

# JOINT PUBLIC NOTICE

April 9, 2018

United States Army  
Corps of Engineers  
New Orleans District  
Regulatory Branch  
7400 Leake Avenue  
New Orleans, La. 70118

State of Louisiana  
Department of Environmental Quality  
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Attn: Water Quality Certifications

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MVN-2017-00332-MR

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WQC Application Number  
WQC # 180314-03

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

Application has also been made to the Louisiana Department of Environmental Quality, for a Water Quality Certification (WQC) in accordance with statutory authority contained in Louisiana Revised Statutes of 1950, Title 30, Chapter 11, Part IV, Section 2074 A(3) and provisions of Section 401 of the Clean Water Act (P.L.95-17).

## **POLLARD BRANCH MITIGATION BANK IN TANGIPAHOA PARISH**

**NAME OF APPLICANT:** Reimer Company, LLC; c/o ELOS Environmental, Attn: Brian Fortson, 43177 East Pleasant Ridge Road, Hammond, LA 70402.

**LOCATION OF WORK:** The 1,415.3 acre site is located approximately 10 miles to the east northeast of the city of Hammond, Louisiana, as shown on attached drawings (Latitude: 30.5577353° N, Longitude: -90.3118678° W). The Project is located within the Lake Pontchartrain Basin, Hydrologic Unit 08070205.

**CHARACTER OF WORK:** Removal of existing timber, surface plowing and removal of timber beds Backfilling of artificial surface drainage features and ponds with approximately 2,000,000 cubic yards of in situ earthen fill as part of the work to enhance and restore traditional surface hydrology to the site for the construction of a mitigation bank with a pine savanna habitat.

The comment period for the Department of the Army Permit and the Louisiana Department of Environmental Quality WQC will close **30 days** from the date of this joint public notice. Written comments, including suggestions for modifications or objections to the proposed work, stating reasons thereof, are being solicited from anyone having interest in this permit and/or this WQC request and must be mailed so as to be received before or by the last day of the comment period. Letters concerning the Corps of Engineers permit application must reference the applicant's name and the Permit Application Number, and be mailed to the Corps of Engineers at the address above, **ATTENTION: REGULATORY BRANCH**. Similar letters concerning the

Water Quality Certification must reference the applicant's name and the WQC Application number and be mailed to the Louisiana Department of Environmental Quality at the address above.

The application for this proposed project is on file with the Louisiana Department of Environmental Quality and may be examined during weekdays between 8:00 a.m. and 4:30 p.m. Copies may be obtained upon payment of costs of reproduction.

### **Corps of Engineers Permit Criteria**

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

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

The New Orleans District is unaware of properties listed on the National Register of Historic Places near the proposed work. The possibility exists that the proposed work may damage or destroy presently unknown archeological, scientific, prehistorical, historical sites, or data. Issuance of this public notice solicits input from the State Archeologist and State Historic Preservation Officer regarding potential impacts to cultural resources. After receipt of comments from this public notice the Corps will evaluate potential impacts and consult with the State Historic Preservation Officer and Native American Tribes in accordance with Section 106 of the national Historic Preservation Act, as appropriate.

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

Utilizing Standard Local Operating Procedure for Endangered Species in Louisiana (SLOPES), dated October 22, 2014, between the U.S. Army Corps of Engineers, New Orleans and U.S. Fish and Wildlife Service, Ecological Services Office, the Corps has determined that the proposed activity would have no effect on any species listed as endangered by the U.S. Department of the Interior.

This notice initiates the Essential Fish Habitat (EFH) consultation requirements of the Magnuson-Stevens Fishery Conservation and Management Act. The applicant's proposal would result in the destruction or alteration of N/A acre(s) of EFH utilized by various life stages of red drum and penaeid shrimp. Our initial determination is that the proposed action would not have a substantial adverse impact on EFH or federally managed fisheries in the Gulf of Mexico. Our final determination relative to project impacts and the need for mitigation measures is subject to review by and coordination with the National Marine Fisheries Service.

If the proposed work involves deposits of dredged or fill material into navigable waters, the evaluation of the probable impacts will include the application of guidelines established by the Administrator of the Environmental Protection Agency. Also, a certification that the proposed activity will not violate applicable water quality standards will be required from the Department of Environmental Quality, before a permit is issued.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing.

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

Martin S. Mayer  
Chief, Regulatory Branch

Enclosure

# Prospectus for the Proposed Pollard Branch Mitigation Bank

Tangipahoa Parish, Louisiana

March 23, 2018



Sponsor:  
Reimers Company, LLC  
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Agent:  
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## **1.0 INTRODUCTION**

The Reimers Company, LLC (Reimers) is proposing a wetland mitigation bank comprised of approximately 1,415.33 acres (1,242.21 acres are wetlands, 22.10 acres are other waters, and 151.02 acres are non-wetlands). The name of the proposed wetland mitigation bank is Pollard Branch Mitigation Bank (PBMB). The bulk of Reimers' holdings consist of pine dominated habitats, and most wetlands found onsite are intensely managed, bedded pine plantation, and lend themselves to rehabilitation into pine flatwood and savanna habitats. Reimers has extensive land holdings that are currently being utilized for silviculture; a portion of its pine plantation holdings falls within the footprint of the proposed PBMB. Federal and State regulations require that compensatory mitigation be provided for the unavoidable impacts that will occur because of United States Army Corps of Engineers (USACE) permits authorizing development in jurisdictional wetlands. Compensatory mitigation plays a central role in the Federal "no-net-loss" policy for wetlands. That is, damages to protected habitats are to be avoided, but if unavoidable, they must be mitigated (i.e., lessened) by replacement or enhancement of the resource elsewhere. Therefore, by establishing a wetland mitigation bank program, Reimers can provide an effective means of rehabilitating a degraded wetland ecosystem to a natural, functional, wetland ecosystem while providing compensatory mitigation for permitted impacts. The value of this rehabilitated wetland can be quantified and used as compensatory mitigation by permittees to compensate for unavoidable impacts due to commercial and residential development pursuant to Section 404 of the Clean Water Act.

The subject 1,415.33-acre parcel is intended to be the cornerstone of a potentially larger "umbrella" mitigation bank effort, with the Goals, Objectives, and Methods settled and established in an overall Mitigation Banking Instrument developed to govern not only the cornerstone parcel, but also future, similarly situated and analogous parcels held by the Sponsor that may be suitable for rehabilitation in like manner.

### **1.1 Site Location**

The proposed PBMB is in the Tangipahoa watershed, which is nested within the larger Pontchartrain Basin, in Tangipahoa Parish occupying Sections 4 and 5 in Township 6 South, Range 9 East; with the following coordinates roughly representing the center of the proposed PBMB: 30.5577353°, -90.3118678°. The proposed PBMB is north of highway 190 and lies between state highways 445 and 1077. The proposed PBMB is approximately 10 miles to the east northeast of the city of Hammond and consists of approximately 1,415.33 acres (**Figure 1**).

## **2.0 PROJECT GOALS AND OBJECTIVES**

The overall project goal is to rehabilitate functional and sustainable pine flatwood/savanna habitat in large, contiguous blocks capable of providing ecological functions commensurate with the proposed habitat, and to enhance the ecological value of hardwood bottoms associated with the natural drains and branches on the property by restoring the hydrology of the lands drained by the hardwood lined stream systems.

## 2.1 Project Goals

The goal of the proposed PBMB is to rehabilitate approximately 932.33 acres of intensely managed pine plantation to pine flatwood/savanna habitat, enhance approximately 121.70 acres of upland habitat to forested upland inclusion, and enhance 309.88 acres of hardwood flat habitat. The proposed land uses, and mitigation types are summarized in **Tables 1A and 1B**. The successful rehabilitation of pine flatwood/savanna habitat will provide additional wetland functions and values not currently provided under the current land use, such as increased species diversity, overland hydrologic flow attenuation, restoration of historic long leaf pine wetland habitat, nutrient fixation, and increased wildlife support functions. Enhancement of the hardwood flats is expected to result from the hydrologic restoration and wetland rehabilitation within the drainage basins served by the natural stream systems and their attendant riparian hardwood bottoms, reducing the efficiency of overland drainage and moderating flows to reduce channel incision.

Pollard Branch Mitigation Bank is expected to be implemented in two phases. The first phase will begin implementation immediately upon bank approval. Phase II is proposed to begin after the review, assessment, and final clearance is received from the USACE pursuant to its inspection of the portion of the subject property covered by the Formerly Used Defense Site (FUDS) designation.

**Table 1A.** Phase I Existing Habitat Types, Land Use and Mitigation Types

<b>Present Habitat</b>	<b>Present Land Use</b>	<b>Proposed Habitat</b>	<b>Mitigation Type</b>	<b>Acres to Remain</b>	<b>Mitigation Acres</b>	<b>TOTAL</b>
Plantation	Silviculture	Pine Flatwood/Savanna	Rehabilitation	0	512.35	512.35
Upland	Silviculture	Forested Upland Inclusion		16.43	0	16.43
Hardwood Flat	Silviculture	Hardwood Flat	Enhancement	0	95.45	95.45
Other Waters and Roads				25.79	0	25.79
<b>TOTAL</b>					<b>607.8</b>	<b>650.02</b>

**Table 1B.** Phase II Existing Habitat Types, Land Use, and Mitigation Types

<b>Present Habitat</b>	<b>Present Land Use</b>	<b>Proposed Habitat</b>	<b>Mitigation Type</b>	<b>Acres to Remain</b>	<b>Mitigation Acres</b>	<b>TOTAL</b>
Plantation	Silviculture	Pine Flatwood/Savanna	Rehabilitation	0	419.98	419.98
Upland	Silviculture	Forested Upland Inclusion		105.27	0	105.27
Hardwood Flat	Silviculture	Hardwood Flat	Enhancement	0	214.43	214.43
Waters and Roads				25.63	0	25.63
<b>TOTAL</b>					<b>634.41</b>	<b>765.31</b>

The proposed habitat goals for the parcel are demonstrated in **Figure 3**.

## 2.2 Project Objectives

The proposed PBMB objectives, which will help achieve the goal and thereby ensure the success of the proposed PBMB, are:

- 1) To construct a sustainable wet pine savanna habitat that demonstrates progress toward the development of a 15-55% longleaf pine (*Pinus palustris*) dominant over-story (70%-90% longleaf) within 5 years of initial planting and demonstrates the indigenous species diversity, with a predominance of longleaf pine, commensurate with a healthy pine flatwood or savanna;
- 2) To enhance the ecological condition of wet hardwood flats associated with the natural stream systems traversing the parcel, by maximizing the ecosystem functions of the pine habitats drained by the stream corridors, thereby moderating peak flows in the streams; and
- 3) To develop a managed burn regime in pine dominant habitat that mimics natural fire regimes to maintain species diversity and stratification customary of pine savanna and pine flatwood habitats; and
- 4) To eliminate or moderate the proliferation of non-native invasive vegetation species [e.g., Chinese tallow tree (*Triadica sebifera*) and cogon grass (*Imperata cylindrica*)] through chemical and physical methods such as burn management or herbicide treatment;
- 5) To establish a hydrology consistent with the typically extended hydro-periods of pine flatwood/savanna, resulting in the attenuation of storm water run-off, the moderation of pollutants in receiving waters, and the fixation of nutrient loads;
- 6) To provide habitat for native plant and wildlife species customary of wet pine forests and hardwood drains, support increased species diversity, and manage and preserve large, contiguous blocks of improved plant and wildlife habitat; and
- 7) Protect the area from future development.

## 3.0 ECOLOGICAL SUITABILITY OF THE SITE

This site is expected to be ecologically suited to the establishment of pine flatwood/savanna habitat based on surface relief, soil types, observed hydrology, and the lack of anthropogenic obstacles to an aggressive fire management regime.

The proposed PBMB is ideally located (i.e., geologically, hydrologically, and topographically) to support a pine flatwood/savanna wetland habit. **Figure 5** illustrates soil types in the proposed PBMB footprint (i.e., mainly hydric soils), **Figure 4** represents hydrologic conditions (the total drainage area of the Tangipahoa watershed is 2,010 km<sup>2</sup> [776 mi<sup>2</sup>]), and **Figure 6** illustrates the topography of the area (i.e., extensive flat areas). The source of water in the area is from precipitation and groundwater.

Restoration of the natural, pre-bedding grade is expected to reduce spiking of the stream flow rates by reducing the drainage efficiency of the parcel toward the receiving streams. This is expected to reduce incising of the channels, moderate peak flows within the



stream channels, and restore the hardwood stream corridors to a more historical, less extreme flow regime, and thus enhance the function of the riparian wetlands flanking the channels.

### **3.1 Land Use**

#### **Historic Land Use**

Historically, this parcel and the surrounding area is dominated by timber production and other rural agricultural uses, such as livestock farming and equipment repair. Timber production is the largest land use in Tangipahoa Parish as it has been for much of its post-Civil War past.

#### **Existing Land Use**

Typical land uses in the proposed PBMB area are recreational uses such as hunting, and fishing and the main commercial uses are silviculture and agriculture. Currently, the majority of the proposed PBMB is utilized for silviculture (i.e., pine plantations). Pine plantations alter the surface flow of water by adding small ridges and valleys in long rows (bedding) to promote seedling growth in wet environments. The microtopography provided by the bedding activity, though it allows seedlings to grow and timber stands to develop at an improved rate for commercial return, changes the natural grade of the land surface and alters drainage patterns on plantation lands. Low density rural development exists near the north and west of the site boundary, but to the south and east of the site, extensive commercial timber plantations operated by the Sponsor predominate the region.

### **3.2 Soils**

Soils in this habitat are hydric, very strongly acidic, nutrient-poor fine sandy loams and silt loams, low in organic matter; some common soils are Myatt fine sandy loam, Guyton silt loam, and Stough fine sandy loam (Lester et al. 2005). Relief on the subject parcel is predominantly flat, with higher expansive flats drained by shallow, linear, typical hardwood flat habitats. Isolated areas of uplands occupy the higher elevations, but the overwhelming predominance of the parcel is poorly drained wet flat with hydric soils conducive to savanna hydrology. Predominant soil types on the subject parcel consist mainly of Guyton silt loams in the wet flats, Ouachita/Guyton soils in the wet hardwood flat areas, and isolated pockets of Abita and Toula silt loams forming non-hydric inclusions. **Figure 2** depicts the current overall habitat conditions on the site.

### **3.3 Hydrology**

#### **Contributing Watershed**

The proposed PBMB lies within the Tangipahoa River watershed. The Tangipahoa River watershed is 2,010 km<sup>2</sup> (776 mi<sup>2</sup>), the proposed PBMB is in the southern portion of this watershed. The proposed PBMB is located within United States Geological Survey (USGS) Cataloging Unit 08070205 which includes

portions of Amite, St. Tammany, Tangipahoa, Pike, Lincoln, and St. Helena parishes/counties. USGS Cataloging Unit 08070205 is nested within the larger Lake Pontchartrain Basin Primary Service Area.

Monthly mean discharge for the Tangipahoa River is approximately 1.2 km<sup>3</sup> (0.3 mi<sup>3</sup>). Discharge from the river is highest from January through April, which corresponds to the wet season. The lowest discharge from the river occurs from August through October (Ruth 2012). The Tangipahoa River watershed is an area that is primarily comprised of low-lying coastal forests that are hydrologically coupled with deltaic estuaries associated with the Mississippi River and the Gulf of Mexico (Lopez 2009).

European settlement occurred in the Lake Pontchartrain Basin in 1718, and from that time forward impacts to the low-lying coastal forests have included: land clearing and settlement on natural levees, construction of levees along the Mississippi River, deforestation of virgin forests from commercial logging, dredging and armoring of estuaries, and increases in water pollution (Lopez 2009).

### **Historical Hydrology**

Historically, this property appears to have been flat, with very little relief. Two main streams flowed through the area and accepted runoff from the flat portions of the site through small localized flow pathways and sheet flow. Water from this site eventually drains through the streams and their associated hardwood riparian corridors to the Tangipahoa River.

### **Existing Hydrology**

Two main streams intersect the proposed PBMB: Pollard Branch and Washley Creek. Pollard Branch drains into Washley Creek and Washley Creek then drains into the Tangipahoa River. Hardwood flats flank the natural stream corridors, which traverse and converge on the subject parcel. Indications are that at one time, these streams existed as typical upland braided streams with wet riparian bottoms and loosely meandering channels, but the increased flow from intense pine management has incised the main channels somewhat and concentrated the hydrology peaks around distinct precipitation events. The majority of the site is high intensity pine plantation, on which the ground surface has been worked into raised beds in order to improve the growth rate of the timber stock. This significantly alters surface hydrology by preventing sheet flow, eliminating areas of extended inundation, and directing water against the natural slope of the land through furrows.

### **Jurisdictional Wetlands**

A wetland delineation was submitted to the USACE on April 17, 2017. Subsequently, the USACE issued Jurisdictional Determination MVN-2017-00506-SY (**Appendix B**) on August 4, 2017 that verifies wetland soils are present throughout the majority of the proposed PBMB area, except for a few upland

inclusions. The Louisiana Wetland Rapid Assessment Method (LRAM) spreadsheet has been included as **Appendix C**. This is used to calculate compensatory mitigation credits.

### **3.4 Vegetation**

#### **Historical Plant Community**

The proposed PBMB occupies an area that was a historically functioning pine flatwood/savanna habitat; in the past, this habitat covered more than 92 million acres in the southeastern portion of the United States (TNC 2016). Pine flatwood/savanna habitat is comprised of poorly drained and seasonally saturated/flooded depressional areas and low flats with a highly fluctuating water table, from surface saturation and shallow flooding in late fall/winter/early spring to growing-season in drought (Lester et al. 2005).

#### **Existing Plant Community**

Currently, the parcel is dominated by pine plantation using raised beds and furrows to provide modified hydrology to support commercial timber operations. This bedding has a dramatic effect on the historical drainage patterns and hydroperiod of the area, effectively altering the drainage efficiency of the land surface. Species diversity is extremely limited in the dense pine stands due to timber management activity and the complete canopy which effectively shades out desirable forbs and woody species development. Plant species found on the parcel include loblolly pine (*Pinus taeda*), yaupon (*Ilex vomitoria*), privet (*Ligustrum sinense*), laurel leaf greenbrier (*Smilax laurifolia*), club moss (*Lycopodium sp.*), spike grass (*Chasmanthium laxum*), water oak (*Quercus nigra*), and broomsedge (*Andropogon sp.*). Small areas of thin timber on the parcel, exhibiting the vegetative characteristics of pine savanna, suggest that it is feasible to establish healthy pine savanna in the area.

Portions of the property are hardwood dominant in association with the concentrated hydrology of the natural stream corridors that traverse and join on the project parcel. These hardwoods are impacted by the surface alteration which is graded to facilitate drainage of the parcel for silviculture activity.

### **3.5 General Need for the Project in this Area**

Two centuries ago longleaf pine forests covered 92 million acres in the southeastern portion of the United States; today, less than 4.4 million acres (i.e., less than 5%) remain (TNC 2016). The Nature Conservancy has been actively restoring significant acreages of longleaf pine savanna at Abita Creek Flatwoods Preserve, Lake Ramsey Preserve, and the Talisheek Pines Wetlands Preserve, which are all near the proposed PBMB (TNC 2016). Currently, there are two private pine habitat mitigation banks with available credits operating in the Lake Pontchartrain Basin Primary Service Area – Mossy Hill Mitigation Bank and Bayou Lacombe Mitigation Bank. The proposed PBMB, along with the five areas described above, will continue the preservation of

the pine flatwood/savanna habitat – a habitat that once dominated the southeast portion of the United States and the Florida Parishes.

Pine wetland restoration in this location has the potential to provide a wide range of ecological benefits. Ecological services potentially provided by this project are wildlife habitat (including potential Endangered Species habitat), flood attenuation, nutrient fixation, and water quality improvement within the watershed. Additionally, this would encourage the continued restoration and preservation of large, contiguous blocks of protected, restored, wetland habitat.

Establishing the proposed PBMB will provide the following benefits:

- An effective, long-term, readily available means of offering mitigation credits that will serve to compensate for unavoidable wetland impacts within the Lake Pontchartrain Basin Primary Service Area and thereby help achieve the “no-net-loss” policy;
- An effective, long-term means for preserving fish and wildlife resources (e.g., Threatened and Endangered species) within the proposed PBMB footprint and adjacent areas by providing habitat that is functionally equivalent to the habitat that has been unavoidably impacted by the permittee;
- An effective means of improving water quality in the Tangipahoa watershed by reducing sediment and nutrient loading (via the processes of sedimentation and nutrient assimilation); and
- A high-quality means of market driven habitat preservation and pollution abatement that will provide permittees a stable, convenient way to reduce the financial risk and ecological uncertainty associated with Permittee Responsible Mitigation Projects. Additionally, the permittee can reduce temporal loss of resource functions and services given mitigation banks typically require larger, more ecologically valuable parcels, more rigorous scientific and technical analysis, planning, implementation, and milestone achievement than Permittee Responsible Mitigation Projects.

## **4.0 ESTABLISHMENT OF THE MITIGATION BANK**

### **4.1 Site Restoration Plan**

Site restoration is proposed to take place in two phases. Phase I encompasses a total of approximately 650.02 acres, with 512.35 acres intended for Pine Flatwood/Savanna rehabilitation, 95.45 acres intended for Hardwood Flat enhancement, and 16.43 acres of upland inclusion.

Phase II contains a total of approximately 765.31 acres, with 419.98 acres proposed for Pine Flatwood/Savanna rehabilitation, 214.43 acres of Harwood Flat enhancement, and 105.27 acres of upland inclusion. Phase II will begin construction upon the receipt of clearance from the USACE with respect to the status of much of Phase II as a Formerly Used Defense Site (FUDS).

Bank establishment and operation will be effectively identical for each phase, as the physical and biological conditions on each phase parcel are virtually identical. The proposed rehabilitation activities include the removal of pine plantation areas on the property and subsequently converting these areas to pine flatwood/savanna habitat. In short, this process would include the elimination of existing timber through burning, herbicide application, or mechanical means to suppress invasive exotics and undesirable vegetation; possible hydrologic alteration of the land surface to create and maintain the appropriate hydrology conditions; vegetative plantings; invasive species control; and implementation of a long-term management plan.

### **Soils/Hydrology Work**

When initially planted in commercial pine many years ago, the ground surface was plowed to create furrows and raised beds on which to grow pine timber in a predominantly wet environment. The natural grade was altered by the plowing of these rows, which also alters the natural hydrology of the parcel. Ground surface contour will be restored to achieve historic, naturally consistent grade, which would support hydrophytic vegetation and hydric soil characteristics. To achieve this end, any alterations to the historic, natural grade (e.g., ditching, spoil banks, land leveling, bedding, fire breaks, drainage control structures, etc.) will be modified or removed to return the ground surface contour to a condition supportive of a pine flatwood/savanna habitat. Hydrologic restoration of the land surface through plowing (e.g., contour plowing) and modifying the existing timber bedding to a near-zero grade will occur in many areas after unwanted timber removal to re-create and maintain wetland hydrology consistent with the Corps 1987 Wetlands Delineation Manual and Regional Supplement. If cross plowing is needed, the rows will be cross-cut with a bulldozer, perpendicular to the direction of the rows, to create a flatter surface that maintains wetland hydrology. Additionally, contour plowing can be used in areas where there are gentle, uniform slopes; contour plowing can reduce runoff and thus soil erosion and increase vegetative productivity by reducing the loss of seeds and nutrient inputs.

### **Vegetative Work**

Removal of existing, undesirable timber (primarily loblolly pine plantation) and brush in Year 1 would be carried out by logging contractors. This will be dictated by the availability of logging contractors, and suitable weather conditions. Furthermore, operations will be restricted to times of high soil moisture conditions, to avoid rutting during timber removal. Burning will occur in the proposed PBMB after the removal of undesirable timber to begin control of unwanted brush cover and suppress exotics. The need for herbicide and/or mechanical control of unwanted brush cover and exotics will be determined after 1 or 2 burns (problem areas will be evident after burns).

Longleaf plantings will be initiated following the removal of undesirable timber and after hydrologic restoration. Areas within the proposed PBMB that can support longleaf pine flatwoods and savannas will be planted with longleaf pine

seedlings/saplings from appropriate genetic stock. A random cohort (25-50 trees per cohort) based pattern will be used in areas where a well-developed grassy ground cover is in place. Planting rates will be approximately 300 seedlings/saplings per acre. A minimum of 150 seedlings/saplings per acre must survive through the end of the spring following planting (i.e., Year 1). Furthermore, interim success will be measured by the presence of a minimum of 60 longleaf pine seedlings/saplings per acre after three growing seasons, with many of the trees developing from grass-stage to bottlebrush stage. By year 10, a canopy of longleaf pine with a 10-50% cover value should be establishing and evident.

Excessive mid-story growth will be primarily controlled by prescribed burn to ensure that an open herbaceous habitat dominates the understory.

In hardwood areas, supplemental plantings will be considered in areas where robust hardwood growth is lacking.

The invasive species that are the greatest concern in similar habitats are cogon grass (*Imperata brasiliensis/cylindrical*), Chinese tallow tree (*Triadica sebifera*), privet hedge (*Ligustrum sinense*), bull thistle (*Cirsium vulgare*), vasey grass (*Andropogon urvellei*), yankee weed (*Eupatorium capillifolium*), Japanese climbing fern (*Lygodium japonicum*), and golden rod (*Solidago canadensis*).

Cogon grass control normally requires application of herbicides during the correct season; repeated applications might be required to completely kill patches. If Cogon is observed on the property, patches will be treated in Year 1, and prior to any mechanical restoration activities. Subsequent treatment will occur as needed. No cogon has been observed on the site. The Chinese tallow tree, privet hedge, bull thistle, vasey grass, yankee weed, Japanese climbing fern, and golden rod will mainly be controlled by frequent fire. After the proposed PBMB has been burned twice, the bank will be surveyed for the Chinese tallow tree, privet hedge, bull thistle, vasey grass, yankee weed, Japanese climbing fern, and golden rod; any of these invasive species that survive after 2 burns will be treated with a herbicide.

## **4.2 Technical Feasibility**

The existing conditions in the proposed PBMB footprint (i.e., geology, soils, plants, topography, hydrology, and zoning) are all conducive to developing and maintaining a wetland mitigation bank. Reimers (as the bank sponsor) has extensive experience in the practice of silviculture and managing its lands. ELOS, the agent, has extensive background in wetland ecology, forestry, and regulatory affairs such as securing environmental clearances, permits, and authorizations as required by the National Environmental Policy Act, Sections 404 and 401 of the Clean Water Act, Section 10 of the Rivers and Harbor Act, and other regulatory requirements. For 10 years, ELOS has helped private mitigation banks, federal agencies and parish governments (e.g., U.S. Fish and Wildlife Service, St. Tammany Parish Government, and Plaquemines Parish Government) achieve expansion, ecological monitoring, work plan

development, and compliance management of wetland mitigation banks. ELOS has assisted in some way with the following bank efforts, providing some of the wetland mitigation bank tasks:

Bayou Lacombe Mitigation Bank  
Muddy Bayou PRMP  
Ollie Mitigation Bank  
Entergy Umbrella Mitigation Bank  
Plaquemines Parish East Bank Levee Improvement PRMP

ELOS works closely with the mitigation bank owner to manage the necessary clearing, remedial burning and herbicide application, supplemental planting, sample plot maintenance, and all reporting required by the bank instrument.

Small pockets of thin canopy on the parcel show evidence of savanna habitat formation and the gradual slope, soil types, and surrounding areas suggest that pine savanna and pine flatwood are achievable habitat goals for the site. Controlled burns for commercial timber management have historically been used on the site and suggest that there are no significant impediments to fire management. Additionally, other than commercially developed timber species, non-native invasive encroachment does not currently appear to be significant and exotic control appears to be manageable.

### **4.3 Current Site Risks**

During the operational life of the proposed PBMB, it is possible that force majeure could play a role in rendering some or all of the PBMB ecologically unfit to serve its stated habitat goals. In this event, it is incumbent upon the sponsor to restore the functionality of the proposed PBMB to support at least the credits that have been issued, and any released credits not yet sold or transferred. If the balance of credits not yet released are to remain part of the plan, then correcting the deficiencies resulting from the force majeure event will be required before those potential credits are included in the ledger balance of the proposed PBMB. The mitigation bank review team takes an adaptive management approach to these types of problems, and a conceptual contingency for unavoidable loss from acts of God will be included in the MBI.

No significant known conditions exist off-site that would impinge upon the Reimers' ability to sustain the use of this parcel as a commercial mitigation bank. The Reimers own the property in fee, as a family trust with established management procedures governing trust related decision-making.

The sponsor does not foresee any negative impacts resulting from the continued existence and operation of the lands adjacent to the proposed PBMB. The majority of the land surrounding the proposed PBMB is controlled by Reimers and consists of undeveloped land or land historically utilized for silviculture.

A portion of what is proposed as Phase II of the Pollard Branch Mitigation Bank was used as a military training facility during World War II and has a Formerly Used Defense Site (FUDS) designation. Officials from the USACE have conducted inspections on the site. The landowner is currently awaiting the clearance from the Corps on the FUDS portion of the site. Phase II is not proposed to begin implementation until clearance is received relative to the FUDS designation.

#### **4.4 Long-Term Sustainability of the Site**

The Sponsor will perform all work necessary to monitor the PBMB to demonstrate compliance with the success criteria established in the Mitigation Work Plan, which is to be an appendix in the Mitigation Banking Instrument (MBI). Long-term monitoring will be established within one year of the official enrollment of the bank, but prior to any management activities. Initial monitoring will establish baseline data, which will be captured in a Base Line Data Report. An “As-Built Report” will be submitted to USACE 60 days following the completion of work performed to enhance the site (e.g., vegetative plantings, grading). After the passing of one year (growing season) from the initial plantings, an Initial Success Criteria Report will be provided to the USACE that documents the success of the hydrology and vegetation relative to the criteria established in the Mitigation Work Plan; also included in this report will be a description of any maintenance or management work conducted on the PBMB after submission of the As-Built Report, and any anticipated maintenance or management work to be conducted prior to attainment of interim success criteria. The Sponsor will provide an Interim Success Criteria Report that documents the success of the hydrology and vegetative plantings three to four years after successfully meeting the initial success criteria. The Sponsor will monitor the PBMB five years after meeting the interim success criteria, and every five years thereafter to assure attainment of the criteria established in the Mitigation Work Plan.

Adaptive management will be utilized in conjunction with long-term monitoring to address problems that are keeping the project from meeting its performance standards. Furthermore, Reimers will establish an escrow account (that will be funded in part by credit sales) to fund the long-term maintenance plan, which will prevent the establishment of invasive species, and provide long-term protection of structural features (such as levees, weirs, culverts, etc.,) if they are needed to ensure hydrologic and vegetative success.

The existing conditions in the proposed PBMB footprint (i.e., geology, soils, plants, topography, hydrology, and zoning) are all conducive to developing and sustaining a wetland mitigation bank. Even considering the cross-plowing of timber beds, minimal earth work should be required to establish hydrologic conditions conducive to supporting a pine flatwood/savanna habitat given the current flat topography of the area. Long-term viability and sustainability of the proposed PBMB will be ensured through long-term monitoring, adaptive management, and long-term maintenance. No long-term structural management should be required because there are currently no active or proposed structures in the footprint of the proposed PBMB. A long-term management plan will be included within the MBI, which will be prepared after



submission and approval of this prospectus. The MBI will contain costs associated with the proposed PBMB and it will identify a funding mechanism in accordance with 33 CFR 332.7(d).

## **5.0 PROPOSED SERVICE AREA**

The proposed PBMB is located within USGS Cataloging Unit 08070205, which includes portions of Amite, St. Tammany, Tangipahoa, Pike, Lincoln, and St. Helena counties/parishes. The Lake Pontchartrain Basin is the Primary Service Area for this proposed PBMB, and it includes the following USGS Cataloging Units: 08090201, 08090202, 08090203, 08070202, 08070203, 08070204, and 08070205. Currently there are two active banks with pine flatwood/savanna habitats located in the Lake Pontchartrain Basin Primary Service Area – Mossy Hill Mitigation Bank and Bayou Lacombe Mitigation Bank. However, the amount of credits currently available in these banks is not sufficient to meet expected demand in the coming years. State projects, Federal projects, commercial development, and residential development impacting pine flatwood/savanna habitats within the Lake Pontchartrain Basin Primary Service Area could use the proposed PBMB to compensate for wetland impacts associated with Department of the Army permits. The Lake Pontchartrain Basin Primary Service Area is selected based upon its ecological homogeneity and it is consistent with USACE's regulations (33 CFR 332). The use of the proposed PBMB beyond the Lake Pontchartrain Basin Primary Service Area will be determined by the USACE on a case-by-case basis.

## **6.0 OPERATION OF THE MITIGATION BANK**

The proposed PBMB will be operated, maintained and managed by Reimers and its agent ELOS, as follows:

### **6.1 Project Representatives**

Sponsor:	<i>Reimers Company, LLC 23107 Zemurray Gardens Drive Loranger LA 70446 Ms. Jeanine Connelley jeanineconnelley@charter.net (985) 878-8022</i>
Agent:	<i>ELOS Environmental, LLC 43177 East Pleasant Ridge Road Hammond, LA 70403 lwatkins@elosenv.com 985-662-5501</i>
Landowner:	<i>Marietta Trust and Warren Trust Managed by: Reimers Company, LLC 23107 Zemurray Gardens Drive Loranger LA 70446 Ms. Jeanine Connelley</i>

*jeanineconnelley@charter.net*  
(985) 878-8022

## **6.2 Qualifications of the Sponsor**

Reimers has extensive experience in the practice of silviculture and timber land management. Reimers has owned and managed tens of thousands of acres of timberland for generations. Their staff include forestry professionals and land managers familiar with the parcel and its history. ELOS, as an experienced environmental consulting firm, possesses the technical skills to design, monitor, and manage the construction and ecological success of the project. ELOS has designed, constructed, managed and monitored mitigation projects and commercial mitigation banks, and implemented successful brackish marsh Permittee Responsible Mitigation Projects.

## **6.3 Proposed Long-Term Ownership and Management Representatives**

The long-term ownership of the proposed PBMB will reside with the Marietta Trust and Warren Trust, which is managed by Reimers. The long-term management of the proposed PBMB will be the ultimate responsibility of Reimers. However, the family has contracted ELOS to provide guidance and oversight as its agent. Specifically, Lucas Watkins with ELOS is a wetland biologist/forester specializing in wetlands and other natural resource analysis and regulatory compliance. In addition to being trained in National Environmental Policy Act and wetlands, Mr. Watkins is also a licensed Louisiana Department of Agriculture and Forestry Arborist, a certified National Pollutant Discharge Elimination System Erosion Inspector, a Nuisance Wildlife Control Operator, and a Certified Prescribed Burn Manager. Other training includes ASTM Phase I and Phase II Environmental Site Assessments, LRAM, Stormwater Management, and Federal Energy Regulatory Commission Regulatory Overview and Guidance. Brian Fortson with ELOS is a wetland ecologist specializing in ecological assessments for wetlands mitigation and natural resource evaluation and restoration. Mr. Fortson is familiar with various ecological assessment models, such as Wetlands Value Assessments, Modified Charleston Method, and LRAM models used to quantify impacts to wetlands and restoration values. Mr. Fortson's assessments have been used to determine the relative value of mitigation bank credits and for Permittee Responsible Mitigation Projects.

## **6.4 Site Protection**

The sponsor/landowner will be responsible for protecting all lands within the proposed PBMB footprint. To ensure protection of the proposed PBMB, the owners will execute a perpetual Louisiana Conservation Servitude in favor of a neutral third party with executory capacity in accordance with the Louisiana Conservation Servitude Act (La. R.S. 9:1271, et seq.) for the entire proposed PBMB footprint. The Conservation Servitude shall be recorded in the Tangipahoa Parish Clerk of Court Conveyance Department.

## **6.5 Long-Term Strategy**

The sponsor will ensure the long-term success and sustainability of the proposed PBMB through practices such as vegetative plantings, hydrologic restoration and maintenance, invasive species control through burning and herbicide application, site monitoring, long-term management, establishment of financial assurances, and perpetual protection through the filing of a Louisiana Conservation Servitude. In accordance with 33 CFR 332.7(d), a long-term management plan will be included in the MBI that will address long-term management needs, annual cost estimates for these needs, and identify the funding mechanism that will be used to meet those needs.

Additionally, the Reimers own several thousand acres in southeast Tangipahoa Parish that are currently under intensive commercial pine management. Other parcels are currently being considered for later inclusion in this overall mitigation bank effort, and it is anticipated that similar goals, objectives, and work plans will result in similar ecological benefits on these additional parcels.

## **7.0 REFERENCES**

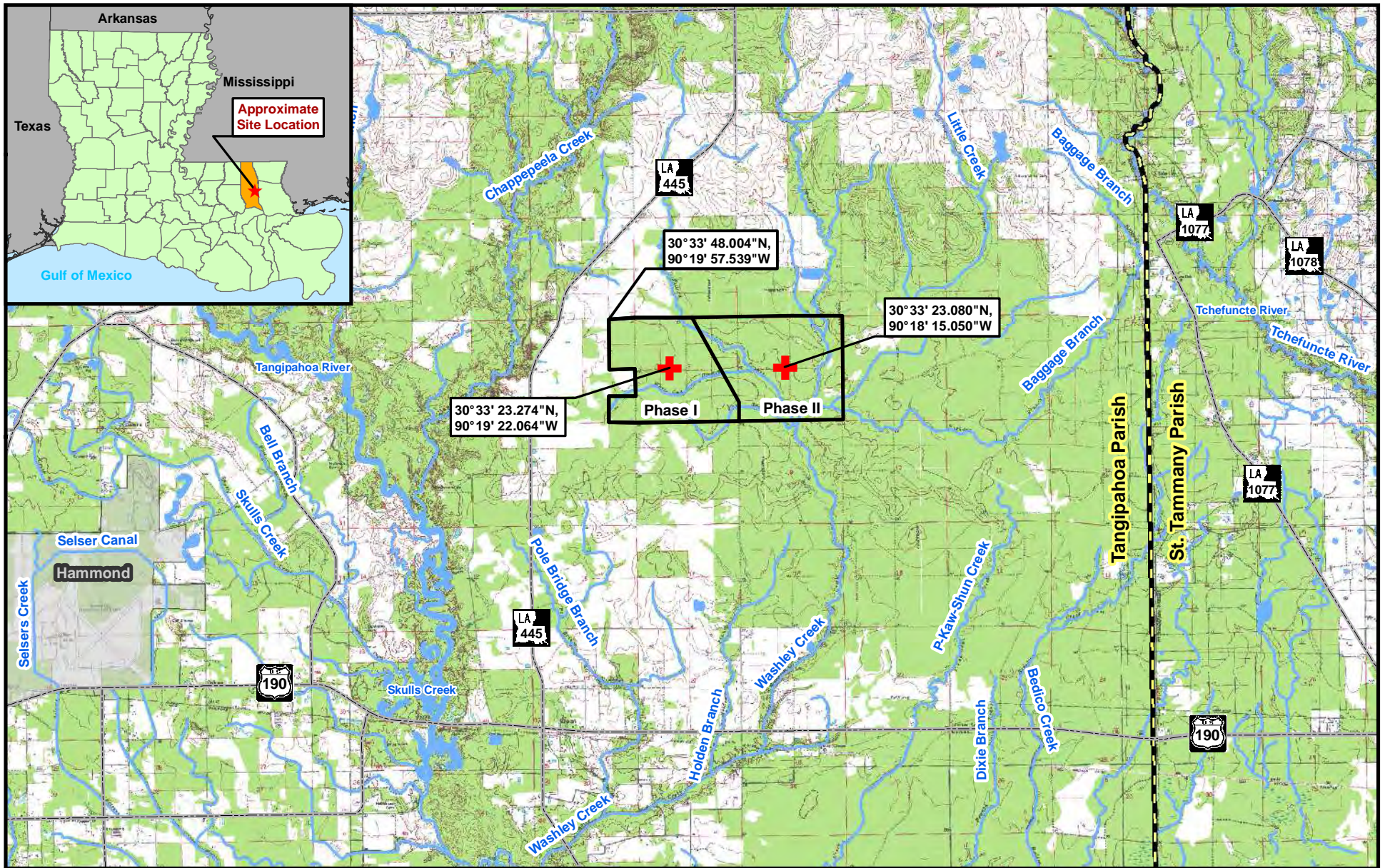
Lester, G.D., S.G. Sorensen, P.L. Faulkner, C.S. Reid, and I.E. Maxit. 2005. Louisiana Comprehensive Wildlife Conservation Strategy. Louisiana Department of Wildlife and Fisheries. Baton Rouge. 455 pp.

Lopez, J.A., 2009. The environmental history of human-induced impacts to the Lake Pontchartrain Basin in Southeastern Louisiana since European settlement – 1718 to 2002. Journal of Coastal Research, SI (54), 1-11. West Palm Beach (Florida), ISSN 0749-0208.

Ruth, T., 2012. Waterbody Management Plan Series Tangipahoa River. Louisiana Department of Wildlife and Fisheries. Louisiana Department of Wildlife and Fisheries. Baton Rouge. 455 pp.

The Nature Conservancy (TNC). 2016. Longleaf Pine Restoring a National Treasure. Accessed online on 2016-12-20: <http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/longleaf-pine-forests-landing-page.xml>

## FIGURES



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 environmental  
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**Figure 1: TopoVicinity Map**

**Proposed Pollard Branch Mitigation Bank**

Map prepared from public and proprietary spatial data. Elos Environmental, LLC does not warrant its accuracy or completeness. This map should not be used to establish legal boundaries or specific locations.

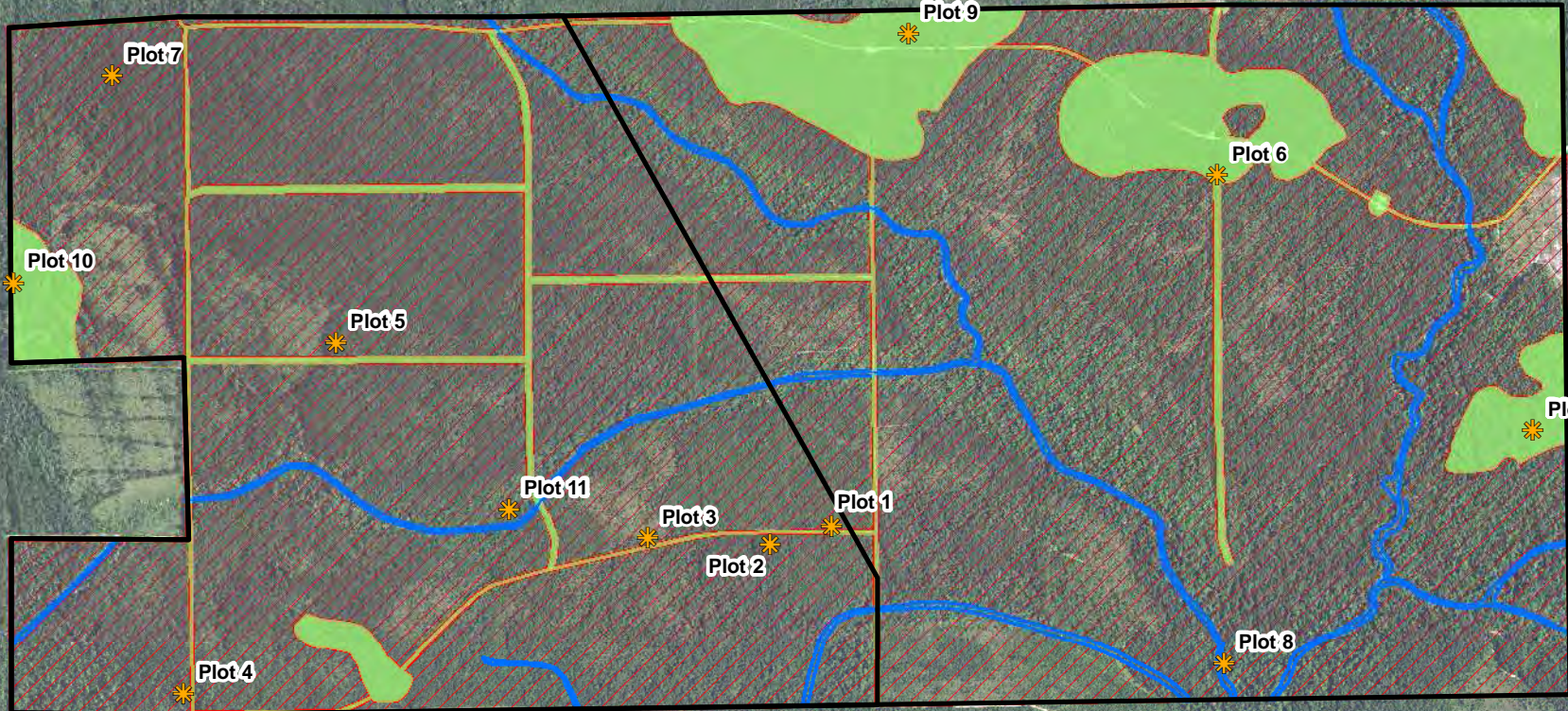
**Legend:**

Potential Mitigation Bank Area	Highway
Project Centerpoint	Roadway
Parish Boundary	Stream/River
City/Town	Waterbody

0 2,500 5,000 Feet

**Phase I**  
**Total ~650.02 Acres ~48.91%**  
 Wetlands ~607.80 Acres ~48.92%  
 Other Waters ~5.64 Acres ~25.52%  
 Non-Wetlands ~36.58 Acres ~24.22%

**Phase II**  
**Total ~765.31 Acres ~51.09%**  
 Wetlands ~634.41 Acres ~51.08%  
 Other Waters ~16.46 Acres ~74.48%  
 Non-Wetlands ~114.44 Acres ~75.78%



Phase I

Phase II



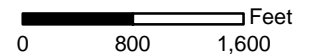
Figure 2: Wetland Delineation

**Proposed Pollard Branch Mitigation Bank**

Map prepared from public and proprietary spatial data. Elos Environmental, LLC does not warrant its accuracy or completeness. This map should not be used to establish legal boundaries or specific locations.

**Legend:**

- Potential Mitigation Bank Area ~1,415.33 Acres
- Wetlands ~1,242.21 Acres ~87.77%
- Other Waters ~22.10 Acres ~1.56%
- Non-Wetlands ~151.02 Acres ~10.67%
- Sample Plot



Refer to MVN-2017-00506-SY



Hardwood Phase I	Hardwood Phase II	Pine Phase I	Pine Phase II	Upland Phase I	Upland Phase II
<b>Total ~101.05 Acres</b>	<b>Total ~230.74 Acres</b>	<b>Total ~512.36 Acres</b>	<b>Total ~420.13 Acres</b>	<b>Total ~16.43 Acres</b>	<b>Total ~105.27 Acres</b>
Wetlands ~95.45 Acres	Wetlands ~214.43 Acres	Wetlands ~512.35 Acres	Wetlands ~419.98 Acres	Wetlands ~0.00 Acres	Wetlands ~0.00 Acres
Other Waters ~5.60 Acres	Other Waters ~16.31 Acres	Other Waters ~0.01 Acres	Other Waters ~0.15 Acres	Other Waters ~0.00 Acres	Other Waters ~0.00 Acres
Non-Wetlands ~0.00 Acres	Non-Wetlands ~0.00 Acres	Non-Wetlands ~0.00 Acres	Non-Wetlands ~0.00 Acres	Non-Wetlands ~16.43 Acres	Non-Wetlands ~105.27 Acres



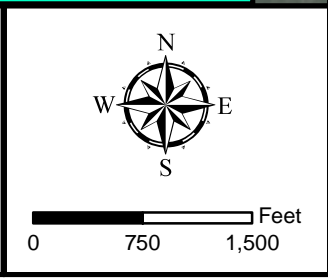
**Figure 3: Restoration Plan**

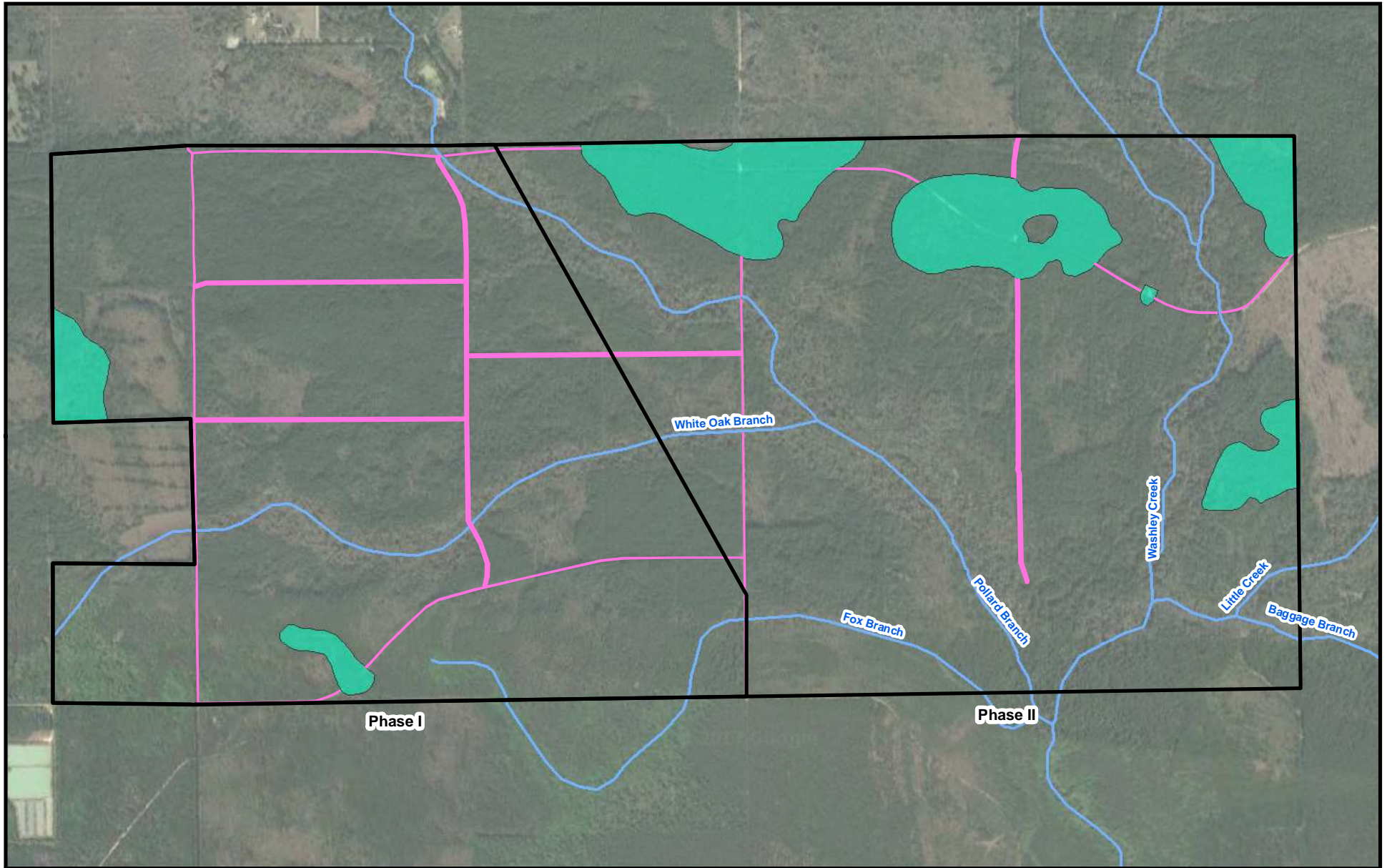
**Proposed Pollard Branch Mitigation Bank**

Map prepared from public and proprietary spatial data. Elos Environmental, LLC does not warrant its accuracy or completeness. This map should not be used to establish legal boundaries or specific locations.

**Legend:**

Potential Mitigation Bank Area	Hardwood Areas ~331.79 Acres
Wetlands ~1,242.21 Acres	Pine Areas ~932.49 Acres
Other Waters ~22.10 Acres	Upland Areas ~121.70 Acres
Non-Wetlands ~151.02 Acres	Other ~29.32 Acres





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Figure 3a: Plan View Identification

**Proposed Pollard Branch Mitigation Bank**

Map prepared from public and proprietary spatial data. Elos Environmental, LLC does not warrant its accuracy or completeness. This map should not be used to establish legal boundaries or specific locations.

**Legend:**

- Potential Mitigation Bank Area
- Roadway
- Upland Areas
- Stream/River

0 750 1,500 Feet



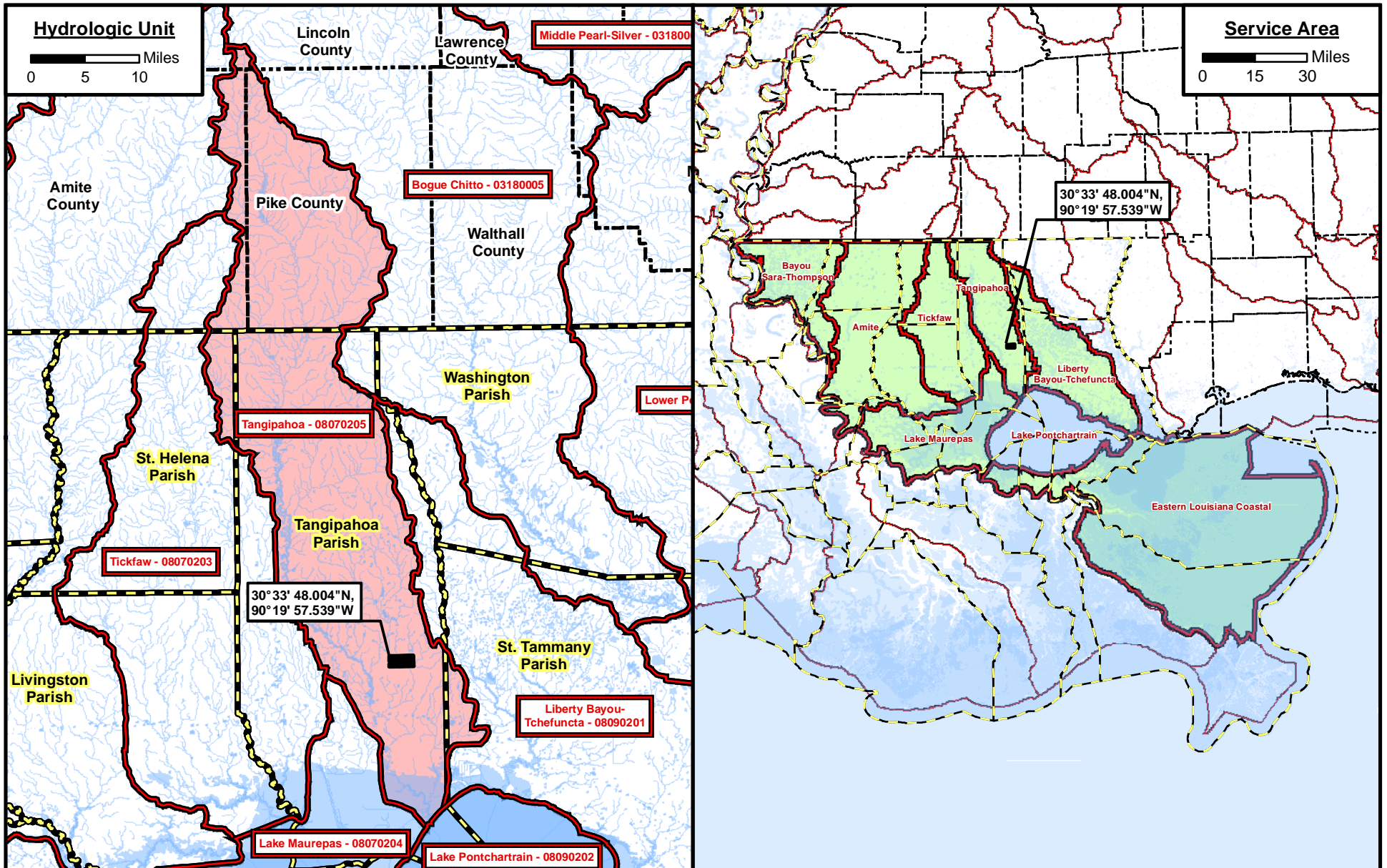


Figure 4: Hydrologic Cataloging Unit Map

**Proposed Pollard Branch Mitigation Bank**

Map prepared from public and proprietary spatial data. Elos Environmental, LLC does not warrant its accuracy or completeness. This map should not be used to establish legal boundaries or specific locations.

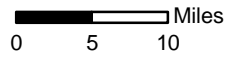
**Legend:**

- Potential Mitigation Bank Area
- Hydrologic Unit
- Tangipahoa
- Hydrologic Unit
- Service Area
- Parish Boundary
- County Boundary

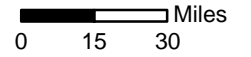


*Tangipahoa - 08070205 ~775.57 Square Miles*

**Hydrologic Unit**



**Service Area**



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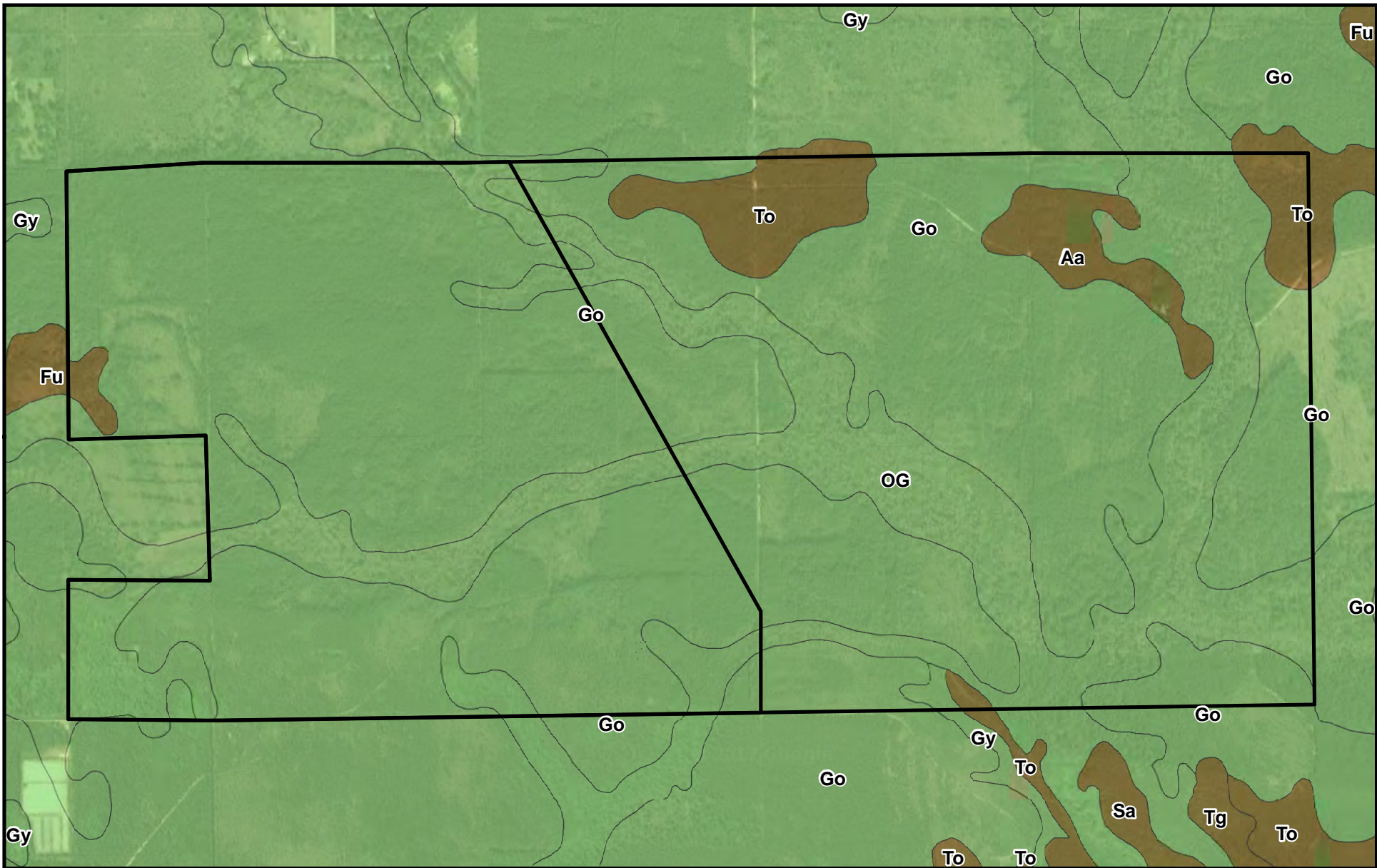







Figure 5: Soil Survey Map

**Proposed Pollard Branch Mitigation Bank**

Map prepared from public and proprietary spatial data. Elos Environmental, LLC does not warrant its accuracy or completeness. This map should not be used to establish legal boundaries or specific locations.

**Legend:**

-  Potential Mitigation Bank Area
-  Hydric Soils
-  Non-Hydric Soils
-  Water



0 750 1,500 Feet

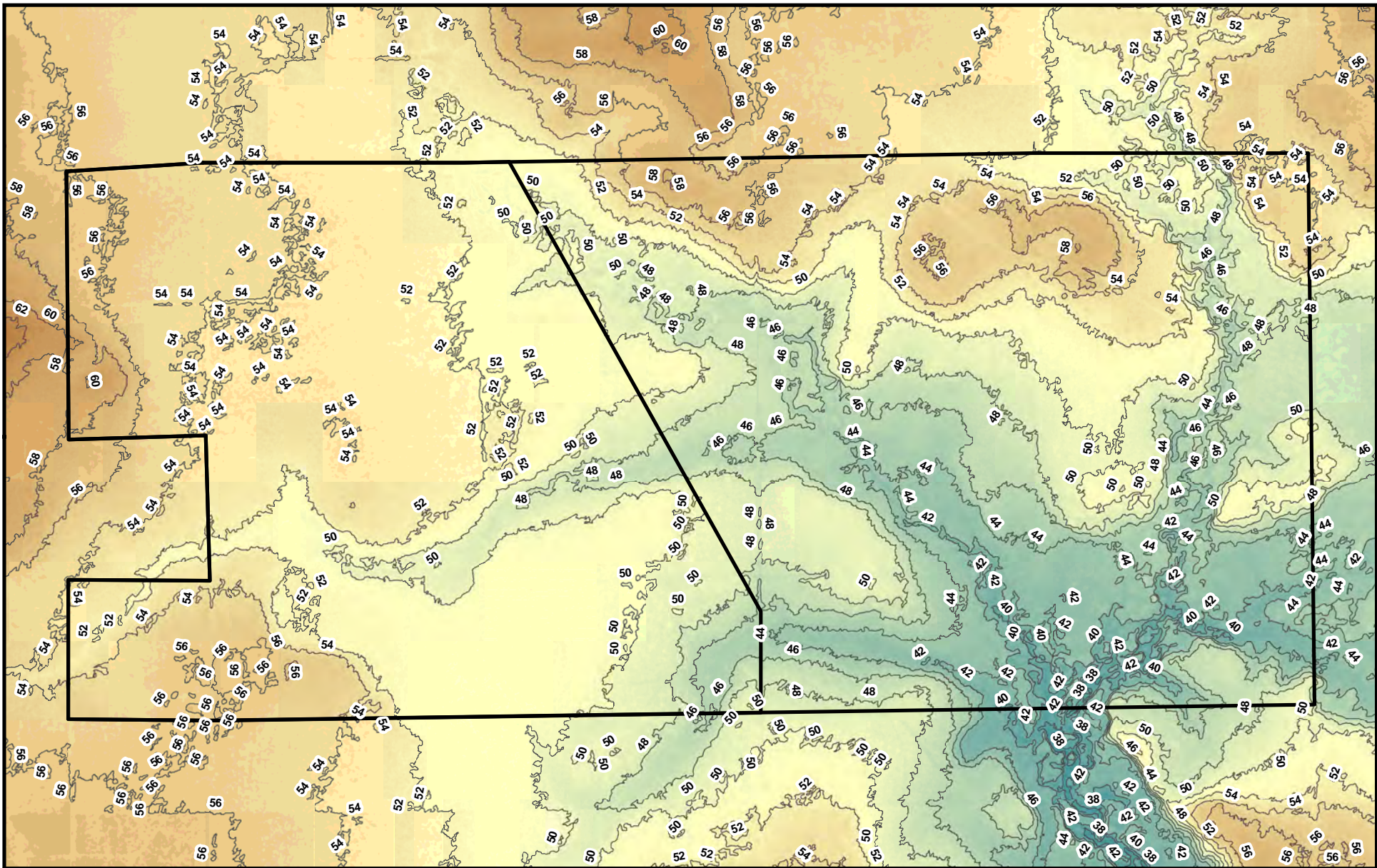


Figure 6: Elevations Map

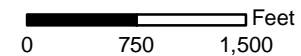
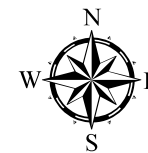
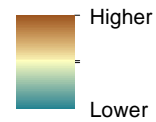
### Proposed Pollard Branch Mitigation Bank

Map prepared from public and proprietary spatial data. Elos Environmental, LLC does not warrant its accuracy or completeness. This map should not be used to establish legal boundaries or specific locations.

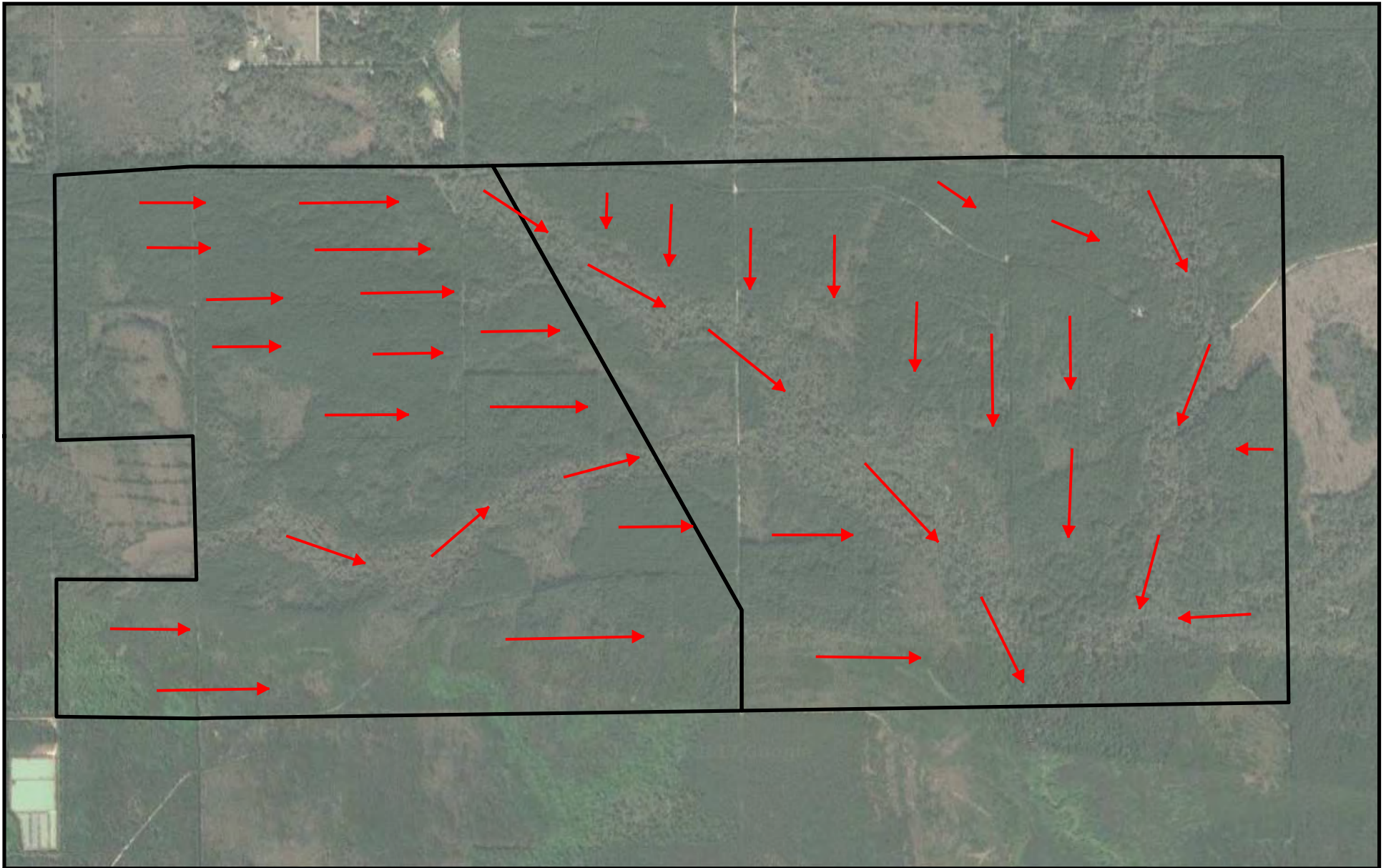
**Legend:**

▭ Potential Mitigation Bank Area

— Contour



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**Figure 7: Pre-Drainage Flow**

**Proposed Pollard Branch Mitigation Bank**

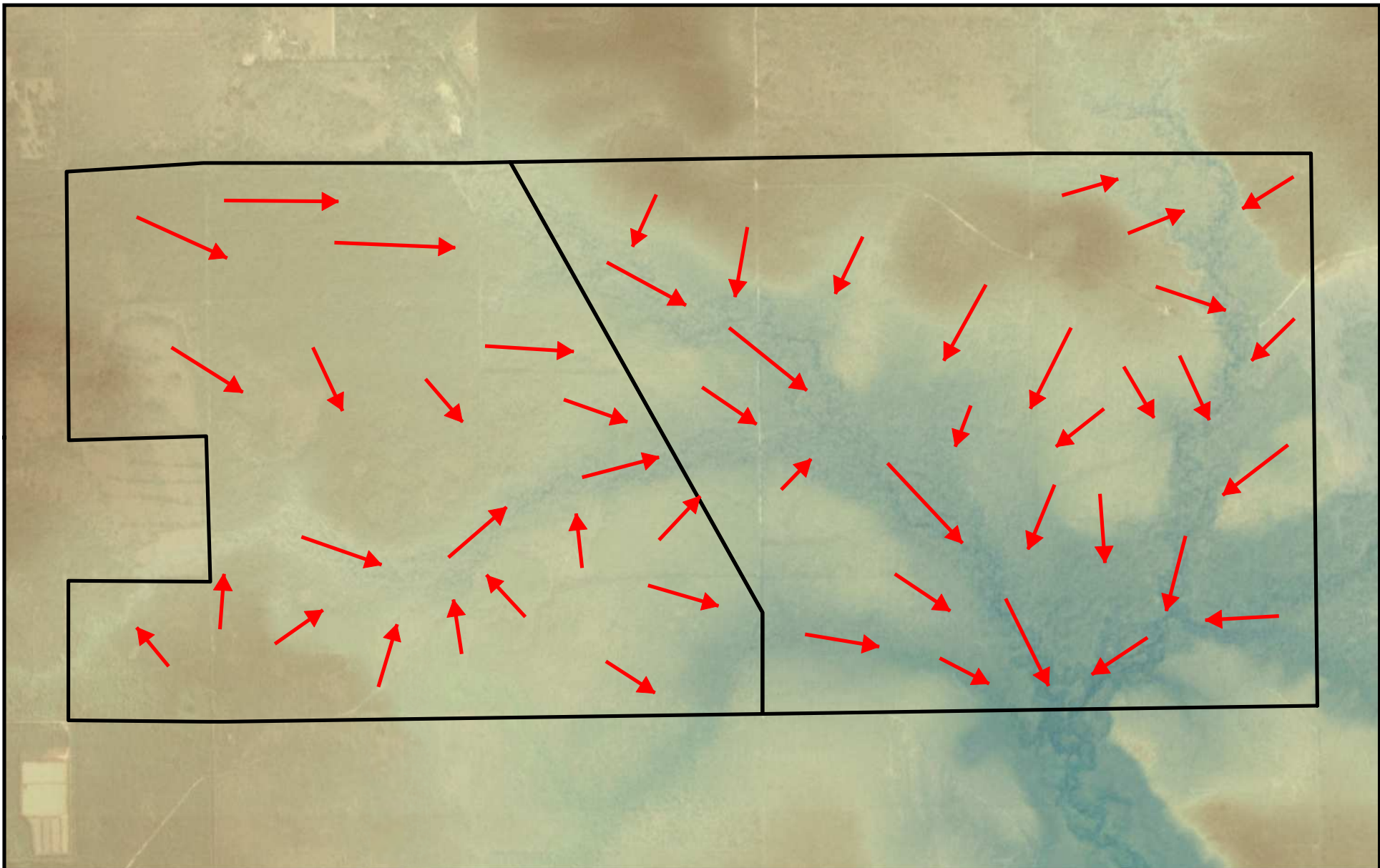
Map prepared from public and proprietary spatial data. Elos Environmental, LLC does not warrant its accuracy or completeness. This map should not be used to establish legal boundaries or specific locations.

**Legend:**

-  Potential Mitigation Bank Area
-  Pre-Drainage\_Flow



0 800 1,600 Feet






**Figure 7a: Post Drainage Flow**

**Proposed Pollard Branch Mitigation Bank**

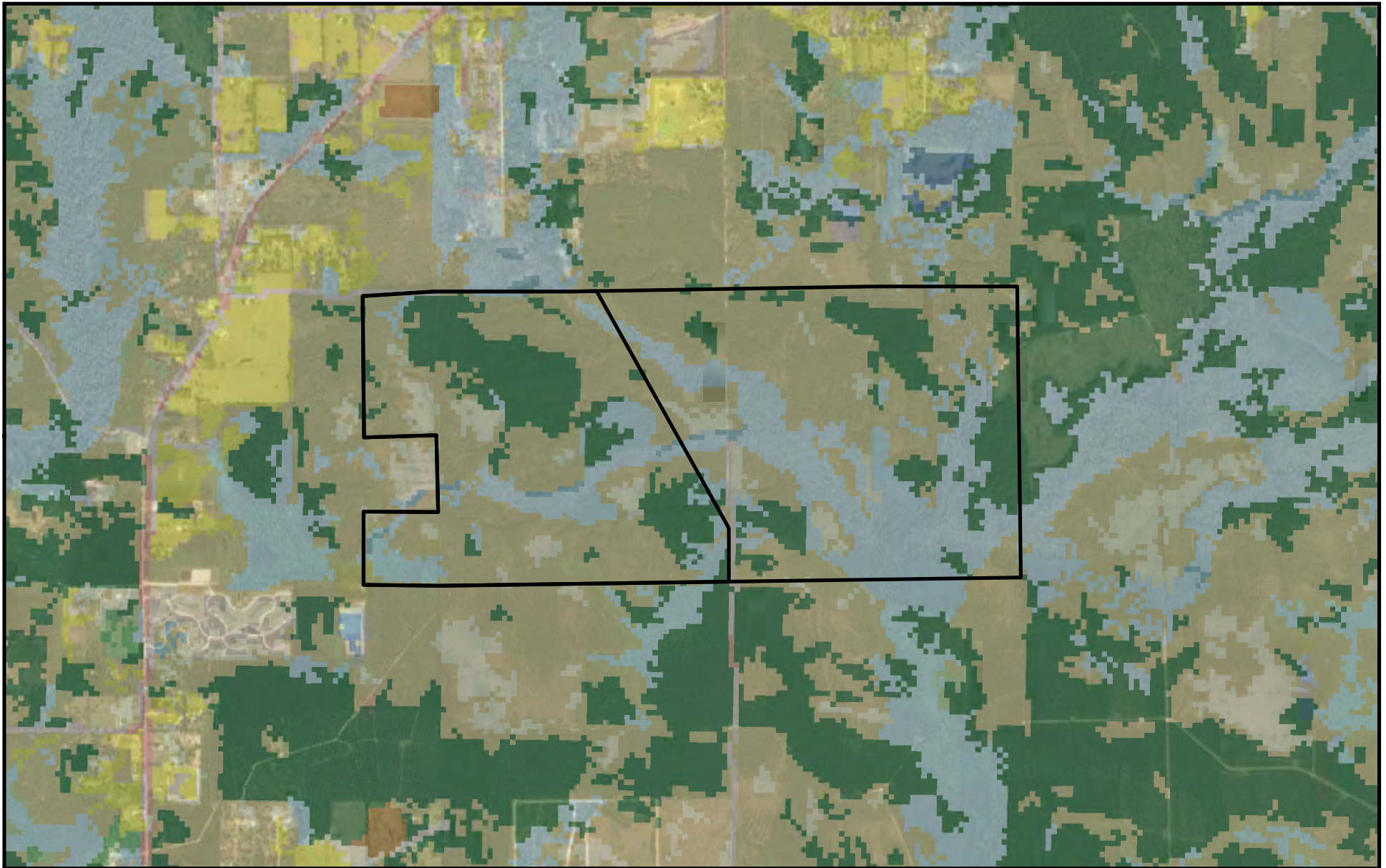
Map prepared from public and proprietary spatial data. Elos Environmental, LLC does not warrant its accuracy or completeness. This map should not be used to establish legal boundaries or specific locations.

**Legend:**

-  Potential Mitigation Bank Area
-  Post Drainage Flow
-  High : ~62'  
Low : ~38'

Compass rose showing North (N), South (S), East (E), and West (W).

Scale bar: 0, 800, 1,600 Feet



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**Figure 8: Land Use Map**

---

**Proposed Pollard Branch Mitigation Bank**

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Map prepared from public and proprietary spatial data. Elos Environmental, LLC does not warrant its accuracy or completeness. This map should not be used to establish legal boundaries or specific locations.

**Legend:**

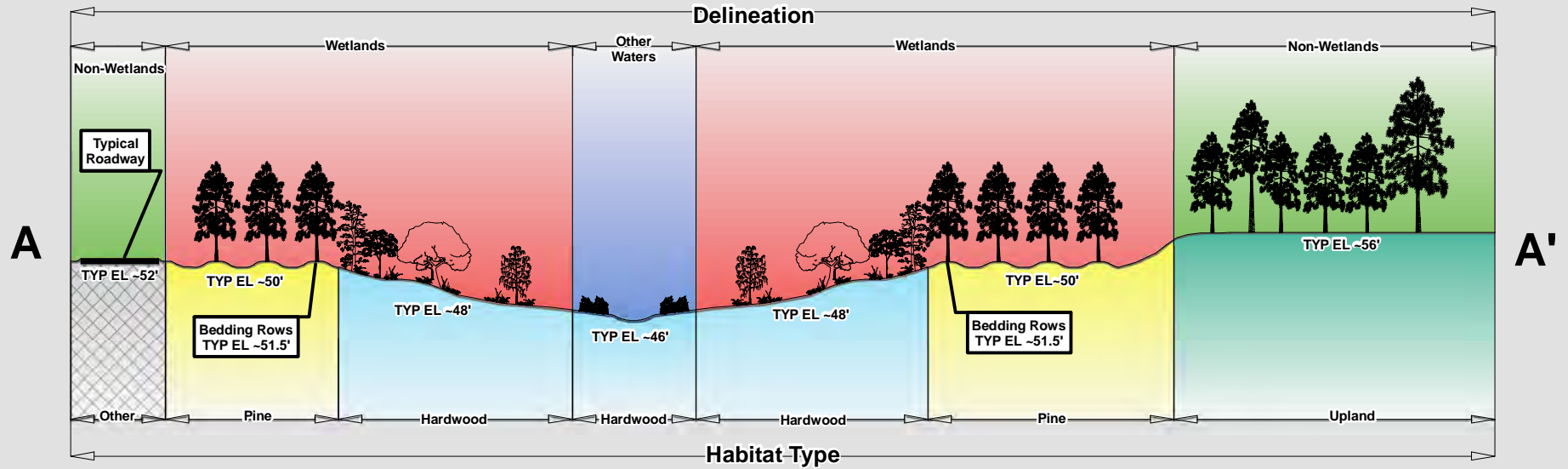
Potential Mitigation Bank Area	Evergreen Forest
Open Water	Mixed Forest
Developed, Open Space	Shrub/Scrub
Developed, Low Intensity	Herbaceous
Developed, Medium Intensity	Hay/Pasture
Developed, High Intensity	Cultivated Crops
Barren Land	Woody Wetlands
Deciduous Forest	Emergent Herbaceous Wetlands

Feet

0      1,400      2,800

### Existing Conditions

#### Delineation



### Constructural Conditions

#### Delineation

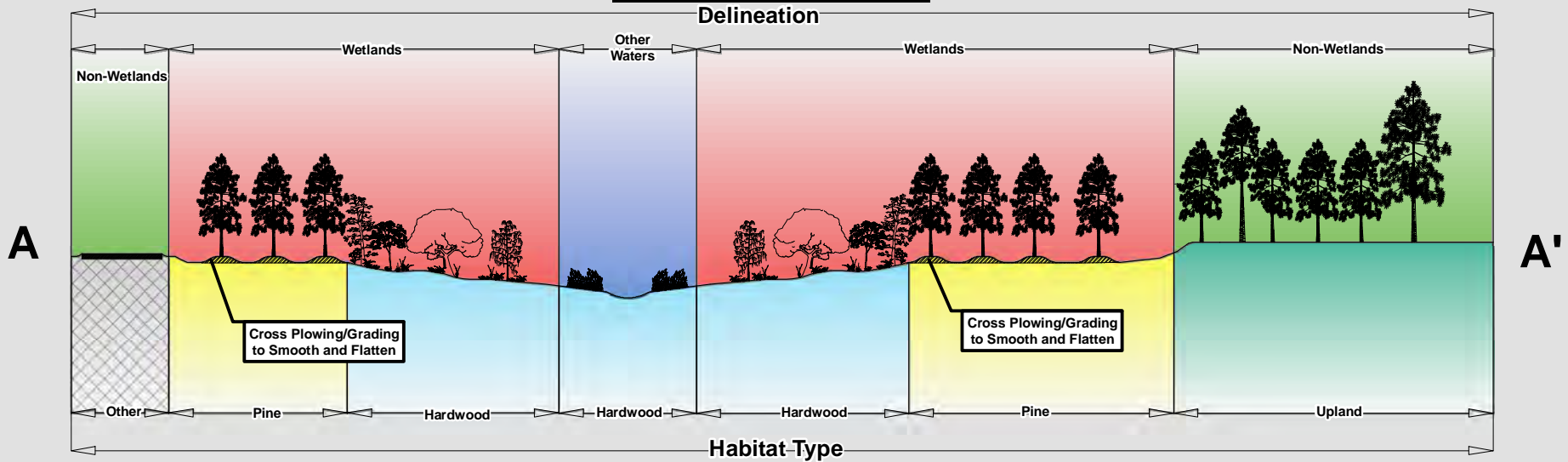


Figure 9: Typical Section A - A'

## Proposed Pollard Branch Mitigation Bank

Map prepared from public and proprietary spatial data. Elos Environmental, LLC does not warrant its accuracy or completeness. This map should not be used to establish legal boundaries or specific locations.

#### Legend:

- Non-Wetlands
- Hardwood
- Other Waters
- Other
- Wetlands
- Pine
- Upland



Scale=Not To Scale

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## APPENDIX B

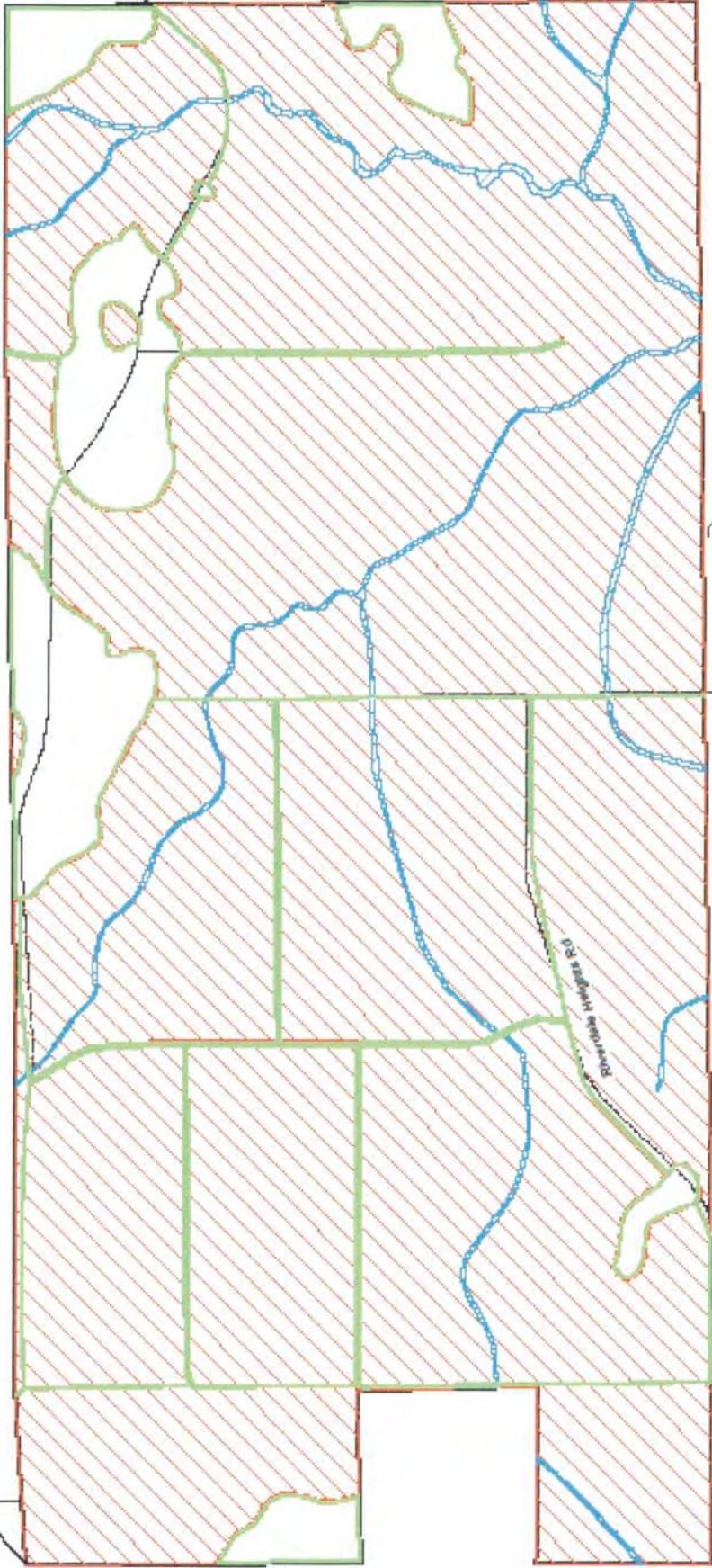
### Jurisdictional Determination



US ARMY CORPS OF ENGINEERS  
**PRELIMINARY**  
 JURISDICTIONAL DETERMINATION

30°33' 48.004"N,  
 90°18' 57.538"W

Ragbird Ln



**USACE**  
 FL 24 MAY 2017  
 OBERLIES  
 FOR VAN VRANCKEN  
 ACCOUNT # MVN-2017-00506-SY

- NONWETLAND
- WETLAND
- NONWETLAND WATERS



Figure 9: Proposed Delineation

**Pollard Branch**

Map prepared from public and proprietary spatial data. Elos Environmental, LLC does not warrant its accuracy or completeness. This map should not be used to establish legal boundaries or specific locations.

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## APPENDIX C

### Louisiana Wetland Rapid Assessment Method

**LOUISIANA WETLAND RAPID ASSESSMENT METHOD (LRAM) 2.0**

CEMVN Acct #	MVN-2017-00332		Bank Name	
Acres Mitigation	512		Pollard Branch	
Watershed Basin	LakePont			

		Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8
<b>Mitigation Factors</b>	Mitigation Type	Rehab	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		5.0	0.0	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	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:	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Area:	512.0							
	Sum x Area Affected:	3072.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

$\Sigma$  Mitigation: 3072.0  
 Mitigation Potential: 6.0

**COMMENTS**

Mitigation Type	Pine Flatwood/Savannah
Management	Non-structural
Negative Influences	None - Rural Area
Size	512 acres pine (phase i)
Buffer/Upland	upland areas will be restored per Pine Savannah work plan

**LOUISIANA WETLAND RAPID ASSESSMENT METHOD (LRAM) 2.0**

CEMVN Acct #	MVN-2017-00332		Bank Name
Acres Mitigation	95.45	Pollard Branch	
Watershed Basin	LakePont		

		Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8
Mitigation Factors	Mitigation Type	Enhanc	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		3.0	0.0	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	Inclusion	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Sum:	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Area:	95.5							
	Sum x Area Affected:	257.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0

$\Sigma$  Mitigation: 257.7  
 Mitigation Potential: 2.7

**COMMENTS**

Mitigation Type	Hardwood Flat
Management	Non-structural
Negative Influences	None - Rural Area
Size	95.45 acres ph 1
Buffer/Upland	upland areas will be included

**LOUISIANA WETLAND RAPID ASSESSMENT METHOD (LRAM) 2.0**

CEMVN Acct #	MVN-2017-00332		Bank Name
Acres Mitigation	419.98	Pollard Branch	
Watershed Basin	LakePont		

		Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8
Mitigation Factors	Mitigation Type	Rehab	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		5.0	0.0	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	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:	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Area:	420.0							
	Sum x Area Affected:	2519.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Σ Mitigation: 2519.9  
Mitigation Potential: 6.0

**COMMENTS**

Mitigation Type	Pine Flatwood/Savannah
Management	Non-structural
Negative Influences	None - Rural Area
Size	419.98 acres ph 2
Buffer/Upland	upland areas will be restored per Pine Savannah work plan

**LOUISIANA WETLAND RAPID ASSESSMENT METHOD (LRAM) 2.0**

CEMVN Acct #	MVN-2017-00332		Bank Name
Acres Mitigation	214.43	Pollard Branch	
Watershed Basin	LakePont		

		Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7	Area 8
Mitigation Factors	Mitigation Type	Enhanc	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		3.0	0.0	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	Inclusion	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here	Pick Here
		0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Sum:	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Area:	214.4							
	Sum x Area Affected:	686.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

$\Sigma$  Mitigation: 686.2  
 Mitigation Potential: 3.2

**COMMENTS**

Mitigation Type	Hardwood Flat
Management	Non-structural
Negative Influences	None - Rural Area
Size	214.43 acres ph. 2
Buffer/Upland	upland areas will be included