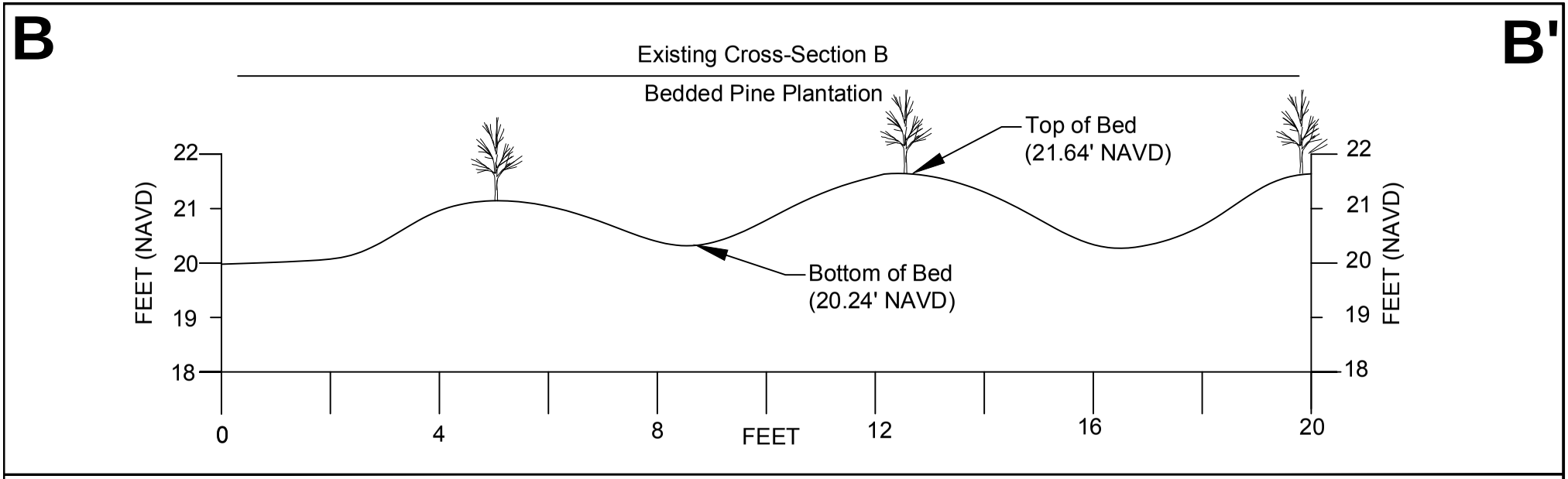
CROSS-SECTION A

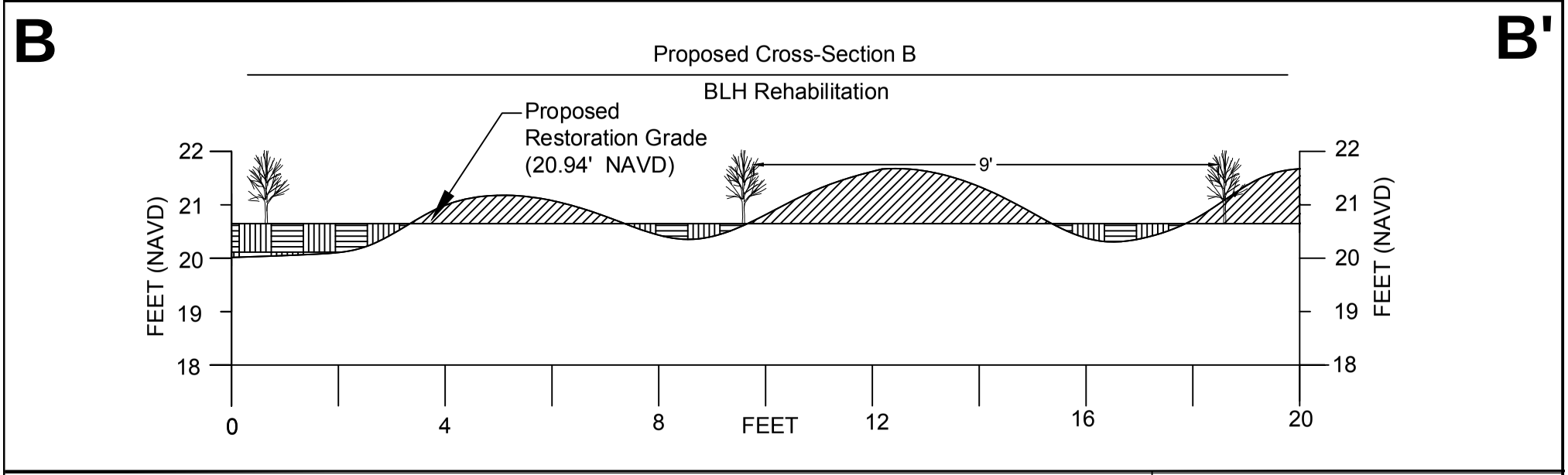
LIVINGSTON PARISH, LA

Created:	TSC/AutoCAD
Approved:	DEB
Date:	7/29/2019
Dwg. No.:	TYPxsections.dwg

DELTA LAND SERVICES

FIGURE C-2





PROPOSED EXCAVATION

PROPOSED FILL

Note:

1. All elevational data are based on GEOID99.

Pontchartrain Basin Umbrella Mitigation Bank

CROSS-SECTION B

LIVINGSTON PARISH, LA

Created:	TSC/AutoCAD
Approved:	DEB
Date:	7/29/2019
Dwg. No.:	TYPxsections.dwg

DELTA LAND SERVICES

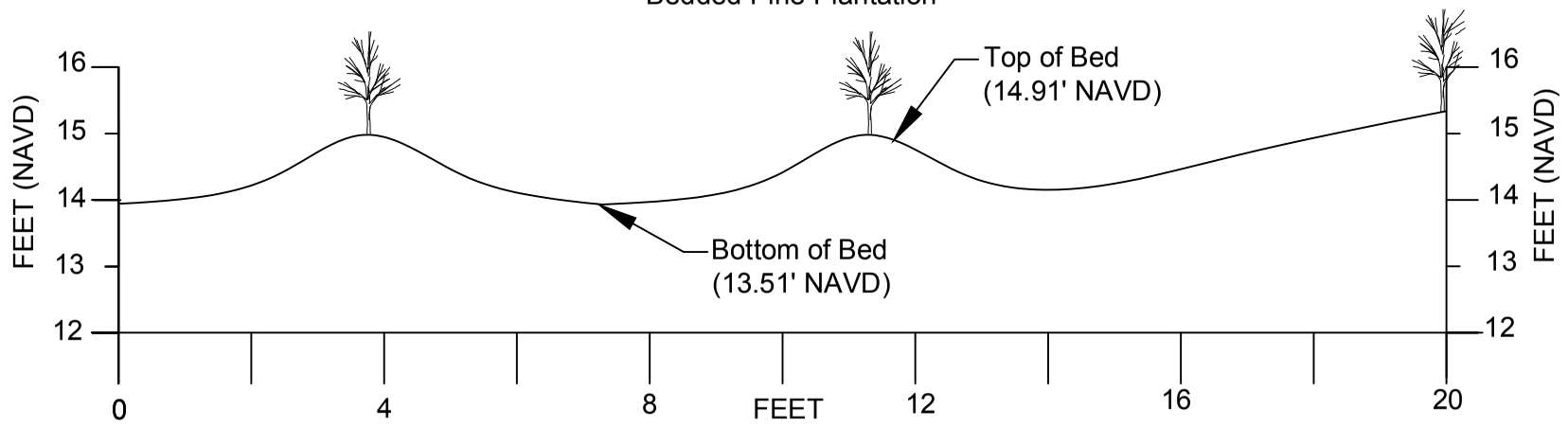
FIGURE C-3

C

C'

Existing Cross-Section C

Bedded Pine Plantation

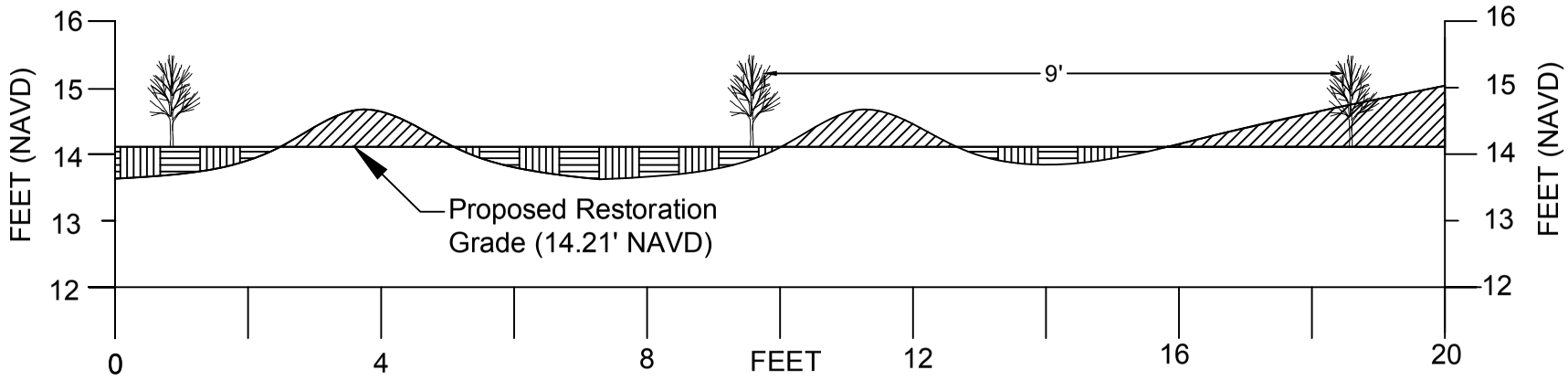


C

C'

Proposed Cross-Section C

BLH Rehabilitation



PROPOSED EXCAVATION

PROPOSED FILL

Note:

1. All elevational data are based on GEOID99.

Pontchartrain Basin Umbrella Mitigation Bank

CROSS-SECTION C

LIVINGSTON PARISH, LA

Created:	TSC/AutoCAD
Approved:	DEB
Date:	7/29/2019
Dwg. No.:	TYPxsections.dwg

DELTA LAND SERVICES

FIGURE C-4

Attachment D: Preliminary Louisiana Rapid Assessment Method (LRAM) Calculations

Attachment D: Summary of Preliminary LRAM Modeling for the Proposed Pontchartrain Basin Umbrella Mitigation Bank (MVN-2018-01505)

Tract	Type	Total Ac	Mitigation Ac	LRAM Potential	LRAM Units
East ICR	BLH	3,855.4	3,142.8	4.5	14,242.6
Dode's Creek	BLH	2,209.7	1,879.9	4.8	9,037.4
West ICR	BLH	961.1	863.4	4.3	3,694.5
South Wall Bayou	BLH	294.9	242.4	5.4	1,306.7
North Wall Bayou	BLH	35.2	35.2	4.7	162.1
Barbary Bayou	BLH	26.9	12.5	3.5	43.2
Total		**7,383.2**	**6,176.2**	**4.6**	**28,486.5**

LOUISIANA WETLAND RAPID ASSESSMENT METHOD (LRAM) 2.0

CEMVN Acct #	MVN-2018-01505				Bank Name				
Acres Mitigation	3142.8				PUMB: East ICR Tract-BLH				
Watershed Basin	LakePont								
		Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8
Mitigation Factors	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
	Management	None	None	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Negative Influences	Low	Low	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
	Size	>500	>500	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
	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:	5.5	3.5	0.4	0.0	0.0	0.0	0.0	0.0
	Area:	2521.0	41.4	580.4					
	Sum x Area Affected:	13865.5	144.9	232.2	0.0	0.0	0.0	0.0	0.0

∑ Mitigation:	14242.6
Mitigation Potential:	4.5

COMMENTS

Mitigation Type	Rehab: Conversion of pine plantation within the rotation age; Enhance: Conversion of pine plantation beyoud the rotation age; Preservation is 23% of TOTAL Rest/Enh Acres within Tract
Management	
Negative Influences	Gum Swamp Rd, a lightly traveled parish road, traverses the site
Size	3,855.4-acre project area
Buffer/Upland	426.8 acres of UPL Restoration

LOUISIANA WETLAND RAPID ASSESSMENT METHOD (LRAM) 2.0

CEMVN Acct #	MVN-2018-01505				Bank Name				
Acres Mitigation	1879.9				PUMB: Dodes Creek Tract-BLH				
Watershed Basin	LakePont								

		Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8
Mitigation Factors	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
	Management	None	None	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Negative Influences	Low	Low	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
	Size	>500	>500	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
	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:	5.5	3.5	0.4	0.0	0.0	0.0	0.0	0.0
	Area:	1601.8	37.5	240.6					
	Sum x Area Affected:	8809.9	131.3	96.2	0.0	0.0	0.0	0.0	0.0

∑ Mitigation:	9037.4
Mitigation Potential:	4.8

COMMENTS

Mitigation Type	Rehab: Conversion of pine plantation within the rotation age; Enhance: Conversion of pine plantation beyond the rotation age; Preservation is 15% of TOTAL Rest/Enh Acres within Tract
Management	
Negative Influences	Hwy 63 adjacent to east side of tract (2-lane)
Size	2,209.7-acre project area
Buffer/Upland	176.7 acres of UPL Restoration

LOUISIANA WETLAND RAPID ASSESSMENT METHOD (LRAM) 2.0

CEMVN Acct #		MVN-2018-01505			Bank Name				
Acres Mitigation	863.4				PUMB: West ICR Tract-BLH				
Watershed Basin		LakePont							
		Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8
Mitigation Factors	Mitigation Type	Rehab	Preser	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		5.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
	Management	None	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Negative Influences	Low	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Size	>500	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Buffer / Upland	Restored	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Sum:	5.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0
	Area:	656.7	206.7						
	Sum x Area Affected:	3611.9	82.7	0.0	0.0	0.0	0.0	0.0	0.0

∑ Mitigation:	3694.5
Mitigation Potential:	4.3

COMMENTS

Mitigation Type	Rehab: Conversion of pine plantation within the rotation age; Preservation is 31% of TOTAL Rest/Enh Acres within Tract
Management	
Negative Influences	Hwy 63 adjacent to west side of tract (2-lane road) and Gum Swamp Rd, a lightly traveled parish road, traverses the site
Size	961.1-acres project area
Buffer/Upland	50.2 acres of UPL Restoration

LOUISIANA WETLAND RAPID ASSESSMENT METHOD (LRAM) 2.0

CEMVN Acct #		MVN-2018-01505			Bank Name				
Acres Mitigation	242.4				PUMB: South Wall Bayou Tract-BLH				
Watershed Basin		LakePont							

		Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8
Mitigation Factors	Mitigation Type	Rehab	Preser	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		5.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
	Management	None	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Negative Influences	None	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Size	500 : 100	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Buffer / Upland	Restored	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Sum:	5.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0
	Area:	237.2	5.2						
	Sum x Area Affected:	1304.6	2.1	0.0	0.0	0.0	0.0	0.0	0.0

∑ Mitigation:	1306.7
Mitigation Potential:	5.4

COMMENTS

Mitigation Type	Rehab: Conversion of pine plantation within the rotation age; Preservation is 2% of TOTAL Rest/Enh Acres within Tract
Management	
Negative Influences	
Size	Tract is 294.9 acres
Buffer/Upland	34.6 acres of UPL Restoration

LOUISIANA WETLAND RAPID ASSESSMENT METHOD (LRAM) 2.0

CEMVN Acct #	MVN-2019-01505				Bank Name				
Acres Mitigation	34.2				PUMB-North Wall Bayou Tract-BLH				
Watershed Basin	LakePont								
		Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8
Mitigation Factors	Mitigation Type	Rehab	Preser	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		5.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
	Management	None	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Negative Influences	None	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Size	>500	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Buffer / Upland	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Sum:	5.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0
	Area:	29.1	5.1						
	Sum x Area Affected:	160.1	2.0	0.0	0.0	0.0	0.0	0.0	0.0

∑ Mitigation:	162.1
Mitigation Potential:	4.7

COMMENTS

Mitigation Type	Rehab: Conversion of pine plantation within the rotation age; Preservation is 17% of TOTAL Rest/Enh Acres within Tract
Management	
Negative Influences	
Size	Tract is 35.2 acres but is adjacent to existing 1,125-acre Gum Swamp Mitigation Bank
Buffer/Upland	None

LOUISIANA WETLAND RAPID ASSESSMENT METHOD (LRAM) 2.0

CEMVN Acct #	MVN-2018-01505				Bank Name				
Acres Mitigation	12.5				PUMB: Barbary Bayou Tract-BLH				
Watershed Basin	LakePont								
		Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8
Mitigation Factors	Mitigation Type	Rehab	Preser	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		5.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
	Management	None	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Negative Influences	None	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Size	Less than 100	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Buffer / Upland	Restored	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Sum:	5.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
	Area:	8.3	4.2						
	Sum x Area Affected:	41.5	1.7	0.0	0.0	0.0	0.0	0.0	0.0

∑ Mitigation: 43.2

Mitigation Potential: 3.5

COMMENTS

Mitigation Type	Rehab: Conversion of pine plantation within the rotation age; BLH/Swamp Preservation is 14.8 acres but only 4.2 utilized which is 50% of TOTAL Rest/Enh Acres within Tract
Management	
Negative Influences	
Size	Tract is 26.9 acres (seperated from larger East ICR tract by transmission ROW)
Buffer/Upland	3.8 acres of UPL Restoration; remaining 10.6 acres of Total 14.8-acre BLH Preservation is in Inclusion

Attachment E: Site Photographs

Bedded young pine plantation stand at the proposed Pontchartrain Basin Umbrella Mitigation Bank Tracts in Livingston Parish, Louisiana, December 5, 2018.

Bedded young pine plantation stand at the proposed Pontchartrain Basin Umbrella Mitigation Bank Tracts in Livingston Parish, Louisiana, December 5, 2018.

Managed pine plantation stand with prominent bedding in the proposed Pontchartrain Basin Umbrella Mitigation Bank Tracts in Livingston Parish, Louisiana in December 5, 2018.

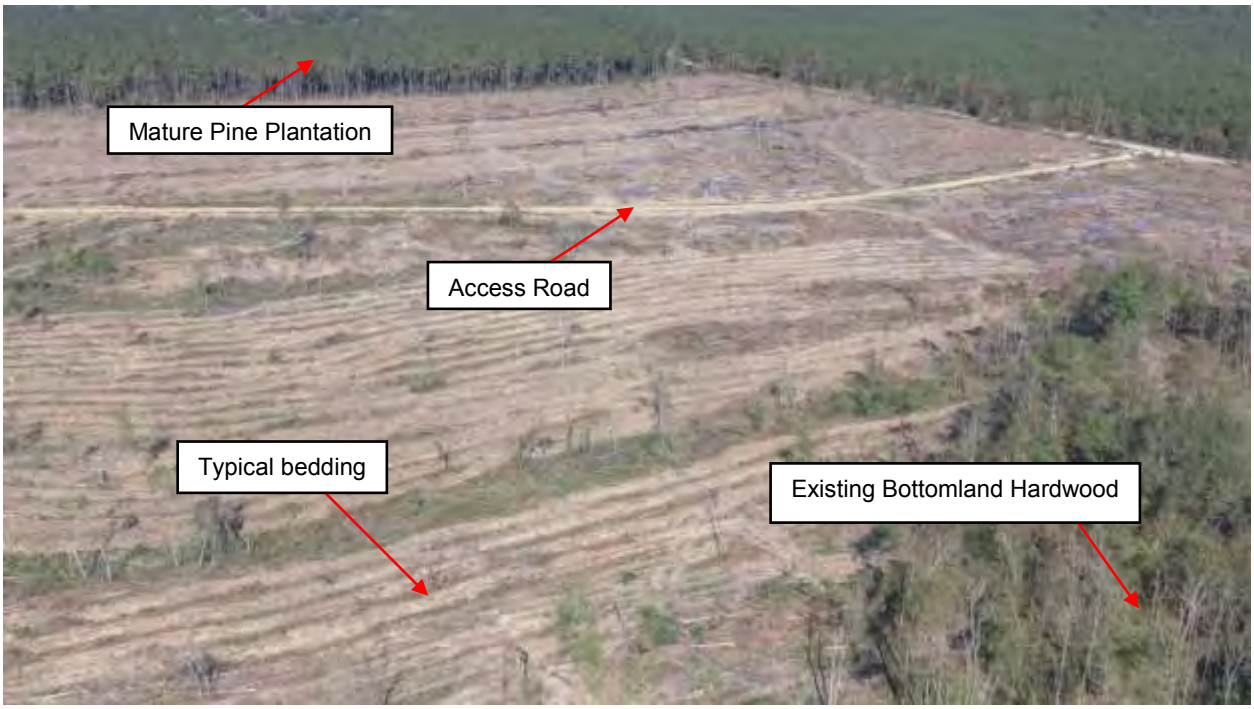
Mature pine plantation stand with bedding present in the proposed Pontchartrain Basin Umbrella Mitigation Bank Tracts in Livingston Parish, Louisiana, December 5, 2018.

Mid rotational stage pine plantation stand with bedding present in the proposed Pontchartrain Basin Umbrella Mitigation Bank Tracts in Livingston Parish, Louisiana, December 5, 2018.

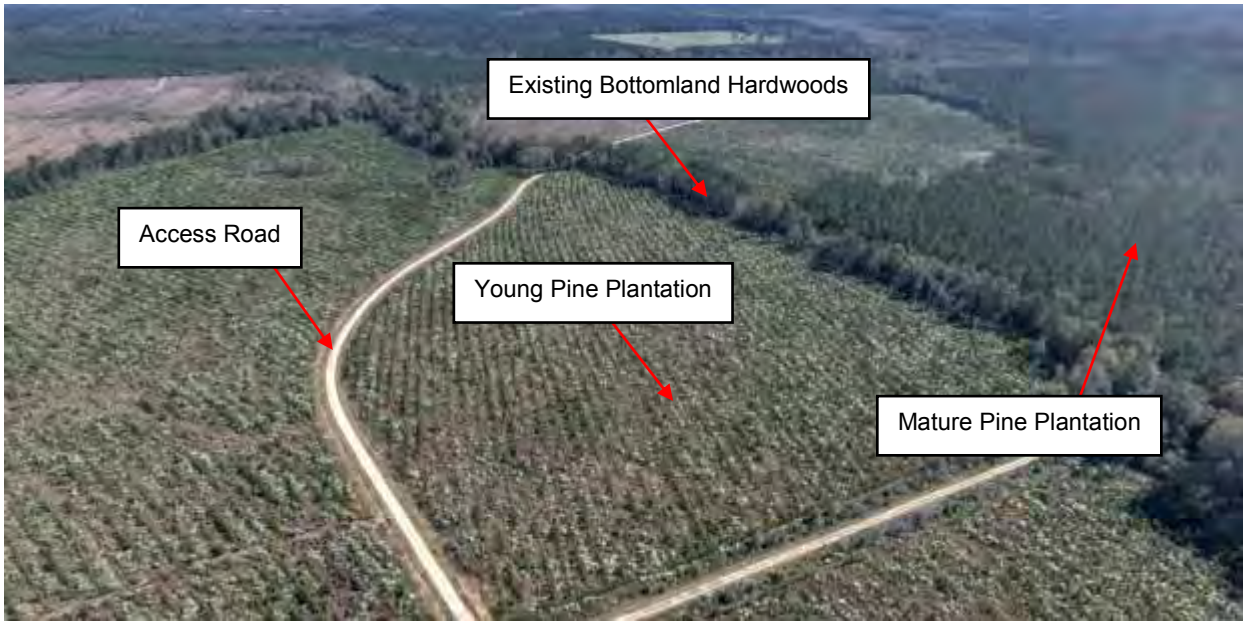
Typical view of wet pine plantation stand in the proposed Pontchartrain Basin Umbrella Mitigation Bank Tracts in Livingston Parish, Louisiana, November 28, 2018.

Mature pine plantation stand with bedding present in the proposed Pontchartrain Basin Umbrella Mitigation Bank Tracts in Livingston Parish, Louisiana, December 5, 2018.

Typical view of existing bottomland hardwood forested wetland in the proposed Pontchartrain Basin Umbrella Mitigation Bank in Livingston Parish Tracts, Louisiana, November 16, 2018.

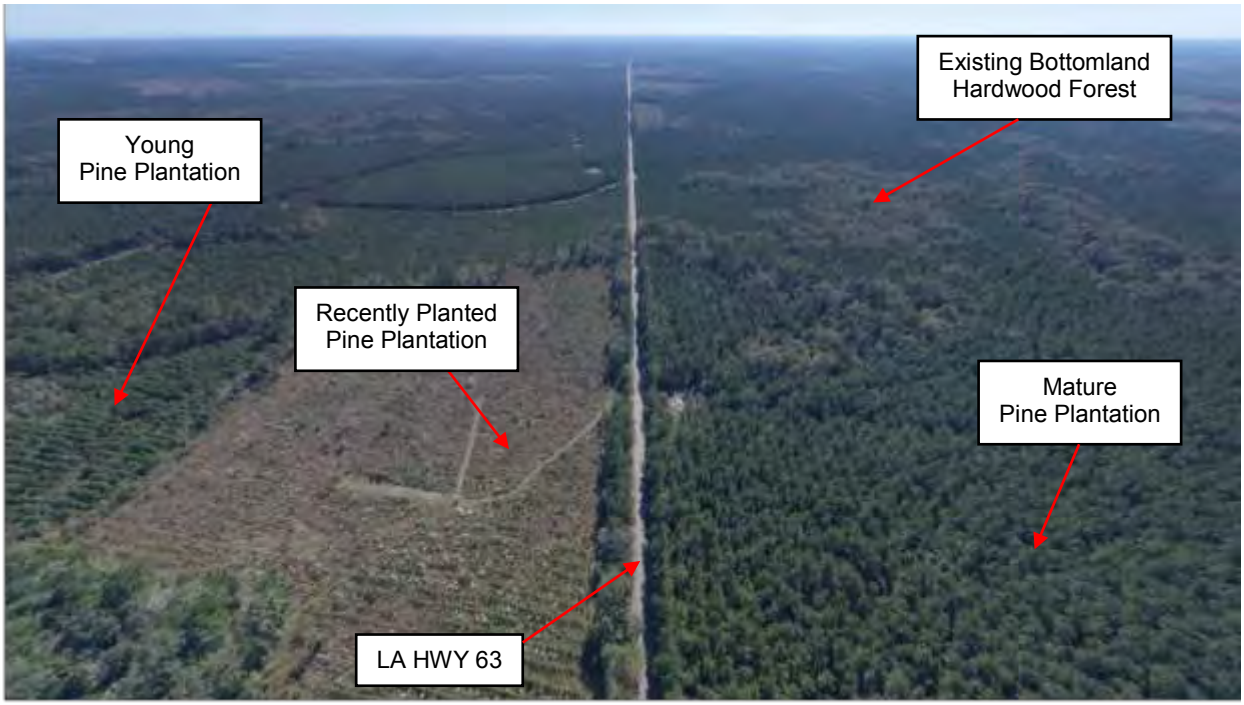


Site preparation activities after recent harvest in managed pine plantation stand showing bedding in the proposed Pontchartrain Basin Umbrella Mitigation Bank Tracts in Livingston Parish, Louisiana, November 16, 2018.

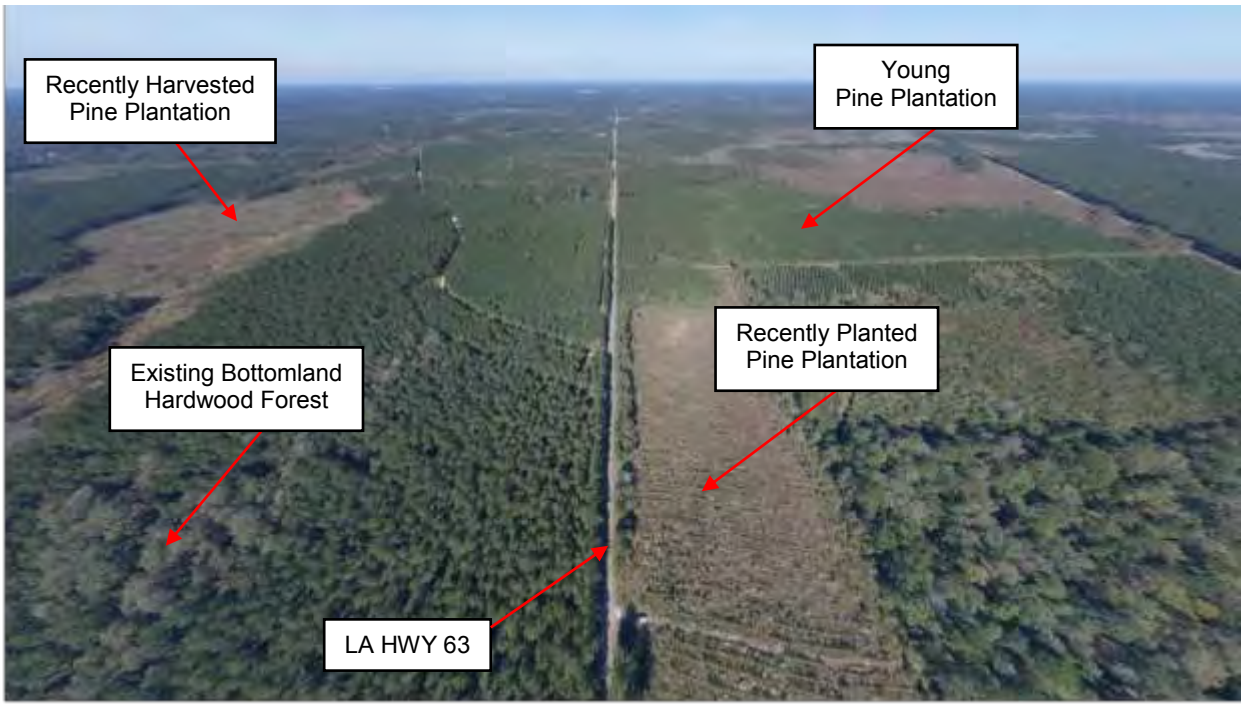


Aerial view of various stages of managed pine plantation stands at the proposed Pontchartrain Basin Umbrella Mitigation Bank Tracts in Livingston Parish, Louisiana, November 16, 2018.

Aerial view of various stages of managed pine plantation stands at the proposed Pontchartrain Basin Umbrella Mitigation Bank Tracts in Livingston Parish, Louisiana, November 16, 2018.



South facing aerial view of various managed pine plantation stands on east and west sides of LA HWY 63 at the proposed Pontchartrain Basin Umbrella Mitigation Bank Tracts in Livingston Parish, Louisiana, November 16, 2018.



North facing aerial view of various stages of managed pine plantation stands on west and east sides of LA HWY 63 at the proposed Pontchartrain Basin Umbrella Mitigation Bank Tracts in Livingston Parish, Louisiana, November 16, 2018.

Typical view of access road in recently harvested and reforested pine plantation stand in the proposed Pontchartrain Basin Umbrella Mitigation Bank Tracts in Livingston Parish, Louisiana, November 16, 2018.

Typical view of access road in managed pine plantation stand in the proposed Pontchartrain Basin Umbrella Mitigation Bank Tracts in Livingston Parish, Louisiana, November 16, 2018.