Mississippi River Valley Division,
Regional Planning and Environment Division South

Upper Barataria Basin, Feasibility Study

Second Draft Appendix D – Real Estate

December 2020

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Section 1
Study Name and Purpose

1.1 STUDY NAME

The Upper Barataria Basin (UBB) Louisiana Feasibility Study is a Coastal Storm Risk Management (CSRM) study that evaluates impacts to people, the environment, and cultural resources. The results of the study are presented in an Integrated Feasibility report and Environmental Impact Statement (IFR-EIS). The UBB Feasibility Study investigated a full range of alternatives for CSRM and established a Recommended Plan (RP).

1.2 STUDY PURPOSE

The purpose of the study involves the investigation of an authorized coastal storm risk management study in order to reduce the risk of flood damage from tidal surges, storm surges, and rainfall to the area between Bayou Lafourche and the Mississippi River System, from Donaldsonville to just past U.S. Highway 90 in the Basin. The area is prone to coastal storm damages from tidal surges, storm surges, and rainfall, resulting in flood damages to industrial, commercial, agricultural facilities, as well as residential structures and critical evacuation routes.

This Real Estate Plan (REP) describes the lands, easements, rights-of-way, relocations, and disposal sites (LERRD) required for the RP and costs for the implementation and construction of the RP as described in more detail in the second draft IFR-EIS for UBB. The information contained herein is tentative, preliminary in nature, intended for planning purposes only, and is subject to change.

Section 2
Study Authorization

The Bipartisan Budget Act of 2018 (Public Law 115-123), Division B, Subdivision 1, Title IV, ("BBA 2018") appropriated supplemental funds that included $135,000,000 in Supplemental Investigations Funds for Long Term Disaster Recovery Investment Plans (LDRIPs) related to the completion, or initiation and completion, of authorized flood and storm damage reduction studies, including shore protection.

MEMORANDUM FOR Deputy Commanding General for Civil and Emergency Operations, SUBJECT: Policy Guidance on Implementation of Supplemental Appropriations of the Bipartisan Budget Act of 2018, dated August 9, 2018, identified the UBB Study as a feasibility study to be funded with Supplemental Investigations funds as part of the LDRIPs. The UBB Feasibility Study was federally-authorized pursuant to a Resolution of the Committee on Transportation and Infrastructure of the United States House of Representatives, 105th Congress, Docket 2554, Donaldsonville, Louisiana to the Gulf of Mexico," adopted May 6, 1998. This Resolution requested the Secretary of the Army review the Report of the Chief of Engineers on the Mississippi River and Tributaries and other pertinent reports to determine whether modifications of the recommendations in the Chief's Report were advisable in the area between Bayou Lafourche and the Mississippi River System, from Donaldsonville, Louisiana, to the Gulf of Mexico.

Notwithstanding Section 105(a) of the Water Resources Development Act of 1986 (33 U.S.C. 22 l 6(a)), which specifies the cost-sharing requirements generally applicable to feasibility studies, this BBA 2018 Study authorizes the Government to conduct the Study at full federal expense. On October 9, 2018, the Feasibility Cost Sharing Agreement (FCSA) for the UBB Study was executed between the Department of the Army and the Coastal Protection and Restoration Authority Board of Louisiana.

Refer to Section 1 of the draft IFR-EIS for a complete description of the study authorization.

Section 3
Recommended Plan Location and Description

3.1 STUDY AREA

The study area includes communities in the parishes of Ascension, Assumption, Jefferson, Lafourche, St. Charles, St. James, and St. John the Baptist. It is bounded on the north and east by the Mississippi River Levee, on the west by Bayou Lafourche, and on the south it extends slightly past U. S. Highway 90. This area covers approximately 800 square miles and is characterized by low, flat terrain with wetlands, numerous navigation channels, drainage canals and natural bayous. Numerous communities are located within the study area adjacent to major highways, the Mississippi River, and Bayou Lafourche. The study area is shown on Figure D:3-1.

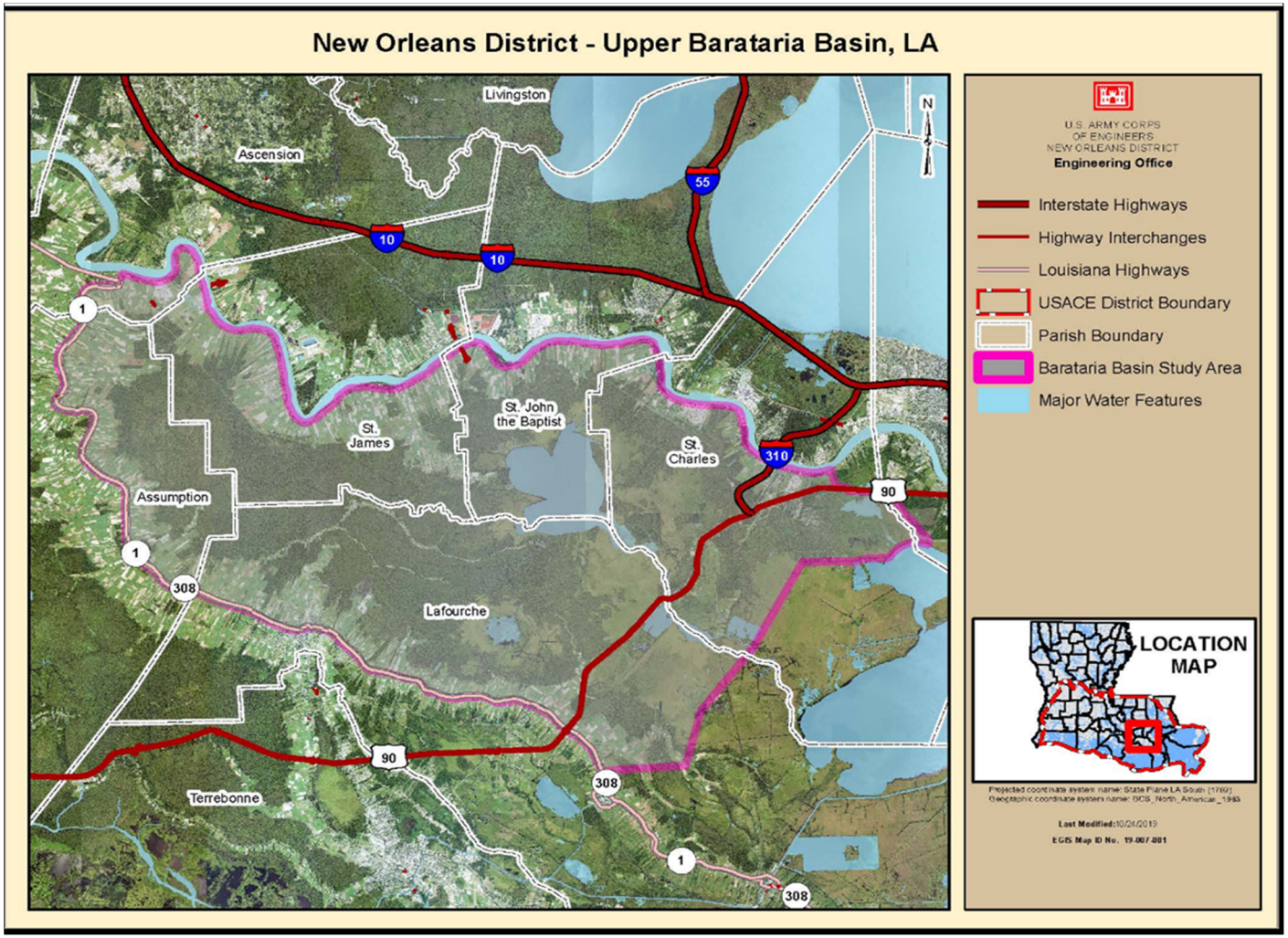

Figure D:3-1. Upper Barataria Basin Study Area

3.2 RECOMMENDED PLAN LOCATION

The RP is within the study area in Lafourche and St. Charles Parishes in southeast Louisiana and starts in Luling, Louisiana at the Mississippi River Levee and continues south, parallel to U. S. Highway 90, travels along the Davis Pond Diversion Structure West Guide Levee, continues south improving deficiencies in the St. Charles Parish Levee, crosses Bayou Des Allemands with a barge gate structure, continues south along U. S. Highway 90 and ends near Highway 1 and Bayou Lafourche, east of Raceland where it ties into high ground across the Barataria Basin. The location of the RP is shown on Figure D:3-2.

3.3 RECOMMENDED PLAN DESCRIPTION

The RP consists of a structural alignment constructed to a 1 percent Annual Exceedance Probability (AEP) (100-year future design) totaling approximately 161,300 feet (approximately 30.6 miles) in length of earthen levee and floodwall (T-wall). The RP also consists of T-wall structures at existing pipelines to allow passage through the proposed levee structure, culverts with sluice gates, roller gates where T-wall crosses Highway 306 and two railroad crossings, two ramps at River Road and U. S. Highway 90, and fronting protection and tidal exchange structures at pump stations. Staging areas, access (existing, temporary and perpetual) as well as borrow, dredging and disposal are also a part of the RP.

The proposed levees would have multiple levee lifts authorized over the initial 50 years with the first lift projected to occur in 2026 that would raise the levee to an elevation of 14 feet, except in hydraulic reaches F and H where it would be constructed to 16 feet elevation after settlement. Subsequent lifts would maintain the 1 percent AEP over the initial 50 years of the authorized project. Material settlement over this period has also been incorporated into the material quantities for each of the alignment's hydraulic reaches.

Reaches A, B, and C are located east of the cities of Luling, Boutte, and Paradis. Reaches D, E, and F are located east of the cities of Paradis and Des Allemands. Reaches G and H travel across Bayou Des Allemands and extend southwesterly past Dufrene Ponds along Godchaux Canal and Amarada Hess Road until it reaches Bayou Lafourche near Raceland. Existing levee footprints and right-of-way (ROW) would be incorporated into the proposed levee design for reaches A-F.

A detailed description of the project reaches is included in Section 3.4 below.

Figure D:3-2. Recommended Plan Location

3.4 DESCRIPTION OF REACHES

3.4.1 Reach A

Reach A (Figure D:3-3) is a proposed earthen levee that begins at the Mississippi River Levee and extends approximately 24,700 feet south, building off the existing Davis Pond Diversion Structure West Guide Levee (A-1) and the existing St. Charles Levee (A-2). The proposed earthen levee would be elevated with the centerline shifted away from the canals. This reach would initially be constructed to a height of 14 feet in 2026. A second lift, proposed in 2054, would be constructed to a height of 16 feet, in order to maintain the 1 percent AEP design elevation.

The alignment crosses River Road, Union Pacific Railroad Track, the BNSF Railroad track and U. S. Highway 90. Ramps would be constructed for the two road crossings and roller gate structures would be constructed for the two railroad tracks. Further south, the existing Davis Pond Pump Station would receive new frontage protection. Two existing tidal exchange structures on either side of the Willowdale Pump Station would be replaced. New T-wall sections (152 feet and 298 feet) would be constructed to allow two pipelines to pass through the levee alignment.

Access would be from existing roads, U. S. Highway 90 to Willowdale Boulevard and then Lafayette Drive. Three staging areas are proposed for use during construction located next to River Road (1 acre) to be utilized for construction of ramps and railroad gate structures, along Highway 90 (1 acre), and at Willowdale Boulevard (.07 acres).

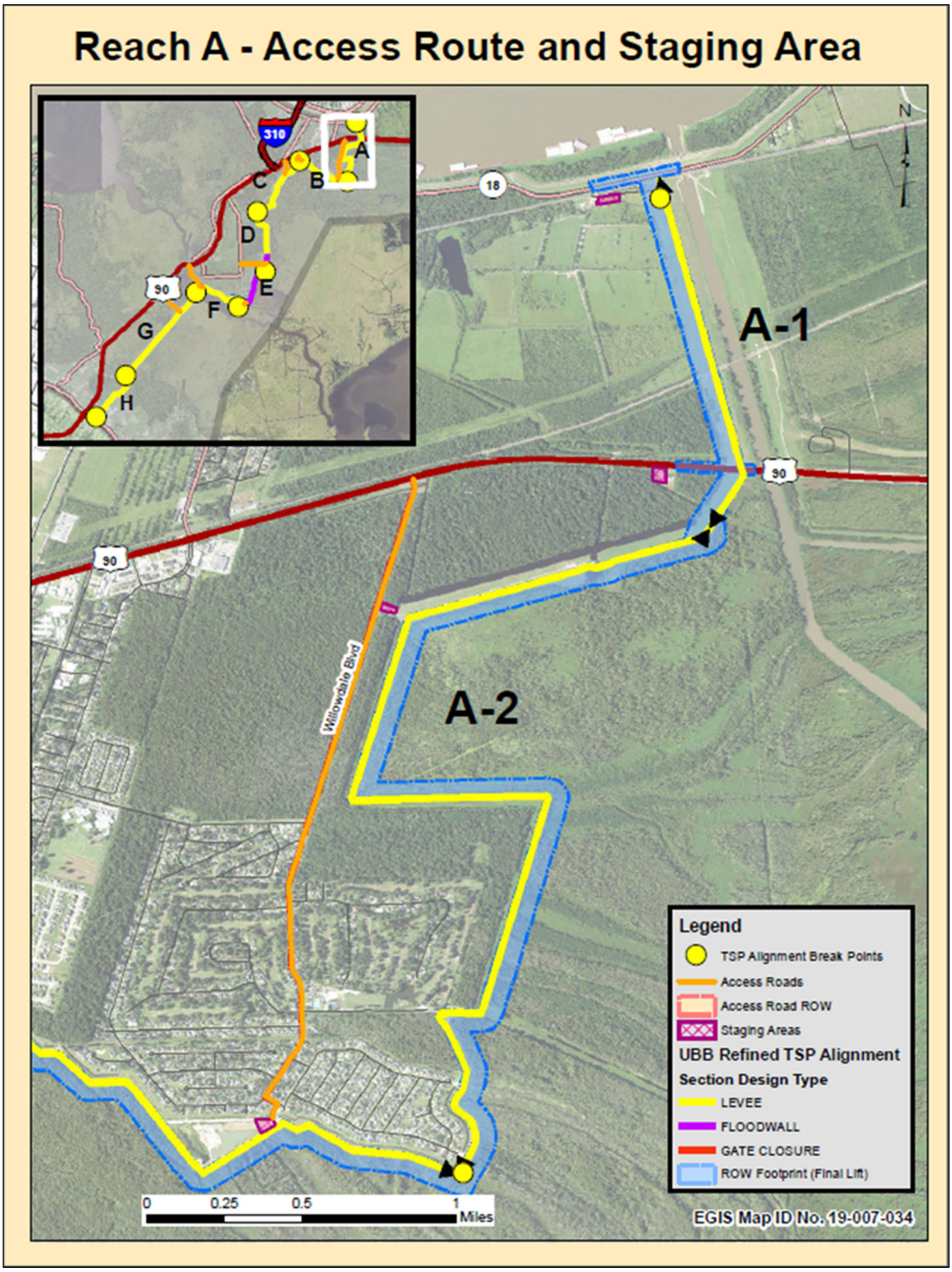

Figure D:3-3. Reach A

3.4.2 Reach B

Reach B (Figures D:3-4) is a proposed earthen levee that begins at Willowdale Pump Station and travels along the St. Charles Parish Levee approximately 16,526 feet in length. The proposed earthen levees would be elevated with the centerline shifted away from the canal. This reach would initially be constructed to a height of 14 feet in 2026. A second lift, proposed in 2054, would be constructed to a height of 16 feet, in order to maintain the 1 percent AEP design elevation.

Frontage protection would be constructed for three pump stations, Willowridge, Kellogg, and Cousins. New T-wall sections would be constructed to allow two pipelines to pass through the alignment.

Access would be from the same existing roads for Reach A, as well as a second access from existing roads U. S. Highway 90 to River Ridge Drive to Primrose Street. One staging area (1 acre) would be off Lafayette Drive next to the levee alignment.

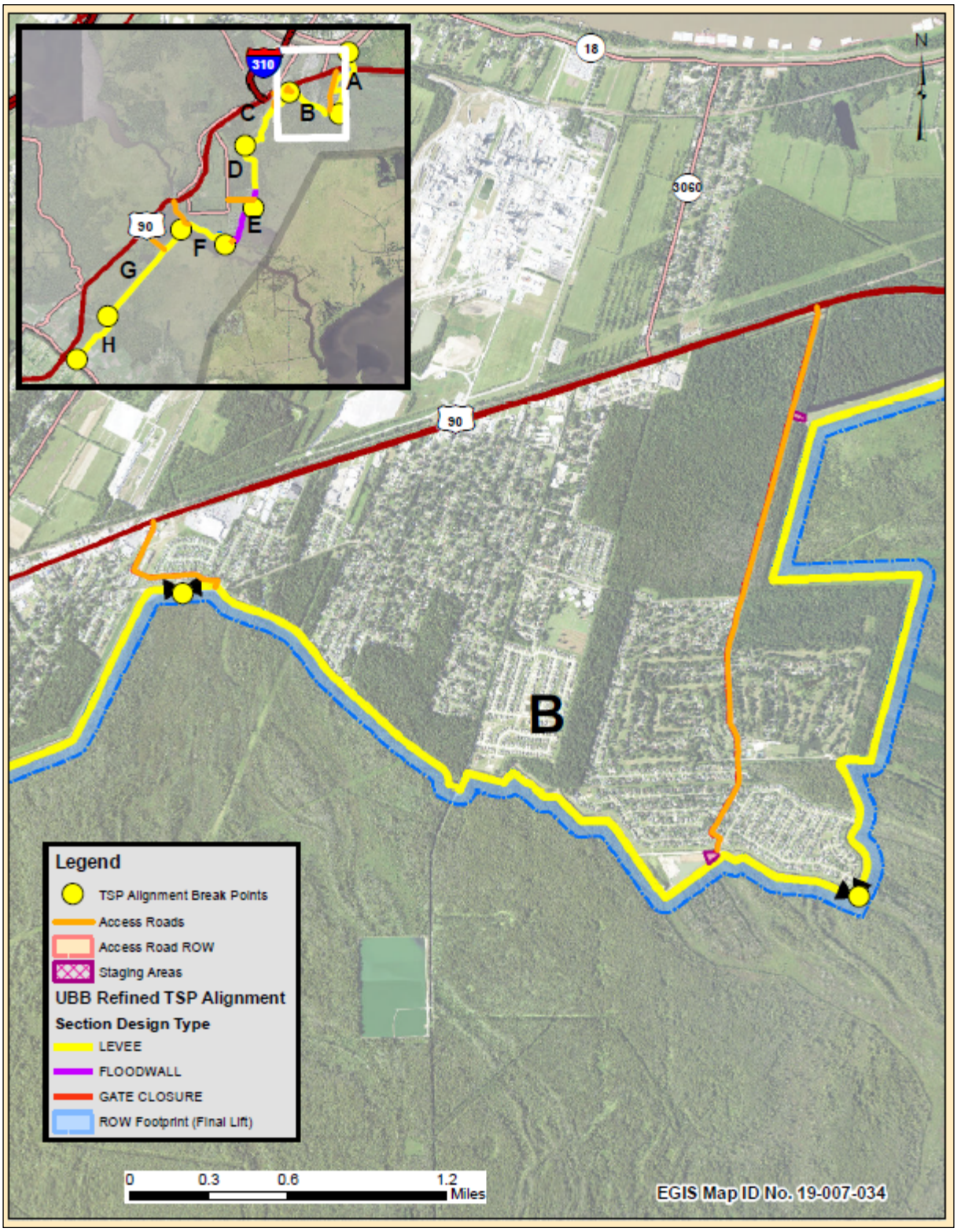

Figure D:3-4. Reach B

3.4.3 Reach C

Reach C (Figure D:3-5) is a proposed earthen levee that begins at the Ellington Pump Station and travels along the St. Charles Parish Levee approximately 22,600 feet in length. The proposed earthen levee would be elevated with the centerline shifted away from the existing canal. This reach would initially be constructed to a height of 14 feet in 2026. A second lift, proposed in 2054, would be constructed to a height of 16 feet, in order to maintain the 1 percent AEP design elevation.

Frontage protection would be placed at the Ellington Pump Station. A new T-wall section (135 feet) would be constructed to allow one pipeline to pass through the alignment.

Access would be from existing roads, U. S. Highway 90 to Magnolia Ridge Road. One staging area (1.6 acres) would be located off Magnolia Ridge Road.

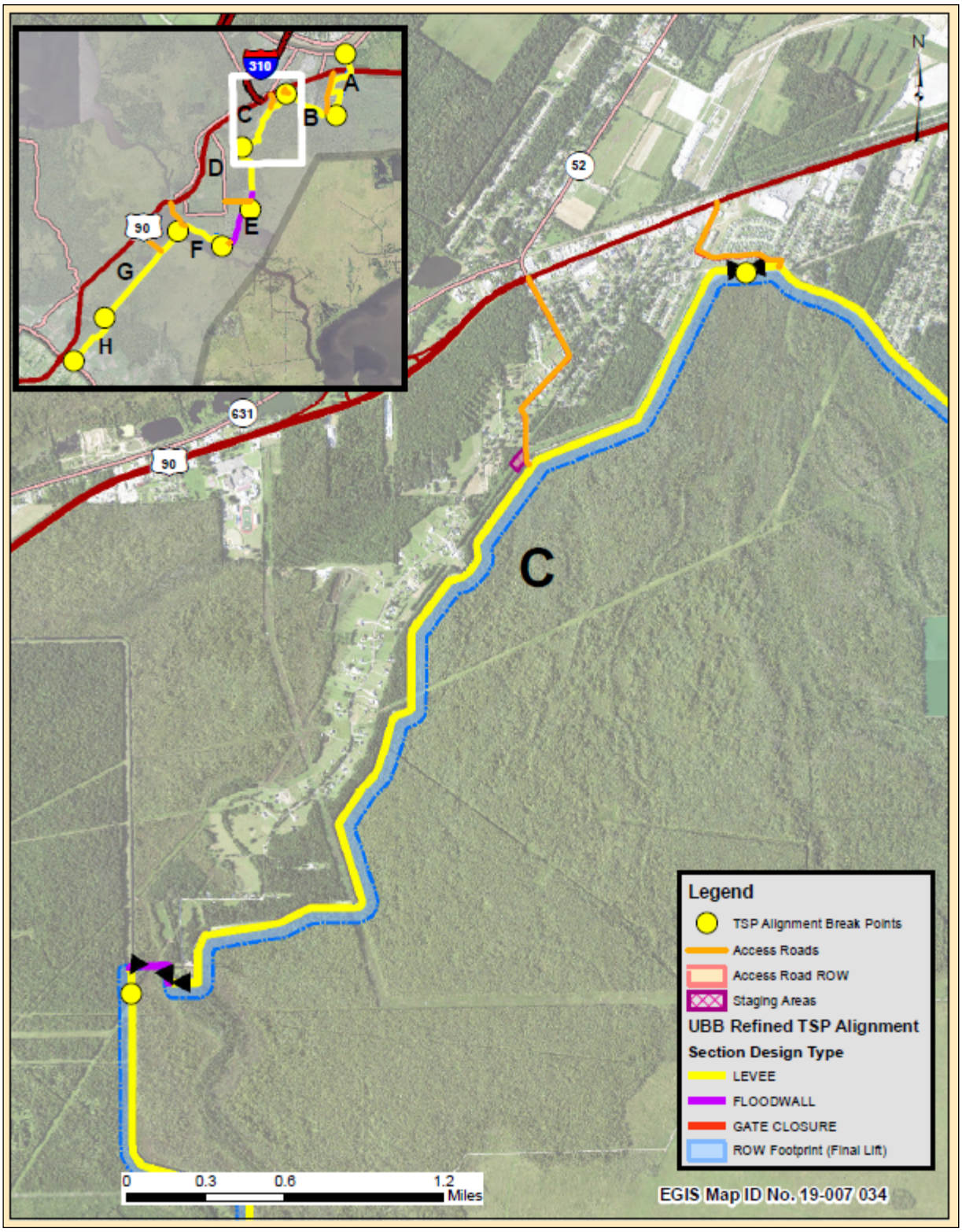

Figure D:3-5. REACH C

3.4.4 Reach D

Reach D (Figure D:3-6) is a proposed combination earthen levee (16,300 feet) and T-wall (2,700 feet) that begins just south of the Paradis Control Structure and travels approximately 19,000 feet to be constructed on top of the Sunset District Levee. The proposed earthen levee would be elevated with the centerline shifted away from the existing canal and would initially be constructed to a height of 14 feet in 2026. A second lift proposed in 2054 would be constructed to a height of 16 feet, in order to maintain the 1 percent AEP design elevation.

The one section of T-wall, ending at Grand Bayou Road, would be constructed to avoid existing houses and utilities along the existing levee alignment. The T-wall would be constructed to a 15 feet elevation within ROW from the landside.

Access would be from existing roads Bayou Gauche Road (Highway 306) to Grand Bayou Road. A 1,527 feet temporary access road would be constructed across a field to the alignment. One staging area (2.2 acres) would be located off Grand Bayou Road.

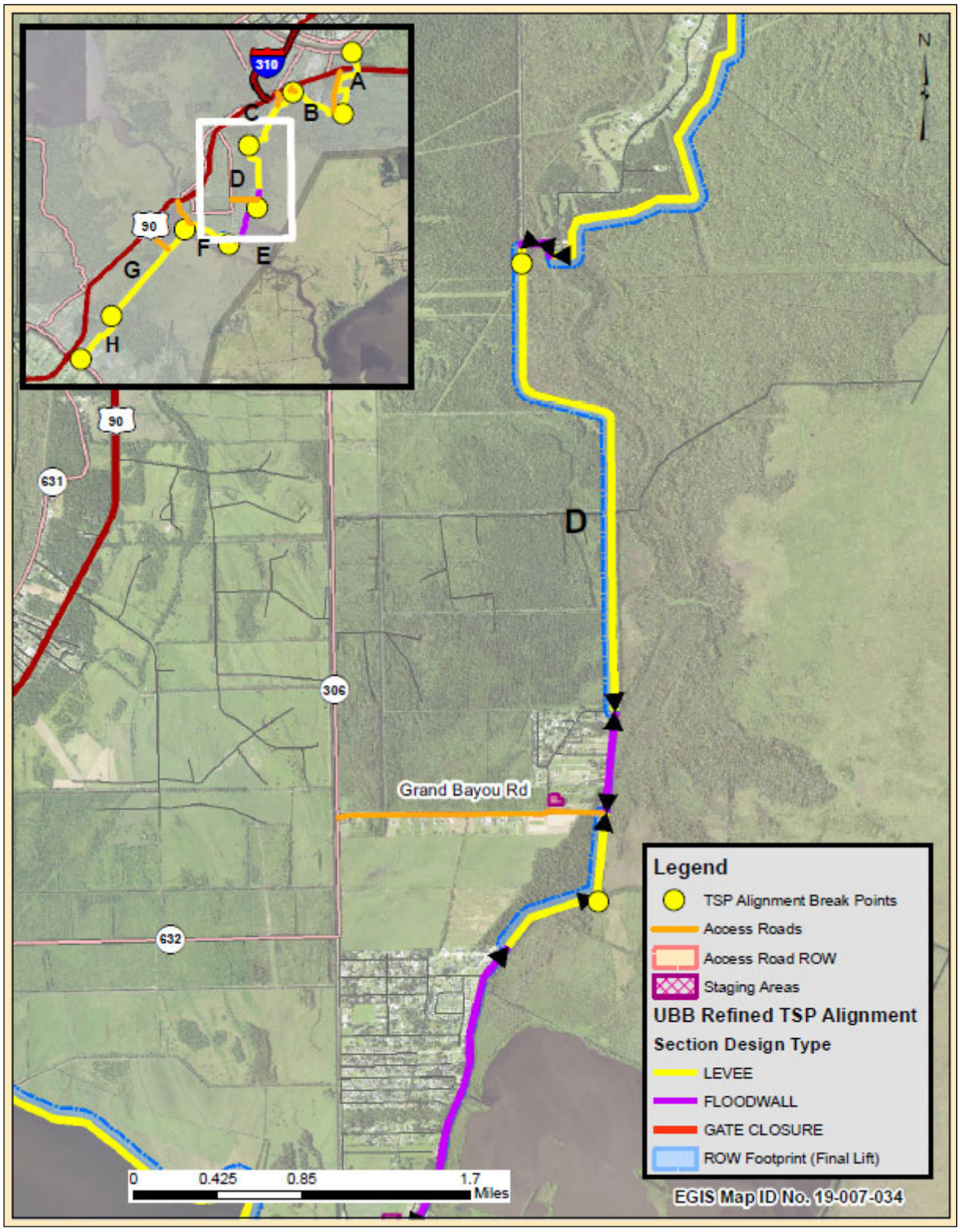

Figure D:3-6. Reach D

3.4.5 Reach E

Reach E (Figure D:3-7) is a proposed combination earthen levee and floodwall that begins just south of Grand Bayou Road and travels approximately 14,600 feet. The proposed earthen levee measures approximately 3,340 feet in length and would be constructed on top of the Sunset District Levee, elevated with the newly proposed centerline shifted away from the existing canal. The earthen levee would initially be constructed to a height of 14 feet in 2026 with a second lift proposed in 2038 to be constructed to a height of 16 feet, and a third and final lift proposed in 2059 to be constructed to a height of 18.5 feet, in order to maintain the 1 percent AEP design elevation.

A proposed floodwall portion (T-wall) would be construction to an elevation of 18.5 feet with a 10 – 20 feet wide concrete slab at the base due to the minimal area available for construction between the canal and existing structures. A roller gate would be installed within the T-wall section where the alignment crosses Highway 306. One 400 feet section T-wall would be constructed to allow one pipeline (just west of Crawford Canal where Reach E ties into Reach F) to pass through the alignment.

Access would be directly from existing Bayou Gauche Road (Highway 306). A new permanent access road would be constructed for a portion of Beau Estates Subdivision near Bayou des Allemands, as the newly constructed floodwall would cut off access. The new permanent route would be just outside of the newly constructed T-wall from Highway 306 and allow access to this area. One staging area (2 acres) would be located off Bayou Gauche Road.

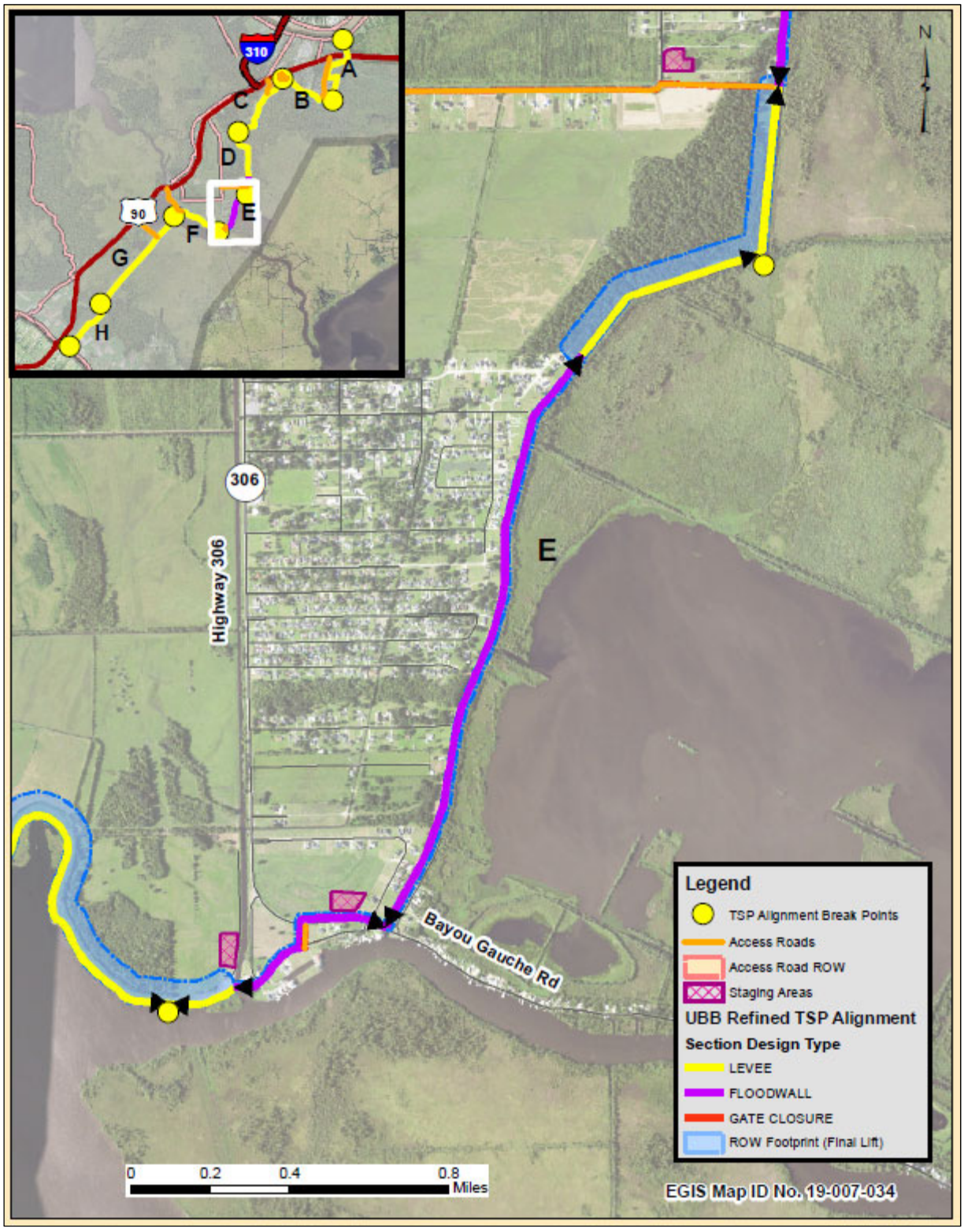

Figure D:3-7. Reach E

3.4.6 Reach F

Reach F (Figure D:3-8) is a proposed earthen levee that begins just past Crawford Canal Pump Station and measures approximately 15,400 feet in length. The proposed earthen levee would be constructed on top of existing Sunset District Levee, elevated with the centerline shifted away from the existing bayou. This earthen levee would initially be constructed to a height of 16 feet in 2026, and a second lift proposed for 2044 constructed to a height of 18.5 feet to maintain the 1 percent AEP design elevation.

A 270 feet barge gate structure would be constructed across the Bayou Des Allemands. A total of twelve culverts with sluice gates (six 15 feet x 20 feet box culverts on each side of the gate) would be incorporated into the gate structure. The channel where the structure would be placed would require dredging to achieve a sill depth of approximately negative 14 – 19 feet. Dredge material would be disposed of downstream in potential sites stable enough for marsh creation (Refer to the Dredge Disposal Plan in Appendix E). The dredge and disposal will take place within state waterbottoms.

Access would be by existing U. S. Highway 90 on the eastern side of Bayou Des Allemands to Down the Bayou Road near the proposed barge gate placement site. A temporary access road approximately 40 feet wide and approximately 4,575 linear feet in length would start at the end of Down the Bayou Road and travel to the barge gate crossing on top of the existing Sunset District Levee. This temporary access road would be removed once construction is completed and the area returned to pre-construction conditions. Two staging areas are proposed for this Reach, one located west of the Crawford Canal Pump Station (2.2 acres) and another on the east bank of Bayou Des Allemands where the alignment crosses the Bayou (2.2 acres).

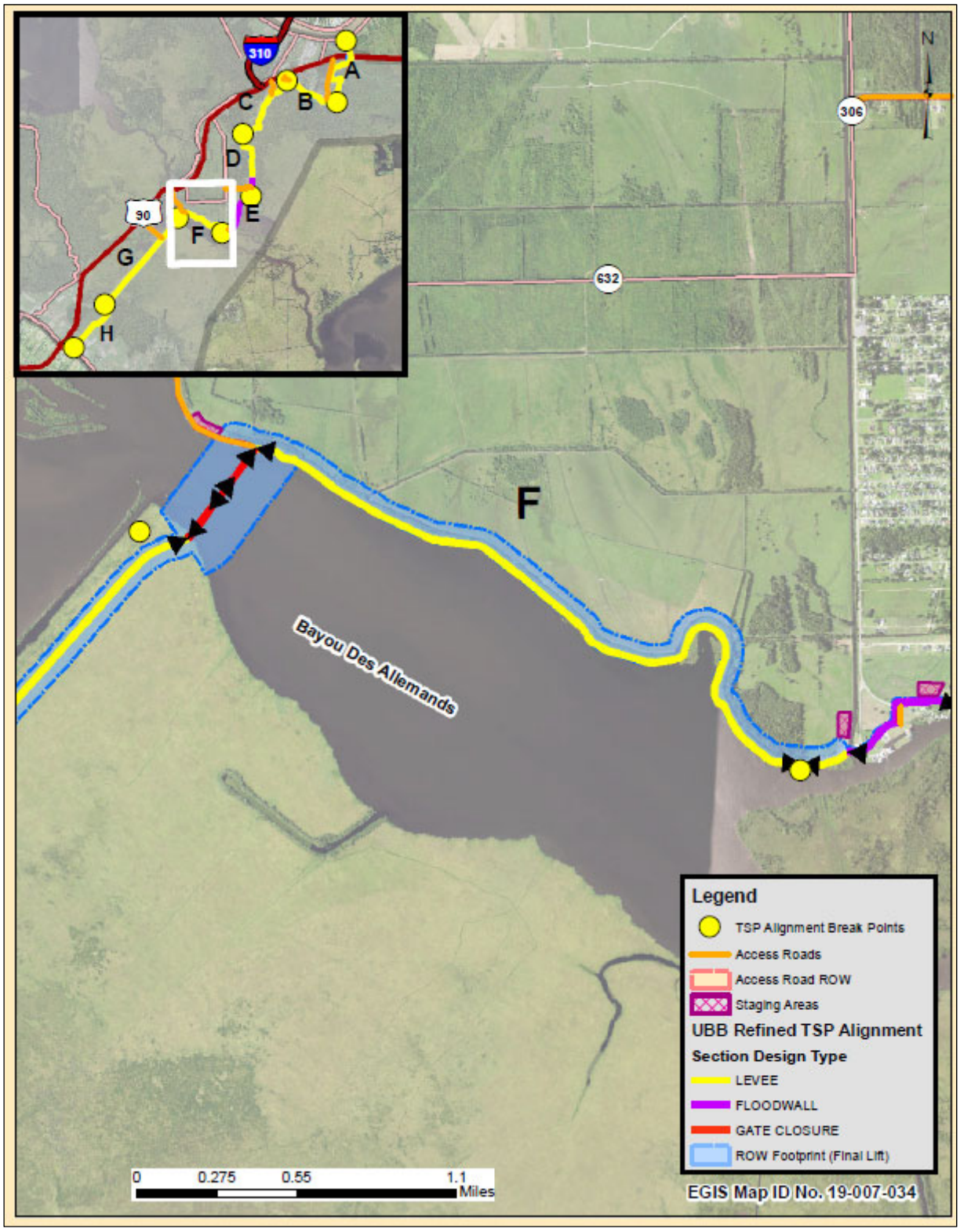

Figure D:3-8. Reach F

3.4.7 Reach G

Reach G (Figure D:3-9) is construction of a proposed new levee running parallel to U. S. Highway 90 through the marsh, starting at the southern bank of Bayou Des Allemands continuing to where Gibbens Road meets the alignment. The earthen levee would measure approximately 31,000 feet in length. The proposed earthen levee would initially be constructed to a height of 14 feet in 2026 with a second lift proposed in 2054 to be constructed to a height of 16 feet, in order to maintain the 1 percent AEP design elevation.

The newly constructed levee would incorporate five sets of 6 x 6 feet box culverts with sluice gates, which are needed to maintain the hydraulic flow in and out of the marsh.

Access would be from existing U. S. Highway 90 via a newly constructed permanent access route just southwest of Dufrene Ponds. This new road would measure approximately 7,925 feet in length and would include the construction of a permanent bridge across the Godchaux Canal. Another access route would be along the alignment within existing right-of-way using Amarada Hess Road for access to a portion of Reach G. One staging area (2.3 acres) would be located on the northeast corner of where Godchaux Canal intersects the new permanent access route.

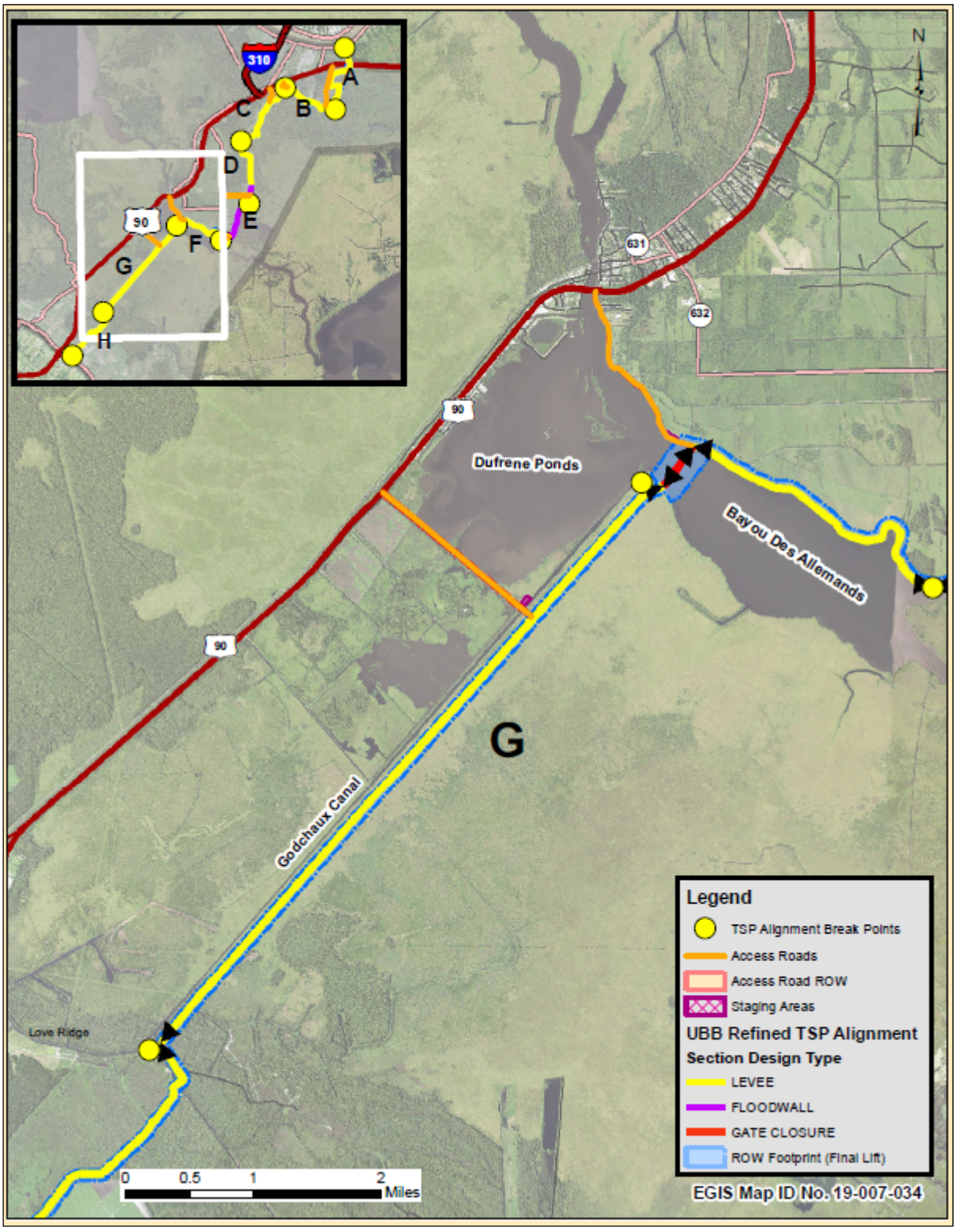

Figure D:3-9. Reach G

3.4.8 Reach H

Reach H (Figure D:3-10) begins where Gibbens Road meets the alignment and continues to parallel U. S. Highway 90 through the marsh and follows Amarada Hess Road. This proposed new earthen levee measures approximately 16,900 feet in length and would be constructed where there is no existing levee. The proposed earthen levee would be constructed to an elevation of 16 feet with one lift in 2026, in order to maintain the 1 percent AEP design elevation.

The newly constructed levee would incorporate two 84 inch in diameter culverts with sluice gates and one 60 inch in diameter culvert with sluice gates for hydraulic exchange, which are needed to maintain the hydraulic flow in and out of the marsh.

Access would be from existing Amarada Hess Road and for access along the reach, a 40 feet wide temporary access road traveling the length of the reach would be positioned at least 15 feet from the levee toe and within existing right-of-way. One staging area (2 acres) would be located on Highway 308 at Amarada Hess Road.

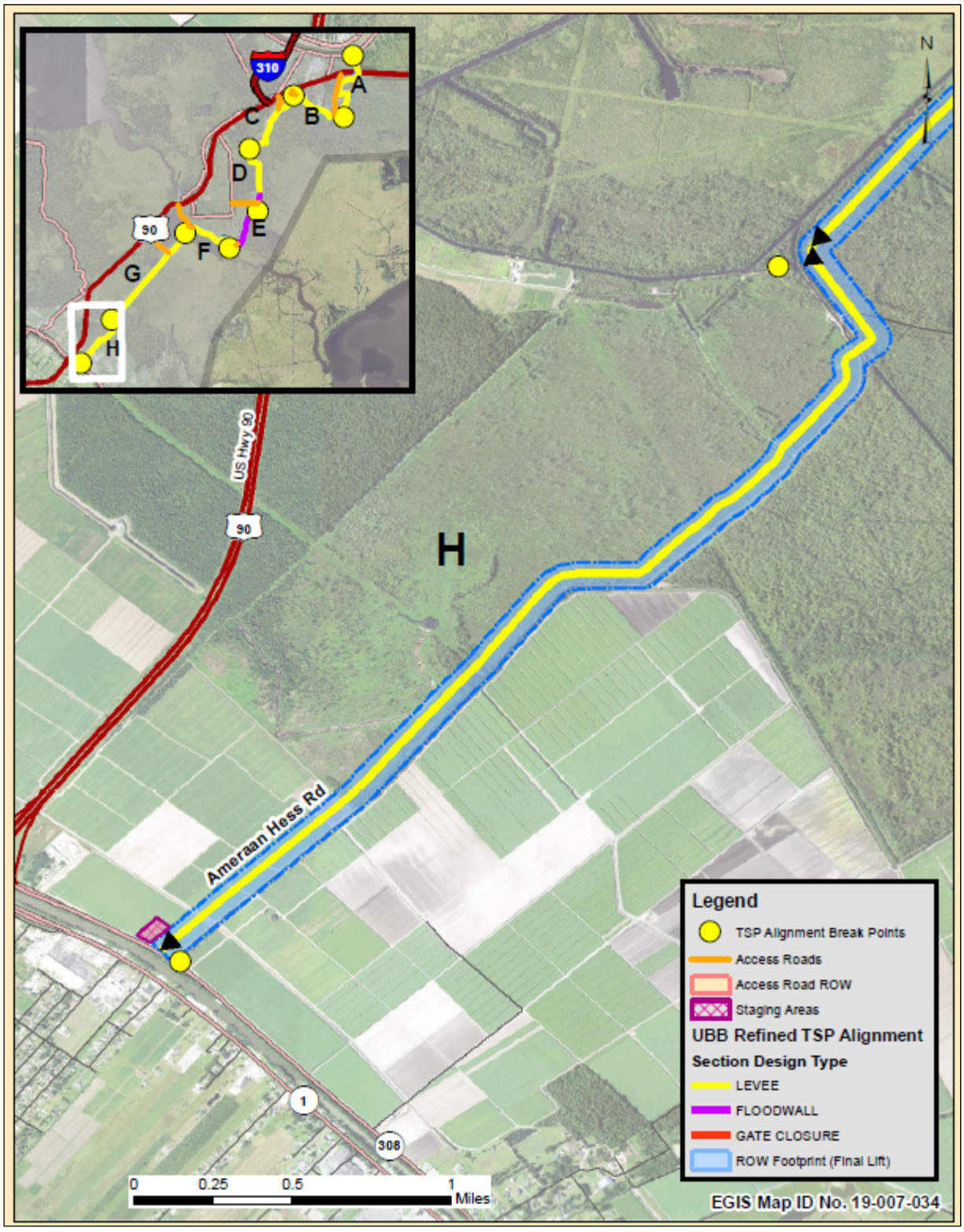

Figure D:3-10. Reach H

3.5 LANDS, EASEMENTS, RIGHTS-OF-WAY, RELOCATIONS, AND DISPOSAL TO BE ACQUIRED

In total, there is approximately 84,158 linear feet of earthen levee, 12,253 linear feet of floodwall (T-wall) east of Des Allemands along the Paradis Canal, one 45 linear feet roller gate structure at Bayou Gauche, and one 270 linear feet barge gate structure across Bayou Des Allemands for this RP. Portions of this footprint are within existing ROW or are owned by local or state government agencies. LERRD not within existing ROW or owned by local government entities is estimated to impact approximately 75 private landowners.

3.5.1 Borrow

Borrow material for construction is proposed to come from sites estimated to be within 15 miles of where US Highway 90 crosses Bayou Des Allemands. At this time, it is not known if existing Government borrow sites would be available at time needed for construction that would be located within the designated distance. Potential borrow sites on farmlands (avoiding swamp and marsh lands) were identified near Raceland and can be seen in Figure D:3-11. Not all lands from the potential borrow sites are intended to be used. A total of 5,200,400 cubic yards of soil is needed for the first lift in 2026 and a total of 8,812,700 cubic yards is needed over the entire authorized 50-year period to sustain the 1 percent AEP design elevations out to year 2076. It was assumed that 10-15 feet of usable material could be found in these sites.

The quantity of area needed for borrow would be approximately 500 acres of agriculture lands. This cost is included in the real estate cost below under Lands, Easements, ROW and Damages column within **Paragraph 10.1 Summary of Real Estate Costs for Recommended Plan**.

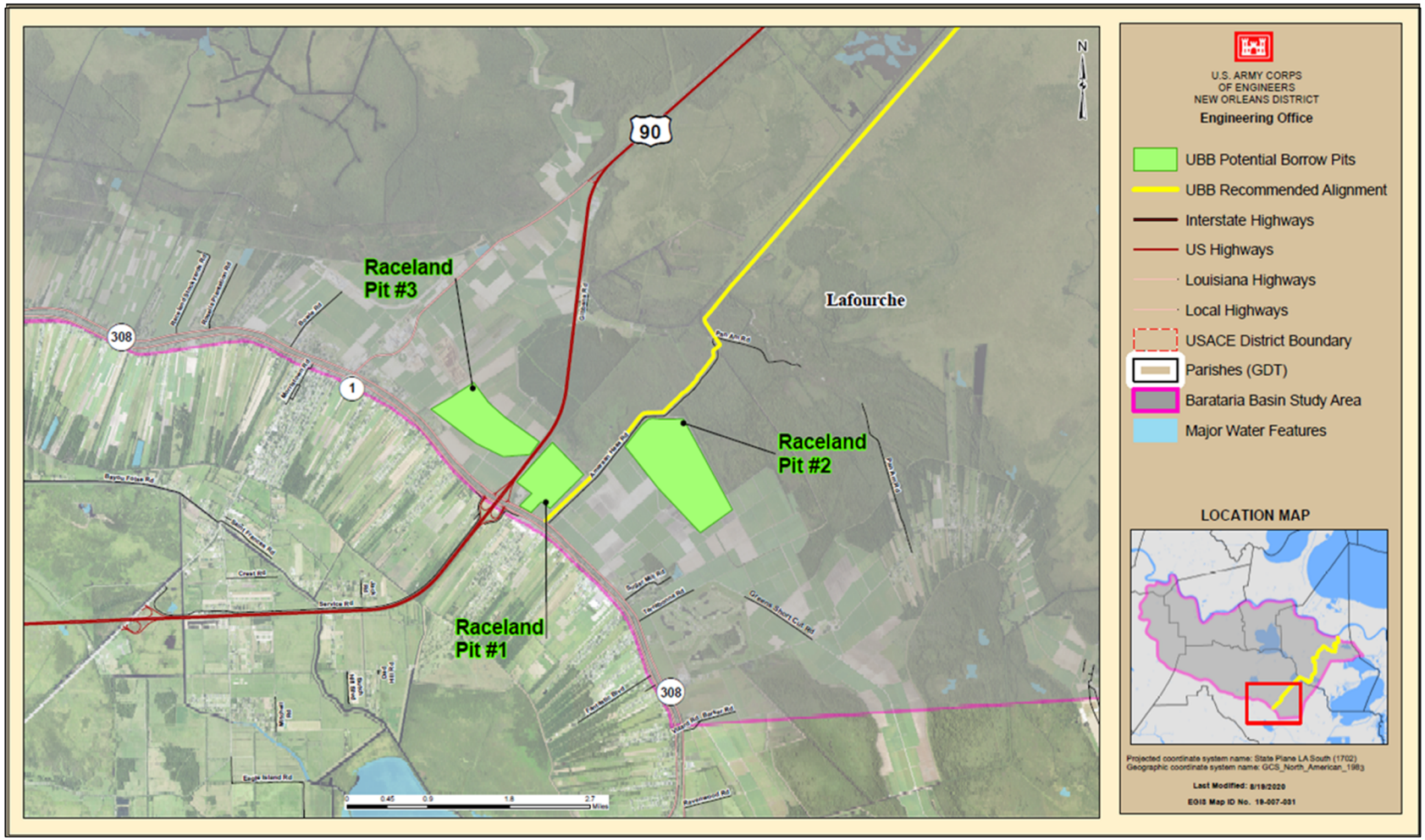

Figure D:3-11. Potential Borrow Locations

As additional details for the actual mitigation sites are developed, assumptions may be changed for the mitigation elements to include adaptive management, additional OMRR&R activities, major rehabilitation, etc. in order to sustain ecological success or to address uncertainty. These new assumptions would be reflected in the advanced project design, revised WVA modeling for the selected mitigation sites.

It is not known if the purchase of credits from an approved mitigation bank would be available when needed or if U. S. Army Corps of Engineers (USACE) constructed mitigation sites would be facilitated. If USACE constructed mitigation sites would be necessary, additional acres would be needed and acquired by Fee Estate, Excluding Oil & Gas. The acreage needed for mitigation and potential sites has not yet been determined. Estimated costs for direct impacts based on AAHU's are included in the Environmental cost estimate for the RP. Tables D:3-1, D:3-2, and D:3-3 show the LERRD required from private landowners, local government entities, and the U.S. Government, respectively.

Table D:3-1. Lands, Easements, Rights-of-Way, Relocations and Disposal Required from Private Landowners

Estate	Acres	Estimated Number of Landowners Impacted	Project Feature /Description
Flood Protection Levee Easement (Perpetual)	748.50	73	Earthen levees (all reaches), floodwalls (Reaches D and E), roller gates at two railroad crossings (Reach A), and box culverts and sluice gates (Reaches G and H)
Temporary Work Area Easement (Borrow)	500	9	Borrow – All Reaches
Road Easement (Perpetual)	9	3	Pasture lands for Reaches E and G
Road Easement (Temporary)	1.35	1	Pasture lands for Reach D
Temporary Work Area Easement (Staging)	15.40	6	Staging – All Reaches

Table D:3-2. Lands, Easements, Rights-of-Way, Relocations and Disposal Required from Local Government Entities

From Parish/State	NFS to Request	Reach
St. Charles Parish Government	Authorization for Entry	Reach A – Portion of levee, the frontage projection, tidal exchange structures, T-wall for (2) pipelines, (1) staging area.
		Reach B – Portion of levee, the frontage protection (3) and T-wall for (2) pipelines.
		Reach C – Portion of levee, the frontage protection, T-wall for (1) pipeline.
		Reach D – Portion of levee and floodwall.
		Reach E – Portion of levee and floodwall, the T-wall for (1) pipeline and portion of the staging area.
		Reach F – Portion of levee and temporary access road.
		Reach G – Access along existing alignment ROW.
		Reach H – Temporary access within existing alignment ROW.
West Jefferson Levee District	Authorization for Entry	Reach B – Portion of levee.
State of Louisiana (state waterbottoms)	Authorization for Entry	Reach A – Ramp (road portion) on River Road. (Also see Paragraph 18. Facility / Utility Relocations
		Reach E – Roller gate at Highway 306
		Reach F – Barge gate, culverts, sluice gates, dredging and deposit of material within state waterbottoms

Table D:3-3. Lands, Easements, Rights-of-Way, Relocations and Disposal Required from U.S. Government

Reach A	Davis Pond Diversion Structure West Guide Levee	Portion of levee, Ramps (levee portion) for U. S. Highway 90 and River Road

Section 4

LERRD Owned by Non-Federal Sponsor

The non-Federal sponsor (NFS) for this study is the Coastal Protection and Restoration Authority Board of Louisiana (CPRAB). The NFS does not own any lands within the study area. However, portions of the study area are located within areas owned by local parish or state agencies in the State of Louisiana, more specifically, St. Charles Parish, West Jefferson Levee District (a levee district of Southeast Louisiana Flood Protection Authority West), and state-owned waterbottoms. The Non-Federal Sponsor will request Authorization for Entry from these local governments. The State of Louisiana will issue a Grant of Particular Use for the portions of the project located on state water bottoms. This study is 100 percent Federally funded and the Feasibility Cost Share Agreement (FCSA) was executed on October 9, 2018.

Section 5
Estates

The following standard estates would be acquired from private landowners. The use of non-standard estates is not anticipated. Temporary estate duration would be 5 years.

Road Easement (temporary [five years] and perpetual)

A (perpetual [exclusive] [non-exclusive] and assignable) (temporary) easement and right-of-way in, on, over and across (the land described in Schedule A) (Tracts Nos. _____, _____ and _____) for the location, construction, operation, maintenance, alteration replacement of (a) road(s) and appurtenances thereto; together with the right to trim, cut, fell and remove therefrom all trees, underbrush, obstructions and other vegetation, structures, or obstacles within the limits of the right-of-way; (reserving; however, to the owners, their heirs and assigns, the right to cross over or under the right-of-way as access to their adjoining land at the locations indicated in Schedule B); subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

Flood Protection Levee Easement (Perpetual)

A perpetual and assignable right and easement in (the land described in Schedule A) (Tracts Nos. ___, ___ and ___) to construct, maintain, repair, operate, patrol and replace a flood protection levee, floodwall, gate closure, including all appurtenances thereto; reserving, however, to the owners, their heirs and assigns, all such rights and privileges in the land as may be used without interfering with or abridging the rights and easement hereby acquired; subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

Temporary Work Area Easement (borrow) [five years]

A temporary easement and right-of-way in, on, over and across (the land described in Schedule A) (Tracts Nos. _____, _____ and _____), for a period not to exceed __Five years_____, beginning with date possession of the land is granted to the United States, for use by the United States, its representatives, agents, and contractors as a borrow area, including the right to borrow and/or deposit fill, spoil and waste material thereon and to perform any other work necessary and incident to the construction of the **Upper Barataria Basin, Louisiana** Project, together with the right to trim, cut, fell and remove therefrom all trees, underbrush, obstructions, and any other vegetation, structures, or obstacles within the limits of the right-of-way; reserving, however, to the landowners, their heirs and assigns, all such rights and privileges as may be used without interfering with or abridging the rights and easement hereby acquired; subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

Temporary Work Area Easement (staging) [five years]

A temporary easement and right-of-way in, on, over and across (the land described in Schedule A) (Tracts Nos. _____, _____ and _____), for a period not to exceed __Five years_____, beginning with date possession of the land is granted to the United States, for use by the United States, its representatives, agents, and contractors as a work area, including the right to move, store and remove equipment and supplies, and erect and remove temporary structures on the land and to perform any other work necessary and incident to the construction of the **Upper Barataria Basin, Louisiana** Project, together with the right to trim, cut, fell and remove therefrom all trees, underbrush, obstructions, and any other vegetation, structures, or obstacles within the limits of the right-of-way; reserving, however, to the landowners, their heirs and assigns, all such rights and privileges as may be used without interfering with or abridging the rights and easement hereby acquired; subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines.

Fee Excluding Minerals (With Restriction on Use of the Surface)

The fee simple title to the land, subject, however, to existing easements for public roads and highways, public utilities, railroads and pipelines; excepting and excluding all oil and gas in and under said land and all appurtenant rights for the exploration, development, production and removal of said oil and gas, but without the right to enter upon or over the surface of said land for the purpose of exploration, development, production and removal therefrom said oil and gas.

Section 6

Existing Federal Projects

The following Federal projects are fully or partially within or in the immediate area of the footprint of the RP.

- Mississippi River & Tributaries Project – Levee system between New Orleans and Baton Rouge. The system provides risk reduction from the vast expanse of the developed alluvial valley from periodic overflows of the Mississippi River. This levee system includes 3,787 miles of authorized embankments and floodwalls along the Mississippi River, backwater, tributary and floodways. This project is within Reach A of the RP.

- West Bank and Vicinity Levees – This project runs parallel to the Davis Pond Diversion Structure West Guide Levee (Reach A-1), located on the east side of Davis Pond, but is not within the footprint of the UBB RP. This project consists of risk reduction features on the west bank of the Mississippi River in St. Charles, Jefferson, Orleans, and Plaquemines Parishes, starting at the Mississippi River Levee in Ama in St. Charles Parish and ending at the Mississippi River levee in Oakville, Plaquemines Parish.

- The Davis Pond Diversion Project started diverting water into the basin from the Mississippi River in July of 2002. It is located on the east border of the RP. The project consists of a gated 14 feet by 14 feet reinforced concrete culvert with corresponding inflow and outflow channels, approximately 19 miles of guide levees, 1.8 miles of rock weir, a 570 cfs pumping station and a ponding Area. The project area is 10,084 acres. The purpose of the diversion is to divert fresh water, with its accompanying nutrients and sediments, from the Mississippi River into the Barataria Basin in turn reducing saltwater intrusion and establishing favorable salinity conditions in the area, thus combating land loss.

Section 7

Federally Owned Land

Disposal easements encompassing 21,871.30 acres for the Bayou Lafourche Spoil Disposal Area within Lafourche Parish have an eastern border located along the Reach H levee area on the southwestern end near Raceland and Bayou Lafourche. Although it would be determined if the right-of-way needed for the levees intersects with this easement during the design phase, this easement held for the Bayou Lafourche Project does not provide the necessary rights for the RP. Therefore, easements appropriate for the RP would be acquired by the NFS.

The Davis Pond Diversion West Guide Levee – The proposed earthen levee at the first section of Reach A (A-1) would be built off the existing West Guide Levee. The Davis Pond Diversion Project started diverting water into the basin from the Mississippi River in July of 2002. It is located on the east border of the RP. The project consists of a gated 14 feet by 14 feet reinforced concrete culvert with corresponding inflow and outflow channels, approximately 19 miles of guide levees, 1.8 miles of rock weir, a 570 cfs pumping station and a ponding Area. The project area is 10,084 acres. The purpose of the diversion is to divert fresh water, with its accompanying nutrients and sediments, from the Mississippi River into the Barataria Basin in turn reducing saltwater intrusion and establishing favorable salinity conditions in the area, thus combating land loss.

Section 8

Navigation Servitude

The navigation servitude is the “dominant right of the Government under the Commerce Clause of the U.S. Constitution to use, control and regulate the navigable waters of the United States and the 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. 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 federal navigation servitude is not available in the implementation of the RP.

Section 9
Induced Flooding

The 1 percent AEP design levee is estimated to induce flooding in the communities of Bayou Gauche, Gheens, and Mathews, which are located outside of the system on the east side of the levee. The induced flooding is greatest within the community of Bayou Gauche, which is directly adjacent to the levee. This area is estimated to receive 1 to 1.5 feet of induced flooding under existing conditions and 2 to 4 feet under future conditions.

9.1 NON-STRUCTURAL MEASURES

In order to mitigate for the induced flooding, 64 residential structures in Bayou Gauche will be acquired. Currently, it is estimated that 173 residential structures will be acquired in Gheens and 33 residential structures and 5 commercials structures will be acquired in Mathews. Due to the presence of existing or proposed flood risk reduction measures in Gheens and Mathews, the extent of induced flooding in those communities is more uncertain and will be investigated further in Preconstruction, Engineering and Design (PED) phase of the study. A more cost effective method (elevation of structures or acquisition of a flowage easement) will also be studied for the communities of Gheens and Mathews.

The non-structural costs to acquire structures in all three areas is captured in Section 10.2, “Summary of Real Estate Costs for Non-Structural Plan.”

Section 10
Summary of Real Estate Costs

10.1 SUMMARY OF REAL ESTATE COSTS FOR RECOMMENDED PLAN - STRUCTURAL

Lands, Easements, ROW and Damages		$6,383,000
Improvements & Crops		10,000
Severance Damages		1,300,000
Contingencies 25%		1,923,000
	TOTAL LERRD	$9,616,000
P. L. 91-646 Relocations		N/A
Acquisition Administrative Costs		
Federal		$ 225,000
NFS		2,025,000
		$2,250,000
	01 Real Estate Total	**$11,866,000**
	02 Facility & Utility Relocations Total	**$30,509,000**

Cost Estimate above is LERRD for construction, operation, and maintenance, for the proposed project. This estimate also includes borrow acquisition and contingencies in the amount of 25 percent. The structural features of the project do not require the acquisition of improved structures, and therefore no relocations assistance benefits (P.L. 91-646) would be required. The costs above display the 02 Facility and Utility Relocations costs separately.

This Rough Order of Magnitude cost estimate is restricted use and not intended to comply with Uniform Standards of Professional Appraisal Practice (USPAP). Inspection of the property was made by aerial photography and appraiser utilized online information from local assessor offices. Appraiser used 20+ land sales of potentially comparable properties were studied.

10.2 SUMMARY OF REAL ESTATE COSTS FOR NON-STRUCTURAL PLAN

Improvements Residential	$42,080,000
Improvements Commercial	$ 9,750,000
Severance Damages	$ 00
Contingencies 25%	$12,958,000
P.L. 91-646 Relocations	$11,175,000
Acquisition Costs	$ 8,250,000
TOTAL REAL ESTATE NON-STRUCTURAL	$84,213,000

Relocations assistance benefits may be provided to impacted landowners in accordance with Public Law 91-646. Administrative costs include title and legal review, appraisals, appraisal reviews, and NFS monitoring.

This information is preliminary in nature and is subject to change during feasibility level design.

Section 11
Mitigation

Measures to avoid and minimize impacts to significant resources were employed to the extent practicable in the study. Nonetheless, unavoidable project-induced impacts to freshwater emergent marsh habitat (swamp and bottomland hardwood) would occur and would be offset through compensatory mitigation.

During a preliminary investigation of the proposed UBB project area, CEMVN tentatively determined approximately 725 acres of direct impacts from the RP: Approximately 291 acres of Bottomland Hardwood (BLH), 167 acres of Cypress-Tupelo Swamp, and 267 acres of Fresh Marsh. As these locations have not yet been determined, their impacts will be discussed in the more robust mitigation plan developed for the Final EIS.

The following mitigation measures may be considered in the following order:

1) Purchase of mitigation bank credits - The impacts to all habitat types could be mitigated through the purchase of mitigation bank credits. It is not known which banks would be available at the time of decision. As such, a general mitigation bank was assumed for the next step of the mitigation project analysis using information obtained from existing banks in the basin and no specific banks were identified.

2) Potential Corps Constructed BLH, Swamp and Marsh Mitigation Sites - Mitigation for fresh marsh, BLH and swamp impacts associated with the RP could be achieved by creating the applicable habitat near the project site (as proposed by USFWS in their draft CAR) or in state water bottoms within the basin. Mitigation for BLH and/or Swamp impacts associated with the RP could also be achieved by BLH and/or swamp restoration and/or enhancement areas (mitigation areas) located in agriculture, scrub/shrub, pasture, and other non-forested areas of lower habitat value.

Fill (borrow material) needed to attain the desired final target grade elevation for mitigation features created in open water could be obtained from the dredging of the sites of the water control structures. In addition, the borrow could be dredged or trucked from location(s) to be determined at a later date. Containment dikes may be needed during the construction of these mitigation features. If containment dikes are constructed, they would be gapped or degraded once the area has reached target elevation.

Section 12

P.L. 91-646 Relocation Assistance Benefits

Although the implementation of the RP would not displace residential, commercial, industrial, or habitable structures within the project boundaries, the Non-Structural Plan would apply for the provisions under Title II of Public Law 91-646, as amended.

The costs for relocations in Paragraph 10.2 Summary of Real Estate Costs for Non-Structural Plan include costs for moving residential homes and non-residential (commercial businesses) in Bayou Gauche, Gheens, and Mathews.

The residential relocations include moving personal property and replacement housing. The commercial businesses relocations include the costs of moving personal property and certain reestablishment costs.

Section 13

Minerals/Crops

Mineral activity within the right-of-way of the RP has been plugged and abandoned as researched online through Department of Natural Resources site Strategic Online natural Resources Information System. There is no merchantable timber or row crop activity affected by this RP. Additional information is included in Section 17 Facility/Utility Relocations.

Section 14

Non-Federal Sponsor Authority to Participate

An assessment of the NFS' legal and professional capability and experience to acquire and provide the LERRD for the construction, operation, and maintenance of the RP, including its condemnation authority and quick-take capability has been requested. This assessment will be included in the Final Real Estate Plan. However, the NFS has been the non-Federal sponsor on numerous other projects and has been capable of performing the responsibilities of LERRD acquisition and management.

Section 15

Zoning Ordinances

No application or enactment of zoning ordinances has been proposed in lieu of, or to facilitate, acquisition in connection with the RP.

Section 16

Acquisition Schedule

The following schedule shows the tasks and duration for acquisition of the LERRD by the NFS. The implementation of the RP would affect approximately 75 private landowners.

1.	Mapping:	3 months
2.	Title:	6 months
3.	Appraisals (begin concurrent with title):	9 months
4.	Negotiations:	24 months
5.	Closing:	6 months
6.	Condemnation (if necessary):	12 months
7.	Issuance of Authorization for Entry by NFS:	2 months
8.	Certification of Right-of-Way/Right of Entry:	1 month

Section 17

Facility/Utility Relocations

The results of the CEMVN Engineering Division's Design Services Relocations Branch investigations of facilities and utilities located within the project area that are expected to be impacted by the RP are set forth in Table D:17-1. These were researched from databases including the National Pipeline Database, State Online Natural Resources Information System (SONRIS), Louisiana Department of Natural Resources (LADNR), HTST-HIS, Penwell, and the National Pipeline Mapping System (NPMS) data. A site visit was not conducted.

Based on the preliminary findings, it was determined that these existing pipelines and roadways within the project area of the RP would be impacted, either requiring relocation of the utility/facility or providing pipeline protection over the utility during construction. CEMVN Relocations Branch will incorporate the relocations process towards compensability and coordinate with utility owners throughout the design and development of the Plans & Specification process for this RP. The facilities are the lines shown in Figure D:17-1 along with Highway 90 and River Road.

Table D:17-1. Utilities/Facilities in Recommended Plan Footprint

UTILITIES WITHIN THE RECOMMENDED PLAN			
REACH	**OWNER**	**DIAMETER**	**PRODUCT**
A			River Road
A	Atmos		Gas
A	Enterprise Pelican	26"	Natural Gas
A	Nustar	6"	Anhydrous Ammonia
A	Shell	6"	Propylene
A			Highway 90
A	Enterprise	10"	Natural Gas Liquid
A	Shell	20"	Crude
A	Shell	24"	Crude
A	Enlink	12.75"	Natural Gas
B	St. Charles Parish	12"	Sewer Force Main
B	St. Charles Parish	16"	Waste Water Discharge
B	St. Charles Parish	8"	Force Main
B	St. Charles Parish	12"	Force Main
B	Enlink	12.75"	Natural Gas
B	Enlink	8"	Natural Gas
B	Enlink	14"	Natural Gas
B	Phillips 66	14"	Liquid Carbon Dioxide
B	Columbia Gulf	16"	Natural Gas
C	Gulf South	12"	Natural Gas
C	Atmos	24"	Natural Gas
C	Gulf South	30"	Natural Gas
C	Phillips 66	14"	Liquid Carbon Dioxide
C	Columbia Gulf	16"	Natural Gas
C	Enlink	16"	Natural Gas
D	Enlink	22"	Natural Gas
E	Phillips 66	6"	Natural Gas Liquids
E	Phillips 66	6"	Natural Gas Liquids
E	Williams Energy	10"	Liquid
E	Phillips 66	14"	Natural Gas Liquids
E	Phillips 66	20"	Natural Gas Liquids

UTILITIES WITHIN THE RECOMMENDED PLAN			
REACH	**OWNER**	**DIAMETER**	**PRODUCT**
E	Enlink	30"	Natural Gas
G,H	Gulf South	30"	Natural Gas
G,H	Gulf South		Natural Gas
G,H	Gulf South		Natural Gas
G,H	Gulf South		Natural Gas
G	Phillips 66	8"	Natural Gas Liquids
H	Transcontinental Gas	10"	Natural Gas
H	Gulf South	12"	Natural Gas
H	Abandoned	6"	Gas
H	Texas Eastern Trans.		Natural Gas
H	LOOP LLC	48"	Crude Oil
H	Crimson Gulf	12.75"	Crude
H	Crimson Gulf	16"	Crude

The estimated cost for utility relocations for the RP is $30,509,000. The relative percentage of the estimated cost of relocations to the estimated total construction cost is approximately 16 percent (below 30 percent of the total project cost).

Real Estate Guidance (Policy Guidance Letter No. 31) issued for civil works planning indicates that if the costs of relocation of facilities and utilities is less than 30 percent of project costs, the USACE New Orleans District (MVN) Office of Real Estate may, in lieu of an attorney's opinion of compensability, prepare a real estate assessment addressing two questions:

- Is the identified utility facility generally of the type eligible for compensation under the substitute facilities doctrine (school, highway, bridge, water and sewer systems, parks, etc.)? Yes, the utilities above are sewer and water lines/mains, pipelines, conduits and cable lines from the city sewerage and water department, or the communications and electric companies.
- Does the District have some valid data or evidence that demonstrates that it has identified an owner with a compensable interest in the property? Yes, the MVN Relocations Team performed an investigation of the existing utility owners located within the proposed project area.

Because the answers to the above questions are yes, the estimated costs of providing a substitute facility have been included above. An Attorney's Opinion of Compensability will be completed by Office of Counsel by final design of the project and prior to execution of the Project Partnership Agreement.

Figure D: 17-1. Map of Utility/Facilities in Recommended Plan Footprint

ANY CONCLUSION OR CATEGORIZATION CONTAINED IN THIS REPORT THAT AN ITEM IS A UTILITY OR FACILITY RELOCATION IS PRELIMINARY ONLY. THE GOVERNMENT WILL MAKE A FINAL DETERMINATION OF THE RELOCATIONS NECESSARY FOR THE CONSTRUCTION, OPERATION OR 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.

Section 18

Hazardous, Toxic, and Radioactive Waste and Other Environmental Considerations

A preliminary investigation was conducted on February 26, 2019 for the UBB Feasibility Study. Several crude oil pipelines and natural gas pipelines were found to be within the footprint of the proposed RP. Several oil and gas wells were also noted to be within the project area. The pipelines and wells may be considered as potential recognized environmental conditions (REC) and caution must be exercised during construction to avoid breakage of or damage to the pipelines.

The Non-Structural Plan presents a lesser chance of impact to any potential REC. Please see the map for locations of wells and pipelines of concern in Appendix A, Engineering and see Appendix B, Economics for more information on Non-Structural Plan ~~for locations of wells and pipelines of concern.~~

Section 19

Landowner Attitude

USACE held general scoping meetings within 90 days of the start of the study. Landowners in these low-lying areas generally seem agreeable to more protection from flooding. Landowners with direct access to water voiced opposition to a floodwall blocking their access. The proposed floodwall in Reach E would consist of constructing a floodwall that would not allow landowners direct access to Paradis Canal and Grand Bayou Canal. Damages would be paid to these landowners to compensate for the lower land value due to loss of direct water access.

Section 20

Real Estate Chart of Accounts

STRUCTURAL

01 Real Estate Total	**$11,866,000**
02 Facility & Utility Relocations Total	**$30,509,000**

NON-STRUCTURAL

01 Real Estate Total	**$84,213,000**
02 Facility & Utility Relocations Total	**$ 00**

Section 21

Other Real Estate Issues

The 1 percent AEP design levee is estimated to induce flooding in areas located outside of the levee system on the east side of the levee. Nonstructural measures would be facilitated to mitigate for increased flooding associated with the RP in the Bayou Gauche community. Further research would be performed during PED Phase in the Gheens and Mathews areas to conclude if nonstructural measures are needed in a portion or all communities. Costs for acquiring all structures within the flood prone areas of Bayou Gauche, Gheens, and Mathews (outside of the protection) are included in this REP (Section 10.2 Summary of Real Estate Costs for Non-Structural Plan).

Date: _____, 2020

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_____

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