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PERMITEE-RESPONSIBLE MITIGATION PLAN

107-ACRE TRACT AT THE SOUTHEAST CORNER OF SH 146/MCCABE
ROAD

La Porte, Harris County, Texas

November 15, 2018

Prepared for:
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LA PORTE, HARRIS COUNTY, TEXAS

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1.0 INTRODUCTION

At the request of the Dutko Family Partnership LTD, Phase Engineering, Inc. (Phase Engineering) and Cypress Environmental Consulting LLC (CEC) prepared this conceptual mitigation plan (the Plan) in accordance with the U.S. Army Corps of Engineers (USACE) Regulatory Program regulations 33 *Code of Federal Regulations* (CFR) 320-331 and 40 CFR 230 for the compensation of unavoidable impacts to Waters of the United States (WOUS) associated with proposed commercial development within a portion of a 107-acre tract of undeveloped land located at the southeast corner of State Highway (SH) 146 and McCabe Road in La Porte, Harris County, Texas (project area). This Plan is intended as a supplement to the Clean Water Act (CWA) Section 404/Rivers and Harbors Appropriation Act Section 10 Individual Permit application to be submitted for the project to USACE Galveston District (District).

A preliminary application meeting was held with the U.S. Army Corps of Engineers (USACE) Galveston District (District) on October 15, 2018, to review the proposed project elements and alternatives, as well as the approach for permitting and mitigation for impacts to WOUS. Phase Engineering conducted field surveys of the project area from December 9 to December 14, 2014 and prepared a wetland delineation report of the project area. Phase Engineering and CEC conducted wetland assessment evaluations of the project site from May 9-10, 2016. The purpose of the project site field surveys was to assess and quantify the ecological functions of the WOUS present at the site to help the project planning and development to identify an alternative site design to avoid and minimize environmental impacts, while still meeting the project's purpose and need. The ecological functions of the resources at potential and final onsite mitigation locations were also assessed so that any loss of ecological functions from the unavoidable impacts from the proposed project could be compensated.

1.1 GOALS AND OBJECTIVES

The goal for the development of project-specific mitigation strategies is to fully compensate the unavoidable impacts from the proposed project and to provide an overall improvement to the Taylor Bayou watershed near the project. Compensatory mitigation strategies presented in this plan follow 33 *Code of Federal Regulations* (CFR) 320-331 and 40 CFR 230 guidance provided in the District's Guidance Letter 08_03 (2008). USACE guidelines define the strategies as follows:

Restoration – the reestablishment of aquatic resource characteristics and functions at a site where they have ceased to exist or exist in a substantially degraded state.

Enhancement – an activity conducted in existing aquatic resources that increases or improves one or more aquatic functions or characteristics.

Creation – the establishment of an aquatic resource where one did not formerly exist.

Preservation – the conservation or dedication of ecologically important existing aquatic resources in perpetuity through the implementation of appropriate legal and physical mechanisms to prevent its destruction or degradation in the future.

The development of mitigation strategies includes specific objectives that serve to ensure that there is "no net loss" of ecological functions of aquatic resources. The following are the federal objectives:

-
- The qualification of ecological functions lost at the project site and gained at the mitigation site(s)
 - The replacement of lost functions by identification of potential onsite and in-kind mitigation opportunities prior to seeking offsite and/or out-of-kind opportunities
 - The development of mitigation strategies that are easily implementable and sustainable
 - The establishment of a monitoring program that includes specific success criteria, ensuring that mitigation strategies are effective
 - The establishment of legal instruments to provide permanent protection of mitigation activities.

1.2 PROJECT DESCRIPTION

The proposed project includes commercial development on approximately 62 acres of the overall 107.3-acre property (Appendix A). Development that would fill wetlands within the project area would impact 6.35 acres of potentially jurisdictional palustrine forested ("PFO") wetlands.

2.0 IMPACT SITE

2.1 SITE DESCRIPTION

In general, the proposed project site is located at the southeast corner of Highway 146 south and McCabe Road, La Porte, Harris County, Texas. It is located entirely within the 100-year floodplain Zone AE according to the FEMA Flood Insurance Rate Map, Panel Numbers 48201C10945L and 48201C1085L both dated June 18, 2007.

The property is on a woodland terrace at the upstream end of Taylor Bayou, on the west bank of the bayou channel, at elevations ranging from approximately 16 to 10 feet above mean sea level (MSL). The land slopes gradually from north to south, with a higher berm along the eastern property boundary at the bank of the bayou. As described in the 2015 Wetland Delineation Report for the property (Phase Engineering 2015), within the 107.3-acre project area, there are approximately 27.1 acres of PFO wetlands contained within approximately 67.61-acres of undulating, mosaic habitat that is on average 40% wetlands.

2.2 OWNERSHIP AND SPONSORSHIP

PFO

The Owner will serve at the Mitigation Site Property Owner and Sponsor and has identified Galveston Bay Foundation as the non-profit entity which will serve as the Conservation Easement holder to ensure the preservation of the on-site conservation area. The Sponsor will oversee the construction and establishment of the mitigation project and will serve as the long-term manager and steward. The anticipated long-term management will consist of activities such as monitoring, invasive species control, prescribed burning, and boundary maintenance and protection. As a conservation area, the project site will be protected by a perpetual conservation easement described in Section 4.0.

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3.0 MITIGATION AREA INFORMATION

3.1 GENERAL ECOLOGICAL CHARACTERISTICS

The proposed mitigation site is located in the Level III Ecoregion Western Gulf Coastal Plain, which occupies approximately 9.5 million acres along the coast of Texas. Gulf Coast prairies are nearly level, slowly drained, less than 150 feet in elevation, and intersected by streams and rivers flowing into the Gulf of Mexico. Vegetation is primarily grassland, but oak scrub has become much more extensive at the expense of grassland. The majority of contiguous land use in this region consists of row-crop agriculture, especially rice field, and improved pasture. Coastal wetlands support a diversity of bird life, especially wading birds and migrating songbirds.

The proposed mitigation site falls within the Northern Humid Gulf Coast Prairie sub-region of the Western Gulf Coastal Plain. Taylor Bayou is located along the eastern boundary of the property. Due to the low relief and clay subsoils, drainage within the Northern Humid Gulf Coastal Prairies is generally poor and the soils remain wet for parts of the year.

3.2 HISTORICAL ECOLOGICAL CHARACTERISTICS

Vegetation species were historically tallgrass grasslands with a few clusters of oaks. Dominant grassland species included Little bluestem, yellow Indiangrass, brownseed paspalum, gulf muhly, and switchgrass. Large areas of the region have been invaded by the exotic Chinese tallow tree and Chinese privet.

As described in the 2015 Wetland Delineation Report, historical aerial photography was reviewed to aid in overall understanding of vegetation distribution across the property over time. The earliest aerial photo image available (1953) clearly defines two vegetation zones – forested and grassland. Variations in vegetation are evident from the tone, texture, and pattern variations in the imagery with the grassland area in the southern portion of the property sharply separated from the forested vegetation. Large portions of the forested areas contain Chinese tallow tree.

3.3 CURRENT ECOLOGICAL CHARACTERISTICS

In the northern part of the region, in the transition to the South-Central Plains Ecoregion, loblolly pine (*Pinus taeda*) is common. Almost all of the coastal prairies have been converted to cropland, rangeland, pasture, or urban land uses.

3.3.1 SITE HYDROLOGY

The property lies within the West Galveston Bay watershed (HUC 12040204), a portion of the larger Galveston Bay-Sabine Lake watershed (120402). The ground elevation is approximately 16 feet above MSL on the Northwestern corner to 10 feet on the southeast corner. Taylor Bayou marks the eastern boundary of the property and drainage in the area generally flows toward the bayou, including runoff from the property.

3.3.2 SITE SOILS

According to the NRCS Soil Surveys for Harris County (USDA 2011), two soil map units are present within the property (NRCS mapped soil types) including Beaumont Clay, 0-1% slopes, and Vamont-

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Urban land complex, 0-5% slopes. Only the Beaumont clay is listed as a hydric soil on the 2015 National Hydric Soils List (USDA 2015). Although a hydric listing alone is often insufficient for determining if a given soil is in fact hydric, it does indicate that suitable properties or conditions exist to promote the formation of hydric soils. A discussion of these soils and their estimated depth to water table follows.

- Ba: Beaumont Clay is located in gilgai depressions on flat coastal plains. Parent material consists of clayey fluviomarine deposits of late Pleistocene age. This clay soil is poorly drained with a very high shrink-well potential. Water saturation is at 6 inches during January, February, March, November, and December. The Beaumont clay soil is a member of the vertisol group with an aquic moisture regime and low base saturation (UCD 2004).
- Vn: The Vamont component makes up 50 percent of this complex and located on gilgai on coastal plain flats. Vamont clays are somewhat poorly drained with a high shrink-swell potential. The seasonal zone of water saturation is at 27 inches during January, February, March, November, and December. This soil is part of the chromuderts great group which is a high chrome vertisol in humid moisture regime. Urban land makes up 35 percent of this complex and consists of miscellaneous developments.

3.3.3 VEGETATION

The project area vegetation is typical of the Loblolly-Sweetgum forest type described by the TPWD in Vegetation Types of Texas (McMahan 1984). The tallest and most mature trees are located within these areas and are distinguishable in aerial photography. Common tree species include loblolly pine, willow oak (*Quercus phellos*), sweetgum (*Liquidambar styraciflua*), Chinese tallow tree (*Triadica sebifera*), and yaupon holly (*Ilex vomitoria*). Herbaceous species are very limited within the uplands; vines, including sawtooth blackberry (*Rubus argutus*), are more common.

The dominant vegetation within the mosaic PFO areas primarily consists of facultative (FAC) plant species with the exception of a few spikerush (*Eleocharis*) and sedge (*Cyperus*) species found near shallow pools of standing water in the depressions on the far southeast corner of the property. Woody vegetation comprised of species including loblolly pine, sweetgum, and Chinese tallow tree.

3.4 THREATENED AND ENDANGERED SPECIES

An official species list of federally listed threatened and endangered species was obtained from the U.S. Fish and Wildlife for the area subject to this project. This project is not expected to result in an adverse impact to these listed species. A review of the Texas Natural Diversity Database (TXNDD) maintained by Texas Parks and Wildlife and the US Fish and Wildlife Service indicate that no suitable habitat exists on-site for federally listed threatened or endangered species.

The proposed on-site mitigation project presents an opportunity to provide refuge for terrestrial and aquatic plant and animal life, especially migratory birds and waterfowl, in an area that has reduced habitat complexity due to extensive residential, commercial, and industrial development.

3.5 CULTURAL RESOURCES

The background review revealed that while the majority of the project area has not been surveyed for cultural resources in the past, one negative archaeological survey immediately adjacent to the

project area was conducted. Furthermore, six additional cultural resource surveys were conducted within a 1-mile radius. No previously recorded archaeological sites are situated within the proposed project area. The background review revealed that while the site has remained relatively undisturbed over the past century, soils local to the project area are not typically ideal for the presence of sites eligible for inclusion in the NRHP. As a result, the project area is considered to have a low to moderate potential for the presence of such sites. Field investigations indicate no structures are present onsite.

4.0 DETERMINATION OF CREDITS

To ensure the function and value of impacted wetlands are adequately compensated for, the USACE Galveston District's interim hydrogeomorphic modeling ("iHGM") was used to calculate compensation requirements. The purpose of the HGM is to provide a rapid assessment of the current function of a given aquatic resource. The fundamental unit for evaluating impacts is the Functional Capacity Index ("FCI"). Four iHGM models exist, specific to different classifications of wetlands. The Riverine Forested iHGM model was selected due to the presence of temporarily flooded freshwater forested wetlands near Taylor Bayou, a riverine system at the eastern boundary of the project area.

For this evaluation, it is assumed that a portion of the on-site wetlands observed by Phase Engineering, Inc. during the wetland delineation would be permanently impacted by development activities, namely 6.35-acres of PFO wetlands.

The forested riverine iHGM use the following sub-indices to determine FCI values: biota, physical, and chemical. The FCI value of each sub-index is calculated by incorporating data obtained from several field variables into specific equations. The mean value of these FCIs for each wetland assessment area is multiplied by the acreage of the aquatic system to determine the FCU of the wetland. Based on the iHGM analysis, it was determined that the enhancement of 20.4 acres of PFO wetlands will fully compensate for wetland impacts. Proposed mitigation efforts will fully compensate for all wetland impacts per the table below. Detailed iHGM results are provided in Appendix B.

Table 2 summarizes the results of the calculation of the FCU values for the potentially impacted wetland. Scores for each variable were assigned based upon observations made by Phase Engineering during the wetland delineation and a subsequent site visit conducted in May 2016. Scores were input into each FCI formula to calculate the FCI for each of the three functional criteria. Each FCI was multiplied by the number of acres in the aquatic system to calculate the Functional Capacity Unit ("FCU") values.

Table 1. Wetland Impacts and Mitigation by Acreage and Function

Function	Wetland Acreage	Impact/Restoration Function Capacity Units (FCUs)
PFO Impacts		
TSSW	4.1	-1.70
MPAC	4.1	-1.76
RSEC	4.1	-1.88

In order to comply with USACE compensatory mitigation regulations, the value of each FCU type, described above, should be met or exceeded by the purchase of credits from a USACE-approved mitigation bank or an offset of credits generated from a Permittee-Responsible Mitigation (PRM) Plan. Based upon a review of the USACE Regulatory In-Lieu Fee and Bank Information Tracking System ("RIBITS"), the project site is within the primary service area of one USACE-approved mitigation bank, Greens Bayou and the secondary service area of three other banks, namely Gulf Coastal Plains, Katy Prairie Stream, and Mill Creek. Credit availability and pricing for each of these banks has not been evaluated to date.

If it is determined that no credits are available at any of the mitigation banks, the proposed project Permittee may consider developing a PRM Plan including the preserving, enhancing, or creating wetlands in order to generate the required amount of compensatory mitigation.

5.0 MITIGATION WORK PLAN

The schedule for beginning mitigation activities will be coordinated with the initiation of the project construction to minimize the time between project impacts. A detailed mitigation work schedule will be provided in this section as the Owner progresses through the mitigation design process.

5.1 SITE RESTORATION PLAN

Wetland restoration and enhancement will be accomplished through a combination of enhanced hydrology from surface water runoff from the proposed development and detention basin, native woody plant species enhancement, mechanical and chemical treatments to remove invasive Chinese tallow tree within existing PFO wetlands, and the preservation of an upland riparian buffer along the upstream end of Taylor Bayou. Figure 3 of Appendix A depicts the proposed conceptual mitigation design plan. The PFO mitigation area will be planted with an assemblage of native wetland and riparian tree and shrub species identified in Table 3.

The conceptual mitigation plan for the proposed project area is currently being developed, utilizing the iHGM information contained in this memorandum, evaluation of a potential development plan that includes impacts to approximately 4.1 acres of PFO wetlands, and evaluation of an onsite mitigation area that includes rehabilitation and preservation of approximately 26.3-acres of the property that comprises approximately 13-acres of PFO wetlands.

Table 2. Wetland Restoration by Acreage and Function

Function	Wetland Acreage	Restoration Functional
PFO Restoration		
TSSW	13	2.13
MPAC	13	4.29
RSEC	13	1.88

Proposed rehabilitation techniques include a combination of:

- Mechanical and chemical treatments to remove invasive Chinese tallow trees and shrubs
- Increase the amount of woody debris
- Increase the woody species diversity with new plantings of native trees and shrubs
- Increased hydrology flooding extent and duration within the PFO wetlands from increased runoff associated with development of the property and proposed detention basin

A proposed planting plan may include planting a diverse composition of seedlings of the tree species typically occurring in PFO wetlands in the region, identified in Table 3.

Table 3. Proposed PRM Project Planting List

Common Name	Scientific Name	AGCP Wetland	Percent Range of
PFO Restoration			
<i>Hard Mast (approximately 65-75%)</i>			
Water hickory	<i>Carya aquatica</i>	OBL	15-20
Willow oak	<i>Quercus phellos</i>	FACW	15-20
Water oak	<i>Quercus nigra</i>	FAC	15-20
Overcup oak	<i>Quercus lyrata</i>	FACW	15-20
Pecan	<i>Carya illinoensis</i>	FACU	<1-5
<i>Soft Mast (approximately 15-25%)</i>			
Sugarberry	<i>Celtis laevigata</i>	FACW	5-10
Green ash	<i>Fraxinus pennsylvanica</i>	FACW	5-10
Common persimmon	<i>Diospyros virginiana</i>	FAC	5-10
American elm	<i>Ulmus americana</i>	FAC	5-10
Cedar elm	<i>Ulmus crassifolia</i>	FAC	5-10
Red mulberry	<i>Morus rubra</i>	FACU	<1-5

*The exact species and quantities for planting will be determined by the availability of such species from commercial nurseries providing localized ecotype seedlings.

5.2 HYDROLOGY

The majority of the site proposed for compensatory mitigation currently exhibits wetland hydrology. The site consists of mosaic PFO wetlands adjacent to the upstream end of Taylor Bayou. The water quality within the mitigation area wetlands and adjacent Taylor Bayou will be preserved by utilizing Best Management Practices (BMPs). In addition, a proposed onsite stormwater detention basin will receive an increase in runoff from proposed development

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5.3 PALUSTRINE FOREST RESTORATION

The proposed plant species for afforestation have a wetland indicator status of facultative ("FAC"), facultative wetland ("FACW"), or obligate ("OBL") per the Atlantic and Gulf Coastal Plain ("AGCP") Region. The planting effort will integrate fast-growing soft mast species with slower-growing hard mast species to allow for greater vertical structural diversity, which is a necessary habitat for forest breeding birds. The exact species and quantities for planting will be determined by the availability of the species from commercial nurseries providing seedling.

Single stem planting of PFO species will occur the first planting season (December through February) following site preparation. Selected species will be site-appropriate for habitat design, soil-moisture regime, species richness, and commercially available. Table 3 summarizes the potential species proposed for PFO restoration. No more than 20 percent of the total proposed seedling distribution will comprise of a single species.

6.0 SITE PROTECTION

The proposed wetland mitigation site will be placed into a conservation easement in perpetuity held by a third-party land trust, the Galveston Bay Foundation (GBF). Per a preliminary meeting held with GBF, the GBF has agreed to hold the conservation easement. The GBF is a well-respected land conservancy in the Texas Gulf Coast that works to permanently protect ecologically significant resources in the Galveston Bay watershed. The wetland mitigation site will be placed into a conservation easement within 180 days of permit issuance. The applicant will establish a non-wasting fund that will provide GBF, the sponsor, with the resources necessary to monitor and enforce the site protections in perpetuity.

7.0 MAINTENANCE PLAN

The Owner will be responsible for all maintenance and management activities. The Owner will consult a regional mitigation specialist and/or the USACE in the event adaptations or revisions to this PRM Plan are required. For the forested wetland mitigation area, maintenance activities will be conducted annually for years 1-10 and in year 15.

Should it be determined that natural establishment of vegetative communities is unsuccessful in mitigation areas that require replanting, mitigation site-replanting options will be evaluated. Invasive species will be monitored and controlled during all phases of construction, establishment, maintenance, and monitoring. Any Chinese Tallow trees found in the mitigation area will be sprayed with herbicide and/or mechanically cleared. The restored wetlands will be protected as needed by temporarily installed construction or wire fencing to prevent grazing of species such as nutria or other fauna. No vehicular traffic will be allowed to transverse the restoration areas preventing soil compaction, plant mortality, and/or seed dispersal. Fencing will be installed around the perimeter to prohibit people and vehicles from entering the restored wetlands. The fencing type to be installed will be chosen so that it would also exclude domestic animals from entering the wetlands and disturbing vegetation and native wildlife. Topographic features, such as streams, may also be utilized to control access in lieu of fencing. Additionally, a fire lane of bare ground will be installed around the

mitigation area to prevent the spread of fire. Replanting will occur if any significant event occurs that prevents coverage of vegetation from meeting the predetermined performance standards.

If initial establishment of wetland vegetation and removal of invasive Chinese tallow tree is unsuccessful, the Owner will follow contingencies outlined in Section 11.0 of this plan.

8.0 PERFORMANCE STANDARDS

8.1 PFO WETLANDS

The PFO restoration area will be considered successful if annually in years 1-5, and at the end of 15 years from planting activities, the following conditions are met:

- A survival rate of at least 50 percent of seedlings/trees per acre for areas planted with bottomland hardwood species
- Less than 5 percent relative cover of nuisance, invasive, noxious, and exotic species
- By year 15, the surviving seedlings/trees planted are expected to achieve tree-canopy closure and contain less than 5 percent relative cover of nuisance, invasive, noxious, and exotic species.

If these requirements are not satisfied, additional planting of approved species will be required to accomplish the requirements. The area will then be monitored for one additional year to establish performance standards. This will be repeated until the wetland restoration area meets the required performance standards.

9.0 MONITORING PLAN

The monitoring plan is designed to measure and document the progress, successes, and failures (if any) of the main strategies of the proposed compensatory mitigation plan (previously described). The key mitigation components include PFO enhancement, and preservation of PFO and riparian buffer habitats.

9.1 MONITORING METHODS

Monitoring requirements for the compensatory mitigation area will adhere to the 2008 Final Compensatory Mitigation Rule and the USACE Regulatory Guidance Letter 08-03. For the forested wetlands, monitoring will be conducted annually in years 1-5 and in years 10 and 15. Monitoring events will begin after all mitigation activities are complete. Monitoring events will occur annually past the monitoring period only if the mitigation site does not meet performance standards during that time.

Performance standards of the compensatory mitigation area will be evaluated annually. The assessment of wetland vegetation enhancement and invasive Chinese tallow tree removal will be determined by a visual assessment of pre-established sample plots located in the restored wetlands. The location of each of these sample plots will be randomly determined, but will remain fixed for all subsequent monitoring events. This will allow for an accurate determination of the progress of the wetland as it matures and will limit variation in assessment results due to site-specific differences.

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9.2 MONITORING REPORTS

An as-built mitigation monitoring report, detailing the site conditions immediately after completion of construction, will include a project description, project history, aerial photographs, as-built drawings, and site photographs. The as-built mitigation monitoring report will be submitted to the USACE within three months after all construction and planting activities are complete. Thereafter, the site will be monitored annually for five years and in years 10 and 15 for the PFO wetlands.

All subsequent annual monitoring reports will include descriptions of the entire proposed mitigation site. The annual monitoring reports will describe the results of the quantitative assessment of vegetative cover, provide photographic documentation of the mitigation sites, discuss results in comparison to performance standards, and if needed, provide recommendations for corrective actions that might be necessary to compensate for deficiencies. Annual monitoring reports will be submitted to the USACE by November 15th of each year.

9.3 ACHIEVEMENT OF PERFORMANCE STANDARDS

Once the proposed mitigation sites have been determined to have met the minimum performance standards, the USACE will be notified in writing within 30 days of the last monitoring event that the mitigation plan has met minimum success. If the performance standards are not met at the scheduled times after initial planting activities and during the first three years of monitoring of the restoration area, areas in need of rehabilitation will be improved via the methods outlined in Section 8.0 of this PRM Plan.

Should any condition be observed that is indicative of a problem at the proposed mitigation sites the condition will be evaluated and a solution will be recommended in the annual monitoring reports. Solutions may include the installation of predator barriers, installation of additional vegetation, adjusting site elevations, or other solutions that are dependent on the site and situation. Should undesirable plant species threaten the proposed projects; these species will be removed manually or mechanically by industry-approved methods that will not harm wildlife or aquatic resources.

Should any corrective action be required during the monitoring and maintenance period, the Owner will implement the appropriate mitigation action in order to assure that project performance standards are achieved.

All monitoring reports will be submitted to:
United States Army Corps of Engineers
Galveston District – Compliance Division
2000 Fort Point Road
Galveston, TX 77550

The Owner is the responsible party for conducting the monitoring. The Owner may choose to hire an environmental consultant to perform the monitoring, analyze the data collected, and prepare a monitoring report in accordance with this PRM Plan. The Owner is the responsible party for providing the monitoring reports to the USACE, at the address listed above, unless otherwise directed by the USACE.

10.0 LONG-TERM MANAGEMENT PLAN

Once the mitigation area is established the PFO wetlands will be self-sustaining. Hydrology into and out of the mitigation area is already established with input from natural precipitation and runoff from natural precipitation from the surrounding areas and overflow from Taylor Bayou during heavy rainfall events. The Owner is responsible for the management of the mitigation area during the monitoring period.

11.0 ADAPTIVE MANAGEMENT PLAN

An adaptive management plan, contingencies, and remedial responsibilities will be implemented in the event that monitoring reveals certain performance criteria have not been met. In the event of a deficiency, the Permittee shall provide a notice to the USACE. The notice will include an explanation for the deficiency and will outline specific practices and measures that will guide decisions for revising the Plan if needed. If the USACE determines that the Plan is not in compliance with the terms and intent of this Plan, the USACE will provide written notice to the Permittee that includes a detailed description of the non-compliance determination. The Permittee shall submit a written adaptive management plan to the USACE for review and approval within forty-five (45) days of receiving written notice of non-compliance. The adaptive management plan shall identify the cause of the non-compliance, the necessary remedial measures, and a timeline for implementing said measures to bring the Plan into compliance. To the extent practicable, the CESWG shall approve or disapprove the adaptive management plan within forty-five (45) days of receipt, provided sufficient information and acceptable measures are contained in the plan.

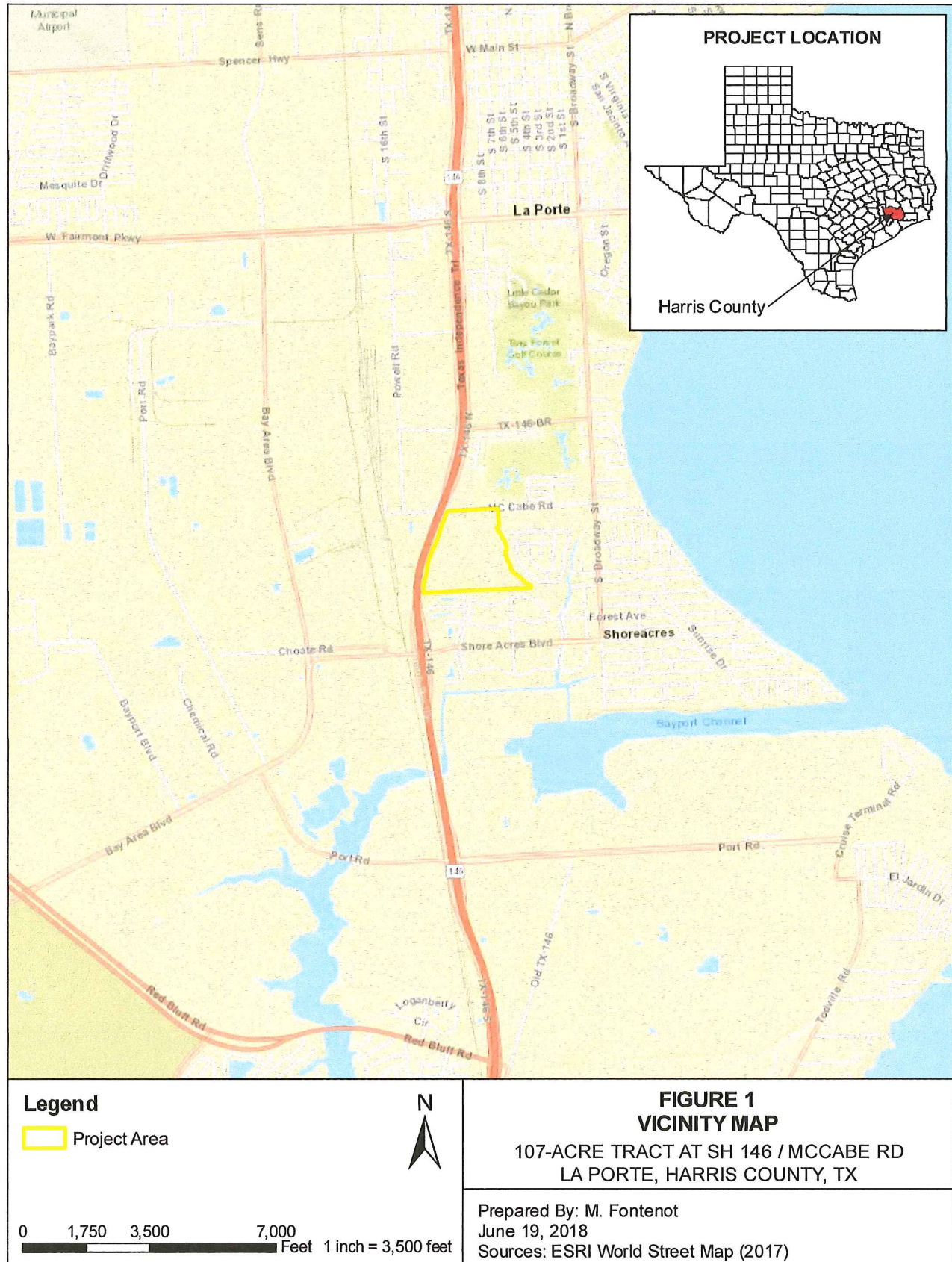
12.0 FINANCIAL ASSURANCES

The Owner will be responsible for the financial assurances necessary to construct, monitor, and maintain the mitigation area, which are outlined in the table below. Anticipated costs associated with the work plan include the plantings of native woody plants and the mechanical and chemical treatment for removal of Chinese tallow within the mitigation area. Anticipated costs associated with the long-term management of the mitigation area include annual monitoring and reporting, and potential subsequent Chinese tallow removal efforts and native woody species re-planting efforts.

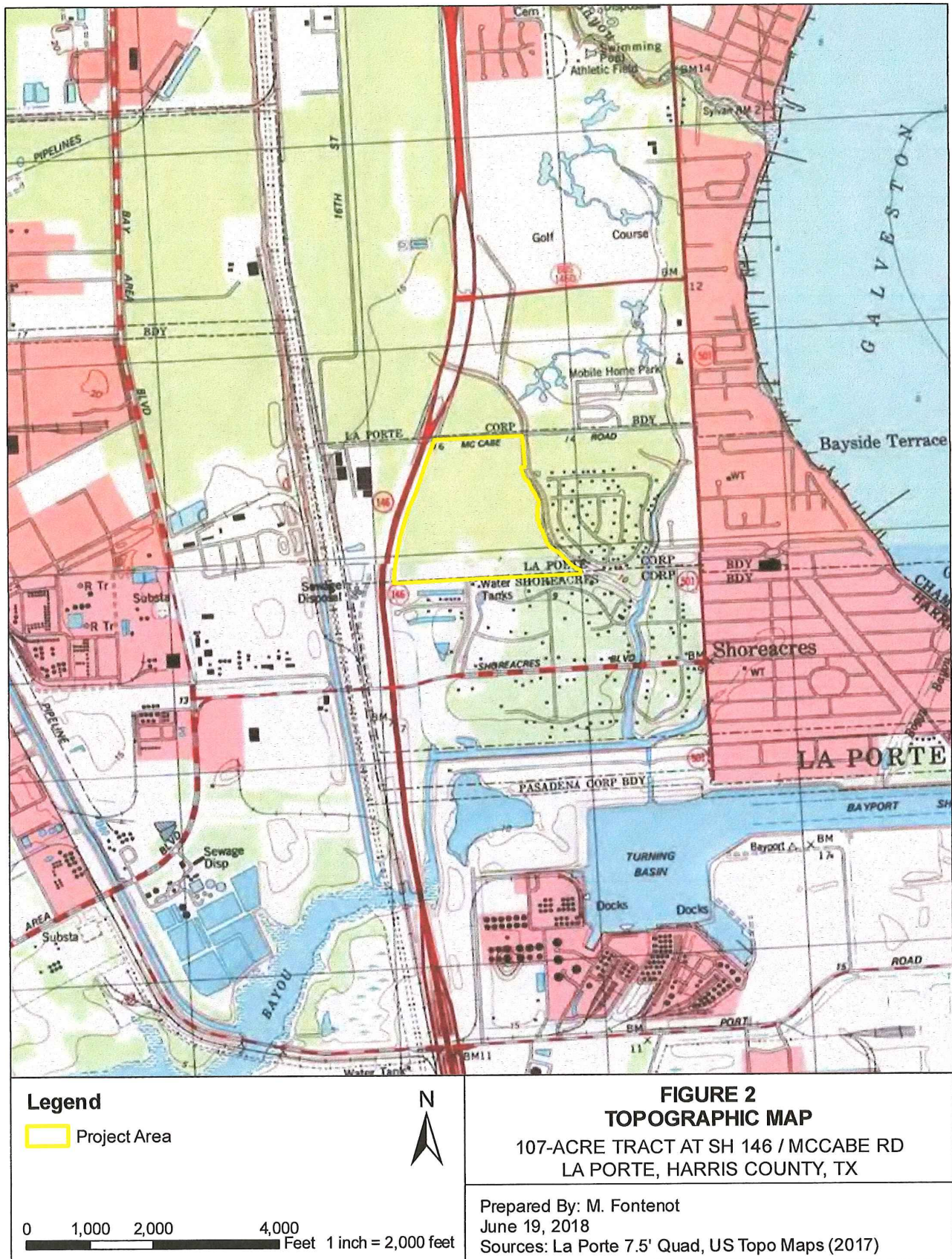
The Owner will deposit \$40,000 into a trust account for the adaptive management costs potentially necessary for mitigation plan success. Within the first 10 years of the plan, it is possible that additional Chinese tallow removal or additional native woody species plantings could be necessary to ensure the success criteria are met.

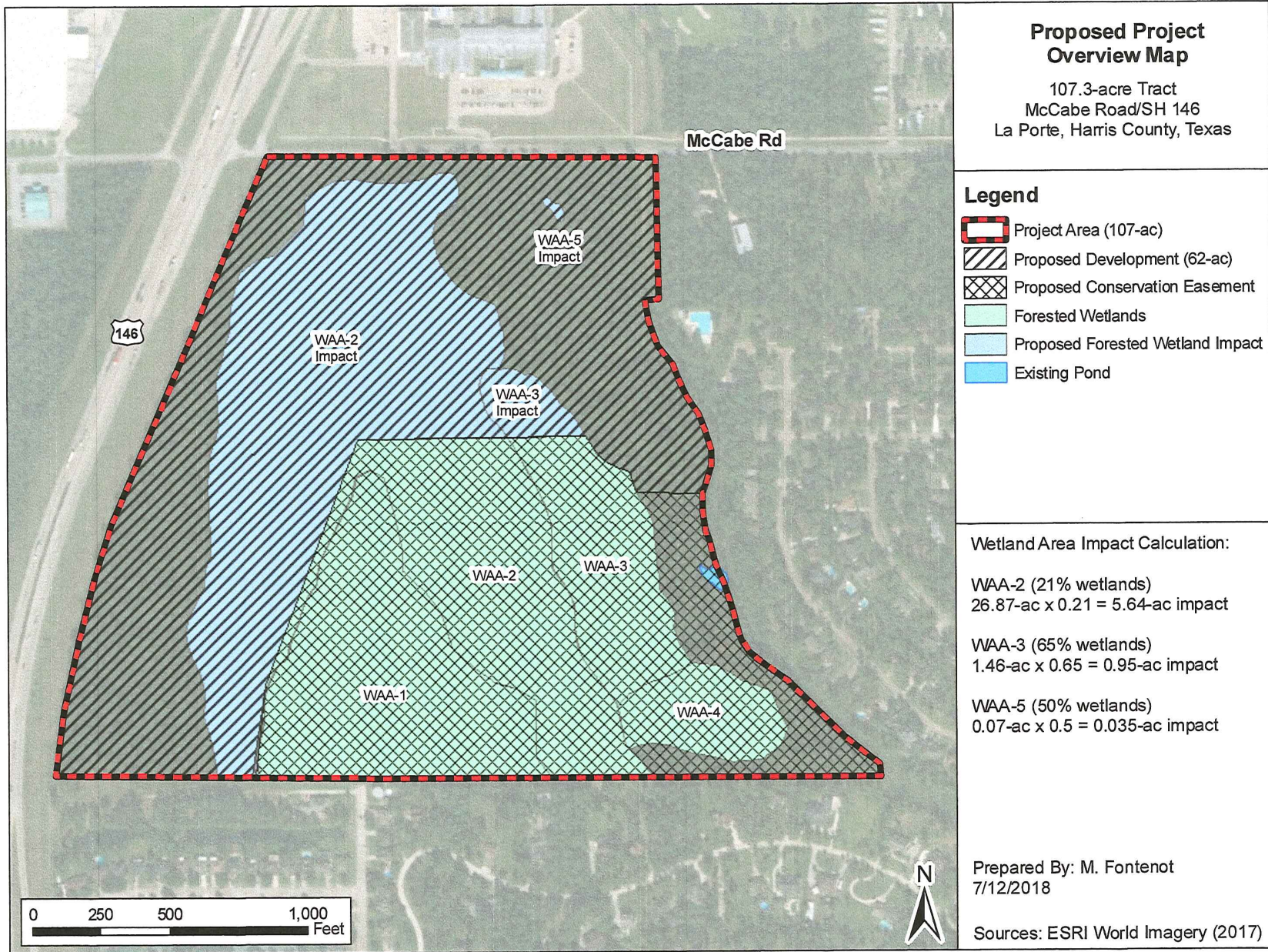
Mitigation Activity	Estimated Cost
Real Estate Protection Instrument	\$40,000
Mechanical and chemical treatment of Chinese tallow	\$180,000
Native woody species plantings	\$80,000
Annual monitoring and reporting	\$10,000
Adaptive management activities (e.g. additional Chinese tallow removal)	\$40,000
Total Estimated Costs:	\$350,000

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