DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
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February 4, 2019

Operations Division
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SUBJECT: MVN-2008-00531-1 MB

PUBLIC NOTICE

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

PROPOSED GUM SWAMP MITIGATION BANK ADDENDUM IN LIVINGSTON PARISH

NAME OF APPLICANT: Weyerhaeuser NR Company c/o Matrix New World Engineering Attention: Charles Jones, 2798 O'Neal Lane, Building F, Baton Rouge, Louisiana 70816

LOCATION OF WORK: In Sections 31-34, Township 7 South, Range 5 East, and Sections 2-6, 9, 11, 37 and 44, Township 8 South, Range 5 East, approximately 2,817.3 acres located off LA Hwy 63 and Gum Swamp Road immediately southeast of Frost, Louisiana, in Livingston Parish, as shown on the attached prospectus. (Latitude 30.382266, Longitude -90.716415). Hydrologic Unit Code: 08070202 and 08070203

CHARACTER OF WORK: The Sponsor proposes to restore to wetland bottomland hardwood forest approximately 1,741 acres of existing bedded pine plantation and 0.7 acres herbaceous area (former well location) via removal of existing pine timber, degradation of bedding and planting an appropriate mixture of seedlings, enhance 131.7 of existing bottomland hardwood wetlands via removal of invasive species, preserve 587.9 acres of existing bottomland hardwood forest, and restore 301.5 acres of bedded pine plantation to upland forest via a similar mechanism as described above. The restoration activities would 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.

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

GUM SWAMP MITIGATION BANK ADDENDUM

(MVN-2008-00531-1)

Livingston Parish, Louisiana

December 2018

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Table of Contents

1.0 INTRODUCTION 1
1.1 Site Location 1
2.0 PROJECT GOALS AND OBJECTIVES 1
3.0 ECOLOGICAL SUITABILITY OF THE SITE 3
3.1 Land Use 3
3.1.1 Historical Land Use 3
3.1.2 Existing/Current Land Use 3
3.2 Soils 3
3.3 Hydrology 5
3.3.1 Contributing Watershed 5
3.3.2 Historical Hydrology and Drainage Patterns 5
3.3.3 Existing/Current Hydrology and Drainage Patterns 5
3.3.4 Jurisdictional Wetlands 6
3.4 Vegetation 6
3.4.1 Historical Plant Community 6
3.4.2 Existing Plant Community 7
3.5 General Need for the Project in this Area 7
4.0 ESTABLISHMENT OF A MITIGATION BANK 8
4.1 Site Restoration Plan 8
4.1.1 Soils/Hydrologic Work 9
4.1.2 Vegetative Work 9
4.1.3 Success Criteria and Credit Release 11
4.2 Technical Feasibility 12
4.3 Current Site Risks 13
4.4 Long-Term Sustainability of the Site 14
5.0 PROPOSED SERVICE AREA 14
6.0 OPERATION OF THE MITIGATION BANK 14
6.1 Project Representatives 14
6.2 Qualifications of the Sponsor 15
6.3 Proposed Long-Term Ownership and Management Representatives 15
6.4 Site Protection 16
6.5 Long-Term Strategy 16
7.0 REFERENCES 16

Tables

Table 1 Mitigation Plan Summary
Table 2 Soil Map Unit Components and Hydric Status
Table 3 Bottomland Hardwood Species List
Table 4 Upland Buffer Species List
Table 5 Credit Release Comparison
Table 6 Anticipated Restoration Schedule

Figures

Figure 1 Vicinity Map
Figure 2 Site Location Map
Figure 3 Preliminary Jurisdictional Determination Map
Figure 4a-4f Pre-Restoration Site Plan
Figure 5a-5f Post-Restoration Plan
Figure 6 1952 Aerial Photograph
Figure 7 1962 Aerial Photograph
Figure 8 1973 Aerial Photograph
Figure 9 1985 Aerial Photograph
Figure 10 1998 Aerial Photograph
Figure 11 2004 Aerial Photograph
Figure 12 2015 Aerial Photograph
Figure 13 Primary Service Area Map
Figure 14 LIDAR Map
Figure 15 Soils Map
Figure 16 Drainage Map
Figure 17 Typical Grading Cross Section
Figure 18 Bank Phases

Appendices

Attachment A Preliminary Jurisdictional Determination (MVN-2008-00531-1)

1.0 INTRODUCTION

On behalf of Weyerhaeuser NR Company (WNR), Matrix New World Engineering (Matrix) respectfully submits to the U.S. Army Corps of Engineers, New Orleans District (CEMVN) and the Interagency Review Team (IRT), this draft prospectus for the proposed Gum Swamp Mitigation Bank Addendum (GSMBA).

The purpose of the GSMBA is to provide 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, issued by the CEMVN. This document has been prepared in accordance with 33 CFR Part 332, and details pertaining to the use of this site as a wetland mitigation bank are specified in the previously approved Gum Swamp mitigation banking instrument (MBI).

1.1 Site Location

The GSMBA consists of 2,817.3 acres located in Sections 31-34 of Township 07 South, Range 05 East, and Sections 2-6, 9, 11, 37, and 44 of Township 08 South, Range 05 East of Livingston Parish, Louisiana and centered at approximate Latitude 30.382266°; Longitude -90.716415°. The GSMBA is located immediately southeast of the Community of Frost, Louisiana and immediately adjacent to the existing Gum Swamp Mitigation Bank (GSMB). Access to GSMBA is via LA 63 and Gum Swamp Road, approximately 5.05 miles south of the intersection of LA 63 and Interstate 12 (**Figures 1** and **2**).

From New Orleans, travel west on interstate-10, take exit 210 for Interstate 55 (I-55) north toward Hammond, continue on I-55 for 28.5 miles and then take exit 29B to merge onto Interstate 12 (I-12) west toward Baton Rouge. Take exit 29 for LA-441 toward Holden then turn left onto LA-441 south then right onto LA-42 west. Finally, turn left onto Gum Swamp Road and continue roughly 1.8 miles and an access road will be on the left.

2.0 PROJECT GOALS AND OBJECTIVES

A Preliminary Jurisdictional Determination was completed on February 10, 2017. **Figure 3 and Attachment A** show wetlands identified on the Site. Within the 2,817.3 acres, 1,741 acres of bedded loblolly pine (*Pinus taeda*) plantation wetlands and a 0.7 acre wetland former well location

are proposed to be rehabilitated. Additionally, 131.7 acres of high Chinese tallow tree (*Triadica sebifera*) content bottomland hardwood forest are to be enhanced to high quality bottomland hardwoods, 301.5 acres of upland bedded pine plantation will be restored, and 587.9 acres of existing bottomland hardwood forest wetlands will be preserved. The remaining acres within the GSMBA will include 23.9 acres for utility corridor, 21.6 acres for existing roads, and 9.0 acres of other waters of the U.S. (**Figures 4a-5f**). The functions to be restored include: plant and animal habitat; flood storage; natural hydrology; natural water quality and biogeochemical cycling; natural ecological, spatial and structural attributes; atmospheric maintenance; and natural aesthetics. Restoration of this area will also provide continuation of the habitat occurring in the adjacent GSMB.

Table 1
Mitigation Plan Summary

Current Habitat	Proposed Habitat	Proposed Mitigation Type	Acres
Bedded Pine Wetlands	Bottomland Hardwoods	Rehabilitation	1,741
Former Well Location/Food Plot	Bottomland Hardwoods	Rehabilitation	0.7
High Chinese Tallow Content/ Bottomland Hardwoods	Bottomland Hardwoods	Enhancement	131.7
Bottomland Hardwoods	Bottomland Hardwoods	Preservation	587.9
Bedded Pine Upland	Upland	Restoration	301.5

The objectives of the mitigation bank are:

- To rehabilitate 1,741 acres of bedded pine-dominant wetlands to high-quality bottomland hardwoods through leveling of planting beds to natural grade, invasive species control, and native vegetative plantings.
- To rehabilitate 0.7 acre of a former well location that is used as a wetland food plot to high-quality bottomland hardwoods through invasive species control, and native vegetative plantings.
- To enhance 131.7 acres of bottomland hardwoods through invasive species control.

- To restore 301.5 acres of bedded pine-dominant uplands to high-quality upland buffer hardwood forest with wildlife enhancement plots through leveling of planting beds to natural grade, invasive species control, and native vegetative plantings.
- To preserve 587.9 acres of existing bottomland hardwood forested wetlands.
- To provide effective short and long-term management and maintenance.
- To provide permanent long-term protection through the application of a conservation servitude.

3.0 ECOLOGICAL SUITABILITY OF THE SITE

3.1 Land Use

3.1.1 Historical Land Use

The GSMBA area was converted from bottomland hardwood forest to a non-native commercial loblolly pine plantation in the early 1960's. The aerial photographs provided (**Figures 6-12**) indicate that prior to 1962 only a few roads passed through the property. After the 1962 photograph, fields were cleared and intense pine sylvicultural practices took place throughout this property.

3.1.2 Existing/Current Land Use

3.2 Soils

Variations in the elevation range from 2'- 26' (**Figure 14**) and aside from the bedded rows, the topography has not been significantly altered from what it was historically. The area is no longer subject to siltation processes that originally created the land. The NRCS Web Soil Survey shows that GSMBA may be underlain by five soil map units: Colyell silt loam, 1 to 3 percent slopes (Co); Colyell–Springfield silt loams, frequently flooded (Cy); Encrow silt loam, occasionally flooded (En); Natalbany silty clay loam, frequently flooded (Na); Springfield silt loam (Sp): and Verdun silt loam (Ve). **Table 2** depicts the soil map unit's individual soil components, component percentage, and hydric status in Livingston Parish (NRCS Survey Area Data: Version 10, September 28, 2015). Soils as mapped by the NRCS are shown on **Figure 15**.

Table 2

Soil Map Unit Components and Hydric Status

Map Unit Name	Soil Series/ Component	Component Percentage	Hydric Status
Colyell silt loam, 1 to 3 percent slopes			
	Colyell	90	No
	Encrow	4	Yes
	Natalbany	3	Yes
	Springfield	3	Yes
Colyell – Springfield silt loams, frequently flooded			
	Colyell	60	No
	Springfield	25	Yes
	Minor components	15	No
Encrow silt loam, occasionally flooded			
	Encrow	85	Yes
	Minor components	15	No
Natalbany silty clay loam, frequently flooded			
	Natalbany	85	Yes
	Minor components	15	No
Springfield silt loam			
	Springfield	90	Yes
	Minor components	10	No
Verdun silt loam			
	Verdun	90	Yes
	Springfield	10	No

3.3 Hydrology

3.3.1 Contributing Watershed

The GSMBA is located within the Lake Pontchartrain Basin within United States Geological Survey (USGS) Cataloging Units 08070202 and 08070203 which include portions of Ascension, East Baton Rouge, East Feliciana, Livingston, St Helena, and Tangipahoa Parishes (**Figure 13**).

The Lake Pontchartrain Basin is bounded to the north by the Louisiana-Mississippi border, to the west by the Thompson Creek watershed and the Mississippi River, and to the east and south by the Pearl River watershed and the Gulf of Mexico. The major rivers in the Lake Pontchartrain watershed are the Tickfaw, Tangipahoa, Tchefuncte, and the Amite Rivers. Also included in the watershed are Lake Maurepas and the Manchac Swamp area. The Basin's waters have been surrounded by wetlands and marshes due to overbank flooding and low elevation. The GSMBA Site is located south of Gum Swamp, centered on Indian Camp Ridge, between Greasy Bayou and Edwards and Wall Bayous. The area is subjected to backwater flooding.

3.3.2 Historical Hydrology and Drainage Patterns

The majority of the site was historically generally flat. The primary source of hydrology was rainfall with occasional overbank flooding from Greasy Branch, Wall Bayou, and Edwards Bayou. When WNR initiated commercial silviculture operations around 1962, large portions of the site were cleared and tilled to facilitate the creation of raised beds for the planting of commercial loblolly pine plantations. Bedding was also used to ensure water drains from the property and ensures minimization of saturated soils. In fact, the beds have an effect that would be very similar to having large numbers of ditches across a field.

3.3.3 Existing/Current Hydrology and Drainage Patterns

Hydrology on the site is primarily attributed to rainfall, sheet flow, and backwater flooding from several bayous and Gum Swamp, which constitutes the northern portion of GSMBA. The main source of water for Gum Swamp within the boundaries of GSMBA include Greasy Branch to the north and multiple unnamed tributaries that traverse the site generally from south to north and west to east.

Indian Camp Ridge runs along the eastern boundary of the site, forcing the majority of the site to drain from southwest to northeast into Gum Swamp. The small portion of the tract that is immediately south of Indian Camp Ridge drains south into a tributary to Bayou Barbary. Additionally, the eastern outparcels that border the existing GSMB drain from west to east (**Figure 16**).

Due to the extensive amount of water received at GSMBA, both the lowest and highest portions of the site are poorly drained. The plateaus of Indian Camp Ridge and a separate ridge along the southwest boundary display significant wetland characteristics, symptomatic of poorly-drained soils and flat to concave topography. The well-drained areas of GSMBA are primarily limited to the moderate slopes between the high-elevation plateaus and the low-elevation bottoms.

As is typical with pine plantations in low-lying areas, the majority of acreage on GSMBA is bedded. The bedded rows are oriented in various directions, limiting natural sheet flow across the site. The beds settle over time but remain impediments to sheet flow.

3.3.4 Jurisdictional Wetlands

A request for preliminary jurisdictional determination (JD) was submitted to the CEMVN, and a subsequent preliminary JD was rendered on February 10, 2017 (MVN-2008-00531-1). A copy of the preliminary JD is included as **Attachment A**.

3.4 Vegetation

3.4.1 Historical Plant Community

Prior to the start of WNR's pine plantation management, historical aerial photography (**Figure 6**) suggests that the GSMBA was a pristine stand of bottomland hardwood forest, which most likely contained overcup oak (*Quercus lyrata*), Nutall oak (*Quercus texana*), water oak (*Quercus nigra*), laurel oak (*Quercus laurifolia*), sugar-berry (*Celtis laevigata*), American elm (*Ulmus americana*), green ash (*Fraxinus pennsylvanica*), spruce pine (*Pinus glabra*), red maple (*Acer rubrum*), and several other lesser species.

3.4.2 Existing Plant Community

Approximately 2,042.5 acres of the site are intensively managed pine plantation. Approximately 719.6 acres of the site are existing bottomland hardwood forest. The site is heavily dominated by loblolly pine (FAC). Other species observed at the site include Chinese tallow tree (*Triadica sebifera*, FAC), overcup oak (*Quercus lyrata*, OBL), water oak (*Quercus nigra,* FAC), rough-leaf dogwood (*Cornus drummondii,* FAC), sweet gum (*Liquidambar styraciflua,* FAC), black tupelo (*Nyssa sylvatica*, FAC), bitternut hickory (*Carya cordiformis,* FACU), green ash (*Fraxinus pennsylvanica*, FACW), willow oak (*Quercus phellos*, FACW), Drummond red maple (*Acer rubrum drummondii,* OBL), groundsel tree (*Baccharis halimifolia,* FAC), water hickory (*Carya aquatica,* OBL), southern bayberry (*Morella cerifera*, FAC), Eastern swamp-privet (*Forestiera acuminata*, OBL), yaupon (*Ilex vomitoria*, FAC), pawpaw (*Asimina triloba*, FAC), deciduous holly (*Ilex decidua*, FACW), dwarf palmetto (*Sabal minor*, FACW), late-flowering thoroughwort (*Eupatorium serotinum*, FAC), Chinese privet (*Ligustrum sinense*, FAC), American beautyberry (*Callicarpa Americana*, FAC), marsh fleabane (*Pluchea odorata*, OBL), angle-stem beaksedge (*Rhynchospora caduca*, OBL), chairmaker's club-rush (*Scirpus americanus*, OBL), blunt spike rush (*Eleocharis obtusa,* OBL), bushy bluestem (*Andropogon glomeratus*, FACW), Fall panic grass (*Panicum dichotomiflorum*, FACW), late goldenrod (*Solidago gigantea,* FACW), common spike-rush (*Eleocharis palustris*, OBL), dogfennel (*Eupatorium capillifolium*, FACU), white-edge sedge (*Carex debilis,* FACW), poison ivy (*Toxicondendron radicans,* FAC), saw-tooth blackberry (*Rubus argutus,* FAC), broom rosette grass (*Dichanthelium scoparium,* FACW), lamp rush (*Juncus effusus,* OBL), tall horned beak sedge (*Rhynchospora macrostachya*, OBL), floating primrose-willow (*Ludwigia peploides*, OBL), trumpet creeper (*Campsis radicans,* FAC), tall goldenrod (*Solidago altissima,* FACU), muscadine (*Vitis rotundifolia*, FAC), Japanese climbing fern (*Lygodium japonicum*, FAC), and laurel-leaf greenbrier (*Smilax laurifolia,* FACW).

3.5 General Need for the Project in this Area

Projects impacting jurisdictional waters and/or special aquatic sites within the Lake Pontchartrain Basin, where determined appropriate by the CEMVN, could use the bank to compensate for wetland impacts. Livingston Parish and the surrounding areas have been growing steadily over the past 20 years with increased growth and development specifically in Denham Springs, Watson, Livingston, and Walker, Louisiana. There is an increased need for single- and multi-family residential development, infrastructure, such as, road improvements, utilities, new energy projects (pipelines), as well as maintenance on existing energy facilities, all of which will result in potential impacts to the aquatic environment within the Lake Pontchartrain Basin.

Additionally, The Lake Pontchartrain Basin Foundation (LPBF) was established in response to environmental concerns voiced throughout the Basin. Most of the environmental problems that challenge the Basin were well recognized by the mid-1970s, yet there was no common effort towards restoration. Now through coordination of restoration activities, education, advocacy, monitoring of the regulatory process, applied scientific research, and citizen action, LPBF works in partnership with all segments of the community to reclaim the Basin for this and future generations.

The mission of the LPBF is dedicated to restoring and preserving the water quality, coast, and habitats of the entire Pontchartrain Basin. Thus, there is a need for strong incentives to establish additional mitigation areas/banks in the Basin so as to ensure the protection of locally threatened, environmentally sensitive areas. The GSMBA is located within the Lake Pontchartrain Basin and restoring more natural aquatic functions to the GSMBA will certainly contribute to the conservation efforts of this group and others by providing high quality wildlife habitat, additional flood storage, and improving the water quality.

Failure to make these improvements may lead to the realization of direct threats such as the continued pervasiveness of invasive species, decreased biodiversity, and reduced hydrologic function within the GSMBA.

4.0 ESTABLISHMENT OF A MITIGATION BANK

4.1 Site Restoration Plan

The proposed site restoration plan of the GSMBA, has been designed using information/data described in Section 3.0 of this prospectus such as existing soils, existing elevation/topography, existing vegetation, historic and existing hydrological data, etc. In order to achieve the goals and objectives of the Bank and to meet all requirements stated in 33 CFR 332.8, the Sponsor proposes to preserve and enhance existing natural BLH habitats through means of invasive species control and restore BLH habitat through native vegetative plantings. Through experience gained in attempting to control Chinese tallow trees on the GSMB, WNR plans to employ a modified approach within the proposed GSMBA. Chinese tallow tree control will be conducted by applying herbicide throughout the site following timber harvest followed by a controlled burn, allowing the site to lay fallow for a year, and then treating the entire site again with herbicide and burning again before the initial planting of desirable species. Chinese tallow trees will not be targeted for control

until approximately year 4 or 5 (until the desirable species are 12' – 15' tall) depending on average tree growth, following the initial planting of the site. This period of time will allow the desirable tree species to mature and become established enough to withstand a concentration of herbicide strong enough to kill the Chinese tallow trees, without impacting the desirable species.

The entire site will be placed under a conservation servitude once the Mitigation Banking Instrument is approved. Due to the size of the site and duration that will be required to restore the entire site, it will be broken into phases in order to manage the phases based on restoration dates. Single phases or multiple phases may be restored in any given year, dependent on weather and the ability to harvest timber and conduct site preparation work.

In each phase timber will be harvested and the site will be leveled using roll choppers and discs. The site will be chemically treated with herbicide and burned prior to planting seedlings. WNR proposes to fertilize the rips during site preparation for the initial planting and continue to fertilize the seedlings at approximately 3-year intervals to establish a robust stand of BLH.

4.1.1 Soils/Hydrologic Work

Bedded plantations of loblolly pine are present on a majority of the tract, approximately 2,042.5 acres (1,741 acres of wetland and 301.5 acres of upland). Prior to planting, these areas were "bedded" by forming closely spaced rows similar to garden rows, but much larger. The beds are initially constructed 24"-36" tall and 2 to 3 feet wide and are generally 10'-20' apart. These beds have severely altered the surface sheet flow and other localized hydrology characteristics; however, the overall wetland hydrology of the bedded wet flats appears to be essentially intact. The vast majority of the bedded area supports loblolly pine that will be commercially harvested. It is likely the harvesting operation will level the majority of the beds to nearly level conditions required to restore natural hydrology. In the event that the harvesting operation does not reduce the beds to natural grade, beds will be mechanically sheared and/or disked in order to flatten them as required to stop artificial drainage downslope and fully restore sheet flow (**Figure 17**). All internal roads will be allowed to naturally degrade following restoration of the site.

4.1.2 Vegetative Work

The 1,741 acres designated for rehabilitation and the 301.5 acres designated for upland buffer restoration will be planted with a combination of hard and soft mast producing bare-root or containerized stock to create a species composition characteristic of a typical bottomland hardwood forest. In wetland areas, a mixture of no greater than 90 percent hard-mast and a minimum of 10 percent soft-mast producing species will be planted in accordance with the species list shown in **Table 3**. The species mixture for upland buffer areas is provided in **Table 4.** This species mixture is proposed due to experience with the GSMB Phases I and II which were planted at this same ratio and the proliferation of soft mast species at the GSMB. If seedling availability renders a discrepancy of more than five percent from the desired mixture of hard-mast to soft-mast species, CEMVN will be notified.

Table 3
Bottomland Hardwood Species List

SPECIES	SCIENTIFIC NAME	MAST	COMPOSITION
Bald-cypress	*Taxodium distichum*	Soft	5.00%
Persimmon	*Diospyros virginiana*	Soft	2.00%
Spruce pine	*Pinus glabra*	Soft	2.00%
American sycamore	*Platanus occidentalis*	Soft	1.00%
TOTAL SOFT MAST			**10.00%**
Nutall oak	*Quercus texana*	Hard	15.00%
Willow oak	*Quercus phellos*	Hard	15.00%
Water oak	*Quercus nigra*	Hard	15.00%
Overcup oak	*Quercus lyrata*	Hard	15.00%
Swamp chestnut oak	*Quercus michauxii*	Hard	15.00%
Water hickory	*Carya aquatica*	Hard	15.00%
TOTAL HARD MAST			**90.00%**

Table 4
Upland Buffer Species List

SPECIES	SCIENTIFIC NAME	MAST	COMPOSITION
Black gum	*Nyssa sylvatica*	Soft	3.00%
Tulip tree	*Liriodendron tulipifera*	Soft	3.00%
American beech	*Fagus grandifolia*	Soft	2.00%
Persimmon	*Diospyros virginiana*	Soft	2.00%
TOTAL SOFT MAST			**10.00%**
Cherrybark Oak	*Quercus pagoda*	Hard	15.00%
White oak	*Quercus alba*	Hard	15.00%
Lived oak	*Quercus virginiana*	Hard	15.00%
Water oak	*Quercus nigra*	Hard	15.00%
Shumard oak	*Quercus shumardii*	Hard	15.00%
Sweet Pecan	*Carya illoinensis*	Hard	15.00%
TOTAL HARD MAST			**90.00%**

Additional species such as Laurel oak *(Quercus laurifolia*), American elm (*Ulmus americana*), winged elm (*Ulmus alata*), bitternut hickory (*Carya cordiformis*), pignut hickory (*Carya glabra*), green ash (*Fraxinus pennsylvanica*) and sugarberry (*Celtis laevigata*) may be substituted if proposed seedlings are not available.

Proposed spacing for plantings in those areas designated rehabilitation and upland restoration will be 9’ x 9’ (for an initial density of 538 trees per acre) for bare-root stock. Additionally, 131.7 acres of existing bottomland hardwood forest with a high population of Chinese tallow trees are designated for enhancement. Enhancement will be accomplished through the removal of Chinese tallow trees and interplanting with desirable species, where necessary. Areas with less than 70% crown closure following the removal of Chinese tallow trees will be interplanted with a species mixture from **Table 3**.

4.1.3 Success Criteria and Credit Release

Following the initial credit release for bank establishment, WNR proposes the following credit release schedule for each phase established.

Table 5
Credit Release Comparison

Milestone	Standard Release Schedule	Proposed Release Schedule
MBI, etc. complete	30%	30%
Site prep, seedlings planted, as-built report	20%	20%
Year 1	20%	10%
Year 2	----	5%
Year 3	----	5%
Year 4	----	5%
Year 5 or later, with tallow cover below 15%	20%	5%
Year 6	----	5%
Year 7	----	5%
Year 8 or later, with tallow cover below 5%	10%	5%
80% crown closure	----	5%

WNR proposes that the Initial and Interim Criteria for tallow trees be increased to 15% total cover and reduced to <5% at year 8 and <3% at 80% crown closure. Each restored phase of the site will be monitored and adaptive management will be implemented, if necessary, as restoration progresses.

Although this approach may result in delayed credit releases, WNR believes that the overall success of the bank will be more easily attained in a shorter time frame through this proposed plan.

4.2 Technical Feasibility

The site is relatively isolated and not threatened by current or proposed commercial or residential development. Livingston Parish has seen a recent increase in commercial and residential development over the past 20 years; however, should the site not be approved for the establishment of a mitigation bank, it will remain in commercial use. The construction work required to complete and accomplish restoration on GSMBA is routine in nature and feasible, consisting primarily of

removal of bedded rows in order to return the site to its pre-timber-production hydrologic conditions, as well as vegetative plantings of native bottomland hardwood species. Over 80% of GSMBA (1,588.4 acres) is mapped as being underlain by hydric soils, indicating the site formed under hydric conditions and therefore historically supported wetlands. Due to the size of the site, restoration will occur in approximately 500-acre phases (**Figure 18)**. More than one phase may be implemented in any given year. The anticipated restoration schedule is provided in **Table 6**, however, depending upon demand the restoration phase timelines may increase/decrease.

Table 6
Anticipated Restoration Schedule

YEAR	TASK
1	Phase I timber harvest, level beds, apply herbicide, controlled burn
2	Apply herbicide, controlled burn, plant BLH seedlings, As-built Report
3	Begin monitoring Phase I at Year 1
4	Phase II & III timber harvest, level beds, apply herbicide, controlled burn
5	Apply herbicide, controlled burn, plant BLH seedlings, As-built Report
6	Begin monitoring Phases II and III at Year 1
7	Phase IV & V timber harvest, level beds, apply herbicide, controlled burn
8	Apply herbicide, controlled burn, plant BLH seedlings, As-built Report
9	Begin monitoring Phases IV and V at Year 1

4.3 Current Site Risks

Gum Swamp Road, owned and maintained by Livingston Parish, bisects GSMBA. Multiple culverts beneath the road facilitate water flow from west to east. The Sponsor will have no control over the maintenance of the road or culverts.

There are no mortgages or liens on the property. A title opinion and survey plat will be provided with the anticipated Draft MBI submittal. Also, there is no zoning in the area and plans of development adjacent to the proposed bank site are highly unlikely as the GSMBA is primarily bordered to the east by the original Gum Swamp Mitigation Bank and to the north by Gum Swamp.

The GSMBA is bordered to the west by LA 63 and managed pine forest and to the south by managed pine forest.

4.4 Long-Term Sustainability of the Site

Due to its location and project design, the proposed addendum has a very high likelihood of success. The GSMBA will be restored to the types of plant communities that were historically present in the project area. Long-term viability and sustainability of the GSMBA will be ensured through active and adaptive management including, but not limited to, additional plantings, invasive species control, appropriate monitoring, and long-term maintenance.

No weirs or structures will be required to maintain the GSMBA hydrologic regime so structural maintenance will not be an issue.

5.0 PROPOSED SERVICE AREA

The GSMBA is located within the Lake Pontchartrain Basin (United States Geological Survey (USGS) Hydrologic Unit Codes (HUC) (08070202, 08070204, 08070203, 08070205, 08090201, 08090202, and 08090203). The Basin is made up of the following parishes: Ascension, East Baton Rouge, East Feliciana, Iberville, Jefferson, Livingston, Orleans, Plaquemines, St. Bernard, St. Charles, St. Helena, St. James, St. John the Baptist, St. Tammany, Tangipahoa, and Washington. GSMBA will service the entire Lake Pontchartrain Basin (**Figure 12**). Any use beyond this service area may only be authorized by the CEMVN on a case-by-case basis.

6.0 OPERATION OF THE MITIGATION BANK

The Sponsor will comply with all conditions required of a MBI, and established and operated through mitigation bank procedures approved by the Corps of Engineers. This includes, but is not limited to, review process, modifications, permit coordination, project implementation, financial assurance determination and mechanisms, credit determination, accounting procedures, credit withdrawals, and the use of credits. Details on the operation of the GSMBA will be further described in the Draft MBI.

6.1 Project Representatives

Sponsor: Weyerhaeuser NR Company
Doug Hughes
406 Cole Road
Hattiesburg, Mississippi 39402
doug.hughes@weyerhaeuser.com
601-736-0980

Agent: Charles Jones
Matrix New World Engineering
2798 O'Neal Lane, Building F
Baton Rouge, Louisiana 70816
cjones@matrixneworld.com
225-292-3271

Landowner: Weyerhaeuser Company
Doug Hughes
406 Cole Road
Hattiesburg, Mississippi 39402
doug.hughes@weyerhaeuser.com
601-736-0980

6.2 Qualifications of the Sponsor

WNR will serve as the Sponsor for the GSMBA. Weyerhaeuser has been actively involved in environmentally sound land management programs across the country. It has over 100 years of experience in forest ecosystems and land management and owns or manages over 20 million acres of forestland. WNR has operated wetland mitigation banks in Louisiana since the first portion of the GSMB was approved for credit sales in August of 2010. Since then, they have successfully established thirteen mitigation projects in Louisiana, Arkansas, Mississippi, Georgia, Florida and North Carolina.

6.3 Proposed Long-Term Ownership and Management Representatives

WNR will serve as the Sponsor, long-term owner, and steward of the GSMBA. 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.

6.4 Site Protection

The GSMBA will be protected in perpetuity by a Conservation Servitude pursuant to Louisiana Revised Statute 9:1271 *et seq.* The holder of the Conservation Servitude will be a conservation oriented 501(c)(3) organization to be determined. The Servitude will, once executed, run with the property title. The Servitude will prohibit activities, such as clear cutting, discharge of fill, cattle grazing, or others that would lower the quality or quantity of restored wetlands. WNR will execute this Servitude as the landowner. This Servitude will encompass the entire 2,817.3 acres of the GSMBA, which will be delineated in the field with painting for marking purpose.

6.5 Long-Term Strategy

A long-term maintenance and protection escrow account will provide funding for long-term boundary maintenance and site protection, in accordance with 33 CFR § 332.7 (d). These long-term maintenance and site protection activities will be conducted by the Sponsor. The conservation easement will protect the site from any activities that would diminish the quality of restored wetlands on the site. No structures are proposed or would be necessary to assure hydrologic or vegetative restoration.

7.0 REFERENCES

Gum Swamp Mitigation Area Banking Instrument, Livingston Parish, Louisiana. April 2010

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Smith, Latimore. 1996. *The Rare and Sensitive Natural Wetland Plant Communities of Interior Louisiana*. Louisiana Department of Wildlife and Fisheries, Louisiana Natural Heritage Program. 40pp.

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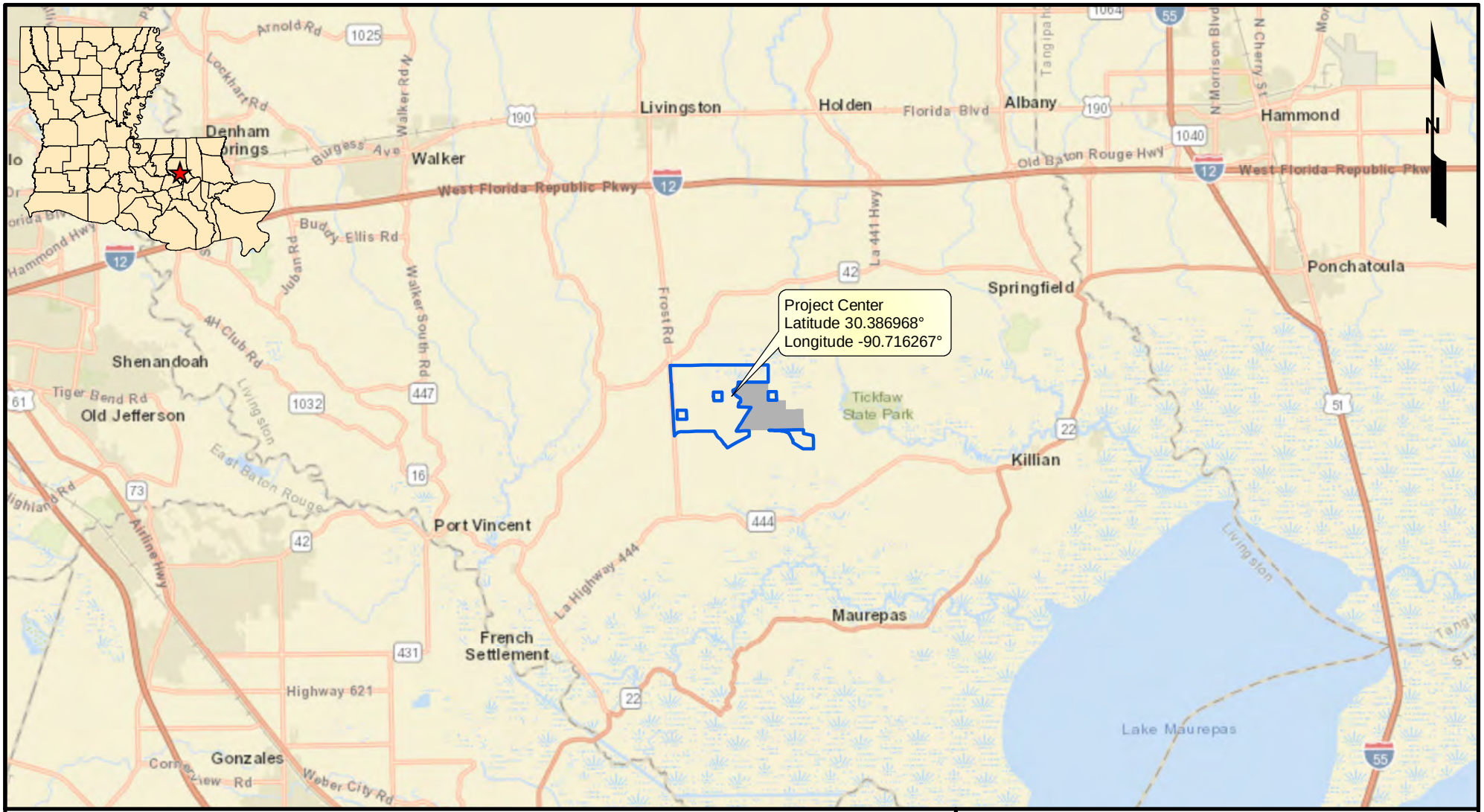
FIGURES



Legend

- Gum Swamp Mitigation Bank Addendum (2,817.3 acres)
- Gum Swamp Mitigation Bank

Source: Base map comprised of ESRI StreetMap USA data.

Vicinity Map

Mitigation Bank Prospectus

Livingston Parish, Louisiana

Weyerhaeuser NR Company

Gum Swamp Mitigation Bank Addendum

MATRIXNEWORLD
Engineering Progress

Approved By	CEJ
Date	7/16/2018
Drawing No.	16-325-A096

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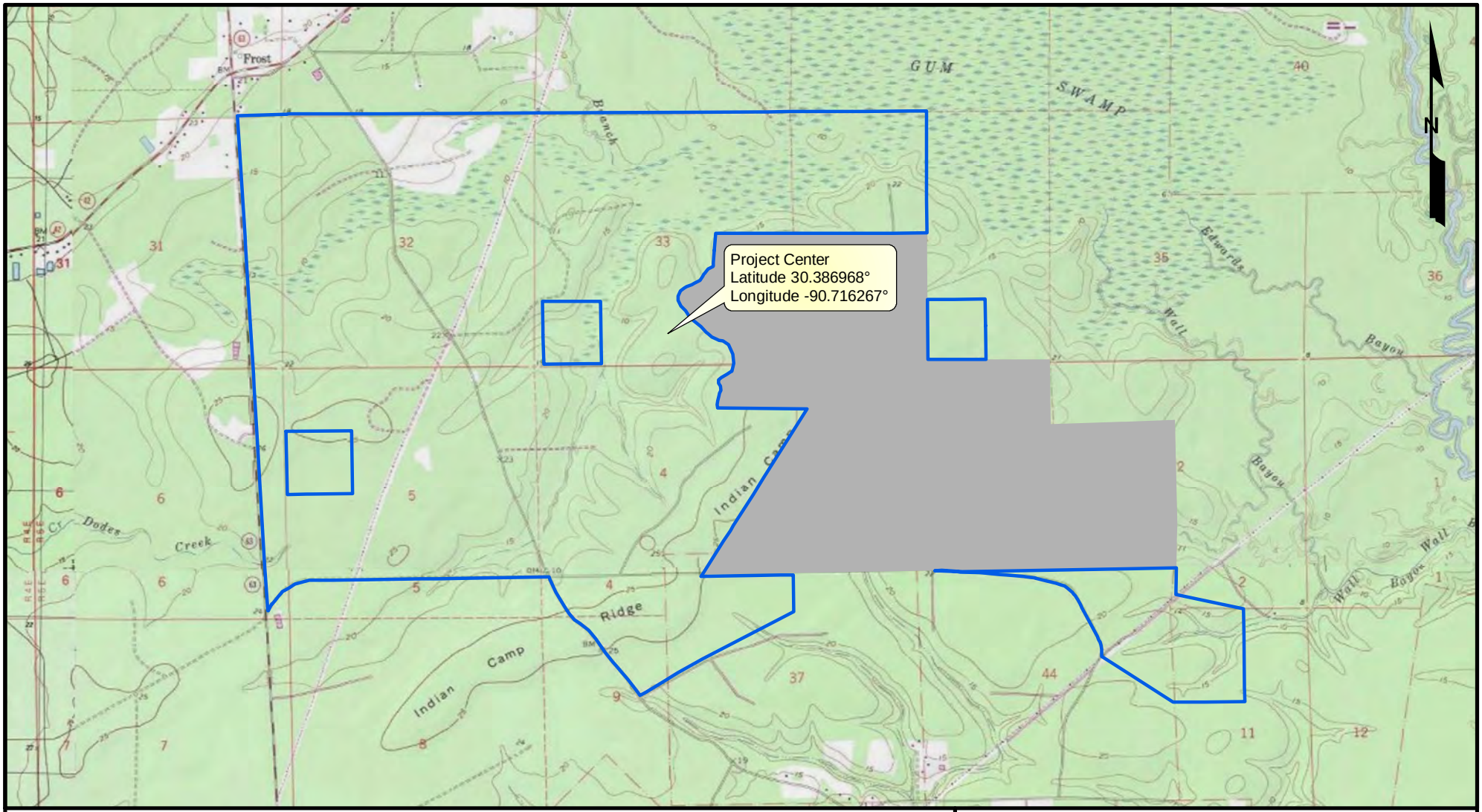

Legend

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- Gum Swamp Mitigation Bank

Source: Base map comprised of U.S.G.S. 7.5 minute topographic map, "Frost, LA" and "Whitehall, LA" dated 1963, photorevised 1980.

Site Location Map

Mitigation Bank Prospectus

Livingston Parish, Louisiana

Weyerhaeuser NR Company

Gum Swamp Mitigation Bank Addendum

3,000 1,500 0 3,000 Feet

MATRIXNEWORLD
Engineering Progress

Approved By	CEJ
Date	7/16/2018
Drawing No.	16-325-A097

2
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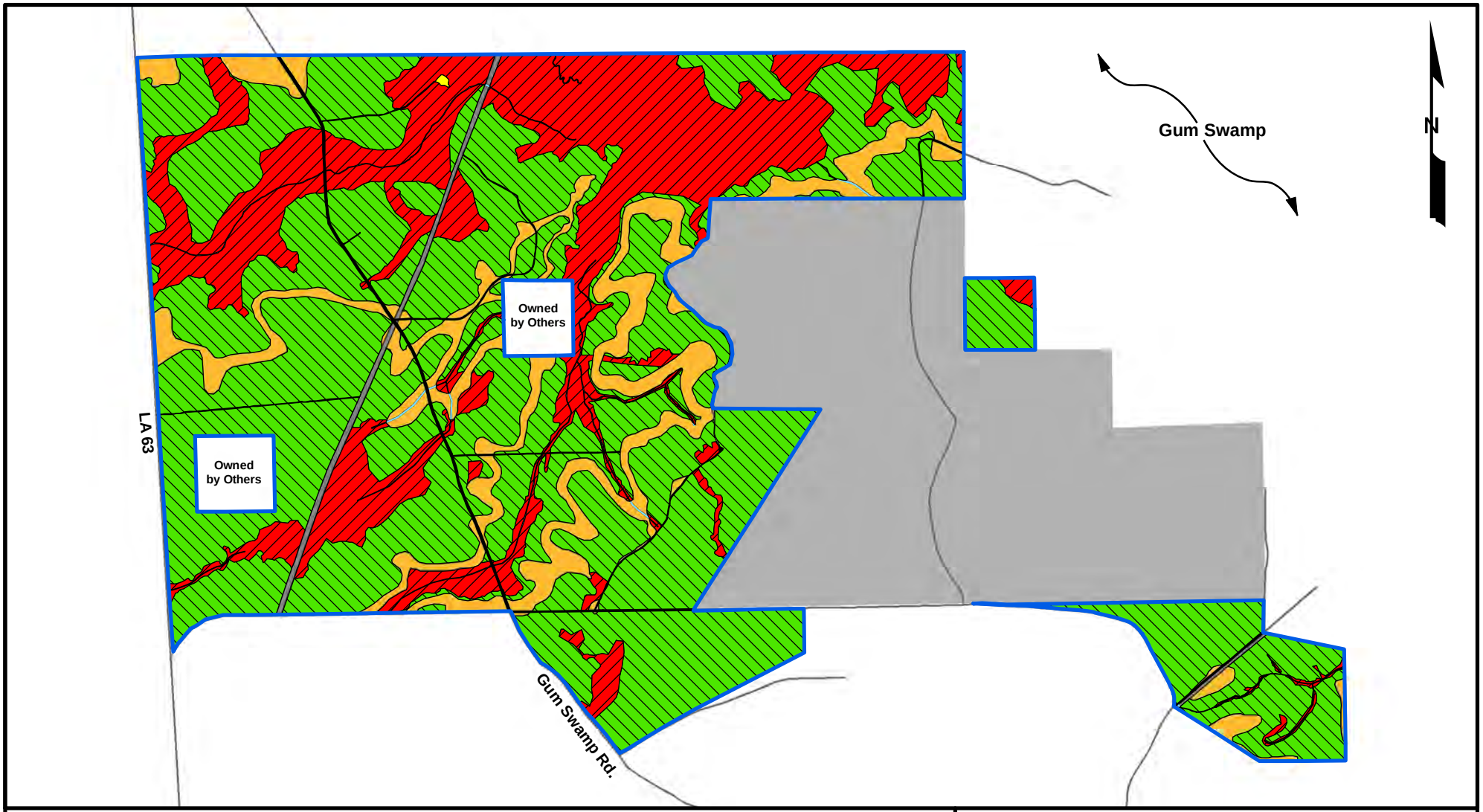

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Pre-Restoration Site Plan

Mitigation Bank Prospectus

Livingston Parish, Louisiana

Weyerhaeuser NR Company

Gum Swamp Mitigation Bank Addendum

2,500 1,250 0 2,500 Feet

MATRIXNEWORLD
Engineering Progress

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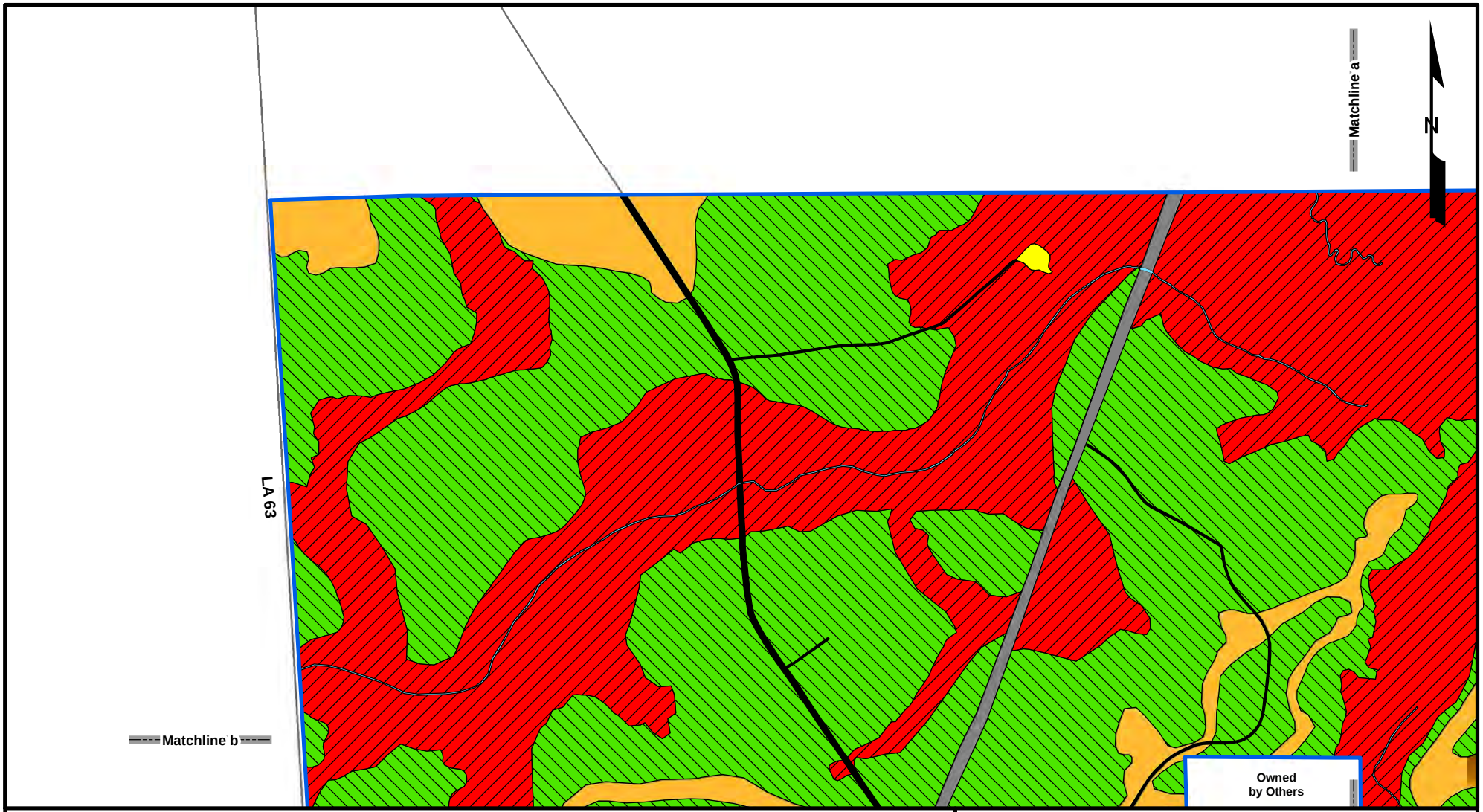

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Livingston Parish, Louisiana

Weyerhaeuser NR Company

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1,000 500 0 1,000 Feet

MATRIXNEWORLD
Engineering Progress

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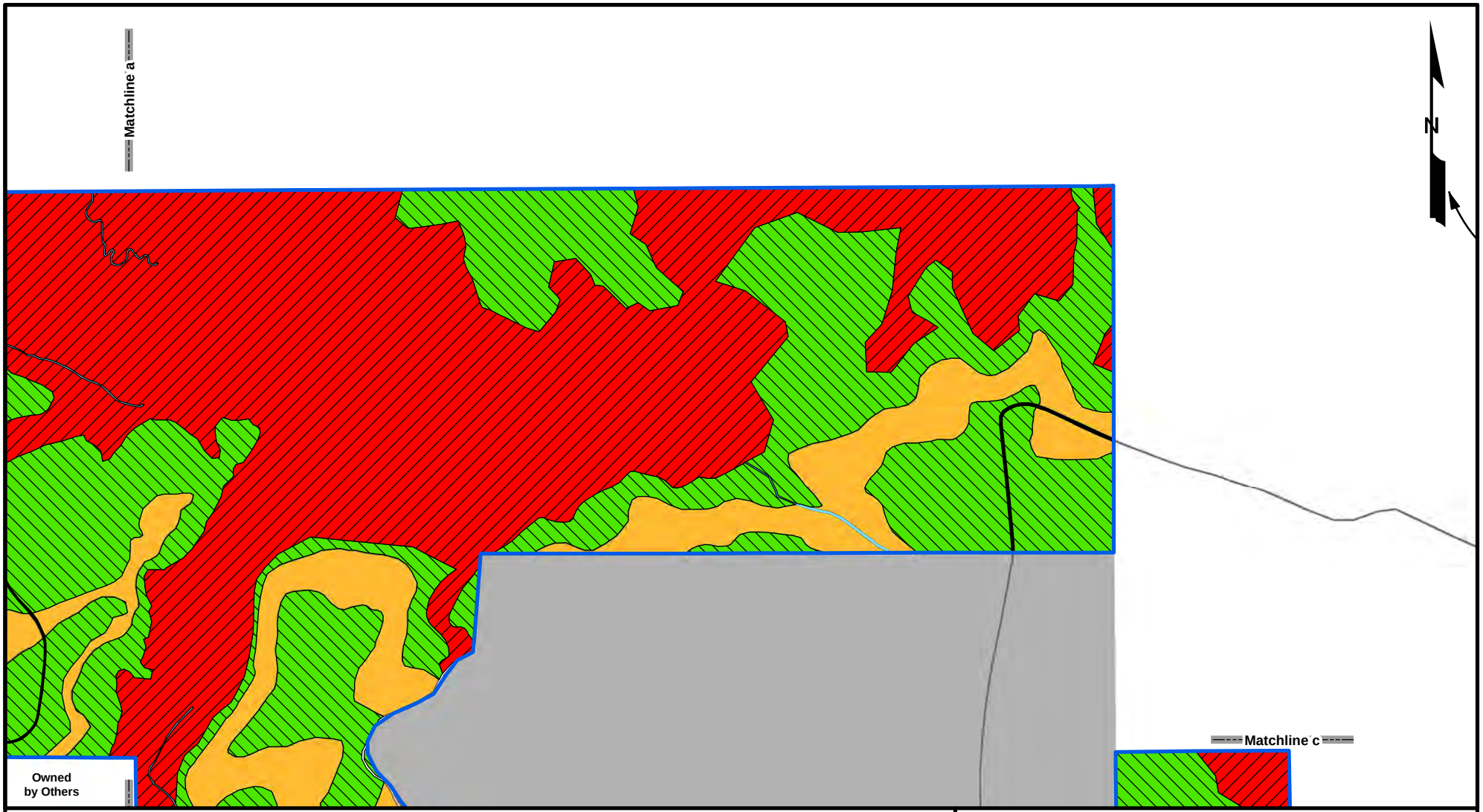

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Weyerhaeuser NR Company

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1,000 500 0 1,000 Feet

MATRIXNEWORLD
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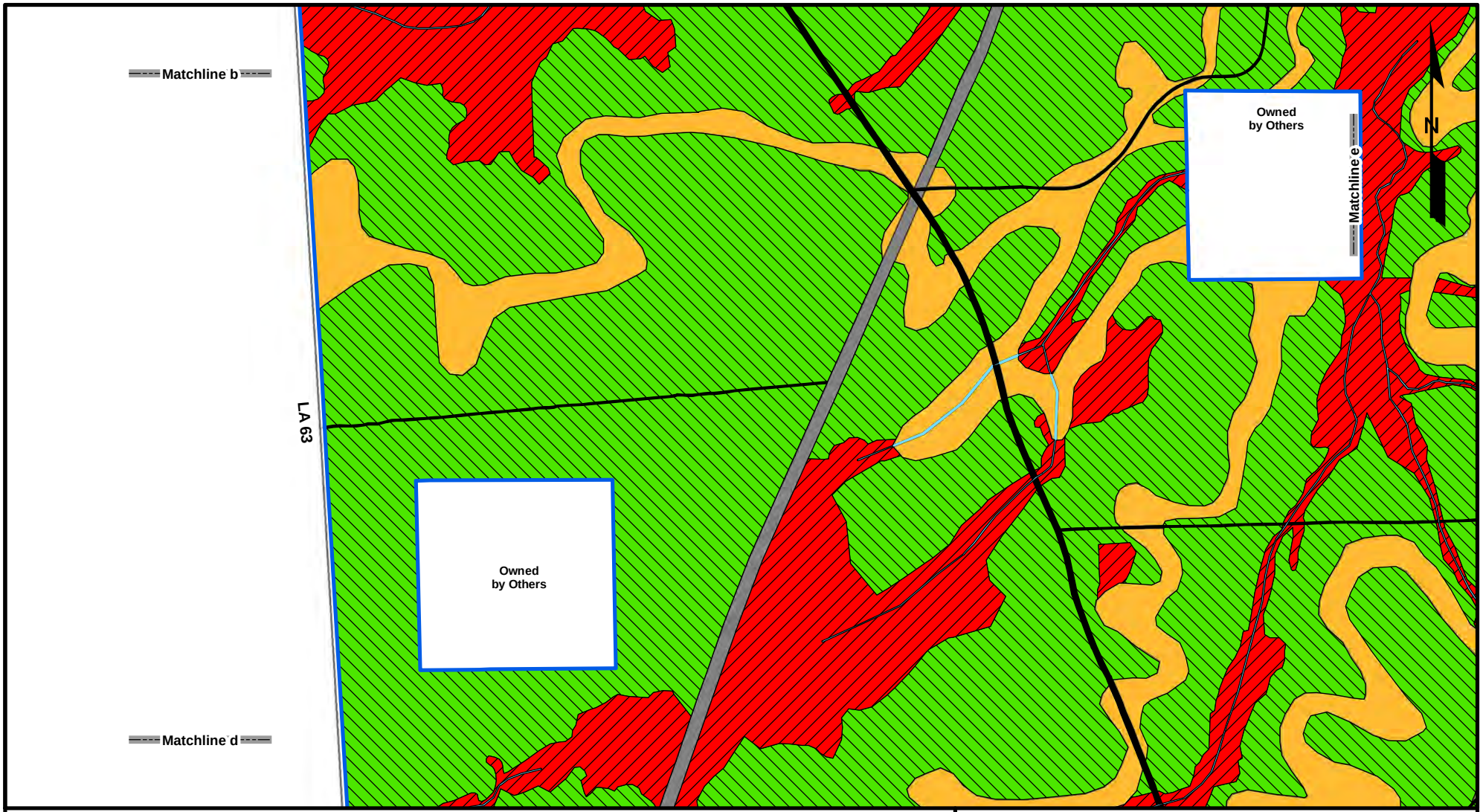

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Livingston Parish, Louisiana

Weyerhaeuser NR Company

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1,000 500 0 1,000 Feet

MATRIXNEWORLD
Engineering Progress

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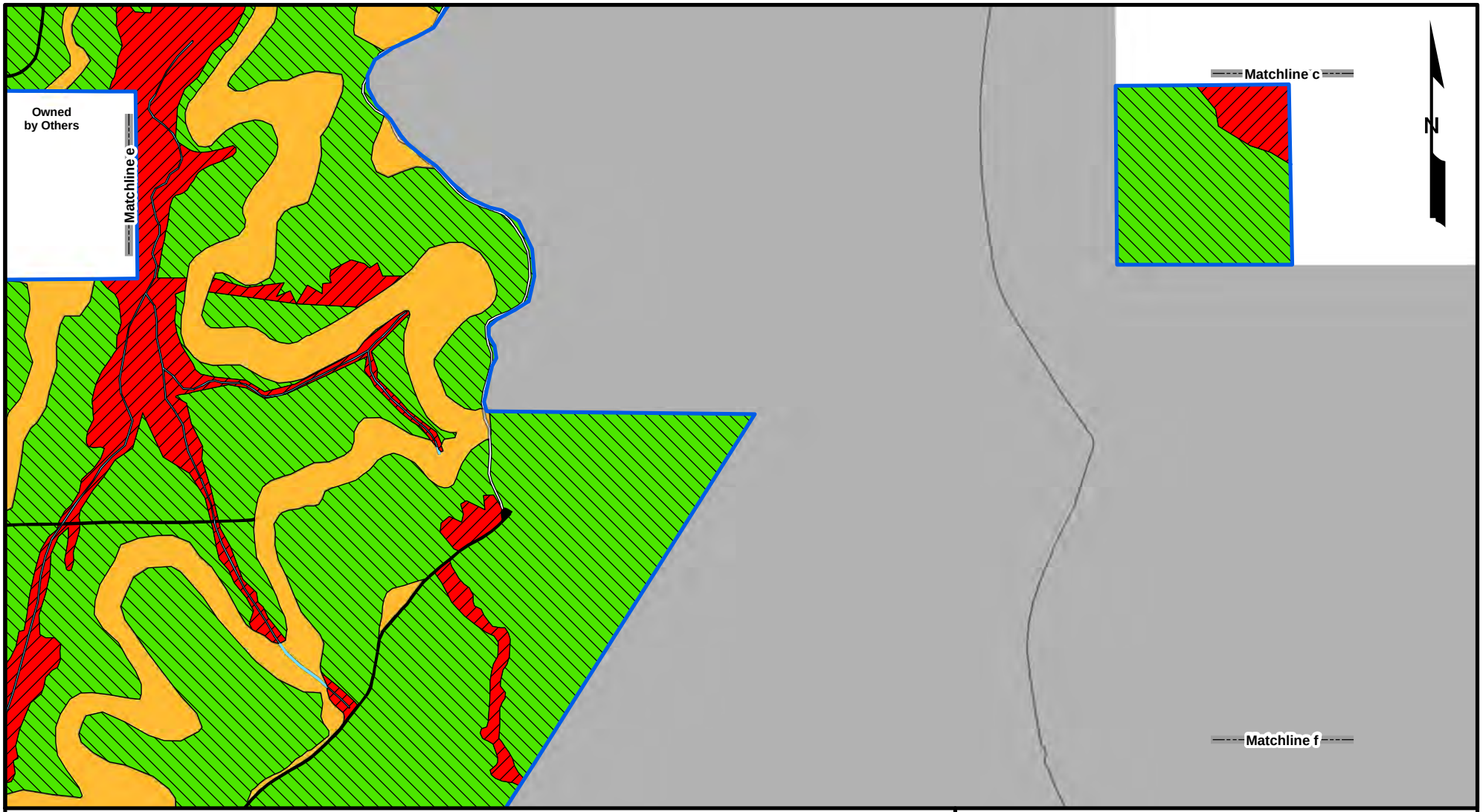
Figure No.



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Livingston Parish, Louisiana

Weyerhaeuser NR Company

Gum Swamp Mitigation Bank Addendum

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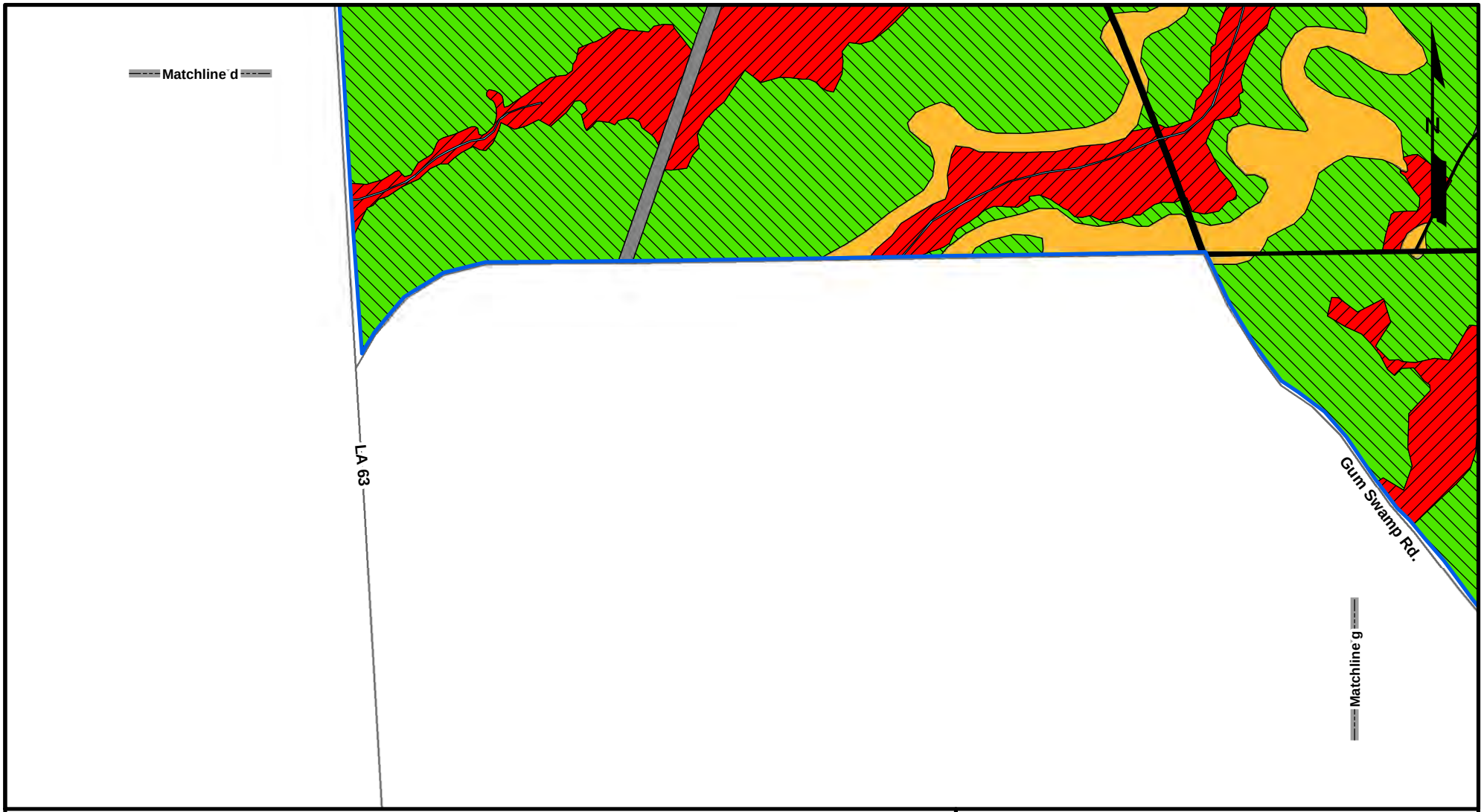

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Mitigation Bank Prospectus

Livingston Parish, Louisiana

Weyerhaeuser NR Company

Gum Swamp Mitigation Bank Addendum

1,000 500 0 1,000 Feet

MATRIXNEWORLD Engineering Progress

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Date	7/16/2018
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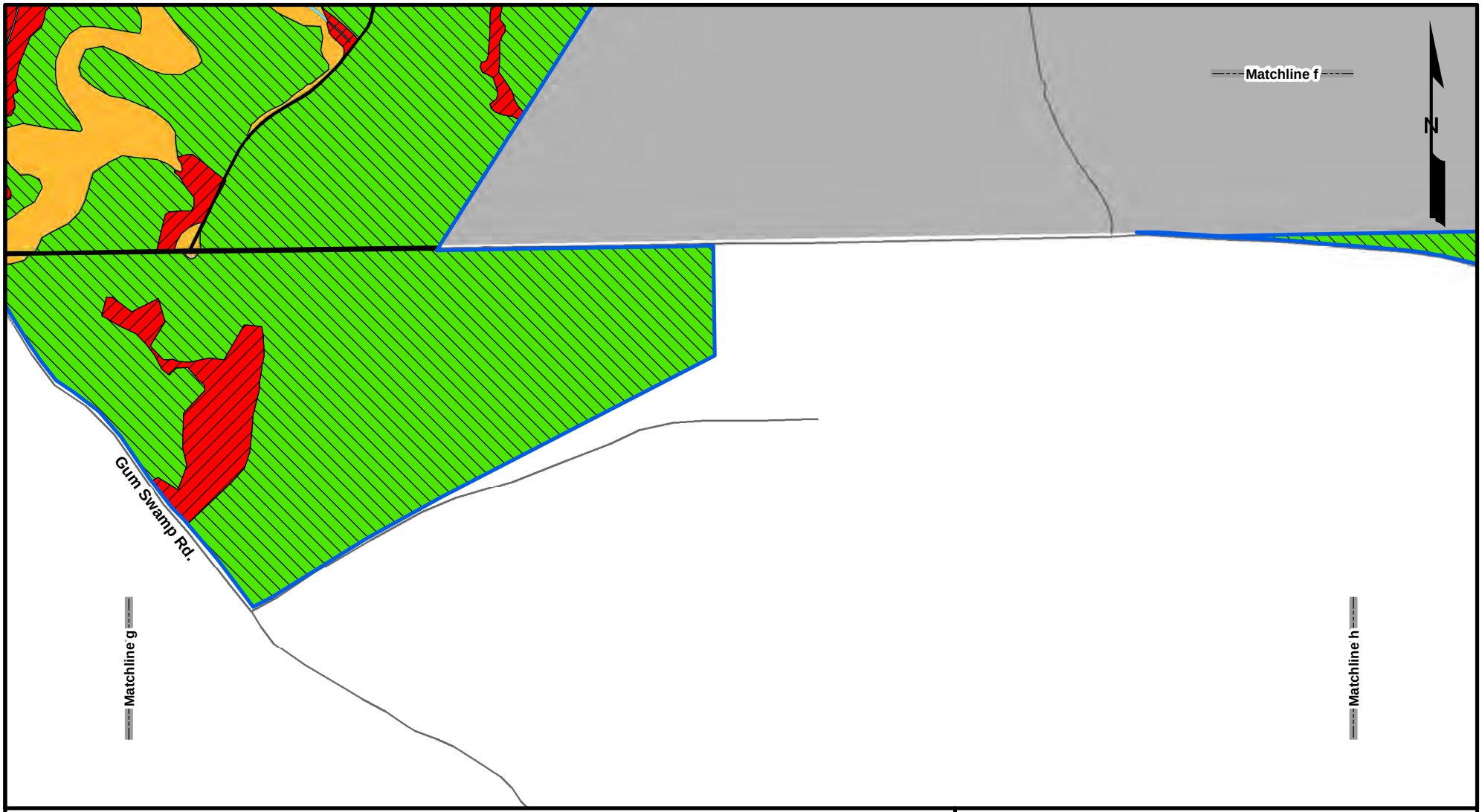

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Livingston Parish, Louisiana

Weyerhaeuser NR Company

Gum Swamp Mitigation Bank Addendum

1,000 500 0 1,000 Feet

MATRIXNEWORLD Engineering Progress

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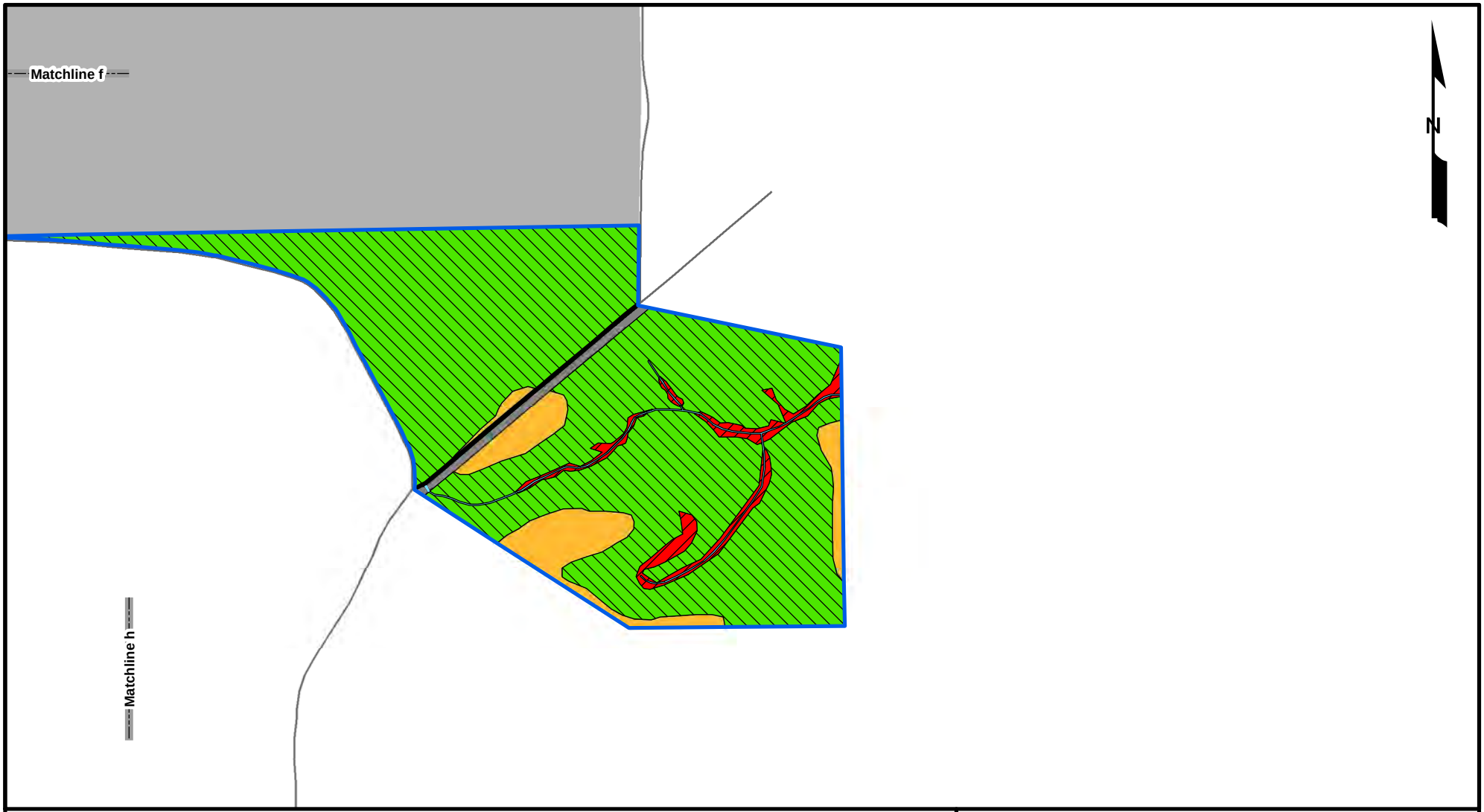

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Mitigation Bank Prospectus

Livingston Parish, Louisiana

Weyerhaeuser NR Company

Gum Swamp Mitigation Bank Addendum

1,000 500 0 1,000 Feet

MATRIXNEWORLD Engineering Progress

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Date	7/16/2018
Drawing No.	16-325-A100

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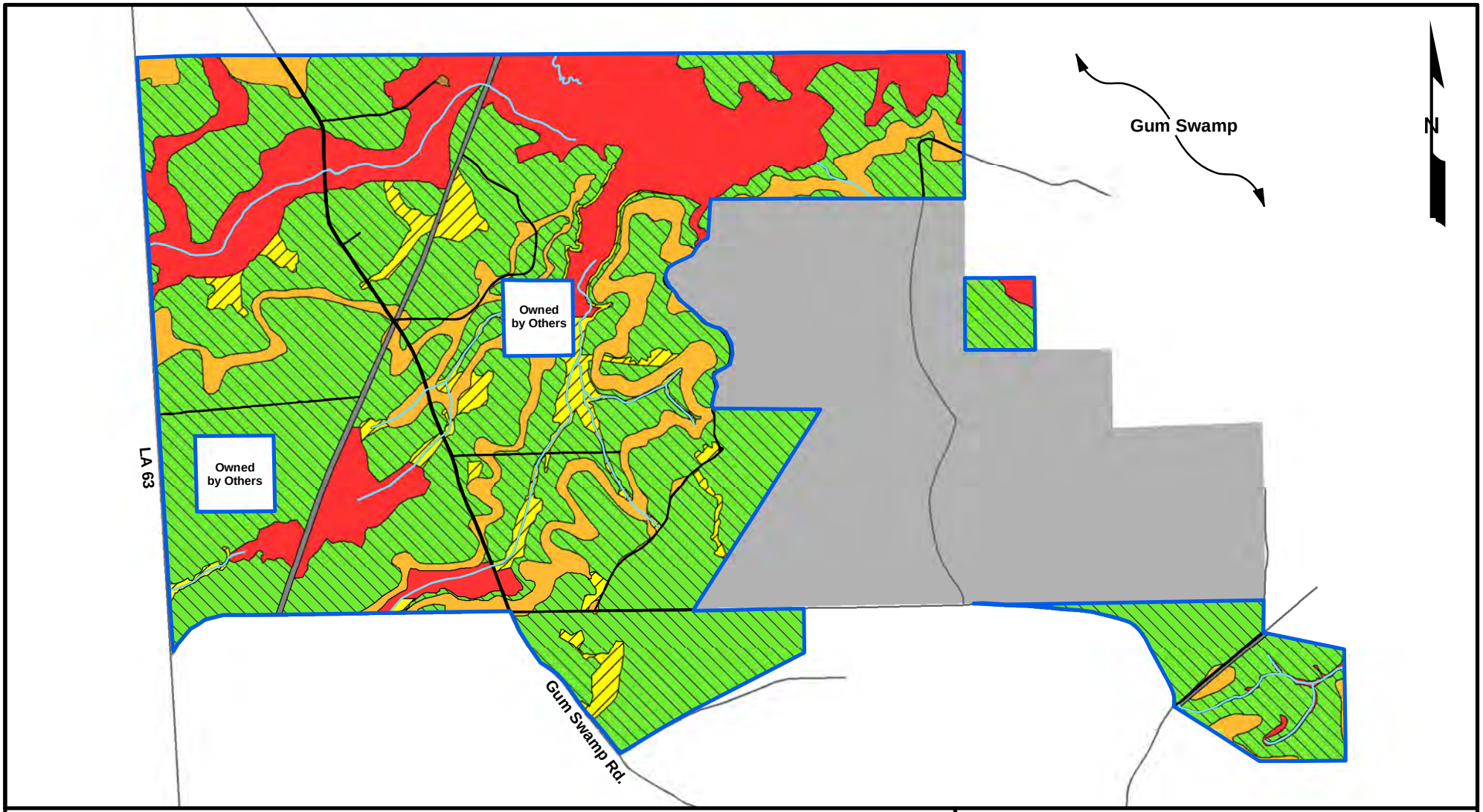

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Post-Restoration Site Plan

Mitigation Bank Prospectus

Livingston Parish, Louisiana

Weyerhaeuser NR Company

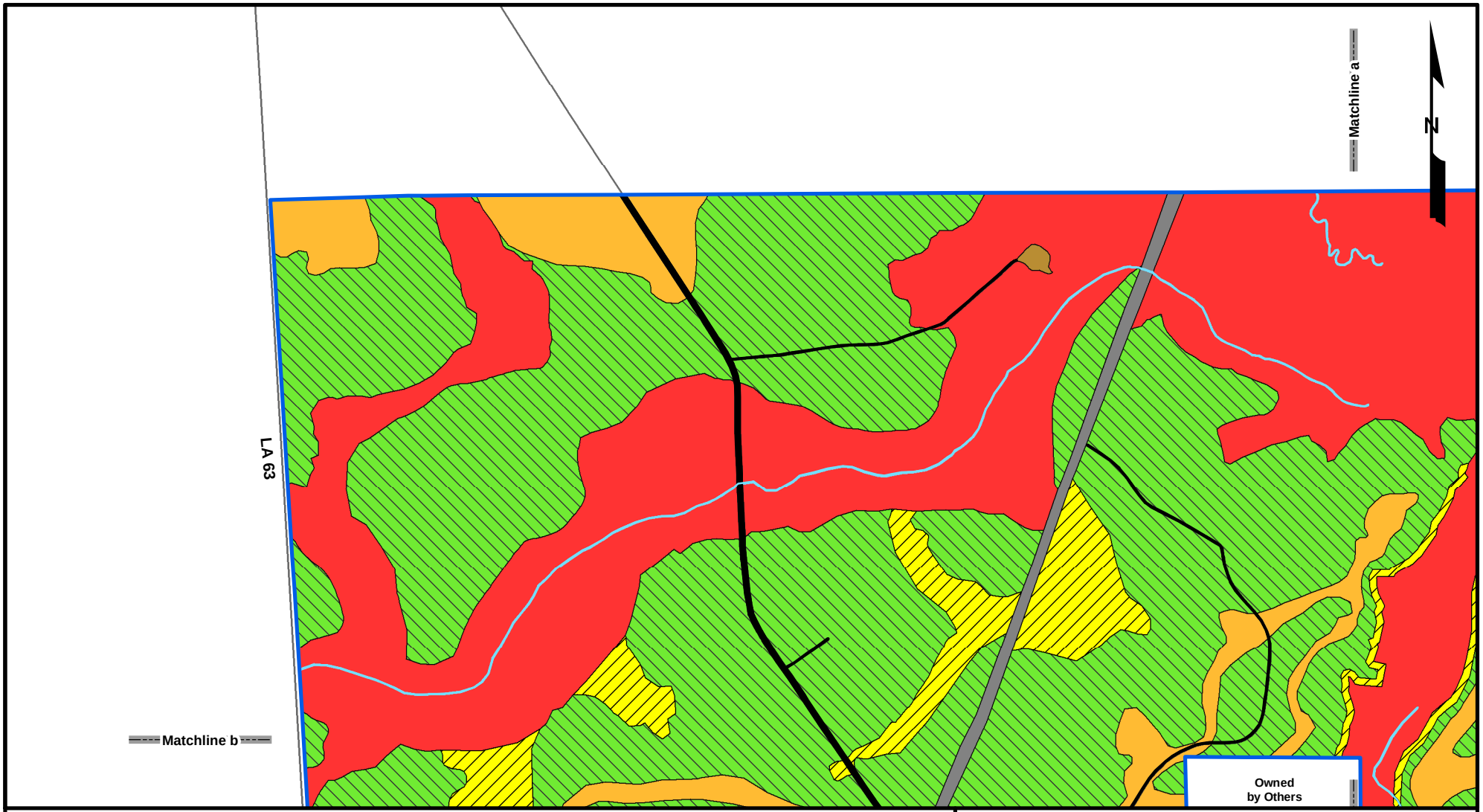
Gum Swamp Mitigation Bank Addendum

2,500 1,250 0 2,500 Feet

MATRIXNEWORLD Engineering Progress

Approved By	CEJ
Date	7/23/2018
Drawing No.	16-325-A101

5a Figure No.



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Livingston Parish, Louisiana

Weyerhaeuser NR Company

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1,000 500 0 1,000 Feet

MATRIXNEWORLD
Engineering Progress

Approved By	CEJ
Date	7/23/2018
Drawing No.	16-325-A102

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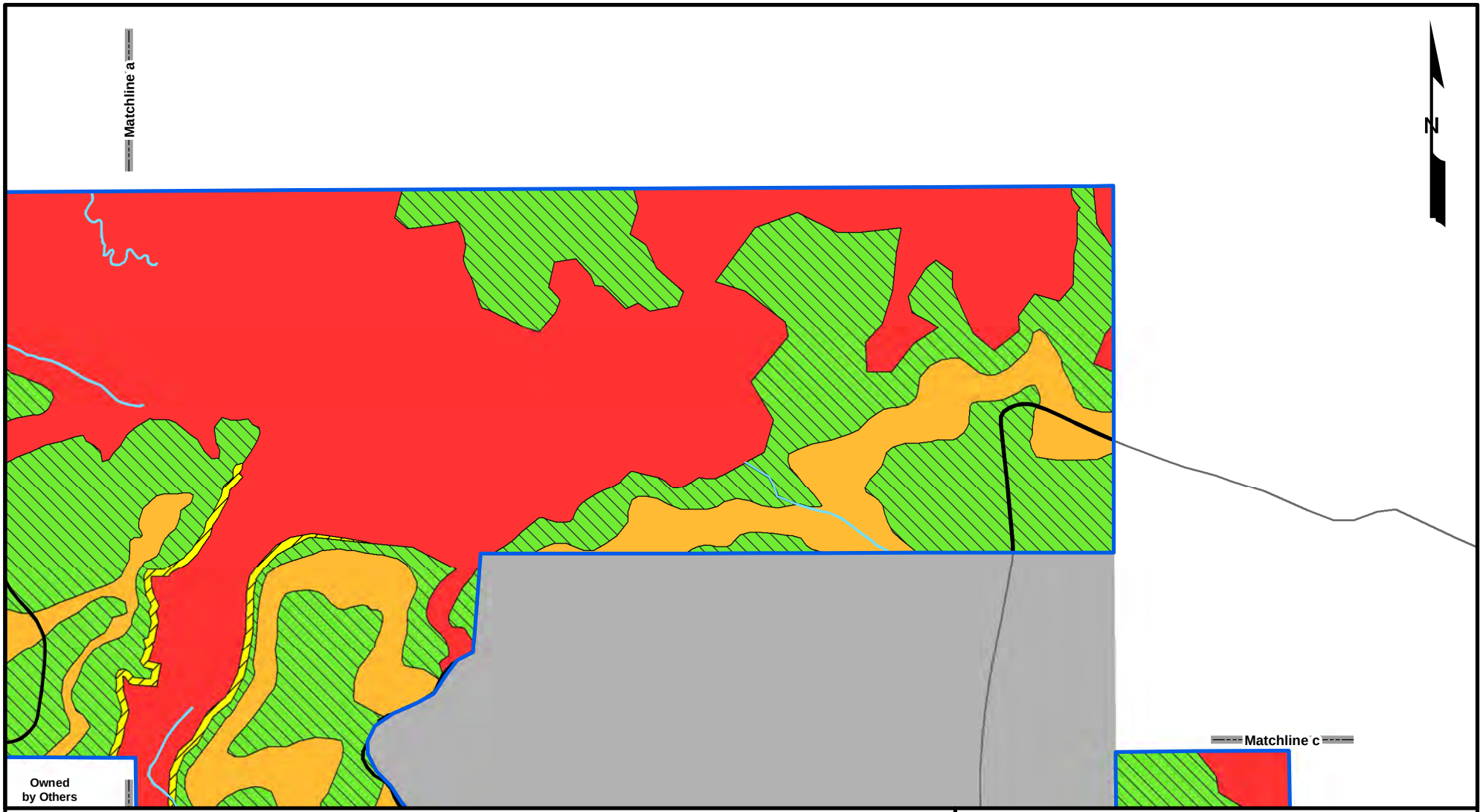

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Mitigation Bank Prospectus

Livingston Parish, Louisiana

Weyerhaeuser NR Company

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1,000 500 0 1,000 Feet

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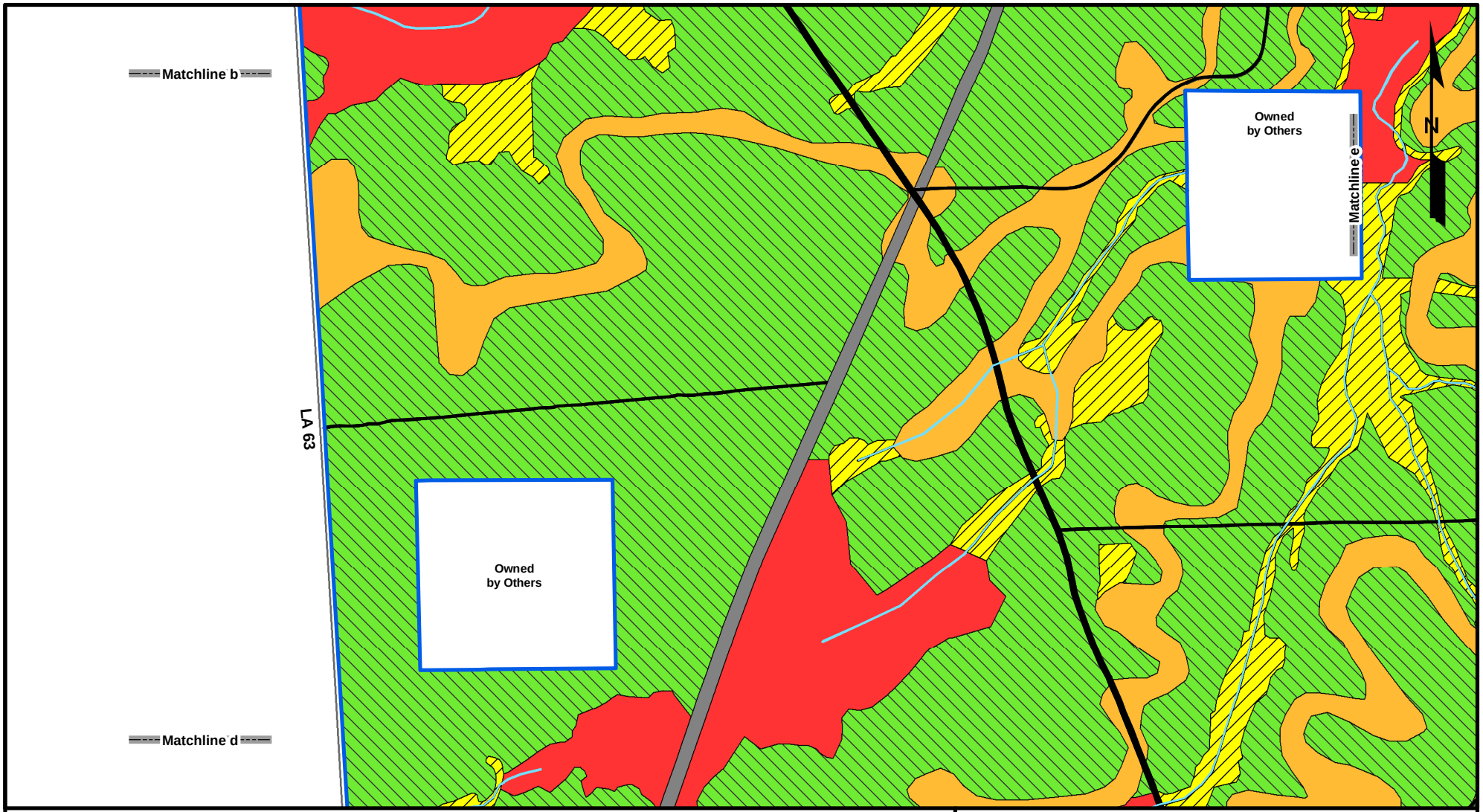

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1,000 500 0 1,000 Feet

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Engineering Progress

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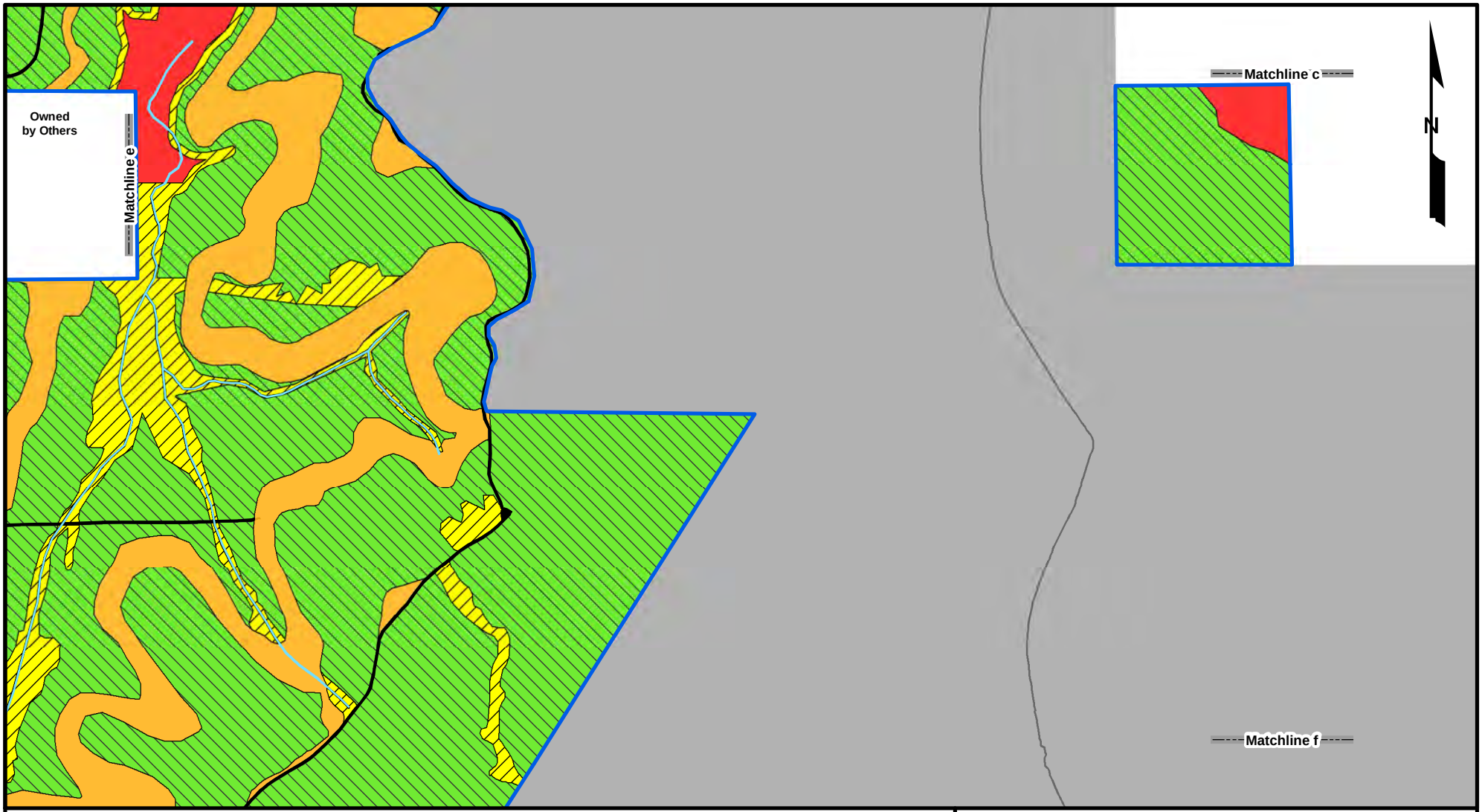

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1,000 500 0 1,000 Feet

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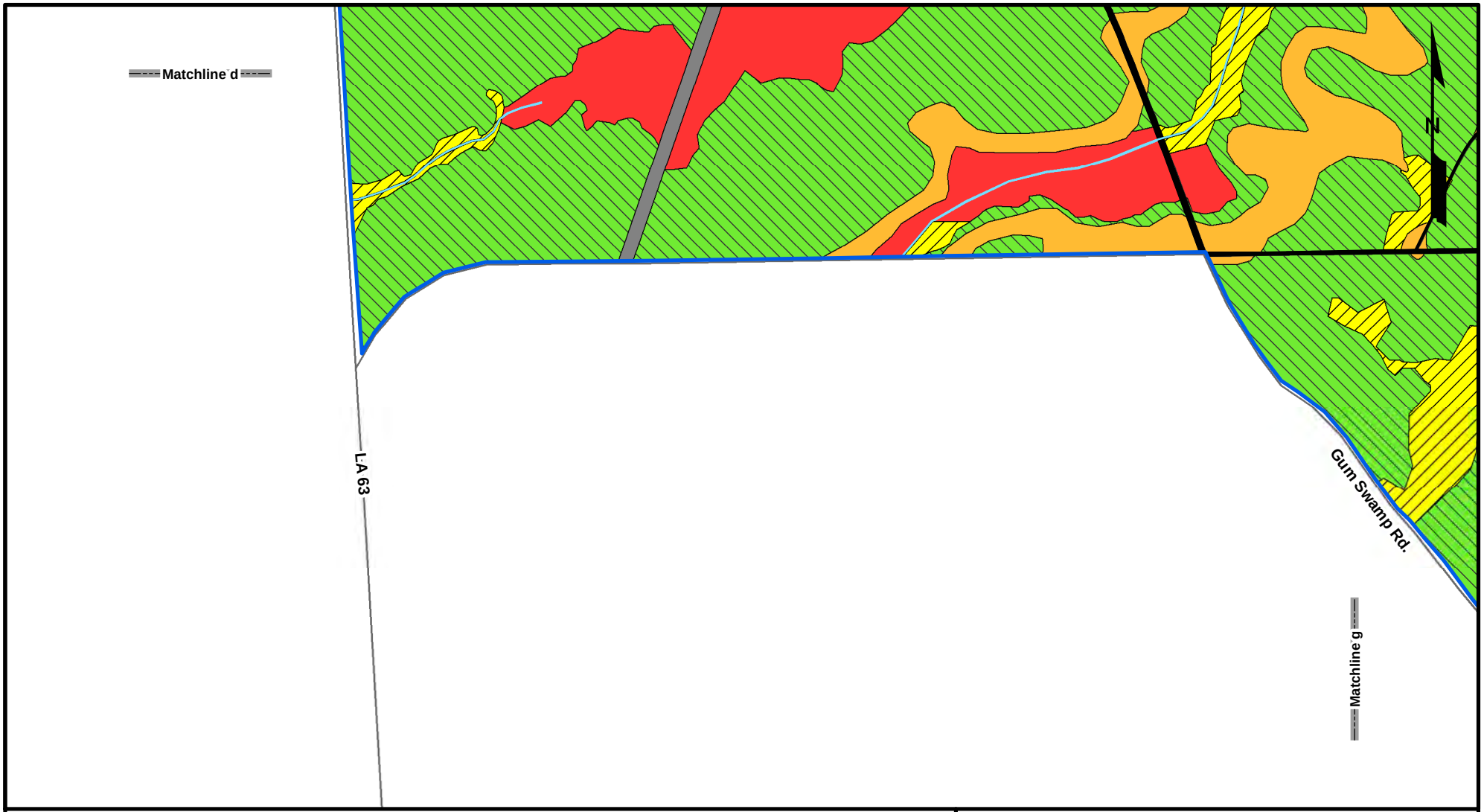
5e Figure No.



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1,000 500 0 1,000 Feet

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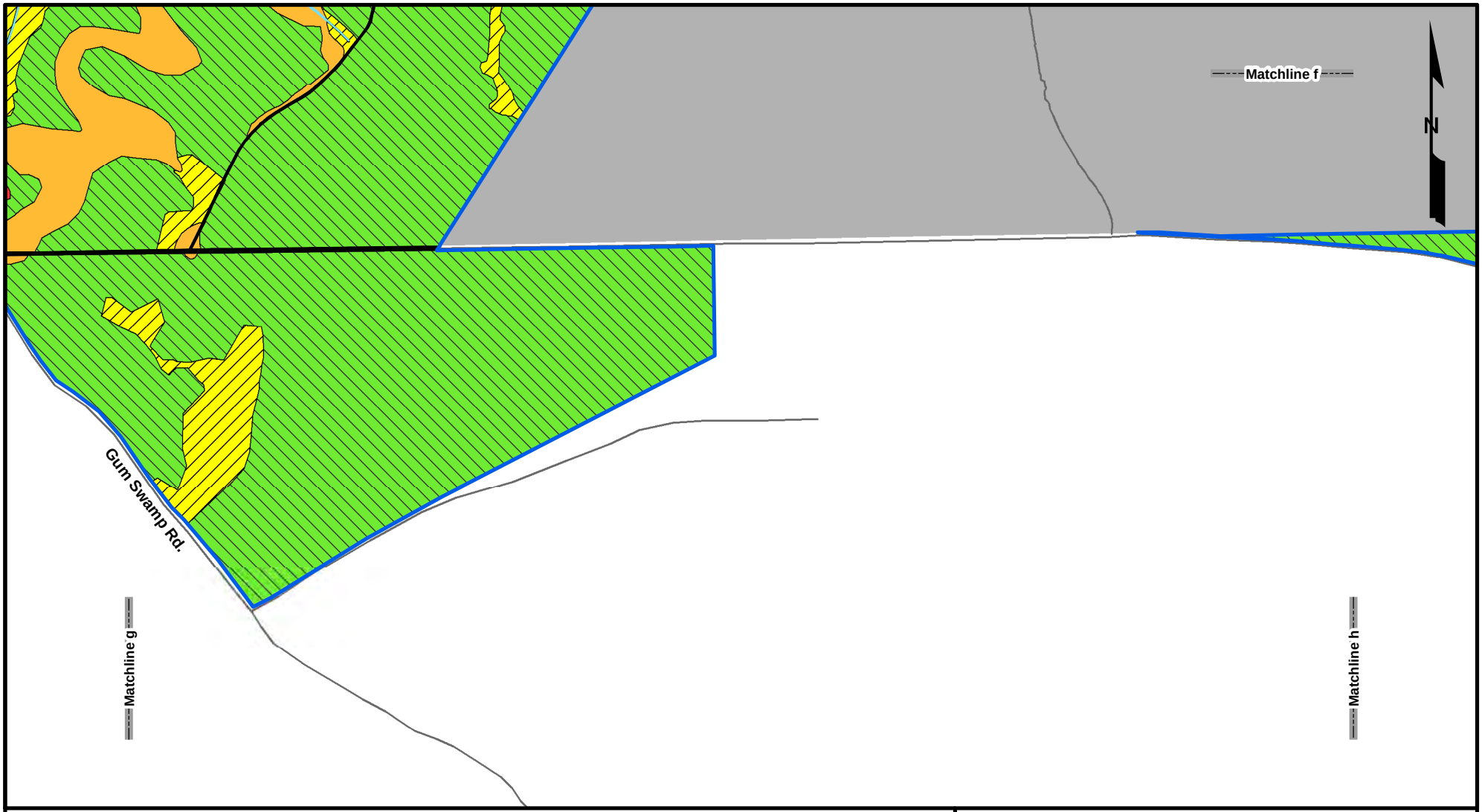
5f Figure No.



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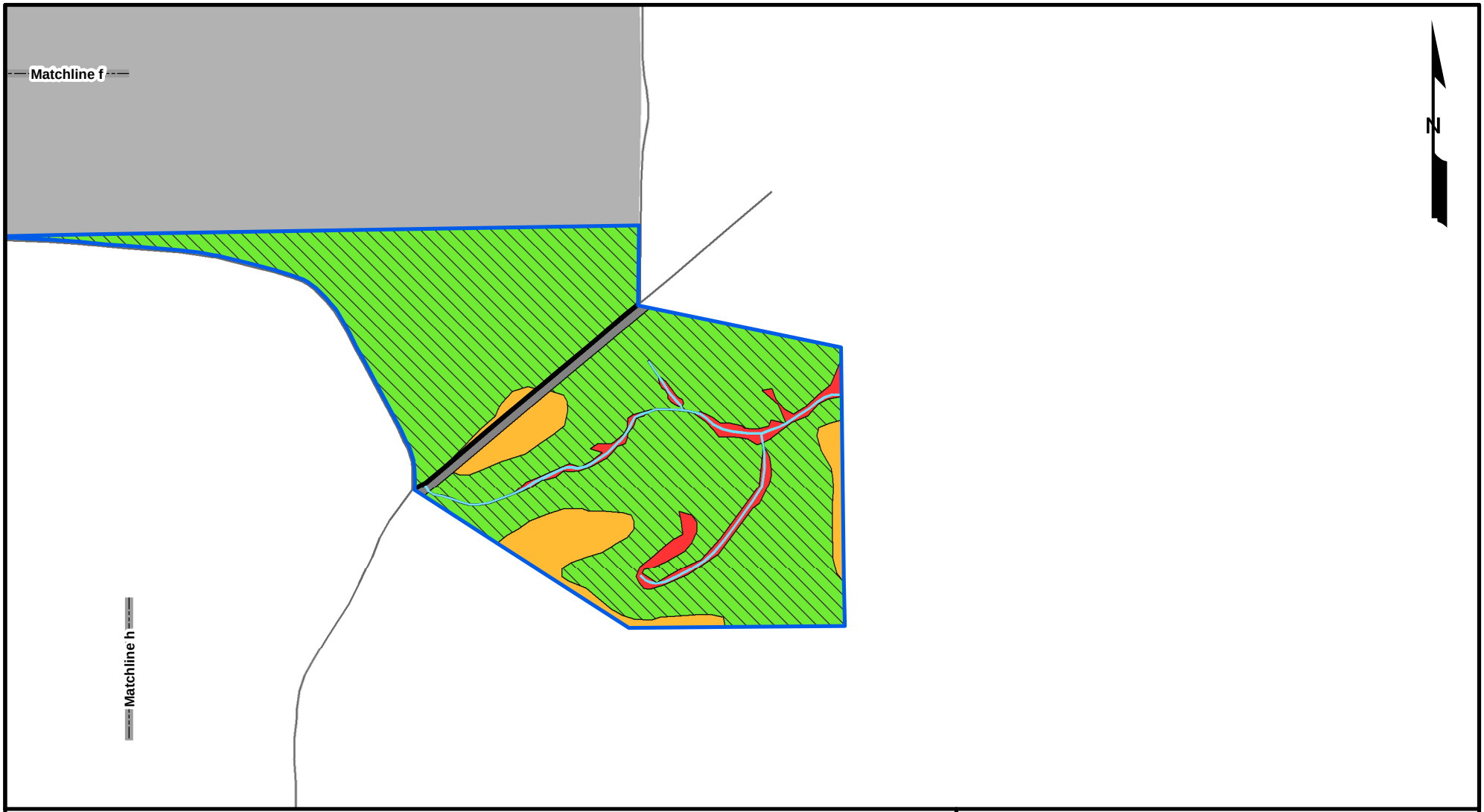
5g Figure No.



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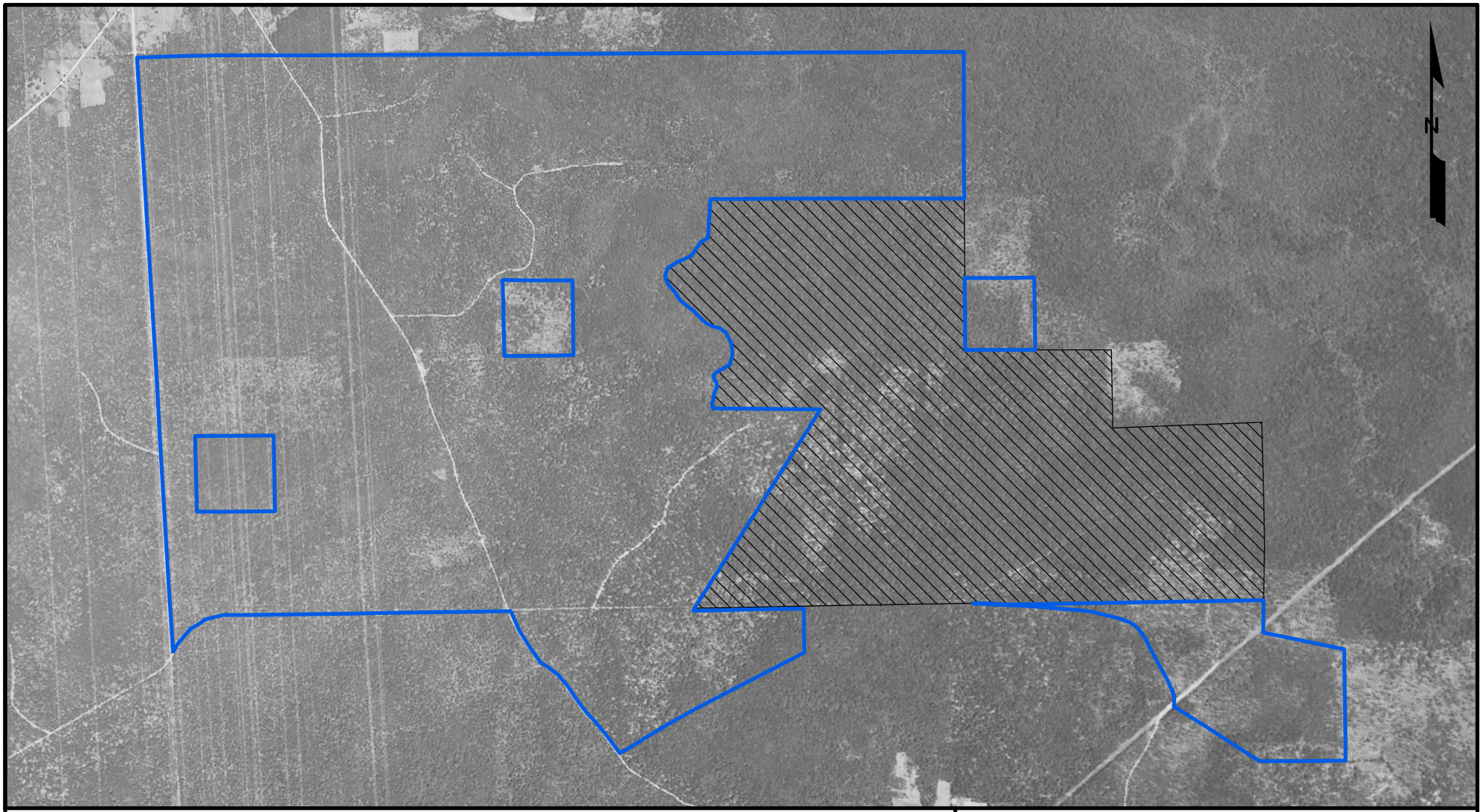
Drawing No.	16-325-A102

5h Figure No.



Legend

- Gum Swamp Addendum (2,817.3 acres)
- Gum Swamp Mitigation Bank

Source: U.S. Geological Survey (U.S.G.S). Aerial Single Frame Photo ID: A000960233991 [aerial photo]. Sioux Falls, S. Dak.: EROS Data Center, May 11, 1952.

1952 Aerial Photograph

Mitigation Bank Prospectus

Livingston Parish, Louisiana

Weyerhaeuser NR Company

Gum Swamp Mitigation Bank Addendum

2,500 1,250 0 2,500 Feet

MATRIXNEWORLD Engineering Progress

Approved By	CEJ
Date	7/16/2018
Drawing No.	16-325-A103

6 Figure No.

Legend

- Gum Swamp Addendum (2,817.3 acres)
- Gum Swamp Mitigation Bank

1962 Aerial Photograph

Mitigation Bank Prospectus

Livingston Parish, Louisiana

Weyerhaeuser NR Company

Gum Swamp Mitigation Bank Addendum

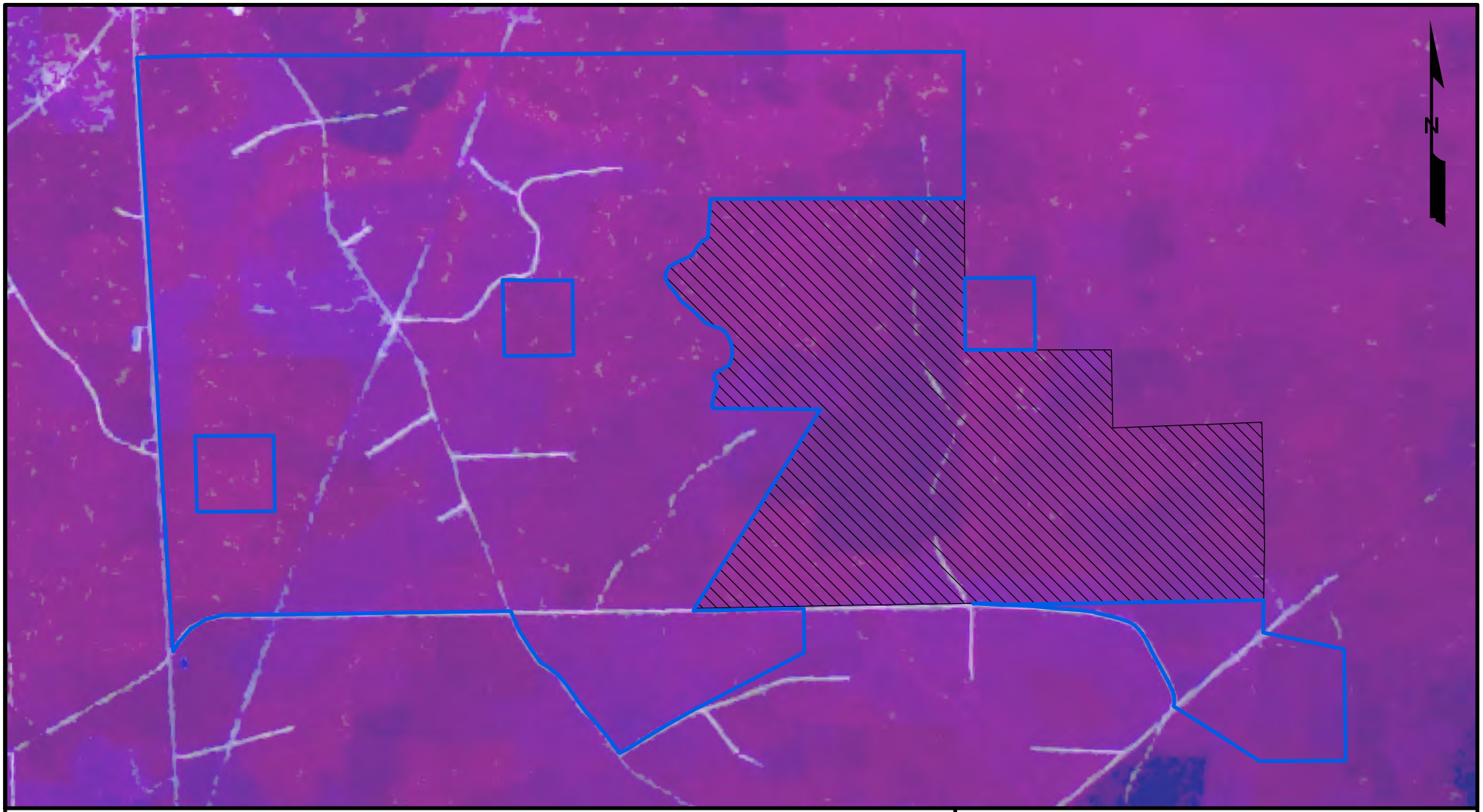
2,500 1,250 0 2,500 Feet

MATRIXNEWORLD
Engineering Progress

Approved By	CEJ
Date	10/17/2016
Drawing No.	16-325-A034

7
Figure No.

Source: U.S. Geological Survey (U.S.G.S). Aerial Single Frame Photo IDs: AR1VAJW00010028, AR1VALI00020054, AR1VALI00020096, and AR1VALI00020099 [aerial photos]. Sioux Falls, S. Dak.: EROS Data Center, Janurary 30 and February 11, 1962.



Legend

- Gum Swamp Addendum (2,817.3 acres)
- Gum Swamp Mitigation Bank

Source: U.S. Geological Survey (U.S.G.S). Aerial Single Frame Photo IDs: AR5730010878939 [aerial photos]. Sioux Falls, S. Dak.: EROS Data Center, April 11, 1973.

1973 Aerial Photograph

Mitigation Bank Prospectus

Livingston Parish, Louisiana

Weyerhaeuser NR Company

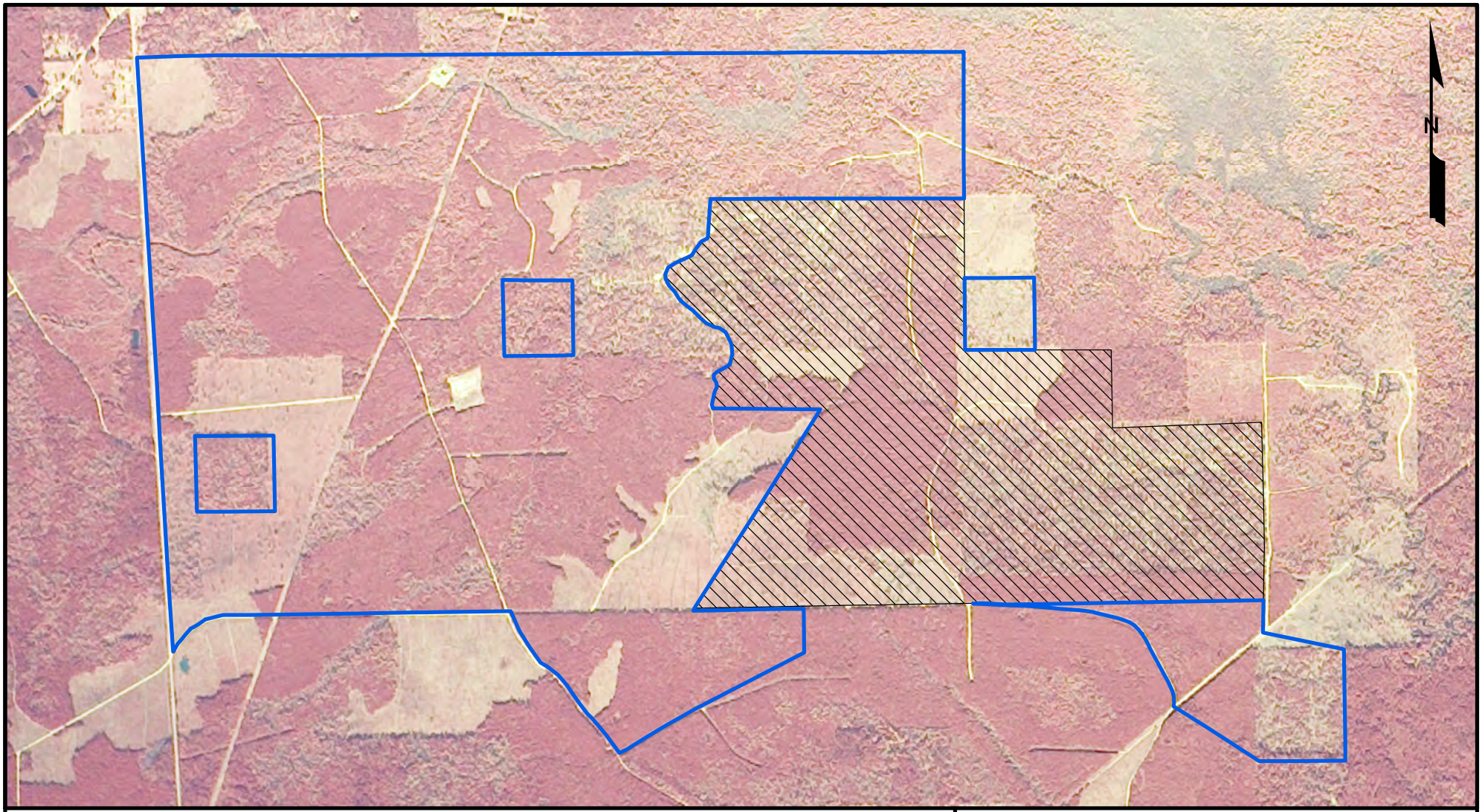
Gum Swamp Mitigation Bank Addendum

2,500 1,250 0 2,500 Feet

MATRIXNEWORLD Engineering Progress

Approved By	CEJ
Date	7/16/2018
Drawing No.	16-325-A105

8 Figure No.



Legend

- Gum Swamp Addendum (2,817.3 acres)
- Gum Swamp Mitigation Bank

Source: U.S. Geological Survey (U.S.G.S). Aerial Single Frame Photo IDs: AR5850035512141 [aerial photos]. Sioux Falls, S. Dak.: EROS Data Center, December 15, 1985.

1985 Aerial Photograph

Mitigation Bank Prospectus

Livingston Parish, Louisiana

Weyerhaeuser NR Company

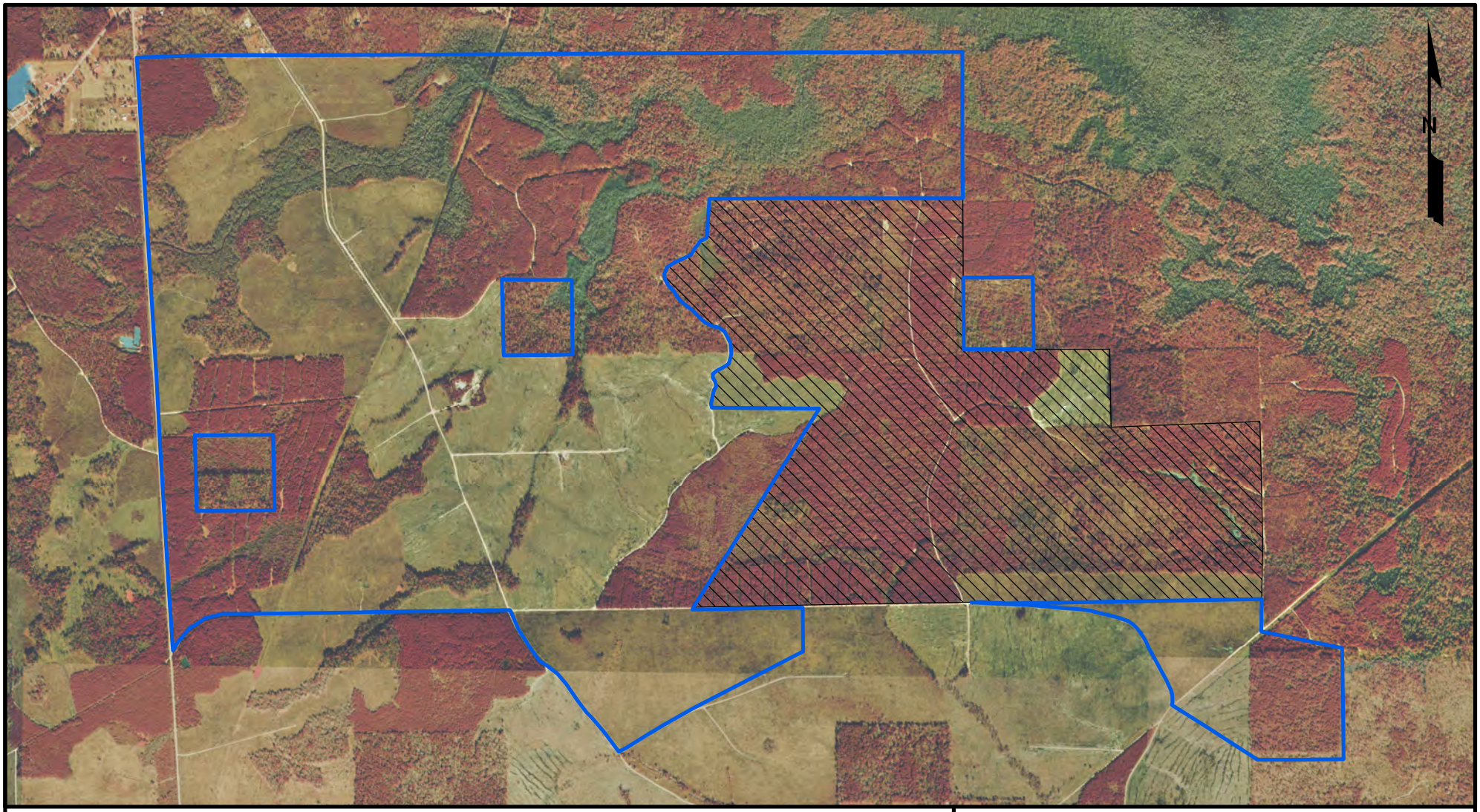
Gum Swamp Mitigation Bank Addendum

2,500 1,250 0 2,500 Feet

MATRIXNEWORLD Engineering Progress

Approved By	CEJ
Date	7/16/2018
Drawing No.	16-325-A106

9 Figure No.



Legend

- Gum Swamp Addendum (2,817.3 acres)
- Gum Swamp Mitigation Bank

Source: Base map comprised of 1998 aerial photograph from Louisiana Oil Spill Coordinators Office.

1998 Aerial Photograph

Mitigation Bank Prospectus

Livingston Parish, Louisiana

Weyerhaeuser NR Company

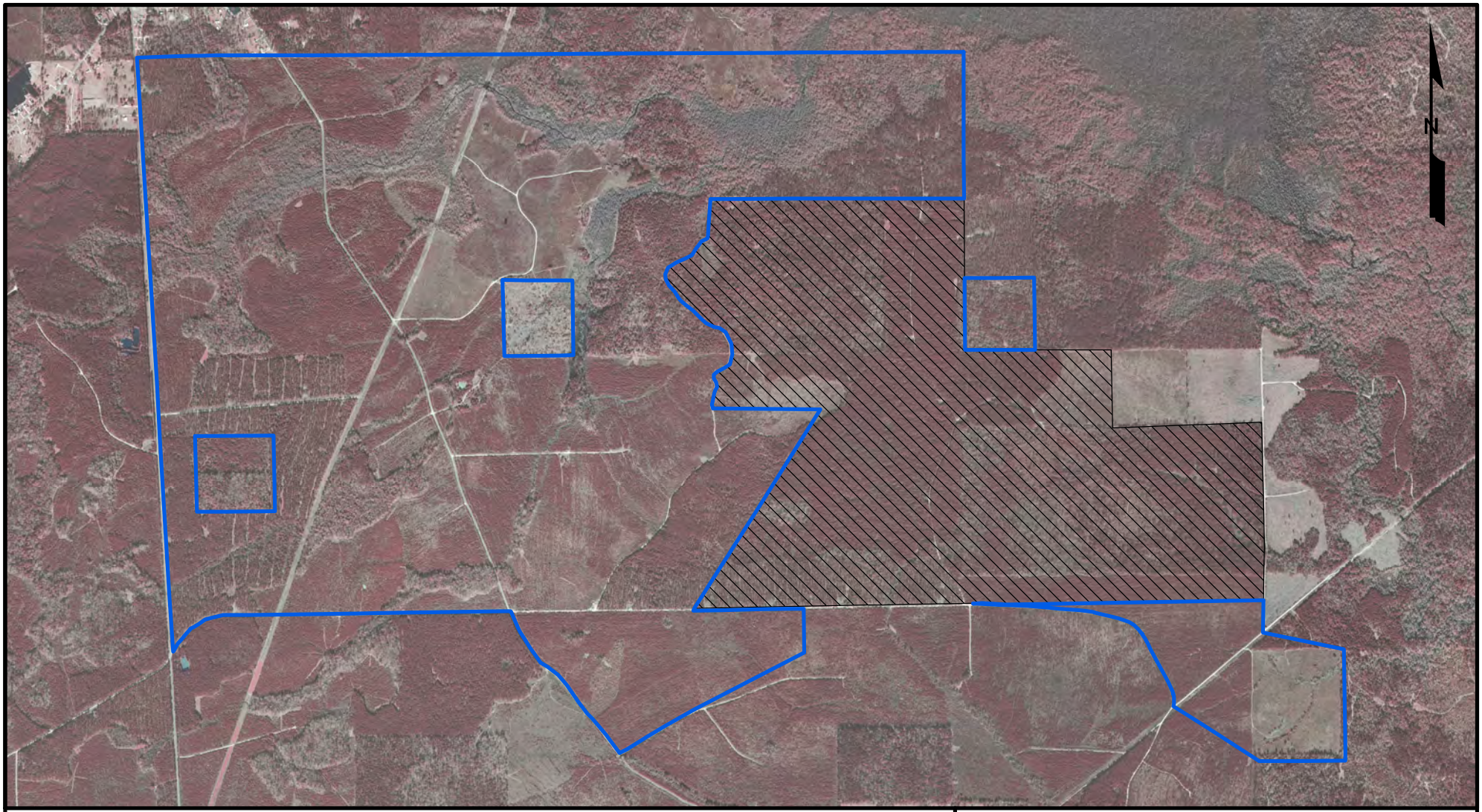
Gum Swamp Mitigation Bank Addendum

2,500 1,250 0 2,500 Feet

MATRIXNEWORLD
Engineering Progress

Approved By	CEJ
Date	7/16/2018
Drawing No.	16-325-A107

10
Figure No.



Legend

- Gum Swamp Addendum (2,817.3 acres)
- Gum Swamp Mitigation Bank

Source: Base map comprised of 2004 aerial photograph from Louisiana Oil Spill Coordinators Office.

2004 Aerial Photograph

Mitigation Bank Prospectus

Livingston Parish, Louisiana

Weyerhaeuser NR Company

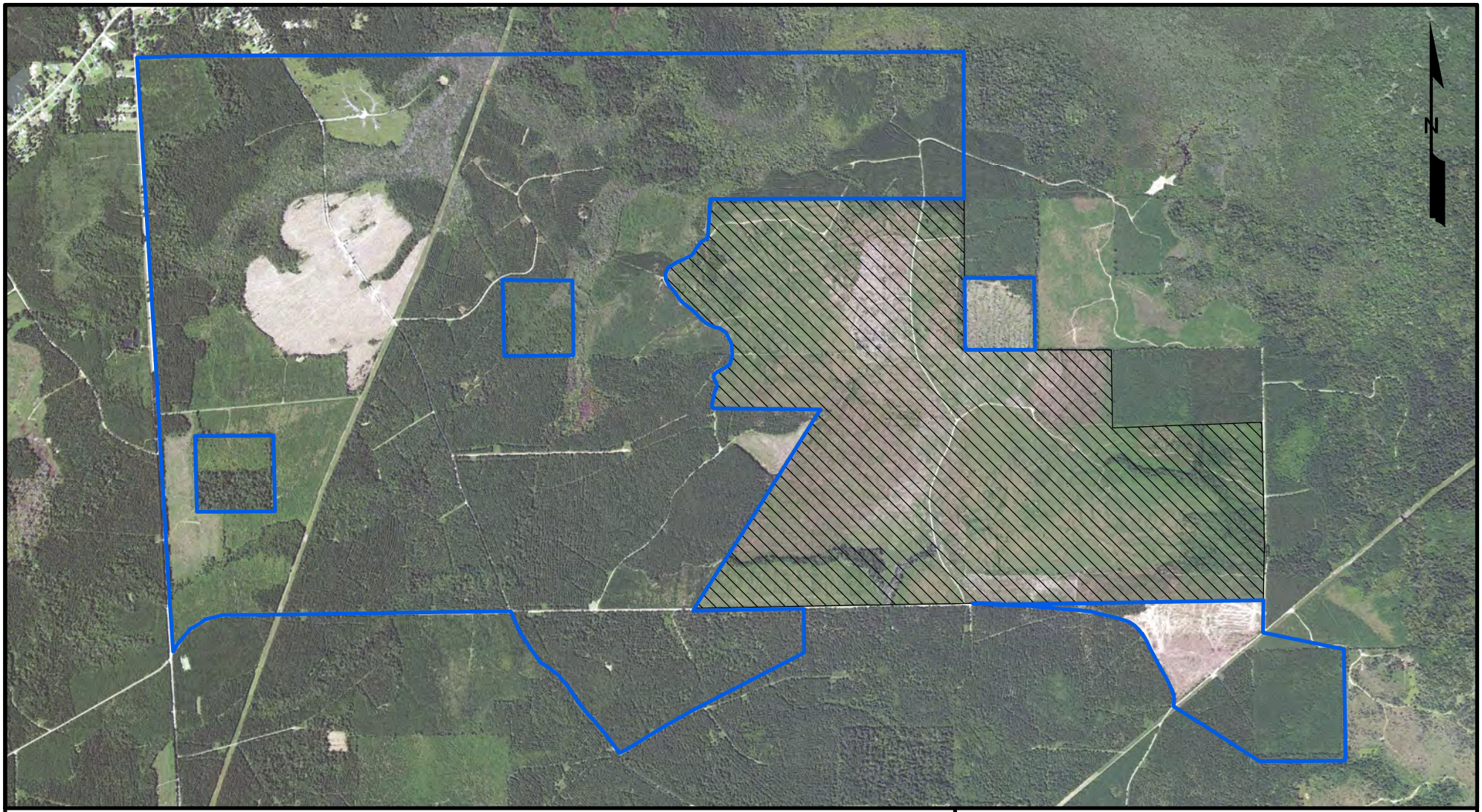
Gum Swamp Mitigation Bank Addendum

2,500 1,250 0 2,500 Feet

MATRIXNEWORLD
Engineering Progress

Approved By	CEJ
Date	7/16/2018
Drawing No.	16-325-A108

11
Figure No.



Legend

- Gum Swamp Addendum (2,817.3 acres)
- Gum Swamp Mitigation Bank

Source: Base map comprised of 2017 aerial photograph from USDA/FSA Aerial Photography Field Office.

2017 Aerial Photograph

Mitigation Bank Prospectus

Livingston Parish, Louisiana

Weyerhaeuser NR Company

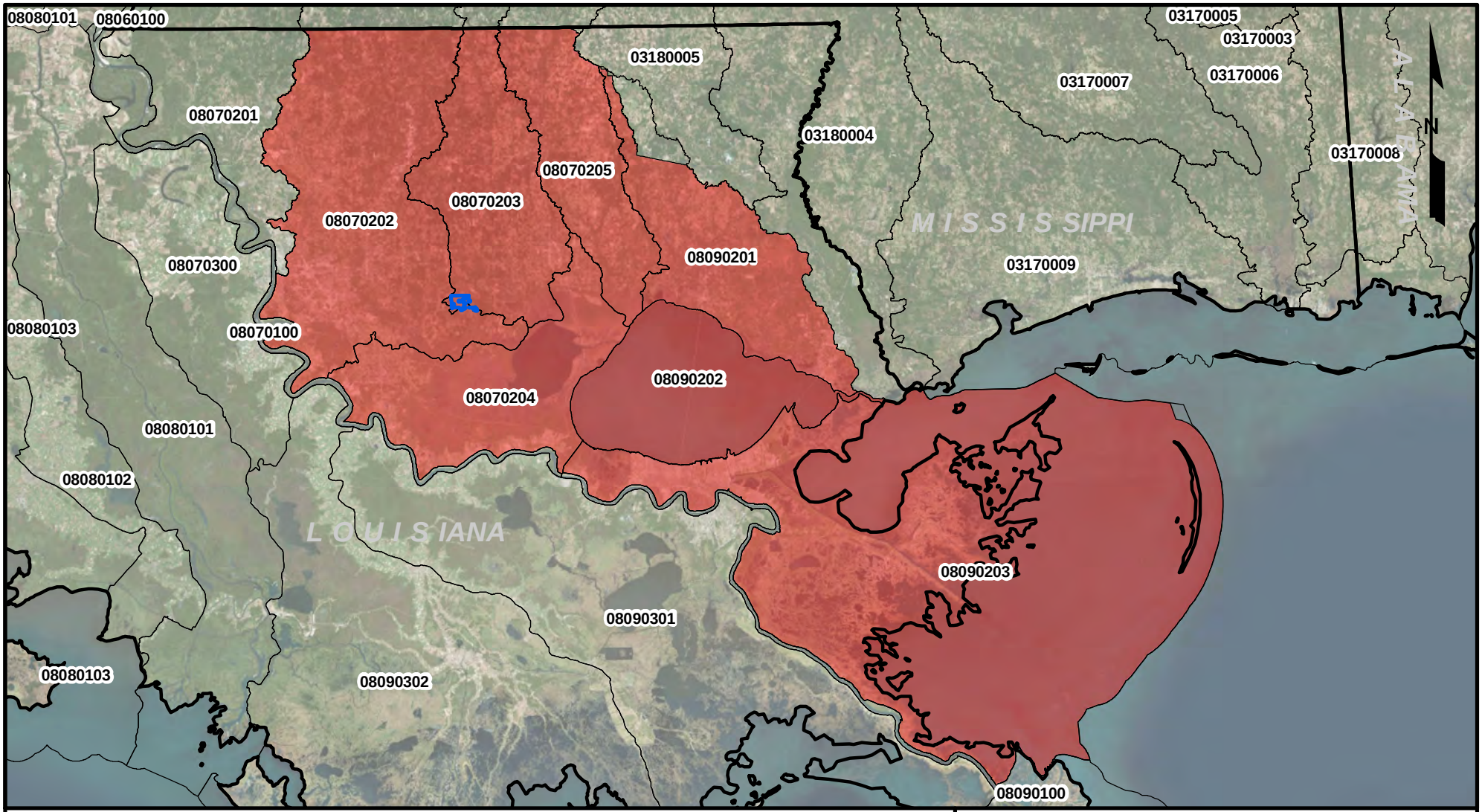
Gum Swamp Mitigation Bank Addendum

2,500 1,250 0 2,500 Feet

MATRIXNEWORLD
Engineering Progress

Approved By	CEJ
Date	7/16/2018
Drawing No.	16-325-A109

12
Figure No.



Legend

- Gum Swamp Addendum (2,817.3 acres)
- Primary Service Area (Lake Pontchartrain Basin)
- Hydrologic Unit Boundary
- State Boundary

Source: Base map comprised of ESRI World Imagery. Hydrologic Unit Code (HUC) boundaries obtained from the U.S. Department of Agriculture (USDA).

Primary Service Area Map

Mitigation Bank Prospectus

Livingston Parish, Louisiana

Weyerhaeuser NR Company

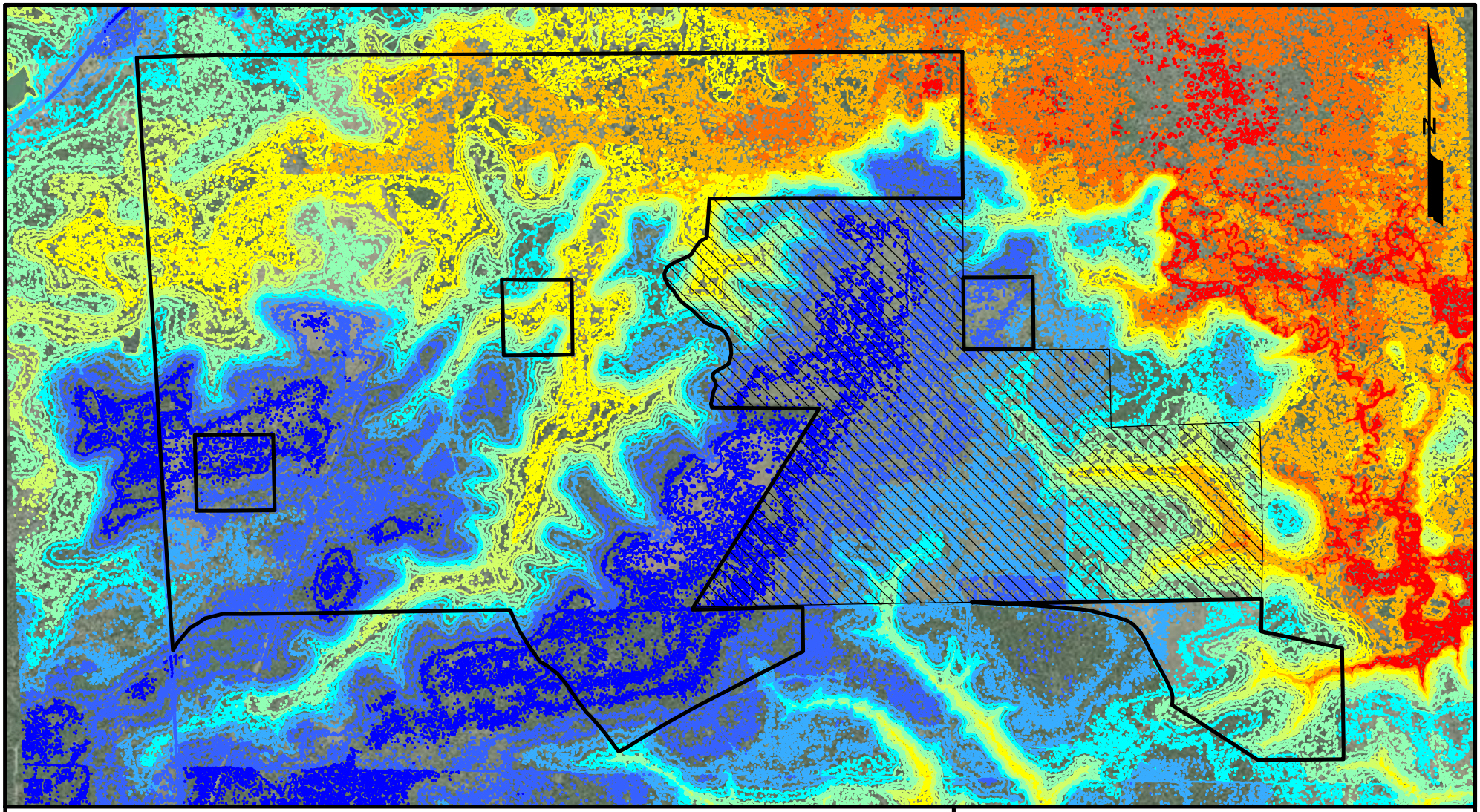
Gum Swamp Mitigation Bank Addendum

22 11 0 22 Miles

MATRIXNEWORLD Engineering Progress

Approved By	CEJ
Date	7/16/2018
Drawing No.	16-325-A110

13 Figure No.



Legend

- Gum Swamp Addendum (2,817.3 acres)
- Gum Swamp Mitigation Bank

Elevation (feet)

2 - 5	15 - 17
6	18 - 19
7 - 8	20 - 21
9 - 11	22 - 23
12 - 14	24 - 26

Source: Base map comprised of ESRI World Imagery. LIDAR Contours calculated from USACE/LOSCO Digital Elevation Model, dated 2002/2009.

LIDAR Map

Mitigation Bank Prospectus

Livingston Parish, Louisiana

Weyerhaeuser NR Company

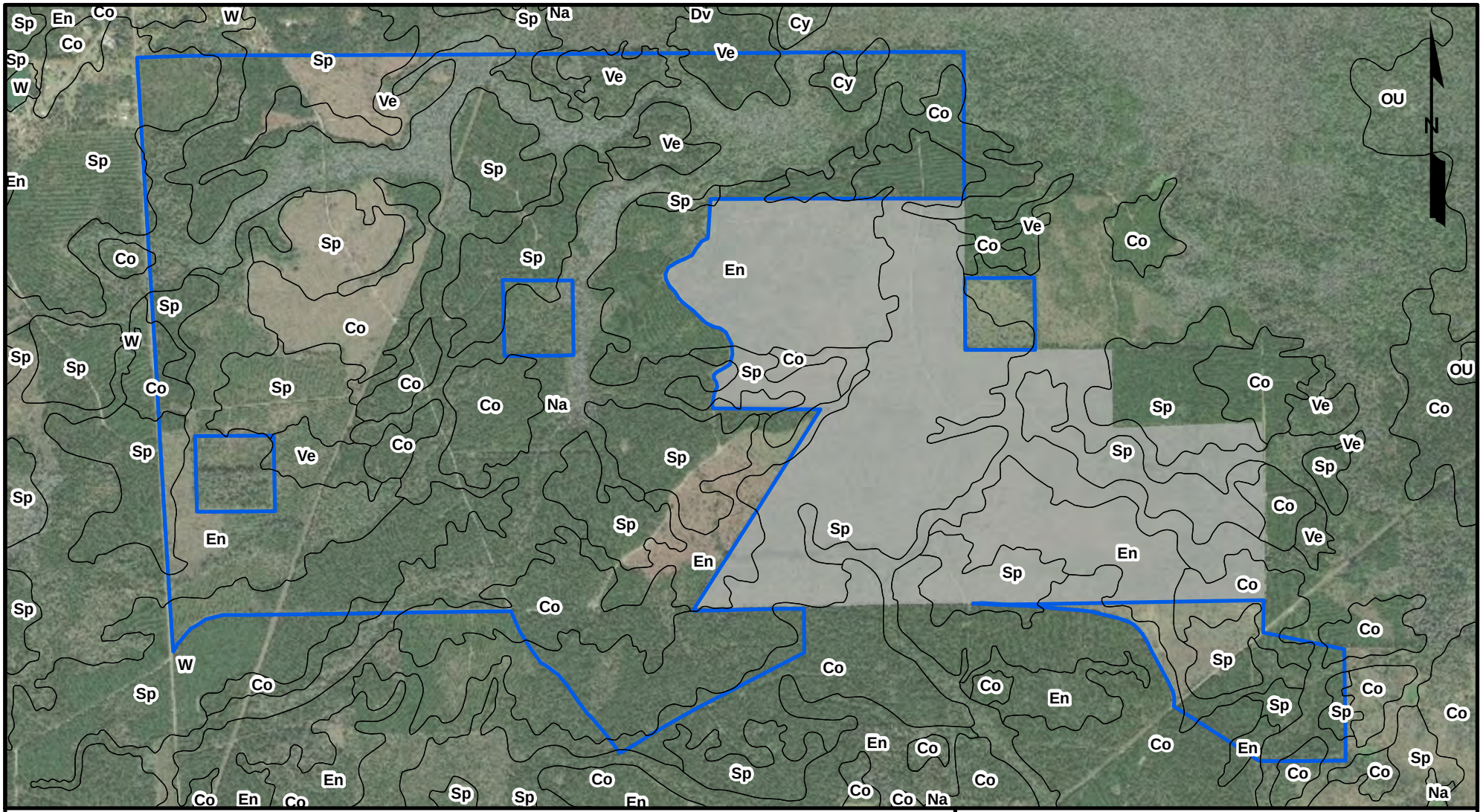
Gum Swamp Mitigation Bank Addendum

2,500 1,250 0 2,500 Feet

MATRIXNEWORLD
Engineering Progress

Approved By	CEJ
Date	7/16/2018
Drawing No.	16-325-A111

14
Figure No.



Legend

- Gum Swamp Addendum (2,817.3 acres)
- Gum Swamp Mitigation Bank
- Soils

Co - Colyell silt loam, 1 to 3 percent slopes
Cy - Colyell-Springfield silt loams, frequently flooded
En - Encrow silt loam, occasionally flooded
Na - Natalbany silty clay loam, frequently flooded
Sp - Springfield silt loam
Ve - Verdun silt loam

Source: Base map comprised of ESRI World Imagery. Soils data obtained from Natural Resources Conservation Service (NRCS) Web Soil Survey.

Soils Map

Mitigation Bank Prospectus

Livingston Parish, Louisiana

Weyerhaeuser NR Company

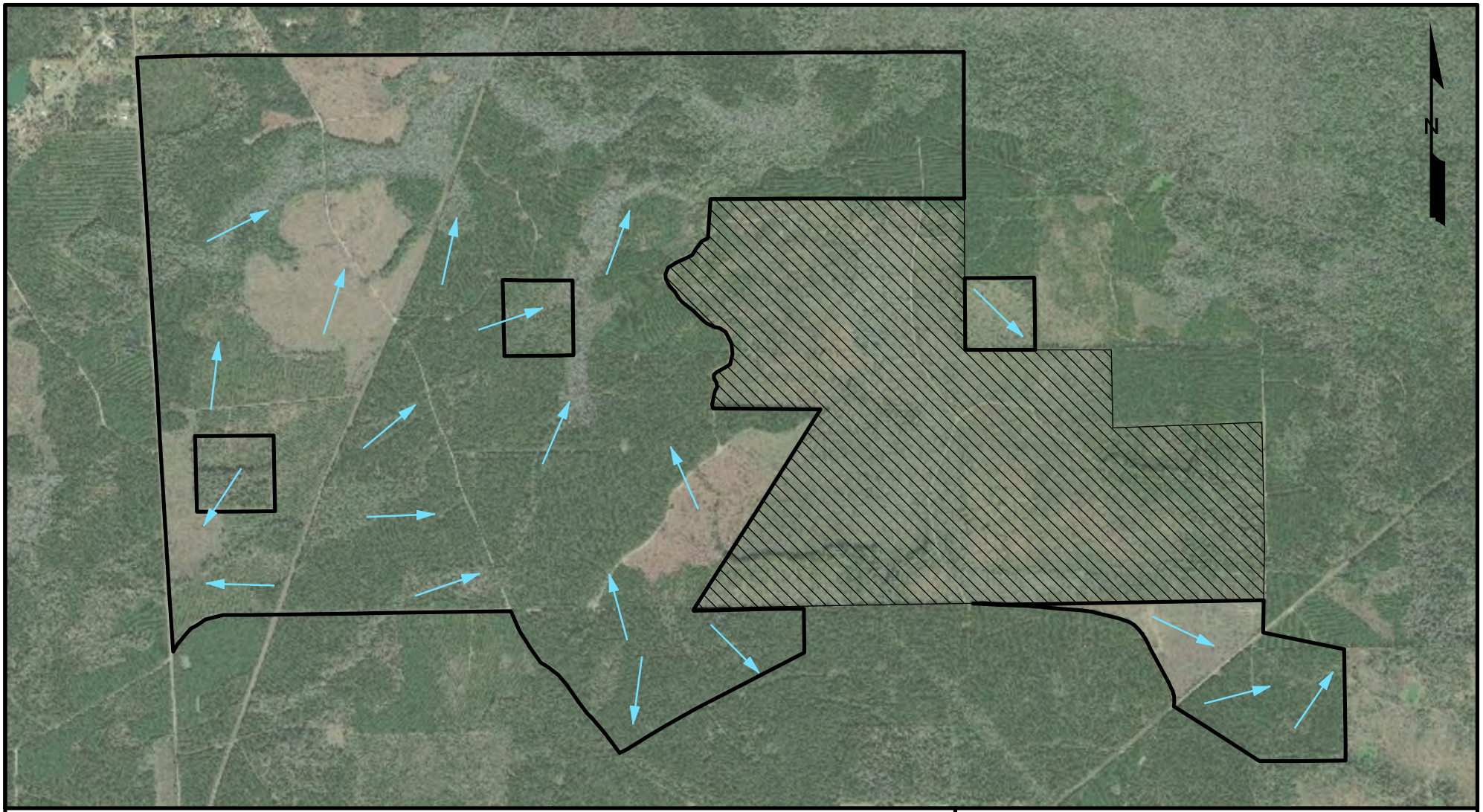
Gum Swamp Mitigation Bank Addendum

2,500 1,250 0 2,500 Feet

MATRIXNEWORLD
Engineering Progress

Approved By	CEJ
Date	7/16/2018
Drawing No.	16-325-A112

15
Figure No.



Legend

- Gum Swamp Addendum (2,817.3 acres)
- Gum Swamp Mitigation Bank
- Flow Direction

Source: Base map comprised of ESRI World Imagery.

Drainage Map

Mitigation Bank Prospectus

Livingston Parish, Louisiana

Weyerhaeuser NR Company

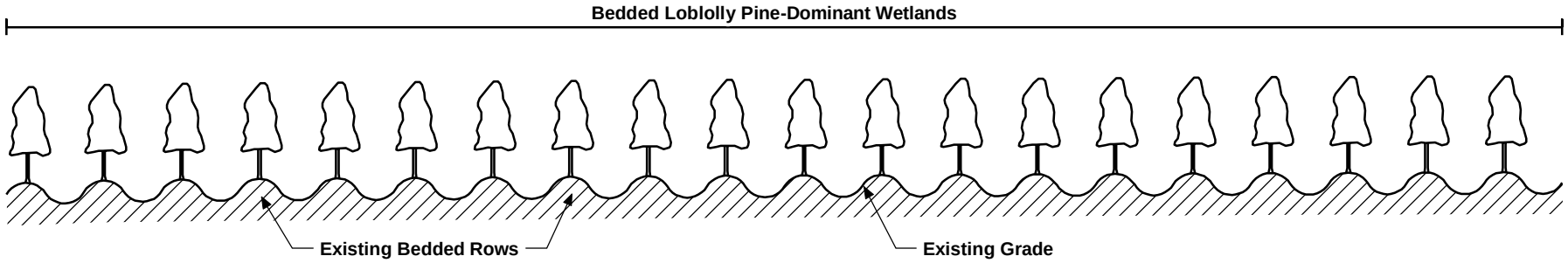
Gum Swamp Mitigation Bank Addendum

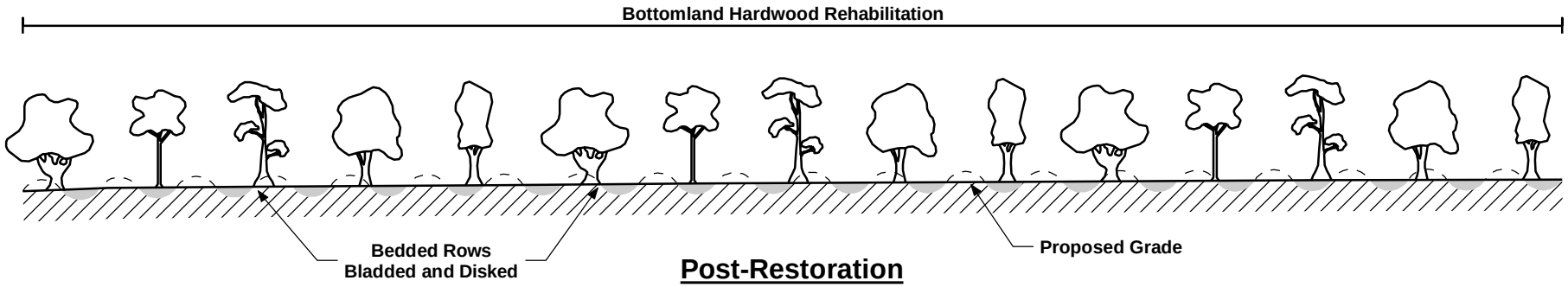
2,500 1,250 0 2,500 Feet

MATRIXNEWORLD
Engineering Progress

Approved By	CEJ
Date	7/16/2018
Drawing No.	16-325-A113

16
Figure No.





Typical Grading Cross Section

Mitigation Bank Prospectus

Livingston Parish, Louisiana

Weyerhaeuser NR Company

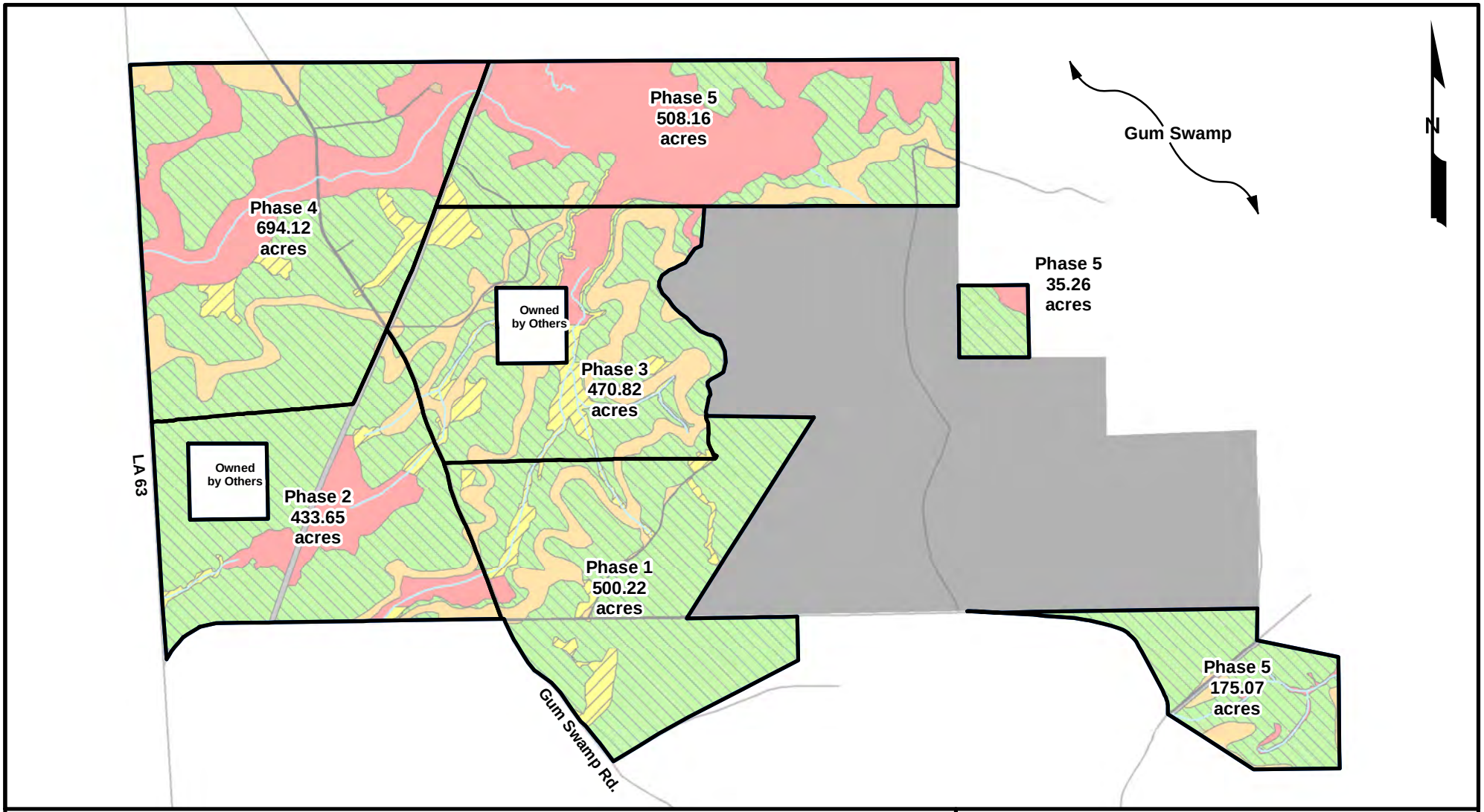
Gum Swamp Mitigation Bank Addendum

Not to Scale

MATRIXNEWORLD
Engineering Progress

Approved By	CEJ
Date	7/23/2018
Drawing No.	16-325-A114

17
Figure No.



Legend

- Gum Swamp Addendum (2,817.3 acres)
- Bottomland Hardwood Re-Establishment (0.7 acre)
- Bottomland Hardwood Rehabilitation (1,741.0 acres)
- Bottomland Hardwood Enhancement (131.7 acres)
- Bottomland Hardwood Preservation (587.9 acres)
- Upland Restoration (301.5 acres)
- Other Waters of the U.S. (9.0 acres)
- Utility Corridor (23.9 acres)
- Existing Roads (21.6 acres)
- Gum Swamp Mitigation Bank
- Proposed Phases

Bank Phases

Mitigation Bank Prospectus

Livingston Parish, Louisiana

Weyerhaeuser NR Company

Gum Swamp Mitigation Bank Addendum

2,500 1,250 0 2,500 Feet

MATRIXNEWORLD
Engineering Progress

Approved By	CEJ
Date	7/16/2018
Drawing No.	16-325-A115

18
Figure No.

ATTACHMENT A

PRELIMINARY JURISDICTIONAL DETERMINATION

(MVN-2008-00531-1)

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.

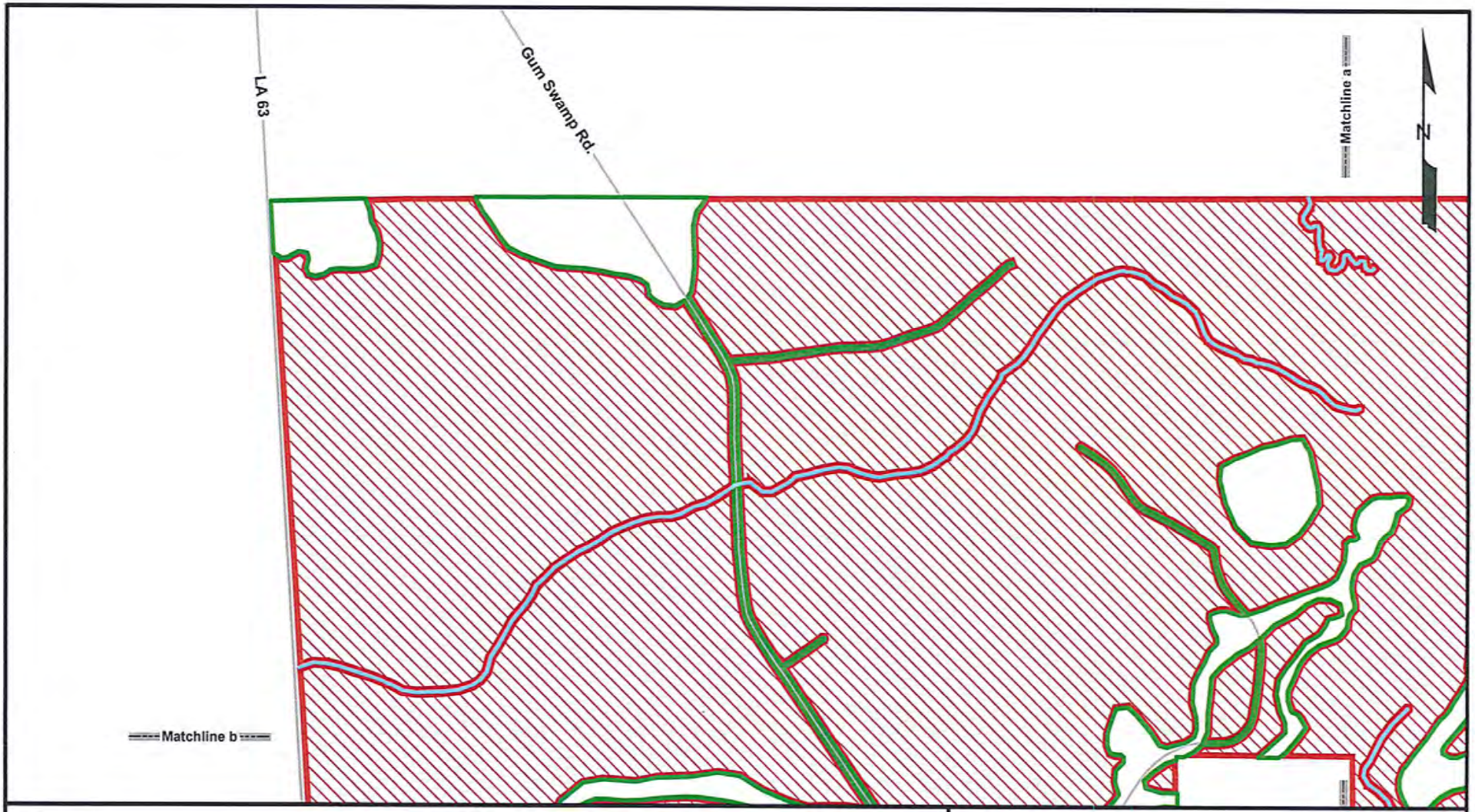
Should there be any questions concerning these matters, please contact Mr. Brian Oberlies at (504) 862-2275 and reference our Account No. MVN-2008-00531-1-SY. If you have specific questions regarding the permit process or permit applications, please contact Mr. Brian Breaux at (504) 862-1938.

Sincerely,

[redacted]

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

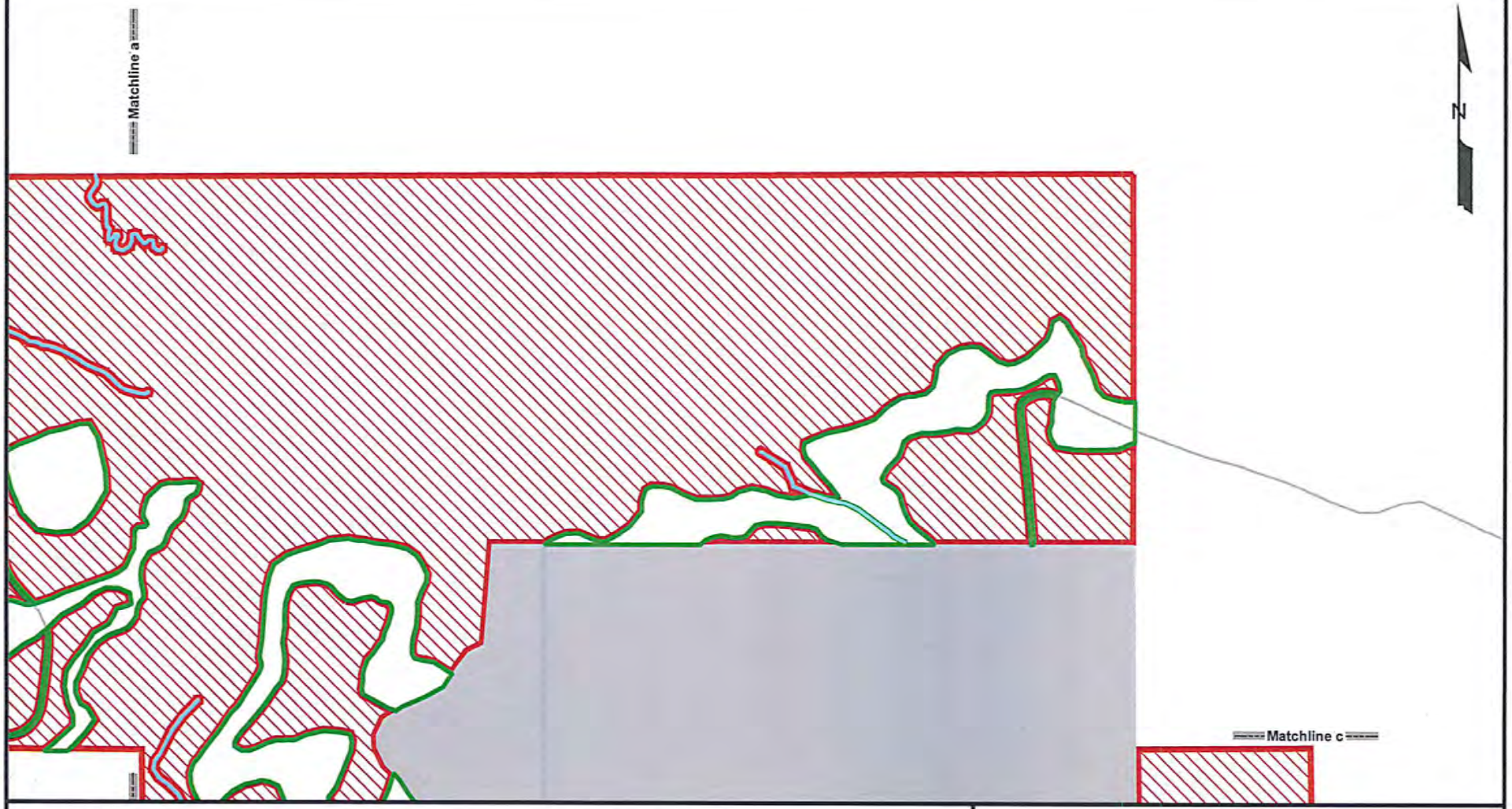
Gum Swamp Addendum

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

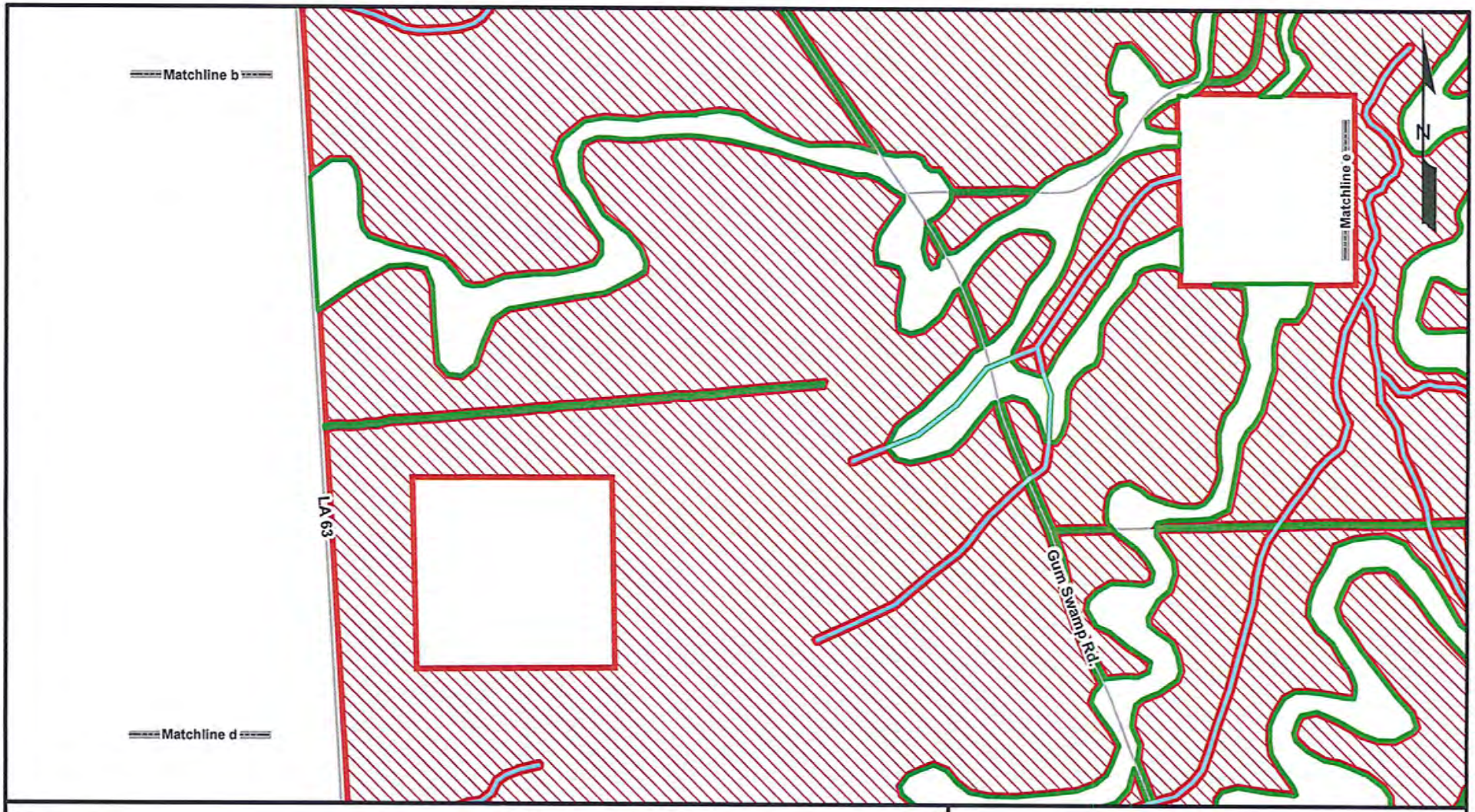
Gum Swamp Addendum

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

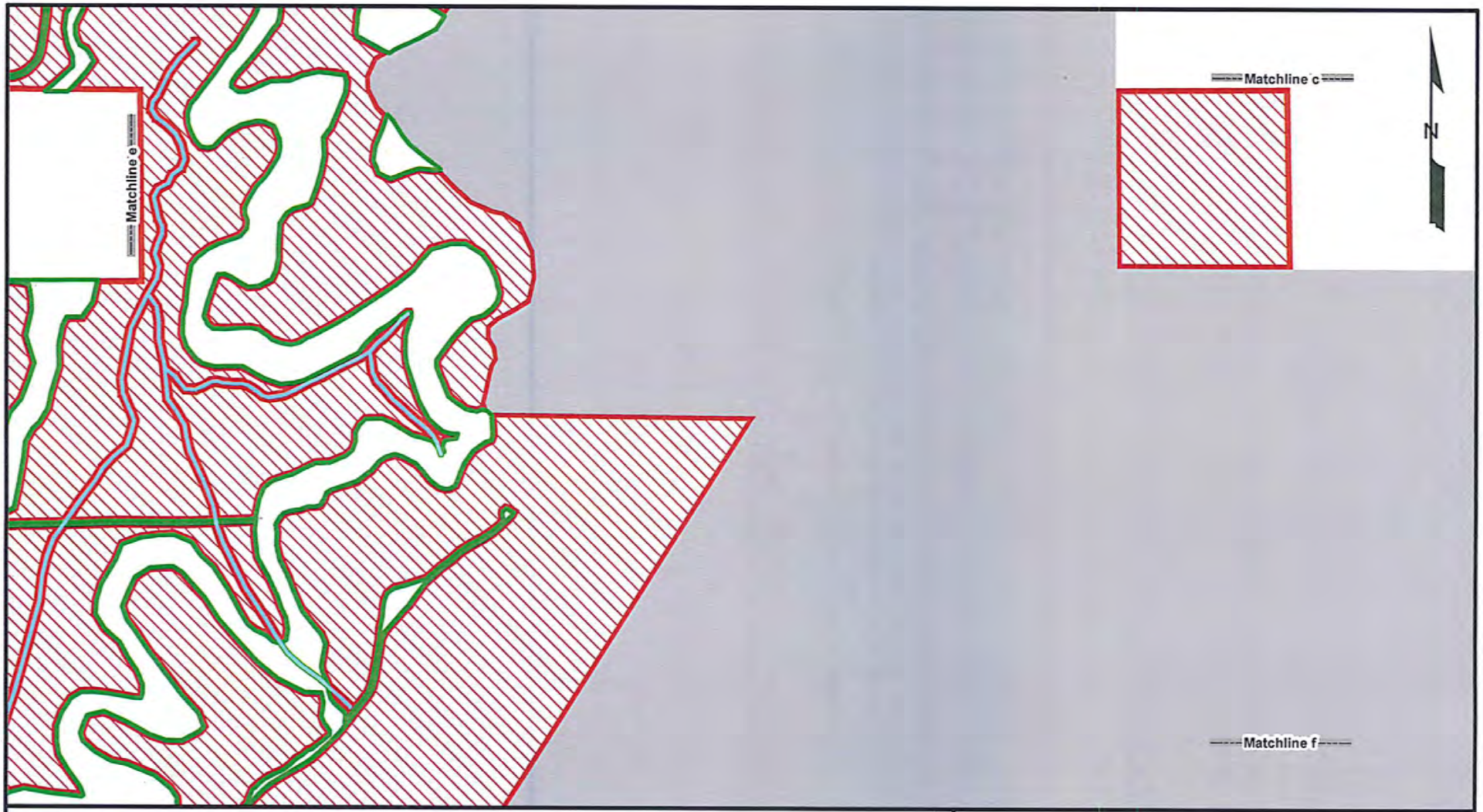
Gum Swamp Addendum

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

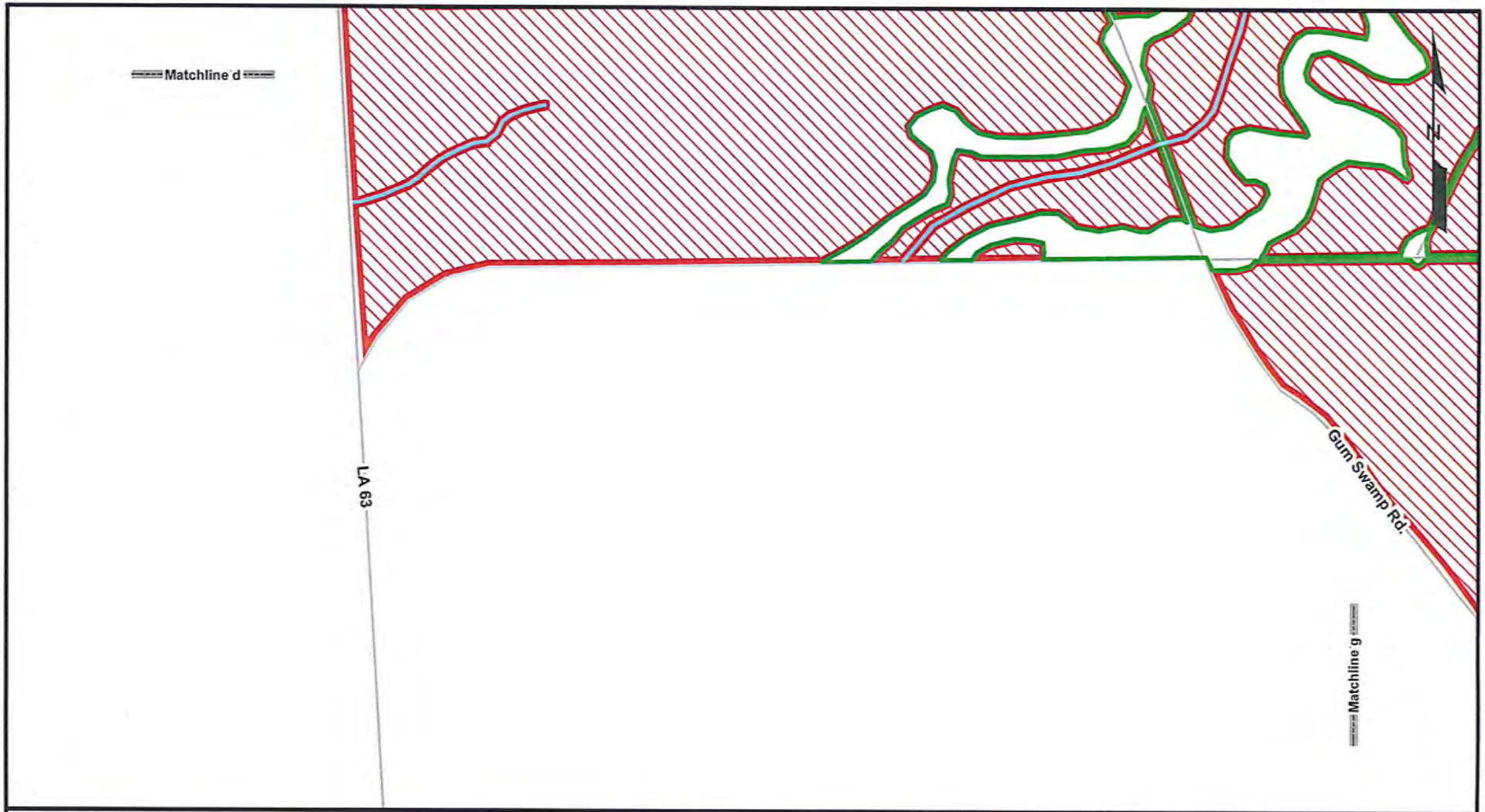
Gum Swamp Addendum

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

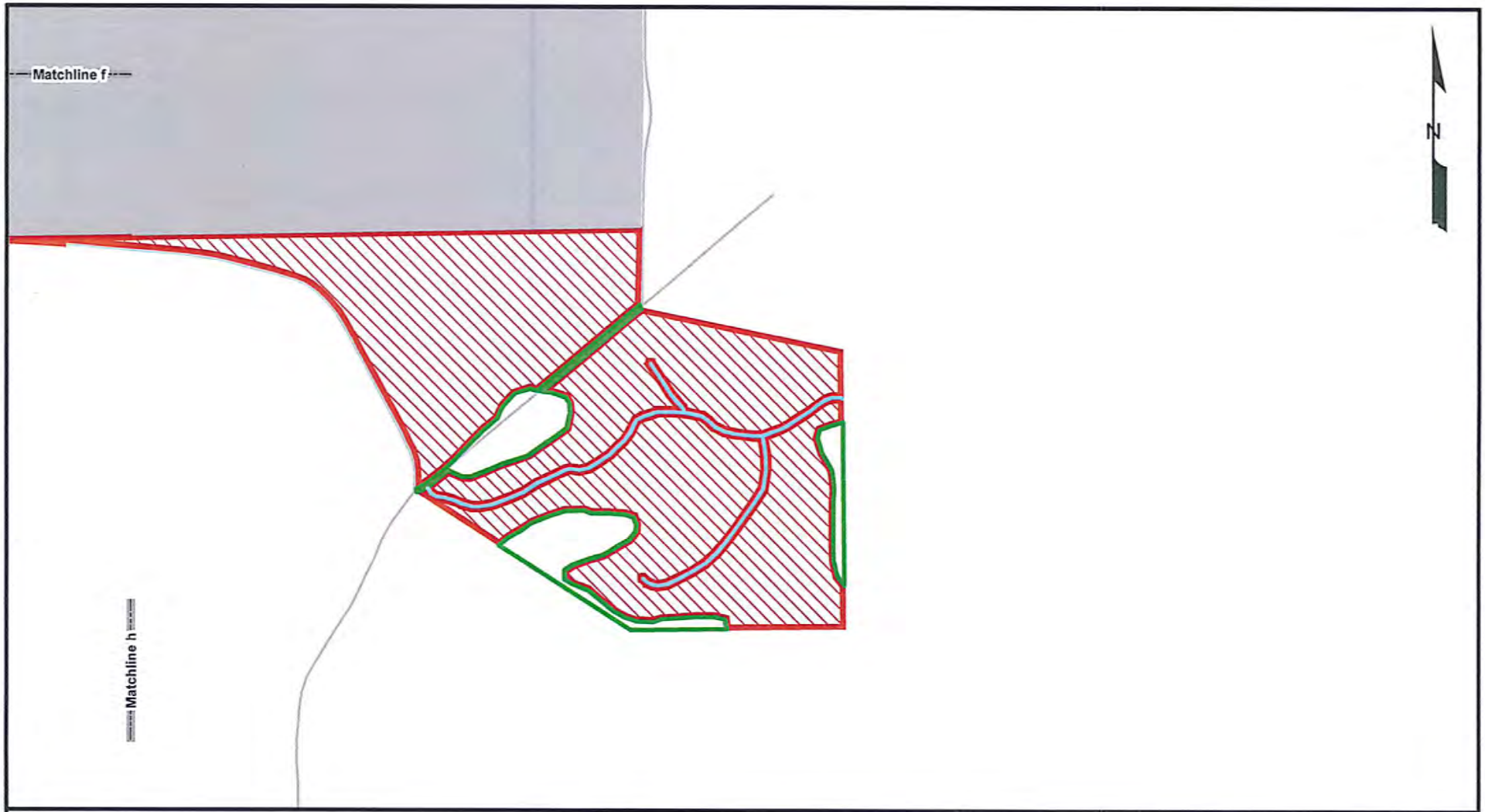
Gum Swamp Addendum

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)
- Wetlands (2,475.14 acres)
- 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.