Permittee Responsible Mitigation Plan
Mosquito Ranch

SWG -2013-00147

Brazoria County, Texas

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1.0 INTRODUCTION

At the request of Freeport LNG, JMB Land Company, LP (JMBL and/or Consultant), submits this Mosquito Ranch Permittee Responsible Mitigation Plan (MRPRMP) to the U.S. Army Corps of Engineers (USACE) - Galveston District. As described further in Section 4.0, there are currently no mitigation credits available for unavoidable impacts to freshwater emergent and scrub shrub wetlands adjacent to tidal waters within the proposed wetland impact area located in U.S. Geological Survey Hydrologic Unit Code (HUC) 12040205 (Austin-Oyster). Therefore, Freeport LNG is proposing the MRPRMP to offset/mitigate for the permanent unavoidable impacts to Wetlands and Waters of the U.S. resulting from construction and fill activities associated with the proposed Freeport LNG Confined Dredge Material Placement Area (CDMPA and/or Impact Site) Project, USACE Permit No. SWG-2013-00147. The CDMPA is located in HUC 12040205 and Brazoria County, Texas. JMBL has prepared this MRPRMP in accordance with the regulatory program regulations listed in Section 33 CFR § 332.4(c) and 40 CFR § 230.92.4(c) to establish and operate the proposed Mosquito Ranch PRM Site.

The MRPRM has the potential to be restored to high quality herbaceous wetlands through the implementation of establishment and enhancement mitigation types as defined in 33 CFR § 332.2:

- *Establishment (creation)*: The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area and function.

- *Enhancement*: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

2.0 PROJECT GOALS AND OBJECTIVES

The goal of this MRPRM is to establish 46.6 acres and enhance 159.67 acres of herbaceous wetlands to compensate for the in-kind loss of wetland functions associated with permanent unavoidable impacts from the CDMPA Project (Table 1). The establishment and enhancement of the MRPRM site would establish and enhance the natural historical herbaceous wetland habitat and provide wetland functions and values not currently realized under the existing conditions. Presently, the proposed MRPRM site is being used for cattle production. In reaching the goals and objectives of the MRPRM, land use would pivot away from managed range land to herbaceous wetland. The Brazoria National Wildlife Refuge (BNWR) and its objectives would also be served by this conversion (Sanchez 2012). In summary, the proposed MRPRM would establish and enhance hydrology, remove noxious species, and re-vegetate the MRPRM site with native herbaceous wetlands species.

Goals and Objectives of the MRPRMP:

- To create new herbaceous wetlands by scraping to wetland elevation areas adjacent to existing wetlands.
- Install fencing along western boundary to prevent cattle from accessing the MRPRM site from adjacent property.

- Remove and prohibit any and all grazing livestock from the MRPRM.

- Remove noxious species such as Chinese Tallow (*Triadica sebifera*) and others through spot spraying of herbicides.

- Recruitment and planting of indigenous herbaceous wetlands species in enhanced and created wetlands. Discussed further in Section 8.1.2

- Remove the existing 1.1-acre jurisdictional cattle pond on the property to establish the topography, hydrology, and vegetation to improve the water quality of MRPRM's runoff and in turn its natural hydrologic cycling, sheet flow, and water storage.

- Ensuring the quality of MRPRM habitat through annual vegetation monitoring, noxious invasive species control, and adaptive management if necessary.

- Provide long-term protection through financial assurances and the institution of a conservation servitude.

3.0 IMPACT SITE DESCRIPTION

The Freeport LNG CDMPA encompasses 112.9 acres located within HUC 12040205 (Austin-Oyster) in Brazoria County, Texas (proposed Impact Site). The Impact Site consists primarily of freshwater emergent wetlands, scrub shrub wetlands, and open water features that are adjacent to tidal waterbodies and is located north of Levee Road that is south of the city of Freeport (WGS 83, 095° 22' 3" W 28° 55' 36" N). Freeport LNG is proposing to use the 112.9 acres as a confined dredge material placement area. Dredge material to be placed within the CDMPA would originate from the Freeport LNG Basin.

3.1 Impacted Wetland Habitat Descriptions

The proposed Impact Site, excluding open waterbody areas, is comprised of several emergent and scrub-shrub wetland patches totaling 58.79 acres. Of the 58.79 acres, emergent wetlands comprised 54.70 acres and scrub shrub wetlands comprised 4.09 acres.

According to the Natural Resources Conservation Service (NRCS) Soil Survey for Brazoria County (USDA 2015), two soil map units are present within the Impact Site – Surfside clay and Velasco clay. Surfside clay consists of very deep, saline soils located on Gulf Coast floodplains and saline prairies. These soils are very poorly drained, occasionally flooded by both fresh and salt water, and are saturated at or near the surface for several months at a time. Surfside clay is listed as a hydric soil on the 2014 NRCS National Hydric Soil List. Velasco clay consists of very deep, saline clays located on Gulf Coast floodplains. These soils are very poorly drained, occasionally flooded by both fresh and salt water, and the zone of water saturation fluctuates from the surface to a depth of

30 inches. Velasco clay is listed as a hydric soil on the 2014 NRCS National Hydric Soil List.

Lloyd Engineering, Inc. identified two vegetation community types within the Impact Site including emergent herbaceous and scrub shrub wetland. Species identified along with their areal coverage, as documented at representative data points, are recorded on the reports data sheets. A photographic log, depicting representative images of the vegetation communities within the Impact Site was included in the report. Examples of dominant species identified within each vegetation community type are listed in the following paragraphs.

Emergent Herbaceous Wetland:
Emergent herbaceous wetland community patches were delineated throughout the Impact Site by Lloyd Engineering, Inc. in February 2020. The wetland patches are dominated by non-woody vegetation such as grasses and forbs under three feet in height. Dominant herbaceous species include woodrush flatsedge (*Cyperus entrerianus*), bushy seaside-tansy (*Borrichia frutescens*), torpedo grass (*Panicum repens*), seaside club-rush (*Schoenoplectus robustus*), giant cane (*Arundinaria gigantea*), Gulf cord grass (*Spartina spartinae*), and broad-leaf cat-tail (*Typha latifolia*).

Scrub Shrub Wetland:
The scrub shrub wetland community patches were delineated in the western and southern portions of the Impact Site. The wetland patches are dominated by woody species greater than three feet in height and less than three inches in diameter at breast height. Dominant woody species include groundsel tree (*Baccharis halimifolia*) and busy seaside tansy (*Borrichia frutescens*). Herbaceous species are similar to PEM wetland patches with the addition of gulf cordgrass (*Spartina spartinae*) and woodrush (*Cyperus entrianus*).

3.2 Proposed Impact Site Ecological Functions and Values

The SWG Tidal Fringe HGM Interim Model (IHGM), at the direction of the USACE, was used to assess the functional values of the emergent and scrub shrub wetlands proposed to be impacted as a result of the CDMPA Project. The Tidal Fringe IHGM analysis yielded the existing physical, chemical, botanical, and biota functional capacity index (FCI) for each wetland proposed to be impacted. As such, the functional capacity units (FCU) were then calculated based on the acreage of impacts to each wetland.

On September 11, 2020, the USACE conducted a site visit to verify the results of the wetland delineation and functional wetland assessment completed for the proposed CDMPA Project. Based on the results of the site visit conducted, the USACE provided a verification of the preliminary jurisdictional determination (PJD) and functional assessment in a letter dated July 28, 2021. Based on this letter, the USACE concurred with the results of the functional wetland assessment conducted for a total of 11.8 biota FCUs, 9.35 botanical FCUs, 39.31 physical FCUs, and 6.73 chemical FCUs calculated for the proposed 58.79 acres of permanent wetland impacts associated with the CDMPA Project. The FCIs and FCUs for each wetland within the CDMPA impact area proposed for mitigation are indicated in Attachment B.

4.0 MITIGATION SITE SELECTION

In identifying and selecting the type(s) of compensatory mitigation most suitable for the proposed CDMPA, consideration was given to each of the three mitigation mechanisms recognized by the USACE, in the order of preference established by the USACE and the U.S. Environmental Protection Agency (EPA) in the Final Rule for Compensatory Mitigation for Losses of Aquatic Resources, issued in 2008:

- Mitigation Banking;
- In-Lieu Fee Mitigation; and
- Permittee-Responsible Mitigation.

With respect to the most favored mechanism - mitigation banking - no suitable banking options are currently available. The currently approved mitigation banks in the service area area with credits available for commercial use (Danza del Rio, Mill Creek, Lower Brazos River and Columbia Bottomlands Conservation) all offer riverine forest wetland and/or stream credits only, not the estuarine emergent wetland credits that would be required for in-kind banking. Additionally, there are no approved ILF available. As such, Freeport LNG's initial mitigation planning was necessarily focused on permittee-responsible options.

The proposed MRPRM site was selected due to its potential for the desired habitat type, vicinity to the Impact Site, its location within HUC 12040205 (Austin-Oyster), and its vicinity to the BNWR. The MRPRM is located 9.82 miles from the Impact site (see Attachment A: Figure 1), within the same HUC (12040205 Austin-Oyster) as the Impact Site. The MRPRM site is located immediately adjacent to the BNWR, sharing the eastern boundary of the property with the refuge. The proposed site restoration/creation would be an asset to water quality and wildlife within the Western Gulf Coastal Plains Eco-region III. Wetland functions and values could be expanded on site and have the capacity for high functional lift for offsetting unavoidable impacts when restored. The restoration of this site would provide 425.4 acres of both upland and wetland habitats.

The proposed MRPRM is located on property owned by Kilgore Corporation a JMB Company who also owns JMBL. JMBL has designated the proposed MRPRM acreage as a standalone project. If the proposed MRPRM site is deemed not acceptable as a wetland mitigation offset site, then JMBL will pursue other ways to monetize the property through other types of development or by selling the property for others to develop.

4.1 Mitigation Site Description

MRPRM is located approximately 11 miles southeast of Angleton, Texas. BNWR is adjacent to the property along the eastern boundary of the property. The MRPRM is located at Northing 3,217,899ft and Easting 278,566ft NAD83 UTM zone 15U (approximate center) in Brazoria County, Texas (Attachment A, Figure 14), and also in HUC 12040205 Austin-Oyster. Named water ways in the direct vicinity of the MRPRM are Bastrop Bayou and Big Slough. MRPRM is in the EPA's Level III Ecoregion 34 which is the Western Gulf Coastal Plain. The EPA describes Ecoregion 34 as largely coastal prairie with wooded areas and adjacent rivers. Topography in and surrounding the MRPRM is a ridge-swale landscape created by the historic courses of meandering bayous. Some of the higher ridges are forested while most of the swales are herbaceous. Over the last two hundred years the prairie of Brazoria County has been extensively

converted to cattle pastures and cropland, the MRPRM and surrounding properties included.

4.2 Driving Directions

To reach the property from Angleton, Texas, drive south on S. Velasco Street (Highway 288); turn left onto Coale Road (Highway 220); continue on Coale Road for 2.2 miles; turn right onto FM523 S.; continue on FM523 S. for 6.8 miles; turn left onto Hoskins Mound Road; continue on Hoskins Mound Road for 1.8 miles; turn right onto Brazoria National Wildlife Refugre Entrance Road continue for 2.3 miles and the property would be on the left (see Attachment A, Figure 2).

5.0 SITE PROTECTION INSTRUMENT

MRPRM would be protected in perpetuity by a conservation easement pursuant to Texas Natural Resources Code Sections 183.001-183.005. The easement would be held by a conservation-oriented 501(c)(3) organization: U.S. Land Conservancy. The conservation servitude would be bound to and run with the property title. A long-term management fund will be established to provide the resources necessary to monitor and enforce the site protections in perpetuity. The servitude would prohibit activities such as fill discharges, cattle grazing, or other commercial surface development that would diminish the quality or quantity of the sites wetlands. A letter of intent to hold the easement and a draft version of the conservation easement are located in Attachment F. There are currently no easements or right of ways on the property (Attachment A, Figure 10).

6.0 BASELINE INFORMATION

6.1 General Ecological Characteristics

Current land use of the MRPRM site is as a cattle pasture that consist of both herbaceous and scrub-shrub areas, some of the scrub-shrub area includes the invasive species Chinese tallow (*Triadica sebifera*). Much of the herbaceous areas are maintained herbaceous by the grazing of cattle and the inundation of water in the tidal areas (Attachment A: Figure 3). Adjacent land use consists primarily of cattle pasture to the west and BNWR to the east.

6.2 Historical Ecological Characteristics

The Coastal Prairie of Texas consisted of 9 million acres in the early 1800s. Since that time, this acreage has been greatly reduced due to cropland, livestock, and urban sprawl. Brazoria County has been affected by all three of these land altering activities (Smeins 1991). The proposed MRPRM is a prime example of an herbaceous wetland as seen in its historical imagery from in 1944 aerial photography (Attachment A, Figures 5 A,B,C,D,E). Later aerial photography shows the site as fenced and grazed.

Review of the historic aerial photography suggests the lack of Mima mounds and natural ponds. Mima mounds were present nearby but on higher elevations, therefore no depressional features or mound restoration is proposed.

6.3 Current Ecological Characteristics

6.3.1 Jurisdictional Determination

The approved jurisdictional determination (AJD) request, for the proposed MRPRM was submitted on January 25, 2021, and approved on June 21, 2021. The reference number is SWG 2013-01479. The proposed MRPRM contains a combination of wetland, waters, non-jurisdictional wetlands, and upland. The jurisdictional determination was issued for an area larger than the proposed MRPRM since some of the area in the determination were surveyed as below the high tide line and therefore cannot be placed under a conservation servitude.

6.3.2 Current Site Vegetation

The MRPRM is currently being managed for cattle grazing. The actively managed areas consist of the pasture, with scrub area being left to overgrow. The pasture does have both upland and wetland vegetation. The vegetation in these areas consist of gulf cordgrass (*Spartina spartinae*), seashore saltgrass (*Distichlis spicata*), saltmeadow cordgrass (*Spartina patens*), needlerush (*Juncus roemerianus*), spike rush (*Eleocharis macrocarpa*), rattlebox (*Sesbania drummondii*), and softrush (*Juncus effusus*) in the wetland areas.

The uplands on the property consist of pasture grasses and Chinese tallow infected bottomland hardwood forest. The pasture area has a mix of wetland and upland species, but areas that are not managed have large swaths of Chinese Tallow (*Triadica sebifera*).

Table 1: Current Vegetation Species List

Scientific Name	Common Name (USDA)	Wetland Indicator Status Atlantic and Gulf Coastal Plain (USDA)
Current vegetation within cleared cow pasture		
Spartina patens	Cordgrass	FACW
Spartina spartinae	Cordgrass	OBL
Borrichia frutescens	Bushy seaside tansy	OBL
Eleocharis acicularis	Needle Spikerush	OBL
Iva frutescens	Jesuit's bark	FACW
Current vegetation within scrub/forested areas		
Lemna minor	Duckweed	OBL
Rhynchospora corniculata	Shortbristle horned beaksedge	OBL
Cyperus virens	Green flatsedge	FACW
Ranunculus hispidus	Bristly buttercup	FAC
Triadica sebifera	Chinese Tallow	FAC

6.3.3 Current Site Hydrology

MRPRM is located in the Austin-Oyster watershed (HUC 12040205), specifically within the Lower Oyster Creek (HUC 120402050400) drainage area. The site is generally flat. With a low elevation the site often floods from precipitation and larger storm events. The site's topography currently drains into Bastrop Bayou via a natural drain. A 1.1-acre pond

is currently damming the natural drain as a water source for the cattle currently grazing on the site (Attachment A: Figure 9).

Wetlands and the un-named drainage on-site are hydrologically connected to Bastrop Bayou apart from a few areas separated by uplands. Wetland hydrology on-site is currently driven by direct precipitation and high-water events from Bastrop Bayou. Water level recorder data, which was provided to obtain the jurisdictional determination, indicated that frequently bayou elevation water would create surface water on the wetlands, though it does not occur with the daily tide. Proposed drainage patterns are visually represented in the Construction Drawings in Attachment C.

6.3.4 Existing Soils

The Brazoria County Soil Survey maps MRPRM soils as: Asa silt loam, zero (0) to one (1) percent slopes, rarely flooded; Leton loam, occasionally flooded; Narta fine sandy loam, zero (0) to one (1) slopes, rarely flooded; Surfside clay, zero (0) to one (1) percent, occasionally flooded and Veston fine sandy loam, zero (0) to one (1) percent slopes, frequently flooded.

All of these soil types, except Asa, are listed as hydric soils of Brazoria County on the USDA NRCS National List of Hydric Soils; All States (2014). A wetland delineation conducted in April 2020 confirmed that these soils present hydric indicators and are wetland soils in areas other than the sod field which had been contoured to drain. Figure 7 and 8 presents the current soils within the project area.

Table 2: Existing Soils

Soil Name	Soil Code (NRCS)	Acreage of Soil on MRPRM	Percent of Soil on MRPRMP
Asa silt loam	2	109.7	26%
Leton loam	27	0.4	1%
Narta fine sandy loam	32	74.8	17%
Surfside clay	39	224.1	52%
Veston fine sandy loam	43	14.8	3%
Water		1.2	1%

According to the Brazoria County Soil Survey and the USDA Web Soil Survey the following soils are found to occur on the MRPRM, their descriptions are:

- Asa silt loam (2) is found on flood plains of river valleys and is well drained. The soil is rarely flooded. This soil does not meet hydric conditions and not typically associated with wetlands. Much of this soil is associated with the uplands found on the project site.

- Leton loam (27) is found on open depressions and flats of the coastal plain with slopes that are 0 to 1 percent. Available water to a depth of 60inches is high. The soil is poorly drained, and the surface runoff is moderate. The soil is occasionally flooded with a seasonal zone of water saturation within 9inches from October to May.

- Narta fine sandy loam (32) is found on flat and low coastal plains and have slopes of 0 to 1 percent. It is poorly drained and water movement is low. Shrink swell potential is high. It rarely floods but meets the hydric criteria.

- Surfside clay (39) is found on flood plains and delta plains with slopes 0 to 1 percent. It is very poorly drained with low water movement. Shrink swell potential is high and the soil is occasionally flooded. A seasonal saturated soil to the surface from October to March. It is a hydric spoil.

- Veston fine sandy loam (43) is typically found level on barrier island flats. It is frequently flooded and is a hydric soil.

6.4 Threatened and Endangered Species

The MRPRM would provide a buffer to future development around the refuge and add to the habitat range for various species, especially the species of concern, which BNWR protects. Avian species possibly would utilize the site.

Table 3: Endangered and Threatened Species of Concern at MRPRM

Common Name	Scientific Name	State Status (TPW)	Federal Status (FWS)
Whooping Crane	*Grus americana*	Endangered	Endangered
Wood Stork	*Mycteria americana*	Threatened	-
Red Knot	*Calidris canutus rufa*	-	Threatened
Eastern Black Rail	*Laterallus jamaicensis ssp. jamaicensis*	Threatened	Threatened
White-faced Ibis	*Plegadis chihi*	Threatened	-
Swallow-tailed Kite	*Elanoides forficatus*	Threatened	-
White tailed hawk	*Buteo albicaudatus*	Threatened	-

7.0 DETERMINATION OF CREDITS

This MRPRM would mitigate for unavoidable impacts to wetlands and their physical, biological, and chemical functions and values resulting from construction and fill activities associated with the Freeport LNG CDMPA Project through the restoration/creation and enhancement of the MRPRM site to enhanced and created herbaceous wetlands. To guarantee all lost wetland function and values are mitigated for, the SWG Tidal Fringe iHGM was used to calculate compensation requirements. First, the iHGM values were assessed for the impacts to emergent herbaceous and scrub shrub wetland values and functions from the CDMPA as discussed in Section 3.2. Then during the MRPRM AJD site visits the baseline functional assessment was determined and, in a letter, dated June 21, 2021(Attachment G) the site was determined to have a score of 151.93 biota FCUs, 168.27 botanical FCUs, 132.72 physical FCUs, and 162.72 chemical FCUs calculated for the existing wetland acres. The wetland functions and values to be gained from the MRPRM were assessed by the iHGM resulting in a calculated net lift of 47.26 biota FCUs, 47.60 botanical FCUs, 45.98 physical FCUs, and 50.02 chemical FCUs. Based on the iHGM analysis, it was determined that the MRPRM restoration/creation of 46.6 acres and enhancement of 159.67 acres of herbaceous wetlands would more than fully compensate for wetland impacts from the CDMPA fill. iHGM details for the CDMPA and the MRPRM can be found in Attachment B.

8.0 MITIGATION WORK PLAN

8.1 Site Restoration Plan

In order to achieve the goals and objectives of the MRPRMP and to meet all requirements listed in 33 CFR § 332.8, the MRPRM workplan proposes to remove cattle, add boundary fencing, establish hydrology by extending water feature, scrap areas to wetland elevation, remove noxious species, re-vegetate with native herbaceous wetlands species, and maintain the re-vegetated herbaceous wetlands with a rotation of prescribed burns.

Table 4: Site Restoration Plan and Timeline

Activities to be Completed	Year	Timing	Reasoning
Site Preparation • Permit Issued • Build fence and remove cattle • File Conservation Servitude • Spray Exotics	0	Prior to earthwork and in accordance with permit conditions	
Construction • Burn site • Excavation and fill activities	1	Dry season after issuance of permit. Approximately February to May based on APT	Burning site first will remove vegetative matter, reducing mass to be moved. Less impact the dryer the soil.
Vegetative Restoration • Establishment of Monitoring Transects • Seed/Plant Native Vegetation	1	First Growing Season after Construction	Establishment of vegetation and monitoring transects
Establishment • Monitor • Prescribed Burn	2-5	Monitor every year until success has been meet Burn every 3-5 Years	

8.1.1 Hydrologic Restoration

To establish and enhance the area to a natural hydrologic state, create wetlands and meet the objectives of the MRPRMP, the existing cattle pond would be backfilled, the existing water feature on the site will be extended, new wetlands will be established and a naturally filled historic bayou channel will be excavated to wetland elevations.

The site is immediately adjacent to Bastrop Bayou and the existing jurisdictional wetlands on the site has direct connection. Much of this connection is along an unnamed tidal water feature that is located on the site. It is proposed to extend this feature further into the property to bring tidal influences further into the property and connect wetlands that have been disconnected when a cattle pond was previously dug on the site. The new water feature will extend 991' northernly and 754' southernly to a depth below mean high tide. The cattle pond will be backfilled with the original spoil material located at the site to create wetlands.

Proposed wetlands beyond the existing wetlands will be created by skimming on average approximately six inches of surface soil to an elevation of +/- 2.5' elevation so that new wetland acreage will be created by extending the time the acreage is saturated by slowing run off and increasing the number of times surface water reaches those areas. Portions of the converted acreage already meet some hydric criteria, but they are not currently jurisdictional wetlands due to not meeting all three wetland criteria.

Additionally, on the northeastern portion of the property there is an existing wetland that is believed to be a remnant channel of either Bastrop Bayou or a slough. Portions of this remnant channel naturally filled over time to the point of becoming uplands. This area will be excavated to +/- 2.5' elevation to reestablish wetlands.

Fill from excavations will be spread over existing uplands on the property. The location of the spoil has been designed to not impede surface water flow across the property. Cross sections of proposed excavations and fill are shown in the Construction Drawings (Attachment C).

Spoil profiles were taken to confirm that the topsoil at the site is deep enough that even with the removal of some soil the exposed soil will be able to support vegetative growth (Attachment E). Upon the restoration of the natural hydrologic conditions the site would experience an increase in hydraulic conductivity, soil organic matter, soil saturation potential, and the formation of redoximorphic features (Collins 2001) conducive to wetland function and value.

8.1.2 Vegetative Restoration

Vegetative recruitment and/or seeding/planting would be used to enhance natural vegetation throughout the property. The restoration/creation of the hydroperiod across the property in partnership with vegetative recruitment would create wildlife habitat as well as benefit water quality. Proposed herbaceous wetland restoration areas would be implemented by temporarily transplanting desirable species to another area on the property, outside of the construction area, then burning the site prior to dirt removal. After earthwork to the desired elevation is complete the saved plants would be replanted on site. If necessary, areas that are not showing signs of successful wetland plant establishment would be seeded and/or planted with a mesic mix appropriate for the ecoregion. Plugs of species from Table 5 and possibly other species will be obtained from areas within or near the proposed Impact Site and planted on the MRPRM site. If, due to constructing timing, plugs from the Impact Site are not available, vegetative plugs will be sourced from adjacent Freeport LNG-owned property or commercial nurseries with the same or similar vegetation. By sourcing plugs from the impact or nearby sites, this allows the MRPRM to have some similar vegetation. Herbaceous wetland habitat would be maintained by prescribed burning on a 3-5-year cycle, which is in line with the Habitat Goals and Objectives from the Texas Mid-Coast National Wildlife Refuge Complex Habitat Management Plan. Proposed herbaceous species are listed in the following Table 5 and 6.

Table 5: Proposed Planting Herbaceous Plant List

Scientific Name	Common Name (USDA)	Wetland Indicator Status Atlantic and Gulf Coastal Plain (USDA)
Distichlis spicata	Saltgrass	OBL
Distichlis littoralis	Shoregrass	OBL
Polypogon monspeliensis	Beardgrass	FACW
Spartina patens	Cordgrass	FACW
Spartina spartinae	Cordgrass	OBL

Table 6: Proposed Natural Recruit Herbaceous Plant List

Scientific Name	Common Name (USDA)	Wetland Indicator Status Atlantic and Gulf Coastal Plain (USDA)
Juncus roemerianus	Needlerush	OBL
Lycium carolinianum	Christmas berry	FACW
Iva frutescens	Marsh elder	FACW
Borrichia frutescens	Sea oxeye	OBL
Eleocharis microcarpa	Spike rush	OBL

8.1.3 Noxious Plant Control

Invasive plant species such as Chinese tallow (*Triadica sebifera*) would be removed by selective application of herbicide prior to initial monitoring. If found Silk tree mimosa (*Albizia julibrissin*), cogongrass (*Imperata cylindrica*), Japanese climbing fern (*Lygodium japonicum*) and Trifoliate oragnge (*Poncirus trifoliata*) would also be chemically treated during the establishment of the site. The percent cover of invasive plants would be monitored during long-term and short-term success monitoring. If invasive species are found on the site then appropriate action would be taken to eliminate the species.

Within the scrub shrub and forested habitats, Chinese tallow appears to be prevalent. To enhance these areas they would be chemically treated. The tree stems would be left in place to deteriorate naturally within the system. No mechanized land clearing or large logging equipment would be used for the exotic eradication, except where removed for associated dirt work for hydrologic modifications.

JMBL intends to use all prudent efforts: physical, chemical, or mechanical, to eliminate existing invasive/exotic vegetation present such as Chinese tallow (*Triadica sebiferum*) at MRPRM. This noxious vegetation would be treated with herbicides to reduce long-term presence to 5 percent relative cover per WAA. Prior to planting, all Chinese tallow within

and immediately surrounding the MRPRM boundary would be chemically treated with herbicides.

9.0 MAINTENANCE PLAN

Monitoring for exotic and invasive species and the implementation of control techniques would occur annually. Maintenance would also include the annual inspection of hydrologic connections to ensure connectivity has not been blocked by man-made or natural processes. If in fact any blockage has occurred, hand clearing or mechanical clearing of those hydrologic connections would be initiated until the proper hydrologic connection is re-established. Adaptive management would allow for changes to the maintenance plan to maximize success of the MRPRM area, but only if approved by the USACE. Prescribed burns would be used to maintain the ecological value of the MRPRM as necessary; and after performance standards are met, the prescribed burns would be performed by either JMB trained personnel or contracted by a trained fire management contractor (See Attachment A, Figure 15). As the habitat matures, monitoring would continue but exotic species control measures are expected to decline as a steady state self-perpetuating natural ecosystem is established.

10.0 PEFORMANCE STANDARDS

MRPRM would be enhanced in accordance with the MRPRM Plan such that it meets the goals and objectives listed in Section 2.0. The following performance standards would be used to measure the success of the established and enhanced habitat:

- 70 percent areal coverage within designated wetland restoration/created areas, made up of a minimum of five different vegetative species.
- Up to 5 percent relative cover of nuisance, invasive, noxious, and exotic species.
- Site would be restored in accordance with the MRPRM Plan such that it meets wetland criteria as described in the 1987 Corps of Engineers Wetland Delineation Manual (the 1987 Manual) as well as the November 2010 Regional Supplement for the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region Version 2.0. Performance Standards.

Wetland reestablishment/creation and enhancement areas would be considered successful if, after 2 growing seasons after the initial construction activities on-site to establish hydrology commence, the MRPRM site meets the performance standards. If established and enhanced wetlands fail to meet the performance standards by the 3rd growing season following the start of restoration activities, then additional planting of approved species and maintenance would be required until performance standards are met.

11.0 MONITORING REQUIREMENTS

The monitoring reports would include data sufficient for comparison to the performance standards found in Section 10.0 of this MRPRMP. JMBL shall also include in these reports, a discussion of all activities which took place at the MRPRM.

11.1 Monitoring Methodology

Fifteen permanent vegetative plots would be established within each new wetland throughout the PEM area (Attachment A, Figure 13). A permanent marker, consisting of a 5ft t-post encased in a 10-foot PVC pipe, would be installed at each of the 15 (1m x 1m) vegetative plots. The plots would be tied in with a GPS to ensure correct placement for the life of the MRPRM. The vegetative plots would be established following the completion of all internal dirt work and a baseline vegetation survey would be conducted at or near the end of the first growing season. Percent cover data would be collected using a 1m x 1m quadrat constructed of PVC. The quadrat would be placed with the northwest corner touching the permanent marker and the quadrat sides facing 180 degrees due south and 90 degrees due east. All of this information would be provided in the as-built report. Monitoring plots are not planned for the existing wetlands since they already meet wetland criteria.

Monitoring events would collect the following information from each 1m x 1m vegetative plot: 1) date time-frame (begin/end date); 2) name of each species present 3) identification on whether that species is native, non-native, invasive/exotic 4) identification of the wetland status of each species present according to the following categories - Obligate Wetland (OBL), Facultative Wetland (FACW), Facultative (FAC), Facultative Upland (FACU), or Obligate Upland (UPL); and 5) the percent cover of each species present. In addition, the following information would be documented: 1) the average percent cover of native species; 2) the average percent cover of non-native species; 3) the average percent cover of invasive/exotic species; and 4) the average percent cover of species per each wetland status. All monitoring locations would be illustrated on a map supplied to the USACE as part of the annual report.

Throughout each monitoring event, ground level photographs (digital images) would be taken at each vegetative sampling plot. Using the vegetative plot marker as the central point, photographs would be oriented toward the following two compass directions: North and South. These photographs would be included as an attachment to each monitoring report and each photograph would be labeled with the date, plot/station identifier, and the compass direction for that photograph.

11.2 Monitoring Report Requirements and Timing

An as-built report would be submitted within 60 days to the USACE Compliance Division following completion of all earth moving work required. Year 0 is considered the year of commencement of MRPRM restoration/creation and enhancement activities. Monitoring would commence the following growing season, after the completion of all on-site work. Monitoring would be conducted in the spring of Years 1-5 using the guidelines in Section 11.1 of this MRPRMP. Monitoring will continue if in year 5 all performance standards are not meet. This “if necessary” monitoring would continue until all performance standards are meet and will follow the requirements outlined in Section 11.2.2.

11.2.1 Baseline: As-Built

An as-built report would be submitted to the USACE Compliance Division within 60 days following completion of all work required. The as-built report would describe in detail the work performed, and provide at a minimum the following information:

1. POST CONSTRUCTION SURVEY: A survey showing finished grades and plantings with written documentation, plan view, and cross-sectional drawings of all construction and establishment work implemented.
2. VEGETATION PLOT ESTABLISHMENT DATA: 1) date time-frame (begin/end date); 2) the average percent coverage of native species in all plots; 2) the average percent coverage of non-native species in all plots; and the 4) average percent coverage of invasive/exotic species in all plots.
3. OVERVIEW: Detailed descriptions of site preparation, planting procedures, etc.

11.2.2 Monitoring Years 1-5

Monitoring would be conducted in Years 1-5, in the spring or summer of each monitoring year using the guidelines in Section 11.1 of this MRPRMP. All annual reports at minimum would provide the following information:

1. FOLLOW-UP CONSTRUCTION: A description of the condition of any applicable hydrology altering features and a general discussion of hydrologic conditions at monitoring stations.
2. VEGETATION COMMUNITY: A summary of the outcome of the vegetative community data collected, which would reference the raw data and statistics in an attachment to the monitoring report. This summary would include, but is not limited to, the following information: 1) date time-frame (begin/end date) of the monitoring event; 2) the average percent coverage per species in all plots; 3) the average percent coverage of native species in all plots; 3) the average percent coverage of non-native species in all plots; 4) the average percent coverage of invasive/exotic species in all plots; 5) the average percent coverage of species per wetland status; and 6) an evaluation on whether this data shows that the vegetative success criteria have been met.
3. VISUAL QUALITATIVE EVALUATION: A summary of the details of the visual qualitative observations performed on the MRPRM, including whether conditions are in compliance with the MRPRM and if the project is on track to meet requirements. If additional documentation is collected to substantiate these observations, this information would be included in that documentation as an attachment to the monitoring report and would include references to that attachment in the summary of this information.

12.0 LONG-TERM MANAGEMENT PLAN

After the MRPRM has met all performance standards, long-term management would be needed to ensure the sustainability of the resource. Freeport LNG or its assignee would be the responsible party for long-term management of the MRPRM and will fund the maintenance activities through an escrow account. The amounted needed to ensure long term financial assurance is included in Attachment F, which includes taxes, monitoring, burning cost and possible legal fees. To ensure long-term sustainability of the resource, Freeport LNG or its assignee would burden the property with a perpetual conservation servitude. This servitude will be held by U.S. Land Conservancy (see attachment D). The conservation easement would protect the site from any activities that would diminish the quality of wetlands on the site. No structures are proposed or would be necessary to assure hydrologic or vegetative restoration.

13.0 ADAPTIVE MANAGEMENT PLAN

Ecological restoration projects are site specific and multiple endpoints are possible owing to the stochastic nature inherent in ecological processes, and the potential influence of offsite human activities. For these reasons, a written report/written request for information could be submitted for review; and upon consultation with the USACE and commenting agencies, could lead to a change in restoration strategy, modified objectives, and adjustments to performance standards and monitoring protocols at any time prior to full project establishment. Once the report is sent to the USACE, they would consult with the commenting agencies and provide approval/denial in writing of the written report/written request for information submitted. This adaptive management plan process will ensure flexibility for successful long-term performance of the site.

14.0 FINANCIAL ASSURANCES

To ensure that sufficient funds are available to provide for the perpetual maintenance and protection of the MRPRM, a “Long-Term Maintenance and Protection” escrow account would be established prior to Freeport commencing construction on the impact site. This account would be administered by a federally insured depository that is “well capitalized” or “adequately capitalized” as defined in Section 38 of the Federal Deposit Insurance Act. The Long-Term Maintenance and Protection escrow will be created and initially funded with $154,000 to cover long term cost such as taxes, invasive species control, prescribed burns and “if necessary” maintenance and legal cost. Additionally, this fund will have at least $173,891.11 prior to the final report completing the monitoring. The details of this account is included in Attachment G.

15.0 REFERENCES

Code of Federal Regulations, Title 33, Parts 325 and 332 and Title 40, Part 230, as published on pages 19594-19704 in the Federal Register dated 10 April 2008.

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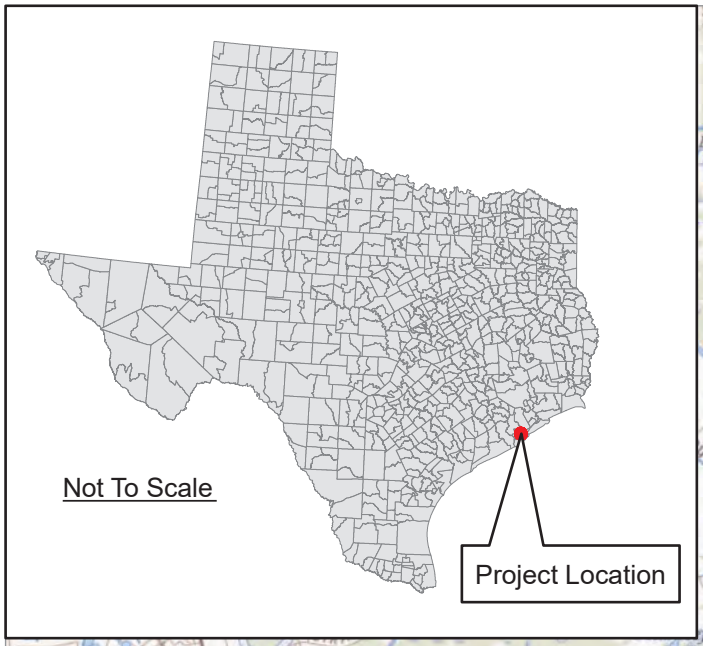
Griffith, G.E., Bryce, S.A., Omernik, J.M., Comstock, J.A., Rogers, A.C., Harrison, B., Hatch, S.L., and Bezanson, D., 2004, Ecoregions of Texas (color poster with map, descriptive text, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:2,500,000).

Sanchez, Jennifer, Joseph Lujan, Monica Kimbrough, and Corol Torrex. Texas Mid-coast National Wildlife Refuge Complex Draft Comprehensive Conservation Plan and Environmental Assessment. Brazoria,TX: Texas Mid-coast National Wildlife Refuge Complex, 2012. Print. Brazoria, Fort Bend, Matagorda and Wharton Counties, Texas

Attachment A
Maps



Approximately 11.05 Miles NE of Proposed Impact Site

Legend

MRPRM Boundary (±425.4 acres)

0 3,900 7,800 11,700 15,600

Feet 1 in = 7,917 ft

PROPOSED MOSQUITO RANCH MITIGATION PRM

VICINITY EXHIBIT

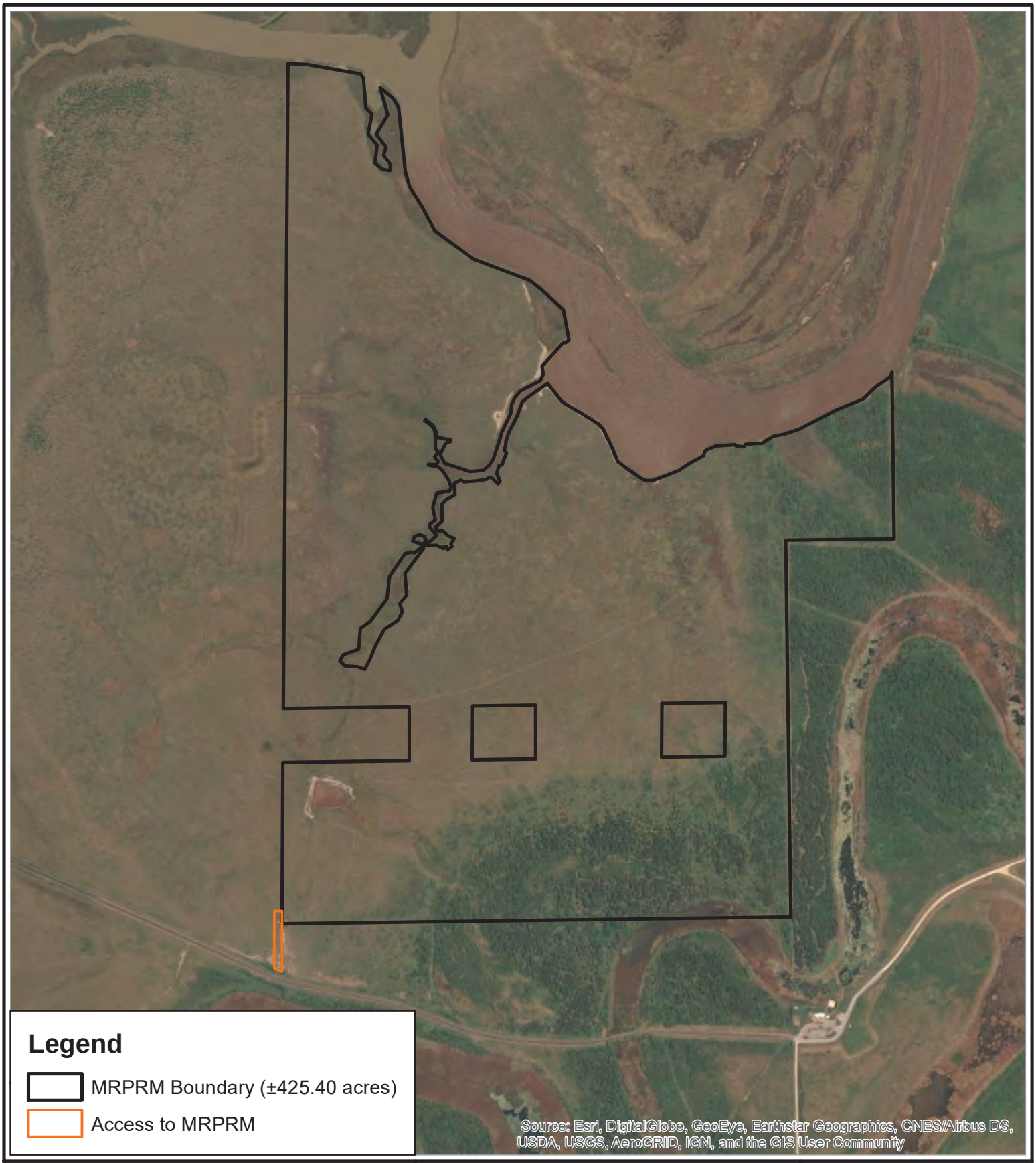
BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N **Date:** 8/20/2021

Vertical Datum: NAVD88 Feet **Author:** CTG

FIGURE 01

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Propsectus Maps\October2020Update\Figure_01_Mosquito_Ranch_Vicinity_10.7.2020.mxd



Aerial Image Date: 8/20/2020

0 500 1,000 1,500 2,000
Feet
1 in = 1,000 ft

N

PROPOSED MOSQUITO RANCH PRM

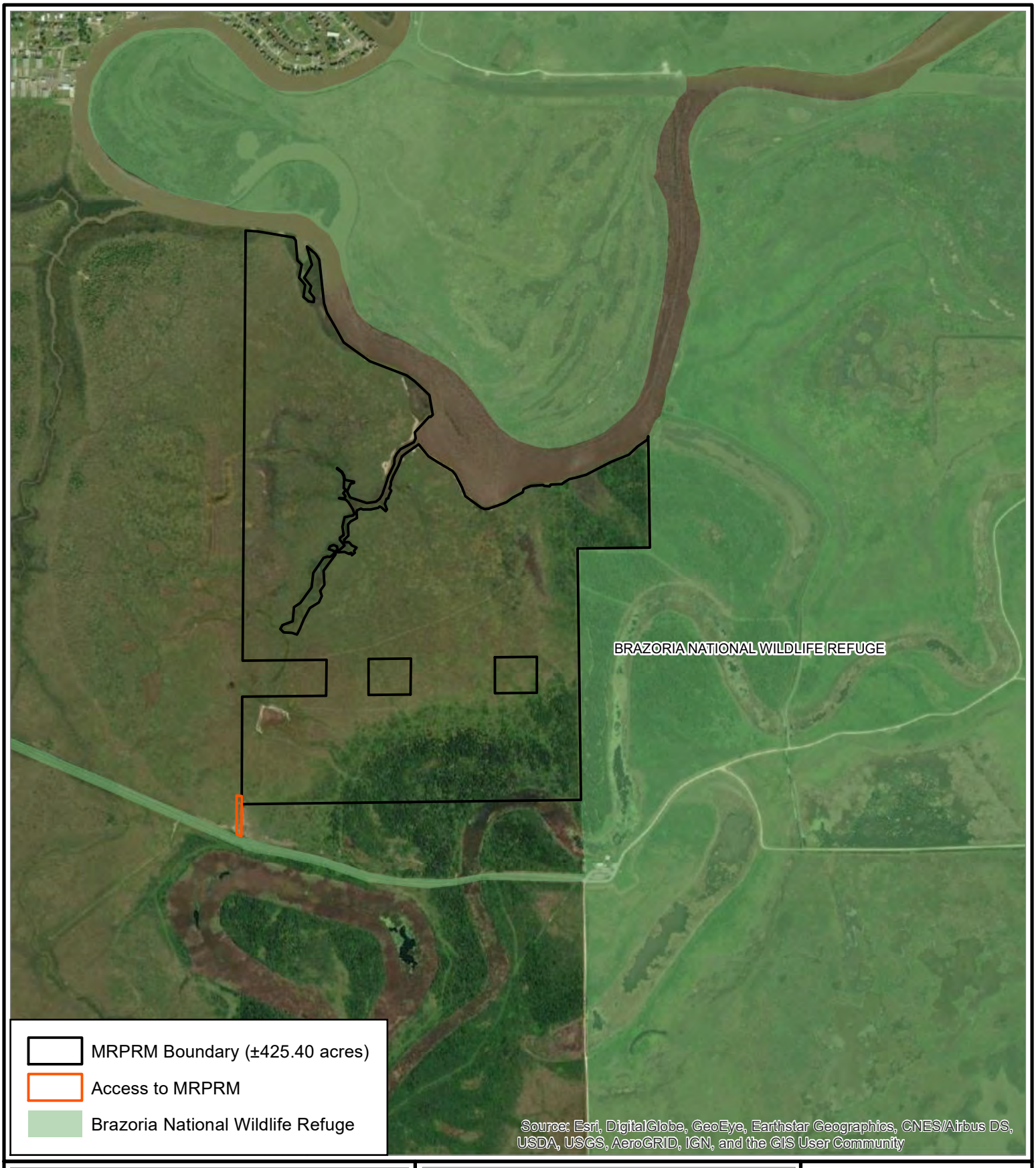
PROPERTY BOUNDARY EXHIBIT

BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N	**Date:** 9/22/2021
Vertical Datum: NAVD88 Feet	**Author:** JKP

FIGURE 02

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Propsectus Maps\October2020Update\Figure_02_Mosquito_Ranch_Property_Boundary_10.7.2020.mxd



0 750 1,500 2,250 3,000
Feet
1 in = 1,500 ft

N

PROPOSED MOSQUITO RANCH PRM

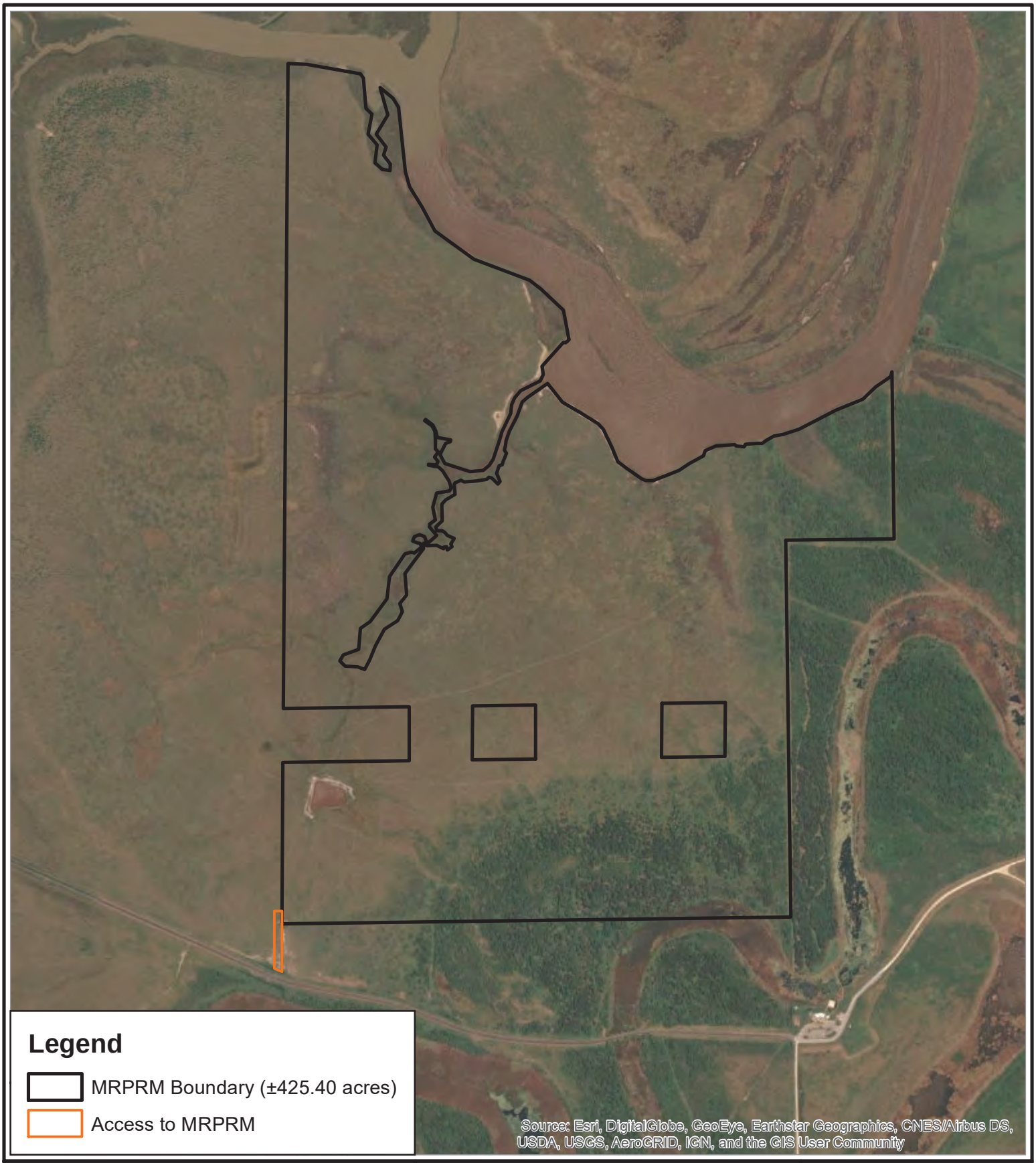
PROXIMITY TO BRAZORIA NWR EXHIBIT

BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N	**Date:** 6/18/2021
Vertical Datum: NAVD88 Feet	**Author:** CTG

FIGURE 03

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Propsectus Maps\October2020Update\Figure_03_Mosquito_Ranch_Proximity_to_Brazoria_NWR_10.7.2020.mxd



Aerial Image Date: 8/20/2020

0 500 1,000 1,500 2,000
Feet
1 in = 1,000 ft

N

PROPOSED MOSQUITO RANCH PRM

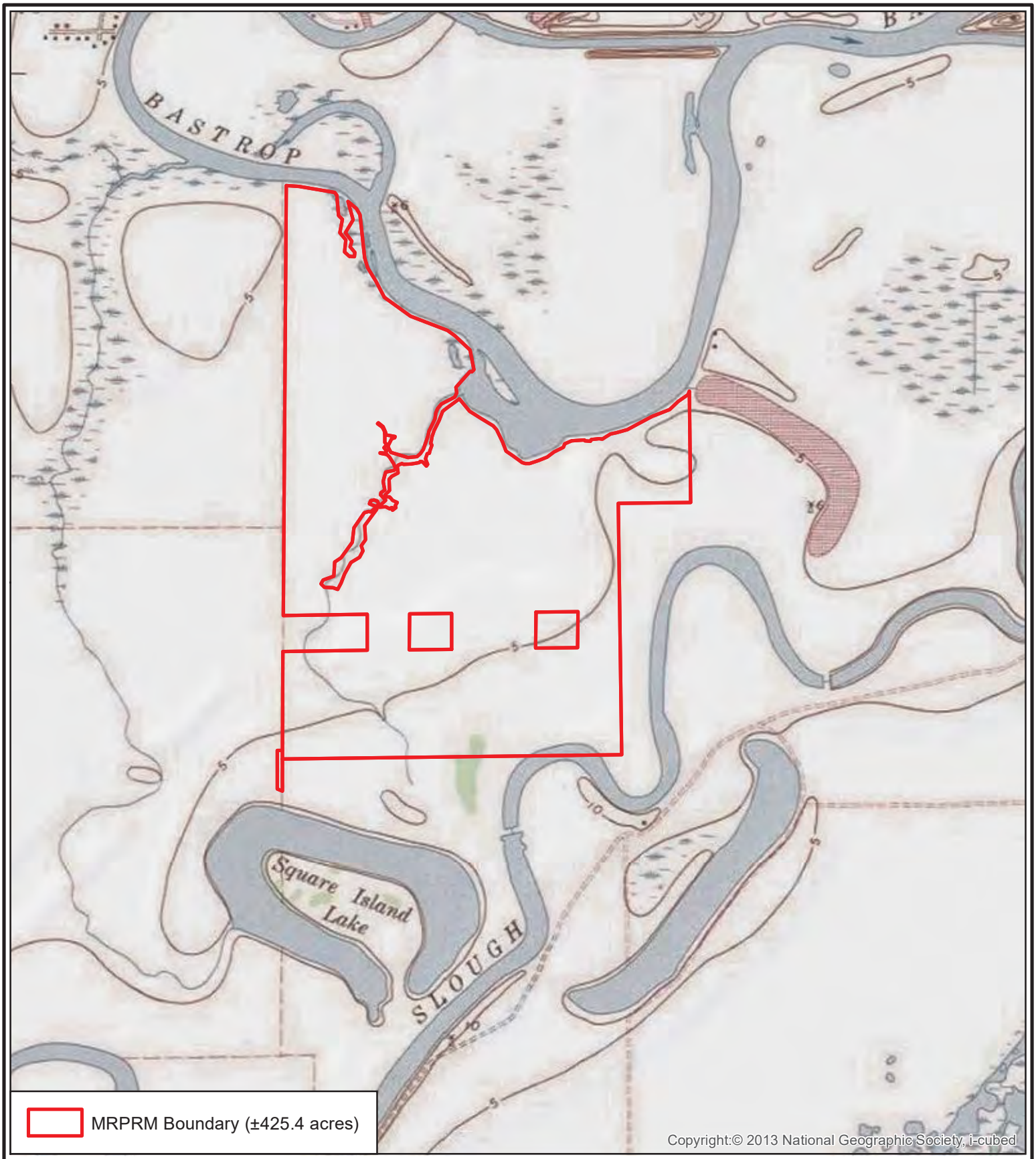
PROPOSED PRM BOUNDARY EXHIBIT

BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N	**Date:** 9/22/2021
Vertical Datum: NAVD88 Feet	**Author:** JKP

FIGURE 04

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Propsectus Maps\October2020Update\Figure_04_Mosquito_Ranch_Proposed_Bank_Boundary_10.29.2020.mxd



1:18,000

0 740 1,480 2,220 2,960

Feet 1 in = 1,500 ft

PROPOSED MOSQUITO RANCH PRM

USGS OYSTER CREEK QUADRANGLE EXHIBIT

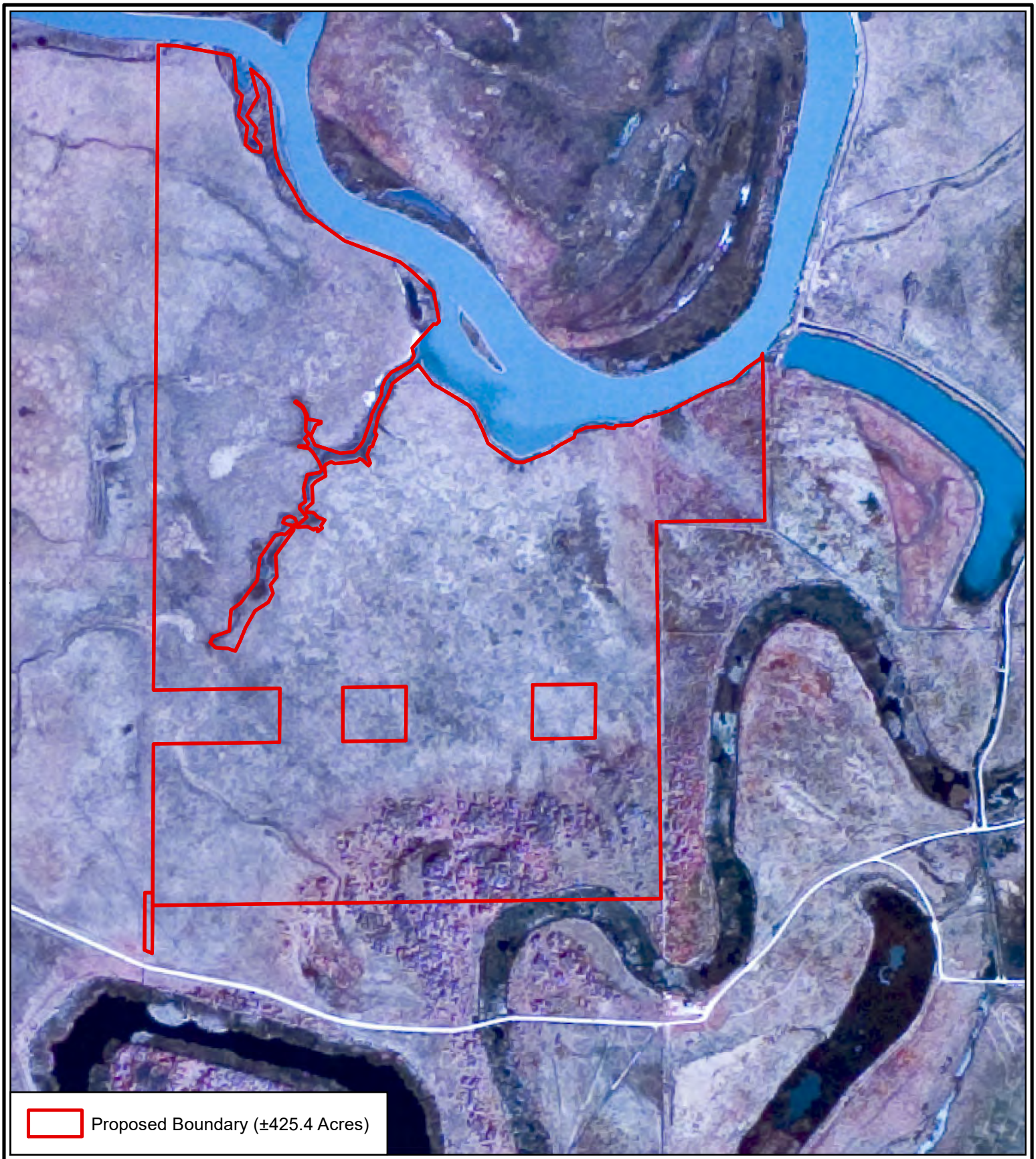
BRAZORIA COUNTY, TX

Coord Sys: WGS 1984 UTM Zone 15N **Date:** 9/10/2021

Vertical Datum: NAVD88 Feet **Author:** CTG/KNL

FIGURE 5A

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Propsectus Maps\October2020Update\Figure_05A_Proposed_Mosquito_Ranch_usgs_topo_10.29.2020.mxd



0 500 1,000 1,500 2,000
Feet
1 in = 1,000 ft

N

PROPOSED MOSQUITO RANCH PRM

1995 COLOR INFRARED IMAGERY EXHIBIT

BRAZORIA COUNTY, TX

Coord Sys: WGS 1984 UTM Zone 15N **Date:** 6/18/2021

Vertical Datum: NAVD88 Feet **Author:** CTG/KNL

FIGURE 5B

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Propsectus Maps\October2020Update\Figure_05B_Proposed_Mosquito_Ranch_1_1995_Historic_Imagery_10.29.2020.mxd

0 500 1,000 1,500 2,000
Feet
1 in = 1,000 ft

N

PROPOSED MOSQUITO RANCH PRM

2002 HISTORICAL IMAGERY EXHIBIT

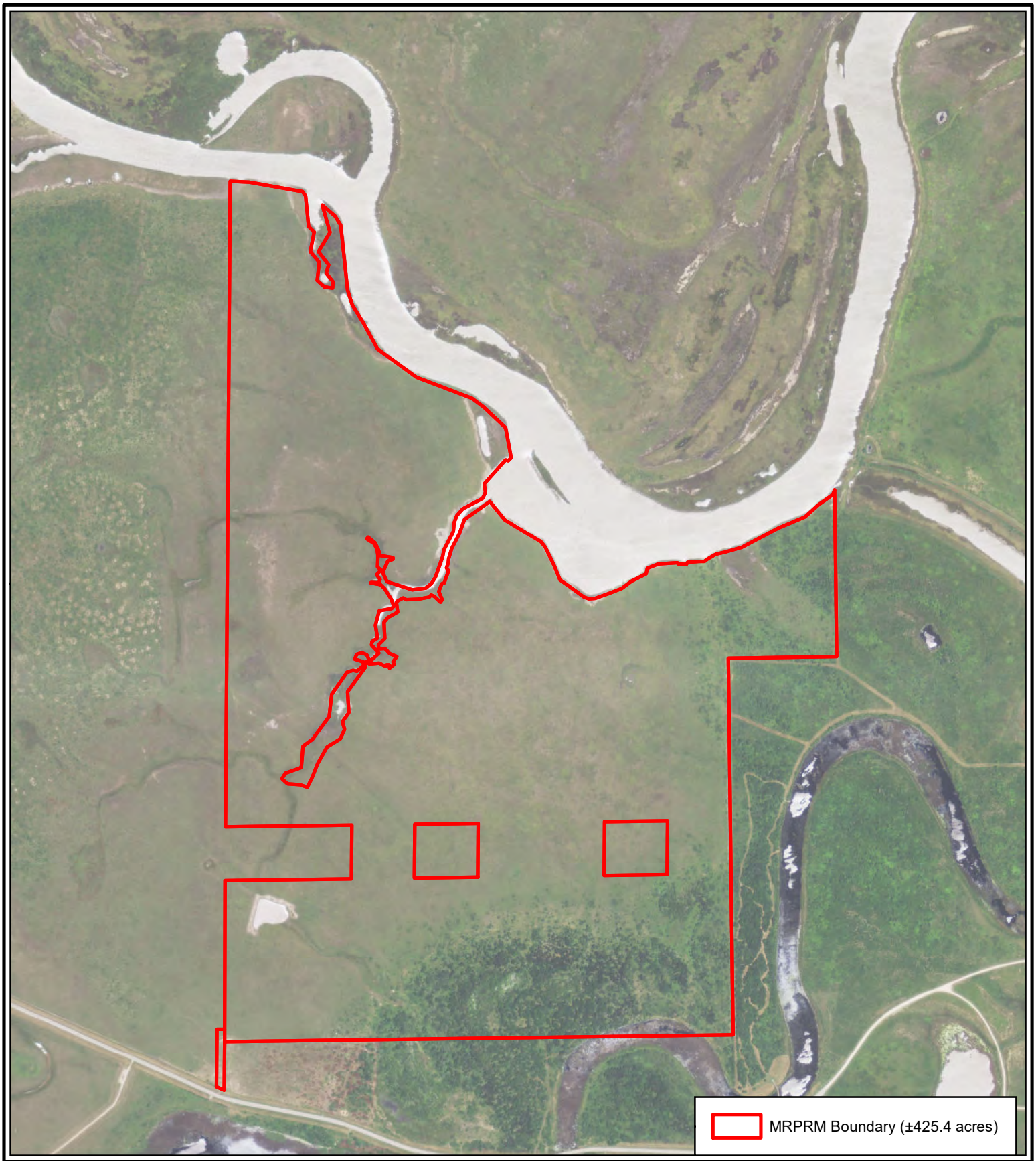
BRAZORIA COUNTY, TX

Coord Sys: WGS 1984 UTM Zone 15N **Date:** 6/18/2021

Vertical Datum: NAVD88 Feet **Author:** CTG/KNL

FIGURE 5C

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Propsectus Maps\October2020Update\Figure_05C_Proposed_Mosquito_Ranch_2_2002_Historic_Imagery_10.29.2020.mxd



0 500 1,000 1,500 2,000
Feet
1 in = 1,000 ft

PROPOSED MOSQUITO RANCH PRM

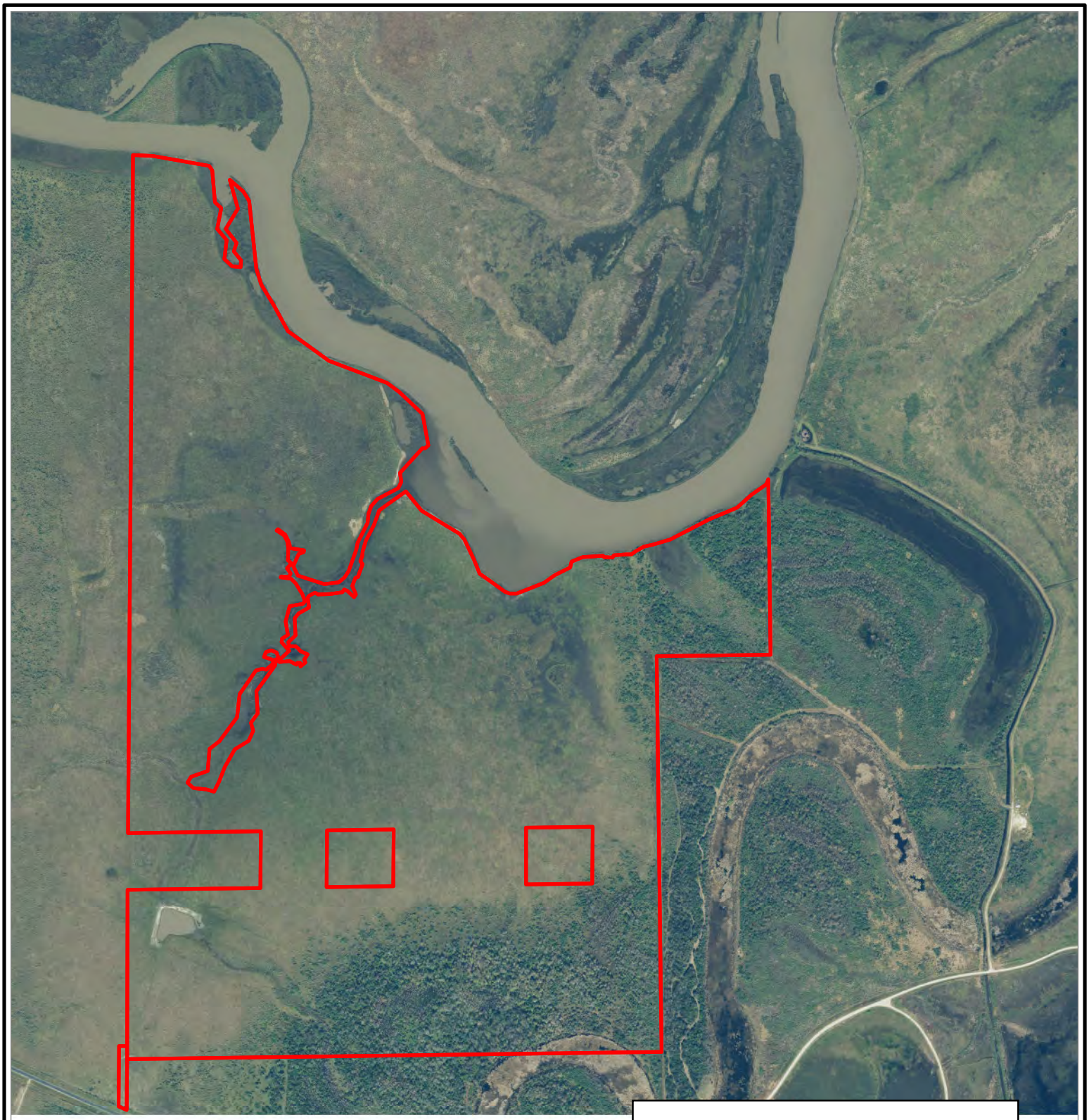
2012 HISTORICAL IMAGERY EXHIBIT

BRAZORIA COUNTY, TX

Coord Sys: WGS 1984 UTM Zone 15N **Date:** 6/22/2021
Vertical Datum: NAVD88 Feet **Author:** CTG

FIGURE 5D

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Propsectus Maps\October2020Update\Figure_05D_Proposed_Mosquito_Ranch_2012_Historic_Imagery_10.29.2020.mxd



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Feet
1 in = 1,000 ft

PROPOSED MOSQUITO RANCH PRM

2018 HISTORICAL IMAGERY EXHIBIT

BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N	**Date:** 6/18/2021
Vertical Datum: NAVD88 Feet	**Author:** CTG

FIGURE 5E

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Propsectus Maps\October2020Update\Figure_05E_Proposed_Mosquito_Ranch_2018_Historic_Imagery_10.29.2020.mxd

0 500 1,000 1,500 2,000
Feet
1 in = 1,000 ft

N

PROPOSED MOSQUITO RANCH PRM

LAND USE EXHIBIT

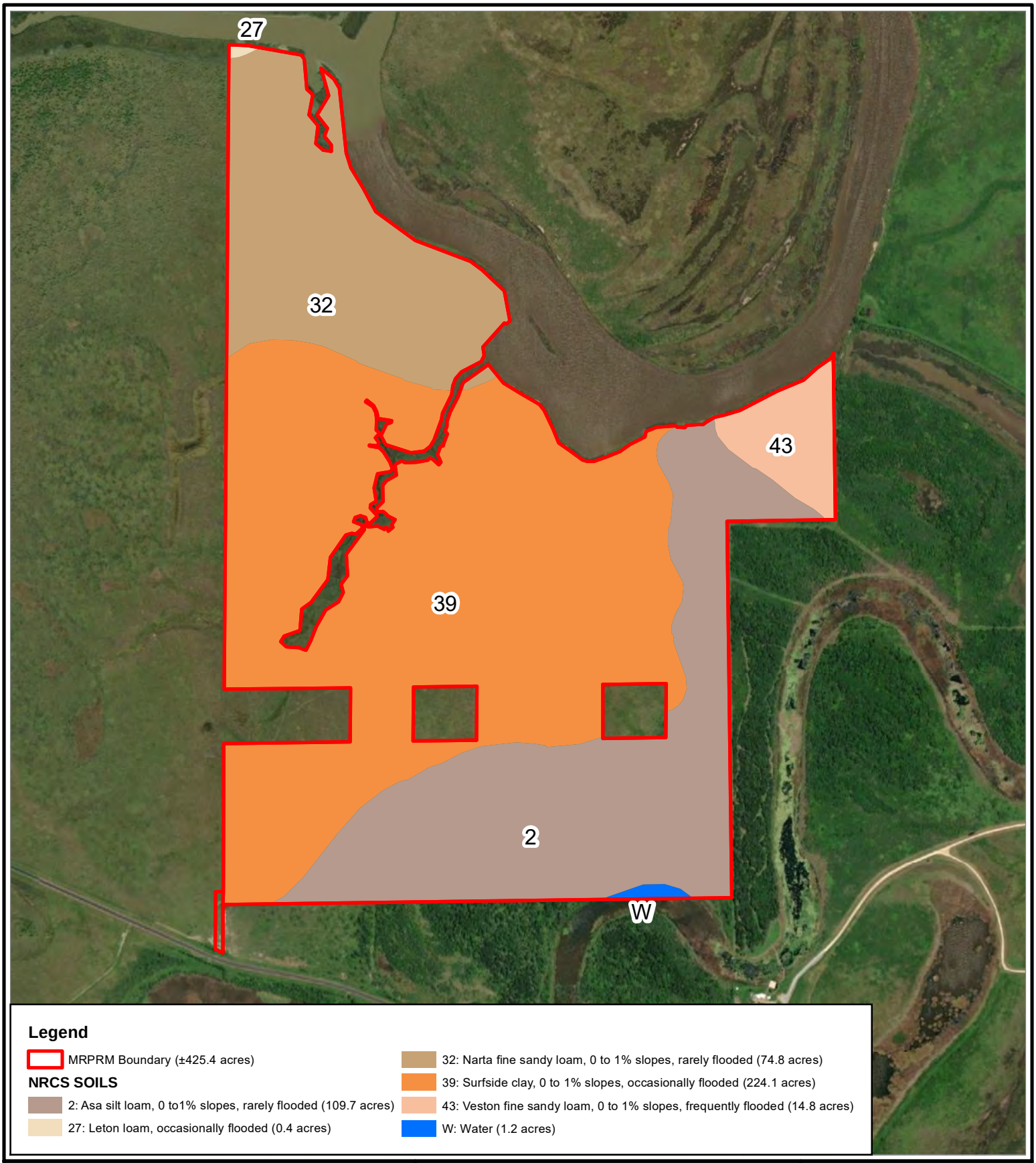
BRAZORIA COUNTY, TX

Coord Sys: WGS 1984 UTM Zone 15N **Date:** 6/18/2021

Vertical Datum: NAVD88 Feet **Author:** JKP

FIGURE 06

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Propsectus Maps\October2020Update\Figure_06_Proposed_Mosquito_Ranch_Land_Use_10.29.2020.mxd



Legend

- MRPRM Boundary (±425.4 acres)

NRCS SOILS

- 2: Asa silt loam, 0 to1% slopes, rarely flooded (109.7 acres)
- 27: Leton loam, occasionally flooded (0.4 acres)
- 32: Narta fine sandy loam, 0 to 1% slopes, rarely flooded (74.8 acres)
- 39: Surfside clay, 0 to 1% slopes, occasionally flooded (224.1 acres)
- 43: Veston fine sandy loam, 0 to 1% slopes, frequently flooded (14.8 acres)
- W: Water (1.2 acres)

0 500 1,000 1,500 2,000

Feet

1 in = 1,000 ft

PROPOSED MOSQUITO RANCH PRM

NRCS SOILS EXHIBIT

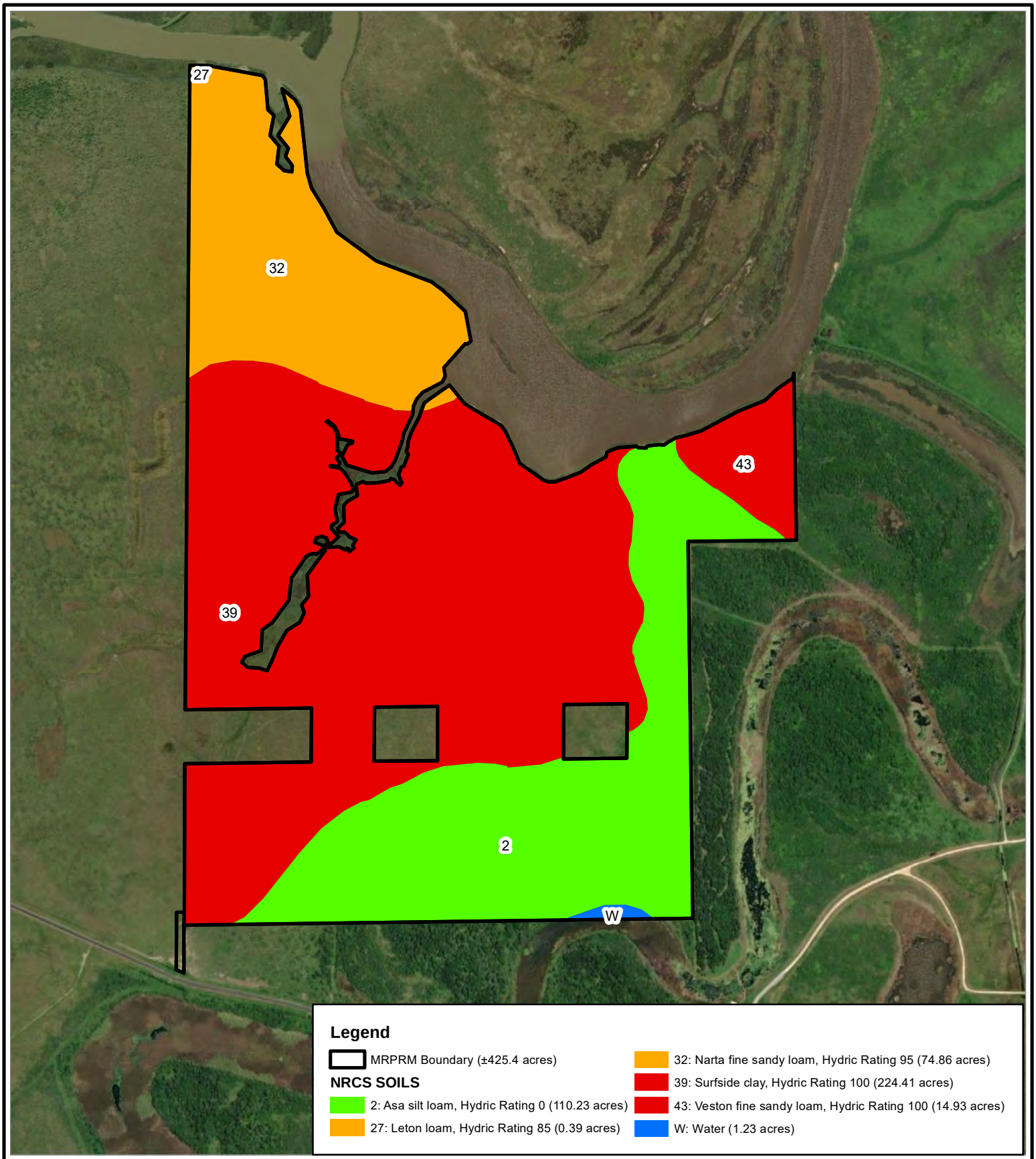
BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N **Date:** 6/18/2021

Vertical Datum: NAVD88 Feet **Author:** JKP

FIGURE 07

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Propsectus Maps\October2020Update\Figure_07_Proposed_Mosquito_Ranch_NRCS_Soils_03.16.2020.mxd



0 500 1,000 1,500 2,000
Feet
1 in = 1,000 ft

PROPOSED MOSQUITO RANCH PRM

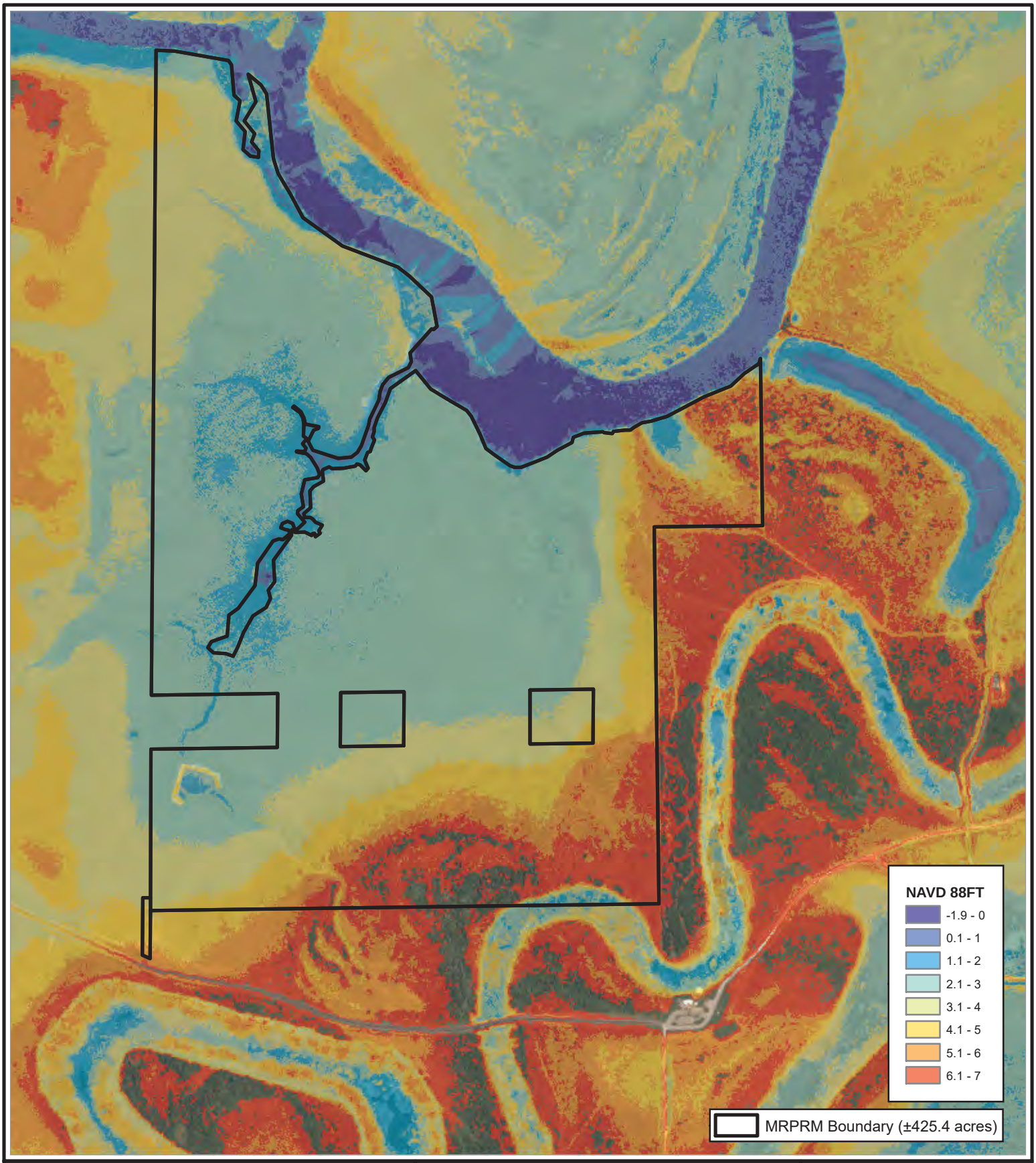
HYDRIC SOILS EXHIBIT

BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N **Date:** 6/18/2021
Vertical Datum: NAVD88 Feet **Author:** CTG

FIGURE 08

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Propsectus Maps\October2020Update\Figure_08_Proposed_Mosquito_Ranch_Hydric_Soils_10.29.2020.mxd



Lidar source: TNRIS.org
Flight year: 2018

0 500 1,000 1,500 2,000
Feet
1 in = 1,000 ft

PROPOSED MOSQUITO RANCH PRM

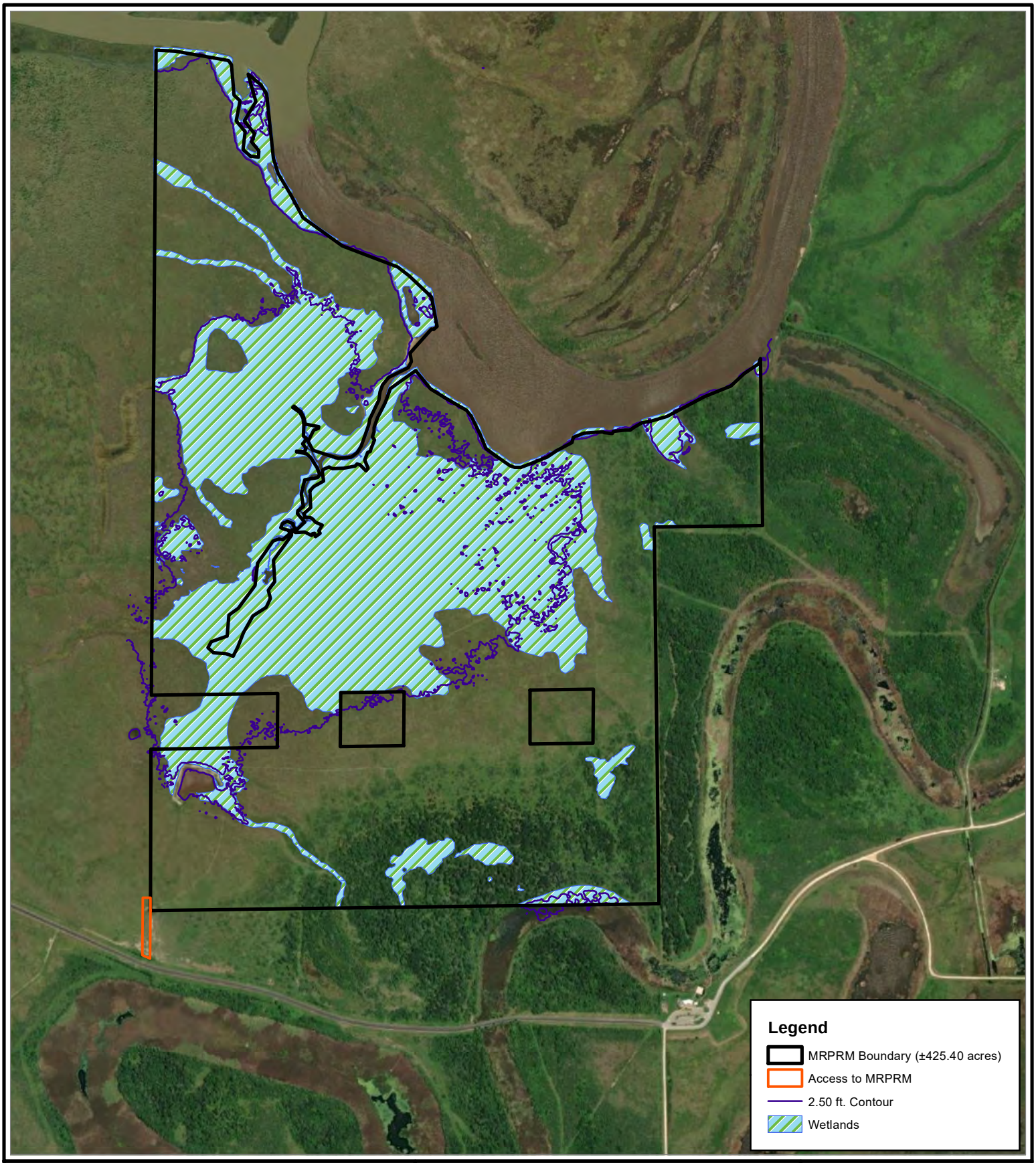
ELEVATION EXHIBIT

BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N	**Date:** 9/10/2021
Vertical Datum: NAVD88 Feet	**Author:** JKP

FIGURE 09

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Propsectus Maps\October2020Update\Figure_09_Proposed_Mosquito_Ranch_Elevation_10.30.2020.mxd



0 500 1,000 1,500 2,000
Feet
1 in = 1,000 ft

N

PROPOSED MOSQUITO RANCH PRM

ELEVATION EXHIBIT

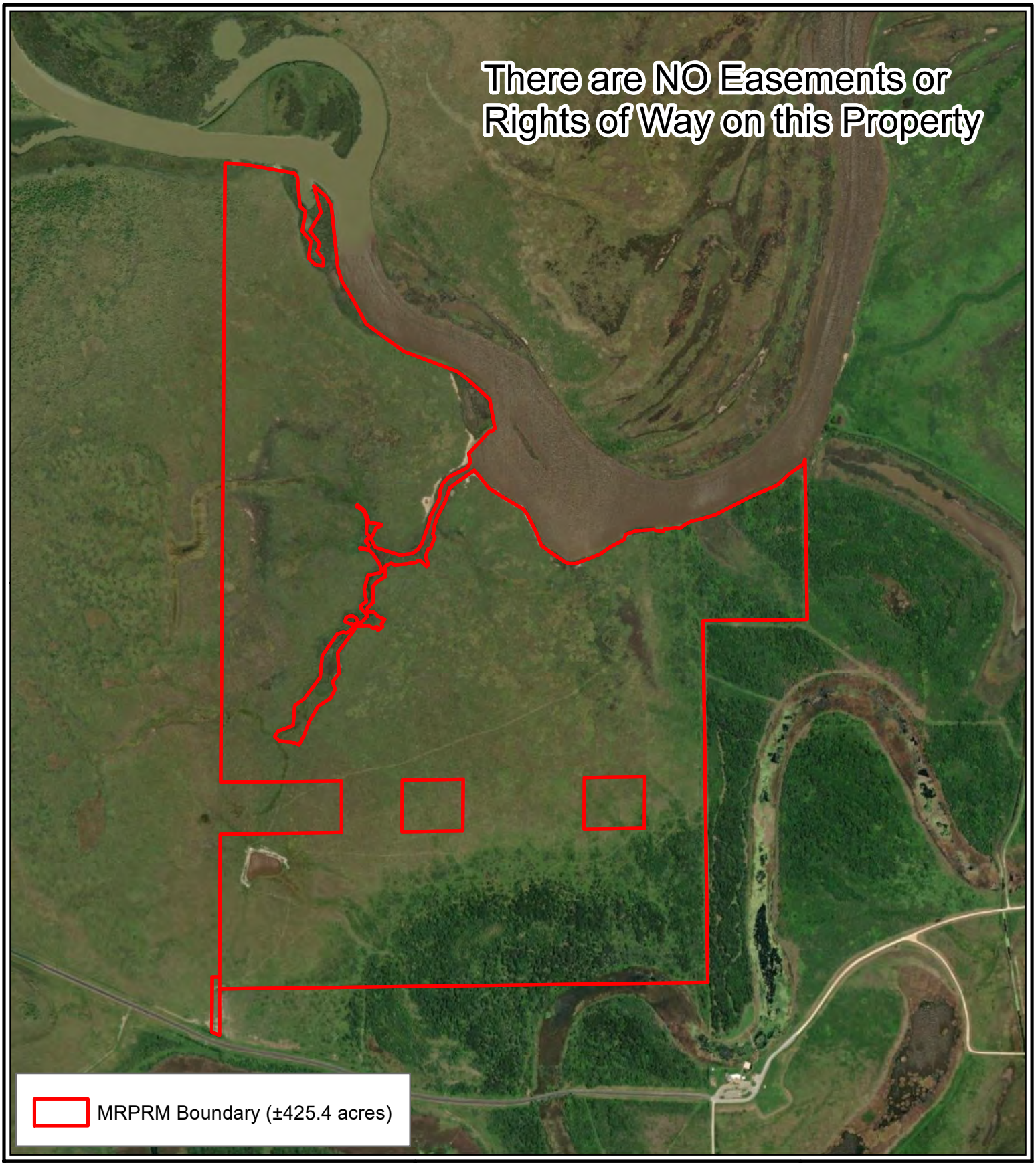
BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N **Date:** 6/22/2021

Vertical Datum: NAVD88 Feet **Author:** JKP

FIGURE 09B

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Propsectus Maps\October2020Update\Figure_09B_Proposed_Mosquito_Ranch_Elevation_10.30.2020.mxd



0 530 1,060 1,590 2,120
Feet
1 in = 1,042 ft

N

PROPOSED MOSQUITO RANCH PRM

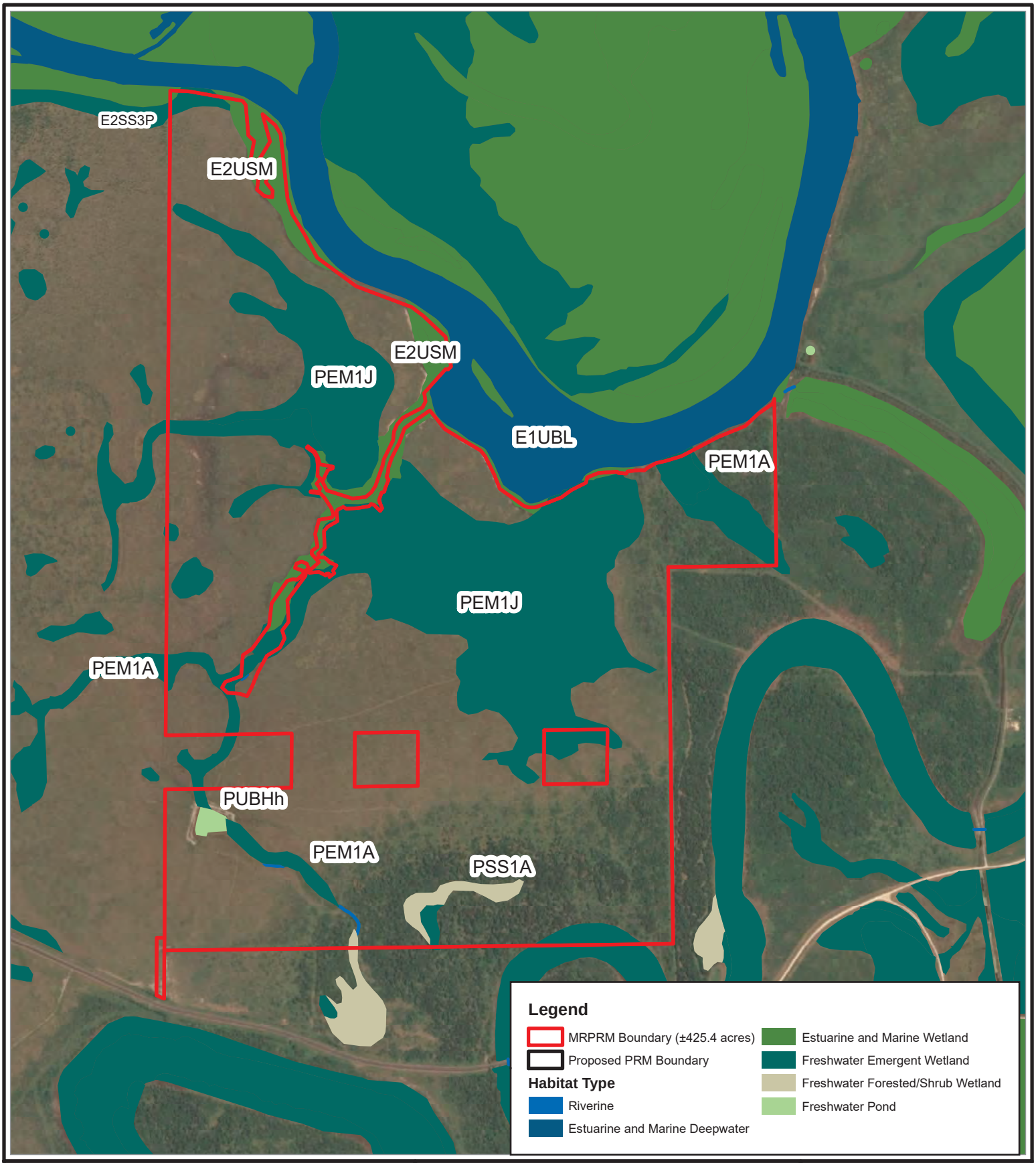
RIGHT OF WAY AND EASEMENT EXHIBIT

BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N	**Date:** 6/18/2021
Vertical Datum: NAVD88 Feet	**Author:** JKP

FIGURE 10

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Propsectus Maps\October2020Update\Figure_10_Proposed_Mosquito_Ranch_RIGHT OF WAYS AND EASMENTS_03.16.2020.mxd



0 500 1,000 1,500 2,000
Feet
1 in = 1,000 ft

N

PROPOSED MOSQUITO RANCH PRM

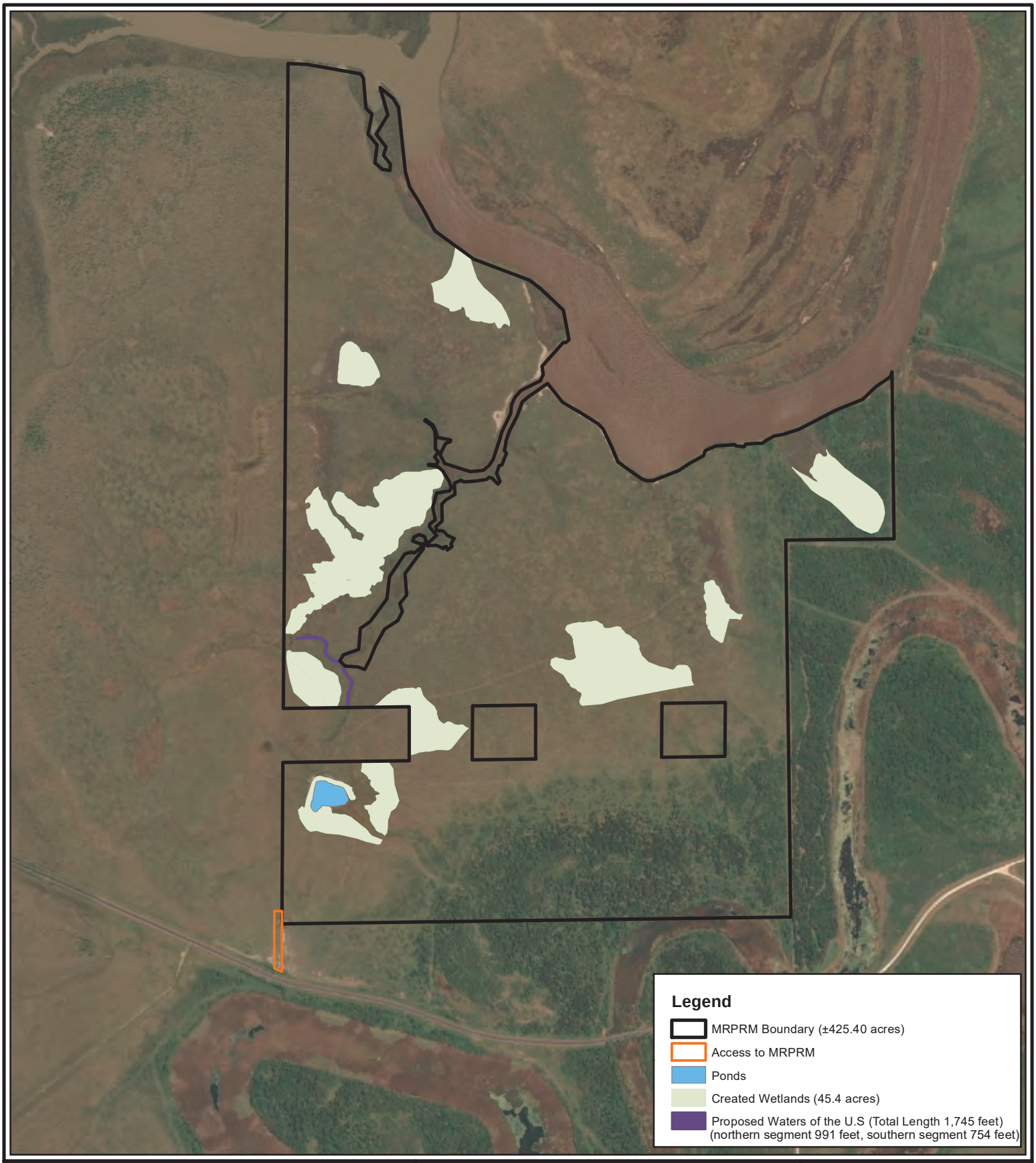
NATIONAL WETLANDS INVENTORY EXHIBIT

BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N **Date:** 8/20/2021
Vertical Datum: NAVD88 Feet **Author:** CTG

FIGURE 11

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Propsectus Maps\October2020Update\Figure_11_Proposed_Mosquito_Ranch_NWI_Habitats_10.30.2020.mxd



0 500 1,000 1,500 2,000
Feet
1 in = 1,000 ft

N

PROPOSED MOSQUITO RANCH PRM

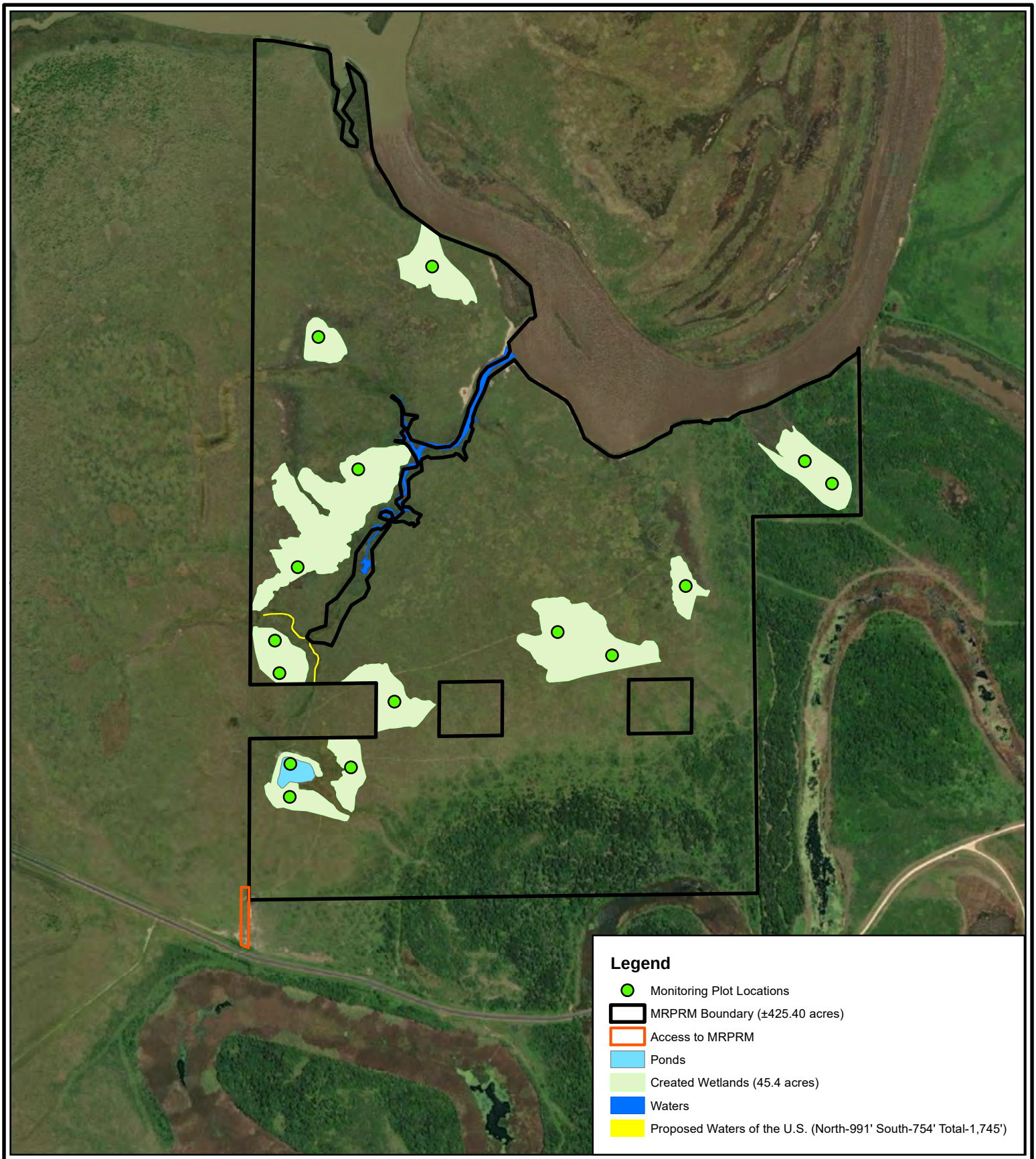
PRELIMINARY WETLAND EXHIBIT

BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N	**Date:** 10/7/2021
Vertical Datum: NAVD88 Feet	**Author:** JKP

FIGURE 12

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Propsectus Maps\October2020Update\Figure_12_Proposed_Mosquito_Ranch_Created_Wetlands_05122020.mxd



0 500 1,000 1,500 2,000
Feet
1 in = 1,000 ft

N

PROPOSED MOSQUITO RANCH PRM

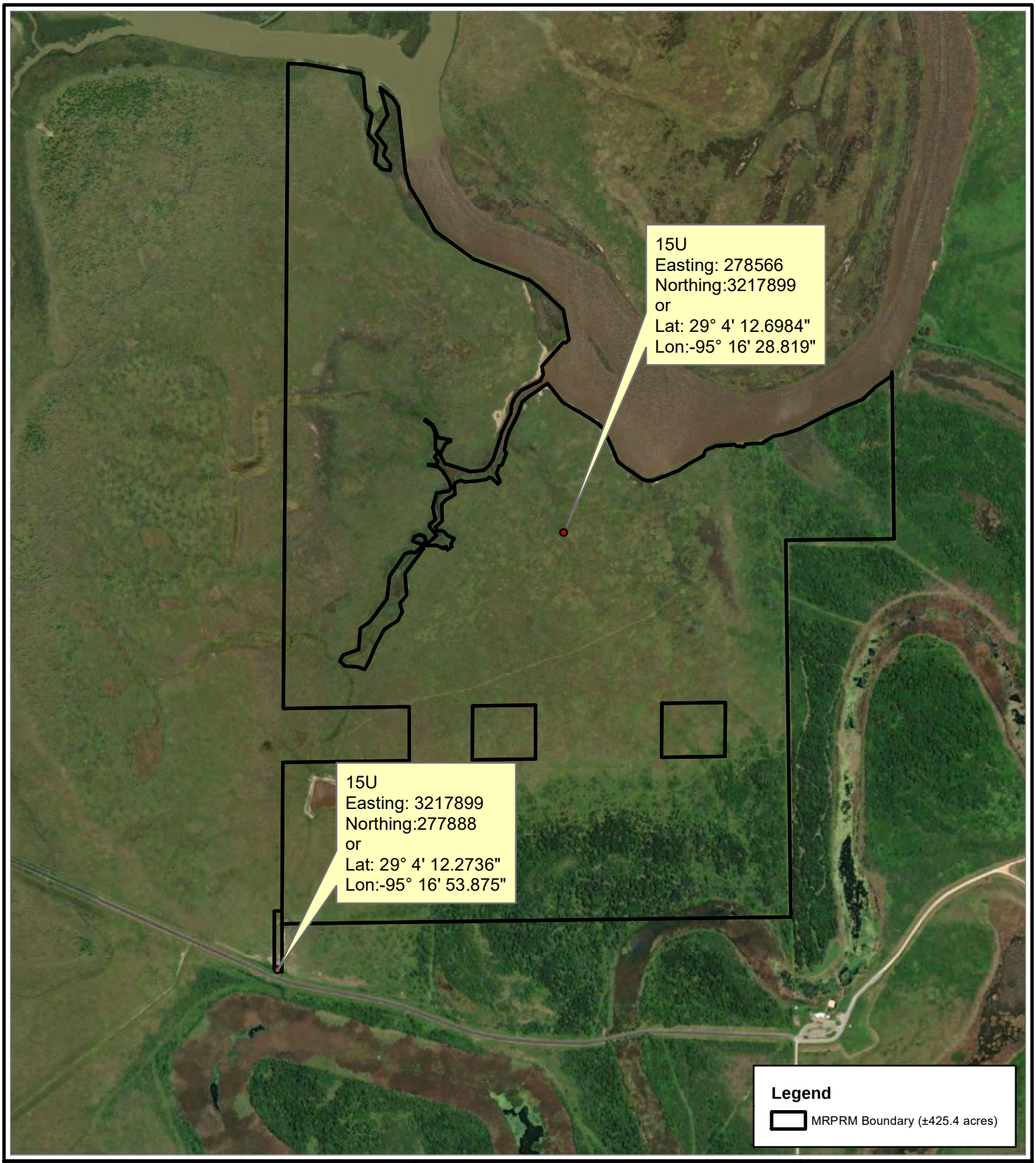
MONITORING PLOT LOCATION EXHIBIT

BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N	**Date:** 10/8/2021
Vertical Datum: NAVD88 Feet	**Author:** JKP

FIGURE 13

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Propsectus Maps\October2020Update\Figure_15_Proposed_Mosquito_Ranch_MonitoringLocations_05122020.mxd



0 500 1,000 1,500 2,000
Feet
1 in = 1,000 ft

N

PROPOSED MOSQUITO RANCH PRM

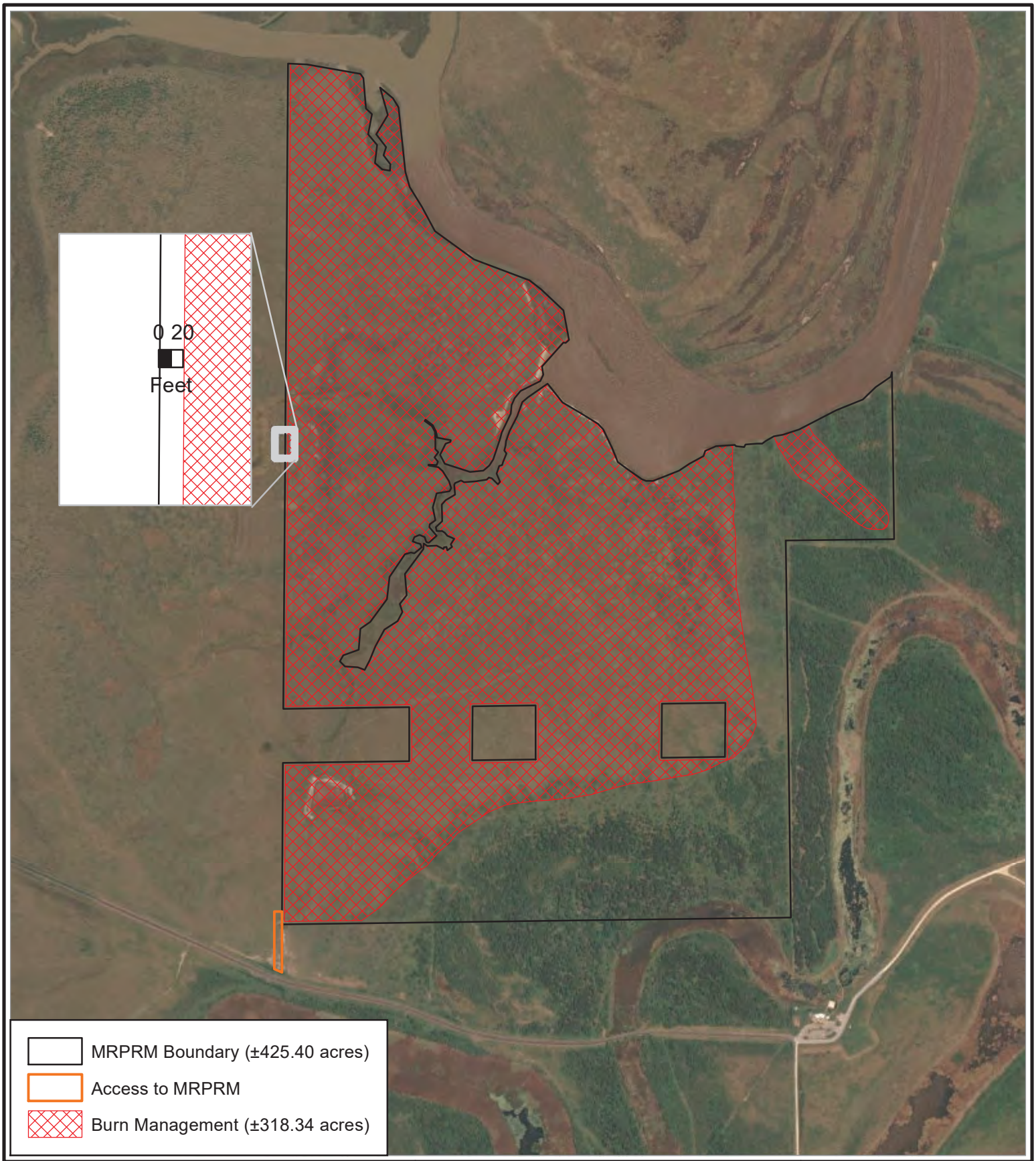
GEOGRAPHICAL COORDINATES

BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N **Date:** 6/18/2021
Vertical Datum: NAVD88 Feet **Author:** JKP

FIGURE 14

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Propsectus Maps\October2020Update\Figure_14_LocationPoints.mxd



0 500 1,000 1,500 2,000
Feet
1 in = 1,000 ft

N

PROPOSED MOSQUITO RANCH PRM

BURN MANAGEMENT EXHIBIT

BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N	**Date:** 9/10/2021
Vertical Datum: NAVD88 Feet	**Author:** JKP

FIGURE 15

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Propsectus Maps\October2020Update\Figure_15_Burn Management.mxd

Attachment B
iHGM

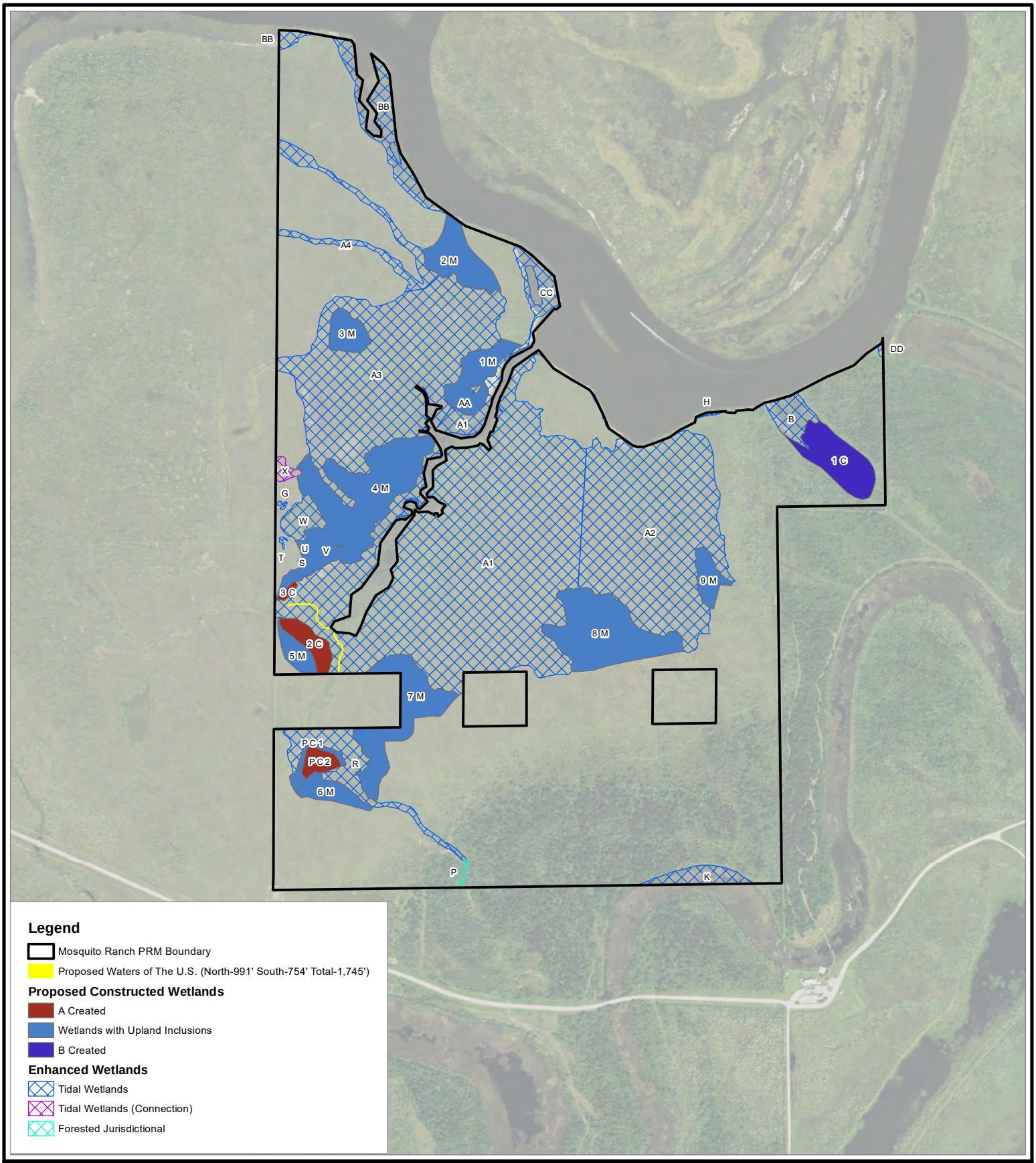
Ver: 9/13/2021

Table 1 - Proposed CDMPA iHGM Model Impact and Mitigation

iHGM Model	FCU Type	FLNG Impacts (FCU)	Baseline Mosquito Ranch	Proposed Post-Activities FCUs	Net Lift from Enhancement	Net Lift from Creation	Net Lift vs. Impacts	% Coverage of Impacts
Tidal	Biota	11.82	151.93	191.16	4.47	42.79	27.41	332%
	Botanical	9.35	168.27	206.01	1.29	46.31	28.39	404%
	Physical	39.3	132.72	172.05	4.15	41.83	0.03	100%
	Chemical	6.73	162.72	204.12	3.57	46.45	34.67	615%
Riverine Scrub-Shrub	Physical	0.00	0.32	0.00	n/a	n/a	n/a	n/a
	Biological	0.00	0.39	0.00	n/a	n/a	n/a	n/a
	Chemical	0.00	0.36	0.00	n/a	n/a	n/a	n/a
Riverine Forested	Physical	0.00	2.92	0.00	n/a	n/a	n/a	n/a
	Biological	0.00	2.78	0.00	n/a	n/a	n/a	n/a
	Chemical	0.00	2.92	0.00	n/a	n/a	n/a	n/a

Table 2 - CDMPA Impacts vs. Mitigation by Acreage

FLNG Impacts		Proposed Preservation/Enhancement		Proposed Creation Areas		
Wetland Type	Acres	Wetland Type	Acres	Type		Acres
Tidal	58.8	Tidal	159.15	Tidal Wetland		2.93
		Scrub-Shrub		Tidal Wetland w/ uplands	39.25 (of 43.31 acre area)	
		Forested	0.18			
		TOTAL	159.33			



PROPOSED
MOSQUITO RANCH PRM
POST CONSTRUCTION WETLAND EXHIBIT
BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N	**Date:** 10/8/2021
Vertical Datum: NAVD88 Feet	**Author:** BDS

FIGURE W-01

JMB Companies, Inc.

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Construction\Construction_BDS_07132021.mxd

Jurisdictional Forested Wetlands	Acres
P	0.18
Total Jurisdictional Forested Wetlands	**0.18**

Connected Wetlands	Acres
X	0.52
Total Connected Wetlands	**0.52**

Tidal Wetlands	Acres
A1	69.09
A1	2.07
A2	32.68
A3	34.02
A4	3.72
AA	0.09
B	2.05
BB	5.03
CC	1.89
DD	0.09
G	0.06
H	0.06
K	1.96
R	4.57
S	0.05
T	0.05
U	0.01
V	0.01
W	1.68
Total Tidal Wetlands	**159.15**

A Created	Acres
2C	1.67
3C	0.22
PC2	1.05
Total A Created	**2.93**

Wetlands with Upland Inclusions	Acres
1M	3.39
2M	3.87
3M	1.84
4M	13.36
5M	1.33
6M	1.73
7M	6.52
8M	8.94
9M	1.57
PC1	0.75
Total Wetlands with Upland Inclusions	**43.31**

B Created	Acres
1C	4.42
Total B Created	**4.42**

TOTAL WETLANDS = 210.51 ACRES

PROPOSED
MOSQUITO RANCH PRM
PROPOSED WETLAND EXHIBIT
BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N **Date:** 9/13/2021
Vertical Datum: NAVD88 Feet **Author:** BDS

FIGURE W-02

JMB Companies, Inc.

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Construction\Construction_BDS_09132021_a.mxd

Interim Tidal Fringe Hydrogeomorphic Analysis Worksheet
Mosquito Ranch
WAA A created
Projected Conditions

Acreage = **2.93**

Variable	Sub-Index	Notes:
V_{edge}	0.70	Simple tidal drainage network ..isolated ponds and depressions are few & lacking (200-350 m/ha
V_{hydro}	1.00	Site is open, no hydrologic restrictions
V_{nhc}	0.50	3 nekton habitat types present w/in 150'
$V_{typical}$	0.90	80
V_{slope}	1.00	Greater than 450' to Navigation Channel or water greater than or equal to 6 ft deep
V_{width}	1.00	Greater than 526 ft mean marsh width from shoreline to upland
V_{rough}	0.60	0.07
V_{soil}	1.00	clay

Functional Capacity Index (FCI)

Biota	0.87
Botanical	0.90
Physical	0.92
Chemical	0.95

Functional Capacity Units (FCU)

Biota	2.55
Botanical	2.64
Physical	2.70
Chemical	2.78

Data Collection **Date:** **Investigator(s):** Jeff Dunn & Ian McBride

Vegetation (Plant)	Stratum	Indicator Status	Percentage

Hydrology Indicators	Notes:

Hydric Soil Indicators	Notes:

V_{edge}

0.8 Marsh shows deterioration due to subsidence large amounts of open water (G
1 Well developed tidal drainage network present OR Simple tidal network with is
0.7 Simple tidal drainage network ..isolated ponds and depressions are few & lack
0.4 Marsh lack both tidal creeks & isolated ponds & depressions, shoreline is linea

V_{hydro}

Interim Tidal Fringe Hydrogeomorphic Analysis Worksheet
Mosquito Ranch
WAA A
Projected Conditions

Acreage = **141.58**

Variable	Sub-Index	Notes:
V_{edge}	0.70	Simple tidal drainage network ..isolated ponds and depressions are few & lacking (200-350 m/ha
V_{hydro}	1.00	Site is open, no hydrologic restrictions
V_{nhc}	0.70	4 nekton habitat types present w/in 150'
$V_{typical}$	1.00	90-100
V_{slope}	0.50	151-450' to Navigation Channel or water greater than or equal to 6 ft deep
V_{width}	1.00	Greater than 526 ft mean marsh width from shoreline to upland
V_{rough}	0.60	0.07
V_{soil}	1.00	clay

Functional Capacity Index (FCI)

Biota	0.94
Botanical	1.00
Physical	0.82
Chemical	1.00

Functional Capacity Units (FCU)

Biota	132.48
Botanical	141.58
Physical	116.10
Chemical	141.58

Data Collection **Date:** **Investigator(s):** Jeff Dunn & Ian McBride

Vegetation (Plant)	Stratum	Indicator Status	Percentage

Hydrology Indicators	Notes:

Hydric Soil Indicators	Notes:

V_{edge}

0.8 Marsh shows deterioration due to subsidence large amounts of open water (G
1 Well developed tidal drainage network present OR Simple tidal network with is
0.7 Simple tidal drainage network ..isolated ponds and depressions are few & lack
0.4 Marsh lack both tidal creeks & isolated ponds & depressions, shoreline is linea

V_{hydro}

Interim Tidal Fringe Hydrogeomorphic Analysis Worksheet
Mosquito Ranch
WAA A created with adjacent upland inclusions
Projected Conditions

Acreage = **39.25**

Variable	Sub-Index	Notes:
V_{edge}	0.70	Simple tidal drainage network ..isolated ponds and depressions are few & lacking (200-350 m/ha
V_{hydro}	1.00	Site is open, no hydrologic restrictions
V_{nhc}	0.50	3 nekton habitat types present w/in 150'
$V_{typical}$	1.00	100
V_{slope}	0.50	151-450' to Navigation Channel or water greater than or equal to 6 ft deep
V_{width}	1.00	Greater than 526 ft mean marsh width from shoreline to upland
V_{rough}	1.00	0.09
V_{soil}	1.00	clay

Functional Capacity Index (FCI)

Biota	0.92
Botanical	1.00
Physical	0.90
Chemical	1.00

Functional Capacity Units (FCU)

Biota	36.17
Botanical	39.25
Physical	35.33
Chemical	39.25

Data Collection **Date:** **Investigator(s):** Jeff Dunn & Ian McBride

Vegetation (Plant)	Stratum	Indicator Status	Percentage

Hydrology Indicators	Notes:

Hydric Soil Indicators	Notes:

V_{edge}

0.8 Marsh shows deterioration due to subsidence large amounts of open water (G
1 Well developed tidal drainage network present OR Simple tidal network with is
0.7 Simple tidal drainage network ..isolated ponds and depressions are few & lack
0.4 Marsh lack both tidal creeks & isolated ponds & depressions, shoreline is linea

V_{hydro}

Interim Tidal Fringe Hydrogeomorphic Analysis Worksheet
Mosquito Ranch
WAA AA
Projected Conditions
Acreage = **0.09**

Variable	Sub-Index	Notes:
V_{edge}	0.70	Simple tidal drainage network ..isolated ponds and depressions are few & lacking (200-350 m/ha
V_{hydro}	0.60	Moderate hydrologic restriction(i.e low level berms that overtop freq. by waves, or has mutli- bree
V_{nhc}	0.30	2 nekton habitat types present w/in 150'
$V_{typical}$	1.00	100
V_{slope}	0.50	151-450' to Navigation Channel or water greater than or equal to 6 ft deep
V_{width}	0.25	31-75 ft mean marsh width
V_{rough}	0.60	0.07
V_{soil}	1.00	clay

Functional Capacity Index (FCI)

Biota	0.79
Botanical	1.00
Physical	0.59
Chemical	0.77

Functional Capacity Units (FCU)

Biota	0.07
Botanical	0.09
Physical	0.05
Chemical	0.07

Data Collection **Date:** **Investigator(s):** Jeff Dunn & Ian McBride

Vegetation (Plant)	Stratum	Indicator Status	Percentage

Hydrology Indicators	Notes:

Hydric Soil Indicators	Notes:

V_{edge}

0.8 Marsh shows deterioration due to subsidence large amounts of open water (G
1 Well developed tidal drainage network present OR Simple tidal network with is
0.7 Simple tidal drainage network ..isolated ponds and depressions are few & lack
0.4 Marsh lack both tidal creeks & isolated ponds & depressions, shoreline is linea

V_{hydro}

Interim Tidal Fringe Hydrogeomorphic Analysis Worksheet
Mosquito Ranch
WAA B
Projected Conditions

Acreage = **4.42**

Variable	Sub-Index	Notes:
V_{edge}	0.70	Simple tidal drainage network ..isolated ponds and depressions are few & lacking (200-350 m/ha
V_{hydro}	1.00	Site is open, no hydrologic restrictions
V_{nhc}	0.50	3 nekton habitat types present w/in 150'
$V_{typical}$	1.00	100
V_{slope}	0.50	151-450' to Navigation Channel or water greater than or equal to 6 ft deep
V_{width}	0.80	226-300 ft mean marsh width
V_{rough}	1.00	0.09
V_{soil}	1.00	clay

Functional Capacity Index (FCI)

Biota	0.92
Botanical	1.00
Physical	0.86
Chemical	1.00

Functional Capacity Units (FCU)

Biota	4.07
Botanical	4.42
Physical	3.80
Chemical	4.42

Data Collection **Date:** **Investigator(s):** Jeff Dunn & Ian McBride

Vegetation (Plant)	Stratum	Indicator Status	Percentage

Hydrology Indicators	Notes:

Hydric Soil Indicators	Notes:

V_{edge}

0.8 Marsh shows deterioration due to subsidence large amounts of open water (G
1 Well developed tidal drainage network present OR Simple tidal network with is
0.7 Simple tidal drainage network ..isolated ponds and depressions are few & lack
0.4 Marsh lack both tidal creeks & isolated ponds & depressions, shoreline is linea

V_{hydro}

Interim Tidal Fringe Hydrogeomorphic Analysis Worksheet
Mosquito Ranch
WAA B
Projected Conditions

Acreage = **2.05**

Variable	Sub-Index	Notes:
V_{edge}	0.70	Simple tidal drainage network ..isolated ponds and depressions are few & lacking (200-350 m/ha
V_{hydro}	1.00	Site is open, no hydrologic restrictions
V_{nhc}	0.50	3 nekton habitat types present w/in 150'
$V_{typical}$	1.00	100
V_{slope}	0.10	Less than 150' to Navigation Channel or water greater than or equal to 6 ft deep
V_{width}	0.80	226-300 ft mean marsh width
V_{rough}	0.60	0.07
V_{soil}	1.00	clay

Functional Capacity Index (FCI)

Biota	0.92
Botanical	1.00
Physical	0.70
Chemical	1.00

Functional Capacity Units (FCU)

Biota	1.89
Botanical	2.05
Physical	1.44
Chemical	2.05

Data Collection **Date:** **Investigator(s):** Jeff Dunn & Ian McBride

Vegetation (Plant)	Stratum	Indicator Status	Percentage

Hydrology Indicators	Notes:

Hydric Soil Indicators	Notes:

V_{edge}

0.8 Marsh shows deterioration due to subsidence large amounts of open water (G
1 Well developed tidal drainage network present OR Simple tidal network with is
0.7 Simple tidal drainage network ..isolated ponds and depressions are few & lack
0.4 Marsh lack both tidal creeks & isolated ponds & depressions, shoreline is linea

V_{hydro}

Interim Tidal Fringe Hydrogeomorphic Analysis Worksheet
Mosquito Ranch
WAA BB
Projected Conditions
Acreage = **5.03**

Variable	Sub-Index	Notes:
V_{edge}	1.00	Well developed tidal drainage network present OR Simple tidal network with isolated ponds & de
V_{hydro}	1.00	Site is open, no hydrologic restrictions
V_{nhc}	0.50	3 nekton habitat types present w/in 150'
$V_{typical}$	1.00	100
V_{slope}	0.10	Less than 150' to Navigation Channel or water greater than or equal to 6 ft deep
V_{width}	0.60	151-225 ft mean marsh width
V_{rough}	1.00	0.09
V_{soil}	1.00	clay

Functional Capacity Index (FCI)

Biota	0.96
Botanical	1.00
Physical	0.74
Chemical	1.00

Functional Capacity Units (FCU)

Biota	4.85
Botanical	5.03
Physical	3.72
Chemical	5.03

Data Collection **Date:** **Investigator(s):** Jeff Dunn & Ian McBride

Vegetation (Plant)	Stratum	Indicator Status	Percentage

Hydrology Indicators	Notes:

Hydric Soil Indicators	Notes:

V_{edge}

0.8 Marsh shows deterioration due to subsidence large amounts of open water (G
1 Well developed tidal drainage network present OR Simple tidal network with is
0.7 Simple tidal drainage network ..isolated ponds and depressions are few & lack
0.4 Marsh lack both tidal creeks & isolated ponds & depressions, shoreline is linea

V_{hydro}

Interim Tidal Fringe Hydrogeomorphic Analysis Worksheet
Mosquito Ranch
WAA CC
Projected Conditions
Acreage = **1.89**

Variable	Sub-Index	Notes:
V_{edge}	1.00	Well developed tidal drainage network present OR Simple tidal network with isolated ponds & de
V_{hydro}	1.00	Site is open, no hydrologic restrictions
V_{nhc}	0.50	3 nekton habitat types present w/in 150'
$V_{typical}$	1.00	100
V_{slope}	0.10	Less than 150' to Navigation Channel or water greater than or equal to 6 ft deep
V_{width}	0.60	151-225 ft mean marsh width
V_{rough}	1.00	0.09
V_{soil}	1.00	clay

Functional Capacity Index (FCI)

Biota	0.96
Botanical	1.00
Physical	0.74
Chemical	1.00

Functional Capacity Units (FCU)

Biota	1.82
Botanical	1.89
Physical	1.40
Chemical	1.89

Data Collection **Date:** **Investigator(s):** Jeff Dunn & Ian McBride

Vegetation (Plant)	Stratum	Indicator Status	Percentage

Hydrology Indicators	Notes:

Hydric Soil Indicators	Notes:

V_{edge}

0.8 Marsh shows deterioration due to subsidence large amounts of open water (G
1 Well developed tidal drainage network present OR Simple tidal network with is
0.7 Simple tidal drainage network ..isolated ponds and depressions are few & lack
0.4 Marsh lack both tidal creeks & isolated ponds & depressions, shoreline is linea

V_{hydro}

Interim Tidal Fringe Hydrogeomorphic Analysis Worksheet
Mosquito Ranch
WAA DD
Projected Conditions

Acreage = **0.09**

Variable	Sub-Index	Notes:
V_{edge}	0.70	Simple tidal drainage network ..isolated ponds and depressions are few & lacking (200-350 m/ha
V_{hydro}	1.00	Site is open, no hydrologic restrictions
V_{nhc}	0.50	3 nekton habitat types present w/in 150'
$V_{typical}$	1.00	100
V_{slope}	0.10	Less than 150' to Navigation Channel or water greater than or equal to 6 ft deep
V_{width}	0.25	31-75 ft mean marsh width
V_{rough}	0.80	0.08
V_{soil}	1.00	clay

Functional Capacity Index (FCI)

Biota	0.92
Botanical	1.00
Physical	0.63
Chemical	1.00

Functional Capacity Units (FCU)

Biota	0.08
Botanical	0.09
Physical	0.06
Chemical	0.09

Data Collection **Date:** **Investigator(s):** Jeff Dunn & Ian McBride

Vegetation (Plant)	Stratum	Indicator Status	Percentage

Hydrology Indicators	Notes:

Hydric Soil Indicators	Notes:

V_{edge}

0.8 Marsh shows deterioration due to subsidence large amounts of open water (G
1 Well developed tidal drainage network present OR Simple tidal network with is
0.7 Simple tidal drainage network ..isolated ponds and depressions are few & lack
0.4 Marsh lack both tidal creeks & isolated ponds & depressions, shoreline is linea

V_{hydro}

Interim Tidal Fringe Hydrogeomorphic Analysis Worksheet
Mosquito Ranch
WAA G
Natural Conditions

Acreage = **0.06**

Variable	Sub-Index	Notes:
V_{edge}	0.70	Simple tidal drainage network ..isolated ponds and depressions are few & lacking (200-350 m/ha
V_{hydro}	0.60	Moderate hydrologic restriction(i.e low level berms that overtop freq. by waves, or has mutli- bree
V_{nhc}	0.30	2 nekton habitat types present w/in 150'
$V_{typical}$	1.00	100
V_{slope}	1.00	Greater than 450' to Navigation Channel or water greater than or equal to 6 ft deep
V_{width}	0.25	31-75 ft mean marsh width
V_{rough}	0.60	0.07
V_{soil}	1.00	clay

Functional Capacity Index (FCI)

Biota	0.79
Botanical	1.00
Physical	0.69
Chemical	0.77

Functional Capacity Units (FCU)

Biota	0.04
Botanical	0.06
Physical	0.04
Chemical	0.04

Data Collection **Date:** 4/1/2020 **Investigator(s):** Jeff Dunn & Ian McBride

V_{edge}

0.8 Marsh shows deterioration due to subsidence large amounts of open water (G

Interim Tidal Fringe Hydrogeomorphic Analysis Worksheet
Mosquito Ranch
WAA H
Projected Conditions

Acreage = **0.06**

Variable	Sub-Index	Notes:
V_{edge}	0.70	Simple tidal drainage network ..isolated ponds and depressions are few & lacking (200-350 m/ha
V_{hydro}	1.00	Site is open, no hydrologic restrictions
V_{nhc}	0.50	3 nekton habitat types present w/in 150'
$V_{typical}$	1.00	100
V_{slope}	0.10	Less than 150' to Navigation Channel or water greater than or equal to 6 ft deep
V_{width}	0.25	31-75 ft mean marsh width
V_{rough}	0.80	0.08
V_{soil}	1.00	clay

Functional Capacity Index (FCI)

Biota	0.92
Botanical	1.00
Physical	0.63
Chemical	1.00

Functional Capacity Units (FCU)

Biota	0.06
Botanical	0.06
Physical	0.04
Chemical	0.06

Data Collection **Date:** **Investigator(s):** Jeff Dunn & Ian McBride

Vegetation (Plant)	Stratum	Indicator Status	Percentage

Hydrology Indicators	Notes:

Hydric Soil Indicators	Notes:

V_{edge}

0.8 Marsh shows deterioration due to subsidence large amounts of open water (G
1 Well developed tidal drainage network present OR Simple tidal network with is
0.7 Simple tidal drainage network ..isolated ponds and depressions are few & lack
0.4 Marsh lack both tidal creeks & isolated ponds & depressions, shoreline is linea

V_{hydro}

Interim Tidal Fringe Hydrogeomorphic Analysis Worksheet
Mosquito Ranch
WAA K
Natural Conditions
Acreage = 1.96

Variable	Sub-Index	Notes:
V_{edge}	0.70	Simple tidal drainage network ..isolated ponds and depressions are few & lacking (200-350 m/ha)
V_{hydro}	0.60	Moderate hydrologic restriction (i.e low level berms that overtop freq. by waves, or has mutli- breeches or large numerous culverts)
V_{nhc}	0.30	2 nekton habitat types present w/in 150'
$V_{typical}$	1.00	100% cover by typical vegetation
V_{slope}	1.00	Greater than 450' to Navigation Channel or water greater than or equal to 6 ft deep
V_{width}	0.80	226-300 ft mean marsh width
V_{rough}	1.00	0.09
V_{soil}	1.00	clay

Functional Capacity Index (FCI)

Biota	0.79
Botanical	1.00
Physical	0.88
Chemical	0.77

Functional Capacity Units (FCU)

Biota	1.55
Botanical	1.96
Physical	1.72
Chemical	1.52

Data Collection Date: 4/17/2020 **Investigator(s):** Jeff Dunn & Ian McBride

V_{rough}						V_{nhc}
(sum of:)	N-Value					High Marsh
n_{BASE}	0.03	> 25% of surface covered with gravel or broken shell				
	0.025	bare marsh soil				Intertidal creeks
n_{TOPO}	0.2	WAA has greater than 50% topographic relief				
	0.01	WAA has 26-50% topographic relief				
	0.005	WAA has 5-25% topographic relief				
	0.001	WAA is flat no micro or macrotopographic relief				
n_{VEG}			% cover:	0-49%	50-75%	76-100%
Short flexible stems (i.e. S. alterniflora, S. patens, Distichlis spicata)				0.025	0.03	0.035
Short stiff trailing stems (i.e. Batis & Salicornia)				0.035	0.04	0.05
Tall flexible grass (i.e. tall S. alterniflora, S. cynosuroides, Scirpus sp).				0.05	0.06	0.07
Tall with stiff leaves or mixed w/ woody shrubs (i.e. J. roemerianus				0.07	0.1	0.16

sum of ^ 3:	score:	(sum of base, topo, veg, rounded)
	1	0.09
	0.8	0.08
	0.6	0.07
	0.4	0.06
	0.2	0.05
	0.1	0.04

Interim Tidal Fringe Hydrogeomorphic Analysis Worksheet
Mosquito Ranch
WAA R
Natural Conditions

Acreage = **4.57**

Variable	Sub-Index	Notes:
V_{edge}	0.70	Simple tidal drainage network ..isolated ponds and depressions are few & lacking (200-350 m/ha
V_{hydro}	0.60	Moderate hydrologic restriction(i.e low level berms that overtop freq. by waves, or has mutli- bree
V_{nhc}	0.50	3 nekton habitat types present w/in 150'
$V_{typical}$	1.00	100
V_{slope}	1.00	Greater than 450' to Navigation Channel or water greater than or equal to 6 ft deep
V_{width}	0.80	226-300 ft mean marsh width
V_{rough}	0.60	0.07
V_{soil}	1.00	clay

Functional Capacity Index (FCI)

Biota	0.81
Botanical	1.00
Physical	0.80
Chemical	0.77

Functional Capacity Units (FCU)

Biota	3.69
Botanical	4.57
Physical	3.66
Chemical	3.54

Data Collection **Date:** 4/1/2020 **Investigator(s):** Jeff Dunn & Ian McBride

V_{edge}

0.8 Marsh shows deterioration due to subsidence large amounts of open water (G

Interim Tidal Fringe Hydrogeomorphic Analysis Worksheet
Mosquito Ranch
WAA S
Natural Conditions

Acreage = **0.05**

Variable	Sub-Index	Notes:
V_{edge}	0.70	Simple tidal drainage network ..isolated ponds and depressions are few & lacking (200-350 m/ha
V_{hydro}	0.60	Moderate hydrologic restriction(i.e low level berms that overtop freq. by waves, or has mutli- bree
V_{nhc}	0.30	2 nekton habitat types present w/in 150'
$V_{typical}$	1.00	100
V_{slope}	1.00	Greater than 450' to Navigation Channel or water greater than or equal to 6 ft deep
V_{width}	0.25	31-75 ft mean marsh width
V_{rough}	0.60	0.07
V_{soil}	1.00	clay

Functional Capacity Index (FCI)

Biota	0.79
Botanical	1.00
Physical	0.69
Chemical	0.77

Functional Capacity Units (FCU)

Biota	0.04
Botanical	0.05
Physical	0.04
Chemical	0.04

Data Collection **Date:** 4/1/2020 **Investigator(s):** Jeff Dunn & Ian McBride

V_{edge}

0.8 Marsh shows deterioration due to subsidence large amounts of open water (G

Interim Tidal Fringe Hydrogeomorphic Analysis Worksheet
Mosquito Ranch
WAA T
Natural Conditions

Acreage = **0.05**

Variable	Sub-Index	Notes:
V_{edge}	0.70	Simple tidal drainage network ..isolated ponds and depressions are few & lacking (200-350 m/ha
V_{hydro}	0.60	Moderate hydrologic restriction(i.e low level berms that overtop freq. by waves, or has mutli- bree
V_{nhc}	0.30	2 nekton habitat types present w/in 150'
$V_{typical}$	1.00	100
V_{slope}	1.00	Greater than 450' to Navigation Channel or water greater than or equal to 6 ft deep
V_{width}	0.25	31-75 ft mean marsh width
V_{rough}	0.40	0.06
V_{soil}	1.00	clay

Functional Capacity Index (FCI)

Biota	0.79
Botanical	1.00
Physical	0.65
Chemical	0.77

Functional Capacity Units (FCU)

Biota	0.04
Botanical	0.05
Physical	0.03
Chemical	0.04

Data Collection **Date:** 4/1/2020 **Investigator(s):** Jeff Dunn & Ian McBride

V_{edge}

0.8 Marsh shows deterioration due to subsidence large amounts of open water (G

Interim Tidal Fringe Hydrogeomorphic Analysis Worksheet
Mosquito Ranch
WAA U
Natural Conditions

Acreage = **0.01**

Variable	Sub-Index	Notes:
V_{edge}	0.70	Simple tidal drainage network ..isolated ponds and depressions are few & lacking (200-350 m/ha
V_{hydro}	0.60	Moderate hydrologic restriction(i.e low level berms that overtop freq. by waves, or has mutli- bree
V_{nhc}	0.30	2 nekton habitat types present w/in 150'
$V_{typical}$	1.00	100
V_{slope}	1.00	Greater than 450' to Navigation Channel or water greater than or equal to 6 ft deep
V_{width}	0.25	31-75 ft mean marsh width
V_{rough}	0.60	0.07
V_{soil}	1.00	clay

Functional Capacity Index (FCI)

Biota	0.79
Botanical	1.00
Physical	0.69
Chemical	0.77

Functional Capacity Units (FCU)

Biota	0.01
Botanical	0.01
Physical	0.00
Chemical	0.01

Data Collection **Date:** 4/1/2020 **Investigator(s):** Jeff Dunn & Ian McBride

V_{edge}

0.8 Marsh shows deterioration due to subsidence large amounts of open water (G

Interim Tidal Fringe Hydrogeomorphic Analysis Worksheet
Mosquito Ranch
WAA V
Natural Conditions

Acreage = **0.01**

Variable	Sub-Index	Notes:
V_{edge}	0.70	Simple tidal drainage network ..isolated ponds and depressions are few & lacking (200-350 m/ha
V_{hydro}	0.60	Moderate hydrologic restriction(i.e low level berms that overtop freq. by waves, or has mutli- bree
V_{nhc}	0.30	2 nekton habitat types present w/in 150'
$V_{typical}$	1.00	100
V_{slope}	1.00	Greater than 450' to Navigation Channel or water greater than or equal to 6 ft deep
V_{width}	0.10	0-30 ft mean marsh width
V_{rough}	0.60	0.07
V_{soil}	1.00	clay

Functional Capacity Index (FCI)

Biota	0.79
Botanical	1.00
Physical	0.66
Chemical	0.77

Functional Capacity Units (FCU)

Biota	0.01
Botanical	0.01
Physical	0.01
Chemical	0.01

Data Collection **Date:** 4/1/2020 **Investigator(s):** Jeff Dunn & Ian McBride

V_{edge}

0.8 Marsh shows deterioration due to subsidence large amounts of open water (G

Interim Tidal Fringe Hydrogeomorphic Analysis Worksheet
Mosquito Ranch
WAA W
Natural Conditions

Acreage = **1.68**

Variable	Sub-Index	Notes:
V_{edge}	0.70	Simple tidal drainage network ..isolated ponds and depressions are few & lacking (200-350 m/ha
V_{hydro}	0.60	Moderate hydrologic restriction(i.e low level berms that overtop freq. by waves, or has mutli- bree
V_{nhc}	0.30	2 nekton habitat types present w/in 150'
$V_{typical}$	1.00	100
V_{slope}	1.00	Greater than 450' to Navigation Channel or water greater than or equal to 6 ft deep
V_{width}	0.80	226-300 ft mean marsh width
V_{rough}	1.00	0.09
V_{soil}	1.00	clay

Functional Capacity Index (FCI)

Biota	0.79
Botanical	1.00
Physical	0.88
Chemical	0.77

Functional Capacity Units (FCU)

Biota	1.33
Botanical	1.68
Physical	1.47
Chemical	1.30

Data Collection **Date:** 4/1/2020 **Investigator(s):** Jeff Dunn & Ian McBride

V_{edge}

0.8 Marsh shows deterioration due to subsidence large amounts of open water (G

Interim Tidal Fringe Hydrogeomorphic Analysis Worksheet
Mosquito Ranch
WAA X
Natural Conditions

Acreage = **0.52**

Variable	Sub-Index	Notes:
V_{edge}	0.70	Simple tidal drainage network ..isolated ponds and depressions are few & lacking (200-350 m/ha
V_{hydro}	0.60	Moderate hydrologic restriction(i.e low level berms that overtop freq. by waves, or has mutli- bree
V_{nhc}	0.30	2 nekton habitat types present w/in 150'
$V_{typical}$	1.00	100
V_{slope}	1.00	Greater than 450' to Navigation Channel or water greater than or equal to 6 ft deep
V_{width}	0.60	151-225 ft mean marsh width
V_{rough}	1.00	0.09
V_{soil}	1.00	clay

Functional Capacity Index (FCI)

Biota	0.79
Botanical	1.00
Physical	0.84
Chemical	0.77

Functional Capacity Units (FCU)

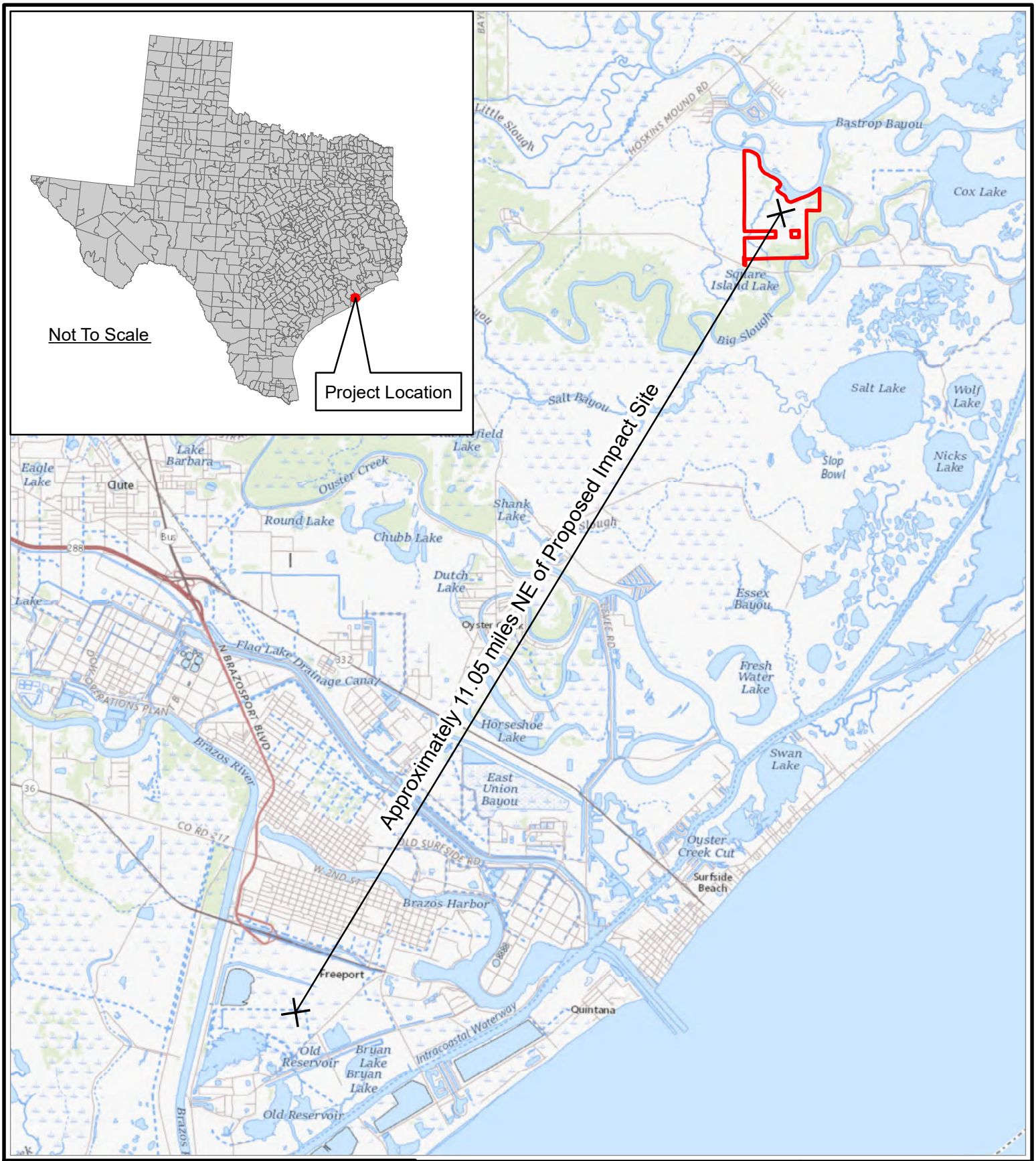
Biota	0.41
Botanical	0.52
Physical	0.44
Chemical	0.40

Data Collection **Date:** 4/1/2020 **Investigator(s):** Jeff Dunn & Ian McBride

V_{edge}

0.8 Marsh shows deterioration due to subsidence large amounts of open water (G

Attachment C
Construction Drawings



Mosquito Ranch Property Boundary (MRPRM)

0 1 2 3

Miles 1 in = 2 miles

N

PROPOSED MOSQUITO RANCH MITIGATION BANK

VICINITY EXHIBIT

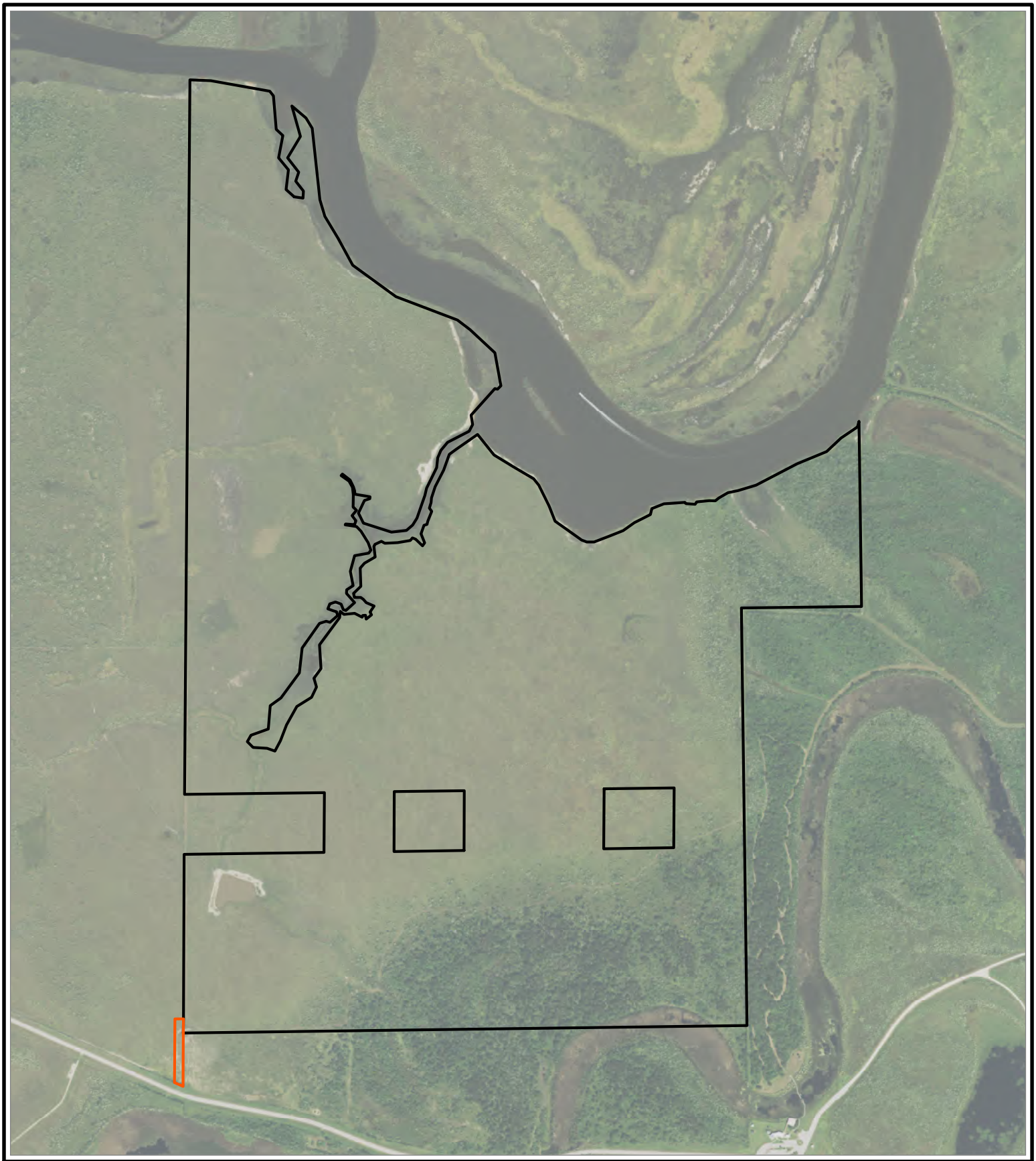
BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N **Date:** 4/21/2021

Vertical Datum: NAVD88 Feet **Author:** BDS

FIGURE 01

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Construction\Figure_01_Mosquito_Ranch_Vicinity.mxd



MRPRM Boundary (±425.40 acres)

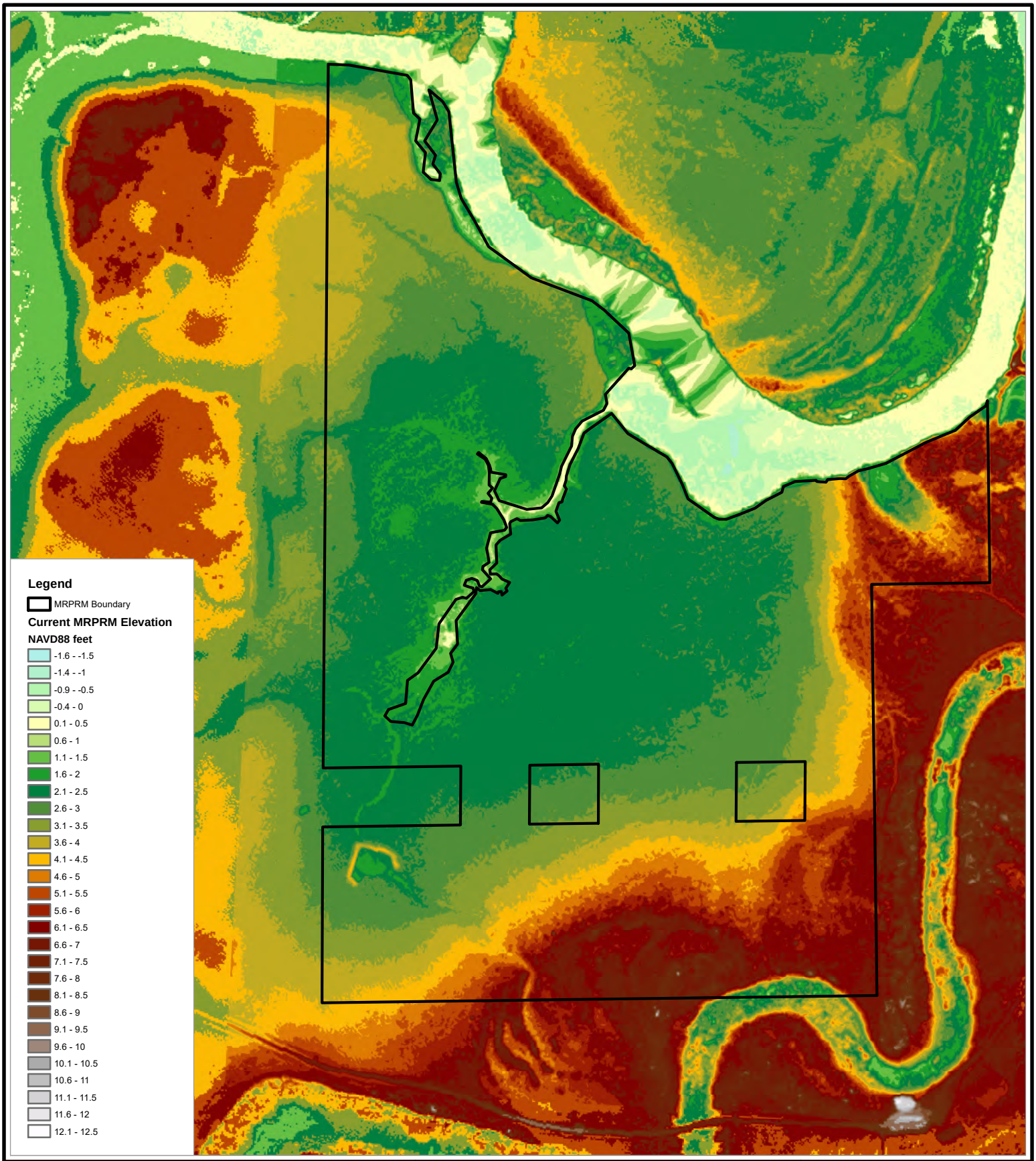
Access to MRPRM

PROPOSED
MOSQUITO RANCH PRM
BOUNDARY EXHIBIT
BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N	**Date:** 4/8/2021
Vertical Datum: NAVD88 Feet	**Author:** BDS

FIGURE 2

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Construction\Boundary_04.mxd



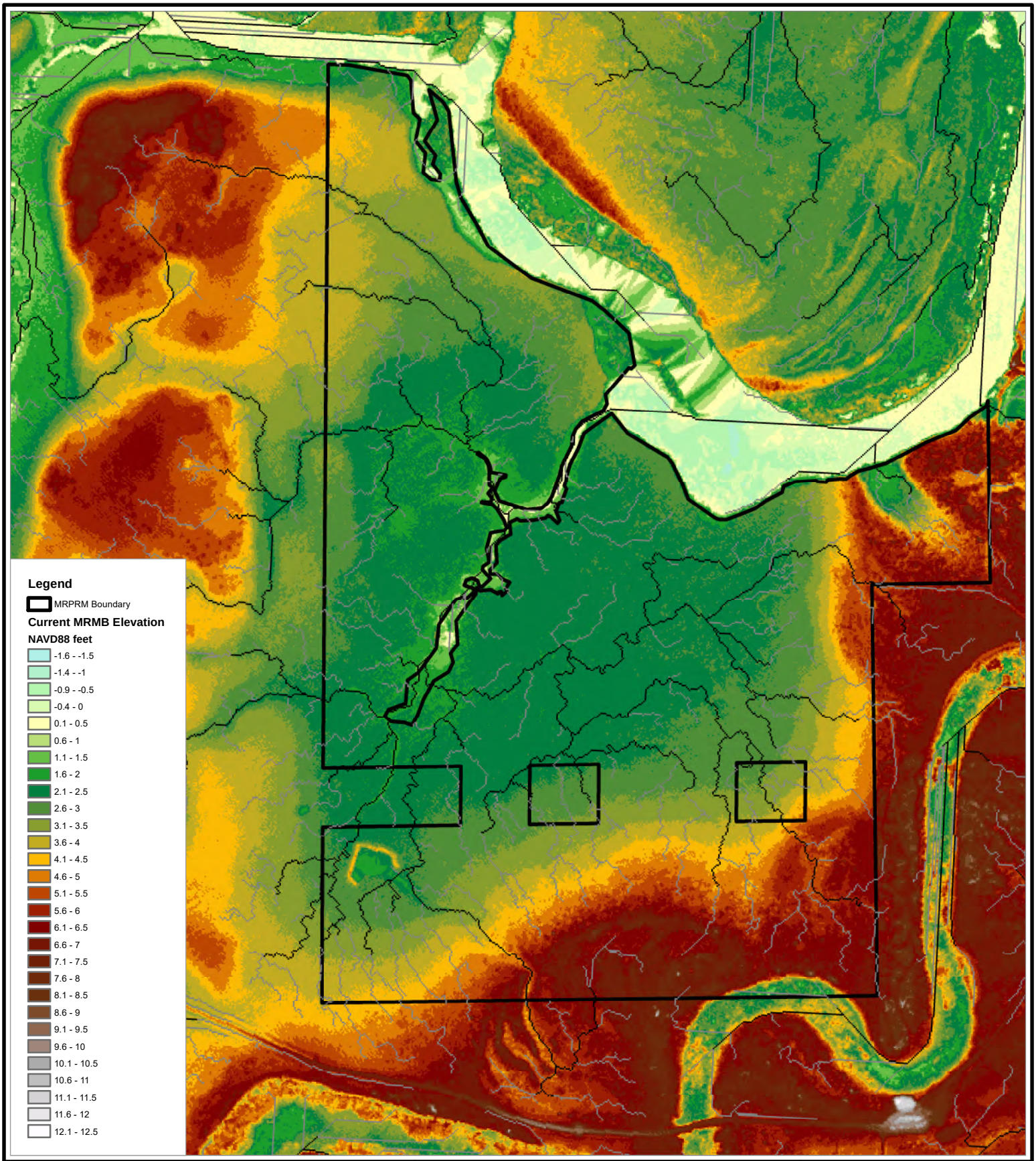
0 500 1,000 1,500 2,000
Feet

PROPOSED
MOSQUITO RANCH PRM
CURRENT LIDAR EXHIBIT
BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N **Date:** 4/8/2021
Vertical Datum: NAVD88 Feet **Author:** BDS

FIGURE 03

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Construction\Current_LIDAR_03.mxd



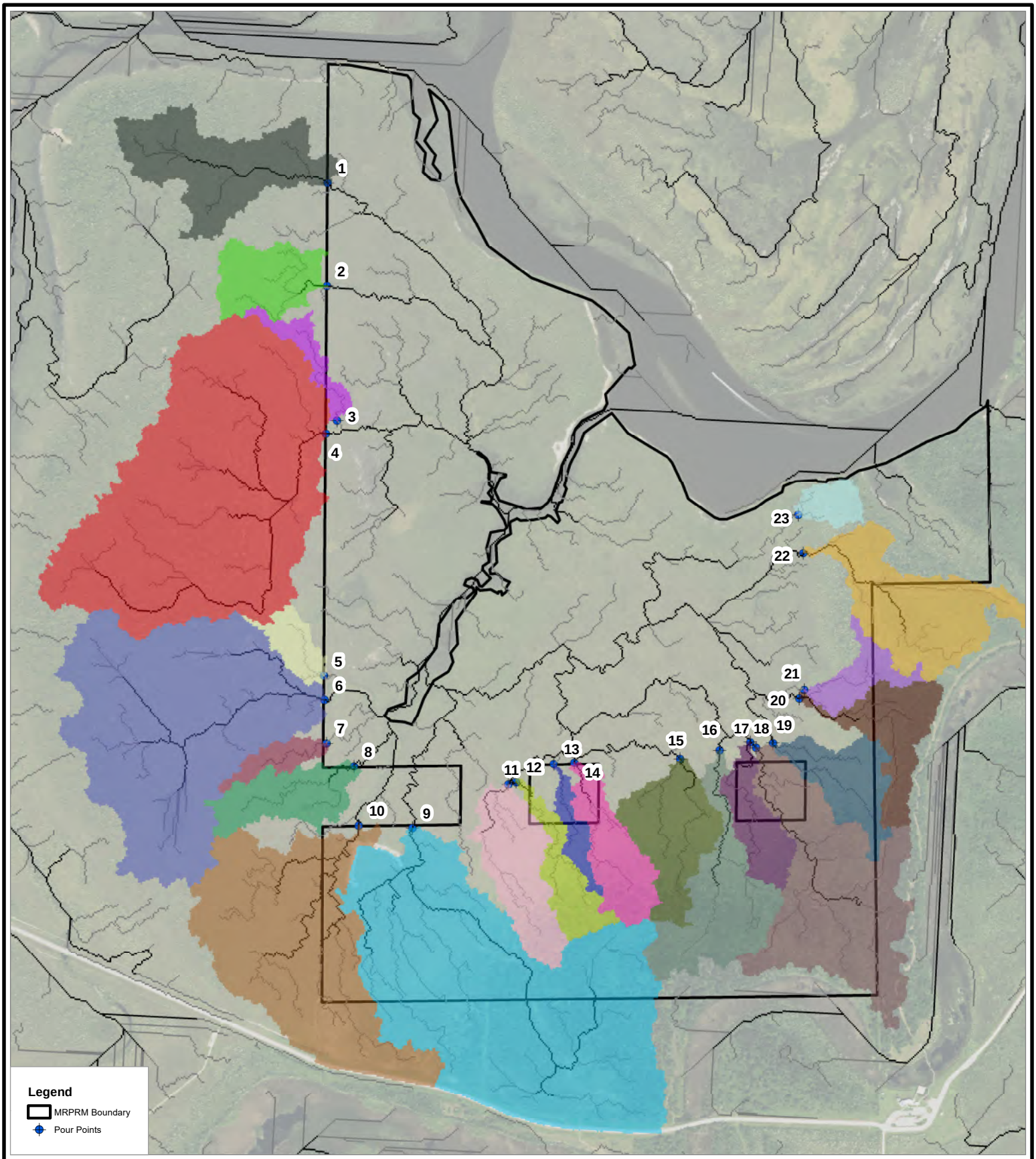
0 500 1,000 1,500 2,000
Feet

PROPOSED
MOSQUITO RANCH PRM
DRAINAGE NETWORK EXHIBIT
BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N **Date:** 4/8/2021
Vertical Datum: NAVD88 Feet **Author:** BDS

FIGURE 04

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Construction\Drainage_04.mxd



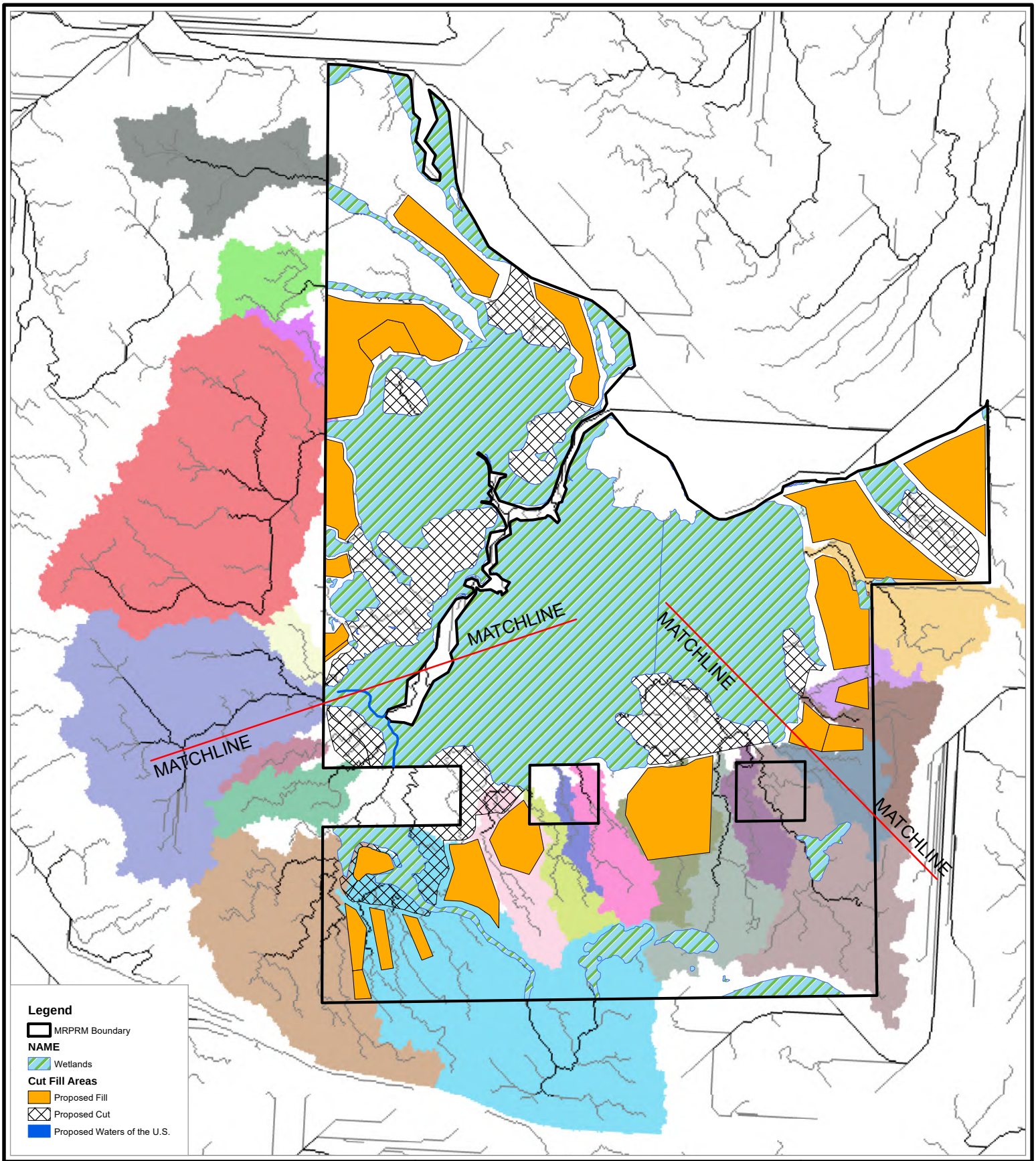
0 500 1,000 1,500 2,000
Feet

PROPOSED
MOSQUITO RANCH PRM
WATERSHED DELINEATION EXHIBIT
BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N **Date:** 4/8/2021
Vertical Datum: NAVD88 Feet **Author:** BDS

FIGURE 05

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Construction\Watershed_05.mxd



0 500 1,000 1,500 2,000
Feet

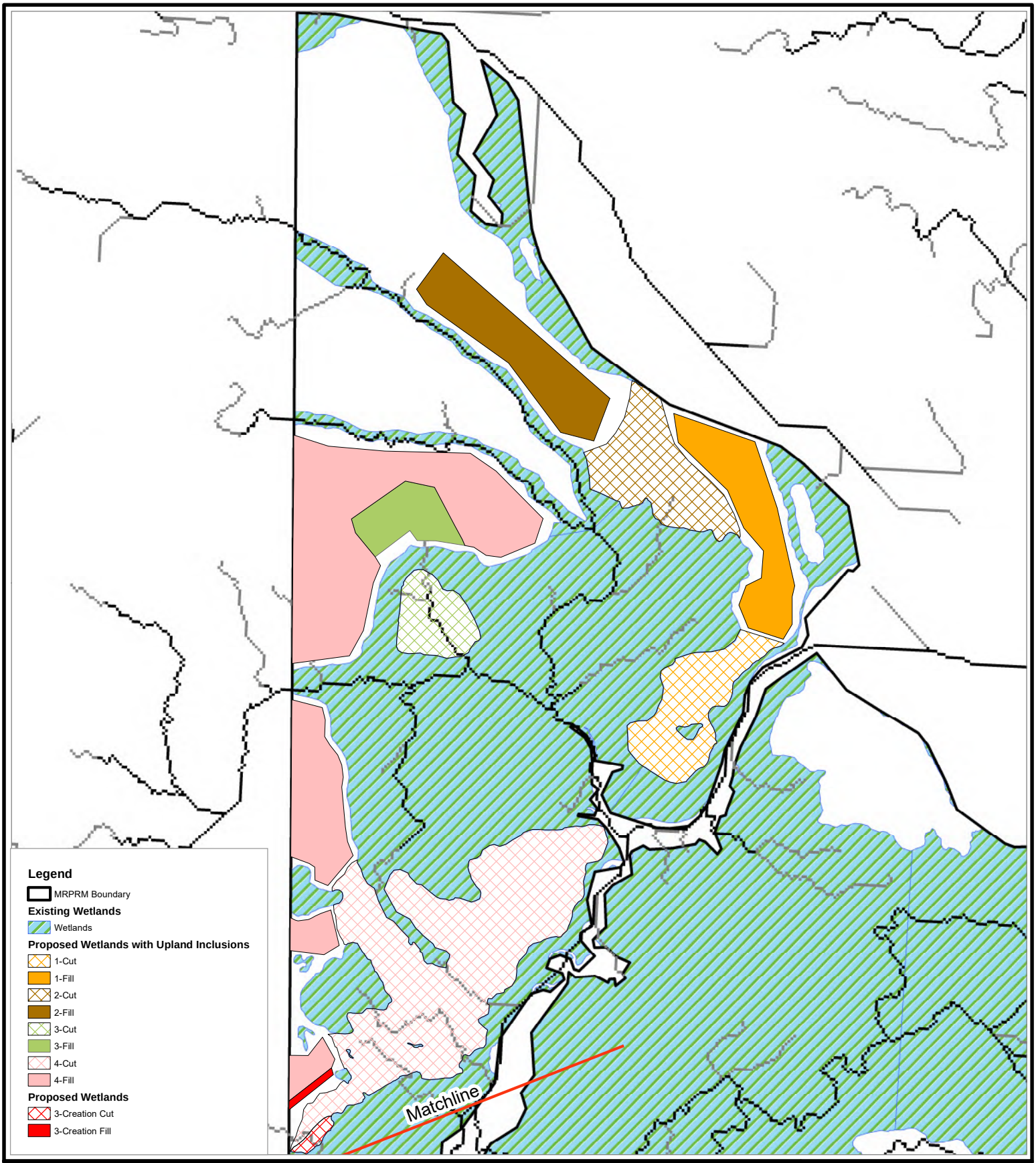
N

PROPOSED
MOSQUITO RANCH PRM
PROPOSED CUT & FILL EXHIBIT
BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N **Date:** 9/29/2021
Vertical Datum: NAVD88 Feet **Author:** BDS

FIGURE 06

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Construction\Cut_Fill_Exhibit_06a.mxd



0 200 400 600 800 1,000

Feet

PROPOSED MOSQUITO RANCH PRM

PROPOSED CUT & FILL EXHIBIT

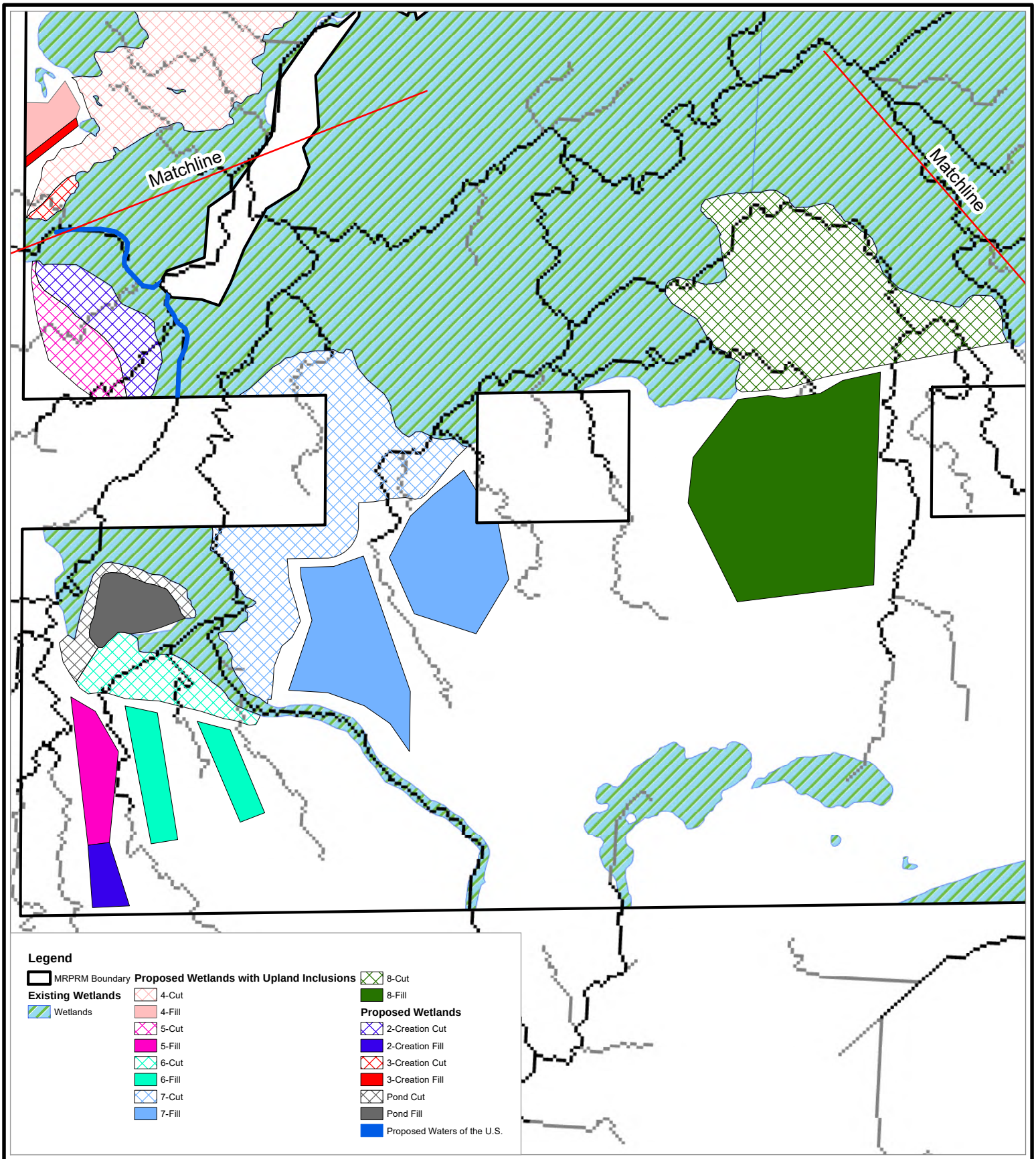
BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N **Date:** 9/15/2021

Vertical Datum: NAVD88 Feet **Author:** BDS

FIGURE 07

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Construction\Cut_Fill_Exhibit_07.mxd



0 200 400 600 800 1,000

Feet

PROPOSED MOSQUITO RANCH PRM

PROPOSED CUT & FILL EXHIBIT

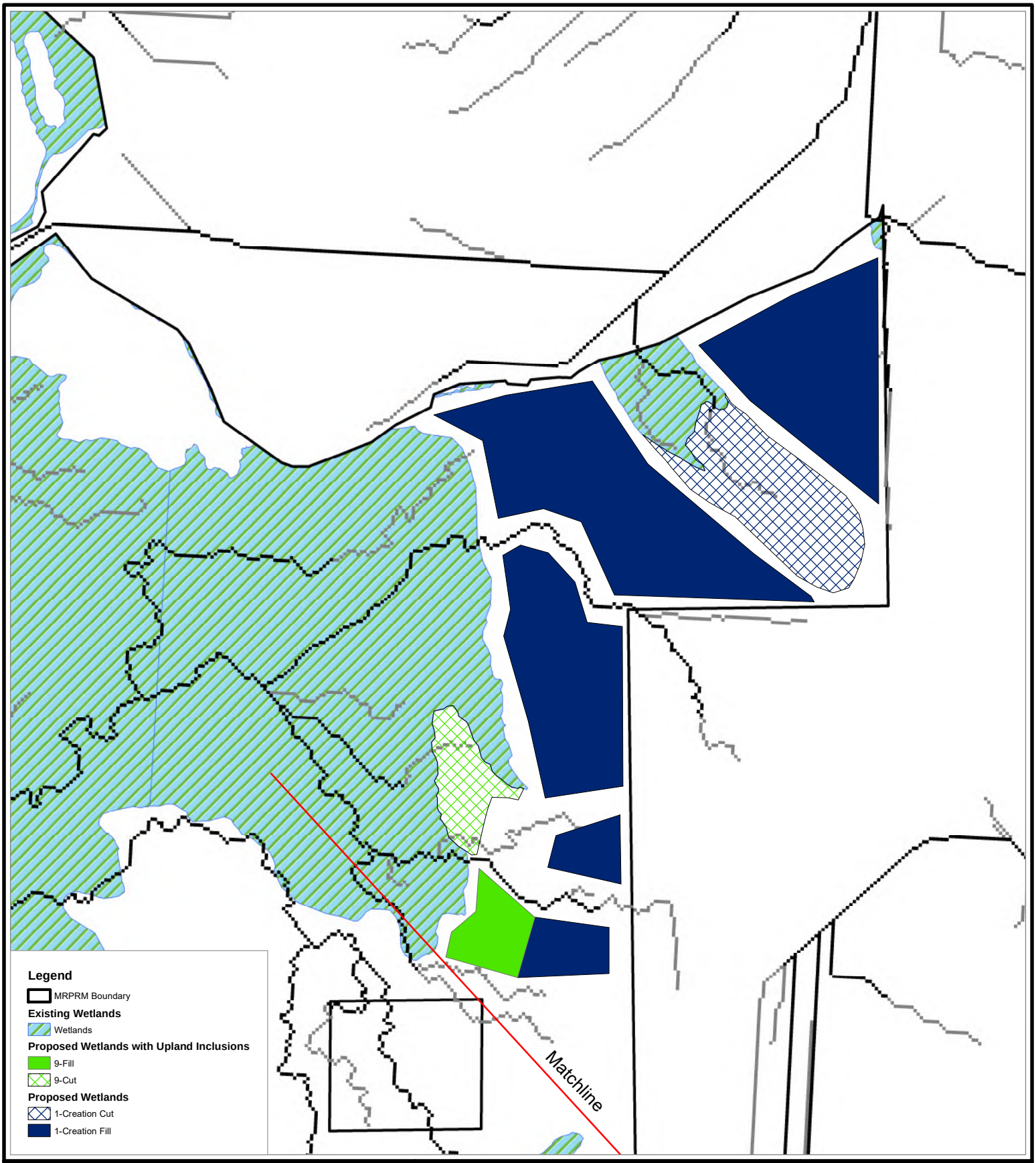
BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N **Date:** 9/29/2021

Vertical Datum: NAVD88 Feet **Author:** BDS

FIGURE 08

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Construction\Cut_Fill_Exhibit_08.mxd



0 200 400 600 800 1,000

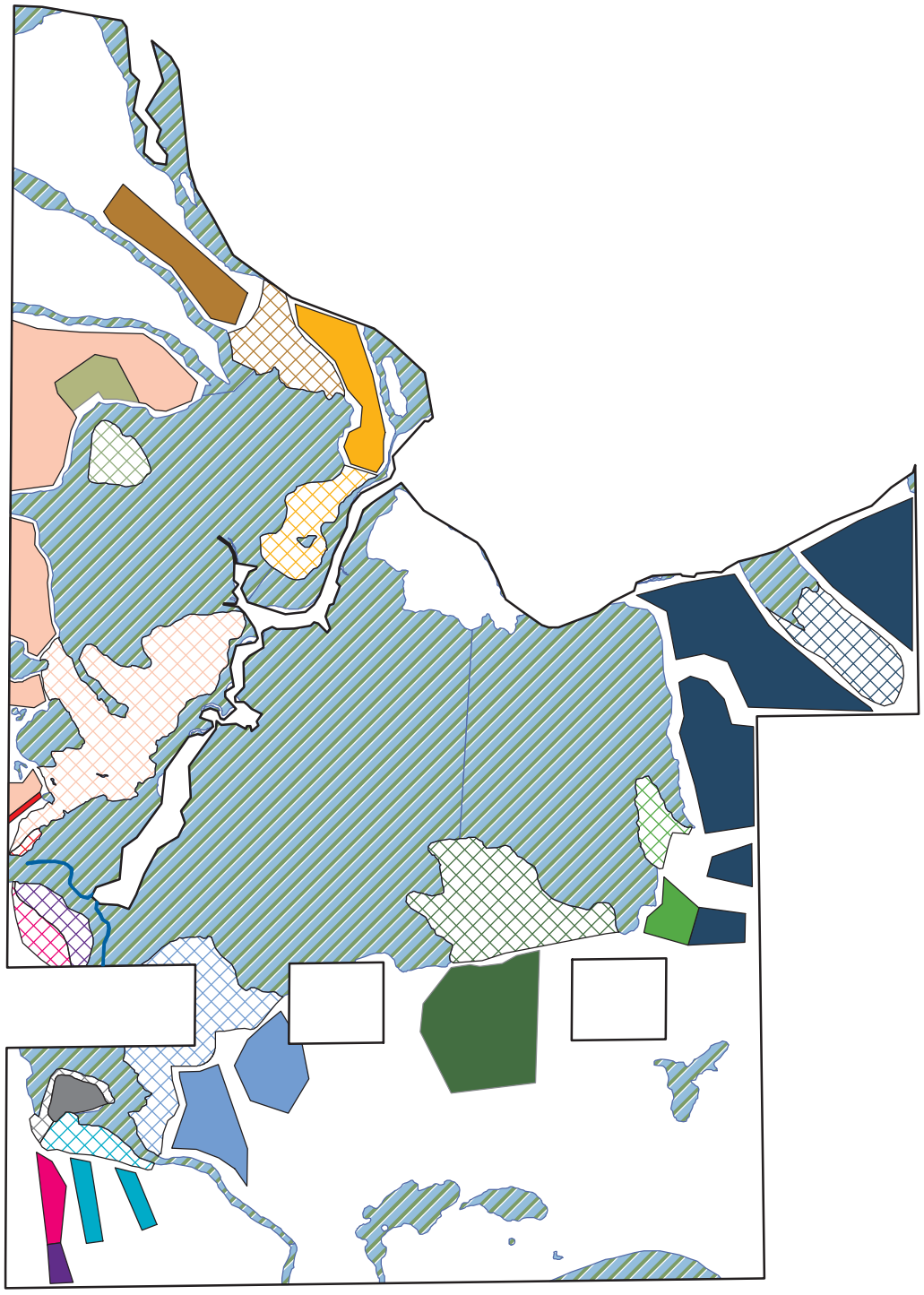
Feet

PROPOSED
MOSQUITO RANCH PRM
PROPOSED CUT & FILL EXHIBIT
BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N	**Date:** 9/16/2021
Vertical Datum: NAVD88 Feet	**Author:** BDS

FIGURE 09

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Construction\Cut_Fill_Exhibit_09.mxd



Legend

- MRPRM Boundary

Existing Wetlands

- Wetlands

Proposed Wetlands with Upland Inclusions (39.64 ac)

- 1-Cut (3.39 ac)
- 1-Fill (3.36 ac)
- 2-Cut (3.87 ac)
- 2-Fill (3.75 ac)
- 3-Cut (1.85 ac)
- 3-Fill (1.66 ac)
- 4-Cut (13.37 ac)
- 4-Fill (12.71 ac)
- 5-Cut (1.33 ac)
- 5-Fill (1.05 ac)
- 6-Cut (1.73 ac)
- 6-Fill (1.57 ac)
- 7-Cut (6.52 ac)
- 7-Fill (6.00 ac)
- 8-Cut (8.95 ac)
- 8-Fill (8.26 ac)
- 9-Cut (1.57 ac)
- 9-Fill (1.28 ac)

Proposed Wetlands (8.10 ac)

- 1-Creation Cut (4.42 ac)
- 1-Creation Fill (21.00 ac)
- 2-Creation Cut (1.67 ac)
- 2-Creation Fill (0.45 ac)
- 3-Creation Cut (0.21 ac)
- 3-Creation Fill (0.13 ac)
- Pond Cut (0.75 ac)
- Pond Fill (1.05 ac)
- Proposed Waters of the U.S (Total Length 1,745 feet) (northern segment 991 feet, southern segment 754 feet)

0 500 1,000 1,500 2,000

Feet

PROPOSED
MOSQUITO RANCH PRM
PROPOSED CONSTRUCTION EXHIBIT
BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N **Date:** 10/7/2021

Vertical Datum: NAVD88 Feet **Author:** BDS

FIGURE 10

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Construction\Construction_10.mxd

	Description	Acres	Yards³
WETLANDS WITH UPLAND INCLUSIONS	1-C	3.39	2,710.40
	1-F	3.36	2,710.40
	2-C	3.87	3,025.80
	2-F	3.75	3,025.80
	3-C	1.85	1,335.64
	3-F	1.66	1,335.64
	4-C	13.37	10,252.84
	4-F	12.71	10,252.84
	5-C	1.33	847.92
	5-F	1.05	847.92
	6-C	1.73	1,267.59
	6-F	1.57	1,267.59
	7-C	6.52	4,842.61
	7-F	6.00	4,842.61
	8-C	8.95	6,659.84
	8-F	8.26	6,659.84
	9-C	1.57	1,034.31
	9-F	1.28	1,034.31
	Sub-total Cut	**42.58**	**31,976.95**
	Sub-total Fill	**39.64**	**31,976.95**

DEPTH OF CUT WITHIN THE WETLANDS WITH UPLAND INCLUSON AREAS WILL BE APPROXIMATELY **0.1 FEET TO 0.5 FEET BELOW NATURAL GRADE**.

FILL FROM WETLANDS WITH UPLAND INCLUSIONS WILL BE SPREAD EVENLY IN NON-WETLAND AREAS APPROXIMATELY **0.5 FEET ABOVE NATURAL GRADE**.

THE PLANNED NEW WETLAND WITH UPLAND INCLUSIONS ACREAGE IS **39.25 ACRES** WITHIN THE CONTSRUCTED 42.58 ACRES.

	Description	Acres	Yards³
CREATION	1 - Creation Cut	4.42	16,880.56
	1 - Creation Fill	21.00	16,880.56
	2 - Creation Cut	1.67	269.80
	2 - Creation Fill	0.45	269.80
	3 - Creation Cut	0.21	89.70
	3 - Creation Fill	0.13	89.70
	Pond Cut	0.75	1,291.46
	Pond Fill	1.05	1,291.46
	Sub-total Cut	**7.05**	**18,531.52**
	Sub-total Fill	**22.63**	**18,531.52**

DEPTH OF CUT WITHIN CREATION AREAS WILL VARY. TARGET ELEVATION FOR WETLAND CREATION WILL BE **2.0 - 2.5 FEET NAVD88**.

FILL FROM CREATED WETLANDS WILL BE SPREAD EVENLY IN NON-WETLAND AREAS APPROXIMATELY **0.5 FEET ABOVE NATURAL GRADE**.

THE PLANNED NEW WETLAND ACREAGE THROUGH CREATION IS **8.10 ACRES**.

	Acres	Yards³
TOTAL CUT	**49.63**	**50,508.47**
TOTAL FILL	**62.27**	**50,508.47**

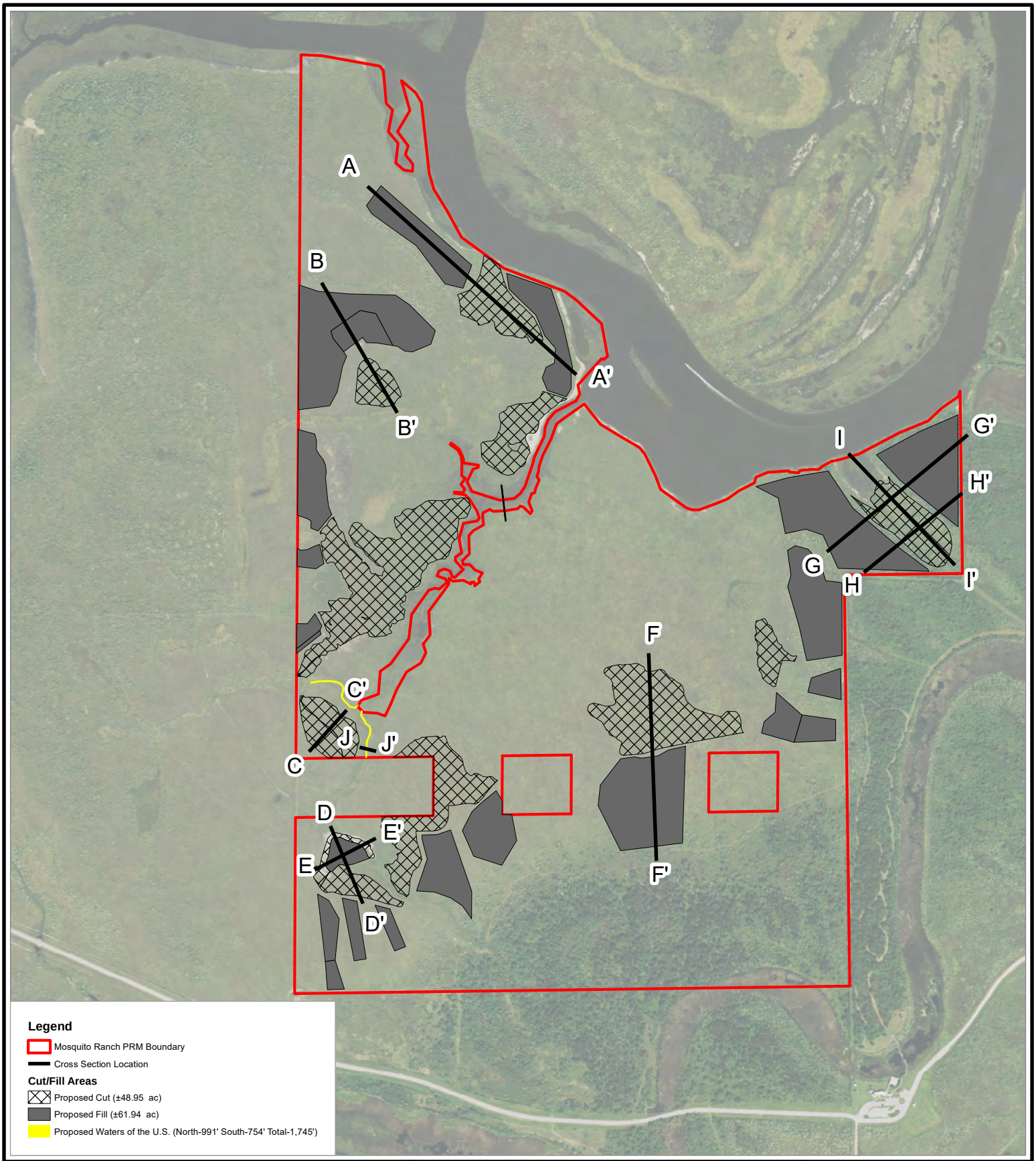
THE PLANNED TOTAL (WETLANDS WITH UPLAND INCLUSIONS + CREATION) NEW WETLAND ACREAGE IS **± 47.35 ACRES**.

PROPOSED
MOSQUITO RANCH PRM
CUT/FILL SUMMARY EXHIBIT
BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 2011 StatePlane Texas South Central FIPS 4204 FtUS **Date:** 9/22/2021
Vertical Datum: NAVD88 Feet **Author:** BDS

FIGURE 11

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Construction\Cut_Fill_Exhibit_11.mxd



0 500 1,000 1,500 2,000
Feet

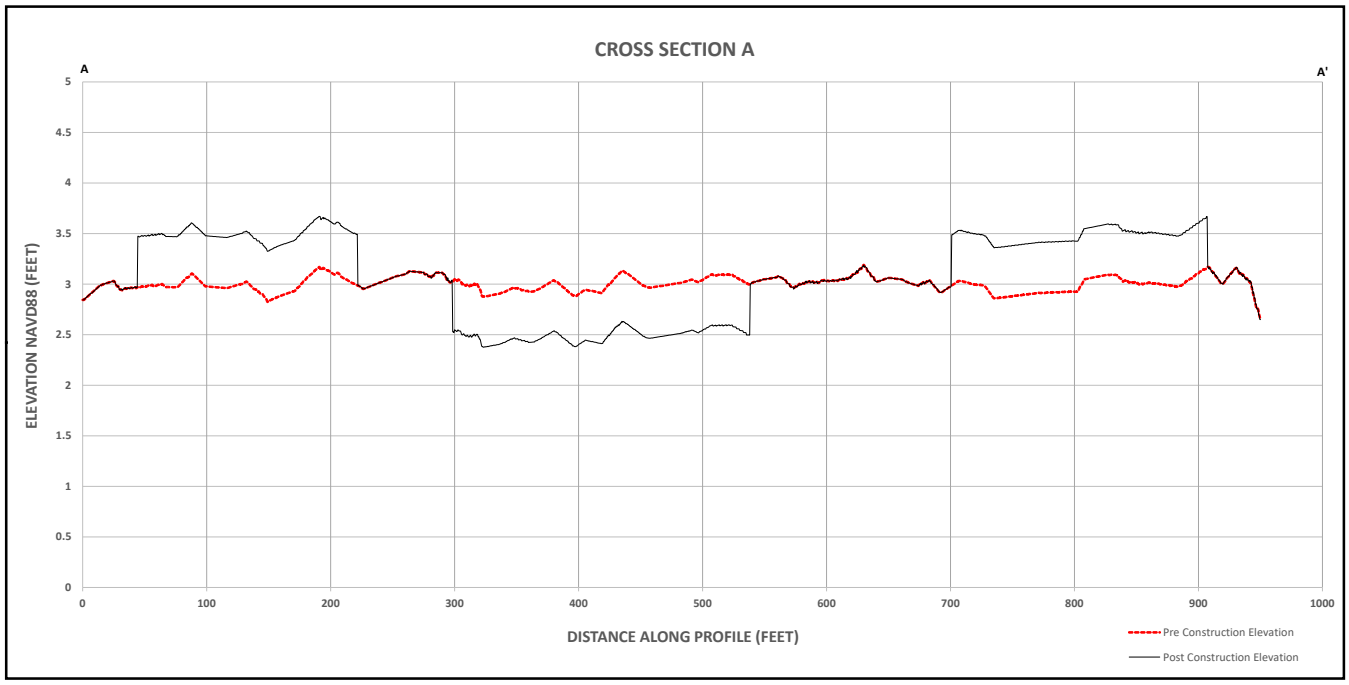
N

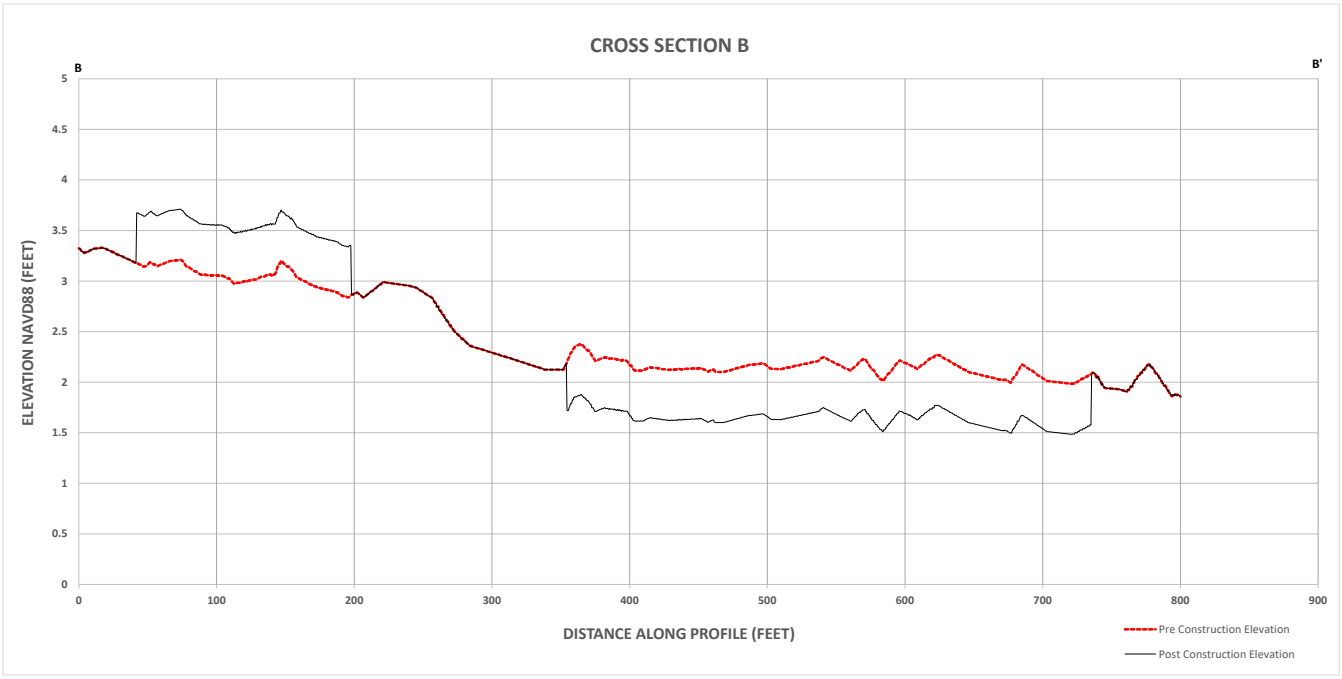
PROPOSED
MOSQUITO RANCH PRM
CROSS SECTION LOCATION EXHIBIT
BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N	**Date:** 10/8/2021
Vertical Datum: NAVD88 Feet	**Author:** BDS

FIGURE CS-1

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Construction\Cross_Sections\X_Sections_03182021.mxd



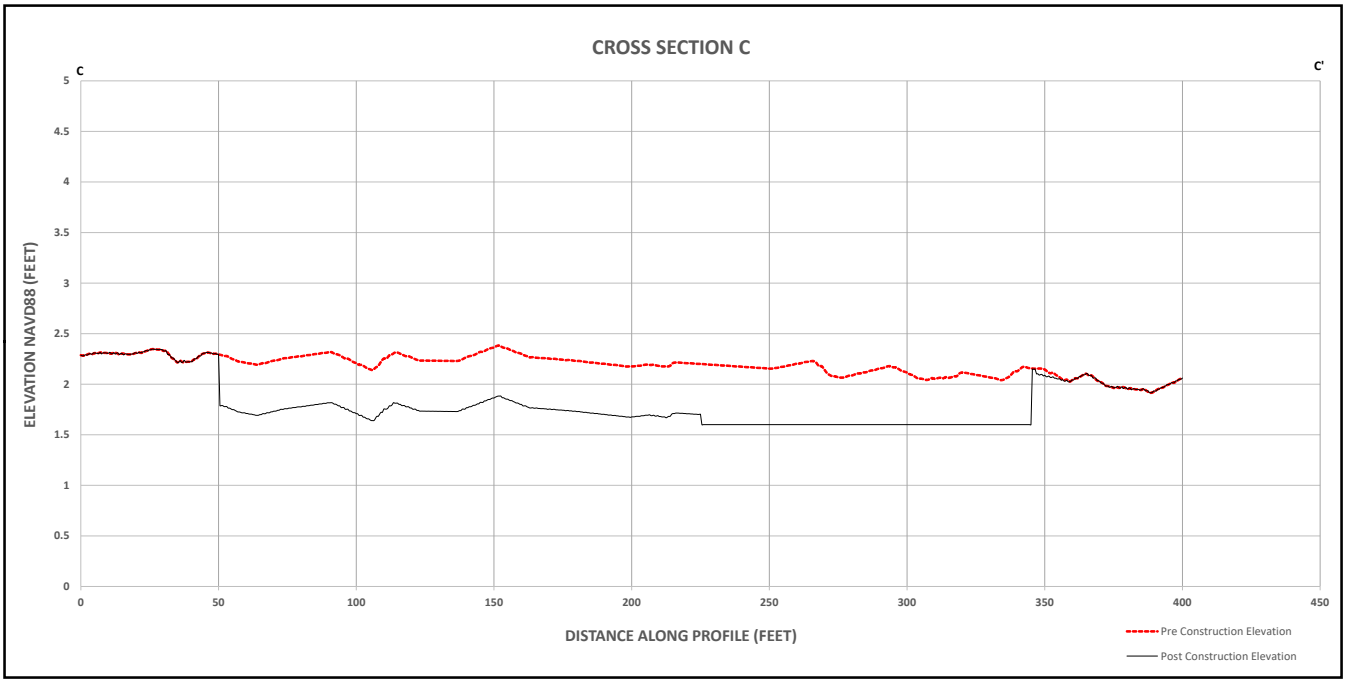


PROPOSED
MOSQUITO RANCH PRM
X-SECTION EXHIBIT
BRAZORIA COUNTY, TX

Coord Sys:	**Date:** 4/8/2021
Vertical Datum: NAVD88 Feet	**Author:** BDS

FIGURE CS-2

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Construction\Cross_Sections\X_Section_1.mxd

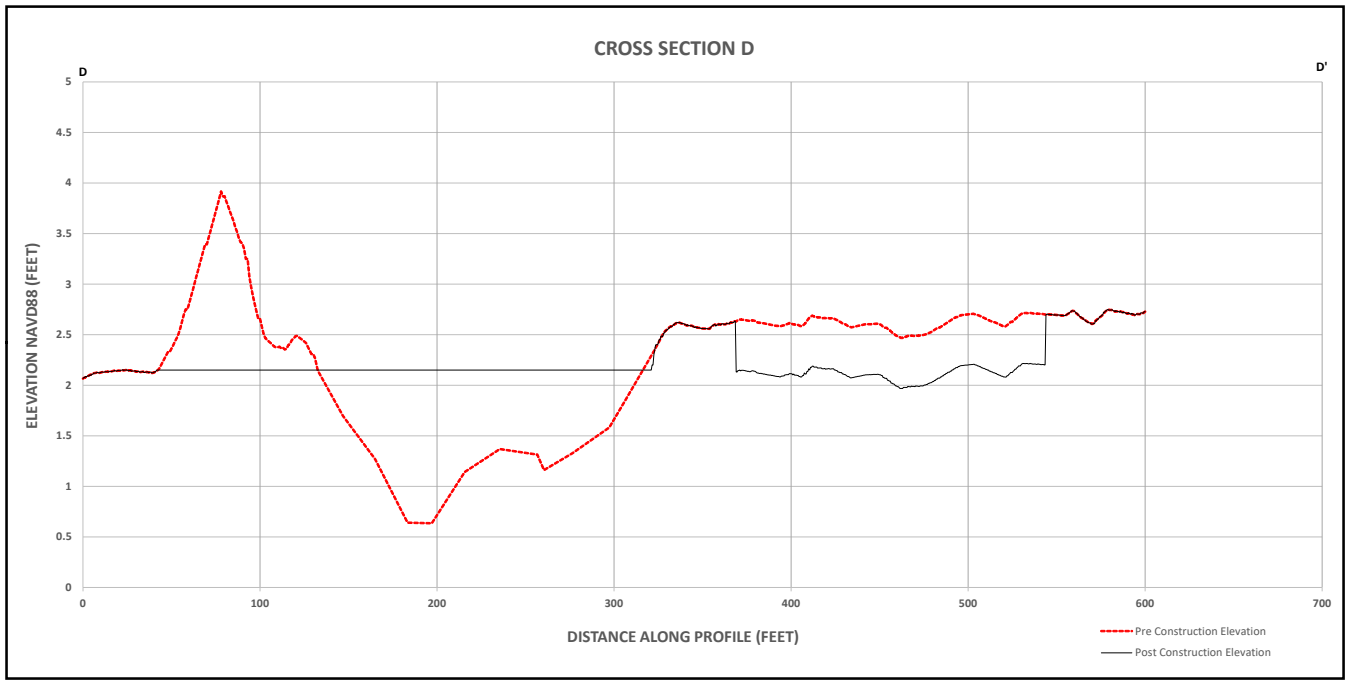


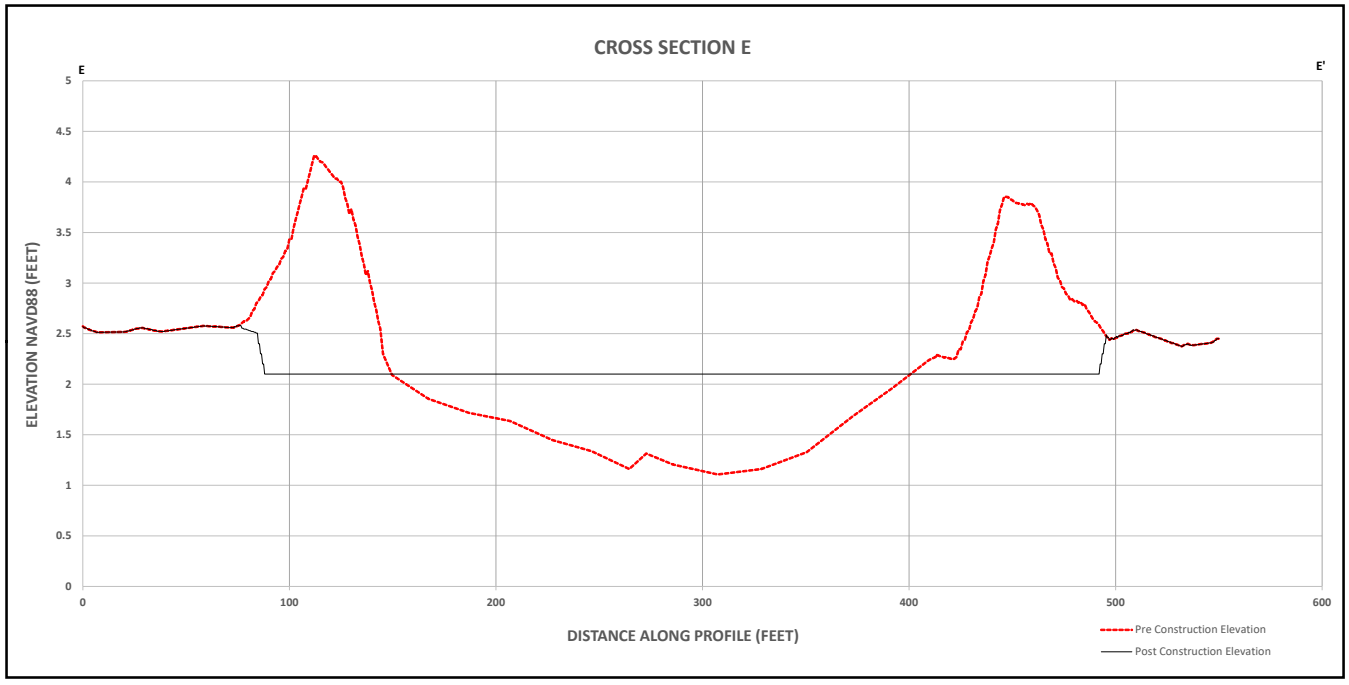
PROPOSED
MOSQUITO RANCH PRM
X-SECTION EXHIBIT
BRAZORIA COUNTY, TX

Coord Sys:	**Date:** 4/8/2021
Vertical Datum: NAVD88 Feet	**Author:** BDS

FIGURE CS-3

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Construction\Cross_Sections\X_Section_2.mxd



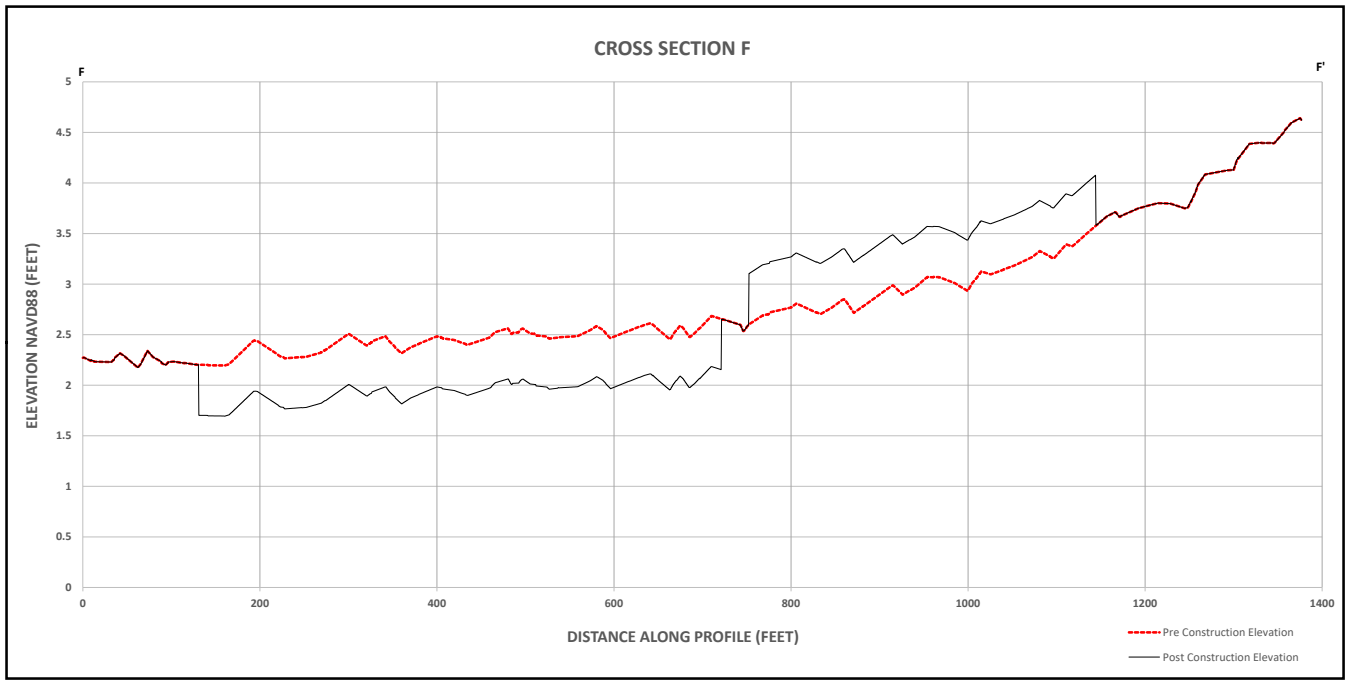


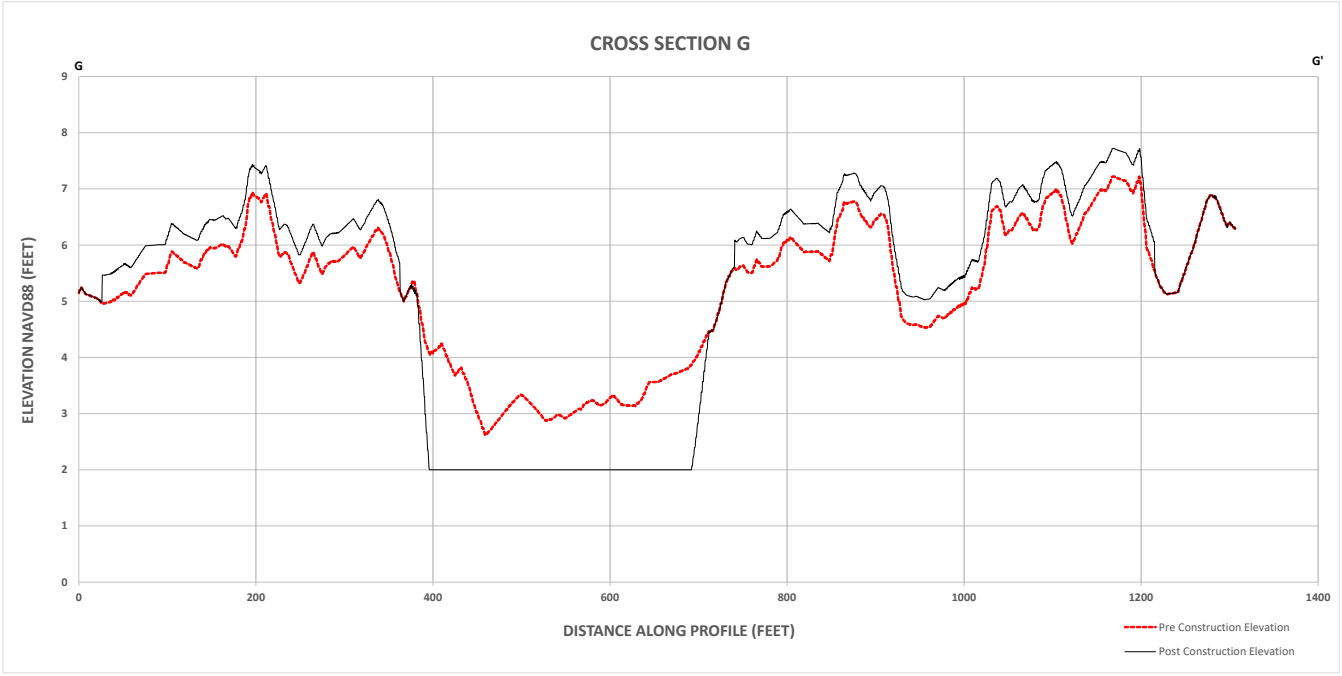
PROPOSED
MOSQUITO RANCH PRM
X-SECTION EXHIBIT
BRAZORIA COUNTY, TX

Coord Sys:	**Date:** 4/8/2021
Vertical Datum: NAVD88 Feet	**Author:** BDS

FIGURE CS-4

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Construction\Cross_Sections\X_Section_3.mxd



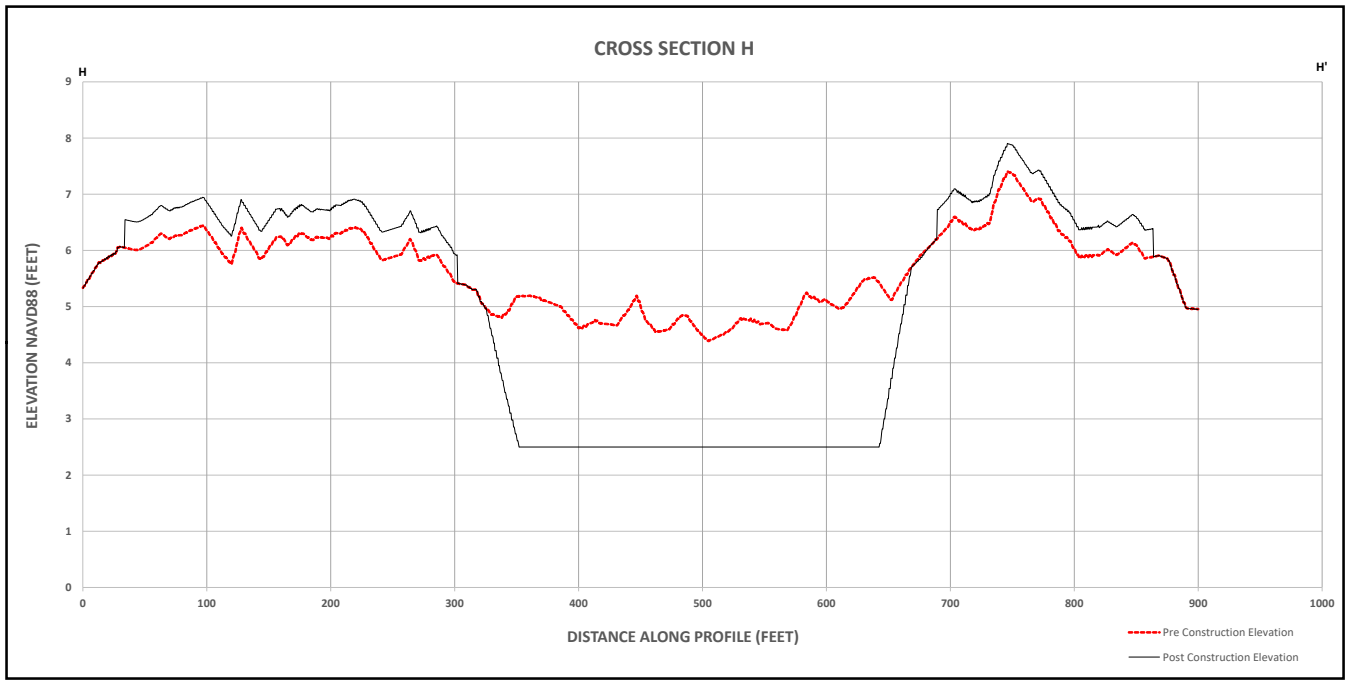


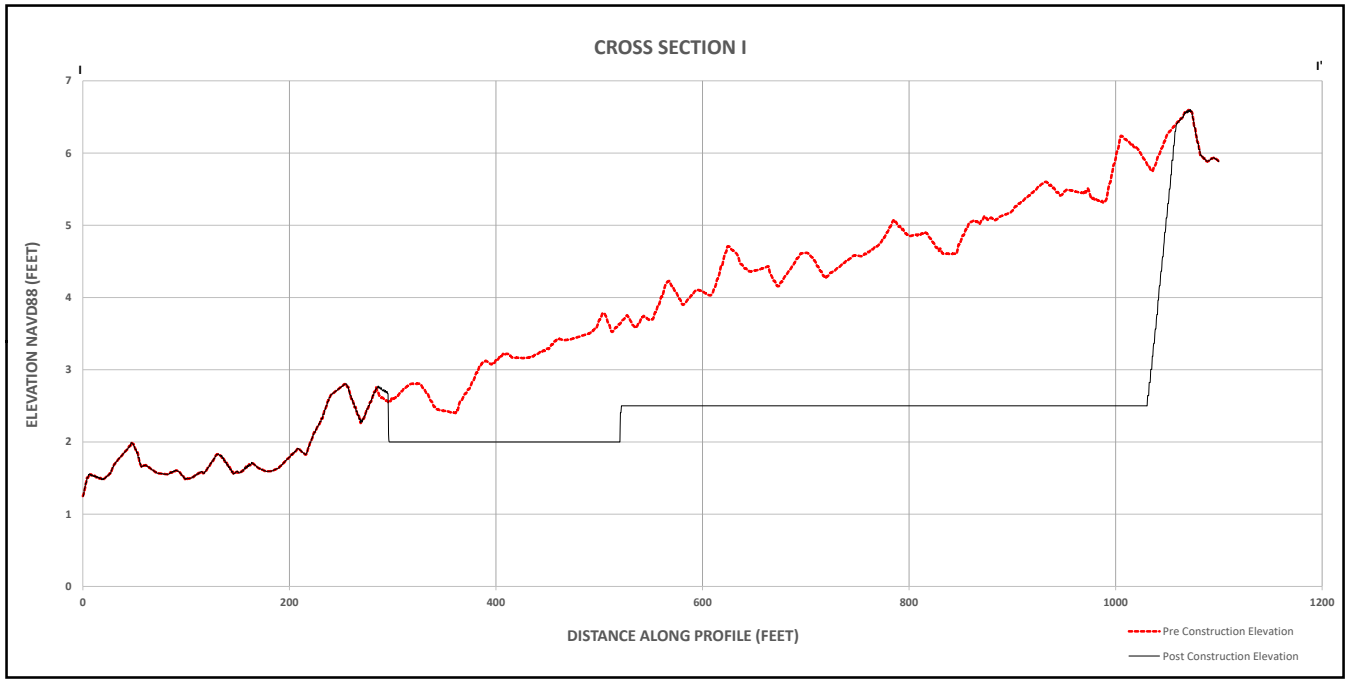
PROPOSED
MOSQUITO RANCH PRM
X-SECTION EXHIBIT
BRAZORIA COUNTY, TX

Coord Sys:	**Date:** 4/8/2021
Vertical Datum: NAVD88 Feet	**Author:** BDS

FIGURE CS-5

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Construction\Cross_Sections\X_Section_4.mxd



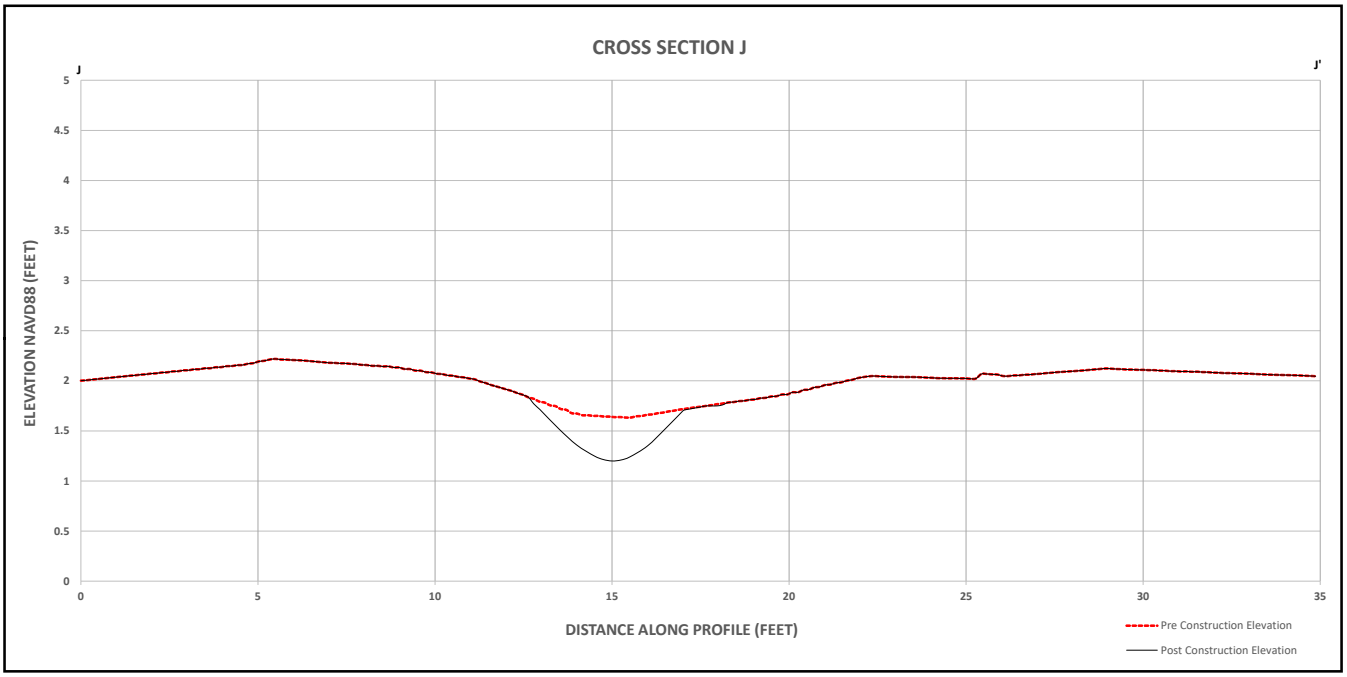


PROPOSED
MOSQUITO RANCH PRM
X-SECTION EXHIBIT
BRAZORIA COUNTY, TX

Coord Sys:	**Date:** 4/8/2021
Vertical Datum: NAVD88 Feet	**Author:** BDS

FIGURE CS-6

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Construction\Cross_Sections\X_Section_5A.mxd



PROPOSED
MOSQUITO RANCH PRM
X-SECTION EXHIBIT
BRAZORIA COUNTY, TX

Coord Sys:	**Date:** 9/29/2021
Vertical Datum: NAVD88 Feet	**Author:** BDS

FIGURE CS-7

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Construction\Cross_Sections\X_Section_7.mxd

Attachment D
Conservation Easement

January 8, 2020

J.M. Burguieres Co.
203 West Main Street
Franklin, Louisiana 70538

Re: Engagement Letter for Holding Conservation Easement for Mosquito Ranch PRM ~425 Acres in Brazoria County, Texas

Dear Mr. Walters:

U.S. Land Conservancy, Inc. (USLC) appreciates the opportunity to present J.M. Burguieres Co. (JMB) and its affiliates, with this engagement letter, for holding a Conservation Easement for the subject property in Brazoria County, Texas (see Attachment).

Qualifications

USLC is a 501(c)(3) non-profit organization (as defined in Section 170(h) of the Internal Revenue Code of 1986), dedicated to the conservation and stewardship of native habitats. USLC is a member of the Land Trust Alliance (LTA) and operates in accordance with the Land Trust Standards and Practices as set forth by the LTA. USLC currently holds conservation easements on more than 27,000 acres in Texas, Louisiana, Florida, North Carolina, Pennsylvania, Illinois, and Indiana.

Scope of Services

1) USLC will act as Holder of Conservation Easement for the Mosquito Ranch PRM:

USLC will monitor this property to ensure compliance with the Conservation Easement (draft copy attached). If a violation is discovered, USLC will attempt resolve the issue with Landowner or adjacent Landowner. If an acceptable resolution cannot be reached, legal action will be taken to enforce the provisions of the Conservation Easement.

- **Monitoring is conducted on an annual basis,**
- **An on-site inspection is conducted per the provisions of the Conservation Easement,**
- **Visits are coordinated with landowner where possible,**
- **Annual reports are sent to CESWG, and**

- **Violations are promptly communicated to the landowner.**

USLC's financial liability will be capped at the amount of the Conservation Easement fee.

Indemnification

USLC agrees to protect, defend, indemnify, and hold harmless the JMB, its officers, directors, employees, or their invitees, from and against all claims, demands, and causes of action of every kind and character without limit and without regard to the cause or causes thereof or the negligence or fault (active or passive) of any party or parties including the sole, joint or concurrent negligence of the JMB, any theory of strict liability and defect of premises (whether or not preexisting the date of this Contract), arising in connection herewith in favor of USLC, its employees, contractors (or their employees), or invitees on account of bodily injury, death, or damage to property.

JMB agrees to protect, defend, indemnify, and hold harmless USLC, its officers, directors, employees, or their invitees, from and against all claims, demands, and causes of action of every kind and character without limit and without regard to the cause or causes thereof or the negligence or fault (active or passive) of any party or parties including the sole, joint or concurrent negligence of USLC, any theory of strict liability, any professional liability, and defect of premises (whether or not pre-existing the date of this Contract), arising in connection herewith in favor of the JMB, its employees, contractors (or their employees), or invitees on account of bodily injury, death or damage to property.

With respect to any claims not elsewhere covered under the provisions of this Indemnity, each party agrees, to the extent of its negligence or fault, to indemnify and hold harmless the other against all claims, damages or losses due to personal injury, death, or property damage, to the extent that its negligence or fault causes the personal injury, death, or property damage.

Notwithstanding anything else contained herein to the contrary, neither party shall be liable to the other for any consequential or indirect damages including but not limited to loss production, loss of profits, or business interruption, howsoever caused and even if due to the negligence of either party.

Dispute Resolution

Any dispute concerning a question of fact in connection with the work not disposed of by agreement between the parties hereto shall be referred to in writing to a conflict resolution committee composed of authorized representatives of parties subject to this contract for review, discussion and resolution without the need for formal proceedings. If parties do not reach an agreement to resolve their differences by these informal proceedings, the dispute shall proceed to mediation (refer to AIA Document 8511-2001).

In the event the parties to this agreement are unable to reach a settlement of any dispute through a mediation process, then such dispute may, with the consent of

both parties, be settled by binding arbitration in accordance with the rules of the American Arbitration Association current as of the date of this agreement. If arbitration is pursued, the decision of the arbitrator shall be final and conclusive.

Authorization

USLC indicates acceptance of all above stated agreement terms by signature below. JMB can also indicate acceptance of the above agreement by signing below and returning a copy to USLC.

USLC appreciates the opportunity to present this engagement letter and looks forward to working with the JMB. If you have any questions, please feel free to contact me at (225) 772-5923 or lmccauley@uslandconservancy.org.

Sincerely,

Leonard McCauley
President

ACCEPTED BY: _____

Signature

_____

Title

_____

Date

CONSERVATION EASEMENT AGREEMENT

THE STATE OF TEXAS §
§ KNOW ALL PERSONS BY THESE PRESENTS:
COUNTY OF §
BRAZORIA §

This Conservation Easement Agreement (this "Agreement") is executed as of _____ (the "Effective Date"), by and between JMB Land Co., LP ("Grantor"), and U.S. Land Conservancy ("Grantee").

Recitals:

A. Grantor is the record owner of fee simple title to certain parcels of real property consisting of _____ acres located and situated in Brazoria County, Texas and more particularly described in **Exhibit "A"** (legal description of the "Property") attached hereto and made a part hereof. The Property is also referenced in Permit No. SWG-2008-00___ Compensatory Mitigation Plan dated _____ and entitled _____. Title to the surface estate is described in a commitment for title insurance (the "Commitment") previously received by Grantee and a title insurance policy (the "Policy") to be issued pursuant to the commitment and to be received by Grantee in conjunction with this conveyance.

B. Grantee is qualified to hold a conservation easement, and is a charitable, not-for-profit or educational corporation, association, or trust, qualified under Section 501(c)(3) and Section 170(h) of the Internal Revenue Code of 1986, as amended, the purposes or powers of which include one or more of the Purposes described in **Recital D** below.

C. The preservation of the Property is a condition of the Department of the Army Section 404/10 Project Number _____, authorization dated _____, or a revision thereof (the "Permit"), and attached hereto as **Exhibit "B"**. The Permittee Responsible Mitigation Plan ("PRMP") attached hereto as **Exhibit "C"** requires certain restrictions to be placed on the Property in order to provide compensation for unavoidable adverse impacts to waters of the United States. It is the intent of this Agreement and the Conservation Easement (as hereinafter defined) granted herein to assure that the Property will be retained and maintained forever in the vegetative and hydrologic condition described in the success criteria of the PRMP. Any activities not included in the PRMP that may be conducted on the Property and that will affect the vegetative and hydrologic conditions outlined in the success criteria of the PRMP must be approved in writing by the United States Army Corps of Engineers (the "USACE"), Galveston District, Regulatory Branch, prior to initiation. The Conservation Easement granted by this Agreement is created pursuant to the Texas Uniform Conservation Easement Act of 1983 contained in Chapter 183 of the Texas Natural Resources Code.

D. The primary conservation value of the Property is its wetlands feature (the "Conservation Value"), and the primary purpose of the Conservation Easement is the preservation and enhancement of the wetlands feature on the Property in accordance with the PRMP. Additional purposes of the Conservation Easement include but are not limited to the following (the "Purposes"):

(a) Serving as a mitigation area or mitigation bank pursuant to the regulation and guidelines of the United States Environmental Protection Agency ("EPA") and the USACE promulgated under authority of Section 404 of the Clean Water Act (33 USC § 1344, et seq.) and Section 10 of the Rivers and Harbors Act of 1899 (33 USC § 403, et seq.).

Any uses of the Property that may impair or interfere with these Purposes of the Conservation Easement are expressly prohibited.

E. The preservation of the Property is a condition of the Permit and is required to mitigate for unavoidable adverse impacts to waters of the United States. Grantor and Grantee agree that third-party rights of enforcement shall be held by the USACE, Galveston District, and any successor agencies, and that such rights are in addition to, and do not limit, the rights of enforcement under the Permit. Notwithstanding any provision to the contrary herein, Grantee is not responsible for monitoring, performing or enforcing any obligations under the PRMP; rather, the role of Grantee is to enforce the specific obligations imposed hereunder on Grantee and the specific restrictions imposed on the Property under this Agreement.

F. The following Exhibits are attached to this Conservation Easement and incorporated by reference:

Exhibit A Legal Description of the Property

Exhibit B U.S. Army Corps of Engineers Permit

Exhibit C Permittee Responsible Mitigation Plan

Exhibit D Baseline Documentation Report

Agreement:

NOW THEREFORE, for good and valuable consideration paid by Grantee, the receipt and legal sufficiency of which are hereby acknowledged by Grantor, and in consideration of the covenants, mutual agreements and conditions herein contained, Grantor has TRANSFERRED, BARGAINED, GRANTED, SOLD, CONVEYED, ASSIGNED, SET OVER and DELIVERED, and by these presents does TRANSFER, BARGAIN, GRANT, SELL, CONVEY, ASSIGN, SET OVER and DELIVER, to Grantee a conservation easement on, over, under, across, along and through the Property on the terms set forth herein, together with all other rights reasonably necessary or desirable to accomplish the objectives of the PRMP and the rights granted under this Agreement (the "Conservation Easement"), subject to the following terms, reservations, covenants, limitations and exceptions:

1. **Duration of Easement**. The Conservation Easement shall be perpetual. The Conservation Easement is an easement in gross, runs with the land, and is enforceable by Grantee against Grantor, and Grantor's successors, assigns, lessees, agents, and licensees.

2. **Property Description**. In addition to the metes and bounds legal description of the Property set forth in **Exhibit "A"** and incorporated herein by reference for all purposes are metes and bounds surveys of the Property by a Texas Registered Professional Land Surveyor. In connection with the application for the Permit, Grantor has previously provided to the USACE a copy of a wetland survey map which delineates all waters of the United States, including wetlands, within the Property. In addition to the wetland survey, Grantor has also provided photographs of the Property.

3. **Present Condition of the Property**. Neither Grantor, its agents, assigns, successors, or personal representatives, nor any purchasers, lessees, or other users of the Property may use, disturb, or allow through intent or negligence, the use or disturbance of the Property in any manner that is inconsistent with the Purposes of the Conservation Easement, unless specifically provided for in the PRMP. The wetlands and other aquatic resources of the Property, and its current use and state of improvement, are more specifically described in the Baseline Documentation Report, prepared by Grantee and acknowledged by the Grantor and Grantee to be complete and accurate as of the date hereof, **Exhibit D**. Both Grantor and Grantee have copies of this report. It will be used by the parties to ensure that any future changes in the use of the Property will be consistent with the terms of this Conservation Easement. However, this report is not intended to preclude the use of other evidence to establish the present condition of the Property if there is a controversy over its use.

4. **Prohibited Activities**. Any activity on, or use of, the Property inconsistent with the Purposes of the Conservation Easement or as stated within the PRMP is prohibited. The Property shall be preserved in its natural condition and restricted from any development that would impair or interfere with the Conservation Value of the Property. Without limiting the generality of the foregoing, the following activities and uses are expressly prohibited, restricted, or reserved as indicated hereunder, unless specifically provided for in the PRMP:

(a) Vegetation: Grantor may remove diseased, invasive or non-native trees, shrubs, or plants; cut and mow firebreaks and existing road rights-of-way; and remove trees, shrubs, or plants to accommodate maintenance of permitted improvements or other uses expressly permitted under the terms of this Agreement. Grantor may remove potentially invasive plants from the Property for habitat management purposes consistent with the intent of this Agreement. Except as necessary for activities expressly permitted, there shall be no farming, tilling, or destruction and removal of native vegetation on the Property. There shall be no planting of invasive or potentially invasive non-native plant species anywhere on the Property. Grantor will provide a list of potentially invasive species upon request. Control of any noxious vegetation species will utilize the approved treatment and application of treatment as outlined according to the U.S. Department of Agriculture and the Texas Extension Services.

(b) Predator and Nuisance Species Control: Grantor shall have the right to control, destroy, or trap predatory, exotic, invasive, and problem animals that pose a material threat to people, livestock, other animals, or habitat conditions in accordance with applicable state and federal laws and requirements. Grantor will, in good faith, manage invasive species as expressly allowed in the PRMP.

(c) Uses: No residential or industrial activity shall be conducted upon the Property. There shall be no storing or dumping of soil, trash, ashes, garbage, waste, abandoned vehicles, appliances, machinery, or hazardous substances, or toxic or hazardous waste, or any placement of underground or aboveground storage tanks or other materials on the Property that may negatively impact or be detrimental to the Property or to the surface or subsurface waters of the Property. Livestock animals and grazing operations shall be allowed on the Property except as prohibited or restricted by the PRMP. Any right of passage on, through or across the Property for any activity or use set forth in this paragraph is also prohibited.

(d) Subdivision: The Property may not be further divided, subdivided, or partitioned.

(e) Topography: There shall be no change in the topography of the Property except as expressly provided in the PRMP. There shall be no surface mining, filling, excavating, grading, dredging, mining or drilling upon the Property, and there shall be no removing of topsoil, peat, sand, gravel, rock, minerals or other materials from the Property except to restore natural topography or drainage patterns.

(f) Soil or Water Degradation: There shall be no use of, or the conducting of any activity on, the Property that causes or is likely to cause soil degradation, erosion, depletion or pollution of, or siltation on, any surface or subsurface waters of the Property. There shall be no change to the surface or subsurface hydrology of the Property in any manner. There shall be no diking, draining, dredging, channeling, filling, leveling, pumping, impounding, or related activities, or altering or tampering with water control structures or devices, or disruption or alteration of the restored, enhanced, or created drainage patterns. In addition, diverting or causing or permitting the diversion of surface ~~or underground~~ water into, within or out of the Property by any means, removal

of wetlands, polluting or discharging into waters, springs, seeps, or wetlands, or use of pesticide or biocides is prohibited, unless specifically provided for in the PRMP.

(g) Construction: There shall be no constructing or placing of any building, mobile home, asphalt or concrete pavement, billboard or other advertising display, antenna, utility pole, tower, conduit, line, pier, landing, dock, or any other permanent structure or facility. As provided in the PRMP, man-made structures on the Property in connection with the repair, maintenance, or replacement (but not expansion) of any structures and other improvements located on the Property as of the Effective Date of this Agreement are allowed. Grantor shall have the right to maintain, renovate, and repair existing buildings, structures, fences, pens, wells, dams and reservoirs, utilities, soft-surface roads, and other improvements, and in the event of their destruction, to reconstruct any such existing improvement with another of similar size, function, capacity, location, and material.

(h) Roads: There shall be no construction of roads, trails, or walkways on the Property, nor any enlargement or widening of any existing roads, trails, or walkways or any other rights of way on the Property. Grantor reserves the right to improve or modify roads in order to maintain access to the Property. Maintenance of existing roads shall be limited to removal of dead vegetation, necessary pruning or removal of obstructing trees and plants, and/or application of permeable materials (e.g., sand, gravel, and crushed stone) as necessary to correct or prevent erosion. In the event that it becomes necessary, Grantor reserves the right to construct a new road to provide access to the Property.

(i) Waters: Unless specifically provided for in the PRMP, there shall be no polluting, altering, manipulating, depleting or extracting of surface or subsurface water (including, but not limited to, ponds, creeks or other water courses) or any other water bodies on the Property. Furthermore, unless specifically stated in the PRMP, there shall be no conducting or (to the extent in Grantor's control) allowing any entity or person to conduct activities on the Property that would be detrimental to water purity or that would alter the natural water level or flow in or over the Property (including, but not limited to, damming, dredging or construction in any free flowing water body, or any manipulation or alteration of natural water courses, fresh water lake and pond shores, marshes or other water bodies). It is understood that with respect to the prohibited activities set forth in this Section 4(i), Grantor may not and will not engage in any such prohibited activities on the Property.

(j) Vehicles: Use of vehicles shall be limited to access to the site for monitoring, maintenance, fire protection/emergency action, or other approved activities, as specified in the PRMP. Off road vehicular access is expressly prohibited.

(k) Easements: There shall be no voluntary granting or conveying of any easements on, over, under, across, along or through the Property, including, but not limited to, access easements and utility easements, other than easements conveyed in lieu of condemnation which do not diminish the Conservation Purposes; provided, however, that pursuant to this Agreement and in order to access the Property to take such actions which are consistent with this Agreement and the Permit, Grantee and the USACE have the right of pedestrian and vehicular ingress and egress to and from the Property.

(l) Signage: Construction or placement of any signs, billboards, or other advertising displays on the Property is not permitted, except that signs whose placement, number, and design do not significantly diminish the scenic character of the Property may be placed to state the name and address of the Property and the names of persons living on the Property, to advertise or regulate

permitted on-site activities, to advertise the Property for sale or rent, to post the Property to control unauthorized entry or use, or to identify the property as being protected by this Agreement.

(m) Development Rights: No development rights that have been encumbered or extinguished by this Agreement or the Conservation Easement granted herein shall be transferred pursuant to a transferable development rights scheme or cluster development arrangement or otherwise.

(n) Hunting: Grantor and Grantor's lessees and guests may conduct hunting, fishing or trapping activities in accordance with appropriate federal, state and local laws and restrictions that conform to terms of this Agreement and the Permit and Mitigation Plan. Grantor may expressly construct hunting blinds, the size, design, location, and number of which shall be governed by the terms of the PRMP.

(o) Dumping: There shall be no dumping or storing of any material, such as trash, wastes, ashes, sewage, garbage, scrap material, sediment discharges, oil and petroleum by-products, leached compounds, toxic materials or fumes, or any "hazardous substances" (as hereinafter defined). For the purposes of this paragraph, the phrase "hazardous substances" shall be defined as in the federal Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C. 9601 et seq.) and/or a substance whose manufacture, processing, distribution in commerce, use, possession, or disposal is banned, prohibited, or limited pursuant to the federal Toxic Substances Control Act (15 U.S.C. 2601 et seq.).

(p) Other Prohibitions: Any other use of, or activity on, the Property which is inconsistent with the Purposes of the Conservation Easement granted herein, the preservation of the Property in its natural condition, or the protection of its Conservation Value, is prohibited.

5. **Rights Reserved to Grantor**. Grantor expressly reserves for itself, its successors and assigns, the right of access to and the right of continued use of the Property for all purposes not inconsistent with this Agreement and the Conservation Easement granted herein, including, but not limited to, the right to quiet enjoyment of the Property, the rights of ingress and egress with respect to the Property, the right to fence the Property and to prohibit public access thereto, and the right to the right to sell, transfer, gift or otherwise convey the entire Property, provided such sale, transfer, or gift conveyance is subject to the terms of, and shall specifically reference, the Conservation Easement. Except as may be expressly provided otherwise in this Agreement, neither this Agreement nor the Conservation Easement granted herein in any way limits, restricts or in any way affects any property of Grantor other than the Property, including without limitation, any property adjacent to, surrounding or near the Property. The rights conveyed by this Agreement and the Conservation Easement granted herein do not constitute a conveyance of a fee interest in the Property, nor of any of the mineral rights therein and thereunder. The rights retained by Grantor as set forth in this Section 5 are referred to hereinafter as the "Reserved Rights."

6. **Rights of Grantee**. Grantee or its authorized representatives, successors, and assigns, and the USACE, shall have the right to enter the Property at all reasonable times for the purpose of inspecting the Property to determine if Grantor or any of its successors and assigns is complying with the terms, conditions, restrictions, and Purposes of this Agreement. The easement rights granted herein do not include any public access rights, which shall be prohibited. Nothing construed herein shall constitute an agreement by USACE to indemnify, defend or hold harmless either party, or any of the above-listed parties, from and against any liability, loss, cost or damage.

7. **Liens and Taxes**. Grantor shall keep the Property free of any and all liens, including, without limitation, liens arising out of any work performed for, materials furnished to, or obligations

incurred by Grantor. Grantor shall pay before delinquency all taxes, assessments, fees, and charges of whatever description levied on or assessed against the Property by competent authority, and shall upon written request by Grantee furnish Grantee with satisfactory evidence of payment. Other than as specified herein, this Agreement is not intended to impose any legal or other responsibility on Grantee, or in any way affect any existing obligation of Grantor as owner of the Property. Among other things, this shall apply to:

(a) Taxes: Grantor shall continue to be solely responsible for payment of all taxes and assessments levied against the Property. If Grantee is ever required to pay any taxes or assessments on its interest in the Property, Grantor will reimburse Grantee for the same within thirty (30) days after Grantor's receipt of written notice from Grantee, which shall include evidence reasonably acceptable to Grantor of any taxes paid by Grantee.

(b) Upkeep, Maintenance and Compliance: Grantor shall continue to be solely responsible for the upkeep and maintenance of the Property, to the extent it may be required by law. Grantee shall have no obligation for the upkeep or maintenance of the Property. Grantor shall continue to be responsible for compliance with all applicable laws and restrictions.

8. **Liability, Indemnification and Insurance**. GRANTOR, ITS SUCCESSORS AND ASSIGNS, SHALL RELEASE, INDEMNIFY, DEFEND AND HOLD HARMLESS GRANTEE FROM AND AGAINST ANY AND ALL CLAIMS, CAUSES, DAMAGES, LIABILITY AND RELATED EXPENSES (INCLUDING WITHOUT LIMITATION ATTORNEYS' FEES AND COURT COSTS) (COLLECTIVELY, "DAMAGES") ARISING OUT OF OR RELATED TO (i) PERSONAL INJURY OR DEATH THAT OCCURS ON THE PROPERTY, (ii) PROPERTY DAMAGE THAT OCCURS ON THE PROPERTY, OR (iii) A DEFAULT BY GRANTOR IN ITS OBLIGATIONS HEREUNDER OR THE ENFORCEMENT BY GRANTEE OF THE PROVISIONS OF THIS AGREEMENT (COLLECTIVELY, THE "INDEMNIFIED MATTERS"), EXCEPT TO THE EXTENT THE NEGLIGENT ACTS OR OMISSIONS OF GRANTEE ARE THE SOLE CAUSE OF THE DAMAGES AS DETERMINED BY A COURT. NOTWITHSTANDING THE FOREGOING, ANY ACTS, OMISSIONS OR DECISIONS OF GRANTEE, WHETHER DEEMED NEGLIGENT OR NOT, THAT ARE UNDERTAKEN IN GOOD FAITH IN THE ENFORCEMENT OR ATTEMPTED ENFORCEMENT OF THE PROVISIONS OF THIS AGREEMENT SHALL NOT BE EXCLUDED FROM THE INDEMNIFIED MATTERS.

GRANTOR WARRANTS TO GRANTEE THAT GRANTOR HAS NO ACTUAL KNOWLEDGE OF THE STORAGE, TRANSPORTATION, USE, PRESENCE, RELEASE OR THREATENED RELEASE OF HAZARDOUS OR TOXIC SUBSTANCES, MATERIALS, OR WASTES IN, ON OR UNDER THE PROPERTY AND GRANTOR HEREBY PROMISES TO HOLD HARMLESS, DEFEND AND INDEMNIFY GRANTEE AGAINST ALL LITIGATION, CLAIMS, DEMANDS, PENALTIES, LIABILITIES, AND DAMAGES AND EXPENSES, INCLUDING, BUT NOT LIMITED TO FINES, COURT COSTS AND REASONABLE ATTORNEYS' FEES, ARISING FROM OR CONNECTED WITH THE STORAGE, TRANSPORTATION, USE, PRESENCE, OR RELEASE BY GRANTOR OF HAZARDOUS OR TOXIC WASTE MATERIALS IN, ON OR UNDER THE PROPERTY OR VIOLATION OF FEDERAL, STATE, OR LOCAL ENVIRONMENTAL LAWS. WITHOUT LIMITING THE FOREGOING, NOTHING IN THIS AGREEMENT SHALL BE CONSTRUED AS GIVING RISE TO ANY RIGHT OR ABILITY IN GRANTEE, NOR SHALL GRANTEE HAVE ANY RIGHT OR ABILITY, TO EXERCISE PHYSICAL OR MANAGERIAL CONTROL OVER THE DAY-TO-DAY OPERATIONS OF THE PROPERTY, OR OTHERWISE TO BECOME AN OPERATOR WITH RESPECT TO THE PROPERTY WITHIN THE MEANING OF THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT OF 1980, AS AMENDED.

In addition, Grantor warrants that Grantee is and will continue to be named as an additional insured on Grantor's liability insurance policy covering the Property. Such policy shall be issued by an insurance company qualified to do business in the State of Texas, and rated A or better (having a financial size category of X or better) by Best's Insurance Rating Service (or similar rating service), with policy limits of not less than $2,000,000 per occurrence/$5,000,000 aggregate, or such greater amount as may become customary for similar operations and properties in Brazoria County, Texas, unless Grantor and Grantee mutually agree in good faith that some other levels of coverage are sufficient. Grantor shall provide to Grantee a certificate evidencing such insurance upon the Effective Date hereof, and each time such policy renews. Upon Grantee's written request, Grantor shall provide Grantee with a copy of the insurance policy.

9. **Enforcement**.

(a) Notice of Breach: In the event of a breach of this Agreement by Grantor, Grantee, any third party or any third party working for or under the direction of Grantor or Grantee, Grantor, Grantee and the USACE shall be notified within thirty (30) days by the party or parties to this Agreement with awareness and/or notice of said breach. If the USACE becomes aware of a breach of this Agreement, the USACE will notify Grantee and Grantor of the breach certified correspondence.

(b) Correction of Breach: Grantor shall have sixty (60) days after receipt of such notice to undertake actions that are reasonably calculated to correct the conditions constituting the breach. If the conditions constituting the breach are corrected in a timely and reasonable manner, no further action shall be warranted or authorized. If the conditions constituting the breach are such that more than sixty (60) days are required to cure the breach, Grantor shall not be in default hereunder if Grantor undertakes the cure of such breach during the sixty (60) day period following notice of the breach and diligently pursues the cure of the breach to completion. Failure by Grantor within sixty (60) days after receipt of such notice (i) to begin good faith efforts to cure where completion of such action cannot be reasonably accomplished within sixty (60) days, (ii) to initiate such other corrective action of such violation as appropriate in the circumstances and as may be reasonably requested by Grantee, or (iii) to diligently pursue a cure once commenced, shall entitle Grantee to: (I) bring an action at law or in equity in a court of competent jurisdiction to enforce this Agreement; (II) require actions to be taken in order to effect the restoration of the Property to a condition substantially similar to that which existed immediately prior to such violation; (III) seek to enjoin any violation by temporary or permanent injunction; and (IV) recover reasonable damages arising from such violation, and recover all reasonable costs and expenses of enforcing the terms of this Agreement against Grantor, including but not limited to reasonable attorney's fees. Notwithstanding the foregoing, Grantee reserves the immediate right, without notice, to obtain a temporary restraining order, injunctive relief or other appropriate relief if the breach of any provision of this Agreement is materially impairing or would irreversibly or otherwise materially impair the benefits to be derived from the Conservation Easement. Grantor and the Grantee acknowledge that under such circumstances, damage to the Conservation Values would be irreparable and remedies at law will be inadequate. The rights and remedies of Grantee provided hereunder shall be in addition to, and not in lieu of, all other rights and remedies available to Grantee in connection with the Conservation Easement. The costs of a breach of this Agreement and the costs of any correction or restoration, including the Grantee's expenses, court costs and reasonable attorneys' fees, shall be paid by Grantor. The USACE shall have a contingent right to enforce the terms and conditions of this Agreement if Grantee fails to enforce the terms and conditions of this Agreement.

(c) Forbearance: Any forbearance or failure on the part of Grantee or the USACE to exercise its rights in the event of a violation shall not be deemed or construed to be a waiver of

either Grantee's or the USACE's rights hereunder. Forbearance or failure to enforce any covenant or provision hereof shall not discharge or invalidate such covenant or provision or any other covenant, condition, or provision hereof or affect the right of Grantee and the USACE to enforce the same in the event of a subsequent breach or default.

(d) No Action Against Grantor: Nothing contained in this Agreement shall be construed to entitle Grantee to bring any action against Grantor for any injury to or change in the Property, or for any violation of any covenant or provision of this Agreement, resulting from any action taken in good faith by Grantor under emergency conditions which are not caused by Grantor, to prevent, abate, or mitigate significant injury to life or significant and permanent damage or harm to the Property resulting from any of such causes.

Nothing contained in this Agreement shall be construed to entitle Grantee to bring any action against Grantor for any injury to or change in the Property resulting from causes beyond Grantor's control, including, without limitation, acts of trespassers, acts by governmental agencies or officials, fire, flood, storm, earth movement, or major tree, plant, animal, or insect disease, wildfire, or from any prudent action taken by Grantor intended to mitigate injury to the Property resulting from such causes. Notwithstanding the foregoing, nothing herein shall preclude Grantor's and Grantee's rights to pursue any third party for damages to the Property from vandalism, trespass, or any other illegal act or violation of this Agreement. Grantor and Grantee agree that in the event of damage to the Property from acts beyond Grantor's control, if Grantor and Grantee agree that it is desirable that the Property be restored, Grantor may attempt to restore the Property in accordance with the PRMP.

10. **Approval by Grantee; Notice**.

(a) Acting in Good Faith: Grantor and Grantee shall cooperate and shall act reasonably and in good faith to arrive at agreement on any matter in connection with any determinations that are necessary to be made by them (either separately or jointly) under this Section 10.

(b) Grantee's Approval or Withholding of Approval: When Grantee's approval is required and has been requested by Grantor, or when Grantee has asserted a violation of this Agreement as to which a cure has been effected and Grantor requests a withdrawal of such assertion, Grantee shall grant or withhold its approval in writing, or issue such withdrawal, as the case may be, within ninety (90) days of receipt of Grantor's written request therefor. In the case of withholding of approval, Grantee shall notify Grantor in writing with reasonable specificity of the reasons for withholding of approval, and the conditions, if any, on which approval might otherwise be given. Failure of Grantee to respond in writing within such 90-day period shall be deemed to constitute written approval (or the issuance of a withdrawal, as aforesaid) by Grantee of any request submitted, provided that no such approval is for a matter contrary to the express terms of this Agreement.

(c) Specific Approvals: Whenever Grantee's approval is required herein as a condition for a use or activity, or for the location of proposed improvements, Grantor shall request such approval in writing and shall include therewith information identifying the proposed site with reasonable specificity, evidencing conformity with the requirements of the applicable paragraphs under which the right is reserved hereunder, and, when applicable, evidencing conformity with existing land use regulations. Grantee's approval shall not be granted if the proposed activity or use would diminish or impair the Conservation Value of the Property or would be inconsistent with the Purposes, and must take into account the following criteria:

1. the extent to which use of the site for the proposed activity would impair water quality.

(d) Reimbursement. Grantor agrees to reimburse Grantee for any expenditure Grantee may reasonably incur in connection with Grantee's performance under this Agreement except for regular annual monitoring, such reimbursement to include, but not be limited to, staff costs and reasonable review by appropriate professionals, within fifteen (15) days following Grantor's receipt of reimbursement a written notice from Grantee, together with appropriate supporting documentation and invoices.

11. **Duration**. The burdens of this Agreement and the Conservation Easement shall run with the Property and shall be enforceable against Grantor and all future interests in and to the Property in perpetuity. Grantor agrees that, without allowing a transfer or conveyance which is otherwise prohibited by this Agreement, the future transfer or conveyance of any interest in or to the Property shall at all times be subject and subordinate to the terms, conditions, restrictions and purposes of the Conservation Easement and a reference to this Agreement shall be included in each instrument of transfer or conveyance of any interest in or to the Property from and after the Effective Date; provided, however, that nothing in this Agreement shall be construed to in any way limit Grantor's ability to freely sell, convey, assign, or otherwise transfer the Property as a whole to any other person or entity, subject to this Conservation Easement.

12. **General Provisions**.

(a) Notices. Any notice, request for approval, or other communication required under this Agreement shall be sent by registered or certified mail, postage prepaid, to the following addresses (or such address as may be hereafter specified by notice pursuant to this paragraph):

To Grantor: JMB Land Company, LP

Russell Walters, Vice President

203 West Main St.

Franklin, LA 70538

(337) 522-7207

russell@jmbcompanies.com

To Grantee: U.S. Land Conservancy, Inc.

Leonard McCauley, President

PO Box 40345

Baton Rouge, LA 70835

(225) 772-5923

lmccauley@pangaeacc.com

To the USACE:

(b) Severability. In the event any provision of this Agreement is determined by the appropriate court to be void and unenforceable, all remaining terms shall remain valid and binding.

(c) Agreement Binding. The terms, covenants, and conditions of this Agreement shall be binding upon and shall inure to the benefit of Grantor, Grantee and their respective executors, administrators, heirs, legal representatives, successors and assigns. Notwithstanding the foregoing, Grantee not may assign (i) this Agreement, or (ii) any rights or interests in this Agreement, without the prior written approval of Grantor and the USACE.

(d) Warranty. Grantor warrants, covenants, and represents that it owns the Property in fee simple, including the authority to bind the mineral estate through ownership of mineral rights, executive rights or an alternative agreement with severed mineral owners which grantee shall be assigned the right to enforce, and that Grantor either owns all interests in the Property which may be impaired by the granting of the Conservation Easement or that there are no outstanding mortgages, tax liens, encumbrances, or other interests in the Property which have not been expressly subordinated to the Conservation Easement. Grantor further warrants that Grantee shall enjoy all of the benefits derived from and arising out of the Conservation Easement, and that Grantor will warrant and defend title to the Property against all persons claiming by, through or under Grantor, but not otherwise. In the event that a title defect, or a cloud or encumbrance on title not otherwise described in the title policy or the mineral report (the "Unrecorded Encumbrance") prohibits or restricts Grantee from fulfilling its obligations hereunder, or defeats the Conservation Value, then (i) Grantee shall notify Grantor in writing of such defect, cloud or encumbrance on title, (ii) Grantor will use reasonable efforts to cure such title defect, cloud or encumbrance on title at its sole expense, (iii) Grantee shall have no liability for its non-performance of obligations which was caused by such defect, cloud or encumbrance on title, and (iv) Grantor shall hold harmless and indemnify Grantee from any claims, causes, damages, liabilities and expenses, including attorneys' fees, incurred by Grantee and arising out of such title defect, cloud or encumbrance on title.

(e) Subsequent Transfers. Without allowing a transfer otherwise prohibited under this Agreement, Grantor agrees to incorporate the terms of this Agreement in any deed or other legal instrument that transfers any interest in all or any portion of the Property. Grantor agrees to provide written notice of such transfer at least thirty (30) days prior to the date of the transfer. Grantor and Grantee agree that the terms of this Agreement shall survive any merger of the fee and easement interests in the Property or any portion thereof and shall not be amended, modified or terminated without the prior written consent and approval of the USACE. Without in any way waiving or limiting the prohibition against subdivision set forth herein, any time all or part of the Property is conveyed by Grantor to any third party, (i) such conveyance shall be made expressly subject to the terms of this Agreement, (ii) Grantor shall reimburse Grantee for any costs Grantee may incur in connection with Grantee's review of such transfer to confirm its conformity with the provisions of this Agreement (the "Cost Reimbursement") The Cost Reimbursement must be paid within fifteen (15) days following Grantor’s receipt of a Cost Reimbursement notice from Grantee, together with applicable receipts and invoices. Grantee shall have the right to record a document, executed solely by Grantee, in the Real Property Records of Brazoria County, Texas, to put such third parties on notice of the requirements of this Section 12(e).

(f) Assignment or Transfer. The parties recognize and agree that the benefits of the Conservation Easement are in gross and assignable by Grantee; provided, however, that Grantee hereby covenants and agrees, that, in the event it transfers or assigns this Agreement, the organization receiving the interest will be a qualified holder under applicable state and federal law. Grantee further covenants and agrees that the terms of the transfer or assignment will be such that the transferee or assignee will be required to continue in perpetuity the Purposes described in this Agreement.

(g) Obligations of Ownership. Grantee shall not be responsible for any costs or liability of any kind related to the ownership, operation, insurance, upkeep, or maintenance of the Property, except as expressly provided herein. Nothing herein shall relieve Grantor of the obligation to comply with any federal, state, or local laws, regulations and permits that may apply to the Property in connection with the exercise by Grantor of the Reserved Rights.

(h) Extinguishment. In the event that changed conditions render impossible the continued use of the Property for the Purposes as contemplated by this Agreement, the Conservation Easement may only be extinguished, in whole or in part, by judicial proceeding in any court of competent jurisdiction.

(i) Eminent Domain.

(i) Whenever all or any part of the Property is taken in the exercise of eminent domain so as to substantially abrogate the restrictions imposed by this Agreement, Grantor and Grantee may join in appropriate actions at the time of such taking to recover the full value of the taking, and all incidental and direct damages due to the taking.

(ii) The Conservation Easement constitutes a real property interest immediately vested in Grantee. In the event that all or a portion of the Property is sold, exchanged, or involuntarily converted following an extinguishment of all or any portion of the Conservation Easement, or following the exercise of eminent domain, Grantee shall be entitled to the fair market value of the Conservation Easement. The parties stipulate that the fair market value of the Conservation Easement shall be determined by multiplying the fair market value of the Property unencumbered by the Conservation Easement (minus any increase in value after the Effective Date attributable to improvements) by the ratio of the value of the Conservation Easement as of the Effective Date to the value of the Property (without deduction for the value of the Conservation Easement) at the time of this grant. The values as of the Effective Date and as referenced in this Section 10 (i) (ii) shall be the values used, or which would have been used, to calculate a deduction for federal income tax purposes, pursuant to Section 170(h) of the Internal Revenue Code of 1986, as amended (whether eligible or ineligible for such a deduction). Grantee shall use its share of any proceeds in a manner consistent with the purposes of the Conservation Easement.

(j) Not Grant to USACE. Nothing herein shall constitute a grant of real property or proceeds to the USACE.

(k) Failure of Grantee. If at any time Grantee is unable or fails to enforce this Agreement, or if Grantee ceases to be a qualified grantee, and if within a reasonable period of time after the occurrence of any of such events, Grantee fails to make an assignment of its interest in accordance with this Agreement, then Grantee's interest shall become vested in another qualified grantee in accordance with and as provided by an appropriate and final, non-appealable proceeding in a court of competent jurisdiction.

(l) Amendment. This Agreement may be amended, but only in a writing signed by the parties hereto; provided, however, that such amendment does not affect the qualification of the Conservation Easement or the status of Grantee under any applicable laws, is consistent with the purposes of this

Agreement and the Purposes of the Conservation Easement granted herein, and does not conflict with the Permit or its related PRMP. Notice of such amendment shall be provided to the USACE.

TO HAVE AND TO HOLD the Conservation Easement for the purposes herein described, subject, however, to the matters herein set forth and to all matters of record with respect to the Property, unto Grantee, its successors and assigns, forever; and Grantor does hereby bind itself, its successors and assigns, to warrant and defend the Conservation Easement and the rights granted herein unto Grantee, its successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof by, through or under Grantor, but not otherwise.

[SIGNATURE PAGE FOLLOWS]

EXECUTED and DELIVERED to be effective as of the Effective Date.

GRANTOR:

GRANTEE:

[ACKNOWLEDGMENTS FOLLOW]

STATE OF TEXAS §
§
COUNTY OF _____ §

This instrument was acknowledged before me on _____, 20__ by _____, on behalf of _____.

_____
Name:
Notary Public, State of Texas
My commission expires:_____

STATE OF TEXAS §
§
COUNTY OF _____ §

This instrument was acknowledged before me on _____, 20__ by _____, on behalf of _____.

_____
Name:
Notary Public, State of Texas
My commission expires:_____

After recording return to:

Exhibit A
to
Conservation Easement Agreement

Metes and Bounds Legal Description of the Property

[TO BE PROVIDED]

BRAZORIA COUNTY TEXAS

L. M. H. WASHINGTON SURVEY ABSTRACT 386 B. F. HOLT SURVEY ABSTRACT 592

LINE TABLE		
LINE NO.	BEARING	DISTANCE
L1	N 89°24'00" E	147.62'
L2	S 82°50'26" E	421.47'
L3	S 40°30'46" E	40.81'
L4	S 7°47'43" E	236.92'
L5	S 49°08'26" E	63.00'
L6	S 7°58'51" W	158.69'
L7	S 42°53'41" E	108.87'
L8	S 4°05'21" W	140.67'
L9	S 51°34'51" E	76.62'
L10	S 84°41'38" E	62.00'
L11	N 0°49'05" E	50.18'
L12	N 40°53'09" W	86.75'
L13	N 14°53'46" E	66.20'
L14	N 40°17'56" W	127.82'
L15	N 27°56'25" E	174.59'
L16	N 18°30'07" W	221.28'
L17	S 52°35'56" E	130.11'
L18	S 33°55'11" E	83.14'
L19	S 9°01'52" E	505.24'
L20	S 19°35'46" E	121.66'
L21	S 34°13'48" E	181.19'
L22	S 31°27'40" E	214.04'
L23	S 56°51'11" E	375.90'
L24	S 72°14'09" E	461.36'
L25	S 55°37'50" E	111.66'
L26	S 49°50'13" E	238.73'
L27	S 13°18'01" E	235.87'
L28	S 44°37'16" W	33.81'
L29	N 80°09'31" W	17.97'
L30	S 38°58'59" W	250.11'

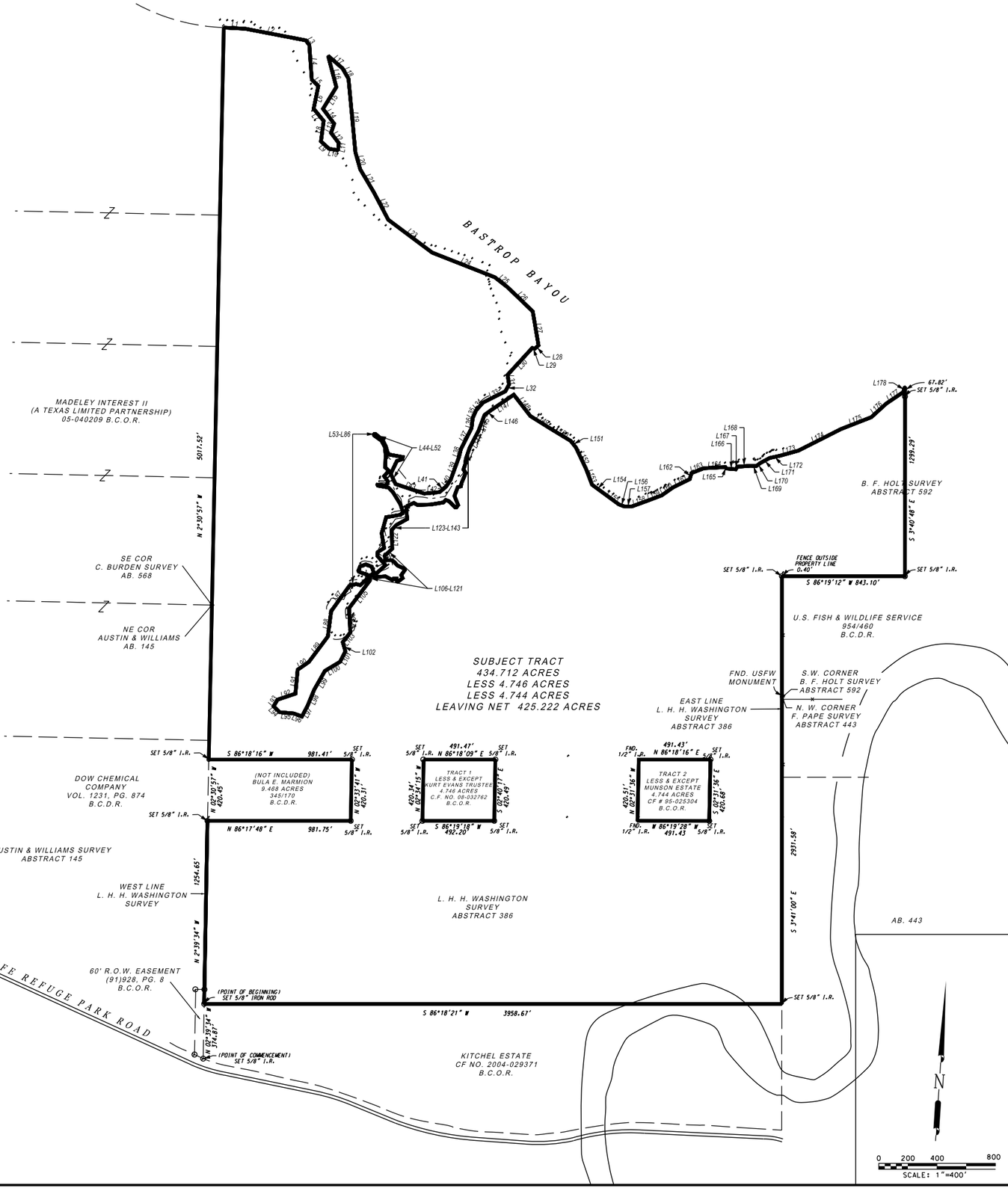
LINE TABLE		
LINE NO.	BEARING	DISTANCE
L31	S 12°23'36" E	66.77'
L32	S 24°10'46" W	52.98'
L33	S 59°45'11" W	171.71'
L34	S 37°21'36" W	71.81'
L35	S 19°47'31" W	58.32'
L36	S 2°54'03" W	68.14'
L37	S 23°07'57" W	161.98'
L38	S 9°57'53" W	52.54'
L39	S 16°19'35" W	168.32'
L40	S 29°32'03" W	57.27'
L41	S 46°57'51" W	57.90'
L42	S 80°43'51" W	105.13'
L43	N 75°19'35" W	207.51'
L44	N 28°53'14" W	77.86'
L45	N 22°16'27" E	98.07'
L46	N 68°32'42" E	39.94'
L47	N 5°21'14" E	14.23'
L48	N 83°26'10" W	108.91'
L49	N 5°27'43" W	23.66'
L50	N 19°58'34" W	29.96'
L51	N 29°37'20" W	51.36'
L52	N 54°34'19" W	69.12'
L53	S 34°02'24" W	13.86'
L54	S 58°16'26" E	67.81'
L55	S 30°55'10" E	50.55'
L56	S 8°36'23" E	51.47'
L57	S 1°54'02" E	86.42'
L58	S 51°49'56" E	33.63'
L59	S 37°12'02" W	49.95'
L60	S 40°26'29" E	44.74'

LINE TABLE		
LINE NO.	BEARING	DISTANCE
L61	S 16°23'01" W	28.58'
L62	N 88°51'37" W	63.07'
L63	S 17°40'52" W	6.82'
L64	S 83°39'30" E	79.73'
L65	S 47°29'13" E	44.85'
L66	S 35°16'23" E	94.48'
L67	S 22°24'08" E	56.40'
L68	S 31°46'57" W	25.51'
L69	S 77°06'40" W	100.73'
L70	S 12°02'38" W	114.52'
L71	S 13°09'37" E	102.52'
L72	S 54°13'28" W	52.27'
L73	S 2°01'49" W	25.28'
L74	S 44°13'39" E	85.78'
L75	S 44°06'28" W	82.36'
L76	N 77°28'00" W	19.82'
L77	N 22°58'03" W	42.23'
L78	N 71°42'37" W	42.83'
L79	S 67°14'29" W	42.15'
L80	S 18°20'27" W	37.00'
L81	S 72°28'59" E	35.13'
L82	S 75°47'32" E	29.93'
L83	S 19°01'53" E	26.92'
L84	S 46°00'05" W	71.72'
L85	N 78°24'13" W	28.53'
L86	S 69°46'42" W	49.25'
L87	S 32°00'00" W	212.18'
L88	S 3°36'02" W	174.60'
L89	S 33°08'54" W	218.73'
L90	S 51°33'52" W	92.40'

LINE TABLE		
LINE NO.	BEARING	DISTANCE
L91	S 1°39'42" W	164.60'
L92	S 67°39'00" W	129.47'
L93	S 27°00'57" W	52.45'
L94	S 49°04'27" E	58.12'
L95	S 88°43'04" E	97.00'
L96	S 74°10'44" E	59.63'
L97	N 24°14'22" E	83.23'
L98	N 18°45'00" E	117.35'
L99	N 25°59'25" E	148.97'
L100	N 55°08'49" E	121.00'
L101	N 23°31'10" E	80.71'
L102	N 20°08'25" W	65.17'
L103	N 34°06'46" E	84.35'
L104	N 6°33'59" W	166.54'
L105	N 33°17'38" E	238.05'
L106	N 2°20'03" E	44.08'
L107	S 53°39'01" E	33.17'
L108	N 82°16'04" E	76.00'
L109	S 65°42'04" E	58.27'
L110	N 20°05'18" E	13.41'
L111	N 83°03'33" E	19.49'
L112	S 13°17'51" E	27.15'
L113	N 48°18'24" E	47.22'
L114	N 29°13'25" W	22.38'
L115	N 31°30'39" E	49.70'
L116	N 69°12'37" W	60.48'
L117	N 44°40'45" W	30.26'
L118	N 54°03'52" W	22.73'
L119	S 85°55'19" W	44.30'
L120	N 14°04'50" W	29.87'

LINE TABLE		
LINE NO.	BEARING	DISTANCE
L121	N 42°41'55" E	70.47'
L122	N 5°08'20" W	128.45'
L123	N 38°44'08" E	45.97'
L124	N 57°06'50" E	86.42'
L125	N 9°03'43" W	75.08'
L126	N 24°52'28" E	15.93'
L127	N 61°33'48" E	49.81'
L128	S 63°26'00" E	27.96'
L129	N 84°10'26" E	90.03'
L130	N 77°14'31" E	89.26'
L131	N 38°43'06" E	23.20'
L132	S 73°30'19" E	23.35'
L133	S 49°11'07" E	67.33'
L134	N 33°36'54" E	24.96'
L135	N 25°05'13" W	67.84'
L136	N 16°27'58" E	64.28'
L137	N 71°18'35" E	22.37'
L138	N 9°29'55" E	24.19'
L139	N 18°49'02" E	73.54'
L140	N 39°04'27" W	28.11'
L141	N 15°01'02" E	40.40'
L142	N 1°40'12" E	34.25'
L143	N 15°29'57" E	81.64'
L144	N 23°53'56" E	131.32'
L145	N 17°10'23" E	116.57'
L146	N 50°05'06" E	56.38'
L147	N 52°06'37" E	186.13'
L148	S 41°41'56" E	185.26'
L149	S 61°42'02" E	158.57'
L150	S 62°20'09" E	165.99'

LINE TABLE		
LINE NO.	BEARING	DISTANCE
L151	S 41°53'07" E	58.49'
L152	S 29°00'53" E	162.50'
L153	S 24°31'53" E	114.54'
L154	S 57°21'53" E	94.05'
L155	S 57°29'44" E	134.72'
L156	S 73°31'39" E	38.64'
L157	N 86°46'54" E	51.97'
L158	N 66°24'31" E	108.63'
L159	N 65°28'29" E	109.81'
L160	N 51°29'00" E	95.46'
L161	N 59°56'14" E	127.26'
L162	N 11°25'14" E	42.65'
L163	N 64°56'27" E	90.96'
L164	N 83°06'48" E	147.95'
L165	S 42°05'53" E	12.56'
L166	S 89°02'12" E	63.96'
L167	N 28°21'36" E	20.36'
L168	N 81°53'58" E	89.02'
L169	N 88°46'32" E	41.93'
L170	N 48°35'38" E	32.24'
L171	N 57°33'41" E	74.50'
L172	N 74°34'04" E	73.40'
L173	N 70°30'00" E	130.41'
L174	N 59°26'26" E	325.82'
L175	N 64°55'09" E	223.76'
L176	N 43°56'31" E	138.62'
L177	N 52°23'07" E	139.75'
L178	N 14°03'50" E	39.91'



SURVEY OF 425.222 ACRES (NET) IN THE L. M. H. WASHINGTON SURVEY ABSTRACT 386 AND B. F. HOLT SURVEY ABSTRACT 592 OF BRAZORIA COUNTY, TEXAS FOR KILGORE CORPORATION, LLC.

THIS PLAT IS PART OF A SURVEY REPORT INCLUDING A METES AND BOUNDS DESCRIPTION ON FILE IN THE OFFICES OF DOYLE & WACHTSTETTER, INC.

I, TERRY SINGLETARY, REGISTERED PROFESSIONAL LAND SURVEYOR DO HEREBY CERTIFY THAT THE ABOVE PLAT IS A TRUE REPRESENTATION OF A SURVEY MADE UNDER MY SUPERVISION, ON THE GROUND, AND THAT THERE ARE NO EXCESSES NOR INTRUSIONS ON THIS PROPERTY, EXCEPT AS SHOWN.
DATE SURVEYED: July 17, 2020

STATE OF TEXAS REGISTERED TERRY SINGLETARY 4808 PROFESSIONAL LAND SURVEYOR

Terry Singletary

TERRY SINGLETARY
REGISTERED PROFESSIONAL LAND SURVEYOR
TEXAS REGISTRATION NUMBER 4808

NOTES:

1. ALL COORDINATES AND BEARINGS ARE RELATIVE TO THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE (NAD 83).
2. ALL DISTANCES ARE HORIZONTAL SURFACE LEVEL LENGTHS. (SF= 0.99987852529)
3. THIS PROPERTY LIES WITHIN THE LIMITS OF ZONE "AE", PER FEMA FLOOD INSURANCE RATE MAP NUMBER 48039C0635H. DATED JUNE 5, 1989.
4. A TITLE COMMITMENT WAS PROVIDED FOR THIS SURVEY BY STEWART TITLE, FILE NO. 708785 ISSUED APRIL 21, 2020 FOR ALL ITEMS OF RECORD.

Doyle & Wachtstetter, Inc.
Surveying and Mapping GPS/GIS
131 COMMERCE STREET, CLUTE, TEXAS 77531
OFFICE: 979.265.3622 FAX: 979.265.9940 FIRM NO.:10024500

SURVEYED:	7-17-20	BOOK No.: OYSTER CREEK V.4	PROJECT NO.: 11234-20-01
DRAWN BY:	MCLEOD/7-20-20	CHECKED: TRS/7-20-20	REVISED:

Doyle & Wachtstetter, Inc

Surveying and Mapping • GPS/GIS

425.222 ACRE TRACT
L.M.H. WASHINGTON SURVEY, ABSTRACT 386
B. F. HOLT SURVEY, ABSTRACT 592
BRAZORIA COUNTY, TEXAS
PAGE 1 OF 9

ALL THAT CERTAIN 434.712 ACRE of land out of the L. M. H. Washington Survey, Abstract 386, Brazoria County, Texas and the B. F. Holt Survey, Abstract 592, Brazoria County, Texas and being the same properties conveyed to George Sanders as described in Clerk's File No. 2015-056996, 2018-003386 and 2020-005356 of the Official Records of Brazoria County, Texas, more particularly described by metes and bounds using survey terminology which refers to the Texas State Plane Coordinate System, South Central Zone (NAD 83) in which the directions are lambert grid bearings and the distances are horizontal surface level lengths (S.F.=.9998785252) as follows:

COMMENCING at a 5/8 inch iron rod found in the North right-of-way line of Wildlife Refuge Park Road and being the Southwest corner of that certain tract conveyed to the Kitchel Estate as described in Clerk's File No. 2004-029371 of the Official Records of Brazoria County, Texas, same being the Southeast corner of that certain tract conveyed to Dow Chemical Company as described in Volume 1231, Page 874 of the Deed Records of Brazoria County, Texas and also being located in the common League lines of the Austin & Williams Survey, Abstract 145 and the L. H. H. Washington Survey, Abstract 386, Brazoria County, Texas;

THENCE North 02°39'34" West, coincident with common League lines of the Austin & Williams Survey, Abstract 145 and the L. H. H. Washington Survey, Abstract 386, Brazoria County, Texas, same being the common line of aforementioned Kitchel tract and Dow Chemical Company tract and also along the East line of a 60 foot right-of-way easement as described in Clerk's File No. (91)928, Page 8 of the Official Records of Brazoria County, Texas, a distance of 374.87 feet to the **PLACE OF BEGINNING;**

THENCE North 02°39'34" West, continuing with the common League lines of the Austin & Williams Survey, Abstract 145 and the L. H. H. Washington Survey, Abstract 386 and aforementioned Dow Chemical Company tract, a distance of 1254.65 feet to a set 5/8" iron rod for corner and being the Southwest corner of a called 9.468 acre tract conveyed to Bula E. Marmion as described in Volume 345, Page 170 of the Deed Records of Brazoria County, Texas;

THENCE North 86°17'48" East, coincident with called 9.468 acre tract a distance of 981.75 feet to a set 5/8" iron rod for interior corner of herein described tract and being the Southeast corner of said 9.468 acre tract;

THENCE North 02°33'41" West, coincident with called 9.468 acre tract a distance of 420.31 feet to a set 5/8" iron rod for interior corner of herein described tract and being the Northeast corner of said 9.468 acre tract;

THENCE South 86°18'16" West, coincident with said 9.468 acre tract a distance of 981.41 feet to a set 5/8" iron rod for interior corner of herein described tract and being the Northeast corner of said 9.468 acre tract;

THENCE North 02°30'57" West, continuing with the common League lines of the Austin & Williams Survey, Abstract 145 and the L. H. H. Washington Survey, Abstract 386, at 1058.32 feet pass a found concrete monument for the Northeast corner of said Austin & Williams Survey, Abstract, Abstract 145, same being the Southeast corner of the C. Burden Survey, Abstract 568, and continuing along said line and being along the common line of that certain tract conveyed to the Madeley Interest II (a Texas Limited Partnership), as described in Clerk's File No. 2005-040209 of the Official Records of Brazoria County, Texas a total distance of 5017.52 feet to a point for the Northwest corner of herein described tract and being at the water's edge of Bastrop Bayou;

THENCE along the following calls along Bastrop Bayou:

North 89°24'00" East, a distance of 147.62 feet;
South 82°50'26" East, a distance of 421.47 feet;
South 40°30'46" East, a distance of 40.81 feet;
South 7°47'43" East, a distance of 236.92 feet
South 49°08'26" East, a distance of 63.00 feet;
South 7°58'51" West, a distance of 158.69 feet;
South 42°53'41" East, a distance of 108.87 feet;
South 4°05'21" West, a distance of 140.67 feet;
South 51°34'51" East, a distance of 76.62 feet;
South 84°41'38" East, a distance of 62.00 feet;
North 0°49'05" East, a distance of 50.18 feet;
North 40°53'09" West, a distance of 86.75 feet;
North 14°53'46" East, a distance of 66.20 feet;
North 40°17'56" West, a distance of 127.82 feet;
North 27°56'25" East, a distance of 174.59 feet;
North 18°30'07" West, a distance of 221.28 feet;
South 52°35'56" East, a distance of 130.11 feet;
South 33°55'11" East, a distance of 83.14 feet;
South 9°01'52" East, a distance of 505.24 feet;
South 19°35'46" East, a distance of 121.66 feet;
South 34°13'48" East, a distance of 181.19 feet;

425.222 ACRE TRACT
L.M.H. WASHINGTON SURVEY, ABSTRACT 386
B. F. HOLT SURVEY, ABSTRACT 592
BRAZORIA COUNTY, TEXAS
PAGE 3 OF 9

South 31°27'40" East, a distance of 214.04 feet;
South 56°51'11" East, a distance of 375.90 feet;
South 72°14'09" East, a distance of 461.36 feet;
South 55°37'50" East, a distance of 111.66 feet;
South 49°50'13" East, a distance of 238.73 feet;
South 13°18'01" East, a distance of 235.87 feet;
South 44°37'16" West, a distance of 33.81 feet;
North 80°09'31" West, a distance of 17.97 feet;
South 38°58'59" West, a distance of 250.11 feet;
South 12°23'36" East, a distance of 66.77 feet;
South 24°10'46" West, a distance of 52.98 feet;
South 59°45'11" West, a distance of 171.71 feet;
South 37°21'36" West, a distance of 71.81 feet;
South 19°47'31" West, a distance of 58.32 feet;
South 2°54'03" West, a distance of 68.14 feet;
South 23°07'57" West, a distance of 161.98 feet;
South 9°57'53" West, a distance of 52.54 feet;
South 16°19'35" West, a distance of 168.32 feet;
South 29°32'03" West, a distance of 57.27 feet;
South 46°57'51" West, a distance of 57.90 feet;
South 80°43'51" West, a distance of 105.13 feet;
North 75°19'35" West, a distance of 207.51 feet;
North 28°53'14" West, a distance of 77.86 feet;
North 22°16'27" East, a distance of 98.07 feet;
North 68°32'42" East, a distance of 39.94 feet;
North 5°21'14" East, a distance of 14.23 feet;
North 83°26'10" West, a distance of 108.91 feet;
North 5°27'43" West, a distance of 23.66 feet;
North 19°58'34" West, a distance of 29.96 feet;
North 29°37'20" West, a distance of 51.36 feet;
North 54°34'19" West, a distance of 69.12 feet;
South 34°02'24" West, a distance of 13.86 feet;
South 58°16'26" East, a distance of 67.81 feet;
South 30°55'10" East, a distance of 50.55 feet;
South 8°36'23" East, a distance of 51.47 feet;
South 1°54'02" East, a distance of 86.42 feet;
South 51°49'56" East, a distance of 33.63 feet;
South 37°12'02" West, a distance of 49.95 feet;
South 40°26'29" East, a distance of 44.74 feet;

South 16°23'01" West, a distance of 28.58 feet;
North 88°51'37" West, a distance of 63.07 feet;
South 17°40'52" West, a distance of 6.82 feet;
South 83°39'30" East, a distance of 79.73 feet;
South 47°29'13" East, a distance of 44.85 feet;
South 35°16'23" East, a distance of 94.48 feet;
South 22°24'08" East, a distance of 56.40 feet;
South 31°46'57" West, a distance of 25.51 feet;
South 77°06'40" West, a distance of 100.73 feet;
South 12°02'38" West, a distance of 114.52 feet;
South 13°09'37" East, a distance of 102.52 feet;
South 54°13'28" West, a distance of 52.27 feet;
South 2°01'49" West, a distance of 25.28 feet;
South 44°13'39" East, a distance of 85.78 feet;
South 44°06'28" West, a distance of 82.36 feet;
North 77°28'00" West, a distance of 19.82 feet;
North 22°58'03" West, a distance of 42.23 feet;
North 71°42'37" West, a distance of 42.83 feet;
South 67°14'29" West, a distance of 42.15 feet;
South 18°20'27" West, a distance of 37.00 feet;
South 72°28'59" East, a distance of 35.13 feet;
South 75°47'32" East, a distance of 29.93 feet;
South 19°01'53" East, a distance of 26.92 feet;
South 46°00'05" West, a distance of 71.72 feet;
North 78°24'13" West, a distance of 28.53 feet;
South 69°46'42" West, a distance of 49.25 feet;
South 32°00'00" West, a distance of 212.18 feet;
South 3°36'02" West, a distance of 174.60 feet;
South 33°08'54" West, a distance of 218.73 feet;
South 51°33'52" West, a distance of 92.40 feet;
South 1°39'42" West, a distance of 164.60 feet;
South 67°39'00" West, a distance of 129.47 feet;
South 27°00'57" West, a distance of 52.45 feet;
South 49°04'27" East, a distance of 58.12 feet;
South 88°43'04" East, a distance of 97.00 feet;
South 74°10'44" East, a distance of 59.63 feet;
North 24°14'22" East, a distance of 83.23 feet;

North 18°45'00" East, a distance of 117.35 feet;
North 25°59'25" East, a distance of 148.97 feet;
North 55°08'49" East, a distance of 121.00 feet;
North 23°31'10" East, a distance of 80.71 feet;
North 20°08'25" West, a distance of 65.17 feet;
North 34°06'46" East, a distance of 84.35 feet;
North 6°33'59" West, a distance of 166.54 feet;
North 33°17'38" East, a distance of 238.05 feet;
North 2°20'03" East, a distance of 44.08 feet;
South 53°39'01" East, a distance of 33.17 feet;
North 82°16'04" East, a distance of 76.00 feet;
South 65°42'04" East, a distance of 58.27 feet;
North 20°05'18" East, a distance of 13.41 feet;
North 83°03'33" East, a distance of 19.49 feet;
South 13°17'51" East, a distance of 27.15 feet;
North 48°18'24" East, a distance of 47.22 feet;
North 29°13'25" West, a distance of 22.38 feet;
North 31°30'39" East, a distance of 49.70 feet;
North 69°12'37" West, a distance of 60.48 feet;
North 44°40'45" West, a distance of 30.26 feet;
North 54°03'52" West, a distance of 22.73 feet;
South 85°55'19" West, a distance of 44.30 feet;
North 14°04'50" West, a distance of 29.87 feet;
North 42°41'55" East, a distance of 70.47 feet;
North 5°08'20" West, a distance of 128.45 feet;
North 38°44'08" East, a distance of 45.97 feet;
North 57°06'50" East, a distance of 86.42 feet;
North 9°03'43" West, a distance of 75.08 feet;
North 24°52'28" East, a distance of 15.93 feet;
North 61°33'48" East, a distance of 49.81 feet;
South 63°26'00" East, a distance of 27.96 feet;
North 84°10'26" East, a distance of 90.03 feet;
North 77°14'31" East, a distance of 89.26 feet;
North 38°43'06" East, a distance of 23.20 feet;
South 73°30'19" East, a distance of 23.35 feet;
South 49°11'07" East, a distance of 67.33 feet;
North 33°36'54" East, a distance of 24.96 feet;
North 25°05'13" West, a distance of 67.84 feet;

North 16°27'58" East, a distance of 64.28 feet;
North 71°18'35" East, a distance of 22.37 feet;
North 9°29'55" East, a distance of 24.19 feet;
North 18°49'02" East, a distance of 73.54 feet;
North 39°04'27" West, a distance of 28.11 feet;
North 15°01'02" East, a distance of 40.40 feet;
North 1°40'12" East, a distance of 34.25 feet;
North 15°29'57" East, a distance of 81.64 feet;
North 23°53'56" East, a distance of 131.32 feet;
North 17°10'23" East, a distance of 116.57 feet;
North 50°05'06" East, a distance of 56.38 feet;
North 52°06'37" East, a distance of 186.13 feet;
South 41°41'56" East, a distance of 185.26 feet;
South 61°42'02" East, a distance of 158.57 feet;
South 62°20'09" East, a distance of 165.99 feet;
South 41°53'07" East, a distance of 58.49 feet;
South 29°00'53" East, a distance of 162.50 feet;
South 24°31'53" East, a distance of 114.54 feet;
South 57°21'53" East, a distance of 94.05 feet;
South 57°29'44" East, a distance of 134.72 feet;
South 73°31'39" East, a distance of 38.64 feet;
North 86°46'54" East, a distance of 51.97 feet;
North 66°24'31" East, a distance of 108.63 feet;
North 65°28'29" East, a distance of 109.81 feet;
North 51°29'00" East, a distance of 95.46 feet;
North 59°56'14" East, a distance of 127.26 feet;
North 11°25'14" East, a distance of 42.65 feet;
North 64°56'27" East, a distance of 90.96 feet;
North 83°06'48" East, a distance of 147.95 feet;
South 42°05'53" East, a distance of 12.56 feet;
South 89°02'12" East, a distance of 63.96 feet;
North 28°21'36" East, a distance of 20.36 feet;
North 81°53'58" East, a distance of 89.02 feet;
North 88°46'32" East, a distance of 41.93 feet;
North 48°35'38" East, a distance of 32.24 feet;
North 57°33'41" East, a distance of 74.50 feet;
North 74°34'04" East, a distance of 73.40 feet;

North 70°30'00" East, a distance of 130.41 feet;
North 59°26'26" East, a distance of 325.82 feet;
North 64°55'09" East, a distance of 223.76 feet;
North 43°56'31" East, a distance of 138.62 feet;
North 52°23'07" East, a distance of 139.75 feet;
North 14°03'50" East, a distance of 39.91 feet;

THENCE South 03°40'48" East, leaving the top bank of Bastrop Bayou coincident with that certain tract conveyed to the U.S. Fish & Wildlife Service as described in Volume 954, Page 460 of the Deed Records of Brazoria County, Texas at 67.82 feet pass a set 5/8" iron rod on line and continue for a total distance of 1299.29 feet to a set 5/8" iron rod for angle point for corner;

THENCE South 86°19'12" West, coincident with said U.S. Fish & Wildlife Service tract, a distance of 843.10 feet to a set 5/8" iron rod for corner;

THENCE South 3°41'00" East, coincident with said U.S. Fish & Wildlife Service tract, and along the common line of the L. H. H. Washington Survey, Abstract 386 and the B. F. Holt Survey, Abstract 592 at 817.20 feet pass a found concrete monument for the Southwest corner of said B, F, Holt Survey, Abstract 592, same being the Northwest of the F. Pape Survey, Abstract 443, and continue for a total distance of 2931.58 feet to a set 5/8" iron rod for corner and being the Northeast corner of aforementioned Kitchel Estate tract, same being the Southeast corner of herein described tract;

THENCE South 86°18'21" West, coincident with said Kitchel Estate tract, a distance of 3958.67 feet to the **PLACE OF BEGINNING** and containing 434.712 acres of land, **LESS & EXCEPT** a 4.746 acre tract and a 4.744 acre tract leaving a Net Acreage of 425.222 acres; The two tracts are described as follows;

LESS & EXCEPT (Tract 1)

ALL THAT CERTAIN 4.746 ACRE of land out of the L. M. H. Washington Survey, Abstract 386, Brazoria County, Texas and being that same tract conveyed to Kurt Evans (Trustee) as described in Clerk's File No 2008-032762 of the Official Record of Brazoria County, Texas, and more particularly described by metes and bounds using survey terminology which refers to the Texas State Plane Coordinate System, South Central Zone (NAD 83) in which the directions are lambert grid bearings and the distances are horizontal surface level lengths (S.F.=.9998785252) as follows:

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COMMENCING at a 5/8 inch iron rod found in the North right-of-way line of Wildlife Refuge Park Road and being the Southwest corner of that certain tract conveyed to the Kitchel Estate as described in Clerk's File No. 2004-029371 of the Official Records of Brazoria County, Texas, same being the Southeast corner of that certain tract conveyed to Dow Chemical Company as described in Volume 1231, Page 874 of the Deed Records of Brazoria County, Texas and also being located in the common League lines of the Austin & Williams Survey, Abstract 145 and the L. H. H. Washington Survey, Abstract 386, Brazoria County, Texas;

THENCE North 02°39'34" West, coincident with common League lines of the Austin & Williams Survey, Abstract 145 and the L. H. H. Washington Survey, Abstract 386, Brazoria County, Texas, same being the common line of aforementioned Kitchel tract and Dow Chemical Company tract and also along the East line of a 60 foot right-of-way easement as described in Clerk's File No. (91)928, Page 8 of the Official Records of Brazoria County, Texas, a distance of 1629.52 feet to set 5/8" iron rod for the Southwest corner of a called 9.468 acre tract conveyed to Bula E. Marmion as described in Volume 345, Page 170 of the Deed Records of Brazoria County, Texas;

THENCE North 86°17'48" East, coincident with called 9.468 acre tract a distance of 1473.23 feet to a set 5/8" iron rod for corner of herein described tract and being the **PLACE OF BEGINNING**;

THENCE North 02°34'15" West, coincident with the West line of herein described 4.746 acre tract, a distance of 420.34 feet to a set 5/8" iron rod for the Northwest corner of herein described tract;

THENCE North 86°18'09" East, coincident with the North line of herein described 4.746 acre tract, a distance of 491.47 feet to a set 5/8" iron rod for the Northeast corner of herein described tract;

THENCE South 02°40'17" East, coincident with the East line of herein described 4.746 acre tract, a distance of 420.49 feet to a set 5/8" iron rod for the Southeast corner of herein described tract;

THENCE South 86°19'18" West, coincident with the South line of herein described 4.746 acre tract, a distance of 492.20 feet to the **PLACE OF BEGINNING** of herein described tract and containing 4.746 acres more or less;

LESS & EXCEPT (TRACT 2)

ALL THAT CERTAIN 4.744 ACRE of land out of the L. M. H. Washington Survey, Abstract 386, Brazoria County, Texas and being that same tract conveyed to Munson Estate as described in Clerk's File No 1995-025304 of the Official Record of Brazoria County, Texas, and more particularly described by metes and bounds using survey terminology which refers to the Texas State Plane

425.222 ACRE TRACT
L.M.H. WASHINGTON SURVEY, ABSTRACT 386
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BRAZORIA COUNTY, TEXAS
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Coordinate System, South Central Zone (NAD 83) in which the directions are lambert grid bearings and the distances are horizontal surface level lengths (S.F.=.9998785252) as follows:

COMMENCING at a 5/8 inch iron rod found in the North right-of-way line of Wildlife Refuge Park Road and being the Southwest corner of that certain tract conveyed to the Kitchel Estate as described in Clerk's File No. 2004-029371 of the Official Records of Brazoria County, Texas, same being the Southeast corner of that certain tract conveyed to Dow Chemical Company as described in Volume 1231, Page 874 of the Deed Records of Brazoria County, Texas and also being located in the common League lines of the Austin & Williams Survey, Abstract 145 and the L. H. H. Washington Survey, Abstract 386, Brazoria County, Texas;

THENCE North 02°39'34" West, coincident with common League lines of the Austin & Williams Survey, Abstract 145 and the L. H. H. Washington Survey, Abstract 386, Brazoria County, Texas, same being the common line of aforementioned Kitchel tract and Dow Chemical Company tract and also along the East line of a 60 foot right-of-way easement as described in Clerk's File No. (91)928, Page 8 of the Official Records of Brazoria County, Texas, a distance of 1629.52 feet to set 5/8" iron rod for the Southwest corner of a called 9.468 acre tract conveyed to Bula E. Marmion as described in Volume 345, Page 170 of the Deed Records of Brazoria County, Texas;

THENCE North 86°18'21" East, coincident with called 9.468 acre tract a distance of 2947.09 feet to a found 1/2" iron rod for corner of herein described tract and being the **PLACE OF BEGINNING**;

THENCE North 02°31'36" West, coincident with the West line of herein described 4.744 acre tract, a distance of 420.51 feet to a set 5/8" iron rod for the Northwest corner of herein described tract;

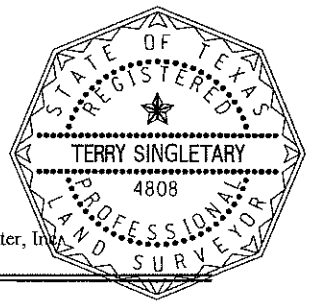
THENCE North 86°18'16" East, coincident with the North line of herein described 4.744 acre tract, a distance of 491.43 feet to a set 5/8" iron rod for the Northeast corner of herein described tract;

THENCE South 02°31'36" East, coincident with the East line of herein described 4.744 acre tract, a distance of 420.68 feet to a set 5/8" iron rod for the Southeast corner of herein described tract;

THENCE South 86°19'28" West, coincident with the South line of herein described 4.744 acre tract, a distance of 491.43 feet to the **PLACE OF BEGINNING** of herein described tract and containing 4.744 acres more or less;

Terry Singletary

Terry Singletary
Registered Professional Land Surveyor
Texas Registered Number 4808
May 21, 2020



This description is based on a survey, a plat of which is dated May 21, 2020 and is on file in the office of Doyle and Wachtstetter, Inc.

131 Commerce Street • Clute, Texas 77531-5601

Phone: 979-265-3622 • Fax: 979-265-9940 • Email: DW-Surveyor.com

Exhibit B
to
Conservation Easement Agreement

U.S. Army Corps of Engineers Permit

[TO BE ATTACHED]

Exhibit C
to
Conservation Easement Agreement

Permittee Responsible Mitigation Plan

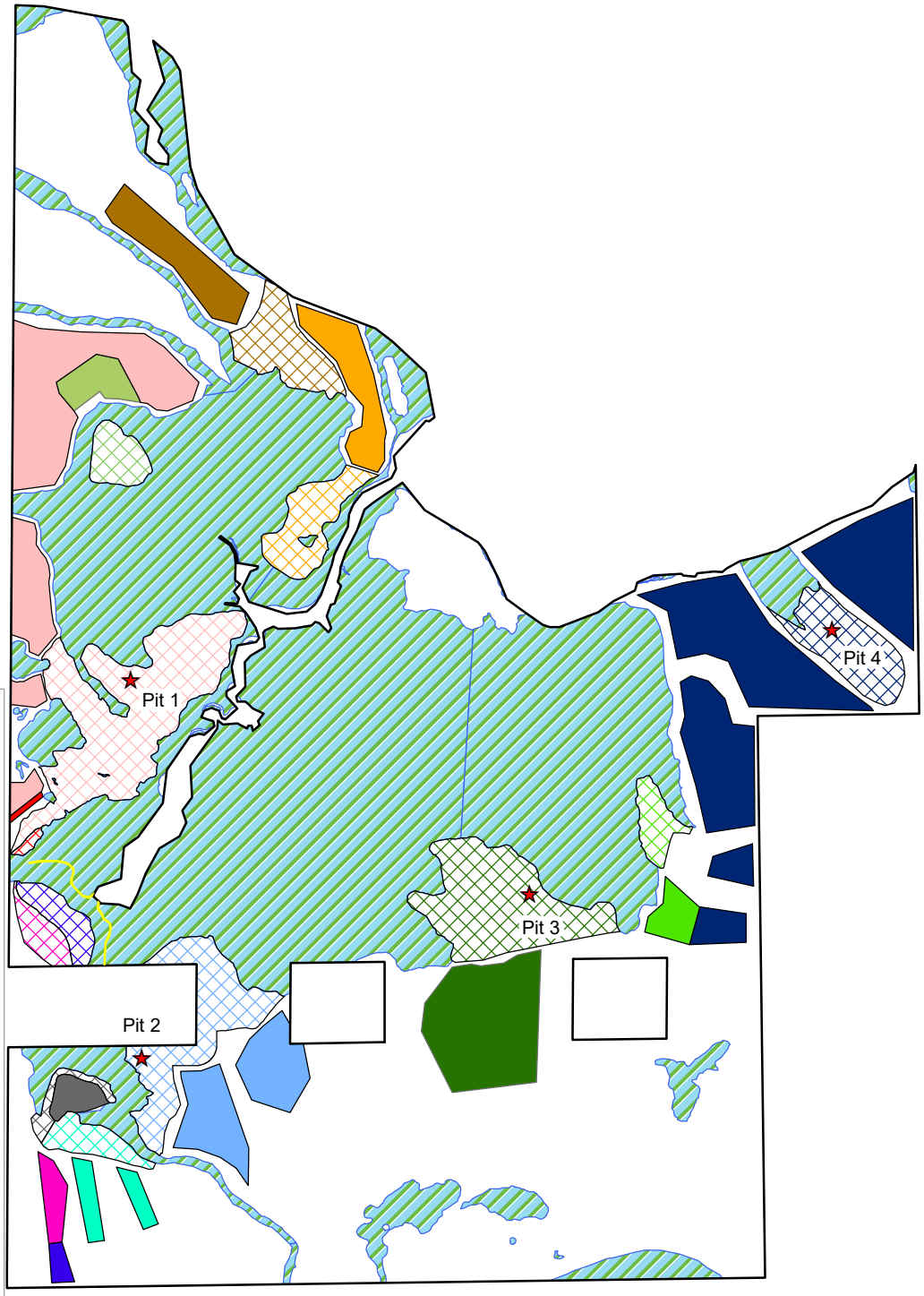
[TO BE PROVIDED]

Exhibit D
to
Conservation Easement Agreement

Baseline Documentation Report

[TO BE PROVIDED]

Attachment E
Soil Profiles



Legend

- MRPRM Boundary
- Soil Pit Locations
- Proposed Waters of the U.S. (North-991' South-754' Total-1,745')

Existing Wetlands

- Wetlands

Proposed Wetlands with Upland Inclusions (39.64 ac)

- 1-Cut (3.39 ac)
- 1-Fill (3.36 ac)
- 2-Cut (3.87 ac)
- 2-Fill (3.75 ac)
- 3-Cut (1.85 ac)
- 3-Fill (1.66 ac)
- 4-Cut (13.37 ac)
- 4-Fill (12.71 ac)
- 5-Cut (1.33 ac)
- 5-Fill (1.05 ac)
- 6-Cut (1.73 ac)
- 6-Fill (1.57 ac)
- 7-Cut (6.52 ac)
- 7-Fill (6.00 ac)
- 8-Cut (8.95 ac)
- 8-Fill (8.26 ac)
- 9-Cut (1.57 ac)
- 9-Fill (1.28 ac)

Proposed Wetlands (8.10 ac)

- 1-Creation Cut (4.42 ac)
- 1-Creation Fill (21.00 ac)
- 2-Creation Cut (1.67 ac)
- 2-Creation Fill (0.45 ac)
- 3-Creation Cut (0.21 ac)
- 3-Creation Fill (0.13 ac)
- Pond Cut (0.75 ac)
- Pond Fill (1.05 ac)

0 500 1,000 1,500 2,000

Feet

PROPOSED
MOSQUITO RANCH PRM
JMB SOIL PIT LOCATION EXHIBIT
BRAZORIA COUNTY, TX

Coord Sys: NAD 1983 UTM Zone 15N **Date:** 10/8/2021

Vertical Datum: NAVD88 Feet **Author:** BDS

FIGURE 01

Document Path: N:\Mitigation Banks\Texas\Mosquito Ranch\Mapping\GIS Projects (.MXD)\Soil_Pits_01.mxd

SOIL

Sampling Point: Pit 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-17	10YR 3/1	100						
17-20	10 YR 4/1	98	10 YR 6/6	2				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** _____

Remarks:

SOIL

Sampling Point: Pit 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10 YR 4/1	100						
12-16	10YR 4/1	98	10YR 5/6	2				
16-23	10 YR 4/1	90	10YR 5/6	10				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** _____

Remarks:

SOIL

Sampling Point: Pit 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-7	10 YR 4/1	100						
7-12	10 YR 4/1	98	10 YR 6/6	2				
12-20	10 YR 4/1	90	10 YR 5/8	10				
20-23	7.5 YR 6/6	70	10 YR 4/1	30				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** _____

Remarks:

SOIL

Sampling Point: Pit 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10 YR 2/1	100						
20-27	10 YR 4/1	98	10 YR 6/6	2				
27-42	10 YR 4/1	55	2.5 YR 6/8	45				

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
___ Red Parent Material (TF2)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** _____ **No** _____

Remarks:

PIT 1

PIT 2

PIT 3

PIT 4

Attachment F
Financial Assurance

Mosquito Ranch PRM Financial Assurance Amounts

Herbaceous

Gross Project Acreage 425.0

Enhancement and Creation Mitigation Acreage 210.51

Long Term Maintenance and Protection to be provided by an escrow account:

Long Term Maintenance and Protection
Initial Deposit

interest rates projected to be 3%

Inflation rated projected to be 2.1% Years 6 to 50

Year	Beginnning Balance	Deposits of Principle	Interest Rate	Interest Earned	Annualized Cost	Ending Balance	
1	$ -	$ 154,500.00	3%	$ -	$ -	$ 154,500.00	
2	$ 154,500.00		3%	$ 4,635.00	$ -	$ 159,135.00	
3	$ 159,135.00		3%	$ 4,774.05	$ -	$ 163,909.05	
4	$ 163,909.05		3%	$ 4,917.27	$ -	$ 168,826.32	
5	$ 168,826.32		3%	$ 5,064.79	$ -	$ 173,891.11	Fully funded
6	$ 173,891.11		3%	$ 5,216.73	$4,877.33		
	Total Deposits	**$ 154,500.00**					

Determining LT Escrow annualized costs adjusted for Inflation, and the Principal needed in LT Escrow to be fully funded for RIVERINE HERBACEOUS SYSTEMS.

Fill in those values in black (inflation rate, annualized amount, interest rate for escrow, and the amount of mitigation acres. Everything else auto calculates based on these values.)

Description of Information to Provide	Enter the information requested in this column only	Description of Calculated Fields	Calculated Outcome
Inflation Rate	2.1		
Annualized Amount:	$3,586.18	Annualized Amount Adjusted for Inflation:	$4,877.33
Interest Rate for Escrow	3.0	By Year 5, the amount needed in Escrow:	$ 173,891.11
Amount of Mitigation Acres	120		

Long-Term Fund Annual Costs (Years5-50)	Unit	Unit Cost	Total Cost	Comments
Taxes (Annually) for 45 years	Acre (425 acres)	$2.15	$41,118.75	
Invasive Species Control (Spot Treatement)	Acre (210.51 acres)	$10.00	$21,051.00	10 times
Prescribed Burn	Acre (210.51 acres)	$20.00	$42,102.00	10 times
Maintenance and Miscellaneous	Acre (210.51 acres)	$3.00	$28,418.85	
Legal		$1.50	$28,687.50	
Total 50 year Long Term Cost (45 years expenditures)			***$161,378.10***	
Annualized Total (for 45 years)			***$3,586.18***	
Annualized Long Term Cost for years 6-50 Adjusted for 2.1% Inflation			***$4,877.33***	

Year	Beginning Balance	Annual Cost w 2.1% annual Inflation	Balance after cost	3% Interest Earned	Ending Balance
1	$ 154,500.00		$ 154,500.00	$ 4,635.00	$ 159,135.00
2	$ 159,135.00		$ 159,135.00	$ 4,774.05	$ 163,909.05
3	$ 163,909.05		$ 163,909.05	$ 4,917.27	$ 168,826.32
4	$ 168,826.32		$ 168,826.32	$ 5,064.79	$ 173,891.11
5	$ 173,891.11		$ 173,891.11	$ 5,216.73	$ 179,107.84
6	$ 179,107.84	$2,977.90	$ 176,129.94	$ 5,283.90	$ 181,413.84
7	$ 181,413.84	$3,040.44	$ 178,373.41	$ 5,351.20	$ 183,724.61
8	$ 183,724.61	$3,104.29	$ 180,620.32	$ 5,418.61	$ 186,038.93
9	$ 186,038.93	$3,169.48	$ 182,869.46	$ 5,486.08	$ 188,355.54
10	$ 188,355.54	$3,236.03	$ 185,119.51	$ 5,553.59	$ 190,673.09
11	$ 190,673.09	$3,303.99	$ 187,369.10	$ 5,621.07	$ 192,990.18
12	$ 192,990.18	$3,373.37	$ 189,616.80	$ 5,688.50	$ 195,305.31
13	$ 195,305.31	$3,444.22	$ 191,861.09	$ 5,755.83	$ 197,616.92
14	$ 197,616.92	$3,516.54	$ 194,100.38	$ 5,823.01	$ 199,923.39
15	$ 199,923.39	$3,590.39	$ 196,333.00	$ 5,889.99	$ 202,222.99
16	$ 202,222.99	$3,665.79	$ 198,557.20	$ 5,956.72	$ 204,513.92
17	$ 204,513.92	$3,742.77	$ 200,771.14	$ 6,023.13	$ 206,794.28
18	$ 206,794.28	$3,821.37	$ 202,972.91	$ 6,089.19	$ 209,062.10
19	$ 209,062.10	$3,901.62	$ 205,160.48	$ 6,154.81	$ 211,315.29
20	$ 211,315.29	$3,983.55	$ 207,331.74	$ 6,219.95	$ 213,551.69
21	$ 213,551.69	$4,067.21	$ 209,484.49	$ 6,284.53	$ 215,769.02
22	$ 215,769.02	$4,152.62	$ 211,616.40	$ 6,348.49	$ 217,964.89
23	$ 217,964.89	$4,239.82	$ 213,725.07	$ 6,411.75	$ 220,136.82
24	$ 220,136.82	$4,328.86	$ 215,807.96	$ 6,474.24	$ 222,282.20
25	$ 222,282.20	$4,419.77	$ 217,862.44	$ 6,535.87	$ 224,398.31
26	$ 224,398.31	$4,512.58	$ 219,885.73	$ 6,596.57	$ 226,482.30
27	$ 226,482.30	$4,607.34	$ 221,874.96	$ 6,656.25	$ 228,531.21
28	$ 228,531.21	$4,704.10	$ 223,827.11	$ 6,714.81	$ 230,541.92
29	$ 230,541.92	$4,802.88	$ 225,739.04	$ 6,772.17	$ 232,511.21
30	$ 232,511.21	$4,903.75	$ 227,607.46	$ 6,828.22	$ 234,435.69
31	$ 234,435.69	$5,006.72	$ 229,428.96	$ 6,882.87	$ 236,311.83
32	$ 236,311.83	$5,111.87	$ 231,199.97	$ 6,936.00	$ 238,135.96
33	$ 238,135.96	$5,219.21	$ 232,916.75	$ 6,987.50	$ 239,904.25
34	$ 239,904.25	$5,328.82	$ 234,575.43	$ 7,037.26	$ 241,612.70
35	$ 241,612.70	$5,440.72	$ 236,171.97	$ 7,085.16	$ 243,257.13
36	$ 243,257.13	$5,554.98	$ 237,702.16	$ 7,131.06	$ 244,833.22
37	$ 244,833.22	$5,671.63	$ 239,161.59	$ 7,174.85	$ 246,336.43
38	$ 246,336.43	$5,790.74	$ 240,545.70	$ 7,216.37	$ 247,762.07
39	$ 247,762.07	$5,912.34	$ 241,849.73	$ 7,255.49	$ 249,105.22
40	$ 249,105.22	$6,036.50	$ 243,068.72	$ 7,292.06	$ 250,360.78
41	$ 250,360.78	$6,163.27	$ 244,197.51	$ 7,325.93	$ 251,523.43
42	$ 251,523.43	$6,292.70	$ 245,230.74	$ 7,356.92	$ 252,587.66
43	$ 252,587.66	$6,424.84	$ 246,162.82	$ 7,384.88	$ 253,547.70
44	$ 253,547.70	$6,559.77	$ 246,987.93	$ 7,409.64	$ 254,397.57
45	$ 254,397.57	$6,697.52	$ 247,700.05	$ 7,431.00	$ 255,131.05
46	$ 255,131.05	$6,838.17	$ 248,292.89	$ 7,448.79	$ 255,741.67
47	$ 255,741.67	$6,981.77	$ 248,759.90	$ 7,462.80	$ 256,222.70
48	$ 256,222.70	$7,128.39	$ 249,094.31	$ 7,472.83	$ 256,567.14
49	$ 256,567.14	$7,278.08	$ 249,289.06	$ 7,478.67	$ 256,767.73
50	$ 256,767.73	$7,430.92	$ 249,336.81	$ 7,480.10	$ 256,816.91
		$219,479.64			
Annualized		$4,877.33			

Attachment G
Approved JD

DEPARTMENT OF THE ARMY
U. S. ARMY CORPS OF ENGINEERS, GALVESTON DISTRICT
P. O. BOX 1229
GALVESTON, TEXAS 77553-1229

JUNE 21, 2021

Policy Analysis Branch

SUBJECT: **SWG-2013-001479**; AJD and Functional Assessment Verification, Freeport LNG Development L.P., Mosquito Ranch- Mitigation Site, Brazoria County, Texas

Mr. Aaron C. Landry
JMB Land Companies, Inc.
205 Sage Glenn Lane
Lafayette, LA 70508

Dear Mr. Landry:

This letter is in response to your request, dated June 12, 2020, for an Approved Jurisdictional Determination (AJD) and a Functional Assessment Verification (FAV) for an approximate 440-acre tract known as Mosquito Ranch. The subject tract is located south of Bastrop Bayou and north of Brazoria National Wildlife Refuge Entrance Road, in Brazoria County, Texas.

Based on a review of your updated information, federal regulations, EPA coordination, and our July 30 and September 11, 2020 site visits, we have determined that the subject site contains waters of the United States (WOTUS). Below is a description of jurisdictional and non-jurisdictional aquatic features on the tract (see enclosed AJD form and map):

Waters 1 (2.05 ac), 2 (0.50 ac), 3 (0.01 ac), 4 (0.02 ac), 5 (0.02 ac), 6 (0.16 ac), 7 (0.10 ac), 8 (0.11 ac), 9 (0.69 ac), and 10 (0.05 ac) are considered (a)(1) navigable waters of the United States subject to Section 9 and 10 of the Rivers and Harbors Act of 1899, as defined by 33 CFR 329. These waters are also subject Section 404 of the Clean Water Act as tributaries (a)(2) waters and Pond 1 (1.1 ac) as (a)(3) waters.

Adjacent wetlands A (147.72 ac), AA (0.09 ac), B (2.26 ac), BB (6.99 ac), CC (2.29 ac), DD (0.10 ac), G (0.06 ac), I (0.05 ac), P (0.17 ac), R (4.57 ac), S (0.05 ac), T (0.05 ac), U (0.01 ac), V (0.01 ac), and W (1.68 ac) are either located in landscape position that would be anticipated to be flooded in a typical year by Bastrop Bayou or is an (a)(4) wetland that abuts an (a)(1)-(a)(3) water, Bastrop Bayou. These wetlands are jurisdictional pursuant to 33 CFR 328.3(a)(4).

Adjacent wetland K (2.10 ac) is an (a)(4) wetland separated from an (a)(1)-(a)(3) water only by an artificial structure allowing a direct hydrologic surface connection between the wetland and the (a)(1)-(a)(3) water, in a typical year. This wetland is also jurisdictional pursuant to 33 CFR 328.3(a)(4).

Wetlands C (0.62 ac), D (0.08 ac), E (0.16), F (0.34 ac),J (1.28 ac), L (1.10 ac), M (0.02 ac), N (0.02 ac), O (2.44 ac), and X (0.55 ac) are non-adjacent depressional wetlands that are non-jurisdictional waters pursuant to the 33 CFR 328.3(b)(1) exclusion.

The discharge of dredged and/or fill material into these jurisdictional areas requires a Department of the Army permit, prior to any discharge. This approved jurisdictional determination is valid for 5 years from the date of this letter unless new information warrants a revision of the determination prior to the expiration date.

The jurisdictional wetlands on the 440-acre tract were divided into thirty wetland assessment areas (WAAs) as depicted on the attached map. WAAs are identified by their wetland characteristics and similarities in the hydrogeomorphic setting. Using the verified wetland delineation data, combined with other pertinent site-specific information, each WAA was measured for its potential functional capacity as it relates to the nearby waterway (Bastrop Bayou) using the Galveston District tidal fringe interim Hydrogeomorphic model (iHGM) and the riverine iHGM. Based on the Functional Assessment Report, May 2020, our site visits referenced above, and subsequent iHGM worksheet revisions dated January 20, 2021, we concur with the following:

Tidal Fringe Wetlands FCU Summary:

Biota	Botanical	Physical	Chemical
151.93	168.27	132.72	162.72

Riverine Wetlands FCU Summary:

Physical	Biota	Chemical
0.07	0.08	0.08

Areas of Federal Interests (federal projects, and/or work areas) may be located within this proposed project area. Any activities in these federal interest areas would also be subject to federal regulations under the authority of Section 14 of the Rivers and Harbors Act (aka Section 408). Section 408 makes it unlawful for anyone to alter in any manner, in whole or in part, any work (ship channel, flood control channels, seawalls, bulkhead, jetty, piers, etc.) built by the United States unless it is authorized by the Corps of Engineers (i.e., Navigation and Operations Division).

This determination has been conducted to identify the limits of the United States Army Corps of Engineers (USACE) CWA jurisdiction for the site identified in this request. However, this determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985 as amended. If you or your tenant are USDA program participants or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: JMB Land Companies, Inc.	File Number: **SWG-2013-00147**	Date: **06/21/2021**

Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of Permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of Permission)	B
	PERMIT DENIAL	C
✓	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/inet/functions/cw/cecwo/reg/ or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved jurisdictional determination (JD) or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:	If you only have questions regarding the appeal process you may also contact:
Mr. Dwayne Johnson Project Manager, Policy Analysis Branch U.S. Army Corps of Engineers P.O. Box 1229 Galveston, Texas 77553-1229 Telephone: 409-766-6353; FAX: 409-766-3931	Mr. Elliott Carman: Administrative Appeal Review Officer (CESWD-PD-O) U.S. Army Corps of Engineers 1100 Commerce Street, Room 831 Dallas, Texas 75242-1731 Telephone: 469-487-7061; FAX: 469-487-7199

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15-day notice of any site investigation, and will have the opportunity to participate in all site investigations.

	Date:	Telephone number:
Signature of appellant or authorized agent.		

This letter contains an approved jurisdictional determination for your subject site. If you wish to appeal the approved jurisdictional determination, please see the enclosed sheets regarding the administrative appeal process for jurisdictional determinations: Notification of Appeals Process (NAP) fact sheet and Request for Appeal (RFA) form. If you object to this determination, you may request an administrative appeal under USACE regulations at 33 CFR Part 331. If you request to appeal this determination, you must submit a completed RFA form to the Southwestern Division Office at the following address:

Appeal Review Officer, CESWD-PD-O
U.S. Army Corps of Engineer Division,
Southwestern
1100 Commerce Street, Room 831
Dallas, Texas 75242-1731
Telephone: 469-487-7061; FAX: 469-487-7199

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete; that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division Office within **60 days** of the date of the NAP, noting that the date of the letter is Day 1. It is not necessary to submit an RFA form to the Division office if you do not object to the determination in this letter.

If you have any questions concerning this AJD, please reference file number **SWG-2013-00147** and contact me at the letterhead address, by email at Dwayne.Johnson@usace.army.mil, or by telephone at 409-766-6353. To assist us in improving our service to you, please complete the survey found at http://per2.nwp.usace.army.mil/survey.html and/or if you would prefer a hard copy of the survey form, please let us know, and one will be mailed to you.

FOR THE DISTRICT COMMANDER:

Sincerely,

Robert W. Heinly

Robert W. Heinly
Chief, Policy Analysis Branch

Enclosures: NAP, AJD form/map, HGM map

CC: Lloyd Engineering, Inc., 6565 West Loop Street, Suite 708, Bellaire, Texas 77401
justin@lloydeng.com, marisa@lloydeng.com,
EPiper@freeportlng.com

I. ADMINISTRATIVE INFORMATION

Completion Date of Approved Jurisdictional Determination (AJD): 4/5/2021
ORM Number: SWG-2013-00147 (Mosquito Ranch-Freeport LNG Mitigation site)
Associated JDs: N/A
Review Area Location[1]: State/Territory: Texas City: Angleton County/Parish/Borough: Brazoria
Center Coordinates of Review Area: Latitude 29.069968 Longitude -95.276908

II. FINDINGS

A. Summary: Check all that apply. At least one box from the following list MUST be selected. Complete the corresponding sections/tables and summarize data sources.

- ☐ The review area is comprised entirely of dry land (i.e., there are no waters or water features, including wetlands, of any kind in the entire review area). Rationale: N/A or describe rationale.
- ☒ There are "navigable waters of the United States" within Rivers and Harbors Act jurisdiction within the review area (complete table in Section II.B).
- ☒ There are "waters of the United States" within Clean Water Act jurisdiction within the review area (complete appropriate tables in Section II.C).
- ☒ There are waters or water features excluded from Clean Water Act jurisdiction within the review area (complete table in Section II.D).

B. Rivers and Harbors Act of 1899 Section 10 (§ 10)[2]

§ 10 Name	§ 10 Size		§ 10 Criteria	Rationale for § 10 Determination
Water 1	2.05	acre(s)	RHA Tidal water is subject to the ebb and flow of the tide	For the entire site a MHW survey was performed by professional surveyor, indicating a MHW elevation of 1.24'. The elevation on LIDAR of Water 1 is lower than 1.24' for the full reach. Water 1 is an unnamed perennial tributary to Bastrop Bayou, an (a)(1) water. Site visits, 7-30-20 & 9-11-20, also confirmed tidal water 1 is subject to Section 10.
Water 2	0.50	acre(s)	RHA Tidal water is subject to the ebb and flow of the tide	For the entire site a MHW survey was performed by professional surveyor, indicating a MHW elevation of 1.24'. The elevation on LIDAR of Water 2 is lower than 1.24'. Water 2 is an open water pond abutting Bastrop Bayou, an (a)(1) water. Site visits, 7-30-20 & 9-11-20, also confirmed tidal Water 2 is subject to Section 10.
Water 3	0.01	acre(s)	RHA Tidal water is subject to the ebb and flow of the tide	For the entire site a MHW survey was performed by professional surveyor, indicating a MHW elevation of 1.24'. The elevation on LIDAR of Water 3 is lower than 1.24'. Water 3 is an open water pond abutting Bastrop Bayou, an (a)(1) water. Site visits, 7-30-20 & 9-11-20, also confirmed tidal Water 3 is subject to Section 10.
Water 4	0.02	acre(s)	RHA Tidal water is subject to the	For the entire site a MHW survey was performed by professional surveyor, indicating a MHW

[1] Map(s)/figure(s) are attached to the AJD provided to the requestor.
[2] If the navigable water is not subject to the ebb and flow of the tide or included on the District's list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.

§ 10 Name	§ 10 Size		§ 10 Criteria	Rationale for § 10 Determination
			ebb and flow of the tide	elevation of 1.24'. The elevation on LIDAR of Water 4 is lower than 1.24'. Water 4 is an open water pond abutting Bastrop Bayou, an (a)(1) water. Site visits, 7-30-20 & 9-11-20, also confirmed tidal Water 4 is subject to Section 10.
Water 5	0.02	acre(s)	RHA Tidal water is subject to the ebb and flow of the tide	For the entire site a MHW survey was performed by professional surveyor, indicating a MHW elevation of 1.24'. The elevation on LIDAR of Water 5 is lower than 1.24'. Water 5 is an open water pond abutting Bastrop Bayou, an (a)(1) water. Site visits, 7-30-20 & 9-11-20, also confirmed tidal Water 5 is subject to Section 10.
Water 6	0.16	acre(s)	RHA Tidal water is subject to the ebb and flow of the tide	For the entire site a MHW survey was performed by professional surveyor, indicating a MHW elevation of 1.24'. The elevation on LIDAR of Water 6 is lower than 1.24'. Water 6 is an open water pond abutting Bastrop Bayou, an (a)(1) water. Site visits, 7-30-20 & 9-11-20, also confirmed tidal Water 6 is subject to Section 10.
Water 7	0.10	acre(s)	RHA Tidal water is subject to the ebb and flow of the tide	For the entire site a MHW survey was performed by professional surveyor, indicating a MHW elevation of 1.24'. The elevation on LIDAR of Water 7 is lower than 1.24'. Water 7 is an open water pond abutting Bastrop Bayou, an (a)(1) water. Site visits, 7-30-20 & 9-11-20, also confirmed tidal Water 7 is subject to Section 10.
Water 8	0.11	acre(s)	RHA Tidal water is subject to the ebb and flow of the tide	For the entire site a MHW survey was performed by professional surveyor, indicating a MHW elevation of 1.24'. The elevation on LIDAR of Water 8 is lower than 1.24'. Water 8 is an open water pond abutting Bastrop Bayou, an (a)(1) water. Site visits, 7-30-20 & 9-11-20, also confirmed tidal Water 8 is subject to Section 10.
Water 9	0.69	acre(s)	RHA Tidal water is subject to the ebb and flow of the tide	For the entire site a MHW survey was performed by professional surveyor, indicating a MHW elevation of 1.24'. The elevation on LIDAR of Water 9 is lower than 1.24'. Water 9 is an open water pond abutting Bastrop Bayou, an (a)(1) water. Site visits, 7-30-20 & 9-11-20, also confirmed tidal Water 9 is subject to Section 10.
Water 10	0.05	acre(s)	RHA Tidal water is subject to the ebb and flow of the tide	For the entire site a MHW survey was performed by professional surveyor, indicating a MHW elevation of 1.24'. The elevation on LIDAR of Water 10 is lower than 1.24'. Water 10 is an open water pond abutting Bastrop Bayou, an (a)(1) water. Site visits, 7-30-20 & 9-11-20, also confirmed tidal Water 10 is subject to Section 10.

C. Clean Water Act Section 404

Territorial Seas and Traditional Navigable Waters ((a)(1) waters):[3]				
(a)(1) Name	(a)(1) Size		(a)(1) Criteria	Rationale for (a)(1) Determination
Water 1	2.05	acre(s)	(a)(1) Water is also subject to Sections 9 or 10 of the Rivers and Harbors Act - RHA Tidal water is subject to the ebb and flow of the tide.	For the entire site a MHW survey was performed by professional surveyor, indicating a MHW elevation of 1.24'. The elevation on LIDAR of Water 1 is lower than 1.24'. Water 1 is a perennial tributary abutting Bastrop Bayou, an (a)(1) water. Site visits, 7-30-20 & 9-11-20, also confirmed tidal Water 1 is subject to Section 10 and 404.
Water 2	0.50	acre(s)	(a)(1) Water is also subject to Sections 9 or 10 of the Rivers and Harbors Act - RHA Tidal water is subject to the ebb and flow of the tide.	For the entire site a MHW survey was performed by professional surveyor, indicating a MHW elevation of 1.24'. The elevation on LIDAR of Water 2 is lower than 1.24'. Water 2 is tidal pond abutting Bastrop Bayou, an (a)(1) water. Site visits, 7-30-20 & 9-11-20, also confirmed tidal Water 2 is subject to Section 10 and 404.
Water 3	0.01	acre(s)	(a)(1) Water is also subject to Sections 9 or 10 of the Rivers and Harbors Act - RHA Tidal water is subject to the ebb and flow of the tide.	For the entire site a MHW survey was performed by professional surveyor, indicating a MHW elevation of 1.24'. The elevation on LIDAR of Water 3 is lower than 1.24'. Water 3 is tidal pond abutting Bastrop Bayou, an (a)(1) water. Site visits, 7-30-20 & 9-11-20, also confirmed tidal Water 3 is subject to Section 10 and 404.
Water 4	0.02	acre(s)	(a)(1) Water is also subject to Sections 9 or 10 of the Rivers and Harbors Act - RHA Tidal water is subject to the ebb and flow of the tide.	For the entire site a MHW survey was performed by professional surveyor, indicating a MHW elevation of 1.24'. The elevation on LIDAR of Water 4 is lower than 1.24'. Water 4 is tidal pond abutting Bastrop Bayou, an (a)(1) water. Site visits, 7-30-20 & 9-11-20, also confirmed tidal Water 4 is subject to Section 10 and 404.
Water 5	0.02	acre(s)	(a)(1) Water is also subject to Sections 9 or 10 of the Rivers and Harbors Act - RHA Tidal water is subject to the	For the entire site a MHW survey was performed by professional surveyor, indicating a MHW elevation of 1.24'. The elevation on LIDAR of Water 5 is lower than 1.24'. Water 5 is tidal pond abutting Bastrop Bayou, an (a)(1) water. Site visits, 7-30-20 & 9-11-20, also confirmed tidal Water 5 is subject to Section 10 and 404.

[3] A stand-alone TNW determination is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where upstream or downstream limits or lake borders are established. A stand-alone TNW determination should be completed following applicable guidance and should NOT be documented on the AJD Form.

Territorial Seas and Traditional Navigable Waters ((a)(1) waters):[3]				
(a)(1) Name	(a)(1) Size		(a)(1) Criteria	Rationale for (a)(1) Determination
			ebb and flow of the tide.	
Water 6	0.16	acre(s)	(a)(1) Water is also subject to Sections 9 or 10 of the Rivers and Harbors Act - RHA Tidal water is subject to the ebb and flow of the tide.	For the entire site a MHW survey was performed by professional surveyor, indicating a MHW elevation of 1.24'. The elevation on LIDAR of Water 6 is lower than 1.24'. Water 6 is tidal pond abutting Bastrop Bayou, an (a)(1) water. Site visits, 7-30-20 & 9-11-20, also confirmed tidal Water 6 is subject to Section 10 and 404.
Water 7	0.10	acre(s)	(a)(1) Water is also subject to Sections 9 or 10 of the Rivers and Harbors Act - RHA Tidal water is subject to the ebb and flow of the tide.	For the entire site a MHW survey was performed by professional surveyor, indicating a MHW elevation of 1.24'. The elevation on LIDAR of Water 7 is lower than 1.24'. Water 7 is tidal pond abutting Bastrop Bayou, an (a)(1) water. Site visits, 7-30-20 & 9-11-20, also confirmed tidal Water 7 is subject to Section 10 and 404.
Water 8	0.11	acre(s)	(a)(1) Water is also subject to Sections 9 or 10 of the Rivers and Harbors Act - RHA Tidal water is subject to the ebb and flow of the tide.	For the entire site a MHW survey was performed by professional surveyor, indicating a MHW elevation of 1.24'. The elevation on LIDAR of Water 8 is lower than 1.24'. Water 8 is tidal pond abutting Bastrop Bayou, an (a)(1) water. Site visits, 7-30-20 & 9-11-20, also confirmed tidal Water 8 is subject to Section 10 and 404.
Water 9	0.69	acre(s)	(a)(1) Water is also subject to Sections 9 or 10 of the Rivers and Harbors Act - RHA Tidal water is subject to the ebb and flow of the tide.	For the entire site a MHW survey was performed by professional surveyor, indicating a MHW elevation of 1.24'. The elevation on LIDAR of Water 9 is lower than 1.24'. Water 9 is tidal pond abutting Bastrop Bayou, an (a)(1) water. Site visits, 7-30-20 & 9-11-20, also confirmed tidal Water 9 is subject to Section 10 and 404.
Water 10	0.05	acre(s)	(a)(1) Water is also subject to Sections 9 or 10 of the Rivers and Harbors Act - RHA Tidal water is subject to the ebb and flow of the tide.	For the entire site a MHW survey was performed by professional surveyor, indicating a MHW elevation of 1.24'. The elevation on LIDAR of Water 10 is lower than 1.24'. Water 10 is tidal pond abutting Bastrop Bayou, an (a)(1) water. Site visits, 7-30-20 & 9-11-20, also confirmed tidal Water 10 is subject to Section 10 and 404.

Tributaries ((a)(2) waters):				
(a)(2) Name	(a)(2) Size		(a)(2) Criteria	Rationale for (a)(2) Determination
Water 1	3,600	linear feet	(a)(2) Perennial tributary contributes surface water flow directly or indirectly to an (a)(1) water in a typical year.	Water 1 is a naturally occurring surface water channel that contributes surface water flow to an (a)(1) water, Bastrop Bayou, in a typical year, is perennial, and flows as such in a typical year. Based on visual observation, historic topographic maps and aerial imagery, this perennial tributary meets the 33 CFR 328.3(a)(2) definition. Flow regimes were determined based on review of referenced resources listed in sections IIIA and IIIB.

Lakes and ponds, and impoundments of jurisdictional waters ((a)(3) waters):				
(a)(3) Name	(a)(3) Size		(a)(3) Criteria	Rationale for (a)(3) Determination
Pond 1	1.1	acre(s)	(a)(3) Lake/pond or impoundment of a jurisdictional water inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	Pond 1 appears to be built on a historic drainage feature leading directly into Water 1 and is inundated by flooding from Water 1 in a typical year based on a flood elevation of 2.5' (determined from on-site water recorders). Pond 1 also contributes surface water flow directly or indirectly to an (a)(1) water, Bastrop Bayou, in a typical year. Bastrop Bayou abuts the northern edge of the project area.

Adjacent wetlands ((a)(4) waters):				
(a)(4) Name	(a)(4) Size		(a)(4) Criteria	Rationale for (a)(4) Determination
Wetland A	147.72	acre(s)	(a)(4) Wetland abuts an (a)(1)-(a)(3) water.	This wetland feature abuts/touches Bastrop Bayou, which is a tidal, perennial (a)(1) tributary. Therefore, per 33 CFR 328.3(c), the wetland is abutting to navigable waters (Bastrop Bayou) and is subject to jurisdiction under Section 404 of the CWA and Section 10 of RHA.
Wetland AA	0.09	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	Wetland AA is flooded by Water 1 in a typical year based on data showing inundation up to elevation 2.5'. The elevation on LIDAR of Wetland AA is higher than 1.24' MWH. Wetland AA does not abut a a)1-a)3 water but it is located within a landscape position that would be anticipated to be flooded by Water 1 in a typical year. Therefore, this wetland meets the 33 CFR 328.3(c)(i) definition of adjacent wetlands. This was determined based on a review of USGS topo maps, aerial photograph, and site-specific information including elevation and FEMA flood profiles.
Wetland B	2.26	acre(s)	(a)(4) Wetland abuts an (a)(1)-(a)(3) water.	This wetland feature abuts/touches Bastrop Bayou, which is a tidal, perennial (a)(1) tributary. Therefore, per 33 CFR 328.3(c), the wetland is abutting to navigable waters (Bastrop Bayou) and is subject to jurisdiction under Section 404 of the CWA and Section 10 of RHA.

Adjacent wetlands ((a)(4) waters):				
(a)(4) Name	(a)(4) Size		(a)(4) Criteria	Rationale for (a)(4) Determination
Wetland BB	6.99	acre(s)	(a)(4) Wetland abuts an (a)(1)-(a)(3) water.	This wetland feature abuts/touches Bastrop Bayou, which is a tidal, perennial (a)(1) tributary. Therefore, per 33 CFR 328.3(c), the wetland is abutting to navigable waters (Bastrop Bayou) and is subject to jurisdiction under Section 404 of the CWA and Section 10 of RHA.
Wetland CC	2.29	acre(s)	(a)(4) Wetland abuts an (a)(1)-(a)(3) water.	This wetland feature abuts/touches Bastrop Bayou, which is a tidal, perennial (a)(1) tributary. Therefore, per 33 CFR 328.3(c), the wetland is abutting to navigable waters (Bastrop Bayou) and is subject to jurisdiction under Section 404 of the CWA and Section 10 of RHA.
Wetland DD	0.10	acre(s)	(a)(4) Wetland abuts an (a)(1)-(a)(3) water.	This wetland feature abuts/touches Bastrop Bayou, which is a tidal, perennial (a)(1) tributary. Therefore, per 33 CFR 328.3(c), the wetland is abutting to navigable waters (Bastrop Bayou) and is subject to jurisdiction under Section 404 of the CWA and Section 10 of RHA.
Wetland G	0.06	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	Wetland G is flooded by Water 1 in a typical year based on data showing inundation up to elevation 2.5'. The elevation on LIDAR of Wetland G is lower than 2.5'. Wetland G does not abut a a)1-a)3 water but it is located within a landscape position that would be anticipated to be flooded by Water 1 in a typical year. Therefore, this wetland meets the 33 CFR 328.3(c)(i) definition of adjacent wetlands. This was determined based on a review of USGS topo maps, aerial photograph, and site-specific information including elevation and FEMA flood profiles.
Wetland H	0.22	acre(s)	(a)(4) Wetland abuts an (a)(1)-(a)(3) water.	This wetland feature abuts/touches Bastrop Bayou, which is a tidal, perennial (a)(1) tributary. Therefore, per 33 CFR 328.3(c), the wetland is abutting to navigable waters (Bastrop Bayou) and is subject to jurisdiction under Section 404 of the CWA and Section 10 of RHA.
Wetland I	0.05	acre(s)	(a)(4) Wetland abuts an (a)(1)-(a)(3) water.	This wetland feature abuts/touches Bastrop Bayou, which is a tidal, perennial (a)(1) tributary. Therefore, per 33 CFR 328.3(c), the wetland is abutting to navigable waters (Bastrop Bayou) and is subject to jurisdiction under Section 404 of the CWA and Section 10 of RHA.
Wetland K	2.10	acre(s)	(a)(4) Wetland separated from an (a)(1)-(a)(3) water only by an artificial structure allowing a direct	This wetland continues eastward out the project area through the Brazoria National Wildlife Refuge, eventually connecting with Cox Lake, the Gulf Intracoastal Waterway, and other jurisdictional tidal bodies. There appears to be a direct hydrologic

Adjacent wetlands ((a)(4) waters):				
(a)(4) Name	(a)(4) Size		(a)(4) Criteria	Rationale for (a)(4) Determination
			hydrologic surface connection between the wetland and the (a)(1)-(a)(3) water, in a typical year.	surface connection through several culvert crossings of this feature as it meanders through the Refuge.
Wetland P	0.17	acre(s)	(a)(4) Wetland abuts an (a)(1)-(a)(3) water.	This wetland feature abuts/touches Bastrop Bayou, which is a tidal, perennial (a)(1) tributary. Therefore, per 33 CFR 328.3(c), the wetland is abutting to navigable waters (Bastrop Bayou) and is subject to jurisdiction under Section 404 of the CWA and Section 10 of RHA. This Wetland is continuous with Wetland R, and is separated only because it is primarily forested, while Wetland R is primarily herbaceous.
Wetland R	4.57	acre(s)	(a)(4) Wetland abuts an (a)(1)-(a)(3) water.	This wetland feature abuts/touches Bastrop Bayou, which is a tidal, perennial (a)(1) tributary. Therefore, per 33 CFR 328.3(c), the wetland is abutting to navigable waters (Bastrop Bayou) and is subject to jurisdiction under Section 404 of the CWA and Section 10 of RHA. This Wetland is continuous with Wetland A if not for an out-tract would not be separately named.
Wetland S	0.05	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	Wetland S is flooded by Water 1 in a typical year based on data showing inundation up to elevation 2.5'. The elevation on LIDAR of Wetland S is lower than 2.5'. Wetland S does not abut a a)1-a)3 water but it is located within a landscape position that would be anticipated to be flooded by Water 1 in a typical year. Therefore, this wetland meets the 33 CFR 328.3(c)(i) definition of adjacent wetlands. This was determined based on a review of USGS topo maps, aerial photograph, and site-specific information including elevation and FEMA flood profiles.
Wetland T	0.05	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	Wetland T is flooded by Water 1 in a typical year based on data showing inundation up to elevation 2.5'. The elevation on LIDAR of Wetland T is lower than 2.5'. Wetland T does not abut a a)1-a)3 water but it is located within a landscape position that would be anticipated to be flooded by Water 1 in a typical year. Therefore, this wetland meets the 33 CFR 328.3(c)(i) definition of adjacent wetlands. This was determined based on a review of USGS topo maps, aerial photograph, and site-specific

Adjacent wetlands ((a)(4) waters):				
(a)(4) Name	(a)(4) Size		(a)(4) Criteria	Rationale for (a)(4) Determination
				information including elevation and FEMA flood profiles.
Wetland U	0.01	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	Wetland U is flooded by Water 1 in a typical year based on data showing inundation up to elevation 2.5'. The elevation on LIDAR of Wetland U is lower than 2.5'. Wetland U does not abut a a)1-a)3 water but it is located within a landscape position that would be anticipated to be flooded by Water 1 in a typical year. Therefore, this wetland meets the 33 CFR 328.3(c)(i) definition of adjacent wetlands. This was determined based on a review of USGS topo maps, aerial photograph, and site-specific information including elevation and FEMA flood profiles.
Wetland V	0.01	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	Wetland V is flooded by Water 1 in a typical year based on data showing inundation up to elevation 2.5'. The elevation on LIDAR of Wetland V is lower than 2.5'. Wetland V does not abut a a)1-a)3 water but it is located within a landscape position that would be anticipated to be flooded by Water 1 in a typical year. Therefore, this wetland meets the 33 CFR 328.3(c)(i) definition of adjacent wetlands. This was determined based on a review of USGS topo maps, aerial photograph, and site-specific information including elevation and FEMA flood profiles.
Wetland W	1.68	acre(s)	(a)(4) Wetland inundated by flooding from an (a)(1)-(a)(3) water in a typical year.	Wetland W is flooded by Water 1 in a typical year based on data showing inundation up to elevation 2.5'. The elevation on LIDAR of Wetland W is lower than 2.5'. Wetland W does not abut a a)1-a)3 water but it is located within a landscape position that would be anticipated to be flooded by Water 1 in a typical year. Therefore, this wetland meets the 33 CFR 328.3(c)(i) definition of adjacent wetlands. This was determined based on a review of USGS topo maps, aerial photograph, and site-specific information including elevation and FEMA flood profiles.

D. Excluded Waters or Features

Excluded waters ((b)(1) – (b)(12)):[4]				
Exclusion Name	Exclusion Size		Exclusion[5]	Rationale for Exclusion Determination
Wetland C	0.62	acre(s)	(b)(1) Non-adjacent wetland.	This wetland does not abut an (a)(1) – (a)(3) water; is not inundated by flooding from an (a)(1) – (a)(3) water in a typical year; is not physically separated from an (a)(1) – (a)(3) water only by a natural berm, bank, dune, or similar natural feature; or is not physically separated from an (a)(1) – (a)(3) water only by an artificial dike, barrier, or similar artificial structure. Wetland does not fall within documented typical year flood zone by elevation (2.5').
Wetland D	0.08	acre(s)	(b)(1) Non-adjacent wetland.	This wetland does not abut an (a)(1) – (a)(3) water; is not inundated by flooding from an (a)(1) – (a)(3) water in a typical year; is not physically separated from an (a)(1) – (a)(3) water only by a natural berm, bank, dune, or similar natural feature; or is not physically separated from an (a)(1) – (a)(3) water only by an artificial dike, barrier, or similar artificial structure. Wetland does not fall within documented typical year flood zone by elevation (2.5').
Wetland E	0.16	acre(s)	(b)(1) Non-adjacent wetland.	This wetland does not abut an (a)(1) – (a)(3) water; is not inundated by flooding from an (a)(1) – (a)(3) water in a typical year; is not physically separated from an (a)(1) – (a)(3) water only by a natural berm, bank, dune, or similar natural feature; or is not physically separated from an (a)(1) – (a)(3) water only by an artificial dike, barrier, or similar artificial structure. Wetland does not fall within documented typical year flood zone by elevation (2.5').
Wetland F	0.34	acre(s)	(b)(1) Non-adjacent wetland.	This wetland does not abut an (a)(1) – (a)(3) water; is not inundated by flooding from an (a)(1) – (a)(3) water in a typical year; is not physically separated from an (a)(1) – (a)(3) water only by a natural berm, bank, dune, or similar natural feature; or is not physically separated from an (a)(1) – (a)(3) water only by an artificial dike, barrier, or similar artificial structure. Wetland does not fall within documented typical year flood zone by elevation (2.5').
Wetland J	1.28	acre(s)	(b)(1) Non-adjacent wetland.	This wetland does not abut an (a)(1) – (a)(3) water; is not inundated by flooding from an (a)(1) – (a)(3) water in a typical year; is not physically

[4] Some excluded waters, such as (b)(2) and (b)(4), may not be specifically identified on the AJD form unless a requestor specifically asks a Corps district to do so. Corps districts may, in case-by-case instances, choose to identify some or all of these waters within the review area.
[5] Because of the broad nature of the (b)(1) exclusion and in an effort to collect data on specific types of waters that would be covered by the (b)(1) exclusion, four sub-categories of (b)(1) exclusions were administratively created for the purposes of the AJD Form. These four sub-categories are not new exclusions, but are simply administrative distinctions and remain (b)(1) exclusions as defined by the NWPR.

Excluded waters ((b)(1) – (b)(12)):[4]				
Exclusion Name	Exclusion Size		Exclusion[5]	Rationale for Exclusion Determination
				separated from an (a)(1) – (a)(3) water only by a natural berm, bank, dune, or similar natural feature; or is not physically separated from an (a)(1) – (a)(3) water only by an artificial dike, barrier, or similar artificial structure. Wetland does not fall within documented typical year flood zone by elevation (2.5').
Wetland L	1.10	acre(s)	(b)(1) Non-adjacent wetland.	This wetland does not abut an (a)(1) – (a)(3) water; is not inundated by flooding from an (a)(1) – (a)(3) water in a typical year; is not physically separated from an (a)(1) – (a)(3) water only by a natural berm, bank, dune, or similar natural feature; or is not physically separated from an (a)(1) – (a)(3) water only by an artificial dike, barrier, or similar artificial structure. Wetland does not fall within documented typical year flood zone by elevation (2.5').
Wetland M	0.02	acre(s)	(b)(1) Non-adjacent wetland.	This wetland does not abut an (a)(1) – (a)(3) water; is not inundated by flooding from an (a)(1) – (a)(3) water in a typical year; is not physically separated from an (a)(1) – (a)(3) water only by a natural berm, bank, dune, or similar natural feature; or is not physically separated from an (a)(1) – (a)(3) water only by an artificial dike, barrier, or similar artificial structure. Wetland does not fall within documented typical year flood zone by elevation (2.5').
Wetland N	0.02	acre(s)	(b)(1) Non-adjacent wetland.	This wetland does not abut an (a)(1) – (a)(3) water; is not inundated by flooding from an (a)(1) – (a)(3) water in a typical year; is not physically separated from an (a)(1) – (a)(3) water only by a natural berm, bank, dune, or similar natural feature; or is not physically separated from an (a)(1) – (a)(3) water only by an artificial dike, barrier, or similar artificial structure. Wetland does not fall within documented typical year flood zone by elevation (2.5').
Wetland O	2.44	acre(s)	(b)(1) Non-adjacent wetland.	This wetland does not abut an (a)(1) – (a)(3) water; is not inundated by flooding from an (a)(1) – (a)(3) water in a typical year; is not physically separated from an (a)(1) – (a)(3) water only by a natural berm, bank, dune, or similar natural feature; or is not physically separated from an (a)(1) – (a)(3) water only by an artificial dike, barrier, or similar artificial structure. Wetland does not fall within documented typical year flood zone by elevation (2.5').

Excluded waters ((b)(1) – (b)(12)):[4]				
Exclusion Name	Exclusion Size		Exclusion[5]	Rationale for Exclusion Determination
Wetland X	0.55	acre(s)	(b)(1) Non-adjacent wetland.	This wetland does not abut an (a)(1) – (a)(3) water; is not inundated by flooding from an (a)(1) – (a)(3) water in a typical year; is not physically separated from an (a)(1) – (a)(3) water only by a natural berm, bank, dune, or similar natural feature; or is not physically separated from an (a)(1) – (a)(3) water only by an artificial dike, barrier, or similar artificial structure. Wetland does not fall within documented typical year flood zone by elevation (2.5').

III. SUPPORTING INFORMATION

A. Select/enter all resources that were used to aid in this determination and attach data/maps to this document and/or references/citations in the administrative record, as appropriate.

☒ Information submitted by, or on behalf of, the applicant/consultant: Wetland Delineation Report, Mosquito Ranch, Berg Oliver Assoc., Inc. September 2020 with Data Sheets collected 4-1-20, 4-3-20, and 4-17-20.

This information is and is not sufficient for purposes of this AJD.
Rationale: updated maps (4-07-2021) required

☐ Data sheets prepared by the Corps: Title(s) and/or date(s).

☒ Photographs: Aerial: NAIP 12-10-2018, NAIP 9-26-2016, NAIP 10-24-2014, NAIP 6-1-2012

☒ Corps site visit(s) conducted on: 7-30-20, 9-11-20

☐ Previous Jurisdictional Determinations (AJDs or PJDs): ORM Number(s) and date(s).

☒ Antecedent Precipitation Tool: *provide detailed discussion in Section III.B*.

☒ USDA NRCS Soil Survey: Web Soil Survey generated, 2019 dataset

☐ USFWS NWI maps: Title(s) and/or date(s).

☒ USGS topographic maps: Oyster Creek, Tx., USGS 7.5' Quad-1974

Other data sources used to aid in this determination:

Data Source (select)	Name and/or date and other relevant information
USGS Sources	N/A.
USDA Sources	Historical Aerial imagery: 1939, 1944, 1953, 1958, 1965
NOAA Sources	N/A.
USACE Sources	N/A.
State/Local/Tribal Sources	N/A.
Other Sources	N/A.

B. Typical year assessment(s): In an effort to determine adjacency (as it pertains to hydrologic trends and the subject aquatic resources verified by SWG) an analysis was done using the APT tool, elevation data, aerial imagery & other relevant site-specific information. The APT is a tool that affords the user the capability to look at rainfall at a specific location in the recent past compared to long term precipitation. It provides results for short term precipitation (last 72 hours), the last 3 months (WETS score) and the APT result comparing the last 30 years from numerous nearby gages. It also reports the PDSI (drought index) rainfall & WebWimp water balance/hydrologic seasons information. WETS analysis produces a score

between 6 and 18 noting a score of 6-9 is drier than normal, 10-14 is normal & 15-18 is wetter than normal. The APT uses climatic data collected from numerous nearby weather stations and produces the most reliable source for a full 30 years of precipitation data). Here are the long term and short term response for the APT test for aerials & site visit. Water features where analyzed using APT calculating for Corps site visit date of 30 July 2020. The WETs score (last 3 mths) for that date totaled 14 on a scale of 6-18 with a score of 15-18 being wetter than normal precipitation for the previous 3 months, which indicates that the measurements or observations made are reflective of normal climatic conditions. It uses climatic data collected from numerous nearby weather stations and produces the most reliable source with a full 30 years of precipation data. The site coridnates are located at an appx 4.95 ft elevation. Below is the result of numerous dates run for this site.

Date	Rain prior 72 hours	WETS (3 mth) score:	APT	Season	PDSI
01 Jun 2012 (NAIP image)	0”	9 (D)	Normal	Wet	Extreme Drought
24 Oct 2014 (NAIP image)	2.2”	10(N)	Normal	Wet	Incipient Drought
26 Sep 2016 (NAIP)	0.12”	10 (N)	Below	Wet	Severe wetness
10 Dec 2018 (NAIP)	2.97”	15(N)	Normal	Wet	Severe wetness
01 Apr 2020 (Agent Site visit)	0”	8(D)	Below	Wet	Mild Drought
03 Apr 2020 (Agent 2nd site visit)	0”	8(D)	Below	Wet	Mild Drought
17 Apr 2020 (Agent 3rd site visit)	0”	10 (N)	Normal	Wet	Mild Drought
07 Jun 2020* (Flood event)	0.01”	16 (W)	Above	Dry	Mild Drought
30 Jul 2020 (Corps site visit)	0.69”	14 (N)	Above	Dry	Incipient Drought
11 Sep 2020	1.15”	10 (N)	Below	Wet	Mild Drought

* while the preceeding 72 hours saw only 0.01" of precipitation, the 72 hours at the start of the event (5-14-20 to 5-17-20) saw 4.7" of precipitation. 72-hour Precip Data from station: FREEPORT 2 NW, TX.

Antecedent Precipitation Tool was run for each of the 3 wetland delineation site visit days. Based on this analysis, the first two days of the delineation (4-1-20 and 4-3-20) can be considered drier than normal, and the third day (4-17-20) falls within the “normal” condition range by a slim margin, very close to be considered drier as well. APT was also run for the 4 NAIP aerial images and the 2 USACE site visit days. The NAIP 2012 aerial was taken during a Drier than Normal period per the WETS analysis and during an Extreme Drought per the PDSI. This image was not very useful in distinguishing wetland boundaries other than those whose boundaries were clear from vegetation and topographic changes. The NAIP 2014 and NAIP 2016 images were taken in slightly wetter conditions relative to the 2012 image, and some wetter portions of areas such as in Wetland A become visually distinct from the clear upland areas. However only the NAIP 2018 image, which was taken in the even more Wetter than normal conditions (and received nearly 3 inches of rain in the previous 72 hours), began to show boundaries that broadly correspond with

the delineated wetland borders. This same 2018 image with the bands adjusted to show Infrared is also included to better highlight these distinctions. So, while the 2018 image was taken during somewhat wetter conditions than normal, these conditions were seemingly necessary for the surface hydrology to become visible through the dense herbaceous vegetation covering much of the site. The 2 USACE site visits were conducted in normal conditions per WETS, though the site received 0.70 and 1.15 inches of rain prior to the first and second site vists, repectively.

The results of the review of the APT analysis aiding in reaching the conclusion needed to determine if the subject feature have more than ephermal flow and/or are inundated by flooding from a (a)1-(a)3 water in a typical year. Flow regimes were veriffied based on field observations, current and historical data (aerial photography and USGS topographic maps), ORM data and past actions, and NWI maps.

C. **Additional comments to support AJD:** Water level monitoring devices were installed during the site delineation in April 2020 to document long-term hydrologic conditions on the site (set to 30-minute logging intervals). The first few months of this data was analyzed to establish an approximate typical year flood elevation, which would be used to determine the zone of typical year inundation from Water 1 and Bastrop Bayou and distinguish the Excluded Waters.

Based on water recorder data from April to September, it appeared that 2.5 feet in elevation was the contour that best represented what seemed to be a typical year event within this dataset. Specifically, this flood event occurred due to several sequential rainfall events beginning on 5-14-20, and was determined to be a typical year event because the 30-day Rolling Total would not exceed the maximum values of the 30-year Rolling Average, in September, on APT. In other words, while this was not a “typical month” event, it can be considered a typical year event as had it occurred in September (the wettest month for this area) it would have fallen within the normal range on APT. Due to the location of the subject property near the outlet of Bastrop Bayou into tidal waters, it took some time for the water levels to peak, which they did the evening of 6-7-20 with the “Bayou” recorder logging 2.58’ and the “Water 1” logging 2.45’.

While the water recorders did log an elevation of 3.6’ during the flood event on 7-22-20, that was a result of the outer bands of then-Tropical Storm Hanna and therefore was not considered to be a typical year event

Image Source: NAIP 12-10-2018
Projection: NAD 83, UTM Zone 15N
Vertical Datum: NAVD 88
GIS Contact: jdunn@bergoliver.com

0 275 550 1,100 Feet

Legend	Acres
Tidal / Herbaceous Wetlands (Jurisdictional)	168.25
Herbaceous Wetlands (Non-Jurisdictional)	0.55
Forested / Scrub-Shrub Wetlands (Jurisdictional)	0.17
Forested / Scrub-Shrub Wetlands (Non-Jurisdictional)	6.06
Impoundment (Jurisdictional)	1.1
Waters of the U.S. - Tidal Tributary (Jurisdictional)	2.05
Waters of the U.S. - Tidal Open Water (Jurisdictional)	1.65
2.50' Typical Yr. Flood Contour (Datum Reference: NAVD 88)	
1.24' MHW Contour (Datum Reference: NAVD 88)	
Project Boundary	440

Water 9
Water 8
Water 7
Water 6
Water 5
Water 4
Water 3
Water 2
Water 1
Water 10
BB
CC
AA
DD
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
R
T
U
V
W
X
Pond 1
Area shown only for continuity, not included in calculations.

USACE Approved Jurisdictional Determination Overview Map - Mosquito Ranch

Project #: 11663N
For: JMB Land Company
Location: Mosquito Ranch
Brazoria County, Texas

Disclaimer: Potential features depicted have been classified based upon Berg Oliver Associates, Inc.'s professional opinion. The Corps of Engineers is the final authority on jurisdictional features.

SITE MAP

REVISIONS
4-6-21 JD
4-7-21 JD
6-2-21 JD

BERG ♦ OLIVER ASSOCIATES, INC.
ENVIRONMENTAL SCIENCE & LAND USE CONSULTANTS
14701 ST. MARY'S LANE, SUITE 400
HOUSTON, TEXAS 77079
(281)589-0898 http://www.bergoliver.com

Image Source: NAIP 12-10-2018
Projection: NAD 83, UTM Zone 15N
GIS Contact: jdunn@bergoliver.com

Legend	Acres
Tidal Wetlands	174.88
Waters of the U.S. (Jurisdictional)	2 / 3,660 LF
Project Boundary	440

0 275 550 1,100 Feet

Acres	Type	ID
143.00	tidal	WAA A
0.08	tidal	WAA AA
2.26	tidal	WAA B
8.09	tidal	WAA BB
0.62	tidal	WAA C
2.79	tidal	WAA CC
0.08	tidal	WAA D
0.10	tidal	WAA DD
0.16	tidal	WAA E
0.34	tidal	WAA F
0.06	tidal	WAA G
0.22	tidal	WAA H
0.05	tidal	WAA I
1.28	tidal	WAA J
2.10	tidal	WAA K
1.10	tidal	WAA L
0.02	tidal	WAA M
0.02	tidal	WAA N
2.44	tidal	WAA O
0.17	tidal	WAA P
0.40	tidal	WAA Q
4.18	tidal	WAA R
0.05	tidal	WAA S
0.05	tidal	WAA T
0.01	tidal	WAA U
0.01	tidal	WAA V
1.68	tidal	WAA W
0.56	tidal	WAA X
1.03	tidal	WAA Y
1.93	tidal	WAA Z

WAA BB
WAA Z
WAA Y
WAA CC
WAA DD
WAA AA
WAA I
WAA H
WAA B
WAA C
WAA D
WAA X
WAA A
WAA E
WAA G
WAA A
WAA F
WAA W
WAA T
WAA U
WAA V
WAA S
WAA R
WAA J
WAA Q
WAA O
WAA L
WAA M
WAA N
WAA K
WAA P

HYDROGEOMORPHIC DETERMINATION AND CLASSIFICATION - OVERVIEW

Project #: 11663N-HGM
For: JMB Land Company
Location: Mosquito Ranch
Brazoria County, Texas

Disclaimer: Potential features depicted have been classified based upon Berg Oliver Associates, Inc.'s professional opinion. The Corps of Engineers is the final authority on jurisdictional features.

SITE MAP

REVISIONS
7-27-20 JD
9-8-20 JD

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