

APPENDIX B – REAL ESTATE PLAN



Galveston Intercoastal Waterways Coastal Resilience Study, Texas

January 2022

This Real Estate Plan has been prepared in accordance with ER 405-1-12 dated 1 May 1998.

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Table of Contents

GENERAL BACKGROUND.....	8
PROJECT TYPE & PURPOSE	8
Prior Studies, Reports, and Existing Projects	8
Study Purpose	9
Study Scope	9
Authority	9
STUDY AREA AND PROJECT LOCATION	9
Study Area	9
Project Location	10
NON-FEDERAL SPONSOR	14
PROPOSED PROJECT ALTERNATIVES	14
Measures Considered	14
Initial Alternatives Considered	15
Final Alternatives Considered.....	16
EXISTING FEDERAL & NON-FEDERAL RE INTERESTS.....	21
Existing Federally-Owned Tracts	21
Existing Federally Owned Placement Areas.....	24
Coastal Barrier Resources Act	28
Existing NFS Owned Real Estate	29
Tentatively Selected Plan/Recommended Plan	29
NEW REAL ESTATE REQUIREMENTS FOR THE TSP.....	29
New Real Estate Requirements for Project Construction	29
1.1.1 New Real Estate Requirements for Increment 12.3.2.....	30
1.1.2 New Real Estate Requirements for Increment 13.6.1	31
1.1.3 New Real Estate Requirements for Increment 14.6.1	32
1.1.4 New Real Estate Requirements for Increment 16.6.1	33
1.1.5 New Real Estate Requirements for Increment 18.6.1	34
New Real Estate Requirements for the Placement Plan	35
New Real Estate Requirements for Mitigation	35
Access/Staging Area Requirements	35
Estates	36
BORROW MATERIAL	36
RECREATION FEATURES	36
TIMBER RIGHTS & MINERAL/ENERGY ACTIVITY	36

FACILITY/UTILITY/PIPELINE RELOCATIONS	39
Pipelines.....	39
ZONING	40
HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE OR OTHER ENVIRONMENTAL CONTAMINANTS.....	40
NAVIGATION SERVITUDE	40
INDUCED FLOODING	41
ATTITUDES OF THE LANDOWNERS.....	41
PUBLIC LAW 91-646 RELOCATIONS	41
BASELINE COST ESTIMATE FOR REAL ESTATE	41
LAND ACQUISITION SCHEDULE	47
REAL ESTATE ISSUES.....	47
REFERENCES	47

List of Figures

Figure 1: Study Area.....	11
Figure 2: Initial Project Scope	12
Figure 3: Refined Project Scope	13
Figure 4: Zone 12 Increments	16
Figure 5: Zone 13 Increments	17
Figure 6: Zone 14 Increments	17
Figure 7: Zone 16 Increments	18
Figure 8: Zone 18 Alternative 3 Increments	18
Figure 9: Zone 18 Alternative 6 Increments	19
Figure 10: USACE Tracts Zones 12-14.....	21
Figure 11: USACE Tracts Zone 16.....	22
Figure 12: USACE Tracts Zone 18.....	23
Figure 13: USACE Placement Areas (PAs) Zones 12-14	24
Figure 14: USACE Placement Areas (PAs) Zone 16	25
Figure 15: USACE Placement Areas (PAs) Zone 18	26
Figure 16: Coastal Barrier Resources Act	27
Figure 17: New real Estate Requirements for Increment 12.3.2.....	29
Figure 18: New Real Estate Requirements for Increment 13.6.1	30
Figure 19: New Real Estate Requirements for Increment 14.6.1	31
Figure 20: New real Estate Requirements for Increment 16.6.1.....	32
Figure 21: New Real Estate Requirements for Increment 18.6.1	33
Figure 22: Wells in the Project Area, Zones 12-16	36
Figure 23: Wells in the Project Area, Zones 18.....	37
Figure 24: Pipelines in the Project Area	39

List of Tables

Table 2-1: Most Pertinent Prior Studies, Reports, and Existing Projects	9
Table 3-1: Existing USACE Tracts.....	20
Table 4-1: Existing USACE Placement Areas.....	23
Table 5-1: Placement Plan	34
Table 6-1: Estates Required	34
Table 7-1: Pipelines within the Project Area	39
Table 10-1: Baseline Cost Estimate for Real Estate – Increment 12.3.1	41
Table 10-2: Baseline Cost Estimate for Real Estate – Increment 13.6.1	42
Table 10-3: Baseline Cost Estimate for Real Estate – Increment 14.6.1	43
Table 10-4: Baseline Cost Estimate for Real Estate – Increment 16.6.1	44
Table 10-5: Baseline Cost Estimate for Real Estate – Increment 18.6.1	45
Table 10-6: Resilience Plan Cost Summary	46
Table 11-1: Land Acquisition Schedule	46

List of Acronyms

BCE	Baseline Cost Estimate
BCR	Benefit-to-Cost Ratio
BU	Beneficial Use
BUS	Beneficial Use Site(s)
CBRA	Coastal Barrier Resources Act
CBRS	Coastal Barrier Resources System
DA	Department of the Army
HTRW	Hazardous, Toxic, and Radioactive Waste
LERRD	Lands, Easements, Rights-of-Way, Relocations, and Disposals
MLLW	Mean Lower Low Water
MLT	Mean Low Tide
NFS	Non-Federal Sponsor
O&M	Operations & Maintenance
PA	Placement Area
PDT	Project Delivery Team
PED	Preconstruction, Engineering, and Design
PL	Public Law
REP	Real Estate Plan
ROW	Right-of-Way
RRC	Railroad Commission of Texas
SWD	Southwestern Division
SWF	Southwestern Fort Worth
SWG	Southwestern Galveston District
TSP	Tentatively Selected Plan
USACE	U.S. Army Corps of Engineers
VT	Vertical Team
VTs	Vessel Traffic System
WRDA	Water Resources Development Act

GENERAL BACKGROUND

This Real Estate Plan (REP) is the work product of the U.S. Army Corps of Engineers (USACE), Galveston District, Real Estate Division that supports the GIWW Texas Coastal Storm Risk Management Study. It identifies and describes the lands, easements, rights-of-way, relocations, and disposals (LERRD) required for the construction, operation and maintenance of the proposed project, including those required for relocations (i.e., P.L. 91-646 relocations and utility/facility relocations), borrow material, and dredged or excavated material disposal. Furthermore, the REP describes the estimated LERRD value, together with the estimated administrative and incidental costs attributable to providing LERRD, and the acquisition process.

This report is prepared based on specific data from the USACE, Galveston District Project Delivery Team (PDT) for the GIWW Coastal Storm Risk Management Study. However, this plan is tentative in nature and intended for planning purposes only. Some modifications to the recommended plan could occur and change the determinations of real property lines, estimates of values, and rights required for the project, etc. as outlined in this plan, even after final report approval. The level of detail provided in this REP is understood to be equivalent to the other PDT disciplines.

PROJECT TYPE & PURPOSE

The GIWW Coastal Storm Risk Management Study is a project for navigation and hurricane and storm damage reduction. The purpose of this study is to investigate modifications to the GIWW that would increase system resilience, improve navigability and navigation safety, reduce overall dredging and structure maintenance, reduce commercial transit delays and accidents and enhance regional sediment management practices.

Prior Studies, Reports, and Existing Projects

Table 2-1 below outlines the studies, reports, and existing projects most pertinent to the Galveston Intercoastal Waterway.

Table 2-1: Most Pertinent Prior Studies, Reports, and Existing Projects

Year	Description
1975	Final Environmental Statement, Maintenance Dredging, Gulf Intracoastal Waterway, Texas Section, Main Channel and Tributary Channels, Volumes 1-3
1997	Preliminary Chocolate Bayou Wye Ship Simulation Study
1998	Final Report - Freeport Wiggles Channel Improvement Study (Ship Simulation)
2003	Gulf Intracoastal Waterway High Island to Brazos River Section 216 Study Final Feasibility Report
2014	Reducing shoaling in the Texas GIWW and Erosion of Barrier Islands Along West Galveston Bay
2016	Coastal Texas Protection and Restoration Study (Ongoing), U.S. Army Corps of Engineers
2019	Gulf Intracoastal Waterway, Brazos River Floodgates and Colorado River Locks, Texas, Final Integrated Feasibility Report and Environmental Impact Statement

Study Purpose

The purpose of the GIWW, Coastal Resilience Study, TX (GIWW CRS) is to analyze current conditions and propose alternative solutions which could increase the resiliency of the GIWW in Matagorda County, TX. Current concerns on the GIWW include multiple factors resulting in delays to navigation due to increased shoaling, insufficient width of the channel, exposure of the vessels traversing the GIWW to hazardous weather conditions, and lack of infrastructure to support operations. Erosion and degradation of the shoreline of the channel contributes to conditions creating unsafe navigation which could result in delays, groundings, accidents and allisions. Additionally, changes in the banks of the GIWW due to these stressors are a major factor in increased shoaling rates which create the need for an increase in dredging.

Study Scope

The PDT delineated the study area into twenty zones. The WRRDA proposal indicated that this study would involve “describing waterway reaches that are most vulnerable to losses in GIWW resiliency and sustainability”. Therefore, the PDT identified the most critical areas for erosion and shoaling as zones 11, 12, 13, 16 and 18 (See Figure 2 below). These zones had the greatest risk of breach, and highest shoaling areas within, Brazoria and Matagorda Counties.

Authority

This study is authorized under Section 1201 (23) of the Water Resources Development Act (WRDA) 2016, Public Law (PL) 114-322:

The Secretary is authorized to conduct a feasibility study for the following projects for water resources development and conservation and other purposes, as identified in the reports titled “Report to Congress on Future Water Resources Development” submitted to Congress on January 29, 2015, and January 29, 2016, respectively, pursuant to section 7001 of the Water Resources Reform and Development Act of 2014 (33 U.S.C. 2282d) or otherwise reviewed by Congress:

(25) GULF INTRACOASTAL WATERWAY, BRAZORIA AND MATAGORDA COUNTIES, TEXAS.—Project for navigation and hurricane and storm damage reduction, Gulf Intracoastal Waterway, Brazoria and Matagorda Counties, Texas.

STUDY AREA AND PROJECT LOCATION

The paragraphs below will describe the study area and project location.

Study Area

The study area encompasses Brazoria county to the northeast and Matagorda County to the southwest, which make up approximately 85 miles of the GIWW (See Figure 1 below). Significant intersections with the GIWW along this reach include Chocolate Bayou, Bastrop Bayou, Oyster Creek, the Freeport Channel, Brazos River, and the San Bernard River, in Brazoria County. In Matagorda County they include Cedar Lake Creek, Caney Creek, Live Oak Bayou and the Colorado River.

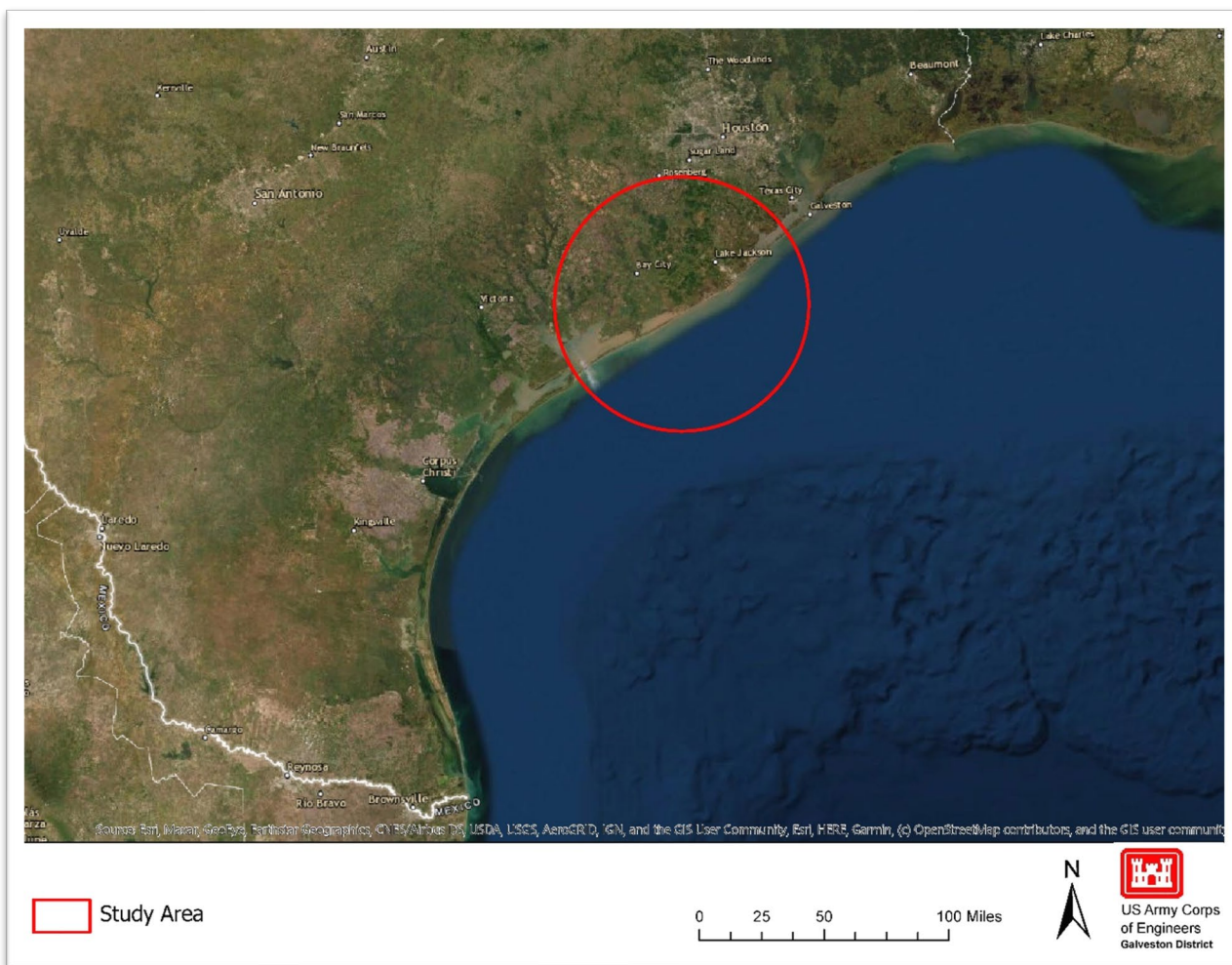


Figure 1: Study Area

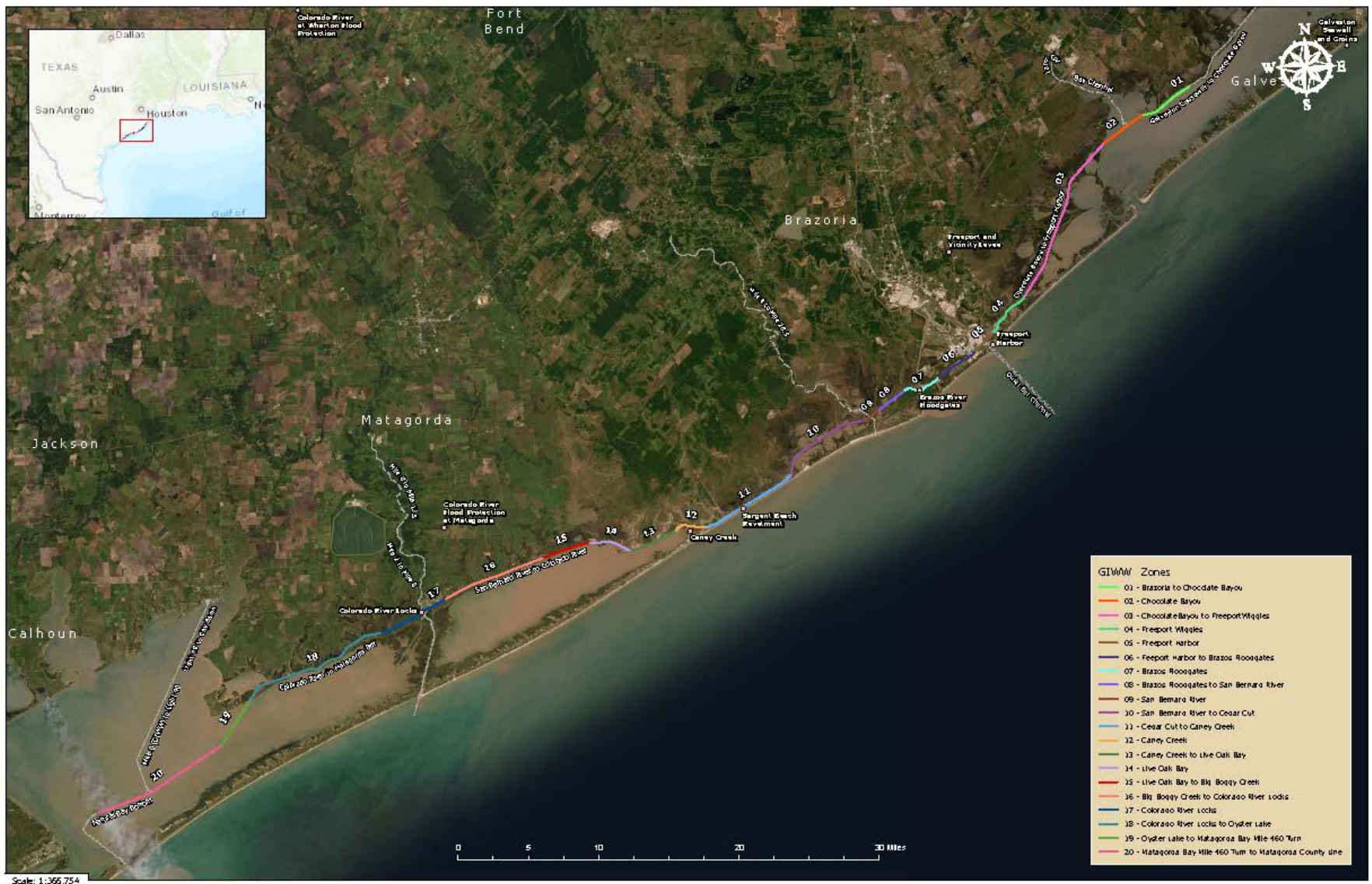
Project Location

The GIWW main channel is a man-made inland waterway which travels 379 miles along the coast of Texas extending from the Sabine River in southeast Texas down the coast to the Brownsville Ship Channel in southwest Texas. The entire GIWW in Texas connects 15 deep draft ports and 10 shallow draft ports. The channel is authorized for a width of 125 feet and a depth of 12 feet and serves to protect barge and other small vessel traffic from the forces of the Gulf of Mexico.

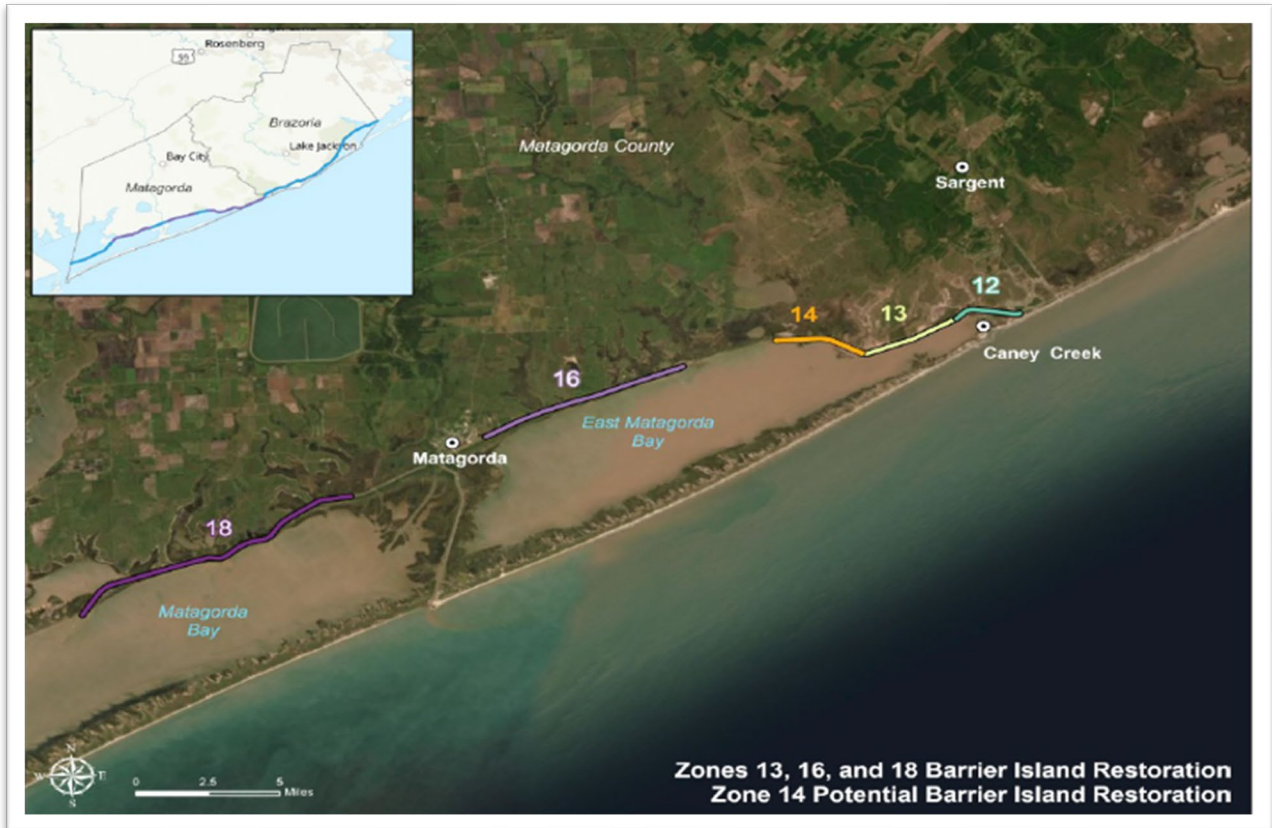
The Texas portion of the GIWW navigation project consists, generally, of a 12 to 14-foot deep by 125-foot wide by approximately 423-mile long shallow-draft channel, traversing the entire Texas Coast. The 379-mile main channel extends from the Sabine River to Port Isabel, Texas and includes several tributary channels along its length. The GIWW project also includes flood gates and navigation lock structures at the Brazos and Colorado Rivers, respectively. Finally, mooring basins and mooring buoys are maintained at 10 separate locations along the length of the GIWW. The mooring basins support the heavy barge traffic, which is estimated at approximately 45,000 trips per year in FY 2017. The Texas portion of the GIWW provides for an intermodal link between the Texas deep draft and shallow draft ports. This intermodal link is essential in connecting Texas ports and waterways with the petrochemical industries, refineries and

manufacturing facilities staggered along the Texas coast. The GIWW also provides a critical link between the Texas ports and national coastal and inland port facilities. The amount of commercial tonnage transiting the Texas portion of the GIWW was 80.1 million tons total in 2017.

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The initial project scope included 20 project zones which spanned across both Brazoria and Matagorda County as shown in Figure 2. The project was refined to only include zones 12, 13, 14, 16 and 18, as shown in Figure 3. The remaining zones were eliminated from the scope of the project because they already addressed by other federal studies.



NON-FEDERAL SPONSOR

There is not a Non-Federal Sponsor (NFS) for this project. The construction costs will be shared with the Inland Waterways Users Board (IWUB). It is currently unclear what the cost share percentages will be between USACE and the IWUB or if the IWUB will have any responsibilities other than to provide funds. This section will be updated once more information becomes available.

PROPOSED PROJECT ALTERNATIVES

The sections below outline the measures considered, initiative alternatives considered, final alternatives considered, and the TSP for the project.

Measures Considered

The following non-structural measures were considered as part of this study:

- Light Loading
- Operational Scheduling
- Buyouts/Relocations to address channel encroachments

- Speed restrictions for high-speed vessels
- Additional Meters

The following stabilization measures were considered as part of this study:

- Breakwaters/Wave breaks
- Jetties/Terminal Groins
- Revetments/Shoreline Stabilization
- Living Shoreline
- Barrier Creation/Restoration
- Oyster Reefs
- Coastal Marsh Creation/Restoration
- Beach/Berm/Dune Creation/Restoration/Strengthening

The following channel modifications were considered as part of this study:

- Bend Easing/Minor re-alignments
- Channel Widening/Straightaways for Meeting
- Sediment Traps/Deepening
- Additional Mooring/Fleetings

The following dredge and placement measures were considered as part of this study:

- Offshore placement
- New Confined Placement Areas
- Bed load collector
- Beneficial Use

Initial Alternatives Considered

The alternatives below were evaluated based on costs, economic benefits, environmental impacts, planning objectives, planning constraints, safety, engineering requirements, and real estate impacts:

- Alternative 1-No Action Alternative: The No-Action Alternative forms the baseline to which all other alternatives are compared. The No-Action Alternative would not result in additional costs for construction and operations and maintenance (O&M); would not provide additional benefits or increase resiliency of the system and would not result in environmental impacts. An assumption for the No Action and Future Without-Project Condition (FWOP) is that the Texas Coastal and GIWW Brazos River Floodgates and Colorado River Locks (BRFG-CRL) Recommended Plans (Projects) are in place.
- Alternative 2-Non-structural Alternative: This alternative would use non-structural measures within the study area to allow continued vessel transit to the greatest possible extent; however, some of these measures are already practiced to the greatest extent practicable and are not sufficient to alleviate existing inefficiencies. Non-structural measures considered include light-loading, current meters, operational scheduling, and speed restrictions.
- Alternative 3-Shoreline Stabilization Alternative: This alternative would address some of the shoaling problems by reducing sediment input from eroding shorelines and upland PAs and barriers causes by vessel-induced and wind-driven waves. This alternative would

utilize hard stabilization features (i.e., breakwaters; jetties/groins; and revetments); and/or natural stabilization features (i.e., oyster reefs/marshes; plantings; coastal barriers; and coastal dunes/beaches).

- Alternative 4-Alternative 2 (Non-structural Alternative) + Sediment and Placement Alternative: Maximum Depth, Maximum Width: This alternative builds upon Alternative 2 (non-structural measures) by addressing sediment in Zone 4, 5, 7 through 9, 12, 17, 19, and 20 and allow for reconsideration of how dredge material is managed within the minimal Federal standard and consider options that would make for a more resilient system, which conceivably may cost more. The PDT will reevaluate the study area to determine any additional zones where non-structural and/or sediment/placement measures will be utilized.
- Alternative 5-Alternative 4 (Sediment Placement Alternative) + Channel Modification: This alternative builds upon the measures in Alternative 4 and includes potential channel modifications such as deepening within Zone 1 through 20, minus Zone 4 (Freeport Wiggles). Measures such as bend easing/minor realignments, channel widening; bedload collectors, and sediment traps would be considered within Zones 2, 4, 7, 9, 11, 12, 17, and 18. With this alternative, the PDT would not directly stop erosion but would accommodate erosion as it occurs.
- Alternative 6-Alternative 4 (NS Alternative + Sediment Placement Alternative) + Alternative 3 (Shoreline Stabilization): This alternative builds upon the combination of measures included in Alternative 4 by also incorporating shoreline stabilization measures from Alternative 3. This combination would seek to employ the most effective combination of both hard and natural stabilization alternatives to meet identified resiliency metrics throughout the study area. Placement of dredged material would not necessarily be based on the least cost option (base plan) of the Federal standard but would be considered from a resiliency perspective.
- Alternative 7-Alternative 5 (Alternative 4 + Channel Modification) + Alternative 3 (Shoreline Stabilization): This alternative builds upon the combination of measures included in Alternative 5 by also incorporating shoreline stabilization measures from Alternative 3. The primary difference between Alternative 6 is that Alternative 7 also includes potential channel modifications. This combination will seek to employ the most effective combination of both hard and natural stabilization alternatives to meet identified resiliency metrics throughout the study area. In addition, appropriate channel modifications would be employed to address site specific issues throughout the study area.

Final Alternatives Considered

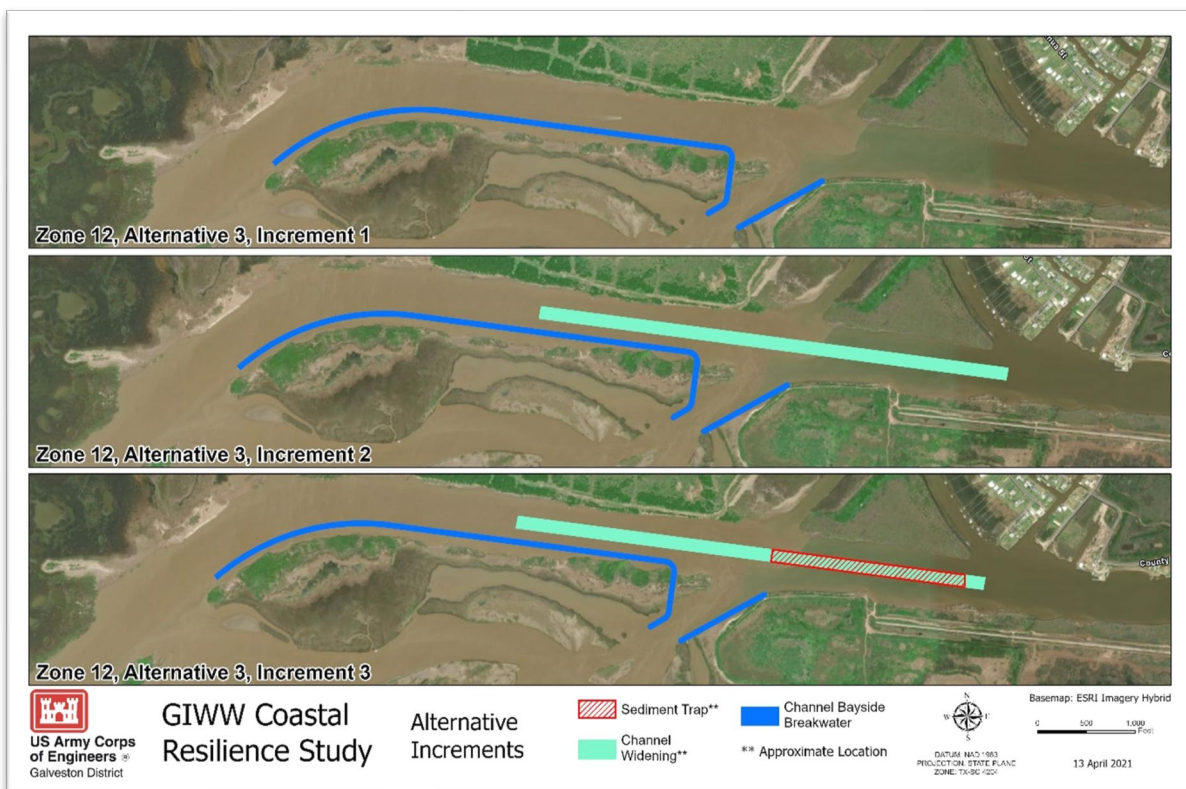
The final array of alternatives considered included the following and are pictured in Figures 5 through 10.

- Alternative 1-No Action Alternative: The No-Action Alternative forms the baseline to which all other alternatives are compared. The No-Action Alternative would not result in additional costs for construction and operations and maintenance (O&M); would not provide additional benefits or increase resiliency of the system and would not result in environmental impacts. An assumption for the No Action and Future Without-Project Condition (FWOP) is that the Texas Coastal and GIWW Brazos River Floodgates and Colorado River Locks (BRFG-CRL) Recommended Plans (Projects) are in place.

- Alternative 3-Shoreline Stabilization Alternative: This alternative would address some of the shoaling problems by reducing sediment input from eroding shorelines and upland PAs and barriers causes by vessel-induced and wind-driven waves. This alternative would utilize hard stabilization features (i.e., breakwaters; jetties/groins; and revetments); and/or natural stabilization features (i.e., oyster reefs/marshes; plantings; coastal barriers; and coastal dunes/beaches).
- Alternative 6-Alternative 4 (NS Alternative + Sediment Placement Alternative) + Alternative 3 (Shoreline Stabilization): This alternative builds upon the combination of measures included in Alternative 4 by also incorporating shoreline stabilization measures from Alternative 3. This combination would seek to employ the most effective combination of both hard and natural stabilization alternatives to meet identified resiliency metrics throughout the study area. Placement of dredged material would not necessarily be based on the least cost option (base plan) of the Federal standard but would be considered from a resiliency perspective.

Upon request from the Vertical Team, an incremental analysis was performed, breaking down zones 12, 13, 14, 16 and 18 based on the possible designs of alternatives 3 and 6 at each of the zones.

Please see Figures 4 through 9. Throughout the rest of this document, the increments will be identified by zone number, alternative number and increment number. For example, Zone 12, Alternative 3-Increment 1 will be labeled Increment 12.3.1.



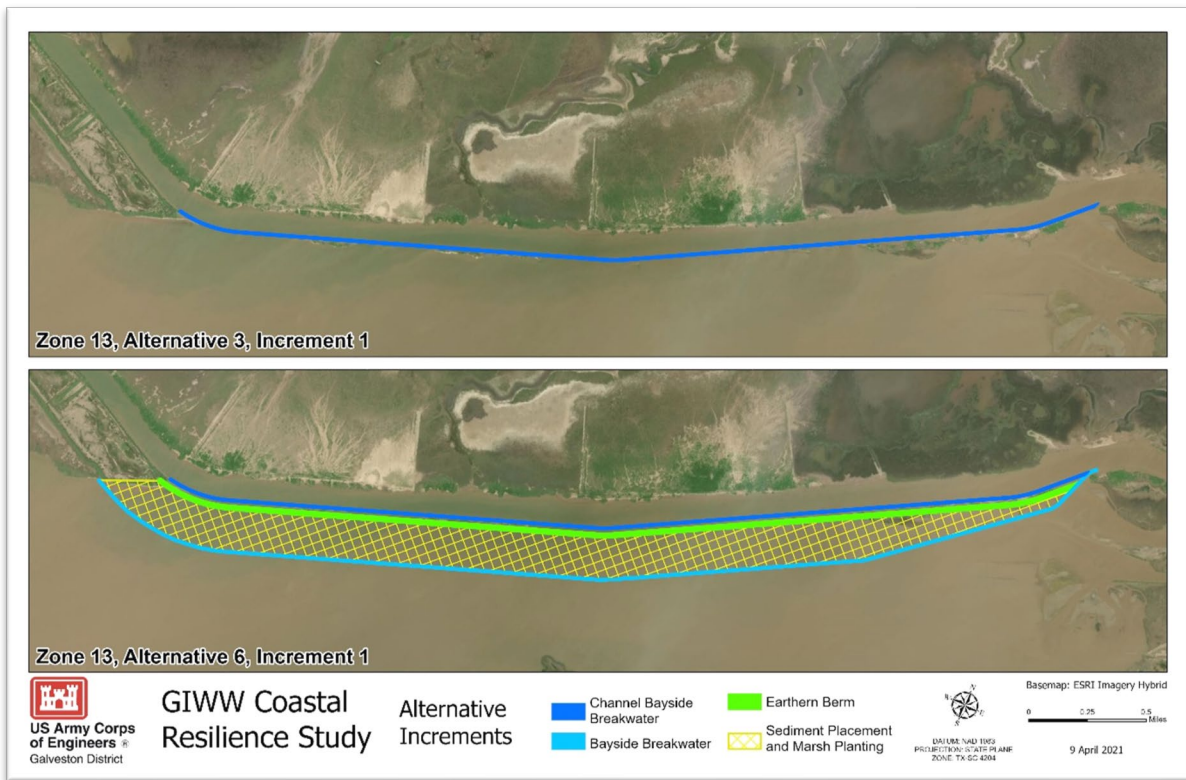


Figure 5: Zone 13 Increments

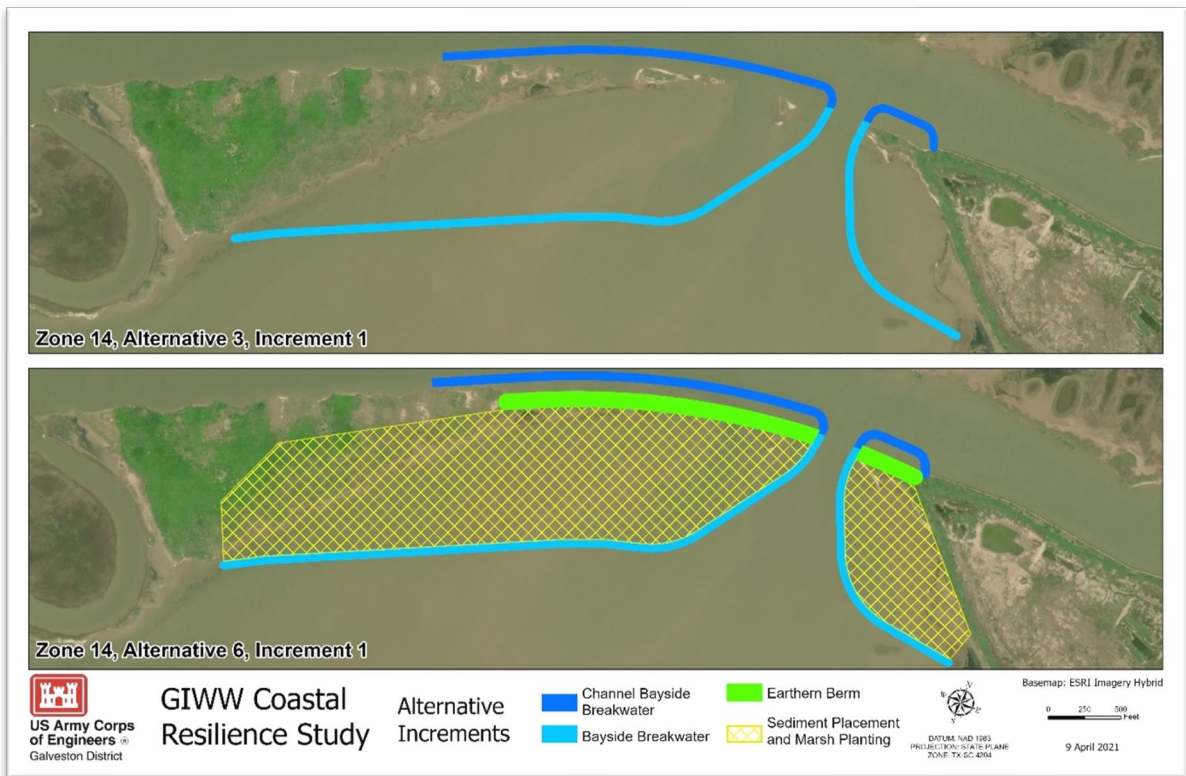


Figure 6: Zone 14 Increments



Figure 7: Zone 16 Increments

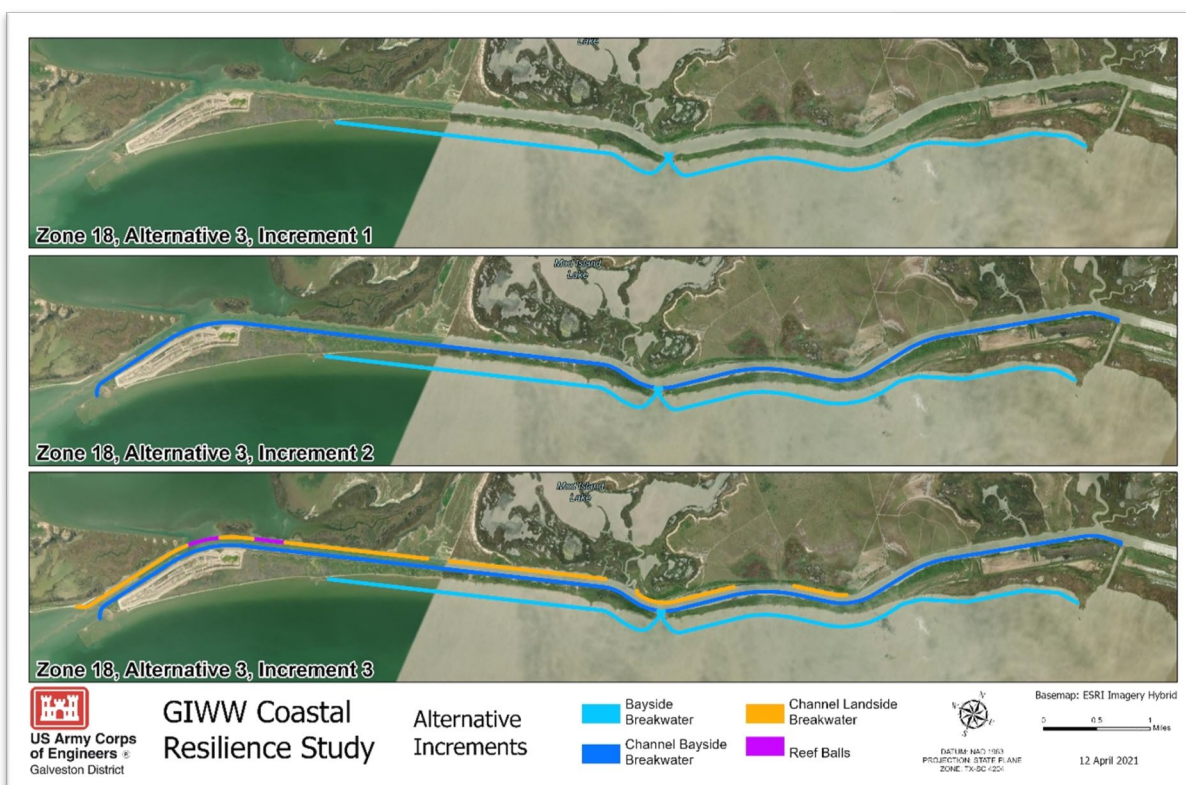
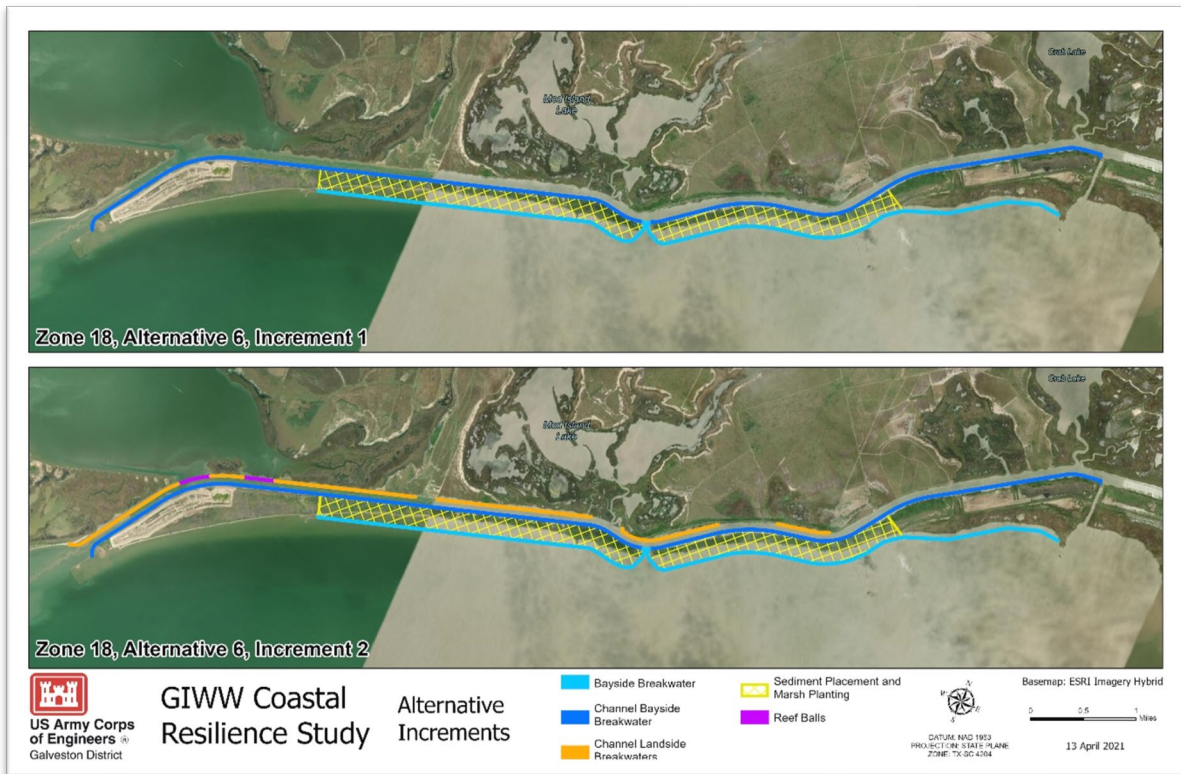


Figure 8: Zone 18 Alternative 3 Increments



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EXISTING FEDERAL & NON-FEDERAL RE INTERESTS

This section outlines the existing federal interests within the project area.

Existing Federally Owned Tracts

USACE has current, active interests in 13 tracts within the project area as outlined in Table 3-1 and Figures 10-12 below.

Table 3-1: Existing USACE Tracts

Tract	Interest	Description
71	Perpetual Easement 24-Feb-1934 from Louis Le Tulle.	“Perpetual right and easement to enter upon, dig or cut away, and remove any or all of the land...”
A	Perpetual Easement 24-Feb-1934 from Louis Le Tulle.	“Perpetual right and easement to enter upon, dig or cut away, and remove any or all of the land...”
70	Perpetual Easement 24-Feb-1934 from Sam V. le Tulle ET UX	“Perpetual right and easement to enter upon, dig or cut away, and remove any or all of the land...”
69	Perpetual Easement dated 9-May-1934 from Mary Elizabeth Crouch ET AL.	“Perpetual right and easement to enter upon, dig or cut away, and remove any or all of the land...”
68	Perpetual Easement 24-Feb-1934 from Sam V. le Tulle ET UX	“Perpetual right and easement to enter upon, dig or cut away, and remove any or all of the land...”
67	Perpetual Easement 4-Feb-1939 from J. Barrett Carter	“Perpetual right and easement to enter upon, dig or cut away, and remove any or all of the land...”
66	Perpetual Easement 28-Jan-1939 from the County of Matagorda, TX.	“Perpetual right and easement to enter upon, occupy and use a strip of land fifteen hundred (1500) feet in width lying and being situated immediately adjacent to the South line of the aforesaid right of way described in said original easement conveyance on December 16th, 1938, for the sole end only purpose of depositing spoil and dredged materials taken and excavated from said Intracoastal Canal.”
6	To be Determined	To be Determined
12	Perpetual Easement 20-Feb-1934 from Texas Gulf Sulphur Co.	“Perpetual right and easement to enter upon, dig or cut away, and remove any or all of the land...”
11	Perpetual Easement 28-Feb-1940 from Arthur G Baer ET AL.	“Perpetual right and easement to enter upon, dig or cut away, and remove any or all of the land...”
9	Perpetual Easement 28-Feb-1940 from Arthur G Baer ET AL.	“Perpetual right and easement to enter upon, dig or cut away, and remove any or all of the land...”
7	Perpetual Easement 19-Apr-1940 from Matagorda County, TX.	“Perpetual right and easement to enter upon, dig or cut away, and remove any or all of the land...”
902E	To be Determined	To be Determined

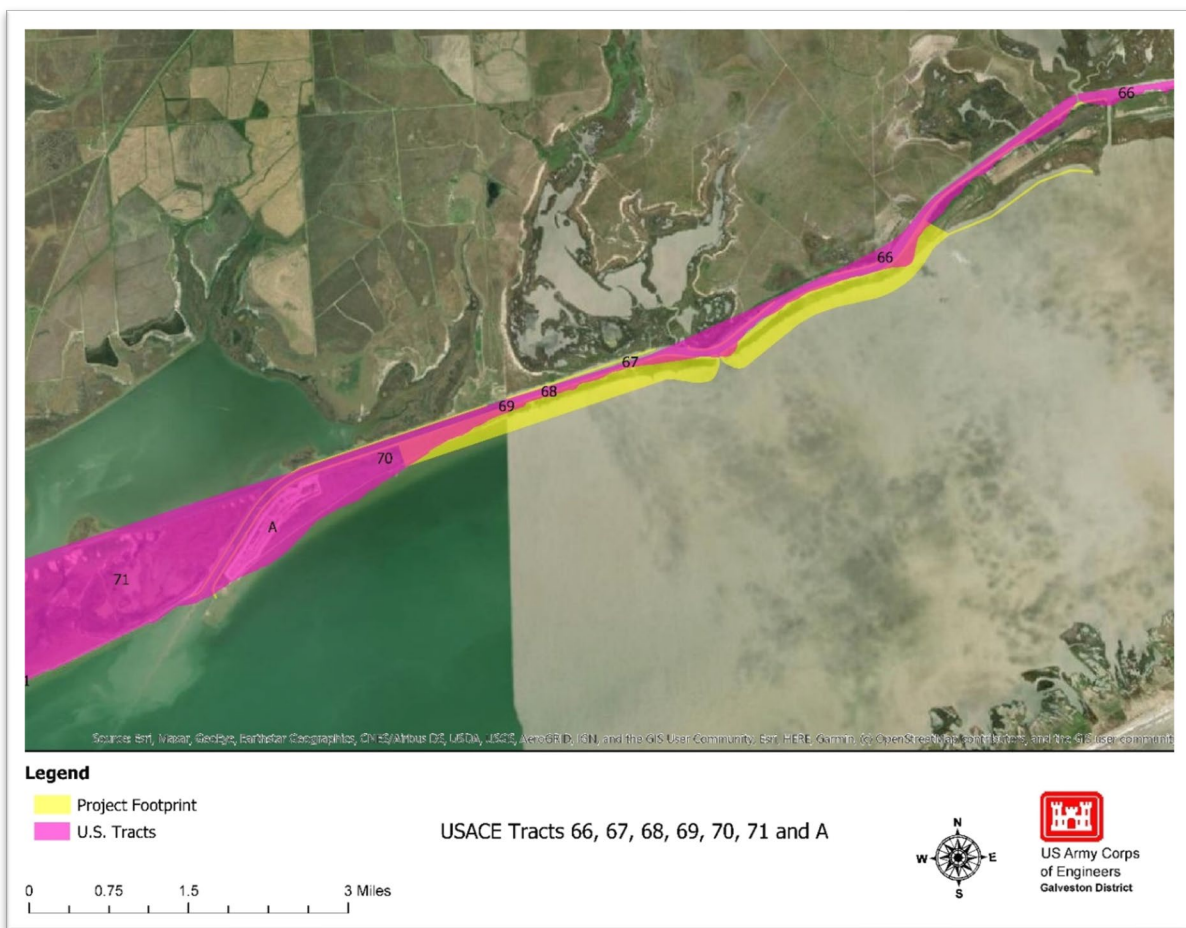


Figure 112: USACE Tracts Within Zone 18

Existing Federally Owned Placement Areas

USACE has 10 existing placement areas (PAs) that intersect the project footprint. These are listed in Table 4-1 and can be seen in Figures 13-15 below.

Table 4-1: Existing USACE Placement Areas

PA #	Status	Reach	Owner	Acreage
PA 110	Active	GIWW Galveston to Matagorda Bay TX	State of Texas	180.27
PA 111	Active	GIWW Galveston to Matagorda Bay TX	State of Texas	341.55
PA 112-A	Active	GIWW Galveston to Matagorda Bay TX	State of Texas	516.02
PA 112-C	Active	GIWW Galveston to Matagorda Bay TX	State of Texas	148.07
PA 102-B	Active	GIWW Galveston to Matagorda Bay TX	State of Texas	314.49
PA 102-C	Active	GIWW Galveston to Matagorda Bay TX	State of Texas	134.89
PA 103	Active	GIWW Galveston to Matagorda Bay TX	State of Texas	93.02
PA 105	Active	GIWW Galveston to Matagorda Bay TX	State of Texas	450.59
PA 102-A	Active	GIWW Galveston to Matagorda Bay TX	State of Texas	252.57
DA 100	Active	GIWW Galveston to Matagorda Bay TX	State of Texas	86.65

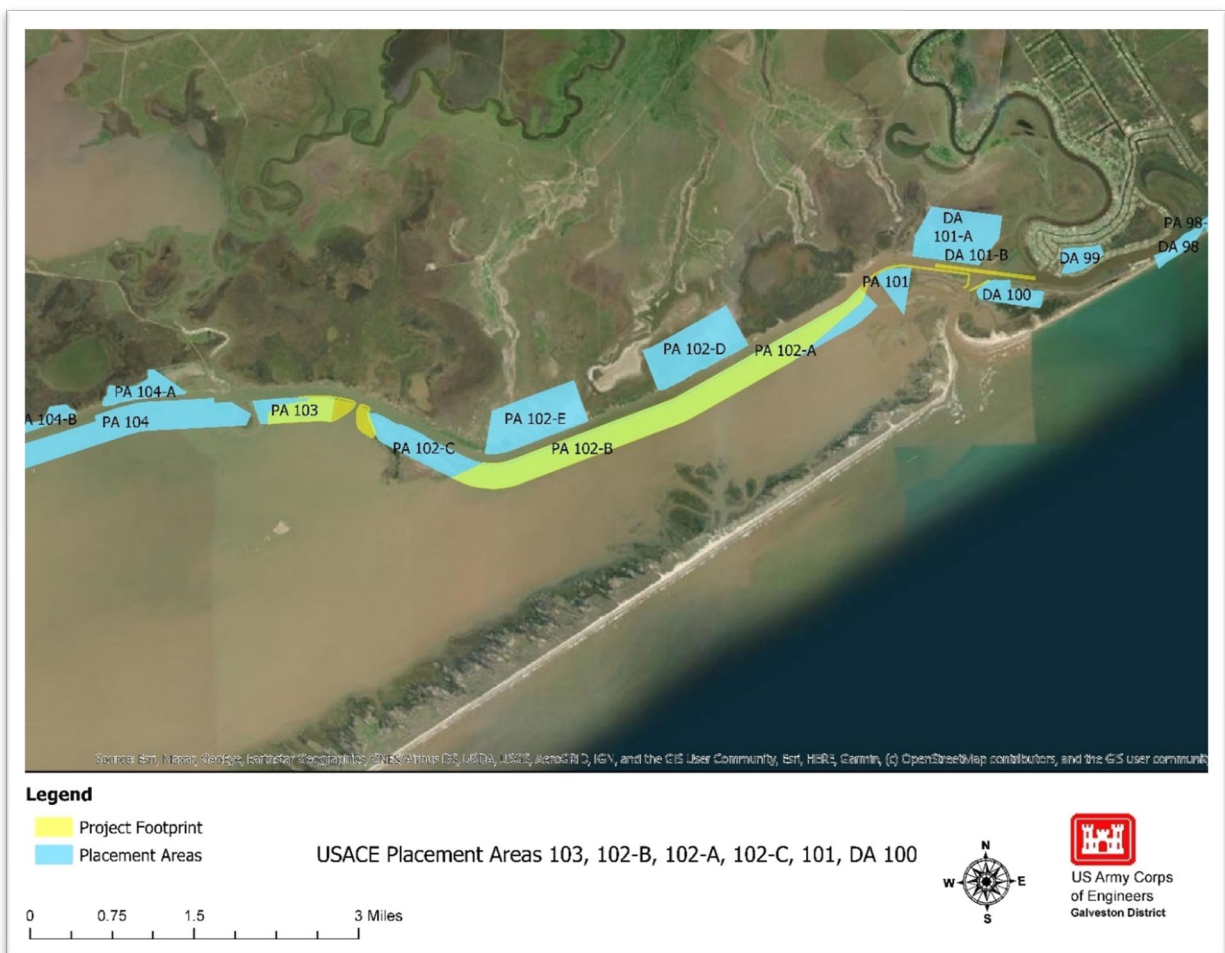


Figure 13: USACE Placement Areas (PAs) Intersecting Zones 12-14

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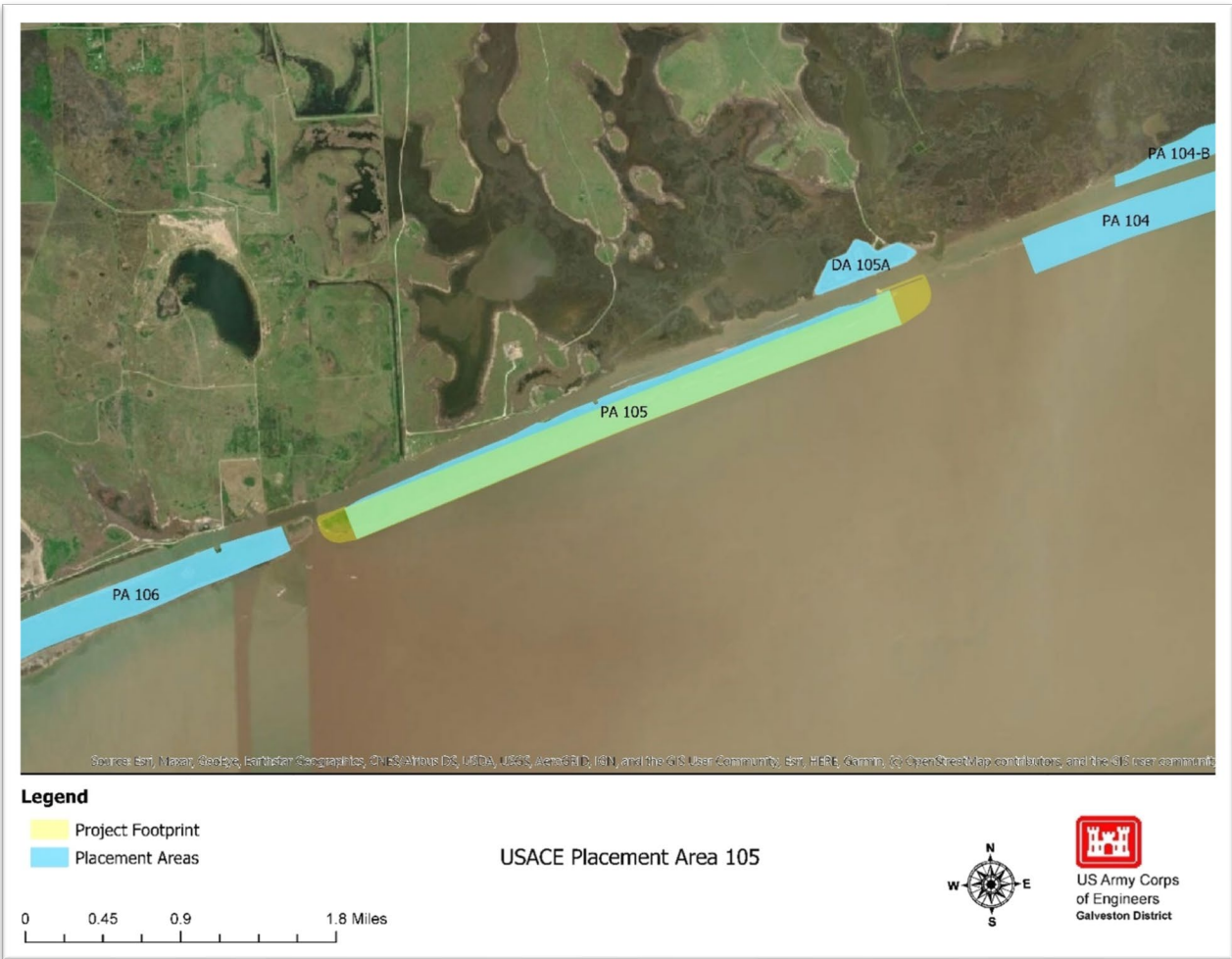


Figure 14: USACE Placement Areas (PAs) Intersecting Zone 16

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Figure 16: USACE Placement Areas (PAs) Intersecting Zone 18

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Coastal Barrier Resources Act

The Coastal Barrier Resources Act (CBRA) of 1982 established the John H. Chafee Coastal Barrier Resources System (CBRS), a defined set of geographic units along the Atlantic, Gulf of Mexico, Great Lakes, U.S. Virgin Islands, and Puerto Rico coasts. Most new Federal expenditures and financial assistance are prohibited within the CBRS, unless those activities qualify for an exception under Section 6 of CBRA (16 U.S.C. § 3505). Within the proposed project footprint, zones 12, 13 and 14 fall within CBRS units (Figure 16). A federal expenditure is allowable within the project footprint shown below because it meets the exception which states, “The maintenance or construction of improvements of existing federal navigation channels (including the Intracoastal Waterway) and related structures (such as jetties), including the disposal of dredge materials related to such maintenance or construction. A federal navigation channel or a related structure is an existing channel or structure, respectively, if it was authorized before the date on which the relevant System unit or portion of the System unit was included within the CBRS”.



Figure 16: Coastal Barrier Resources Act

Existing NFS Owned Real Estate

The construction of this project is to be cost shared with the Inland Waterways Users Board, therefore, there is no NFS owned Real Estate.

Tentatively Selected Plan/Recommended Plan

Several incremental groupings were evaluated as possible choices for the Tentatively Selected Plan (TSP). The grouping chosen by the PDT is referred to as the “Resilience” option and includes Increments 12.3.2, 13.6.1, 14.6.1, 16.6.1 and 18.6.1.

NEW REAL ESTATE REQUIREMENTS FOR THE TSP

This section will outline any new real estate requirements required for the construction and future operations and maintenance (O&M) the project. It will also describe the anticipated estates necessary for acquisition.

New Real Estate Requirements for Project Construction

The new real estate requirements for project construction vary by increment. The sections below outline the new real estate requirements specific to each increment.

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1.1.1 New Real Estate Requirements for Increment 12.3.2

The proposed alignment for widening of the channel at zone 12 impacts only submerged lands and would be constructed under navigation servitude. However, portions of the proposed breakwaters impact emergent private lands and lands owned by the State of Texas. These impacts total approximately 1.6 acres of land. In tidal areas, navigational servitude extends to all lands below the mean high-water mark. Due to high erosion rates in the project area, it is likely that a portion, if not all, of the privately owned impacted lands will be submerged by the start of construction and will, therefore, fall under navigational servitude. However, if any portions of these lands are still emergent at the time of construction, perpetual easements will need to be acquired from the owners for the construction and maintenance of the breakwaters. Please see Figure 17: New real Estate Requirements for Increment 12.3.2 below.

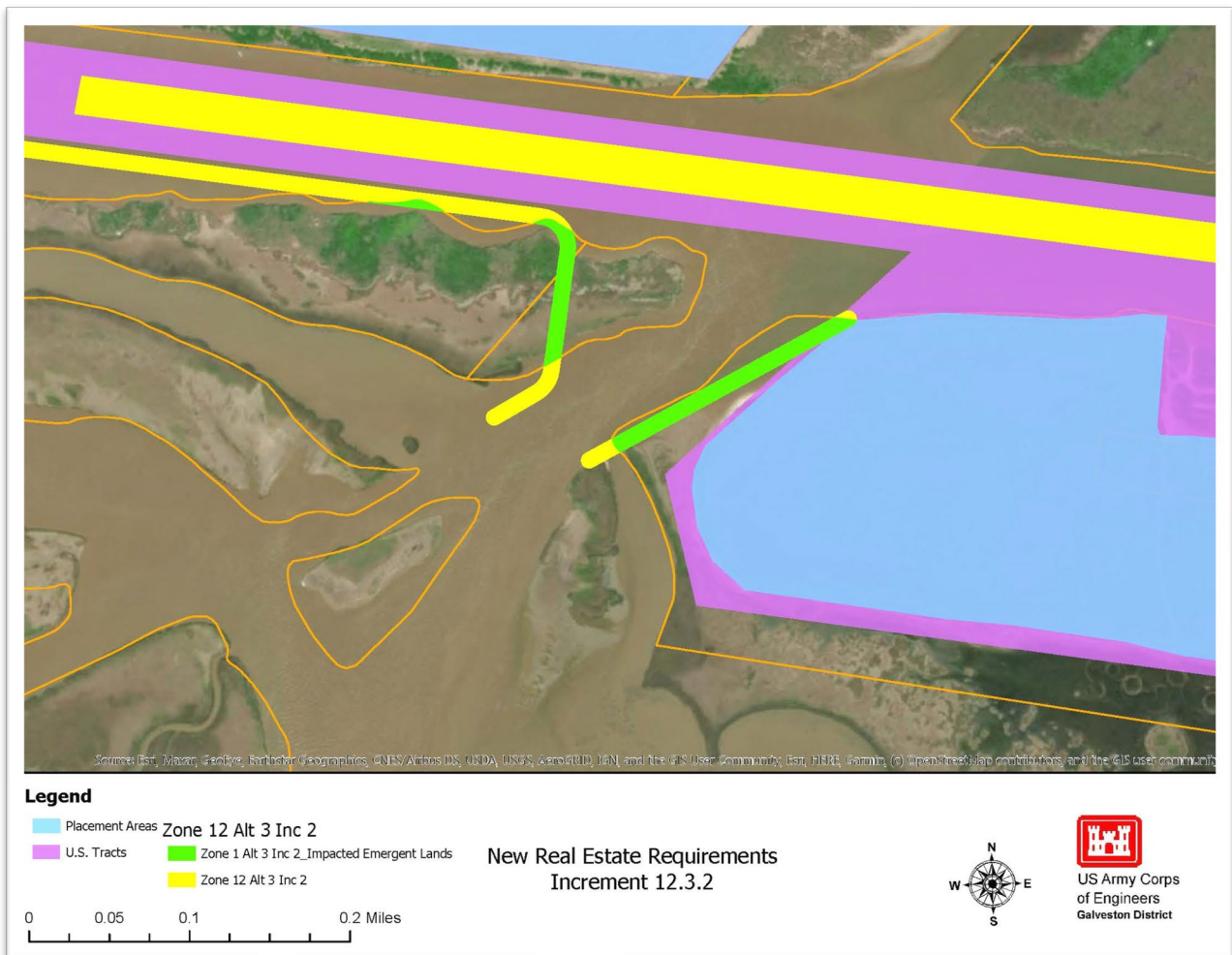


Figure 17: New real Estate Requirements for Increment 12.3.2

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1.1.2 New Real Estate Requirements for Increment 13.6.1

The proposed breakwaters, earthen berm, sediment placement and marsh planting at zone 13 fall entirely within submerged lands and existing USACE Placement areas or Tracts. No acquisition of real estate is required for this increment. Please see Figure 18: New Real Estate Requirements for Increment 13.6.1 below.

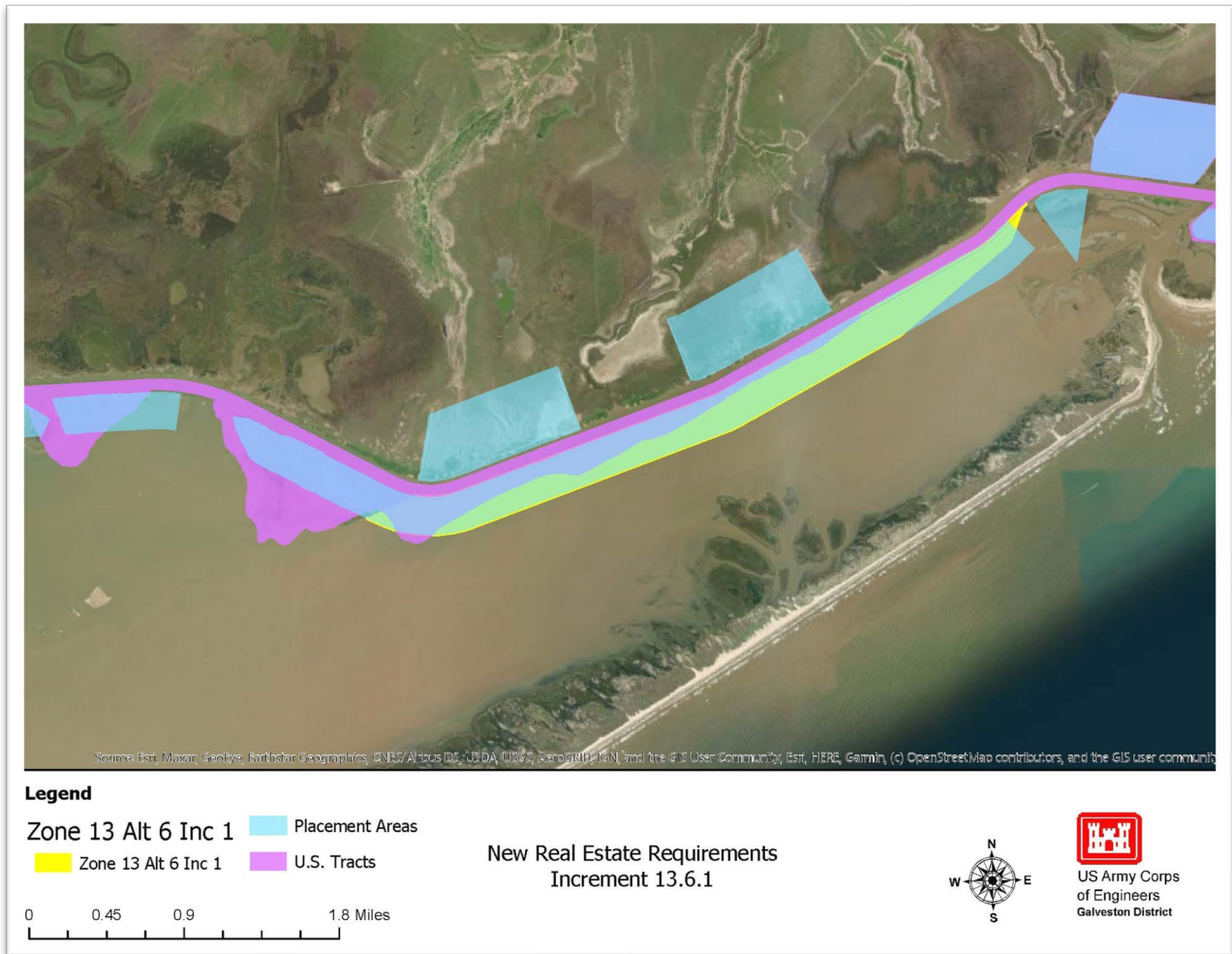


Figure 18: New Real Estate Requirements for Increment 13.6.1

(NOTE: The remainder of this page intentionally left blank.)

1.1.3 New Real Estate Requirements for Increment 14.6.1

Like Increment 13.6.1, the proposed breakwaters, earthen berm, sediment placement and marsh planting at zone 14 fall entirely within submerged lands and existing USACE Placement areas or Tracts. No acquisition of real estate is required for this increment. Please see Figure 19: New Real Estate Requirements for Increment 14.6.1 below.

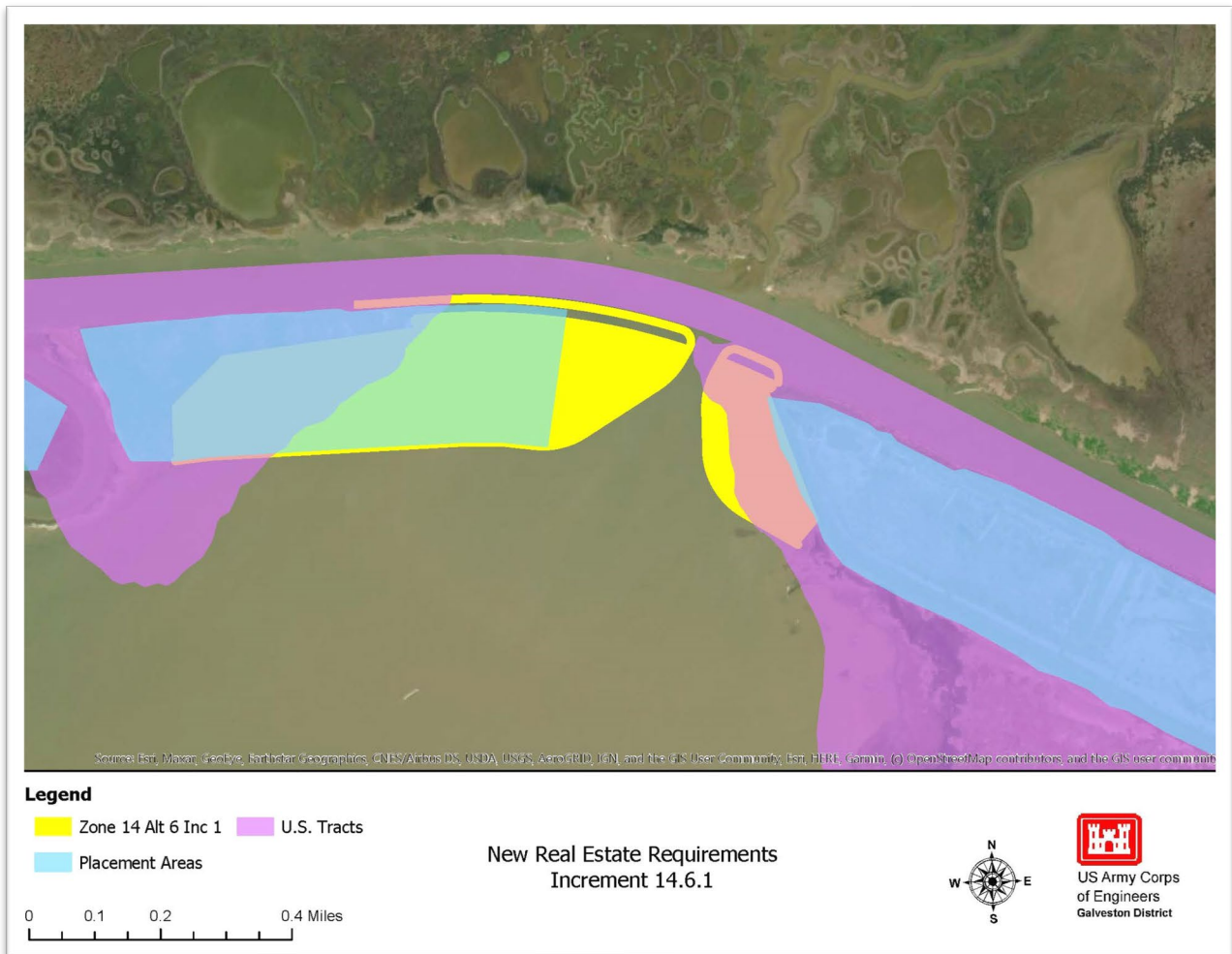


Figure 19: New Real Estate Requirements for Increment 14.6.1

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1.1.4 New Real Estate Requirements for Increment 16.6.1

The proposed breakwaters, earthen berms and sediment placement at zone 16 fall almost entirely within existing USACE Placement Areas and Tracts. However, there are approximately 13 acres of impacted privately owned lands. In tidal areas, navigational servitude extends to all lands below the mean-high water mark. Due to high erosion rates in the project area, it is likely that a portion, if not all, of the privately owned impacted lands will be submerged by the start of construction and will, therefore, fall under navigational servitude. However, if any portions of these lands are still emergent at the time of construction, perpetual easements will need to be acquired from the owners for the construction and maintenance of the breakwaters. Please see Figure 20: New real Estate Requirements for Increment 16.6.1 below.

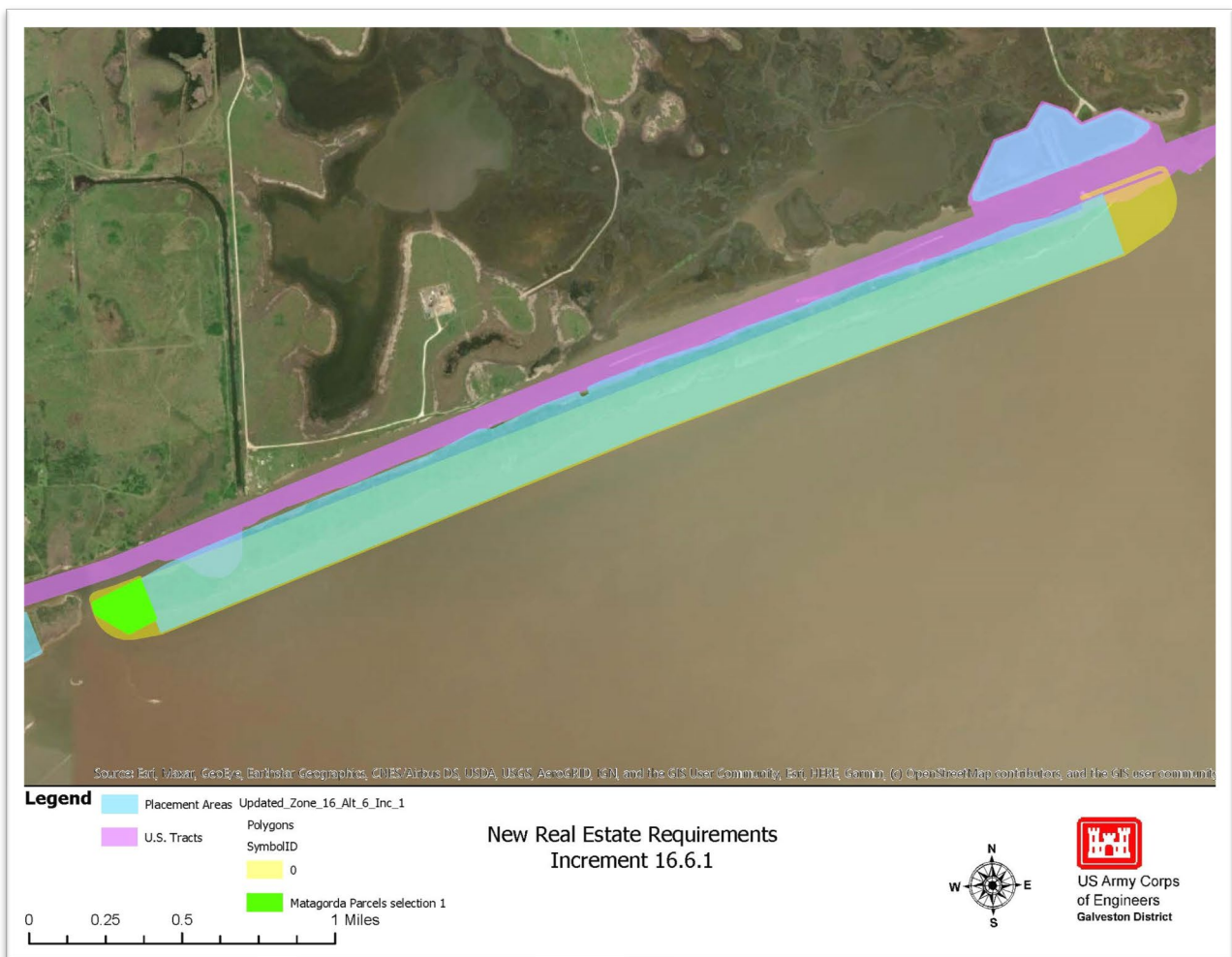


Figure 20: New Real Estate Requirements for Increment 16.6.1

1.1.5 New Real Estate Requirements for Increment 18.6.1

The proposed breakwaters, sediment placement and marsh planting at zone 18 fall almost entirely within existing USACE Placement Areas and Tracts or submerged lands. However, there are approximately 5 acres of impacted lands owned by the State of Texas. In tidal areas, navigational servitude extends to all lands below the mean high-water mark. Due to high erosion rates in the project area, it is likely that a portion, if not all, of the privately owned impacted lands will be submerged by the start of construction and will, therefore, fall under navigational servitude, but any remaining emergent lands not covered by existing Placement Areas or Tracts will require a perpetual easement for the construction and maintenance of the project. Please see Figure 21: New Real Estate Requirements for Increment 18.6.1 below.

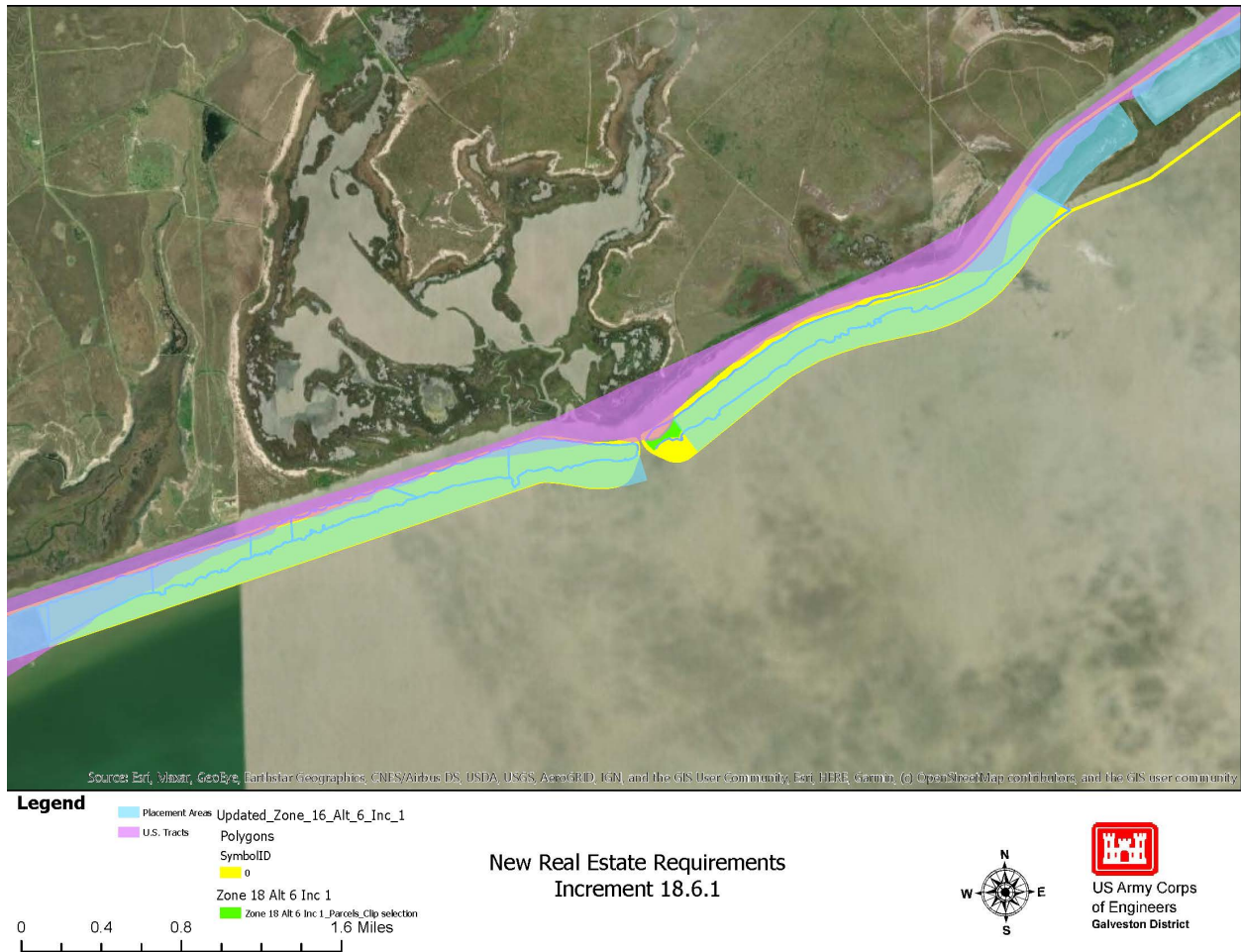


Figure 21: New Real Estate Requirements for Increment 18.6.1

(NOTE: The remainder of this page intentionally left blank.)

New Real Estate Requirements for the Placement Plan

Table 5-1 below shows the intended placement areas to be used for each increment of the TSP. This placement plan was created prior to the TSP milestone and is, therefore, subject to change. This section will be updated as the project design progresses. However, easement renewals or new easements will be required for placement areas with easements that will expired prior to, or during, construction of the project.

Table 5-1: Placement Plan

Increment	Placement Areas	PA Status	PA Fee Owner	PA Acreage
12.3.2	DA 99	Active	State of Texas	40.29
12.3.2	DA 100	Active	State of Texas	86.65
12.3.2	PA 102-C	Active	State of Texas	134.89
13.6.1	PA 104-A	Active	State of Texas	66.97
14.6.1	DA 105-A	30 Year Easement Expired 4-Apr-2021	State of Texas	52.26
14.6.1	PA 104-B	To be Determined	State of Texas	81.43
16.6.1	PA 106	Active	State of Texas	657.74
18.6.1	PA 112-B	Active	State of Texas	127.84
18.6.1	PA 110	Active	State of Texas	180.27
18.6.1	PA 109	Active	State of Texas	235.83

New Real Estate Requirements for Mitigation

There are no proposed mitigation features for this project. Therefore, there are no additional real estate requirements.

Access/Staging Area Requirements

Any access or staging area requirements will be determined in the PED phase.

(NOTE: The remainder of this page intentionally left blank.)

Estates

Table 6-1 describes the project features and required estates. Descriptions of the estates are included below.

Table 6-1: Estates Required

Project Feature	Estate
Increment 12.3.1 Breakwaters	Non-Standard Estate and Navigational Servitude
Increment 13.6.1 Sediment Placement and Marsh Planting	N/A – Navigational Servitude
Increment 13.6.1 Channel Side and Bayside Breakwaters	N/A – Navigational Servitude
Increment 13.6.1 Earthen Berm	N/A – Navigational Servitude
Increment 14.6.1 Breakwaters	N/A – Navigational Servitude
Increment 14.6.1 Sediment Placement and Marsh Planting	Non-Standard Estate and Navigational Servitude
Increment 14.6.1 Earthen Berm	Non-Standard Estate and Navigational Servitude
Increment 16.6.1 Breakwaters	Non-Standard Estate
Increment 16.6.1 Sediment Placement	Non-Standard Estate
Increment 16.6.1 Earthen Berm	N/A – Navigational Servitude
Increment 18.6.1 Breakwaters	Non-Standard Estate and Navigational Servitude
Increment 18.6.1 Sediment Placement and Marsh Planting	Non-Standard Estate and Navigational Servitude

Non-Standard Estate

The granting clause for the non-standards estates will be determined in PED phase.

Navigational Servitude

Navigation Servitude stems from the Commerce Clause of the Constitution of the United States (U.S. CONST. art.I, Sec.8, cl.3), and is defined as the dominant right of the Federal Government to use, control, and regulate the navigable waters of the United States and submerged lands thereunder for various commerce-related purposes including navigation and flood control. In tidal areas, the servitude extends to all lands below the mean high-water mark, whereas in non-tidal areas, the servitude extends to all lands within the bed and banks of a navigable stream that lie below the ordinary high-water mark. The Navigation Servitude will be asserted where appropriate.

BORROW MATERIAL

At this time, it is proposed that the construction of the earthen embankment will consist of side casting embankment material from the designated borrow area within the beneficial use site footprint. The current borrow area will be offset 50 feet from the toe of the earthen embankment. The borrow area will parallel the earthen embankment along each beneficial use site. The offset distance of the borrow area may change following the selection of the recommended plan as the earthen embankment design is refined. The borrow area is **currently** within the proposed project footprint shown in Figures 4-9. However, the REP will be updated as the project design progresses.

RECREATION FEATURES

There are no recreation features proposed for this project.

TIMBER RIGHTS & MINERAL/ENERGY ACTIVITY

There is no timber activity within the proposed project footprint.

Oil and gas exploration and production activities are prevalent in this area. Figures displaying wells in the project vicinity is shown in Figures 22 and 23 below. While there are numerous wells in the project area, no wells are within the proposed project footprint.

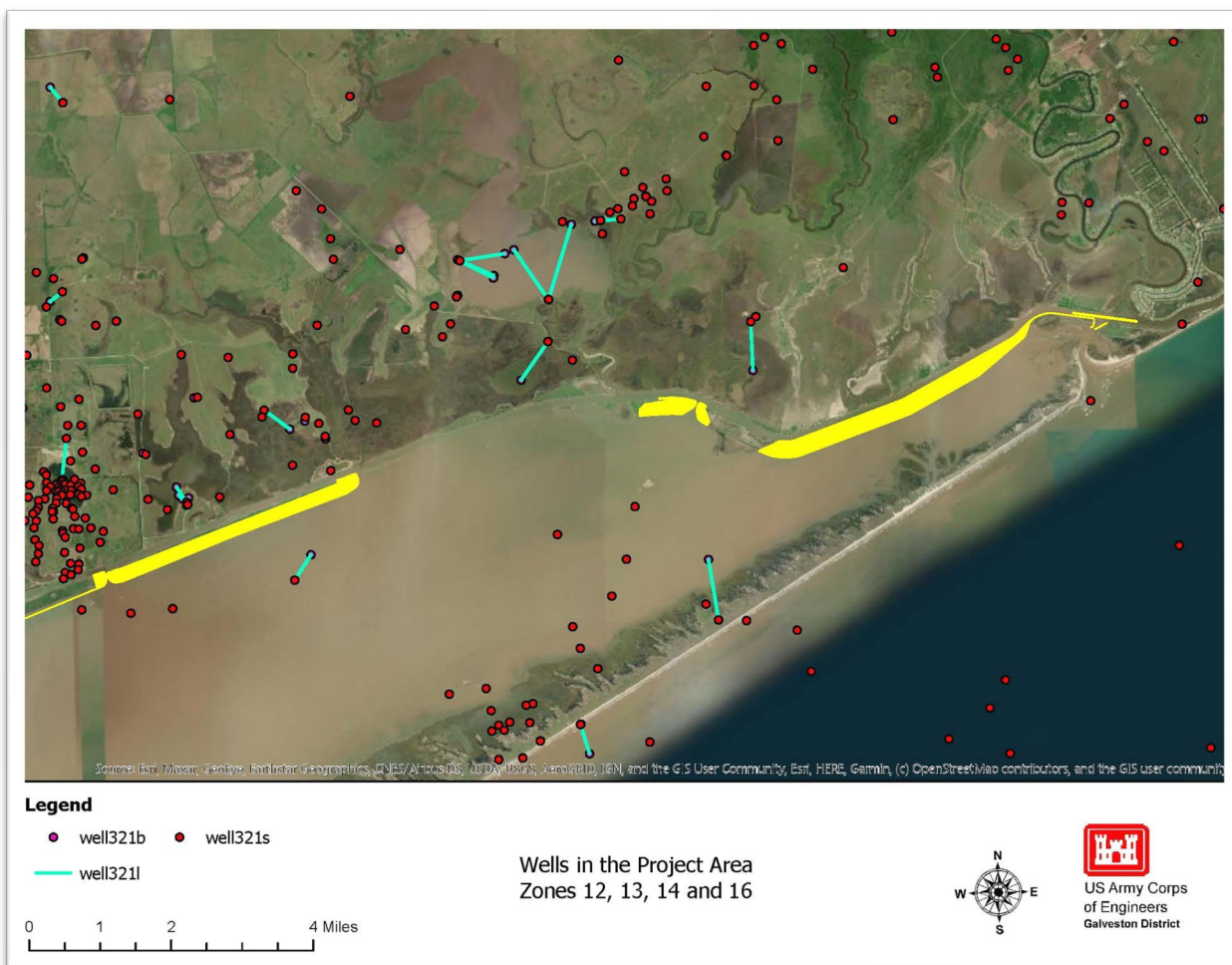


Figure 22: Wells in the Project Area, Zones 12-16

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FACILITY/UTILITY/PIPELINE RELOCATIONS

Pipelines

There are nine pipelines that intersect the project footprint. These pipelines are identified in Figure 24 and Table 7-1 below. At this stage of feasibility, it is not anticipated that these pipelines will interfere with the construction of breakwaters and berms, sediment placement or marsh planting. Therefore, it is not believed that any relocations will be necessary.

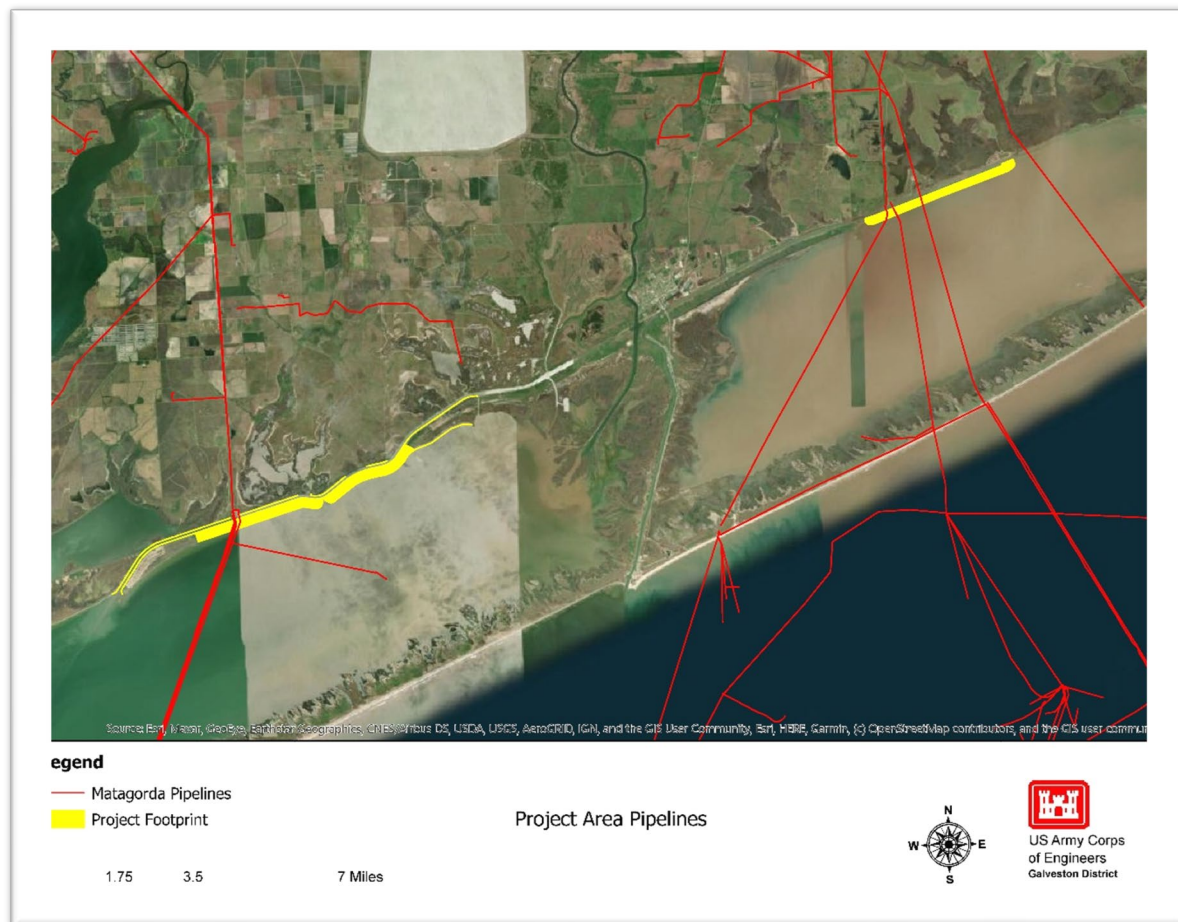


Figure 24: Pipelines in the Project Area

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Table 7-1: Pipelines within the Project Area

# of Lines	T4 Permit #	P5 #	Operator	Size (in)	Commodity	Status
1	01681	036064	ATINUM ENERGY, INC.	6.63	Crude Oil	Abandoned
1	09607	300192	GENESIS OFFSHORE HOLDINGS, LLC	24	Natural Gas	In Service
1	05358	864444	TRANSCONTINENTAL GAS P.L. CO,LLC	30	Natural Gas	In Service
1	05130	253368	ENTERPRISE PRODUCTS OPERATING, LLC	20	Natural Gas	In Service
1	02878	253368	ENTERPRISE PRODUCTS OPERATING, LLC	24	Natural Gas	In Service
1	05130	253368	ENTERPRISE PRODUCTS OPERATING, LLC	20	Natural Gas	In Service
1	16181	036064	ATINUM ENERGY, INC.	6.63	Crude Oil	Abandoned
1	06285	638515	PANTHER PIPELINE, LLC	16	Natural Gas	In Service
1	00749	404520	HOUSTON PIPELINE COMPANY LP	18.63	Natural Gas	In Service

Data reflected in this table is TRRC data

Other Facilities/Utilities

A desktop review identified no other facilities or utilities within the proposed project footprint.

IN ACCORDANCE WITH ER 405-1-12, “ANY CONCLUSION OR CATEGORIZATION CONTAINED IN THIS REPORT THAT AN ITEM IS A UTILITY OR FACILITY RELOCATION TO BE PERFORMED IS PRELIMINARY ONLY. THE GOVERNMENT WILL MAKE A FINAL DETERMINATION OF THE RELOCATIONS NECESSARY FOR THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF THE PROJECT AFTER FURTHER ANALYSIS AND COMPLETION AND APPROVAL OF FINAL ATTORNEY’S OPINIONS OF COMPENSABILITY FOR EACH OF THE IMPACTED UTILITIES AND FACILITIES.”

ZONING

Zoning ordinances will not be enacted to facilitate acquisition for the proposed project.

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE OR OTHER ENVIRONMENTAL CONTAMINANTS

Currently, there are no Hazardous, Toxic, and Radioactive Waste (HTRW) or other environmental contaminant concerns within the project area.

NAVIGATION SERVITUDE

Navigation Servitude stems from the Commerce Clause of the Constitution of the United States (U.S. CONST. art.I, Sec.8, cl.3), and is defined as the dominant right of the Federal Government to use, control, and regulate the navigable waters of the United States and submerged lands thereunder for various commerce-related purposes including navigation and flood control. In tidal

areas, the servitude extends to all lands below the mean high-water mark, whereas in non-tidal areas, the servitude extends to all lands within the bed and banks of a navigable stream that lie below the ordinary high-water mark. The Navigation Servitude will be asserted where appropriate.

Dredging will take place below the ordinary high-water mark within the channel; therefore, the Government will invoke the navigational servitude for dredging within the waterway. While most of the associated expansion and/or creation of new placement areas is expected to take place on submerged lands below the mean high-water mark or within existing USACE interests, there are portions of the project that impact privately owned property. In tidal areas, navigational servitude extends to all lands below the mean high-water mark. Due to high erosion rates in the project area, it is likely that a portion, if not all, of the privately owned impacted lands will be submerged by the start of construction and will, therefore, fall under navigational servitude. However, any remaining emergent lands will require the acquisition of easements.

INDUCED FLOODING

No induced flooding is anticipated due to the construction or O&M of this project.

ATTITUDES OF THE LANDOWNERS

The attitudes of landowners have not been evaluated for this study. The Texas Department of Transportation has been working with the PDT to identify navigational issues that are being encountered by users of the waterway. TxDOT is in support of the project. This project will not result in any residential or commercial relocations, and will provide protection to both the GIWW, so it is not anticipated that there will be a negative response from landowners.

PUBLIC LAW 91-646 RELOCATIONS

There are no residential, nonresidential, commercial, industrial, or farm properties that would be subject to relocation pursuant with PL 91-646.

BASELINE COST ESTIMATE FOR REAL ESTATE

The baseline cost estimates (BCE) provided in this report are based on Pre-TSP level design and intended to reflect the same level of detail of the REP. In order to account for the additional risk present when determining real estate requirements for a feasibility-level design, a 35% contingency has been included in Tables 10-1 through 10-5 below.

The following assumptions were made when preparing the cost estimates for increments 12.3.2, 13.6.1, 14.6.1, 16.6.1 and 18.6.1:

- Pipeline relocations are not necessary.
- Well, residential, commercial and industrial relocations are not applicable to the project area.
- \$2,000 dollars was included in each estimate for PED phase design reviews.

The baseline cost estimates are subject to change through the final draft.

Table 10-1: Baseline Cost Estimate for Real Estate – Increment 12.3.1

Description	Private Owners	Federal Land	State/County Owned			Total
Acquisitions (40 hrs. X \$125 for each tract) (Labor: Relocation Assistance, Homeowner Negotiation)	\$10,000.00	G3*40*125	\$5,000.00			\$15,000.00
Condemnation Subdivisions (\$35,000 each)	\$0.00	\$0.00	\$0.00			\$0.00
Condemnation (\$90,000 per tract, 17% of the private tracts & 1% of County and Sponsor land)	\$1,800.00	\$0.00	\$900.00			\$2,700.00
Potential Residential Relocation Costs (\$31,000.00/ residence)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Residential Moving Costs (\$4,000.00/ residence)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Tenant Occupied Relocation & Moving Costs (\$10,200.00/ residence)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Pipeline Relocation Costs (Admin Only Not Construction Costs) (3,000 each)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Well Relocation Costs (Admin Only Not Construction Costs) (3,000 each)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Commerical Relocation Costs (\$40,000)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Commerical Moving Costs (\$10,000)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Industrial Relocation Costs (\$100,000)	\$0.00	\$0.00	\$0.00			\$0.00
Appraisals (\$2,500 each tract)	\$5,000.00	\$0.00	\$2,500.00			\$7,500.00
Survey (\$4,000 each tract)	\$8,000.00	\$0.00	\$4,000.00			\$12,000.00
Office Administration and Management Oversight (8 hrs. x \$125 an hour, per tract)	\$2,000.00	\$0.00	\$1,000.00			\$3,000.00
Land Value Estimate (Cost of Easements: 30% of land value)	\$13.18	\$0.00	\$21.38			\$34.56
Title Commitment (\$1,000 each tract)	\$2,000.00	\$0.00	\$1,000.00			\$3,000.00
Pipeline Relocation Costs (Construction Cost)						\$0.00
Total Admin and payments	\$28,813.18	\$0.00	\$14,421.38			\$43,234.56
Contingencies	\$10,084.61	\$0.00	\$5,047.48			\$15,132.10
Grand Total non Fed	\$38,897.79	\$0.00	\$19,468.87		\$58,366.66	\$58,366.66
USACE Cost						
Description	Private Owners	Federal Land	State/County Owned			
Acquisitions (10 hrs. x \$125 an hour each tract) (Review RE Planning Documents, Verifying Ownership, Relocation Assistance, LERRD Crediting & Mapping)	\$2,500.00	\$0.00	\$1,250.00	\$3,750.00		\$3,750.00
Appraisals Review (10hrs x \$150 an hour, each tract)	\$3,000.00	\$0.00	\$1,500.00	\$4,500.00		\$4,500.00
Office Administration and Management Oversight (6 hrs X \$125 each tract)	\$1,500.00	\$0.00	\$750.00	\$2,250.00		\$2,250.00
Attorney's Opinion (\$3300 each tract)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Pipeline Relocation Costs (Admin Only Not Construction Costs) (3,000 each)	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
PED Reviews (DQC, ATR, BCOES)	\$1,000.00		\$1,000.00	\$2,000.00		
Total Admin & Payments (FED COSTS)	\$8,000.00	\$0.00	\$4,500.00	\$12,500.00		\$12,500.00
Contingencies (FED COSTS)	\$2,800.00	\$0.00	\$1,575.00	\$4,375.00		\$4,375.00
Grand Total Fed Costs	\$10,800.00	\$0.00	\$6,075.00	\$16,875.00	\$16,875.00	\$16,875.00
Grand Total Costs						\$75,241.66

Table 10-2: Baseline Cost Estimate for Real Estate – Increment 13.6.1

Description	Private Owners	Federal Land	State/County Owned			Total
Acquisitions (40 hrs. X \$125 for each tract) (Labor: Relocation Assistance, Homeowner Negotiations, L)	\$0.00	\$0.00	\$0.00			\$0.00
Condemnation Subdivisions (\$35,000 each)	\$0.00	\$0.00	\$0.00			\$0.00
Condemnation (\$90,000 per tract, 17% of the private tracts & 1% of County and Sponsor land)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Residential Relocation Costs (\$31,000.00/ residence)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Residential Moving Costs (\$4,000.00/ residence)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Tenant Occupied Relocation & Moving Costs (\$10,200.00/ residence)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Pipeline Relocation Costs (Admin Only Not Construction Costs) (3,000 each)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Well Relocation Costs (Admin Only Not Construction Costs) (3,000 each)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Commerical Relocation Costs (\$40,000)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Commerical Moving Costs (\$10,000)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Industrial Relocation Costs (\$100,000)	\$0.00	\$0.00	\$0.00			\$0.00
Appraisals (\$2,500 each tract)	\$0.00	\$0.00	\$0.00			\$0.00
Survey (\$4,000 each tract)	\$0.00	\$0.00	\$0.00			\$0.00
Office Administration and Management Oversight (8 hrs. x \$125 an hour, per tract)	\$0.00	\$0.00	\$0.00			\$0.00
Land Value Estimate (cost of easements: 30% of land value)(all lands covered by PAs or Nav Serv)	\$0.00	\$0.00	\$0.00			\$0.00
Title Commitment (\$1,000 each tract)	\$0.00	\$0.00	\$0.00			\$0.00
Pipeline Relocation Costs						
						\$0.00
Total Admin and payments	\$0.00	\$0.00	\$0.00			\$0.00
Contingencies	\$0.00	\$0.00	\$0.00			\$0.00
Grand Total non Fed	\$0.00	\$0.00	\$0.00		\$0.00	\$0.00
USACE Cost						
Description	Private Owners	Federal Land	State/County Owned			
Acquisitions (10 hrs. x \$125 an hour each tract) (Review RE Planning Documents, Verifying Ownership, Relocation Assistance, LERRD Crediting & Mapping)	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
Appraisals Review (10hrs x \$150 an hour, each tract)	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
Office Administration and Management Oversight (6 hrs X \$125 each tract)	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
Potential Pipeline Relocation Costs (Admin Only Not Construction Costs) (3,000 each)	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
PED Reviews (DQC, ATR, BCOES)	\$1,000.00		\$1,000.00	\$2,000.00		
						\$0.00
Total Admin & Payments (FED COSTS)	\$1,000.00	\$0.00	\$1,000.00	\$2,000.00		\$2,000.00
Contingencies (FED COSTS)	\$350.00	\$0.00	\$350.00	\$700.00		\$700.00
Grand Total Fed Costs	\$1,350.00	\$0.00	\$1,350.00	\$2,700.00	\$2,700.00	\$2,700.00
Grand Total Costs						\$2,700.00

Table 10-3: Baseline Cost Estimate for Real Estate – Increment 14.6.1

Description	Private Owners	Federal Land	State/County Owned			Total
Acquisitions (40 hrs. X \$125 for each tract) (Labor: Relocation Assistance, Homeowner Negotiations, L)	\$0.00	\$0.00	\$0.00			\$0.00
Condemnation Subdivisions (\$35,000 each)	\$0.00	\$0.00	\$0.00			\$0.00
Condemnation (\$90,000 per tract, 17% of the private tracts & 1% of County and Sponsor land)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Residential Relocation Costs (\$31,000.00/ residence)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Residential Moving Costs (\$4,000.00/ residence)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Tenant Occupied Relocation & Moving Costs (\$10,200.00/ residence)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Pipeline Relocation Costs (Admin Only Not Construction Costs) (3,000 each)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Well Relocation Costs (Admin Only Not Construction Costs) (3,000 each)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Commerical Relocation Costs (\$40,000)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Commerical Moving Costs (\$10,000)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Industrial Relocation Costs (\$100,000)	\$0.00	\$0.00	\$0.00			\$0.00
Appraisals (\$2,500 each tract)	\$0.00	\$0.00	\$0.00			\$0.00
Survey (\$4,000 each tract)	\$0.00	\$0.00	\$0.00			\$0.00
Office Administration and Mangement Oversight (8 hrs. x \$125 an hour, per tract)	\$0.00	\$0.00	\$0.00			\$0.00
Land Value Estimate (cost of easements: 30% of land value) (all immergent lands covered by USACE inte	\$0.00	\$0.00	\$0.00			\$0.00
Title Commitment (\$1,000 each tract)	\$0.00	\$0.00	\$0.00			\$0.00
Pipeline Relocation Costs						\$0.00
Total Admin and payments	\$0.00	\$0.00	\$0.00			\$0.00
Contingencies	\$0.00	\$0.00	\$0.00			\$0.00
Grand Total non Fed	\$0.00	\$0.00	\$0.00		\$0.00	\$0.00
USACE Cost						
Description	Private Owners	Federal Land	State/County Owned			
Acquisitions (10 hrs. x \$125 an hour each tract) (Review RE Planning Documents, Verifing Ownership, Relocation Assistance, LERRD Crediting & Mapping)	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
Appraisals Review (10hrs x \$150 an hour, each tract)	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
Office Administration and Management Oversight (6 hrs X \$125 each tract)	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
Potential Pipeline Relocation Costs (Admin Only Not Construction Costs) (3,000 each)	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
PED Reviews (DQC, ATR, BCOES)	\$1,000.00		\$1,000.00	\$2,000.00		\$0.00
Total Admin & Payments (FED COSTS)	\$1,000.00	\$0.00	\$1,000.00	\$2,000.00		\$2,000.00
Contingencies (FED COSTS)	\$350.00	\$0.00	\$350.00	\$700.00		\$700.00
Grand Total Fed Costs	\$1,350.00	\$0.00	\$1,350.00	\$2,700.00	\$2,700.00	\$2,700.00
Grand Total Costs						\$2,700.00

Table 10-4: Baseline Cost Estimate for Real Estate – Increment 16.6.1

Description	Private Owners	Federal Land	State/County Owned			
Acquisitions (40 hrs. X \$125 for each tract) (Labor: Relocation Assistance, Homeowner Negotiations, L)	\$5,000.00	\$0.00	\$0.00			\$5,000.00
Condemnation Subdivisions (\$35,000 each)	\$0.00	\$0.00	\$0.00			\$0.00
Condemnation (\$90,000 per tract, 17% of the private tracts & 1% of County and Sponsor land)	\$900.00	\$0.00	\$0.00			\$900.00
Potential Residential Relocation Costs (\$31,000.00/ residence)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Residential Moving Costs (\$4,000.00/ residence)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Tenant Occupied Relocation & Moving Costs (\$10,200.00/ residence)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Pipeline Relocation Costs (Admin Only Not Construction Costs) (3,000 each)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Well Relocation Costs (Admin Only Not Construction Costs) (3,000 each)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Commerical Relocation Costs (\$40,000)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Commerical Moving Costs (\$10,000)	\$0.00	\$0.00	\$0.00			\$0.00
Potential Industrial Relocation Costs (\$100,000)	\$0.00	\$0.00	\$0.00			\$0.00
Appraisals (\$2,500 each tract)	\$2,500.00	\$0.00	\$0.00			\$2,500.00
Survey (\$4,000 each tract)	\$4,000.00	\$0.00	\$0.00			\$4,000.00
Office Administration and Management Oversight (8 hrs. x \$125 an hour, per tract)	\$1,000.00	\$0.00	\$0.00			\$1,000.00
Land Value Estimate (cost of easements: 30% of land value)	\$280.80	\$0.00	\$0.00			\$280.80
Title Commitment (\$1,000 each tract)	\$1,000.00	\$0.00	\$0.00			\$1,000.00
Pipeline Relocation Costs						\$0.00
Total Admin and payments	\$14,680.80	\$0.00	\$0.00			\$14,680.80
Contingencies	\$5,138.28	\$0.00	\$0.00			\$5,138.28
Grand Total non Fed	\$19,819.08	\$0.00	\$0.00		\$19,819.08	\$19,819.08
USACE Cost						
Description	Private Owners	Federal Land	State/County Owned			
Acquisitions (10 hrs. x \$125 an hour each tract) (Review RE Planning Documents, Verifying Ownership, Relocation Assistance, LERRD Crediting & Mapping)	\$1,250.00	\$0.00	\$0.00	\$1,250.00		\$1,250.00
Appraisals Review (10hrs x \$150 an hour, each tract)	\$1,500.00	\$0.00	\$0.00	\$1,500.00		\$1,500.00
Office Administration and Management Oversight (6 hrs X \$125 each tract)	\$750.00	\$0.00	\$0.00	\$750.00		\$750.00
Potential Pipeline Relocation Costs (Admin Only Not Construction Costs) (3,000 each)	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
PED Reviews (DQC, ATR, BCOES)	\$1,000.00		\$1,000.00	\$2,000.00		
						\$0.00
Total Admin & Payments (FED COSTS)	\$4,500.00	\$0.00	\$1,000.00	\$5,500.00		\$5,500.00
Contingencies (FED COSTS)	\$1,575.00	\$0.00	\$350.00	\$1,925.00		\$1,925.00
Grand Total Fed Costs	\$6,075.00	\$0.00	\$1,350.00	\$7,425.00	\$7,425.00	\$7,425.00
Grand Total Costs						\$27,244.08

Table 10-5: Baseline Cost Estimate for Real Estate – Increment 18.6.1

Description	Private Owners	Federal Land	State/County Owned				
Acquisitions (40 hrs. X \$125 for each tract) (Labor: Relocation Assistance, Homeowner Negotiations, L)	\$0.00	\$0.00	\$5,000.00				\$5,000.00
Condemnation Subdivisions (\$35,000 each)	\$0.00	\$0.00	\$0.00				\$0.00
Condemnation (\$90,000 per tract, 17% of the private tracts & 1% of County and Sponsor land)	\$0.00	\$0.00	\$900.00				\$900.00
Potential Residential Relocation Costs (\$31,000.00/ residence)	\$0.00	\$0.00	\$0.00				\$0.00
Potential Residential Moving Costs (\$4,000.00/ residence)	\$0.00	\$0.00	\$0.00				\$0.00
Potential Tenant Occupied Relocation & Moving Costs (\$10,200.00/ residence)	\$0.00	\$0.00	\$0.00				\$0.00
Potential Pipeline Relocation Costs (Admin Only Not Construction Costs) (3,000 each)	\$0.00	\$0.00	\$0.00				\$0.00
Potential Well Relocation Costs (Admin Only Not Construction Costs) (3,000 each)	\$0.00	\$0.00	\$0.00				\$0.00
Potential Commerical Relocation Costs (\$40,000)	\$0.00	\$0.00	\$0.00				\$0.00
Potential Commerical Moving Costs (\$10,000)	\$0.00	\$0.00	\$0.00				\$0.00
Potential Industrial Relocation Costs (\$100,000)	\$0.00	\$0.00	\$0.00				\$0.00
Appraisals (\$2,500 each tract)	\$0.00	\$0.00	\$2,500.00				\$2,500.00
Survey (\$4,000 each tract)	\$0.00	\$0.00	\$4,000.00				\$4,000.00
Office Administration and Management Oversight (8 hrs. x \$125 an hour, per tract)	\$0.00	\$0.00	\$1,000.00				\$1,000.00
Land Value Estimate (cost of easements: 30% of land value)	\$0.00	\$0.00	\$108.00				\$108.00
Title Commitment (\$1,000 each tract)	\$0.00	\$0.00	\$1,000.00				\$1,000.00
Pipeline Relocation Costs							\$0.00
Total Admin and payments	\$0.00	\$0.00	\$14,508.00				\$14,508.00
Contingencies	\$0.00	\$0.00	\$5,077.80				\$5,077.80
Grand Total non Fed	\$0.00	\$0.00	\$19,585.80			\$19,585.80	\$19,585.80
							\$0.00
USACE Cost							\$0.00
Description	Private Owners	Federal Land	State/County Owned				
Acquisitions (10 hrs. x \$125 an hour each tract) (Review RE Planning Documents, Verifying Ownership, Relocation Assistance, LERRD Crediting & Mapping)	\$0.00	\$0.00	\$1,250.00	\$1,250.00	\$0.00		\$1,250.00
Appraisals Review (10hrs x \$150 an hour, each tract)	\$0.00	\$0.00	\$1,500.00	\$1,500.00	\$0.00		\$1,500.00
Office Administration and Management Oversight (6 hrs X \$125 each tract)	\$0.00	\$0.00	\$750.00	\$750.00	\$0.00		\$750.00
Potential Pipeline Relocation Costs (Admin Only Not Construction Costs) (3,000 each)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$0.00
PED Reviews (DQC, ATR, BCOES)	\$1,000.00		\$1,000.00	\$2,000.00			\$0.00
Total Admin & Payments (FED COSTS)	\$1,000.00	\$0.00	\$4,500.00	\$5,500.00	\$0.00		\$5,500.00
Contingencies (FED COSTS)	\$350.00	\$0.00	\$1,575.00	\$1,925.00	\$0.00		\$1,925.00
Grand Total Fed Costs	\$1,350.00	\$0.00	\$6,075.00	\$7,425.00	\$0.00	\$7,425.00	\$7,425.00
Grand Total Costs							\$27,010.80

Table 10-6: Resilience Plan Cost Summary

Increment	Non-Federal Costs (01 Account)	Federal Costs	Total
12.3.2	\$58,366.66	\$16,875.00	\$75,241.66
13.6.1	\$0.00	\$2,700.00	\$2,700.00
14.6.1	\$0.00	\$2,700.00	\$2,700.00
16.6.1	\$19,819.08	\$7,425.00	\$27,244.08
18.6.1	\$19,585.80	\$7,425.00	\$27,010.80
Resilience Plan Total			\$134,896.54

LAND ACQUISITION SCHEDULE

Table 22-1 below describes predecessors and durations for land acquisition milestone activities.

Table 11-1: Land Acquisition Schedule

Land Acquisition Schedule		
Milestone	Predecessor	Maximum Duration
Initiate Programmatic Activities	Funding awarded by Congress	60 days
Obtain Surveys	Upon transmittal of ROW drawings and instruction to proceed with acquisition	120 days
Obtain Title Evidence	Upon completion of surveys	90 days
Appraisals & Reviews	Upon obtaining title evidence	90 days
Authorization to Proceed with Offer	Upon obtaining appraisals and reviews	30 days
Conclude Negotiations	Upon obtaining authorization to proceed with offer	90 days
Begin Condemnations	Upon conclusion of negotiations	30 days
Conduct Closings	Upon conclusion of negotiations	90 days
Conclude Condemnations	Upon beginning condemnations	240 days

REAL ESTATE ISSUES

At this time, there are no anticipated real estate issues for this project. This section will be updated as project design progresses.

REFERENCES

2018. Railroad Commission of Texas. Public GIS Viewer. <https://rrc.texas.gov/about-us/resource-center/research/gis-viewers/>