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October 20, 2014

REPLY TO
ATTENTION OF:

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SUBJECT: MVN-2014-02167-MB

PUBLIC NOTICE

CEMVN is soliciting public comment on the proposed in-lieu fee program. Comments must be received by close of business on November 18, 2014.

PROPOSED IN-LIEU PROGRAM
IN PLAQUEMINES PARISH

SPONSORSHIP: Plaquemines Parish Government, 8056 LA Hwy 23, Suite 307, Belle Chasse, Louisiana 70037. ATTN: P.J. Hahn, Director of Coastal Zone Management.

LOCATION OF WORK: The area encompassing Plaquemines Parish.

PROGRAM DESCRIPTION: The Sponsor proposes to establish an in-lieu fee compensatory mitigation program to compensate for impacts authorized by regulatory actions for Plaquemines Parish infrastructure projects. Funds would be collected to construct mitigation projects of various marsh habitat types. Attached for review is the in-lieu fee program prospectus.

Martin S. Mayer
Chief, Regulatory Branch

**Prospectus for the Proposed
Plaquemines Parish In-Lieu Fund
Mitigation Program**

Prepared for

PLAQUEMINES PARISH GOVERNMENT



By



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September 30, 2014

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1.0 INTRODUCTION

Plaquemines Parish is proposing the Plaquemines Parish In-Lieu Fee Mitigation Program, a single-user mitigation program to compensate for the wetland impacts from parish flood protection projects and any other parish-initiated government infrastructure programs. Existing Federal and State regulations require that compensatory mitigation be provided for the unavoidable impacts to wetlands that will occur during construction of parish-wide infrastructure project such as ridges, levees, or other protective elements. Plaquemines Parish is proposing to address this issue by the creation of a parish-managed In-Lieu Fee (ILF) Mitigation Program. Such programs are provided for in the federal regulatory system and allow for mitigation programs to be developed and approved and credits to be issued in advance of impacts caused by construction. The adoption of a Plaquemines Parish ILF would provide for coordinated mitigation and would insure that the Parish's projects would not be delayed by the need to find other acceptable mitigation projects. Instead, the ILF would be used to mitigate for projected flood protection and infrastructure programs. The program is anticipated to initially consist of a set of projects involving the construction of 150 acres of fresh to intermediate marsh and 350 acres of brackish to saline marsh. An initial credit allocation of approximately 50 acres in the aggregate represents approximately 10% of the initial project outlay credit potential. The initial mitigation project credit potential should provide enough credits to support the Parish's current near-term flood protection and infrastructure programs construction projections. Future mitigation projects will be proposed as the need for infrastructure impacts accumulates. At this point in time only marsh credits are envisioned.

Plaquemines Parish is one of the richest parishes in Louisiana in both coastal wetland resources and the tools and resources that are needed to make restoration and maintenance of those wetlands feasible over the long term. With the Mississippi River bisecting the parish on its final reach to the Gulf of Mexico, and wide expanses of marsh flanking the river to the east and west, Plaquemines Parish is well-positioned to lead the state in both local coastal policies and coastal project development to assist in protecting and restoring Louisiana's coastal resources.

Because of its exposed location and geography, Plaquemines Parish also experiences one of the highest rates of coastal land loss, and the population and industry located there experience a higher surge risk than most of the state. During Hurricane Katrina the parish was devastated by the hurricane's associated storm surge. This devastation made the parish's exposure obvious, and it established a demonstrated need for a protection infrastructure. This In Lieu Fee program is intended to provide flexibility in the relationship between impacts created by the clear need for parish protection infrastructure and the compensatory mitigation required by state and federal regulatory agencies to offset those impacts.

This program will also provide a framework for marsh creation site selection over the long term to stay well ahead of the pace of permitted impacts caused by the implementation of the parish protection plan. Projects and locations identified through the site selection process will be planned, designed, and constructed within the time frames provided by the federal and

state regulatory structures in order to allow needed protection and infrastructure to move into construction without the necessary delays resulting from individual mitigation project review or from lapses in the availability of adequate marsh mitigation bank credits. It will also result in the resulting wetland restoration projects being constructed within the same parish as the permitted impacts.

Federal regulations recognize that mitigation banks and fee-in-lieu programs can be preferable options because they involve consolidating compensatory mitigation projects and resources to better provide ecologically benefits, provide for consistent financial planning and scientific expertise, reduce the temporal losses of function, and reduce risk and uncertainty (33 CFR Part 332).

The following prospectus outlines the circumstances and manner in which the Plaquemines Parish In-Lieu Fee Mitigation Program can serve to satisfy compensatory mitigation requirements of the New Orleans District (CEMVN) of the USACE's Regulatory programs.

1.1 Site Location

Sites selected under this program will best demonstrate characteristics prioritized according to an established selection criteria (explained below in this document). Common features of projects anticipated to meet the goals of this program include shallow open water areas of recent conversion, lands owned by willing landowners, areas near enough to a suitable borrow source for marsh building sediment, areas that are adjacent to or near the project(s) causing the impact, and areas where sustainability – the creation of stable, long-lived and healthy ecosystems – is feasible.

2.0 PROJECT GOALS AND OBJECTIVES

The reason for the development of this proposed program is to provide an acceptable compensatory mitigation for Plaquemines Parish Government efforts which will offset unavoidable wetland impacts, with the objective of restoring lost wetland habitats in Plaquemines Parish. The proposed ILF program will provide funding for the restoration and/or enhancement of fresh, intermediate, brackish and saline marsh in acreages sufficient to provide long term mitigation credits to support currently proposed Plaquemines Parish flood protection and infrastructure work. The program will identify, plan, design and implement projects according to settled selection criteria in order to provide for the funding of construction projects that will have environmental and ecological benefits via creating intermediate to brackish marsh, enhancing existing intermediate to brackish marsh, reducing open water, improving wildlife and fisheries habitats, areas, and protecting wetlands. The proposed ILF program anticipates a set of projects involving the construction of an estimated 150 acres of fresh to intermediate marsh and 350 acres of brackish to saline marsh, based on current near-term flood protection and infrastructure programs construction projections. The initial credit allocation will be about 50 acres, or about 10% of the credit potential of the initial project suite.

3.0 ECOLOGICAL SUITABILITY OF THE SITE

3.1 Historical Ecological Characteristics of the Site

Sites likely to be included in the ILF will be areas of shallow open water that have succumbed to the forces of storm surge, sediment starvation, and subsidence and have degraded from once healthy marsh habitat to unvegetated shallow water. Typical land uses in these areas are customary recreational uses such as hunting and fishing, commercial seafood harvesting, and commercial hydrocarbon extraction and transportation. All sites shall be chosen in areas open to normal tidal hydrology.

3.2 Current Ecological Characteristics of the Site

Sites will be chosen based on the anticipated capacity to compensate for aquatic resources of a similar nature to those impacted by the mitigated impacts. Salinities will be monitored and existing data used in any selected site to ensure that vegetative species used to populate newly created marsh platforms are compatible with the vegetative community in the surrounding area.

Most sites are likely to demonstrate few characteristics of healthy marsh habitats. Because of the nature of wetland loss in this area, the selected sites will be restored from tidal open water areas characterized by soft, loosely consolidated, organic bottom sediments and surrounded by vegetative community typical for the salinities and hydrology characteristic of that area.

Since one of the key factors in sustaining a newly deposited marsh creation sediment deck is the marsh consolidation in the general area and the degree to which it supports containment and protects newly deposited sediments, sites located within excessively open and exposed areas, and sites more than a few feet deep will not figure highly in the site selection process. Conditions considered favorable for the construction of a sustainable site are areas with at least some existing marsh or relic spoil banks that can be used to help contain pumped sediments and provide a buffer from direct erosive wave and tidal energy, and areas with a regional interspersed condition that suggest that newly created marsh platforms have the potential to form functional and integrated units of a larger marsh system. Isolated and remote sites will be avoided because of the challenges they present from a sustainability and a construction feasibility standpoint.

Where anticipated necessary, plans for planting the newly created marsh platforms will be generated by sampling the vegetative communities of nearby natural marsh and replicating the species composition as closely as possible given availability of native plant materials.

3.3 General Need for the Project in this Area

Marsh loss in Plaquemines Parish is a significant problem that has eroded tremendously expansive areas of coastal wetland such that over the last several decades, the parish has

undergone a geographic transformation. What was once one of the healthiest coastal habitats on the Gulf coast a hundred years ago has been starved for fresh water and sediment, washed away by tropical storm events, and covered with oil, until the ecological health and robustness coastal wetlands that remain today are but a shadow of the ecological health and robustness that existed in the days before levees, oil field canals, and accelerated subsidence. Projects selected under this In Lieu Fee Program are intended to help restore a significant acreage of coastal marsh habitat in a parish that has experienced some of the most dramatic wetland loss in the state (see Figure 3).

At the current time, options for mitigating permitted marsh impacts are severely limited, and a lack of credit availability could halt Plaquemines Parish flood protection projects and other infrastructure projects, even those currently in the permitting phase, until such time as sufficient acreage could be approved as an alternative source of credit. The Plaquemines Parish In-Lieu Fee Program is designed to prevent that from occurring, thereby facilitating storm surge/flood protection for the parish.

3.4 Technical Feasibility

The feasibility of the projects undertaken in this program is directly correlative to the feasibility of most marsh restoration efforts made at the federal and state level in this area. In areas that match the selection criteria, what has become the industry standard for marsh restoration (the basic concept of borrowing sediment from a location and then redistributing it so that compaction and settlement results in a marsh sediment platform compatible with the elevation of healthier marsh in the project vicinity) should result in the creation and sustainability of hundreds of acres of integrated marsh habitat.

4.0 ESTABLISHMENT OF THE ILF PROGRAM

The proposed program sponsor is the Plaquemines Parish Government (PPG). The program will be overseen and administered by PPG's Coastal Zone Management Department (PPCZM). The program will be established by parish ordinance, subject to amendment as needed to allow effective operation. Legal responsibility for providing the compensatory mitigation lies with the PPG once a permittee secures credits from the sponsor.

PPCZM will be responsible for collecting, accounting for, and the disbursement of all monies and habitat credits involved. PPCZM will also be responsible for initiating project selection activities and coordinating those activities with the appropriate federal and state government agencies. PPCZM will also be responsible for the implementation and operation of any and all mitigation and restoration activities funded by those monies collected. The monies are not to be comingled with monies of any other source, type or function. PPCZM will collect one fee under this program for marsh credits regardless of type but will categorize and record each marsh credit as being either brackish/saline or fresh/intermediate. To address habitat impacts, marsh creation efforts will be funded through the use of the proposed ILF program, which will include both the construction of individual, stand-alone projects or expanding the

scope of planned or existing projects. Monies collected by the ILF will be used for the restoration and/or enhancement of private lands (and state-owned water bottoms, as appropriate) that are preferably adjacent to or near the individual projects causing the impact. PPCZM will seek the pre-approval of proposed project/site plans from the federal and state government on a case-by-case basis. The cost per acre for fresh/intermediate and brackish/saline marshes are estimated to be \$64,600 per acre, including costs for engineering, surveying, land and/or water right acquisition, project mobilizing/demobilizing, the actual operational costs, and for subsequent management and monitoring. The estimate is based on project cost data from the Louisiana Coastal Protection and Restoration Authority (CPRCA). PPCZM will perform the monitoring of these projects. Once activity begins the cost per acre values will be updated as necessary, or at least on an annual basis.

PPCZM will undertake a mitigation project site search in areas adjacent or near to the impacting project. PPCZM will attempt to strategically identify significant areas that would result in the highest mitigation value, project suitability and likelihood of success. PPCZM will be receptive to project proposals from any source, including federal and state agencies, municipalities, NGO's, and landowners. PPCZM will also seek to find restoration projects that will be "shovel-ready" by the time enough fees have been collected for those credits to be issued by the ILF program.

The identification of potential marsh creation projects by the PPCZM will be an ongoing activity, with all identified potential projects pre-qualified to the maximum extent possible.

The Corps of Engineers, New Orleans District Modified Charleston Method (MCM), a variation of the Charleston Method developed by the Corps of Engineers Charleston District, will be used to determine mitigation values.

The MCM quantifies impacts and assesses the amount of mitigation that is required. This will allow for the use of an accepted, timely, predictable, and transparent tool that can be used to evaluate the options available in order to make informed decisions regarding proposed projects. Net gains in habitat units resulting from a compensatory mitigation action must equal the habitat units lost.

4.1 Selection Criteria

The site restoration plan begins with establishing selection criteria for projects.

Criteria 1: Shallow water (0-2.5'). Areas suitable for inclusion as potential project sites are open water sites with depths less than two and one half feet (2.5'). Setting this water depth as a maximum acceptable depth provides a project site that can be restored with a reasonable volume of sediment transfer and will allow for a better transitional grade from the pumped elevations back to the natural sediment elevation.

Criteria 2: Appropriate salinities. The majority of permitted impacts anticipated with the implementation of the Plaquemines Parish Coastal Plan are expected to include primarily marsh areas with intermediate (2 -10 ppt) to brackish (10 – 20 ppt) salinities. Consequently, the project selection criteria will focus on sites that demonstrate an

average salinity of 2 – 20 ppt for the bulk of the project work, but lower or higher salinities may be appropriate depending on the need generated by the impact, and the overall goal of the project site selected for review.

Criteria 3: Nearby borrow source. One of the primary controlling conditions of any suitable site will be the availability of sufficient volumes of sediment to complete the project, close enough to the program site to allow the cost effective movement of material from the borrow site to the project. Sites selected under the ILF program will include an adequate source of suitable borrow material close enough to make the project economically feasible.

Criteria 4: Willing landowners/established property rights. The majority of the property involved in either the construction of the coastal plan elements or the construction of mitigation projects under this ILF program will be privately owned. As such, a key element to success of this program will be the ability to work with private landowners to establish the requisite property security mechanisms (primarily long term conservation servitudes) that can ensure protection for the expected life of the project. An important part of selecting sites for this program will be the willingness of the landowners to participate. Any site selected for inclusion will require landowners that will work with the Parish to develop functional projects.

Criteria 5: Proximity to Impacts. Sites selected for construction under this program will be evaluated for their proximity to the impacts proposed to be mitigated. An optimal location under this criterion will be a wetland marsh platform that functions partially to provide a natural wetland buffer protecting the permitted infrastructure project, and facilitating the replacement of aquatic functions very near to the point of impact.

4.2 Current Site Risks

Site risks will be determined during project selection.

4.3 Long-Term Sustainability of the Site

The long term sustainability of any marsh creation project is a function of the design elevation of pumped in sediment and the ability to achieve it, its own health, the health of the habitats surrounding it, and the likelihood of it existing as an integral piece of a much larger functioning habitat.

Typical threats to healthy marsh habitats are natural forces such as geologic subsidence, tropical storm surge, and the resulting gradual increase in salinities from an encroaching isohaline line. Additional threats are also presented in a general sense from hydrocarbon extraction, canal dredging, flood and storm surge protection infrastructure, road construction, etc.

To protect from the first set of threats, projects under this ILF program will be pumped to an elevation anticipated to result in a gradual compaction over one to three years to

elevations typical of the surrounding habitats, depending on the soil characteristics of the borrow site and the marsh platform site.

While elevation stability is being achieved the program will focus on the creation of stable, long-lived and healthy ecosystems by means of appropriate soil type, hydrology, vegetation and fauna. The program will achieve and maintain the essential functions, biodiversity and processes of the ecosystems and will retain them in full measure over the life of the program.

The only anticipated element of projects typical of this program that might be considered as a structural component would be containment berms constructed to retain highly liquid sediments during and immediately after deposition. In time, depending on the characteristics of the site and the needs of that particular project, those berms will be degraded or gapped to allow normal hydrology to return to the project site.

5.0 PROPOSED SERVICE AREA

The geographic limits of PPG's proposed ILF program service area shall be Plaquemines Parish, a map of which is included as Figure 1.

6.0 OPERATION OF THE MITIGATION BANK

Both the Clean Water Act and the Louisiana Coastal Zone regulations require permitting for unavoidable impacts to vegetated wetlands that result from the placement of fill material. Those regulations call for impacts to be mitigated by the creation or enhancement of vegetated wetlands in an appropriate habitat value ratio. This program is intended to re-establish intermediate and brackish marsh in sufficient acreages to adequately compensate for unavoidable impacts to wetlands due to the construction of the Plaquemines Parish Government flood protection and infrastructure projects. Currently, the lack of adequate marsh credits to support the foreseeable infrastructure needs is such that it could severely limit the possibility of construction for anything but the most immediate needs.

The PPCZM will implement all ILF-funded mitigation projects within a reasonable time frame or at a maximum of three full growing seasons after the sale (or consumption by single user) of the first advance credit. It is anticipated that monies will be collected or dedicated pursuant to infrastructure permitting needs, to fund each mitigation project. PPCZM does not anticipate any conflicts with state and federal guidelines. Plaquemines Parish will be responsible for maintaining the mitigation project for the required 20 year time frame for marsh mitigation. Numerous factors exist that may damage or destroy a mitigation project including hurricanes, tropical and extra-tropical storms, flooding, animal life, etc. but they

can neither be quantified nor have risk assigned to them. Regardless, all protection and reconstruction obligations remain with Plaquemines Parish.

6.1 Project Representatives

Sponsor: Plaquemines Parish
Attn.: P.J. Hahn, Director of Coastal Zone Management
8056 Hwy 23, Suite 307, Belle Chasse, LA 70037
504-297-562
pjhahn@plaqueminesparish.com

6.2 Qualifications of the Sponsor

Plaquemines Parish will be the long-term manager of the ILF program. It has a history of successful local projects and a well-established coastal zone management department. Its strategic goals include the beneficial use of dredge material, enforcing policies and permits, sustaining the resources of the parish, and the strategic protection of the parish itself.

Because Plaquemines Parish has lost over 248 square miles of land due over the last fifty years to subsidence, erosion and sea level rise and has suffered severe damage from hurricane storm surges (see Figure 4), Plaquemines Parish is currently building multiple lines of defense to protect the parish from further loss and damage. The existing Plaquemines Parish Coastal Plan combines coastal restoration and protection projects with levees to achieve 100-year flood protection for all of Plaquemines Parish. Over \$700 million in coastal restoration projects have been committed in Plaquemines Parish, which is more than at any previous time in the history of the parish. Plaquemines Parish has the means, the motive and the opportunity to protect itself and intends to do so. This protection effort will require mitigation, hence this ILF program and Plaquemines Parish's role in it.

6.3 Proposed Long-Term Ownership and Management Representatives

Plaquemines Parish will be the long-term manager of the ILF program and will also be the responsible party for all ledger entry, credit tracking and management through the Regulatory In-lieu fee and Bank Information Tracking System (RIBITS) of the U.S. Army Corps of Engineers. Plaquemines Parish will acquire all land rights, servitudes and/or easements on ILF Program funded project sites. The parish will acquire land rights for the 20 year project life of a marsh restoration project. Individual project site management activities will be conducted by contracting services or by Plaquemines Parish personnel. These expenses will be included in the credit cost analysis. Projects will be tracked by Plaquemines Parish Environmental Units (see Figure 2).

6.4 Site Protection

Property included in this program will be protected from disturbance in the long term by the execution and monitoring of long term conservation servitudes meeting the standards outlined in the regulations.

Plaquemines Parish will be responsible for the site protection of ILF project sites for the duration of each ILF project.

6.5 Long-Term Strategy

Land rights for all habitat restoration projects shall be secured by servitude agreements for a period of 20 years in order to ensure the long-term protection of the activities conducted by Plaquemines Parish. PPCZM will select an entity for use that complies with the standards required for holders. PPCZM will monitor the constructed each ILF-funded projects at Year 1, Year 3, Year 5, Year 10, Year 15 and Year 20. After each monitoring event, an analysis and evaluation of the data and information shall be conducted. If, after a monitoring/evaluation effort is performed on an ILF project, it is determined that additional management effort is required, PPCZM will perform or arrange for contract of the additional effort.

Plaquemines Parish shall submit a yearly report to all relevant federal and state agencies regarding the progress of the ILF program, which will list all funds collected, sites selected, credits issued and program activities carried out over the previous calendar year. This annual report will address whether the goals and objectives of the proposed program have been met, and if any have not it will address why they were not met and what steps will be taken to remedy the situation. PPCZM will keep a record of all habitat impacts and benefits from mitigation work as assessed by the MCM. These numbers will be used to determine whether the ILF program is meeting its goals of offsetting habitat impacts. If not enough monies are being collected by the ILF program to sufficiently fund appropriate compensatory mitigation, PPCZM will increase its cost per credit. Likewise, if excess monies generated by the ILF program remain after funding sufficient and appropriate compensatory mitigation projects, PPCZM will decrease its cost per credit for the corresponding habitat type.

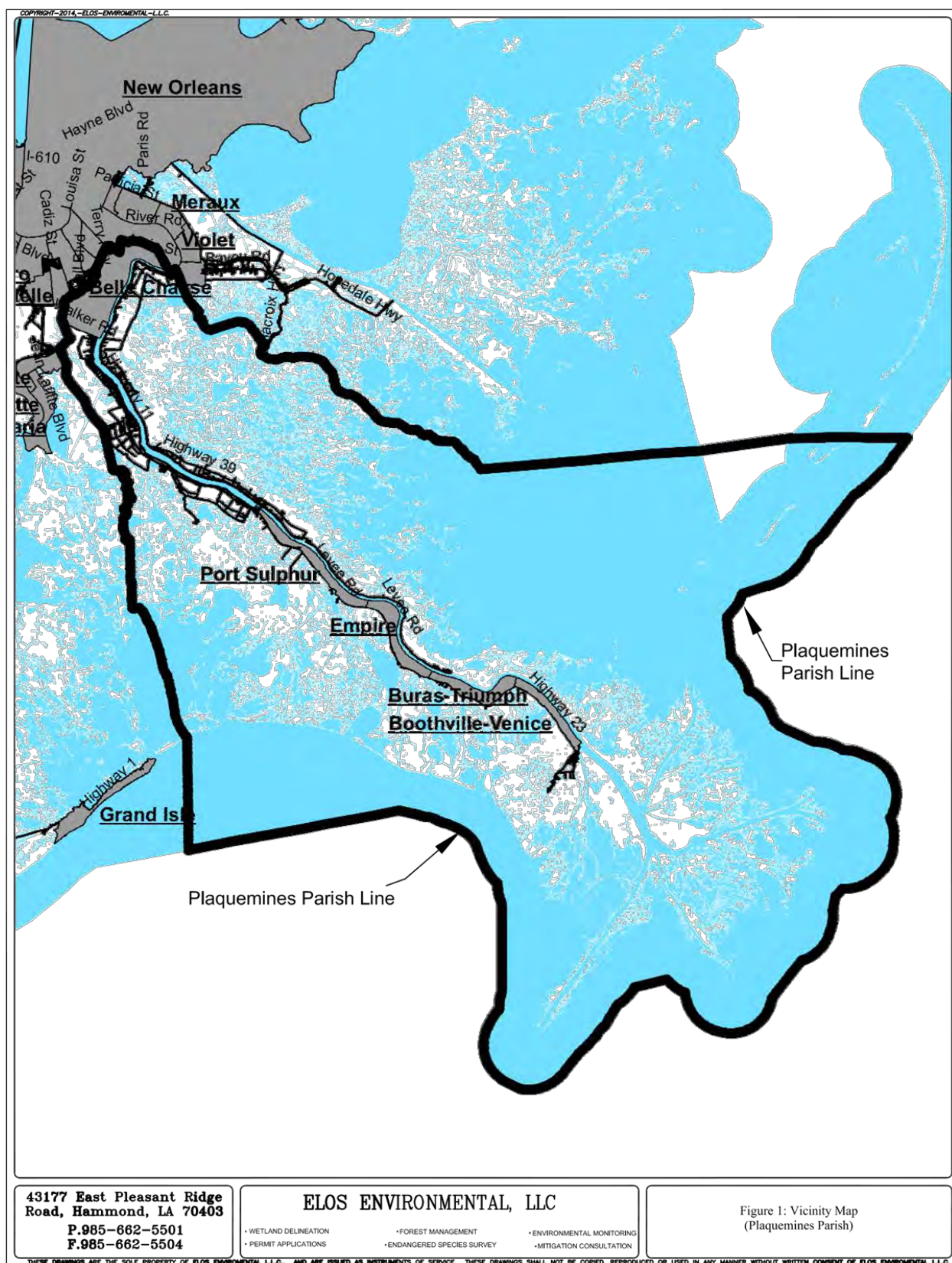
Plaquemines Parish will deposit all funds received for mitigation into an FDIC protected account. Plaquemines Parish will ensure that all monies collected for this purpose will be placed into an account that will not be comingled with any other funding sources and that will be used for no other purposes besides the ILF.

7.0 Tables and figures

Table 1: Best Estimate Acreage Breakdown for Initial Project Suite

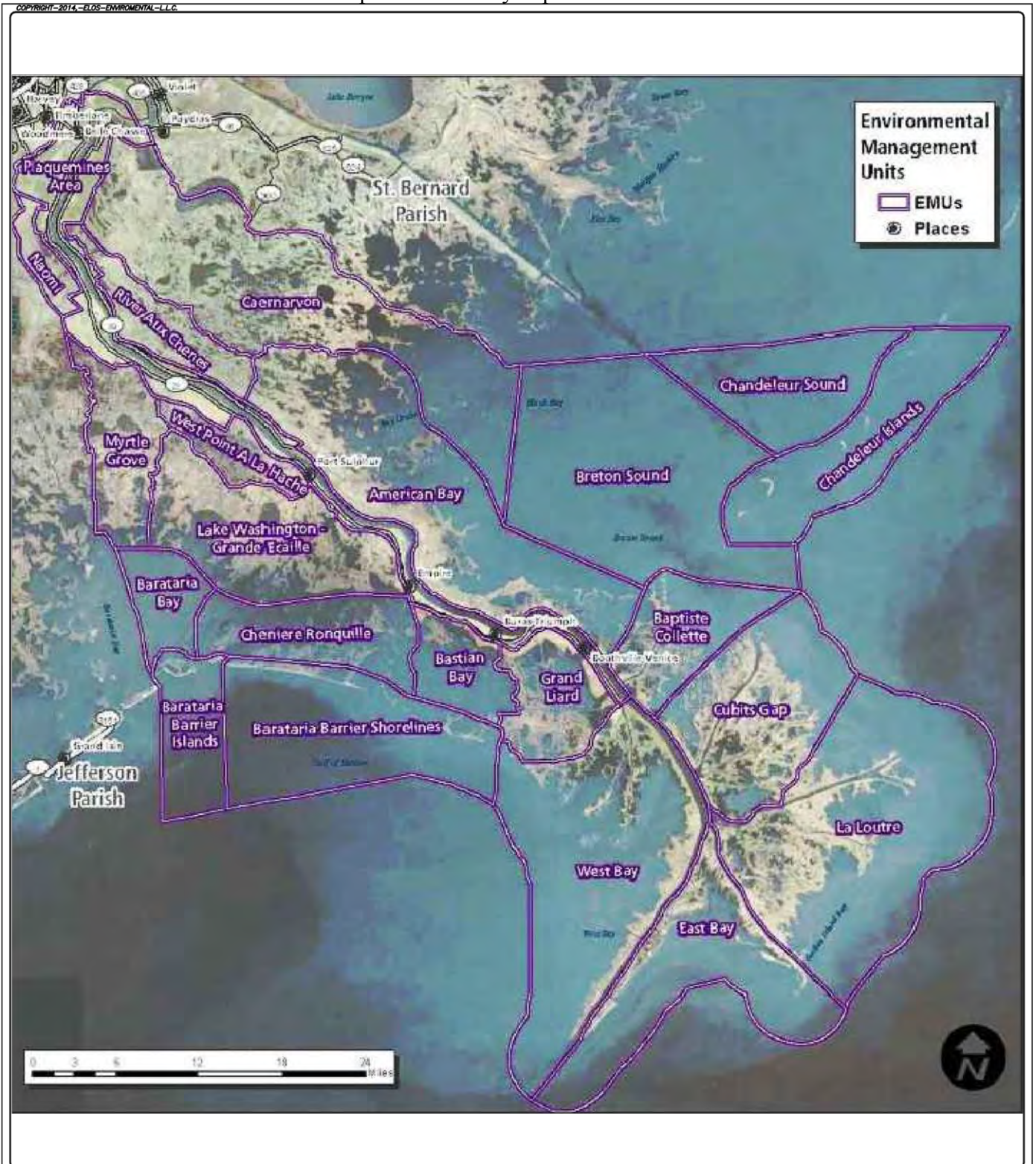
Fresh to intermediate marsh	150 acres
Brackish to saline marsh	350 acres

The Plaquemines Parish In-Lieu Fee Mitigation Program



The Plaquemines Parish In-Lieu Fee Mitigation Program

Map from the Encyclopedia Louisiana



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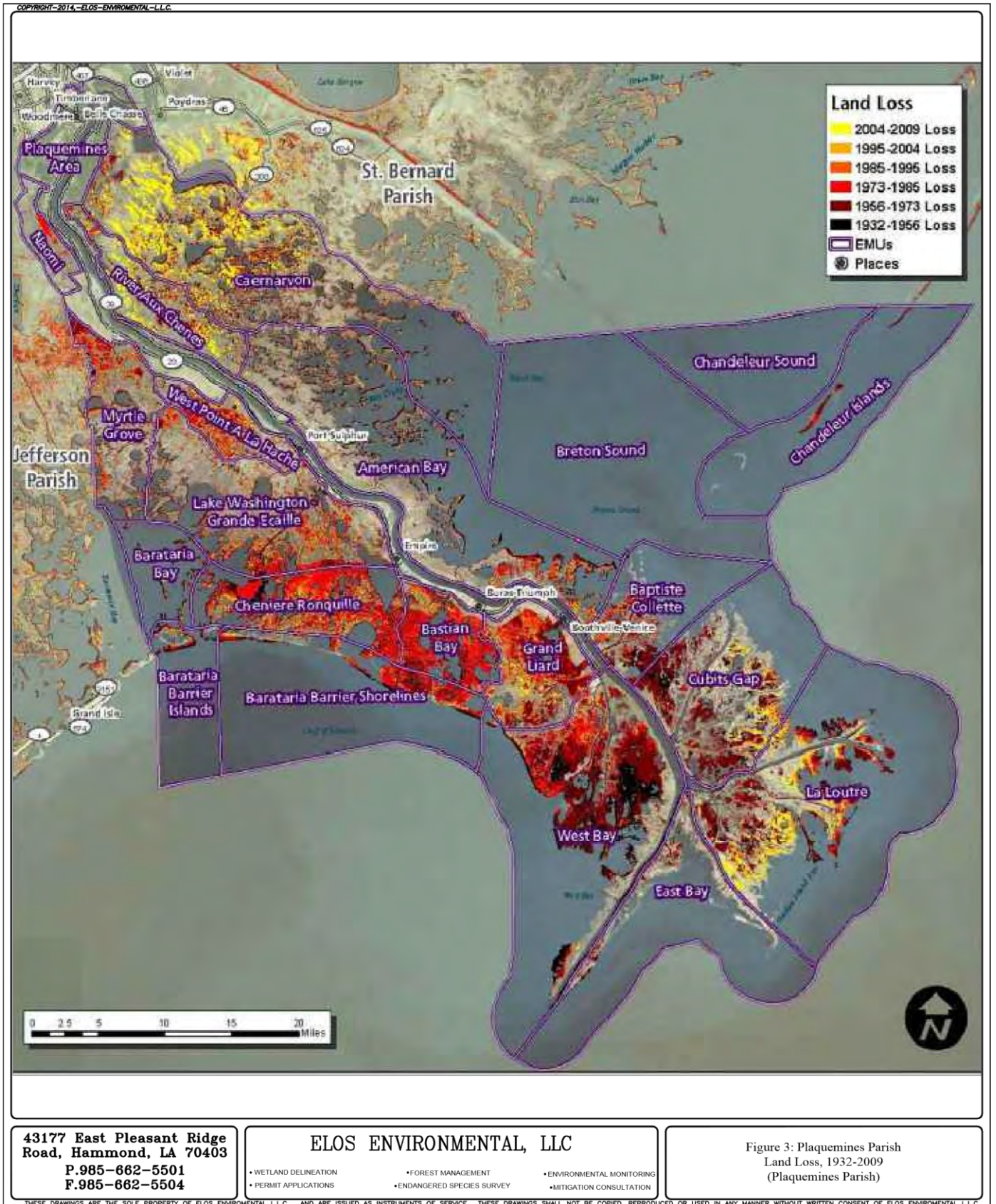
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- WETLAND DELINEATION
- FOREST MANAGEMENT
- ENVIRONMENTAL MONITORING
- PERMIT APPLICATIONS
- ENDANGERED SPECIES SURVEY
- MITIGATION CONSULTATION

**Figure 2: Plaquemines
Parish Environmental Units
(Plaquemines Parish)**

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The Plaquemines Parish In-Lieu Fee Mitigation Program



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