ENVIRONMENTAL ASSESSMENT FOR THE STRATEGIC PETROLEUM RESERVE

REPAIR/ENHANCEMENT OF ACCESS TO REMOTE PIPELINE VALVE STATIONS

WEST HACKBERRY, CALCASIEU AND CAMERON PARISHES, LOUISIANA

US DEPARTMENT OF ENERGY

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1.0 Introduction

This Environmental Assessment (EA) has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality (CEQ) Regulations for Implementing NEPA codified in Title 40 of the Code of Federal Regulation (CFR) Parts 1500-1508, the US Department of Energy (DOE) NEPA Implementing Procedures at 10 CFR Part 1021, Compliance with Floodplain and Wetland Environmental Review Requirements at 10 CFR Part 1022, and the Strategic Petroleum Reserve (SPR) Project Management Office NEPA Implementation Plan approved in 2010.

The EA has been prepared to evaluate impacts to social, economic, and natural resources associated with a proposed project to improve access to four Valve Stations for the SPR pipeline, West Hackberry (WH) located in southwestern Louisiana.

Block valves located at the existing Valve Stations are the first line of protection for the SPR pipeline. With these valves the operator can isolate any segment of the line for maintenance work or isolate a rupture or leak. The existing Valve Stations not only contain block valves, but also field devices with instrumentation, data gathering units, and communication systems for transfer of field data to a central location in real time. Access to the Valve Stations and all of these components require field inspection, maintenance, and repairs.

1.1 Purpose and Need for the Proposed Actions

The purpose of the project is to improve existing access to four SPR-WH Valve Stations in southwestern Louisiana as shown on **Figure 1** located in **Appendix A**. Current conditions present safety concerns including navigational hazards and the potential for injury to personnel from uncertain footing. Damage or loss to vessels, maintenance equipment, and other gear is also possible. Difficulties accessing the valve sites increase costs and extend the timeframe for routine and emergency maintenance. Sustainability of the valve station access features is also an issue due to continuing land loss and shoreline erosion.

The goals of the project are to improve safety for personnel and property, to reduce costs and increase the efficiency of maintenance operations at the valve stations, and to ensure future access to the SPR-WH Valve Stations.

All of the Valve Stations are accessed from the water by way of walking paths, which are overgrown with vegetation. The shorelines at WH-2, WH-4, and WH-5 consist of elevated spoil banks (**Figure 2** in **Appendix A**) created by construction of the Gulf Intracoastal Waterway (GIWW). These banks are difficult to access due to elevation, shallow water during low water seasons, and rip-rap installed to stabilize the shoreline.

Access at WH-2 requires climbing a ladder up a three-sided, sheetpile bulkhead, which supports a davit crane. The elevation of the landing created by the bulkhead is approximately +8 North American Datum 1983 (NAD83). The tops of the banks to the east and west approach +12 feet NAD83. Both sides of the bulkhead are stabilized with rip-rap (**Photo 1** in **Appendix B**). The existing footpath is overgrown, but its alignment is visible as a line of stressed vegetation.

Valve Station WH-4 cannot be accessed from the GIWW due to a rip-rap berm that defines the northern edge of the Vinton Drainage Canal. The berm and canal separate the GIWW and the WH-4 bank.

Siltation and submerged rocks washed out from the berm prevent boats from entering the canal safely (**Photo 2** in **Appendix B**). Landing near the valve site is currently accomplished by navigating through Black Bayou Cutoff to the west and returning east through the marsh to the Vinton Drainage Canal and landing at the SPR right-of-way (ROW).

The south bank of the GIWW at WH-5 lies at approximately +4 feet NAD 83 and has been reinforced with rip-rap (**Photo 3 in Appendix B**). The footpath for Valve Station WH-5 is overgrown and barely visible. Water on the site is close to the surface much of the year.

Boat access for WH-6 is accomplished as a soft landing on a narrow beach that rises to approximately +2 feet NAD83 (**Figure 2A**) on the east bank of the Sabine River. The beach has been stabilized with crushed oyster shell and sits between one and one and one-half feet above the water (**Photo 4** in **Appendix B**).

1.2 Description of the Proposed Actions

The proposed actions are intended to improve access to the valve station by constructing boat landings and elevated walkways for Valve Stations WH-2, WH-4, and WH-5. Existing footpaths for WH-2 and WH-6 are proposed to be resurfaced as needed. New walking paths at WH-4 and WH-5 are proposed.

No dredging or other disturbance of waterbottoms will be required for construction of the proposed project except for the placement of timber piles. All equipment will be delivered to the site utilizing barges and all work will be conducted from the barges or within the footprint of the project. Walking paths will be cleared with a bobcat or by hand, and the limestone will be mostly laid by hand. A minimal amount of vegetative clearing and soil grubbing will be required. All materials will be disposed of within non-wet areas within the pipeline ROW.

Specific proposed actions for each valve station are described below. Selected design drawings are provided in **Appendix C**.

1.2.1 Valve Station WH-2 Access

- Remove davit crane from existing bulkhead landing along with anchor bolts, leave the concrete pad in place. All materials removed will be recycled in an approved manner.
- Construct a timber pile foundation to support a 25-foot by 4-foot galvanized metal walkway that will extend approximately 35 feet into the GIWW from the existing sheet pile bulkhead wall. The walkway will be constructed of galvanized steel grating, channels, and angles complete with handrails.
- Construct a boat landing at the end of the walkway made with a galvanized steel grating platform measuring approximately 8 feet x 6 feet. Elevation of the platform will be set at approximately +3 feet NAVD88 for docking boats. A metal stairway will connect the galvanized walkway to the boat landing. Handrails and bumpers will be constructed for safety.
- The top grating of the galvanized walkway will be elevated to approximately +8 NAVD88 and will connect to a walking path with a single metal step that will rest on the davit foundation, which will be roughened and re-surfaced with structural grout to the appropriate elevation.

- Construct a 6-foot wide aggregate walking path in two sections totaling 605 feet at grade generally following the alignment of an existing footpath between the shore side end of the walkway and the WH-2 valve site. The ground surface will be stripped to a depth of approximately 6 to 8 inches to reach firm undisturbed soil. A layer of filter cloth, earthen fill, and a minimum of six inches of crushed limestone surfacing will be used to construct the walking path.
- Acquire new perpetual access ROW within the green box depicted on the design drawings provided in **Appendix C**.

1.2.2 Valve Station WH-4 Access

- Construct a timber pile foundation to support a 100-foot by 4-foot galvanized metal walkway that will extend from the shore near the mouth of the Vinton Drainage Canal, cross the canal and rip-rap berm on the perpendicular and extend approximately 40 feet into the GIWW. The walkway will be constructed of galvanized steel grating, channels, and angles complete with handrails.
- Construct a boat landing at the end of the walkway made with a galvanized steel grating platform measuring approximately 8 feet x 6 feet. Elevation of the platform will be set at approximately +3 feet NAVD88 for docking boats. A metal stairway will connect a galvanized walkway to the boat landing. Handrails and bumpers will be constructed for safety.
- The galvanized walkway will be elevated to approximately +8 NAVD88 and will connect to a walking path with a metal stairway. The landing pad for the stairway shall be minimum 3000 psi concrete with a light broom finish and all edges to have ¾" 45° chamfer. Backfill under foundation shall be in accordance with DOE specifications.
- Construct an aggregate walking path at grade approximately 150 feet in length and 6 feet wide from the stairway and landing pad, approaching the SPR ROW at a 60-degree angle. The ground surface will be stripped to a depth of approximately 6 to 8 inches to reach firm undisturbed soil. A layer of filter cloth, earthen fill, and a minimum of six inches of crushed limestone surfacing will be used to construct the walking path.
- Acquire new perpetual access ROW within the green box depicted on the design drawings provided in **Appendix C**.

1.2.3 Valve Station WH-5 Access

- Construct a timber pile foundation to support a 75-foot by 4-foot galvanized metal walkway that will cross the rip-rap stabilizing the shoreline and extend approximately 60 feet into the GIWW. The walkway will be constructed of galvanized steel grating, channels, and angles complete with handrails. Construct a boat landing at the end of the walkway made with a galvanized steel grating platform measuring approximately 8 feet x 6 feet. Elevation of the platform will be set at approximately +3 feet NAVD88 for docking boats. A metal stairway will connect the walkway to the boat landing. Handrails and bumpers will be constructed for safety.

- The galvanized walkway will be elevated to approximately +8 NAVD88 and will connect to the walking path with a metal stairway. The landing pad for the stairway shall be minimum 3000 psi concrete with a light broom finish and all edges to have ¾" 45° chamfer. Backfill under foundation shall be in accordance with DOE specifications.
- Construct an aggregate walking path at grade approximately 427 feet in length and 6 feet wide between the shore side end of the walkway and Valve Station WH-5. The ground surface will be stripped to a depth of approximately 6 to 8 inches to reach firm undisturbed soil. A layer of filter cloth, earthen fill, and a minimum of six inches of aggregate surfacing will be used to construct the walking path.
- Acquire new perpetual access ROW within the green box depicted on the design drawings provided in **Appendix C**.

1.2.4 Valve Station WH-6 Access

- Overlay an existing footpath in four sections totaling 476 feet in length and 6 feet wide between the shore and the WH-6 valve site. A layer of filter cloth and a minimum of six inches of aggregate surfacing will be used to construct the walking path.
- Acquire new perpetual access ROW within the green box depicted on the design drawings provided in **Appendix C**.

2.0 Alternatives to the Proposed Actions

Alternatives to the proposed action include the No Action Alternative and a set of alternative actions.

2.1 No Action Alternative

The No Action Alternative would continue to access the valve stations without any improvements. Maintenance activities would continue to be performed as needed.

2.2 Alternative Actions

2.2.1 Alternative 1

The first set of alternative actions would involve upgrading the existing access features without any new construction. This alternative would replace the aggregate on all four footpaths and replace the corroded bulkhead and ladder at WH-2. This alternative would eventually replace the rip-rap supporting the bulkhead at WH-2 and the rip-rap stabilizing the bank landing at WH-5. Crews needing to access Valve Site WH-4 would continue to approach by navigating through Black Bayou Cutoff and Black Bayou Lake. These actions do not meet the purpose and need for the project. Access would continue to challenge the safety and efficiency of maintenance personnel and equipment. Therefore, this alternative was dropped from further consideration.

2.2.2 Alternative 2

Another set of alternative actions considered would utilize elevated walkways instead of limestone surfaced footpaths. However, the area of impact would be two to three times greater due to the need to bring in heavy equipment to build the structure. The cost would also be approximately 10 times greater than the proposed project. This cost would not be offset by a reduction in impacts to wetlands,

other waters, and other natural habitats since these impacts are negligible to minor in intensity. Therefore, this alternative was dropped from further consideration.

3.0 Affected Environment

Exhibit 1 – Aerial View of GIWW near Valve Stations WH-4 and WH-5: south bank to the left.
Source: Panoramio – Photos by stefkuna.

3.1 Land Use

The project areas are uninhabited. WH-2, WH-4, and WH-5 fall within the Calcasieu Parish Zoning District A-1, which is designated for agricultural use. A-1 Districts outside the Urban Service Area allow for almost any kind of development. However, the remoteness of the area and fragility of the land and soils limits the feasibility and reasonableness of most types of development. WH-6 is located in Cameron Parish, which has not adopted any land use regulations.

3.1.1 Existing Land Use and the Built Environment

Existing land use of the project area consists generally of activities related to oil and gas operations, commercial navigation, livestock grazing, and recreational activities. The built environment consists of the GIWW and attendant spoil banks; berms for water management that also support access roads; water wells and underground injection facilities; underground pipelines (including the SPR); oil and gas wells and storage facilities; high-voltage transmission lines; and telecommunications towers. Most of the oil/gas wells and underground injection facilities are clustered around an above-ground storage tank (AST) battery for the Black Bayou Oil Field, located on the Black Bayou Cutoff Canal, approximately two miles south of WH-5 (**Figure 1** in **Appendix A**). Very few wells and other structures exist in the vicinity of WH-6. Development consists mostly of man-made canals.

A relatively recent class of land use in the vicinity of the project area is wetlands restoration. Mostly within open waters and broken marsh, projects include hydrological modifications and sediment and nutrient trapping schemes. Terraces have been constructed in the project vicinity to reduce wind-generated wave fetch and protect existing land as part of the State Master Plan for Coastal Restoration, or as mitigation for impacts to coastal wetlands from private sector activities. Several terrace lines

Exhibit 2 – Typical Terracing Project Constructed to Reduce Wave Fetch and Protect Existing Land. Source: Panoramio – Photos by stefkuna.

protect islands of land directly south of WH-5. This mitigation project included the construction and planting of approximately 1,772 linear feet of wave dampening terraces.

One of the earliest terrace projects in the project area protects the south bank of the GIWW east of WH-4 at the northern shoreline of Black Bayou Lake. Another row south and southwest of WH-4 winds around fragments of land within the western portion of Black Bayou Lake. According to the January 24, 2012 Fact Sheet for the Black Bayou Terraces Project (State Coastal Master Plan Priority Project List 22, Project R4-CS-01), these early terraces were constructed by the National Resources Conservation Service (NRCS) as a project to demonstrate the usefulness of terraces in the area. An expansion of that demonstration project was constructed by Ducks Unlimited utilizing North American Wetlands Conservation Act funds. The National Marine Fisheries Service (NMFS) has proposed to construct an additional 183,000 linear feet of earthen terraces to the east of the DU field as a Coastal Master Plan project to complement the existing projects.

Two sections of terraces can also be seen on aerial images near WH-2. In 2007, 5,358 linear feet of terraces were authorized for construction as mitigation for oil and gas activities. In 2008, an additional 8,560 linear feet of terraces were authorized for the same reason. These structures are located south and east of WH-2, respectively. South of the 2007 project is a terrace field enclosed within a berm that was constructed by USDA in West Black Lake for the Wetlands Reserve Program in 2014-2015.

3.1.2 Future Land Use

No future land use has been adopted for the project area. Given its remoteness and the fragility of the land and soils, future land use will continue with livestock grazing, oil and gas operations, navigation, and wetlands creation projects as part of the Master Plan or for compensatory mitigation.

3.1.3 Access and Right of Way

The project valve sites are accessed by boat from the south bank of the GIWW and the east bank of the Sabine River. The valve stations are located within the SPR ROW. The walking path for access to WH-2 is within an existing SPR-WH ROW, but new perpetual access ROW as within the green box depicted on the design drawing provided in **Appendix C** will be required for the dock. New perpetual access ROW within the green boxes depicted on the drawings in **Appendix C** will be required for WH-4, WH-5, and WH-6.

3.2 Geology

The project area is located in the Gulf Coastal Plain of Louisiana that is characterized by flat to rolling topography broken by many streams, river riparian areas, and marsh wetlands. The coastal plain is divided into two sections, the Alluvial Plain of the Mississippi River and the Chenier Plain of southwestern coastal Louisiana. The proposed project is located in the Chenier Plain situated largely on the cast spoils (made land) found on the south bank of the GIWW.

The project area is in the West Gulf Coastal Plain geomorphic province. Wooded ridges (cheniers) were created atop Pleistocene Prairie Terraces by river sediments being pushed westward by shoreline currents in the Gulf of Mexico. Natural ridges were formed by the repeated overbank flood sedimentation of rivers in southeast Louisiana (Owen 2008). The SPR-WH pipeline and valve stations are located near the surface boundary of the Pleistocene uplands and late-Holocene chenier plain. Surface sediments of the valve stations are likely Holocene (recent) age underlain by Pleistocene age deposits.

3.2.1 Physiography

The Chenier Plain is a Holocene strand plain composed of cheniers and intervening mudflat wetlands vegetated with marsh or swamp vegetation. The mudflats form as prograding tidal flats along the open, but low-energy Gulf of Mexico coast. Mudflat sediments are reworked during shoreline retreat, building a chenier ridge of sand and shells. Cheniers are extended by the longshore current into areas not being actively eroded (Owen 2008).

Dominant water features in the area are the Calcasieu and Sabine Rivers and Calcasieu and Sabine Lakes. Major man-made channels are the Calcasieu Ship Channel, the Sabine-Neches Ship Channel, and the GIWW, which extends east-west generally along the Louisiana state coastal zone boundary. The GIWW connects the Sabine River and Calcasieu Ship Channel across the Gum Cove Ridge, an upland outcrop of late to middle Pleistocene Prairie Terrace. This ridge separates WH-2 from WH-4 and WH-5, all of which are located on the south bank of the GIWW. On either side of the ridge, geologic deposits are comprised of Holocene muds, sands, and shells that have buried the Pleistocene Prairie formations. Valve Station WH-6, located approximately 2 miles south-southwest of the convergence of the GIWW and Sabine River, also lies atop Holocene deposits. These Holocene deposits are breaking up due to subsidence as well as erosion of the chenier and beach ridges that protected them.

Valve Station WH-2 is located on a small island of Prairie Terrace bounded by the GIWW on the north, Gum Cove Ridge to the west, and West Black Lake to the south and east. Valve Station WH-4 is located on the east bank of the Vinton Drainage Canal and north of a shallow water pond connected to an extensive area of open water known as Black Bayou Lake. Valve Station WH-5 is located approximately 1000 feet west of the Black Bayou Cutoff Canal north of another section of open water connected to Black Bayou that is composed of broken marsh and ponds. Valve Station WH-6 is located south of the intersection of two man-made canals, Burton Shell Slip and the high voltage transmission line maintenance canal. In general, the only topographic relief in the project area is found along the spoil banks of the GIWW and natural levees of the Sabine River.

3.2.2 Seismicity

The Gulf of Mexico is generally regarded as a stable zone of the North American plate, outside of the influence of any plate tectonic active boundary. Recent studies have reported more seismic activity in the Gulf than previously documented, but this activity is centered at the southwestern corner of the Gulf near the Bay of Campeche. No seismic activity that would affect the project area has been documented inside the bounds of the Continental Shelf within the northern Gulf of Mexico (Franco et al. 2013)

3.2.3 Soils and Prime Farmland

The soils within the immediate project area are predominantly Udifluvents, 1 to 20 percent slopes, which were deposited during the construction and maintenance of the GIWW and the Sabine River channels (**Figures 3** and **3A** in **Appendix A**). Soils in this area are rated as 15 percent hydric. The valve station footpaths cross these spoil banks, and the valve stations are located within or close to mapping units described as Bancker muck, 0 to 0.2 percent slope, very frequently flooded (WH-6); Gentilly muck, 0 to 0.5 percent slopes, very frequently flooded (WH-5); Clovelly muck, 0 to 0.2 percent slopes, very frequently flooded (WH-4); Edgerly loam, 0 to 1 percent slopes (WH-2), rarely flooded. The first three types are rated by the NRCS as 100 percent hydric. Edgerly loam is rated as non-hydric and is the only soil type in the project area considered prime farmland.

3.3 Coastal Zone Management and Coastal Resources

The SPR-WH pipeline, valve stations, and proposed actions are located in the Louisiana coastal zone. Plans for the proposed project were submitted to the Office of Coastal Management (OCM) for a review to determine whether the proposed actions are consistent with the Louisiana Coastal Resources Program (LCRP) in accordance with Section 307(c) of the Federal Coastal Zone Management Act (FCZMA) of 1972.

3.4 Floodplain Management

According to the Federal Emergency Management Agency (FEMA) floodmaps provided in **Appendix D**, the project areas are located in Special Flood Hazard Areas (SFHA) subject to inundation by the one-percent annual chance flood. Valve Station WH-2 and its footpath are mapped on flood map number 22019C0615F, effective on 02/18/2011, which identifies the Base Flood Elevation (BFE) as between +10 and +11 feet. Valve Stations WH-4 and WH-5 and their footpaths are mapped on flood map number 22019C0590F, effective on 02/18/2011. The BFEs for these stations are +10 feet and +9 to +10 feet, respectively. WH-6 and its footpath are mapped on flood map number22023C0050H, effective on

11/16/2012. The BFE for this station is +10 feet. Valve Stations WH-2 and WH-5 are also located in a coastal flood zone (VE) with an additional hazard from wave action.

3.5 Water Resources

The project area spans two hydrologic semi-distinct hydrologic units, the Calcasieu River basin and the Sabine River basin. Construction of the GIWW significantly altered regional hydrology by connecting the two rivers and major ship channels across the Gum Cove Ridge effectively merging the two river basins into one. The GIWW also cut off all of the natural bayous and upland sheet flow that historically affected marshes, and channelized freshwater inflow more directly to the Gulf of Mexico, partially bypassing the marshes (HILCP_3 2002).

3.5.1 Wetlands

Wetlands in the project area are within the estuarine system where the waters of the GIWW and Sabine River meet the tides of the Gulf of Mexico. These systems are intertidal, that is, the substrate is exposed and irregularly flooded by tides, as opposed to the subtidal zone waterbottoms of the GIWW, Sabine River, and surrounding ponds and impoundments, which are always inundated.

Dominant vegetation in these wetlands consists of persistent emergent species such as saltmeadow cordgrass (*Spartina patens*). Widgeon grass (*Ruppia maritima*) and wild celery (*Vallisneria americana*) populate waterbottoms, when they are sufficiently shallow, protected by land, and experience low turbidity and good light penetration. Small beds of submerged aquatic vegetation (SAV) occur in ponds scattered throughout marshes of coastal Louisiana like those that surround the valve sites. Open water substrates are generally sand/mud bottoms to a water depth of not greater than 3 to 4 feet.

As illustrated on **Figure 4** (**Appendix A**), National Wetlands Inventory (NWI) identifies the wetlands in the vicinity of WH-2 as Estuarine Intertidal Emergent Persistent Diked/Impounded (E2EMPh). Wetlands in the vicinity of WH-4 and WH-5 are classified as Estuarine Intertidal Emergent Persistent Irregularly Flooded Oligohaline (E2EM1P6), which indicates salinities of 0.5-5 parts per thousand (ppt). These classifications are consistent with fresh and intermediate marsh types (LACWCS 2005). Wetlands in the vicinity of WH-6 (**Figure 4A** in **Appendix A**) are classified as Estuarine Intertidal Emergent Persistent Irregularly Flooded Mesohaline (E2EM1P5), which indicates salinities of 5-18 ppt. This classification is consistent with intermediate and brackish marsh types (LACWCS 2005).

The Coastwide Reference Monitoring System (CRMS) site in the vicinity of the valve stations have reported that water salinities in the years 2008-2016 have fluctuated between 0 and almost 30 ppt, which is the normal salinity of water in the Gulf of Mexico. Growing season (March-November) readings for 2015 near WH-2 ranged between 1.75 and 18.51 ppt. The range near WH-4 and WH-5 for the same period was 0.08 and 10.85. The range at the CRMS site nearest WH-6 was 0.13 and 11.76 ppt. These salinities indicate that saltwater intrusion is more pronounced around WH-2 and that any brackish to saline marsh is more likely to be found around this location.

Field surveys of the valve site areas, conducted on June 14, 2016, assessed the habitats within a 100-foot buffer of the proposed project including other waters. The field assessments are intended for preliminary analysis only and do not constitute a wetlands delineation sufficient to support a request of jurisdictional determination from the USACE. **Table 1** provides the estimated number of acres of uplands, wetlands, and other waters within the areas assessed. **Figure 5** (**Appendix A**) illustrates the

assessment areas and identifies the potential wetlands and other waters of the US located within the buffered area. Descriptions of the habitats follow the table. Estimated maximum impacts to assessed wetlands and other waters from the proposed activities are discussed in **Section 4 – Environmental Consequences.**

Table 1. Field Assessment of Habitat within a 100-foot Buffer of Proposed Actions.

Valve Station	Buffered Area (acres)	Habitat	Acres
WH-2	4.66	Upland	4.21
		Wetlands	0.00
		Other Waters	0.45
WH-4	3.27	Upland	2.48
		Wetlands	0.00
		Other Waters	0.79
WH-5	3.59	Upland	1.89
		Wetlands	1.19
		Other Waters	0.51
WH-6	3.03	Upland	0.09
		Wetland	2.52
		Other Waters[1]	0.42

[1]Includes 0.07 acres of inundated footpath.

The habitat within the WH-2 area of assessment is primarily comprised of upland pasture. Dominated by typical species such as bahia grass *(Paspalum notatum Flueggé)* and Bermuda grass *(Cynodon dactylon)*, the assessed area also contains Brazilian vervain (*Verbena incompta),* annual marsh elder *(Iva annua),* and buttercup *(Ranunculus L.)*. Vegetation is low due to livestock grazing (**Photo 5** in **Appendix B**). Emergent wetlands species such as saltmeadow cordgrass and rush *(Juncus spp.)* were observed in the distance (**Photo 6** in **Appendix B**), but the elevation and hydrology of the assess area do not indicate the presence of wetlands within 100 feet of the proposed activities. Although the walking path to the valve station is overgrown, limestone can be seen beneath the vegetation (**Photo 7** in **Appendix B**), and (**Photo 8** in **Appendix B**) illustrates that the alignment of the path is discernible due to distressed and compacted vegetation. A delineation in accordance with the 1987 Manual and request for jurisdictional determination should be submitted to the USACE to confirm that no jurisdictional wetlands would be impacted by the proposed project.

The WH-4 spoil bank habitat illustrated in (**Photo 9** in **Appendix B**) is densely vegetated with shrubs, saplings, and young woody species dominated by hackberry *(Celtis laevigata).* This habitat was assessed as non-wet due to the higher elevations and absence of wetlands hydrology on the spoil bank. No footpath exists at this location and vegetation between the GIWW and the SPR pipeline ROW would have to be cleared to accommodate access. The habitat in the pipeline ROW is also non-wet, dominated by great ragweed *(Ambrosia trifida)* as shown in (**Photo 10** in **Appendix B**). Proposed activities for access enhancement would terminate at the forested edge of the ROW. No work is proposed for the pipeline ROW area, where vegetation is maintained as low growth. A delineation in accordance with the 1987 Manual and request for jurisdictional determination should be submitted to the USACE to confirm that no jurisdictional wetlands would be impacted by the proposed project.

Access to Valve Station WH-5 is located within the existing Colonial Pipeline ROW (**Photo 11** in **Appendix B**), which is maintained as an herbaceous habitat. Slightly more than half the land within the area of assessment contains emergent and scrub/shrub wetlands. The uplands observed are dominated by annual marsh elder (**Photo 12** in **Appendix B**). The presence of saltmeadow cordgrass and other marsh species increases as one approaches the southern end of the area, and marsh surrounds the valve station on three sides (**Photo 13** in **Appendix B**). A delineation in accordance with the 1987 Manual and request for jurisdictional determination should be submitted to the USACE to determine the extent of jurisdictional wetlands on the site and ensure that direct impacts are avoided or minimized.

Access to Valve Station WH-6 crosses a low bank stabilized with crushed oyster shell (**Photo 4** in **Appendix B**). The area beyond the shell beach is vegetated primarily with eastern baccharis *(Baccharis halimifolia).* Hackberry and dwarf palmetto *(Sabal minor)* were also present in this area and many signs of cattle and hog activity were observed. The existing footpath and the valve station are surrounded by marsh species such as common rush, saltmeadow cordgrass, and bulrush *(Schoenoplectus spp.).* The footpath was 2-4 inches inundated at the time of the field survey (**Photo 14** in **Appendix B**). A delineation in accordance with the 1987 Manual and request for jurisdictional determination should be submitted to the USACE to determine the extent of jurisdictional wetlands and other waters on the site and ensure that impacts are avoided or minimized.

3.5.2 Other Waters

Timber piles will be driven into the waters of the GIWW for support of the galvanized walkways and boat landings for WH-2, WH-4, and WH-5. At the time of the field survey, water depths in the vicinity of the proposed activities were measured. Depths at WH-2 ranged from 4.5 to 5 feet. Depths at WH-4 were approximately 4.5 feet. Depths at WH-5 ranged from 2.5 to 4 feet. Waters at WH-2 and WH-5 were noticeably turbid, with muddy bottoms and less than 2 inches of visibility. The waterbottom at WH-4 contains submerged rocks that have washed away from the rip-rap berm armoring the north bank of the Vinton Drainage Canal (**Photo 2** in **Appendix B**). The Sabine River at WH-6 has a sandy substrate that was one to one and one/half feet below the water surface at the time of the field survey. A slight wave fetch was noticeable and the water was slightly turbid. Portions of the footpath (0.07 acre) leading to Valve Station WH-6 were assessed as other waters due to the presence of a hard bottom and a lack of vegetation due to apparent persistent inundation (**Photo 15** in **Appendix B**).

3.5.3 Aquifers

The southern boundary of the areal extent of freshwater in the Chicot Aquifer System is just south of the boundary between Calcasieu and Cameron Parishes. The proposed project valve stations and the SPR-WH pipeline are located above the aquifer, which is primarily recharged in Rapides, Evangeline, Allen, Vernon, and Beauregard Parishes. Fifteen parishes withdraw water from the aquifer. In 2010, the rate of withdrawal was approximately 650 megagallons per day (Mgal/d) with over 50 percent used for rice and general irrigation purposes. Calcasieu Parish withdrew approximately 86 Mgal/d and Cameron Parish withdrew approximately 8 Mgal/d from the aquifer in that year (USGS and DOTD 2011). One hundred percent of the 1.72 Mgal/d used for public supply in Cameron Parish was drawn from the aquifer. Approximately 98 percent of the 26.23 Mgal/d withdrawn for public supply in Calcasieu Parish was drawn from the aquifer; the other two percent comes from surface water sources (USGS and DOTD 2011).

The upper confining unit of the aquifer in the vicinity of Valve Stations WH-2, WH-4, and WH-5 ranges from 160 to 240 feet. The upper confining unit at Valve Station WH-6 is 80-160 feet thick (USGS and DOTD 2004). None of the project activities will penetrate the upper confining unit of the aquifer.

3.5.4 Water Quality

The proposed project areas are located within the Calcasieu and Sabine River basins. Major waterways in the vicinity of the valve stations include the GIWW, the Sabine River, and Black Bayou, which extends from the Black Bayou Oil Field south of WH-4 and WH-5 to the Sabine River south of WH-6. WH-2 is located near the northwestern edge of Black Lake, a three-square mile shallow waterbody. Various man-made canals and shallow water impoundments are also located in the vicinity of the project area.

Table 2 shows the results of water quality monitoring by LDEQ in 2014 for basin subsegments in the vicinity of the project areas.

Table 2. Water Quality Assessment in the Project Vicinity.

Subsegment	Description	Designated Uses		
		Swimming	Boating	Fish and Wildlife Propagation
LA031002	GIWW from West Calcasieu Basin to Calcasieu Lock	F	F	F
LA030403	Black Lake	F	F	F
LA110301	Sabine River from below Sabine Island WMA	F	F	F
LA110302	Black Bayou from Pirogue Ditch to Sabine Lake	F	F	F
LA110602	Black Bayou from GIWW to Pirogue Ditch	F	F	F

Source: LDEQ 2015
F – Fully supported

As shown, water quality in these waters fully supports the designated uses of swimming, boating, and fish and wildlife propagation.

Field surveys conducted on June 14, 2016 noted that the waters near the shore at WH-2 and WH-5 were noticeably turbid, with muddy bottoms and less than 2 inches of visibility. No oil sheen or other indicators of spills or discharges into the waters near the valve sites were observed. A Stormwater Pollution Prevention Plan (SWPPP) is required of all DOE contractors for construction activities to ensure that discharges do not affect the quality of waters in the vicinity of the proposed project.

3.6 Ecological Resources

The ecosystems in the project area are generally characterized by estuarine features that support an abundance of natural resources important to the state of Louisiana. The project area is between three and six miles north of the Sabine National Wildlife Refuge (NWR), which is the largest coastal marsh refuge on the Gulf of Mexico. This refuge is a major nursery area for many estuarine-dependent marine species as well as home to alligators and other reptiles, mammals, and numerous wading, water, and marsh birds. The NWR provides habitat for more than 300 species of birds, 26 species of mammals, 41

species of reptiles and amphibians, 132 species of fish and 68 species of marine invertebrates. Wildlife species diversity in productive coastal wetlands is second only to rainforest wildlife diversity (USFWS 2012).

3.6.1 Threatened and Endangered Species

The USFWS, NMFS, and the Louisiana Natural Heritage Program (LNHP) managed by the Louisiana Department of Wildlife and Fisheries (LDWF) track species protected under the Endangered Species Act (ESA). **Table 3** lists the threatened and endangered (T&E) species reported by LDWF to have occurred in Calcasieu and Cameron Parishes.

Although the bald eagle is no longer listed by the Federal Government as an ESA-protected species, it is federally protected under the Golden and Bald Eagle Protection Act and the Migratory Bird Treaty Act (MBTA). The delisted brown pelican is also protected under the MBTA.

Table 3. ESA-Protected Species Known to Occur in Calcasieu and Cameron Parishes.

Species Common Name	Scientific Name	Federal Protection	State Status	Habitat Description
Animals				
Bald Eagle	*Haliaeetus leucocephalus*	ESA Delisted; GBEPA and MBTA	Endangered	Nests primarily in the tops of trees near open water. Feeds in open lakes. In LA. Nests more likely in southeast.
Brown Pelican	*Pelecanus occidentalis*	ESA Delisted; MBTA	Endangered	Usually occurs in bays, tidal estuaries or along the coast. Nests commonly in shrub thickets within dunes of barrier islands. Feeds in deep and shallow coastal waters.
Interior Least Tern	*Sternula antillarum athalassos*	ESA Endangered; MBTA	Endangered	Nest on barren to sparsely vegetated sandbars along rivers, sand and gravel pits, lake and reservoir shorelines, and occasionally gravel rooftops. They hover over and dive into standing or flowing water to catch small fish.
Manatee	*Trichechus manatus*	ESA Endangered	Endangered	Marine open water, bays, and rivers Generally restricted to rivers and estuaries although manatees may enter salt water when traveling from site to site. Often found in waters with submerged aquatic beds or floating vegetation.
Piping Plover	*Charadrius melodus*	ESA Threatened; MBTA	Threatened/ Endangered	Generally found on beaches and mudflats of barrier islands in southeastern coastal parishes.
Red-cockaded Woodpecker	*Picoides borealis*	ESA Endangered; MBTA	Endangered	Long-leaf pine forests and mixed pine-upland hardwood forests with mature trees and cleared mid-story.

Species Common Name	Scientific Name	Federal Protection	State Status	Habitat Description
Plants				
American Chaffseed	*Schwalbea americana*	ESA Endangered		Pimple mounds in savannahs should be the priority habitat in southwest Louisiana. Associates include longleaf pine, blackjack oak, narrowleaf silkgrass, and hair-awn muhly grass.

Source: LDWF 2016a.
ESA-Endangered Species Act
GBEPA-Golden and Bald Eagle Protection Act
MBTA-Migratory Bird Treaty Act

Species associated with pine forests, such as the red-cockaded woodpecker and American chaffseed, and beach birds such as the piping plover, are not likely to be found within the project area. A field survey performed on June 14, 2016 did not observe any eagles, pelicans, terns, or manatees. An osprey *(Pandion haliaetus)* viewed near WH-6 was the only notable sighting of birds during the field survey.

Not all species protected under the ESA are identified as occurring within a particular parish. Species listed by LDWF, but without parish identification, and their habitats were reviewed in order to determine if they have the potential to occur in the vicinity of the proposed project.

Table 4. ESA-Protected Species with Potential to Occur in Vicinity of Proposed Project.

Species Common Name	Scientific Name	Federal Protection	State Status	Habitat Description
Sea Turtles				
Green Sea Turtle	*Chelonia mydas*	ESA Threatened[1]	Threatened	Migration range includes the Gulf of Mexico onshore and offshore waters. No nesting habitat in Louisiana.
Hawsbill Sea Turtle	*Eretmochelys imbricata*	ESA Endangered	Endangered	Migration range includes the Gulf of Mexico onshore and offshore waters. No nesting habitat in Louisiana.
Kemp's Ridley Sea Turtle	*Lepidochelys kempii*	ESA Endangered	Endangered	Migration range includes the Gulf of Mexico onshore and offshore waters. Developmental habitats are coastal areas sheltered from high winds and waves such as embayments, estuaries, and nearshore temperate waters. No nesting habitat in Louisiana.
Leatherback Sea Turtle	*Dermochelys coriacea*	ESA Endangered	Endangered	Migration range includes the Gulf of Mexico onshore and offshore waters. No nesting habitat in Louisiana.

Species Common Name	Scientific Name	Federal Protection	State Status	Habitat Description
Loggerhead Sea Turtle	*Caretta caretta*	ESA Endangered	Endangered	Migration range includes the Gulf of Mexico onshore and offshore waters. No nesting habitat in Louisiana.
Other Species				
Florida Panther	*Puma concolor coryi*	ESA Endangered	Endangered	Historic range included Louisiana, but current habitat limited to swamps and forests of southern Florida.
Whooping Crane	*Grus americana*	Experimental Population, Non-Essential	Endangered	Estuarine marshes, shallow bays, and tidal flats. Suitability of southwest Louisiana habitat is being assessed for nonmigratory populations reintroduced in 2011.[2]

Sources: NMFS and USFWS 2015, NMFS and USFWS 2013a, NMFS and USFWS 2013b, USFWS 2016b.
ESA-Endangered Species Act
[1]North Atlantic Distinct Population Segment (DPS) per Federal Register Vol. 81, No. 66, April 6, 2016.
[2]Federal Register, Vol. 76, No. 23, February 3, 2011.

The only sea turtle nesting beach documented in Louisiana was on Breton Island in 1990. This island is part of the Breton NWR that is comprised of barrier islands in St. Bernard and Plaquemine Parishes. Reported distribution of non-nesting sea turtles includes Sabine Lake (Kot et al 2015), which is approximately five miles downriver from Valve Station WH-6. Sea turtle habitat suitability of the lake is classified as excellent for the loggerhead sea turtle *(Caretta caretta)*, but only good at the southern end and marginal at the northern end for Kemp's ridley sea turtle *(Lepidochelys kempii)* (Kot et al 2015). No sea turtles were sighted during the field surveys conducted on June 14, 2016. Coordination with NMFS determined that the GIWW is outside the known range for sea turtles.

Whooping cranes *(Grus americana)* were extirpated in Louisiana by the middle of the 20th century. Reintroduced in 2011 and 2015 to White Lake Wetlands Conservation Area in Vermilion Parish, approximately 60 miles east of the project area, these cranes have been tracked or sighted in Allen, Avoyelles, and Iberia Parishes, as well as in Texas. No cranes were sighted during the field surveys conducted on June 14, 2016.

3.6.2 Critical Habitat and Natural Communities

Critical habitat is defined as a specific geographic area that contains features essential for the conservation of a federal T&E species. Designated critical habitat near the project area is the Cameron Parish shoreline along the Gulf of Mexico. This area, approximately 20 miles south of the project area, is considered critical habitat for the piping plover (USFWS 2016). The Louisiana Gulf Coast is also designated as critical habitat for manatee and endangered sea turtle, but the habitat does not extend into the project area.

Besides the marshlands of the Gulf Coast Chenier Plain, which may vary from freshwater to brackish, two forested natural communities of state concern are found in the vicinity of the project—the Coastal Live Oak-Hackberry Forest, formed on abandoned ridges or cheniers, and bottomland hardwood (BLH) forests. Along the GIWW, woody species typical of these communities may be present at higher

elevations, but conditions in the area do not support mature forests of this type. Any likely habitats with species typical of these habitats would be present as low, stunted vegetation impacted by the invasion of Chinese tallow (*Triadica sebifera=Sapium sebiferum*). Neither of these special communities was identified during the field surveys conducted on June 14, 2016.

A third community in the area is the Coastal Prairie, remnants of which are known to exist within the Sabine NWR. On the south end of its range in Cameron Parish, Coastal Prairie may occur on ridges surrounded by marsh. Known as wet or marsh fringing prairie, these systems are notable for the extreme diversity of grasses. The suppression of natural fires has impacted the quality of this habitat by allowing for the invasion of certain woody species, such as Chinese tallow, that form dense thickets. No indicators of Coastal Prairie were identified during the field surveys conducted on June 14, 2016.

3.6.3 Migratory Birds

The project area contains habitat for migratory birds, which are protected under the MBTA. The bald eagle and the brown pelican were delisted as federally protected T&E species, but continue to be protected under the MBTA.

In 2008, the USFWS published a list of birds of conservation concern within 38 bird conservation regions (BCR). The project area falls near the boundary between BCR 37, Gulf Coastal Prairie (U.S. portion only) and BCR 25, West Gulf Coastal Plain/Ouachitas. The complete lists of migratory birds of conservation concern in these two BCRs are provided in **Appendix E**. Migratory birds with a documented occurrence by LDWF in Cameron and/or Calcasieu Parishes are listed in **Table 5**. An online geographic database was queried for these birds. Sightings within 10 miles of the project area are noted in the table.

Table 5. Migratory Birds Known to Occur in Calcasieu and Cameron Parishes.

Species Common Name	Scientific Name	BCR 25 and 37 Species of Concern?	Sightings within 10 miles of Project Area (2013-2016)?	Habitat Descriptions	Habitat in Project Area?
American Swallow-tailed Kite	*Elanoides forficatus*	Yes	Yes	Wooded river swamps. Requires tall trees for nesting and nearby open country with abundant prey. In North America found mostly in open pine woods near marsh or prairie, cypress swamps, other riverside swamp forest.	No
Bachman's Sparrow	*Peucaea aestivalis*	Yes	No	Breeds in early succession pine woodlands or in mature longleaf pine. Also found occasionally in open habitats with dense grasses and forbs.	No

Species Common Name	Scientific Name	BCR 25 and 37 Species of Concern?	Sightings within 10 miles of Project Area (2013-2016)?	Habitat Descriptions	Habitat in Project Area?
Bald Eagle	*Haliaeetus leucocephalus*	Yes	Yes	Nests primarily in the tops of trees near open water. Feeds in open lakes. In LA, nests more likely in southeast.	Yes
Brown Pelican	*Pelecanus occidentalis*	No	Yes	Usually occurs in bays, tidal estuaries or along the coast. Nests commonly in shrub thickets within dunes of barrier islands. Feeds in deep and shallow coastal waters.	Yes
Common Ground-Dove	*Columbina passerine*[1]	No	No	Cultivated land including farms, orchards, and old cane fields. Clearings, roadsides, and wood edges	No
Cooper's Hawk	*Accipiter cooperii*	No	Yes	Deciduous, mixed and evergreen forests as well as deciduous areas of riparian habitat. Can be tolerant of human disturbance in suburban areas.	No
Crested Caracara	*Caracara cheriway*	No	Yes	This species occurs in open areas such as prairies or rangeland with scattered trees.	Yes
Glossy Ibis	*Plegadis falcinellus*	No	Yes	Generally flocks can be found in marshes. Nests in shrubs and trees near water.	Yes
Least Tern[2]	*Sternula antillarum*	Yes(c)	Yes	Sea beaches, bays, large rivers, salt flats. Along coast generally where sand beaches close to extensive shallow waters for feeding. Inland, found along rivers with broad exposed sandbars, lakes with salt flats nearby.	No
Piping Plover	*Charadrius melodus*	No	No	Generally found on beaches and mudflats of barrier islands in southeastern coastal parishes.	No

Species Common Name	Scientific Name	BCR 25 and 37 Species of Concern?	Sightings within 10 miles of Project Area (2013-2016)?	Habitat Descriptions	Habitat in Project Area?
Red-cockaded woodpecker	*Picoides borealis*	No	No	Long-leaf pine forests and mixed pine-upland hardwood forests with mature trees and cleared mid-story.	No
Roseate Spoonbill	*Platalea ajaja*	No	Yes	Prefers freshwater but is also known to inhabit varieties of marine and brackish waters. Forages in shallow water ponds or sloughs in saline to freshwater marshes.	Yes
Sandhill Crane[3]	*Grus canadensis*	No	Yes	Prairies, fields, and marshes.	Yes
Snowy Plover	*Charadrius alexandrinus*	Yes(c)	No	Nests in loose colonies on open beaches. Winter habitat is mostly on dry sandy or shell beaches, above the high tide mark and along the coast or on barrier islands.	No
Sprague's Pipit	*Anthus spragueii*	Yes(nb)	No	Plains, shortgrass prairies. Breeds in relatively dry grassland, especially native prairie, avoiding brushy areas and cultivated fields. Winters in similar shortgrass habitats including pastures and prairies, and grassy patches within fields.	No
Wilson's Plover	*Charadrius wilsonia*	Yes	No	Coastal areas that are saline and thinly vegetated including salt flats, coastal lagoons, beaches and sand dunes.	No

Sources: Audubon 2016, eBird. 2012, LDWF 2016, USFWS 2008, and USFWS 2013.

[1]Subspecies *C. p. passerina* is found from Eastern Texas throughout the Gulf States including Louisiana.

[2]Interior population of T&E species

[3]Individuals in Louisiana belong to subspecies *Grus Canadensis tabida*, Mid-continent Gulf Coast population.

(c) non-listed subspecies or population of T&E species in this BCR.

(nb) non-breeding in this BCR.

Species associated with pine forests, tall trees, beaches, and sandy shores are not likely to be found in the vicinity of the valve sites. Other migratory birds may use the forest, shrub, and grass habitats in the area, but field surveys performed on June 14, 2016 did not observe any eagles, pelicans, terns, cranes,

caracara, or spoonbills. An osprey viewed near WH-6 was the only notable bird sighted during the field survey.

3.6.4 Nesting Bird Colonies

Flat grasslands and marshes of southwestern Louisiana provide excellent habitat for colonial waterbirds. Consequently, the project areas were surveyed on June 14, 2016 for colonies of nesting pelicans and other colonial birds such as herons, egrets, ibis, roseate spoonbills, anhingas, and cormorants as well as gulls, terns, and/or black skimmers, but none were observed.

3.6.5 Eagle Nests

Bald eagles are philopatric and tend to return to the area of their birth. This is one reason why eagles in Louisiana, whose populations have increased since the prohibition of DDT in 1972, have historically preferred nesting in the south central coast (LDWF 2016). By 1975, surveys had identified only 7 active nests in Louisiana. These nests were located in Terrebonne, Lafourche, and Assumption Parishes. By the winter of 2007-2008, 82 percent of all active nests found by LDWF were located within 80 kilometers (50 miles) of Mandalay NWR in Terrebonne Parish, which is approximately 200 miles east of the project area.

Active nests have been found across the state and eagles are expected to continue moving away from the historic nesting areas into other suitable habitats as the species population continues to grow (Smith 2014). Suitable habitat for nesting eagles is defined as being in forest or woody wetlands, less than 1 kilometer (0.6 mile) from open water. Emergent herbaceous wetlands close to open water are also defined as suitable habitat as long as the distance of this habitat is within 1 kilometer of another forest or woody wetland (Smith 2014).

No eagle nests were sighted during the field surveys conducted on June 14, 2016.

3.6.6 Submerged Aquatic Vegetation

Seagrass beds in the estuaries of Louisiana are communities of rooted “grasses” that grow in shallow, protected waters with low turbidity. Temperature, salinity levels, substrate, wave action, and light penetration are key factors in determining the floral and faunal composition of these beds. Substrates are generally sand/mud bottoms to a water depth of not greater than 3 to 4 feet. Small beds occur in ponds scattered throughout marshes of coastal Louisiana.

Field surveys did not observe any SAV in the GIWW at the proposed landing sites for WH-2, WH-4, or WH-5. A sparse distribution of coon’s tail *(Ceratophyllum demersum)* was identified near the east bank of the Vinton Drainage Canal at WH-4. Two SAV species, widgeon grass *(Ruppia maritima)* and Eurasian water-milfoil *(Myriophyllum spicatum),* were found near the grassy shore south of the shell beach at WH-6 (**Photo 16** in **Appendix B**). Neither of these pockets of SAVs is within the immediate area of proposed activities.

3.6.7 Essential Fish Habitat

Essential fish habitat (EFH) is designated by National Oceanographic and Atmospheric Administration (NOAA) Fisheries and the regional fishery management councils for species managed under the Magnuson-Stevens Fishery Conservation and Management Act. The waters and substrates of the GIWW and the Sabine River are part of the Gulf of Mexico region and comprise EFH for spawning, breeding,

feeding, and maturing of fish species in accordance with fishery management plans for red drum, reef fish and coastal migratory pelagics, and shrimp. Habitat areas of particular concern and EFH areas protected from fishing are not located in the vicinity of the proposed project (NOAA 2016).

3.7 Navigation

The GIWW is a man-made, shallow-draft navigation canal that extends along the Gulf of Mexico coastline from Brownsville, Texas to St. Marks, Florida for approximately 1,100 miles, with an additional 200 miles of networked canals in Louisiana. The waterway provides a channel with a controlling depth of 12 feet (3.7 meters), designed primarily for barge transportation. The canal links all of the Gulf Coast ports and enables these ports to access the inland waterway system of the United States. In 2014, tonnage on the GIWW totaled 126.1 million short tons of domestic cargo. Approximate annual tonnage through the Calcasieu Lock, which is east of the project area, is 46 million. The reach in the vicinity of the Valve Stations, Statute Mile 250 to 260, experiences light traffic. Commercial fishing vessels, oil and gas work boats, and recreational watercraft are the primary users.

The reach of the GIWW between the Sabine River and the Calcasieu Ship Channel is approximately 500 feet wide from bank to bank and the channel depth is currently maintained at 12 feet. The Sabine River near Valve Station WH-6 is a natural waterway that is a designated segment of the GIWW. Its channel width is approximately 200 feet and channel depth is maintained at 30 feet. The Port of Orange in Texas is a deep-draft port approximately 5 miles upstream of WH-6 and 0.5 miles from the convergence of the GIWW and the Sabine River. The principal activity at the Port of Orange is long term lay berthing, which includes Maritime Administration ships, transfer of domestic cargo between other transportation modes, barge and tug dry docking, fleeting and repair /new construction of tugs, barges and offshore petroleum drilling rigs. Petroleum related traffic between the Gulf of Mexico and Orange has been reduced since the recent downturn in oil prices.

3.8 Recreational Resources

The project area contains abundant opportunities for recreational boating, fishing, wildlife viewing, and duck hunting. Several boat launches are within 10 miles of the valve station project area, but no public boat launches are located along the project area reach of the GIWW. No launches or boat ramps are located on the Louisiana side of the Sabine River near WH-6, but a municipal boat launch is located in Orange, Texas near the Navy Shipyard, and several public ramps are open on Adams and Cow Bayous across the Sabine from WH-6.

Most recreational activities in the immediate project area require a boat. Activities in the immediate area of the valve sites, such as duck hunting, are restricted by private land rights. Waterfowl and alligator hunting as well as fishing, boating, and birding are permitted in Sabine NWR, south of the project area.

3.9 Climate and Climate Change

The climate is subtropical marine with long humid summers and short moderate winters. Based on 30-year normals (1981-2010), annual average temperatures range from 59 to 78 degrees Fahrenheit(F) with temperatures in August reaching the low 90s and January lows near 40 degrees F. Average annual rainfall is 57 inches with June and July generally experiencing the highest amounts of precipitation (National Weather Service http://www.srh.noaa.gov/lch/?n=KLCH). During the summer, prevailing

southerly winds produce conditions favorable for afternoon thundershowers. In the colder seasons, the area is subjected to frontal movements that produce squalls and sudden temperature drops. River fogs are prevalent in the winter and spring when the temperature of the major waterbodies ~~are~~ is somewhat colder than the air temperature. Over a dozen hurricanes have made landfall in this area since recordkeeping began.

The project area is low-lying, subject to shallow coastal flooding, and is vulnerable to sea level rise from climate change.

3.10 Air Quality

As authorized by the Clean Air Act, the EPA has established National Ambient Air Quality Standards (NAAQS) for six criteria pollutants: carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), ozone (O_3), lead (Pb), and particulate matter smaller than 2.5 microns ($PM_{2.5}$). Primary NAAQS specify ambient concentrations of these pollutants that are protective of the public health. Secondary NAAQS specify ambient concentrations of these pollutants that are protective of property. The project is located in the US Environmental Protection Agency (USEPA) Air Quality Control Region 106, Southern Louisiana/Southeast Texas Interstate. This region includes all of Cameron and Calcasieu Parishes and is designated as an area that is unclassified or in attainment for all NAAQS.

3.11 Noise

The ambient noise level is quiet, disturbed only by marine vessel traffic and oil and gas operations. Wind and water provide a natural backdrop for sounds made by birds and other wildlife. SPR-WH operations do not affect these noise levels or disturb the natural soundscape. Construction activities would have a temporary effect; birds and other noise sensitive wildlife would avoid the area until construction is complete.

3.12 Visual Resources

The project area is a remote and watery landscape with low growing grasses and shrubs. The low relief and large extents of surface water can be visually monotonous, but these features do allow for panoramic views of the natural environment and provide great opportunities for photography of sunrises, sunsets, and wildlife.

3.13 Cultural Resources

No historic standing structures are located in the vicinity of the project area. Prehistoric and historic archaeological resources connected to Native American activities are most likely found on the levees or natural waterways. Valve Station WH-2, WH-4, and WH-5 are located on a man-made section of the GIWW and the areas surrounding these sites are less likely to contain archaeological resources than WH-6, located on the east bank of the Sabine River.

Exhibit 3 – Sunrise over Gum Cove. Source: Panoramio - Photo by conjoin5.

A records search of using the Louisiana State Historic Preservation Officer (LASHPO), Division of Archaeology cultural resources database identified 12 previous investigations (**Table 6**) within the within a one-mile (1.6-kilometer) radius around the valve station project areas.

Table 6. Previous Cultural Resource Investigations within 1 mile (1.6 kilometers) of Valve Stations

LASHPO ID	Project Description	Reference	Valve Station
22-0106	Archaeological investigations along the Gulf Intracoastal Waterway	Gagliano et al. 1975	WH-2, WH-4, WH-5
22-0113	Archaeology survey for a six-inch natural gas pipeline	Gagliano et al. 1976	WH-2, WH-4, WH-5
22-0128	Archaeological reconnaissance for Texoma Group Strategic Petroleum Reserve Sites	Thomas et al. 1977	WH-5
22-0366	Archaeological and historical survey along the proposed Texas-Louisiana pipeline	McIntire 1978	WH-6
22-0536	Archaeology survey for a 42 inch crude oil pipeline	Neuman 1978	WH-2
22-1926	Cultural resources survey for a 10-inch pipeline	Skinner et al. 1995	WH-2, WH-6
22-2401	Archaeology survey for Sabine Propylene Pipeline L.P Project	Miller 2001	WH-6
22-2506	Marine remote sensing survey	Enright and Watts 2002	WH-6
22-2707	Cultural resources survey for the Cheniere Creole Trail pipeline	Dixon et al. 2005	WH-4, WH-5

LASHPO ID	Project Description	Reference	Valve Station
22-2859	Cultural resources survey and archaeological inventory for the Kinder Morgan Pipeline Project	Handly et al. 2010	WH-5, WH-6
22-2984	Cultural resources survey of the proposed Kaiser-Francis Oil Company Black Bayou Storage Project	Handly et al. 2007	WH-5
22-4570	Cultural resources survey for the proposed Aegis Ethane Header, Segment 1	Nash 2014	WH-4, WH-5, WH-6

These studies identified three archaeological sites within the one-mile radius of WH-6. Site #16CM20 is located approximately 0.5 mile southeast of the valve station area on the bank of the river. The survey was conducted by airboat and the area was inundated at the time; however, no evidence of eroding shell midden deposits was noted during the survey. This site is not considered eligible for listing on the National Register of Historic Places (NRHP). Sites #16CM159 and #16CM160 are located east of the current bank approximately 0.5 mile and 0.8 mile south of WH-6, respectively. Site forms identified these sites as shell middens, presumably of prehistoric origins. The LASHPO database does not list these sites, meaning that their status for the NRHP is undetermined.

No evidence of shell middens or other recognizable archaeological resources were observed during the field survey of the WH-6 project area conducted on June 14, 2016.

3.14 Socioeconomics and Environmental Justice

The project area is unpopulated, therefore economic activities are limited to oil and gas extraction and transportation, waterborne transportation, livestock grazing, and hunting and fishing leases. The closest port facilities are in Lake Charles, Louisiana and Orange, Texas. The Sabine NWR and Creole Nature Trail attract tourists, hunters, fishermen, and wildlife watchers to the area, but the immediate vicinity of the valve stations is accessible only by water and too remote for typical tourism.

3.15 Public Health and Worker Safety

One of the goals of the proposed project is to improve safety for maintenance personnel. Another goal is to reduce costs and increase the efficiency of maintenance operations at the valve stations. The valve stations not only contain block valves, but also field devices with instrumentation, data gathering units, and communication systems for transfer of field data to a central location in real time. This set-up is utilized to manage maintenance work, monitor pipeline operations, and isolate ruptures or leaks in a timely manner, actions that are protective of public health and worker safety.

Construction activities would be conducted under federal, state, and local laws that provide a safe and healthful work environment. In-water construction would take place near the shore, away from the navigation channels of the GIWW and the Sabine River. None of the proposed activities would pose health or safety threats to the public.

3.16 Waste Management/Hazardous Materials

The purpose of the project is to improve access to and maintenance of the valve stations, which are key elements in containing leaks or ruptures within the pipeline segments. The proposed project is designed

to create a beneficial effect by reducing the intensity and temporal extent of contamination from petroleum releases from the valve sites and pipeline segments in the project area. The proposed project construction activities do not require any major subsurface disturbance, except for the timber piles for WH-2, WH-4, and WH-5 that will be driven near the shore and within the waterbottom of the GIWW.

A review of LDEQ records reveals that the SPR-WH reported only two brine water spills, one in 2009 and one in 2014. Both of these non-emergency incidents occurred at the West Hackberry Oil Storage Facility approximately 7 miles southeast of WH-2, and involved discharge of brine water onto the ground. Both spills were cleaned and no further action was required.

On March 31, 2016, a mobile crane loading a barge at the same site developed a hydraulic leak and approximately 0.5 gallon of fluid/oil was released to the ground. A strong south wind and high tide caused one to two cups of hydraulic oil to enter Black Lake, creating a light sheen. The leak from the crane was stopped, and site personnel used absorbents to try to control the sheen. No impact was observed. The incident was reported to the National Response Center (NRC) by phone on the day of the incident. An incident report from the NRC and a followup letter from DOE were sent to LDEQ on April 4, 2016 and logged into the Electronic Document Management System (EDMS). No subsequent correspondence or actions related to this instance are documented in the EDMS files. Field surveys of the valve site areas did not find any materials or structures associated with hazardous waste, and no distressed vegetation or staining of ground soils indicative of a recent release were observed.

The SPR-WH Is a Conditionally Exempt Small Quantity Generator (CESQG), meaning that it generates 100 kilograms or less per month of hazardous waste or one kilogram or less per month of acutely hazardous waste. All waste generated by CESQGs must be delivered to a person or facility who is authorized to manage it.

Any hazardous materials generated during construction would be disposed of as required by the construction plans and permits. Best management practices to reduce the amount of waste, and a spill response plan are required of all DOE contractors to ensure that hazardous waste is not released into the environment.

4.0 Environmental Effects

Adverse impacts to protected resources and potential effects on programs and other issues of public concern were analyzed in coordination with DOE. Other agencies with an interest in potentially affected resources and programs were also consulted. Documentation of concurrence with the findings of the analysis by several of the agencies consulted are provided in **Appendix F**.

4.1 Direct Impacts Analysis

Resources and issues identified in **Section 3** were assessed to determine if any direct impacts would be expected from the proposed actions. Although the No Action Alternative does not meet the purpose and need for the project, analysis of its effects on the environment was conducted as a baseline comparison. **Table 7** presents the comparative impacts analysis of direct effects to relevant resources and issues. Agency concurrence on finding of no or unlikely effect on specific resource or issue is noted with an asterisk (*).

Table 7. Direct Impacts Analysis.

Resource/Issue	Potential Direct Effects	
	Proposed Actions	No Action
Land Use	No change to existing land use and compliant with land use regulations.*	No change to existing land use.
Access and Right of Way	New perpetual access ROW would be acquired. No relocations or diminished value from acquisition, are anticipated.	No new right-of-way would be acquired.
Seismicity	Not relevant.	Not relevant.
Soils and Prime Farmland	No impact on prime farmland.*	No effect.
Coastal Zone	Consistent with the Louisiana Coastal Resources Program.*	No effect.
Floodplain Management	No effect on floodplain elevations from proposed project.* Project subject to inundation by 1-percent chance flood and coastal flood zone wave action.	No effect on floodplain elevations. Existing access subject to inundation by 1-percent chance flood and coastal flood zone wave action.
Wetlands	Potential permanent impacts to wetlands from access paths at WH-5 and WH-6 of less than 0.05 acre.	No effect.
Other Waters of the US	Potential permanent impacts to waters of the US from boat landings and timber piles at WH-2, WH-4, and WH-5 and from fill in inundated existing footpath at WH-6.	No effect.
Aquifers	Not relevant.	Not relevant.
Water Quality	Temporary increase in turbidity in GIWW from in-water construction. Effects to be mitigated through use of best management practices. Erosion control measures for land-based construction to be specified in SWPPP.	No effect.
T&E Species	Not likely to affect ESA-protected species. (Manatee*).	No effect.
Critical Habitat and Natural Communities	No critical habitat or natural communities of state concern are located within the project vicinity.	No effect.
Migratory Birds	Minor and temporary effect from construction activities and noise on certain species that may utilize vegetated habitats near the project area.	Negligible and temporary effect from maintenance activities and noise on certain species that may utilize vegetated habitats near the valve sites.

Resource/Issue	Potential Direct Effects	
	Proposed Actions	No Action
Nesting Bird Colonies	No nesting bird colonies found within the project vicinity during site visit. Two weeks prior to construction, another visual survey will be conducted to ascertain if any colonies are located within the proscribed boundaries. If any are identified, construction activities will be restricted to the pertinent non-nesting period.	No effect.
Eagle Nests	No eagle nests found within the project vicinity during site visit. Two weeks prior to construction, another visual survey will be conducted to ascertain if any eagle nests are located within 600 meters of the construction zone. If any are If any are identified, construction activities will be restricted to the pertinent non-nesting period.	No eagle nests found within the project vicinity.
Submerged Aquatic Vegetation	Minor and temporary effect from in-water construction activities.	No effect.
Essential Fish Habitat	Minor and temporary effect from in-water construction activities.	No effect.
Navigation	Negligible and temporary effect during construction. Aids to navigation to be implemented on boat landings.	No effect.
Recreational Resources	Minor and temporary effect on hunting and fishing in the project vicinity from construction activities and noise.	No effect.
Climate	No effect.	No effect.
Climate Change	Potential negative effect on proposed actions from sea level rise.	Potential negative effect on existing facilities from sea level rise.
Air Quality	Minor and temporary effect on air quality during construction from emissions from heavy equipment and fugitive dust.	No effect.
Noise	No sensitive human noise receptors effected. Minor and temporary effect on wildlife during construction activities.	No effect.
Visual Resources	No effect.	No effect.
Cultural Resources	No effect.*	No effect.
Socioeconomics	No effect.	No effect.

Resource/Issue	Potential Direct Effects	
	Proposed Actions	No Action
Environmental Justice	Not relevant.	Not relevant.
Public Health	Beneficial effect from more efficient maintenance of valve station equipment reducing probability of intense and extensive contamination from petroleum releases.	Less efficient maintenance and monitoring of pipeline operations with higher probability of more intense and widespread contamination from ruptures or leaks.
Worker Safety	Goal of the project is to improve safety for SPR-WH maintenance personnel.	No improvements to access or safety and SPR-WH maintenance personnel would continue to work under less than optimal conditions.
Waste Management	Minor waste generated during construction to be managed per construction plans and permits.	No effect.
Hazardous Materials	Beneficial effect from more efficient maintenance of valve station equipment reducing probability of intense and extensive contamination from petroleum releases.	Higher probability of more intense and widespread contamination from ruptures or leaks.

*Concurrence on this finding provided by pertinent regulatory agency (see **Appendix F**).

4.1.1 Access and Right of Way

New perpetual access ROW would be required for the project. Acquisition of this ROW would be conducted in accordance with real estate policies of the Federal Government and the provisions of P.L. 91-646, as amended. The acquisition would not relocate any structures. No reduction in the value of the adjacent properties is anticipated.

4.1.2 Soils and Prime Farmland

Soils and prime farmland would not be impacted by the proposed actions. Correspondence from the NRCS documenting this determination and exempting the proposed construction areas from the rules and regulations of the Farmland Protection Policy Act is provided in **Appendix F**.

4.1.3 Coastal Zone

The project avoids adverse impacts to coastal resources to the maximum extent practicable. Project plans will be submitted to the OCM for a consistency determination for review of compliance with the approved LCRP in accordance with Section 307(c) of the FCZMA.

4.1.4 Floodplain and Wetlands

In accordance with 10 CFR 1022.3, DOE shall incorporate floodplain management goals and wetland protection considerations into its decisionmaking processes. An evaluation of the proposed action and assessment of the potential effect to these resources was prepared, and as allowed by 10 CFR 1022.13(b), the floodplain and wetlands assessments are included in this NEPA document.

4.1.4.1 Floodplain Assessment

The SPR-WH valve stations are located in the floodplain; therefore, no practicable alternative to locating the proposed access features in the floodplain is available; therefore, DOE has designed the project to minimize potential harm within the floodplain, consistent with the policies set forth in Executive Order (EO) 11988, Floodplain Management (42 Federal Register [FR] 2951). The proposed action is not a critical action for which even a slight chance of flooding would be too great. The proposed actions would be located in the base floodplain, subject to inundation by the one-percent annual chance flood and coastal wave action, and are designed to be compatible with development in these SFHAs. Limited grading and fill in the floodplain, as proposed, would cause minimal changes in land elevations. Therefore, the proposed actions would have a negligible impact on beneficial floodplain values and adjacent properties. It would have no effect on human lives.

4.1.4.2 Wetlands Assessment

As illustrated on **Figure 5** in **Appendix A** and **Table 1**, a preliminary wetlands assessment determined that the project areas surrounding Valve Stations WH-2 and WH-4 do not contain any wetlands. The areas surrounding Valve Stations WH-5 and WH-6 do contain wetlands and **Figure 6** in **Appendix A** illustrates that the proposed walking path at WH-5 would fill approximately 0.032 acre of herbaceous habitat already impacted by maintenance of the Colonial Pipeline ROW. WH-6 would fill approximately 0.004 acre of marsh habitat already impacted by cattle grazing and damage from feral hogs. The proposed project would result in the permanent loss of the functions and values associated with a total of 0.036 acre of wetlands.

Valve Stations WH-5 and WH-6 are located in areas surrounded by wetlands; therefore, no practicable alternative to locating the proposed walking paths in wetlands is available; therefore, DOE has designed the project to minimize impacts to wetlands, consistent with the policies set forth in EO 11990, Protection of Wetlands (42 FR 26961).

To offset the permanent loss of wetlands, compensatory mitigation would have to be assessed and executed as discussed in **Section 4.2**.

No impacts to wetlands would be caused in the area of Valve Station WH-5 from equipment staging, which would be conducted from a barge. Jurisdictional wetlands surrounding the proposed walkway would be identified and marked, and construction work zones and activities including potential incidental fill and runoff would be prohibited in these areas. Wetlands surrounding Valve Station WH-6 cannot be completely avoided during construction. Equipment staging would be conducted from a barge and work performed within the area of permanent impacts; however, some temporary impacts to wetlands would be expected. After construction, the natural contour would be restored and wetlands would regenerate after a complete growing season.

4.1.5 Other Waters of the US

The GIWW and Sabine River within the project area are traditionally navigable waters classified as waters (other than wetlands) of the US that are jurisdictional under the CWA. Waters adjacent to these waterbodies, such as wetlands and impoundments, may be determined jurisdictional on a case-by-case basis (USEPA and Department of the Army 2015).

The proposed actions include three walkways and boat landings elevated on timber piles for access to WH-2, WH-4, and WH-5. These features would impact the jurisdictional waters of the GIWW by introducing the proposed features into the water below the ordinary high water mark. A review of the proposed design drawings provided in **Appendix C** show that the timber piles would be the only structures permanently placed in the water. The walkways and landings would stay above the normal water level.

The existing footpath at Valve Station WH-6 contains a hard bottom and lacks vegetation due to apparent persistent inundation. This part of the footpath, totaling 0.07 acre, is within 200 feet of the Sabine River and may be determined to be jurisdictional waters of the US.

4.1.6 Water Quality

Temporary impacts to water quality from construction activities would be minimized by the implementation of best management practices consistent with the SPR Pollution Prevention Plan (Publication ASL5400.41), Version 10.0 (08-02-16) and as described in the West Hackberry site SWPPP in keeping with general principles and conditions of the Louisiana Pollutant Discharge Elimination System and the Stormwater General Permit Associated with Construction Activity Greater than Five Acres. Pollution from stormwater would be minimized through adherence to requirements detailed in the project contract and scope of work. Construction activities of the proposed project would include temporary erosion control measures to minimize impacts to water quality during construction. Such erosion control measures may include the use of silt fencing, protection barriers, hay bales, seeding or sodding of bare areas, or other suitable means of erosion/sediment containment. Where appropriate, temporary erosion control structures would be built before construction begins and maintained during construction. Vegetation, including trees, would be cleared only as needed and clearing activities may be phased to maintain soil integrity and minimize exposure of an erosive surface. When construction is completed, disturbed areas would be restored to pre-construction grade and reseeded. No dredging or prop washing shall be required.

4.1.7 Threatened and Endangered Species

No species protected under the ESA would be affected by the proposed actions.

4.1.8 Critical Habitat and Natural Communities

No critical habitat for federally protected T&E species or natural communities of state concern would be affected by the proposed actions.

4.1.9 Migratory Birds

Human activities and noise associated with construction of the proposed actions would have a temporary effect on certain species that may utilize vegetated habitats near the project area. These species are mobile and alternate habitat is abundant in the area. Therefore, this effect would be minor. Maintenance activities also have a temporary effect on migratory birds that utilize the area, but this effect is short-term and intermittent and therefore, negligible.

4.1.10 Nesting Bird Colonies and Eagle Nests

No eagle nests or nesting bird colonies were found within the project vicinity during site visit. Two weeks prior to construction, another visual survey will be conducted to ascertain if any nests or nesting colonies are located within the proscribed boundaries. If any are identified, construction activities will

be restricted to the pertinent non-nesting period. Further discussion of measures to protect nesting species are discussed in **Section 4.2**.

4.1.11 Submerged Aquatic Vegetation

Field surveys did not observe any SAVs in the GIWW within the footprint of the proposed elevated walkways and boat landing platforms. In-water construction activities would create turbidity in the water surrounding the construction zone of the elevated walkways and boat landings, reducing light penetration that promotes SAV growth. This effect would be minor and temporary on the few pockets of SAVs located in the area.

4.1.12 Essential Fish Habitat

In-water construction activities would create turbidity in the water surrounding the construction zone of the elevated walkways and boat landings in the GIWW affecting EFH in a minor and temporary manner. EFH in the Sabine River would not be affected.

4.1.13 Navigation

Minor and temporary effect on navigation during construction. Once built, the boat landings would not obstruct navigation. Aids to navigation would be implemented according to USCG standards.

4.1.14 Recreational Resources

Construction activities and noise would cause a minor and temporary effect on hunting and fishing in the project vicinity. Recreational boating on the GIWW and Sabine River would not be affected.

4.1.15 Climate and Climate Change

The proposed actions would not have an effect on climate conditions. Sea level rise predicted as a consequence of climate change would have a negative effect on access to the valve stations if the rise is sufficient to permanently inundate them, but the facilities themselves are designed to withstand periodic submersion. Wave action may erode the proposed walking paths, but these are relatively easy to resurface. This potential negative effect also applies to the existing facilities if the No Action Alternative were selected.

4.1.16 Air Quality

The proposed actions would cause a minor and temporary effect on air quality during construction from emissions from heavy equipment and fugitive dust.

4.1.17 Public Health

Public health would be potentially benefited from the more efficient maintenance of valve station equipment resulting from the proposed actions by reducing the probability of intense and extensive contamination from petroleum releases. The No Action Alternative would provide a less efficient maintenance and monitoring program for pipeline operations yielding a higher probability of more intense and widespread contamination from ruptures or leaks.

4.1.18 Worker Safety

The goal of the project is to improve safety for SPR-WH maintenance personnel by improving access and making boat landings safer. The No Action Alternative would not improve access or safety and SPR-WH maintenance personnel would continue to work under these less than optimal conditions.

4.1.19 Waste Management and Hazardous Materials

The proposed actions would general construction waste that would be managed per construction plans and permits. The proposed actions would reduce the probability of intense and extensive contamination from petroleum releases, which are considered hazardous. The No Action Alternative would not reduce the probability of more intense and widespread contamination from ruptures or leaks.

4.2 Indirect and Cumulative Impacts

Indirect effects that would be caused by the proposed actions, but would occur later in time or farther removed in distance were considered. Growth inducing indirect effects related to changes in the pattern of land use, population density, or growth rate would not be caused by the proposed actions. The area will remain remote and unpopulated, experiencing the same intensity of economic activity with or without the proposed project.

Indirect effects on air and water and other natural systems are also not reasonably foreseeable with the exception of potential indirect impacts on adjacent ecosystems such as wetlands and other waters from construction activities. These indirect effects may consist of impacts to vegetation and water quality from storm water runoff, inadvertent contamination by construction materials or fugitive dust, or damage to vegetation from heavy equipment mistakenly operated outside the construction limits of the project. These effects would be prevented through the implementation of Best Management Practices (BMPs) and careful planning and education of construction crews.

Cumulative impacts resulting from the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions were also considered. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

The proposed action would permanently impact approximately 0.036 acres of herbaceous habitat including marshlands. This increment of wetlands loss is negligible given the reasonably foreseeable intensity of future land loss in the area caused by subsidence, man-made canals, natural stream channelization, and disruption of freshwater sheet flow into the marshes. However, the Master Plan terracing projects and other restoration projects are designed to create land in the area to slow the loss, if not completely offset it. In addition, unavoidable impacts to wetlands from the proposed action will be offset through compensatory mitigation. Therefore, no cumulative impact to wetlands from the proposed actions are anticipated.

The benefits to public health, worker safety, and more efficient maintenance operations from the proposed actions will accumulate over time as an increase in productivity and a reduction in liability costs.

4.3 Mitigation

Potential permanent impacts to wetlands from access paths at WH-5 and WH-6 of less than 0.05 acre would require compensatory mitigation in the form of mitigation bank credits or in-lieu fee payments. Onsite restoration is not recommended.

Temporary effects on water quality from runoff during construction will be mitigated through use of best management practices. Erosion control measures for land-based construction will be specified in the SWPPP in accordance with construction plans and permits.

Mitigation for nesting birds may be required. If the work for the proposed project will commence during the nesting season, then a field visit by a qualified biologist to the project area will be conducted two weeks prior to the construction start date. Survey areas for nesting colonies and eagle nests will be within a 450-meter radius from the work areas and 700 meters for nesting brown pelicans. If any nests are found within the surveyed areas the following restrictions will apply:

- For colonies containing nesting wading birds (i.e. herons, egrets, night herons, ibis, roseate spoonbills, anhingas, and/or cormorants, all project activity occurring within 300 meters of an active nesting colony should be restricted to the non-nesting period (i.e. September 1 through February 15).
- For colonies containing nesting gulls, terns, and/or black skimmers, all project activity occurring within 400 meter (700 meters for brown pelicans) of an active nesting colony should be restricted to the non-nesting period (i.e. September 16 through April 1).
- If it has been determined that a bald eagle nest (active or alternate) can be seen from the project site and that there is no similar activity within 200 meters of the nest, to avoid disturbing nesting eagles and their young, a buffer of at least 200 meters between the proposed activities and the nest shall be maintained. Established landscape buffers will be maintained, and if possible, additional landscape buffers will be created to screen the proposed boat landings and walkways from the nest.

Aids to navigation shall be implemented on the boat landings to ensure that the proposed actions do not interfere with navigation in the GIWW.

Proper maintenance of heavy equipment and use of water to suppress dust are measures that will be implemented to reduce air emissions during construction.

Any hazardous materials generated during construction would be disposed of as required by the construction plans and permits. Best management practices to reduce the amount of waste, both non-hazardous and hazardous, would be implemented. A spill response plan is required of all DOE contractors to ensure that hazardous waste is not released into the environment.

5.0 Public and Agency Coordination

Letters to agencies with an interest in the project or jurisdiction over relevant resources were sent by DOE by US mail on August 2, 2016. A sample letter and the list of agencies contacted are provided in **Appendix F**.

Twelve agencies responded to the letter. Nine written responses are provided in **Appendix F**.

1. The Department of Natural Resources (LDNR) requested that plans be submitted to the OCM for a consistency determination for review of compliance with the approved LCRP in accordance with Section 307(c) of the FCZMA.

2. The US Department of Agriculture responded with a determination that no prime farmland or NRCS work in the vicinity will be impacted and that the proposed project is exempt from the rules and regulations of the FFPA.
3. The LASHPO responded with a determination that no known historic properties would be affected by the proposed project.
4. The NMFS Habitat Conservation Division responded that EFH for various penæid shrimp species and red drum exists in the GIWW and requested an EFH assessment.
5. The Calcasieu Parish Planning and Development Office and the Coastal Zone Program Manager responded with a finding of no objection to the proposed project.
6. The Cameron Parish Floodplain Manager responded with a finding of no objection to the proposed project.
7. The Cameron Parish Coastal Zone Manager responded with a finding of no objection to the proposed project.
8. The USACE, New Orleans District, responded with details regarding the necessary permitting and authorizations.
9. The USFWS, Lacassine National Wildlife Refuge responded with a request to review the EA.
10. The USFWS, Louisiana Field Office responded with a determination of not likely to affect manatees.

Three other agencies responded by phone. Mr. Rusty Wright of the Eight Coast Guard District telephoned on August 9, 2016 to request a copy of the draft EA. He agreed to review any interim documents transmitted by email in order to expedite his review. Mr. Dave Butler of LDWF responded on August 29, 2016 with a request to review the draft EA. Mr. Jayson Hudson of USACE, Galveston District agreed to followup on the request for that agency's input on September 7, 2016.

5.1 Public Involvement and Outreach Activities

No public involvement or outreach to the general public have been conducted at this time.

5.2 Permitting

The following permits and authorizations will be required for the proposed project:

- Coastal Zone consistency review by the OCM, the Coastal Zone Manager for the Louisiana to determine that the proposed project complies with the approved LCRP in accordance with Section 307(c) of the FCZMA.
- Section 404 of the CWA permit for discharge or fill in wetlands and other waters of the US issued by the USACE.
- Section 10 of the Rivers and Harbors Act for obstruction of navigable waters issued concurrently with the Section 404 permit by USACE.
- Section 401 of the CWA for Water Quality Certification by the LDEQ.

- Section 408 permit for modifications to a federal project by the USACE, New Orleans District, Operations Division.
- Authorization by the USCG for implementation of aids to navigation.
- SPR construction activities are authorized through a standing Oil & Gas transmission facility exemption, which precludes the need for filing applications for general construction permits. Appropriate BMPs are implemented through a SWPPP and contract language requirements.

6.0 Floodplain Statement of Findings

The DOE has determined that no practicable alternative to locating and conducting the proposed actions in the floodplain and wetlands is available. The proposed project has been designed to minimize the effects to these resources. In accordance with 10 CFR 1022.14(c), a floodplain statement of findings is incorporated into this EA.

6.1 Description of the Proposed Action

The proposed actions are intended to improve access to the valve station by constructing boat landings and elevated walkways for Valve Stations WH-2, WH-4, and WH-5, which are located on the southern shore of the GIWW. Existing footpaths from the bank to WH-2 and from the shore to WH-6, which is located on the eastern side of the Sabine River, are proposed to be resurfaced as needed. New walking paths at from the end of the respective elevated walkway to WH-4 and to WH-5 are proposed. A detailed description of the proposed action is provided in **Section 1.2** and **Figure 1** illustrates the location of the proposed actions.

6.2 Why the Action is Located in the Floodplain

The goals of the project are to improve safety for personnel and property, to reduce costs and increase the efficiency of maintenance operations at the valve stations, and to ensure future access to the SPR-WH Valve Stations. The proposed action is located in the base floodplain but not in the critical action floodplain because it is not possible to access the valve stations otherwise.

6.3 Alternatives Considered

A No Action Alternative was considered, but eliminated because it would not meet the purpose and need for the project.

One alternative to the proposed action would replace the aggregate on all four footpaths and replace the corroded bulkhead and ladder at WH-2. No boat landings or elevated walkways would be constructed. A second alternative considered would utilize elevated walkways instead of limestone surfaced footpaths to access the valve sites. The first would not improve safety or increase efficiency of access. The second would be extremely costly and also require crossing the floodplain and wetlands with heavy equipment.

6.4 Conformance to Applicable Floodplain Standards

The proposed project conforms to applicable floodplain standards. Concurrence from the local floodplain managers is provided in **Appendix F**.

6.5 Steps to Minimize Harm to the Floodplain

The proposed project would utilize the minimum amount of fill for the proposed footpaths, which is the only proposed action that would have an effect on the BFE. The other actions, boat landings and elevated walkways, would be located above the floodplain.

7.0 Conclusion

The environmental assessment found that direct and permanent impacts to protected resources from the proposed project are limited to fill in less than 0.05 acre of wetlands at WH-5 and WH-6, and potential permanent impacts to waters of the US from boat landings and timber piles at WH-2, WH-4, and WH-5 and from fill in inundated existing footpath at WH-6.

Construction activities will cause temporary effects on water quality, migratory birds (from noise), SAV, EFH, navigation, and air quality.

The proposed project would have a negligible effect on the base floodplain and is designed to withstand impacts from flooding, but climate change may have a negative effect on the proposed project in the future.

The proposed project will cause a beneficial effect on public health and worker safety and reduce the probability of releases of hazardous materials into the environment.

The EA has resulted in a Finding of No Significant Impacts (FONSI) to human health and the environment.

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9.0 List of Acronyms

AST	Above-ground Storage Tank
BCR	Bird Conservation Regions
BFE	Base Flood Elevation
BLH	Bottomland Hardwood
CEQ	Council on Environmental Quality
CESQG	Conditionally Exempt Small Quantity Generator
CFR	Code of Federal Regulation
CO	carbon monoxide
CRMS	Coastwide Reference Monitoring System
DOE	Department of Energy
DOTD	Louisiana Department of Transportation and Development
E2EM1P5	Estuarine Intertidal Emergent Persistent Irregularly Flooded Mesohaline
E2EM1P6	Estuarine Intertidal Emergent Persistent Irregularly Flooded Oligohaline
E2EMPh	Estuarine Intertidal Emergent Persistent Diked/Impounded
EA	Environmental Assessment
EDMS	Electronic Document Management System
EFH	Essential fish habitat
EO	Executive Order
ESA	Endangered Species Act
F	Fahrenheit
FCZMA	Federal Coastal Zone Management Act
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impacts
GIWW	Gulf Intracoastal Waterway
LASHPO	Louisiana State Historic Preservation Officer
LCRP	Louisiana Coastal Resources Program
LDEQ	Louisiana Department of Environmental Quality

LDNR	Louisiana Department of Natural Resources
LDWF	Louisiana Department of Wildlife and Fisheries
LNHP	Louisiana Natural Heritage Program
MBTA	Migratory Bird Treaty Act
Mgal/d	megagallons per day
NAD83	North American Datum 1983
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanographic and Atmospheric Administration
NRCS	National Resources Conservation Service
NWI	National Wetlands Inventory
NWR	National Wildlife Refuge
NO_2	nitrogen dioxide
NAD83	North American Datum 1983
NRC	National Response Center
NRHP	National Register of Historic Places
O_3	ozone
Pb	lead
PM	particulate matter
ppt	parts per thousand
ROW	right of way
SAV	submerged aquatic vegetation
SFHA	Special Flood Hazard Areas
SO_2	sulfur dioxide
SPR	Strategic Petroleum Reserve
SWPPP	Stormwater Pollution Prevention Plan
T&E	Threatened and Endangered

USACE	United States Army Corp of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Service
VE	Coastal Flood Zone with an Additional Hazard from Wave Action
WH	West Hackberry

10.0 List of Preparers

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APPENDIX A

Figures

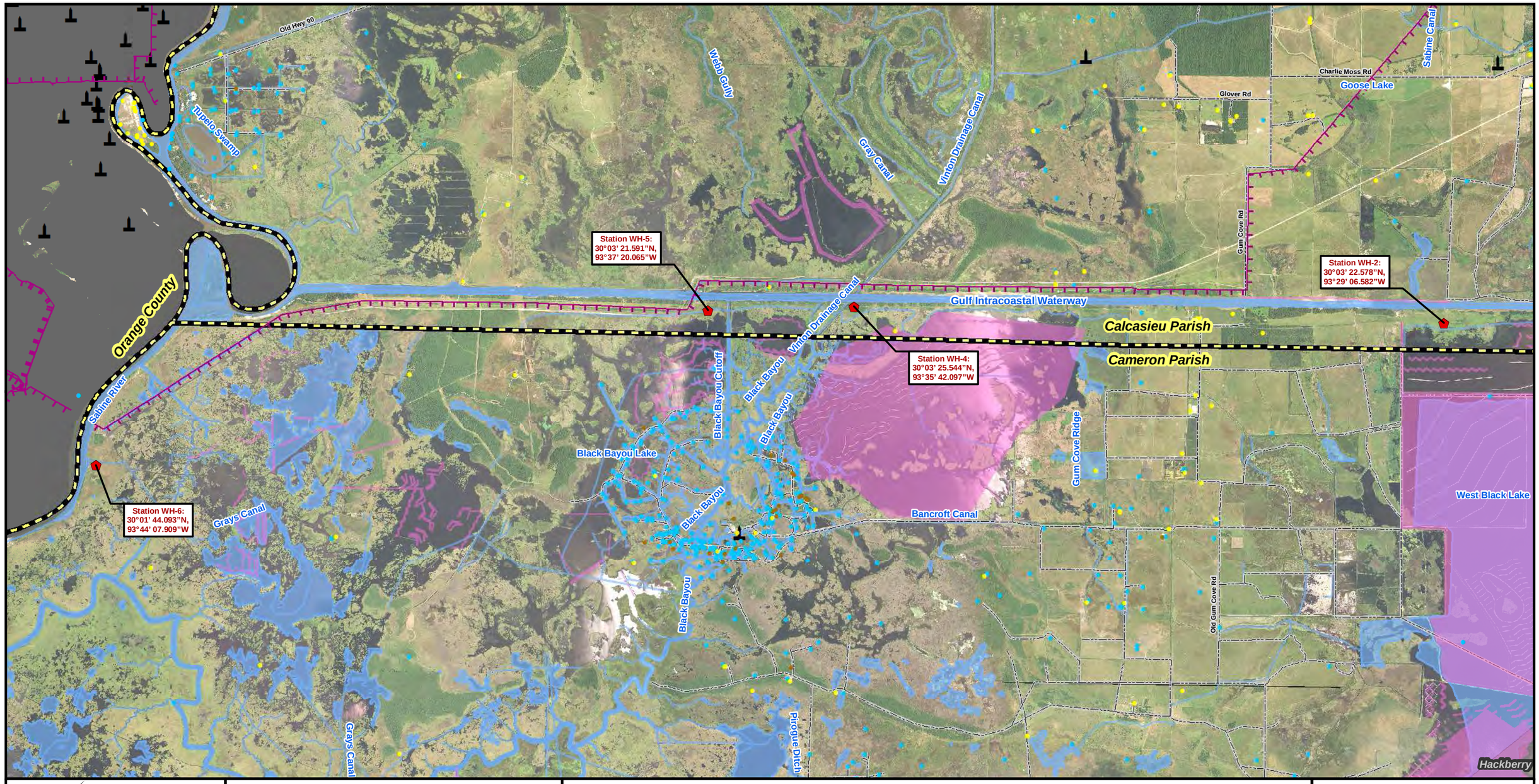

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Figure 1: Project Overview Map

Access Improvements SPR-WH Valve Stations

Map prepared from public and proprietary spatial data. ELOS Environmental, LLC does not warrant its accuracy or completeness. This map should not be used to establish legal boundaries or specific locations.

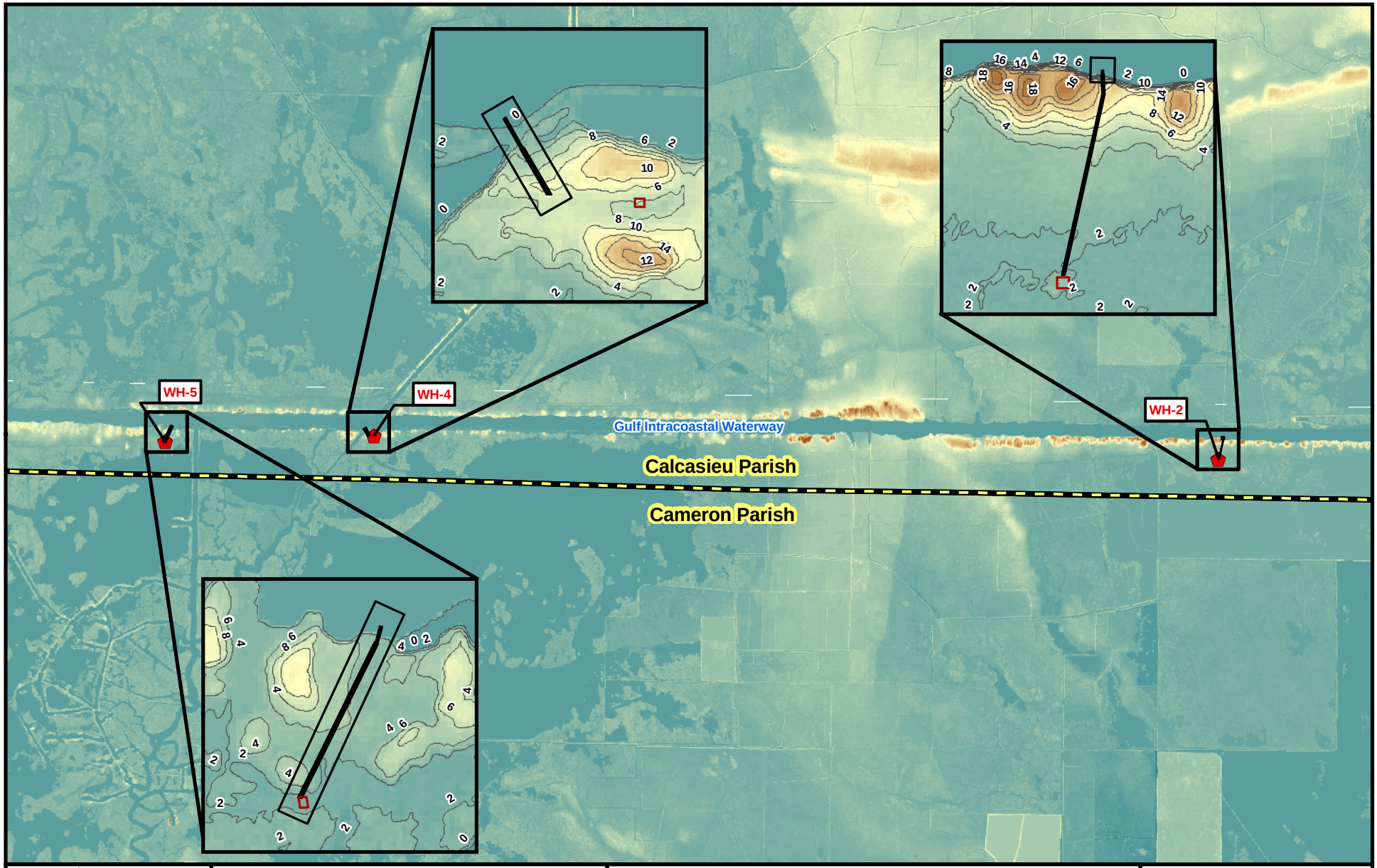
Legend:

- Valve Access Location
- Transmission Lines
- Injection Wells
- Water Well Registration
- Oil and Gas Wells
- Communication Tower
- LDNR Coastal Permit Polygons
- Parish Boundary
- Texas Streets
- Louisiana Streets
- Stream/River
- Waterbody
- City/Town
- Texas State

N W E S

0 4,000 8,000 Feet

F:\KLE\VCI Valve Station\GIS Maps\Environmental Assessment\Figure 1_Project Overview Map.mxd



ELOS environmental
http://elosenv.com/
43177 East Pleasant Ridge Road
Hammond, Louisiana 70403
P. 985-662-5501, F. 985-662-5504

Figure 2: Elevations Map

Access Improvements SPR-WH Valve Stations

Map prepared from public and proprietary spatial data. ELOS Environmental, LLC does not warrant its accuracy or completeness. This map should not be used to establish legal boundaries or specific locations.

Legend:

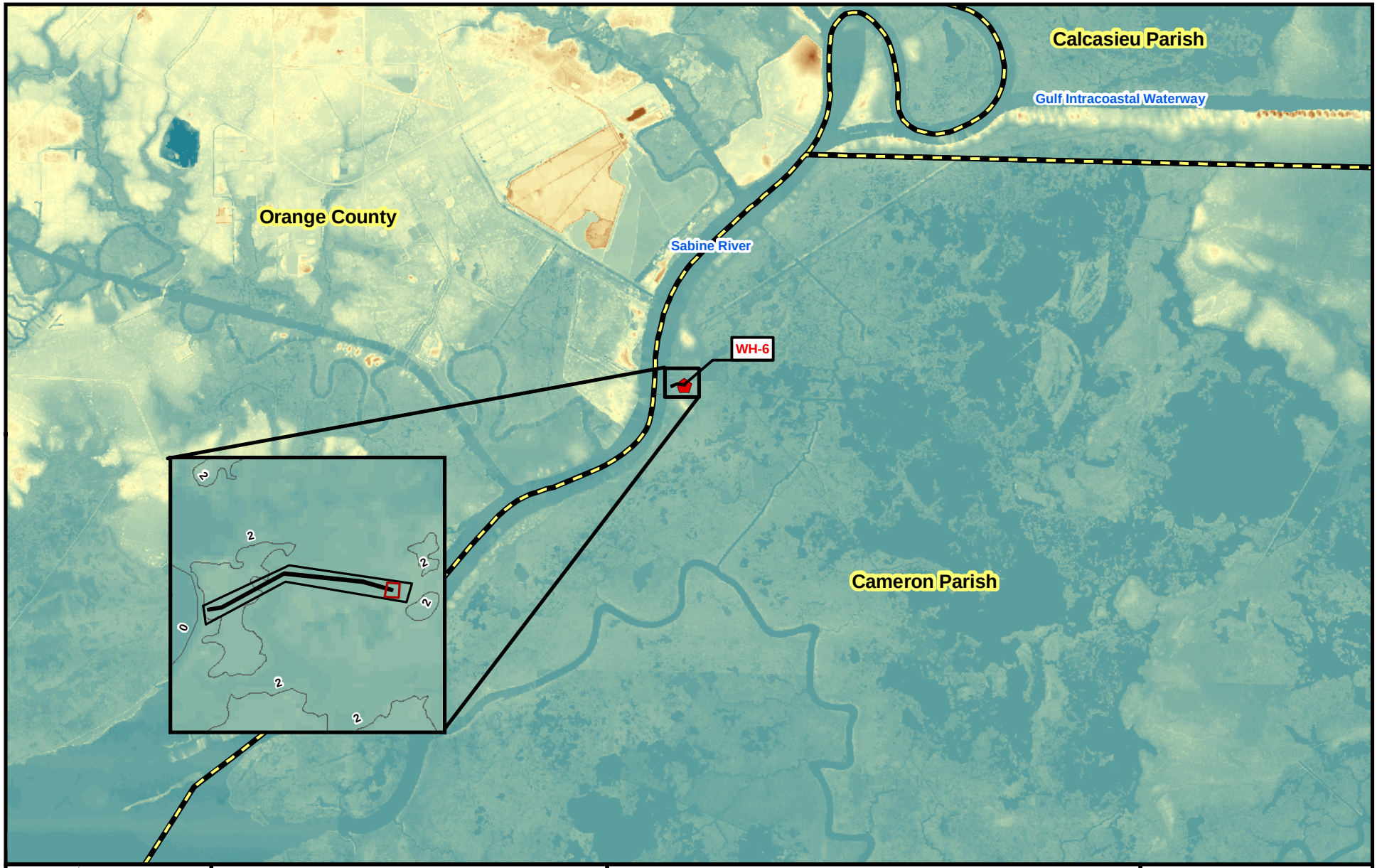
- Valve Access Location
- Valve Station
- Wharf and Walkway
- Servitude
- Parish Boundary
- Contour Elevation
- High : 22'
- Low : 0'

Elevation Datum Data:
NAD 1983 UTM, Zone 15N
Download From:
http://atlas.lsu.edu/rasterdown.htm

N W E S

Feet
0 3,000 6,000

F:\KLE\VCI Valve Station\GIS Maps\Environmental Assessment\Figure 2_Elevations Map.mxd



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P. 985-662-5501, F. 985-662-5504

Figure 2A: Elevations Map

Access Improvements SPR-WH Valve Stations

Map prepared from public and proprietary spatial data. ELOS Environmental, LLC does not warrant its accuracy or completeness. This map should not be used to establish legal boundaries or specific locations.

Legend:

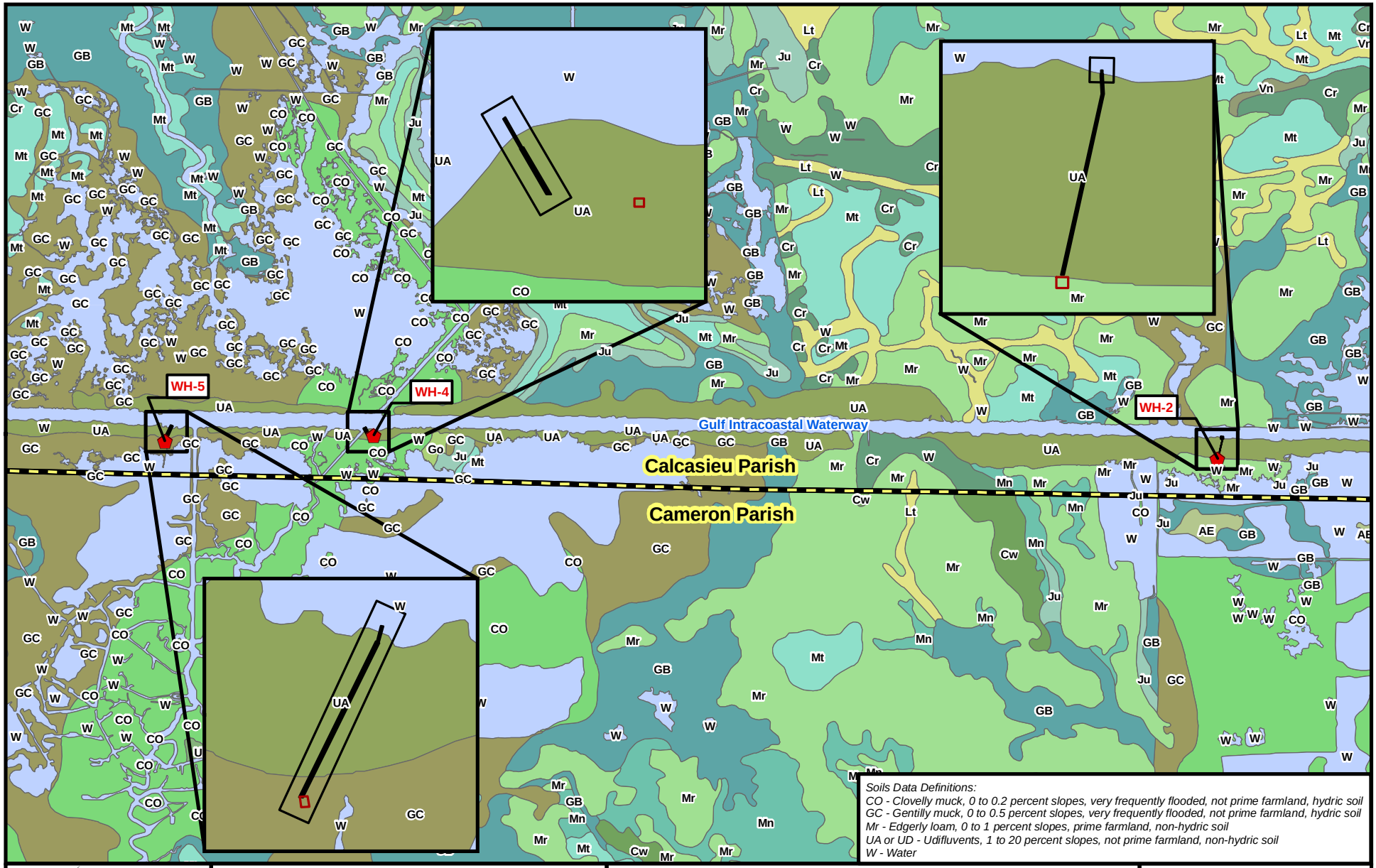
- Valve Access Location
- Valve Station
- Wharf and Walkway
- Servitude
- Parish Boundary
- Contour Elevation
- High : 36'
- Low : 0'

Elevation Datum Data:
NAD 1983 UTM, Zone 15N
Download From:
http://atlas.lsu.edu/rasterdown.htm

N
W E
S

Feet
0 3,000 6,000

F:\KLE\VCI Valve Station\GIS Maps\Environmental Assessment\Figure 2A_Elevations Map.mxd



Soils Data Definitions:
CO - Clovelly muck, 0 to 0.2 percent slopes, very frequently flooded, not prime farmland, hydric soil
GC - Gentilly muck, 0 to 0.5 percent slopes, very frequently flooded, not prime farmland, hydric soil
Mr - Edgerly loam, 0 to 1 percent slopes, prime farmland, non-hydric soil
UA or UD - Udifluvents, 1 to 20 percent slopes, not prime farmland, non-hydric soil
W - Water

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Figure 3: Soils Map

Access Improvements SPR-WH Valve Stations

Map prepared from public and proprietary spatial data. ELOS Environmental, LLC does not warrant its accuracy or completeness. This map should not be used to establish legal boundaries or specific locations.

Legend:

- Valve Access Location
- Valve Station
- Wharf and Walkway
- Servitude
- Parish Boundary
- AE
- BA

CO, Cr, Cw, Dm, GB, GC, Go, Ju, LE, Lt, Mn, Mr, Mt, UA, UD, Ur, Vn, W

N W E S

0 3,000 6,000 Feet

F:\KLE\VCI Valve Station\GIS Maps\Environmental Assessment\Figure 3_Soils Map.mxd

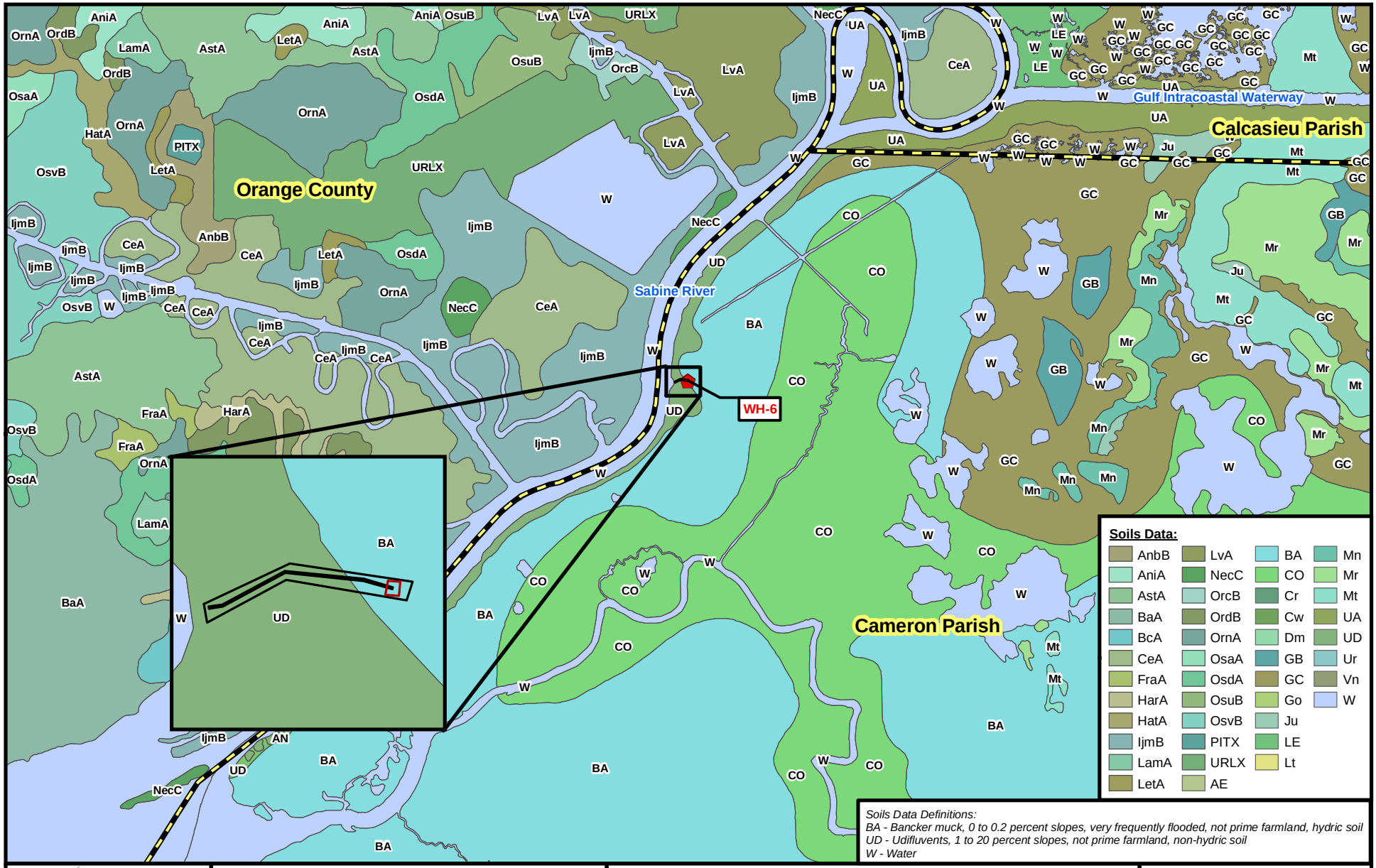

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Figure 3A: Soils Map

Access Improvements SPR-WH Valve Stations

Map prepared from public and proprietary spatial data. ELOS Environmental, LLC does not warrant its accuracy or completeness. This map should not be used to establish legal boundaries or specific locations.

Legend:

- Valve Access Location
- Valve Station
- Wharf and Walkway
- Servitude
- Parish Boundary

N W E S

Feet
0 3,000 6,000

F:\KLE\VCI Valve Station\GIS Maps\Environmental Assessment\Figure 3A_Soils Map.mxd

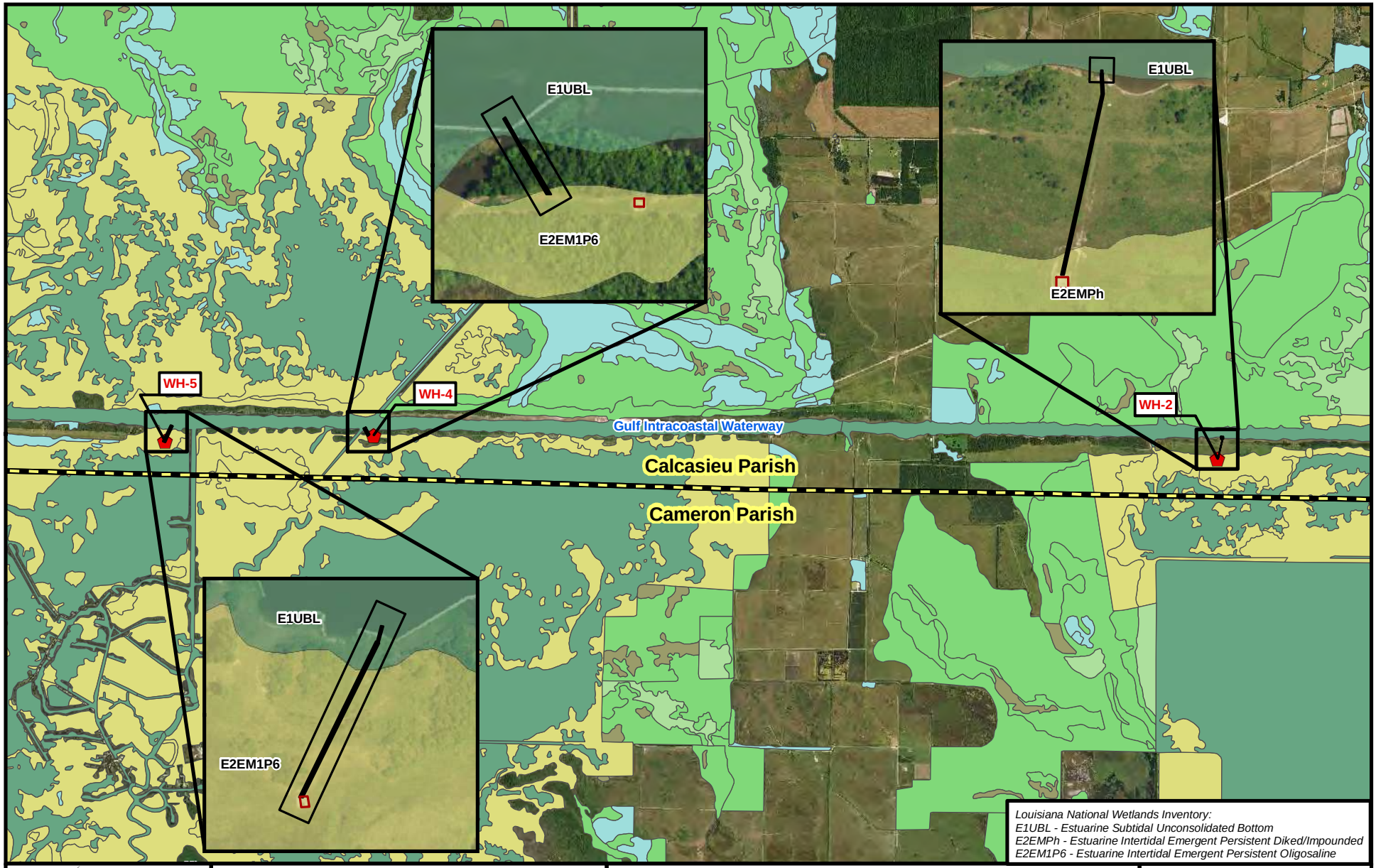

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Figure 4: NWI Map

Access Improvements SPR-WH Valve Stations

Map prepared from public and proprietary spatial data. ELOS Environmental, LLC does not warrant its accuracy or completeness. This map should not be used to establish legal boundaries or specific locations.

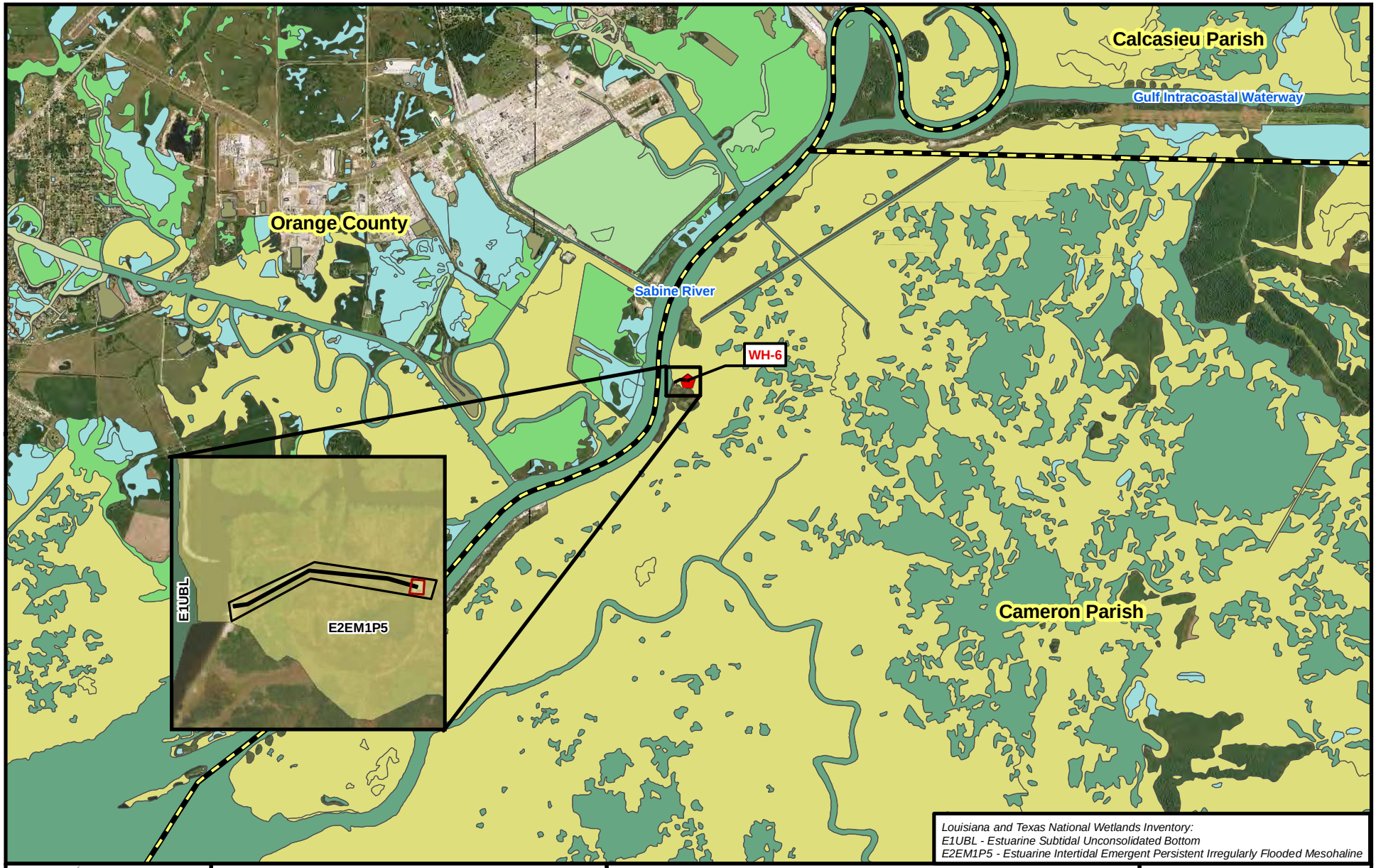
Legend:

- Valve Access Location
- Valve Station
- Wharf and Walkway
- Servitude
- Parish Boundary
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

N W E S

Feet
0 3,000 6,000

F:\KLE\VCI Valve Station\GIS Maps\Environmental Assessment\Figure 4_NWI Map.mxd



ELOS environmental
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Figure 4A: NWI Map

Access Improvements SPR-WH Valve Stations

Map prepared from public and proprietary spatial data. ELOS Environmental, LLC does not warrant its accuracy or completeness. This map should not be used to establish legal boundaries or specific locations.

Legend:

- Valve Access Location
- Valve Station
- Wharf and Walkway
- Servitude
- Parish Boundary
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

N W E S

0 3,000 6,000 Feet

F:\KLE\VCI Valve Station\GIS Maps\Environmental Assessment\Figure 4A_NWI Map.mxd

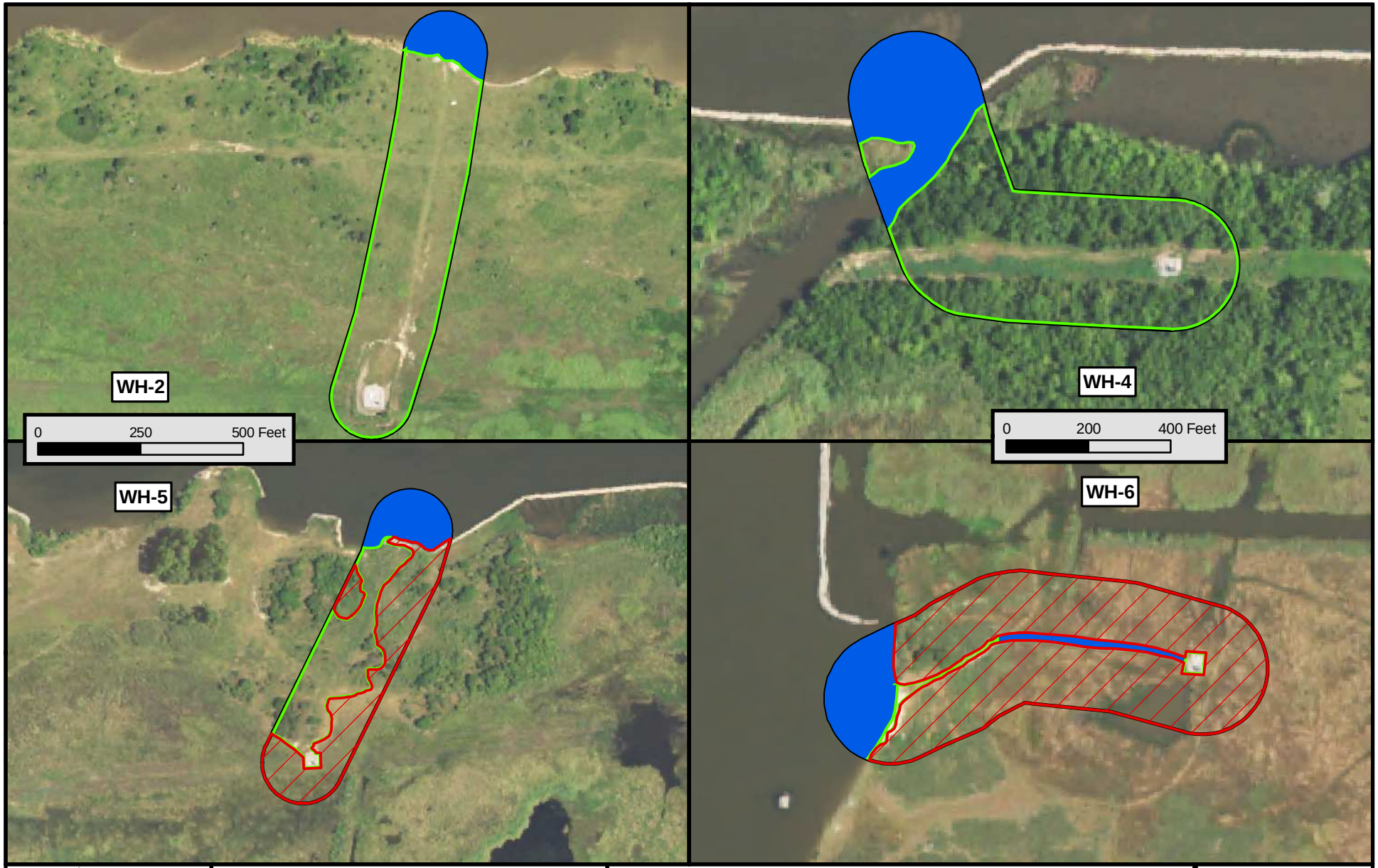

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Figure 5: Preliminary Wetland Assessment

Access Improvements SPR-WH Valve Stations

Map prepared from public and proprietary spatial data. ELOS Environmental, LLC does not warrant its accuracy or completeness. This map should not be used to establish legal boundaries or specific locations.

Legend:

- Site Outline
- Proposed Wetlands
- Proposed Other Waters
- Proposed Non-Wetlands

The wetland findings identified on this map are preliminary and not sufficient for submittal to the USACE for a Jurisdictional Determination.

N
W E
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F:\KLE\VCI Valve Station\GIS Maps\Environmental Assessment\Figure 5_Preliminary Wetland Assessment.mxd

APPENDIX B

Photos

Photo 1 – WH-2 landing site showing bulkhead, ladder, and davit crane.

Photo 2 – View of WH-4 spoil bank looking south into Vinton Drainage Canal and showing rip-rap barrier to access.

Photo 3 – WH-5 landing site with rip-rap stabilized bank.

Photo 4 – WH-6 shore landing site.

Photo 5 – View of WH-2 access corridor (existing ROW) looking north from valve station towards GIWW. Evidence of cattle is shown in the foreground.

Photo 6 – Potential wetlands in the distance, outside the WH-2 assessment area.

Photo 7 – WH-2 limestone footpath beneath overgrown vegetation.

Photo 8 – Existing footpath at WH-2 clearly marked by distressed vegetation.

Photo 9 – Access to WH-4 would cross spoil bank forest dominated by hackberry (Celtis laevigata).

Photo 10 – SPR pipeline ROW dominated by great ragweed (Ambrosia trifida L.) at WH-4.

Photo 11 – WH-5 access within existing Colonial Pipeline right of way.

Photo 12 – Upland habitat dominated by marsh elder (Iva annua) in WH-5 assessment area.

Photo 13 – Valve Station WH-5 surrounded by marsh habitat on east, west, and south sides.

Photo 14 – Inundation of existing footpath to Valve Station WH-6 with surrounding marsh vegetation.

Photo 15 – Bottom of footpath at WH-6. Approximately 0.7 acre of the footpath characterized as other waters due to hard bottom and lack of vegetation.

Photo 16 – Submerged aquatic vegetation sampled south of shell beach at WH-6.

APPENDIX C

Design Drawings

LEGEND:

PERPETUAL

INDICATES NEW LIMESTONE GRAVEL

1" = 50'-0" 50' 25' 0 50' 100'

REFERENCE DRAWINGS

SK-S-WH1144-001	TYPICAL DETAIL WH-2, 4 AND 5 VALVE ACCESS SKETCH

REGISTRATION STAMP

REVISION

NUMBER

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DRAWN BY:

CHECKED BY:

ENGINEER OF RECORD:

SIGNATURE:

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PLAN

VALVE STATION WH-2 ACCESS LOCATION

WEST HACKBERRY

CAMERON PARISH, LOUISIANA

OFFICE OF SYSTEMS AND PROJECTS

STRATEGIC PETROLEUM RESERVE

APPROVED FOR CONSTRUCTION

DATE

PROJECT AUTH. # FOR BM PROJECT

TASK NUMBER: WH-MM-1144

DISCIPLINE: CIVIL

SCALE: NONE

DRAWING NUMBER: SK-C-WH1144-001

SHEET 1 OF 1

REV. 0

LEGEND:

PERPETUAL

INDICATES NEW LIMESTONE GRAVEL

1" = 40'-0" 40' 20' 0 40' 80'

REFERENCE DRAWINGS

SK-S-WH1144-001 TYPICAL DETAIL WH-2, 4 AND 5 VALVE ACCESS SKETCH

REGISTRATION STAMP

REVISION

NUMBER

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DATE:

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PLAN

VALVE STATION WH-5 ACCESS LOCATION

WEST HACKBERRY

CAMERON PARISH, LOUISIANA

OFFICE OF SYSTEMS AND PROJECTS

STRATEGIC PETROLEUM RESERVE

APPROVED FOR CONSTRUCTION

DATE

PROJECT AUTH. # FOR BM PROJECT

TASK NUMBER: WH-MM-1144

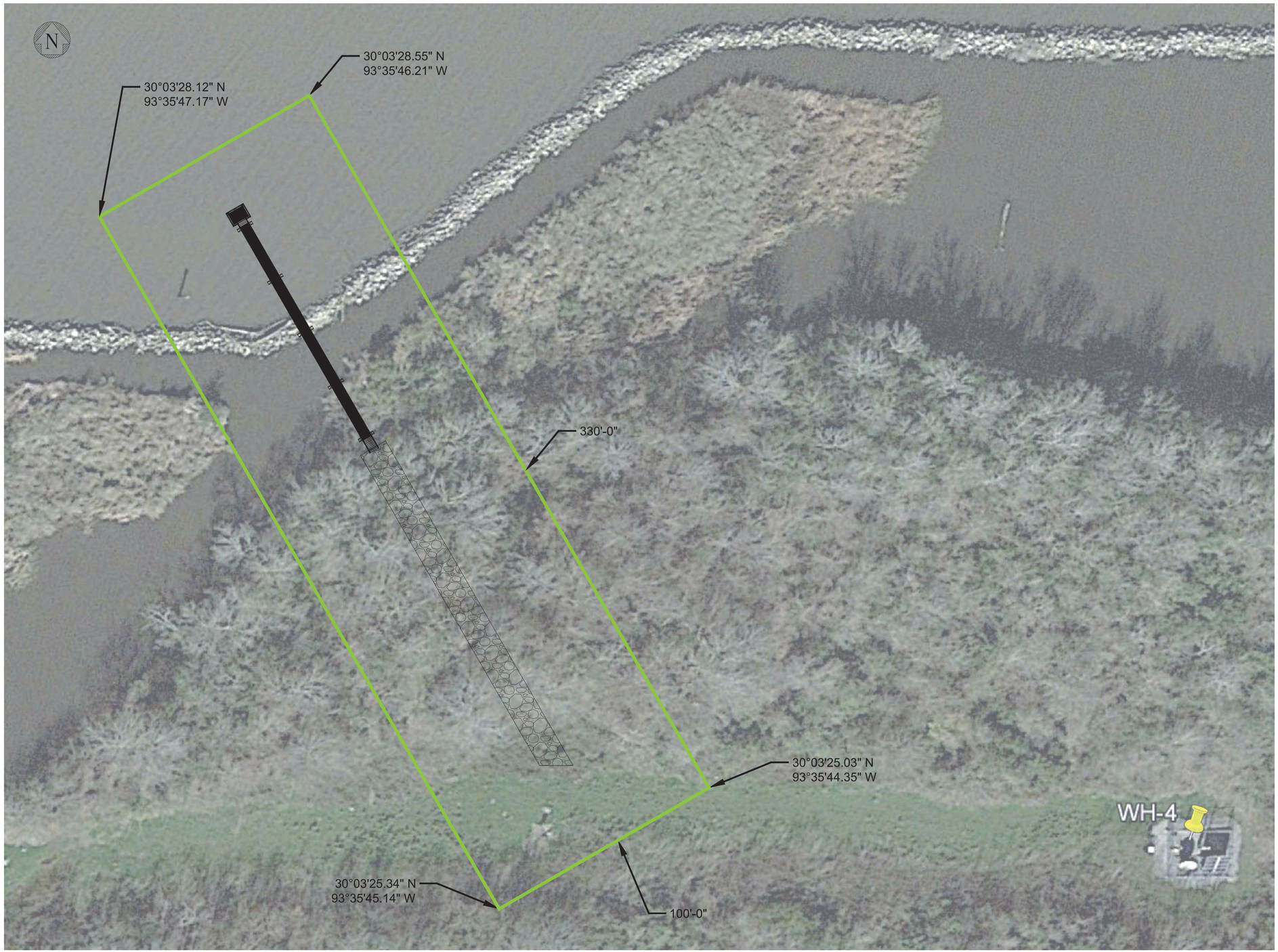
DISCIPLINE: CIVIL

SCALE: NONE

DRAWING NUMBER: SK-C-WH1144-003

SHEET 1 OF 1

REV. 0



LEGEND:

PERPETUAL

INDICATES NEW LIMESTONE GRAVEL

1" = 20'-0"

20' 10' 0 20' 40'

REFERENCE DRAWINGS

SK-S-WH1144-001	TYPICAL DETAIL WH-2, 4 AND 5 VALVE ACCESS SKETCH

REGISTRATION STAMP

REVISION

NUMBER

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SIGNATURE:

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NO.	CHANGE DESCRIPTION	DRAWN BY	CHECKED BY	PROJECT ENGINEER	ENGINEERING MANAGER	D.O.E. APPROVAL	DATE

PLAN

VALVE STATION WH-4 ACCESS LOCATION

WEST HACKBERRY

CAMERON PARISH, LOUISIANA

OFFICE OF SYSTEMS AND PROJECTS

STRATEGIC PETROLEUM RESERVE

APPROVED FOR CONSTRUCTION

DATE

PROJECT AUTH. # FOR BM PROJECT

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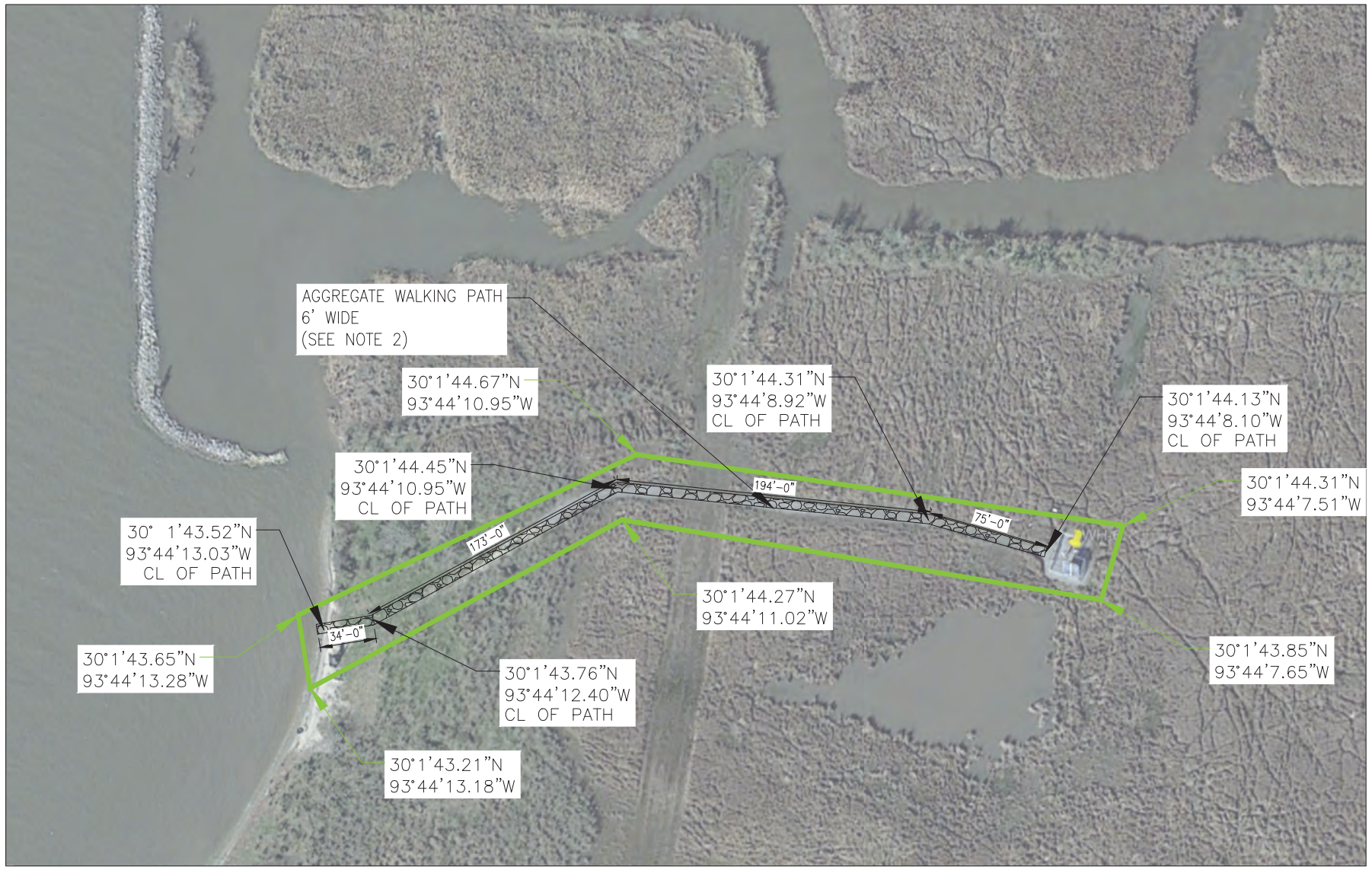
DISCIPLINE: CIVIL

SCALE: NONE

DRAWING NUMBER: SK-C-WH1144-002

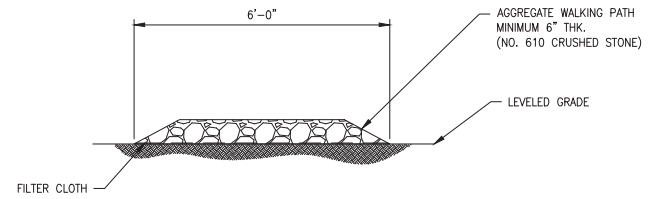
SHEET 1 OF 1

REV: 0



WH-6 ACCESS

SCALE: 1"=40'-0"



AGGREGATE WALKING PATH DETAIL

SCALE: 1/2"=1'-0"

STATE OF LOUISIANA
JOSHUA D. SCOTT
License No. 35570
PROFESSIONAL ENGINEER

VCI Project Management Construction Management Engineering

CHANGE NOTICE

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03191803	WH-MM-1144	

Drawing #	Rev. #	CN #
WH-C-201-224	0	100

Sheet 1 OF 1

CN 100 ISSUE INCLUDES ALL DETAILS ON THIS DOCUMENT

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1" = 40'-0" 40' 20' 0 40' 80'

REGISTRATION STAMP

REVISION _____
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SIGNATURE:
DATE:

NOTES:
1. CONTRACTOR TO VERIFY ALL DIMENSIONS AND LOCATIONS BEFORE FABRICATION AND CONSTRUCTION.
2. AREA TO BE CLEARED AND GRADED LEVEL FOR WALKING PATH, EXISTING LIMESTONE NOT TO BE DISTURBED/REMOVED.

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PLOT PLANS

VALVE STATION WH-6 ACCESS LOCATION

WEST HACKBERRY
CAMERON PARISH, LOUISIANA

OFFICE OF SYSTEMS AND PROJECTS

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TASK NUMBER: WH-MM-1144
DISCIPLINE: CIVIL
SCALE: AS NOTED
DRAWING NUMBER: WH-C-201-224
SHEET C4 OF 19
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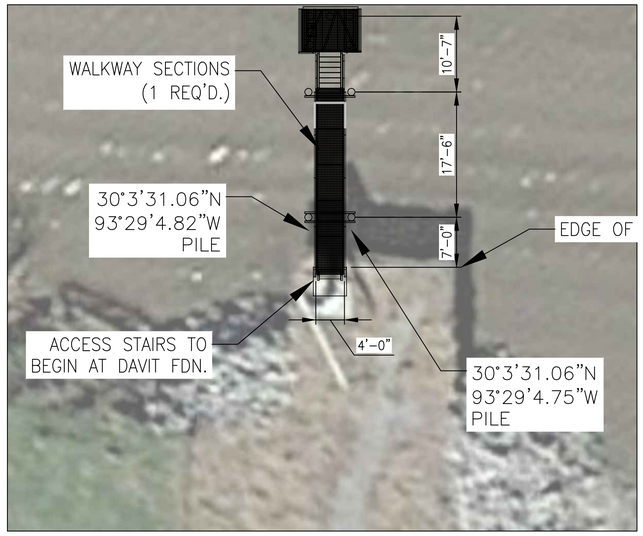

WH-2 ACCESS

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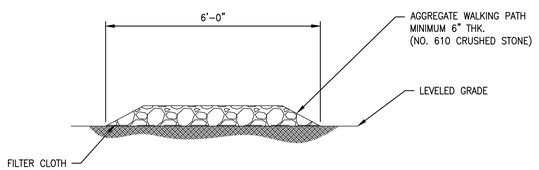

AGGREGATE WALKING PATH DETAIL

SCALE: 1/2"=1'-0"

WH-2 ACCESS

SCALE: 1"=50'-0"

STATE OF LOUISIANA
ZACHARY P. BERGERON
License No. 37624
PROFESSIONAL ENGINEER

VCI Project Management
Construction Management
Engineering

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03191803	WH-MM-1144	

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WH-C-201-221	0	100

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1" = 50'-0" 50' 25' 0 50' 100'

1" = 10'-0" 10' 5' 0 10' 20'

REFERENCE DRAWINGS

WH-C-221-828	PLATFORMS, LADDERS, STAIRS, HANDRAILS & GRATING VALVE STATION WH-2 ACCESS LOCATION
WH-C-202-260	SITE WORK 42" CRUDE OIL PIPING VALVE STATION WH-2

REGISTRATION STAMP

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NOTES:
1. CONTRACTOR TO VERIFY ALL DIMENSIONS AND LOCATIONS BEFORE FABRICATION AND CONSTRUCTION.
2. AREA TO BE CLEARED AND GRADED LEVEL FOR WALKING PATH, EXISTING LIMESTONE NOT TO BE DISTURBED/REMOVED.
3. ELEVATIONS SHOWN HEREON ARE BASE ON MEAN SEA LEVEL, NAVD88 ON SURVEY PERFORMED BY COLLINS LAND SURVEYORS.

NO.	CHANGE DESCRIPTION	DRAWN BY	CHECKED BY	PROJECT ENGINEER	ENGINEERING MANAGER	D.O.E. APPROVAL	DATE

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PLOT PLANS

VALVE STATION WH-2 ACCESS LOCATION

WEST HACKBERRY
CAMERON PARISH, LOUISIANA

OFFICE OF SYSTEMS AND PROJECTS
STRATEGIC PETROLEUM RESERVE

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DATE _____

TASK NUMBER: WH-MM-1144
DISCIPLINE: CIVIL
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WH-4 ACCESS

SCALE: 1"=20'-0"

ZACHARY P. BERGERON
License No. 37624
STATE OF LOUISIANA
PROFESSIONAL ENGINEER

VCI Project Management Construction Management Engineering

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1" = 20'-0"

20' 10' 0 20' 40'

REFERENCE DRAWINGS

WH-C-221-829	PLATFORMS, LADDERS, STAIRS, HANDRAILS & GRATING TYPICAL PLAN & ELEVATION VALVE STATIONS WH-4 & WH-5 ACCESS
WH-C-202-262	SITE WORK 42" CRUDE OIL PIPING VALVE STATION WH-4 & WH-5

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2. AREA TO BE CLEARED AND GRADED LEVEL FOR WALKING PATH, EXISTING LIMESTONE NOT TO BE DISTURBED/REMOVED.
3. SEE DRAWING WH-C-201-221 FOR AGGREGATE WALKING PATH DETAIL.
4. ELEVATIONS SHOWN HEREON ARE BASE ON MEAN SEA LEVEL, NAVD88 ON SURVEY PERFORMED BY COLLINS LAND SURVEYORS.

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PLOT PLANS

VALVE STATION WH-4 ACCESS LOCATION

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CAMERON PARISH, LOUISIANA

OFFICE OF SYSTEMS AND PROJECTS

DEPARTMENT OF ENERGY · UNITED STATES OF AMERICA

STRATEGIC PETROLEUM RESERVE

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TASK NUMBER: WH-MM-1144
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SCALE: AS NOTED
DRAWING NUMBER: WH-C-201-222
SHEET C2 OF 19
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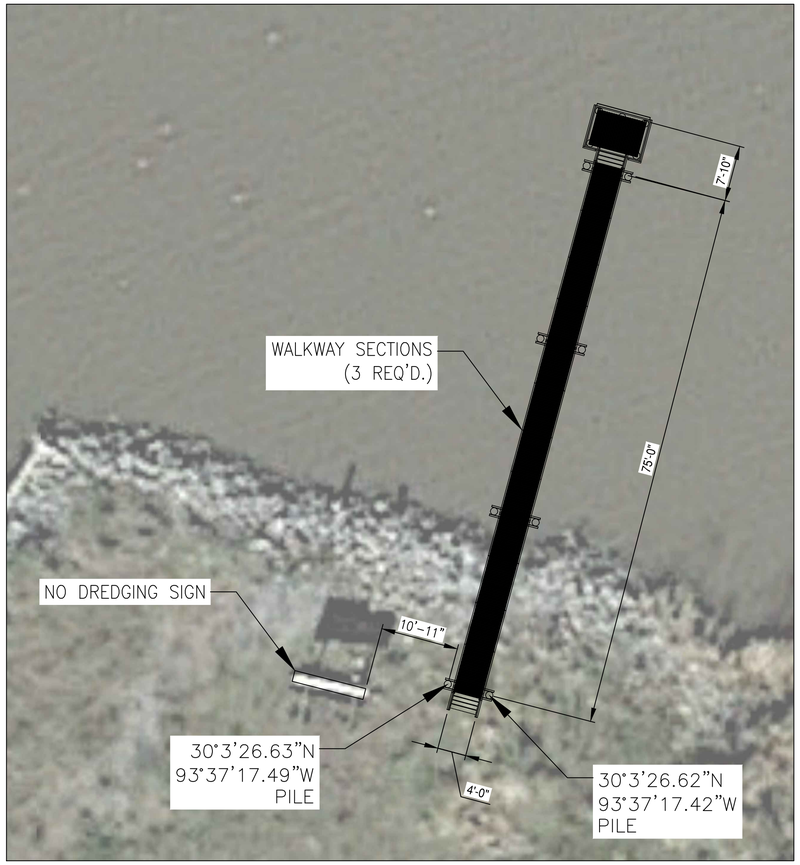

WH-5 ACCESS

SCALE: 1"=10'-0"

WH-5 ACCESS

SCALE: 1"=40'-0"

STATE OF LOUISIANA
ZACHARY P. BERGERON
License No. 37624
PROFESSIONAL ENGINEER

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VCI Project Management Construction Management Engineering

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1" = 40'-0" 40' 20' 0 40' 80'

1" = 10'-0" 10' 5' 0 10' 20'

REFERENCE DRAWINGS

WH-C-221-829	PLATFORMS, LADDERS, STAIRS, HANDRAILS & GRATING TYPICAL PLAN & ELEVATION VALVE STATIONS WH-4 & WH-5 ACCESS
WH-C-202-262	SITE WORK 42" CRUDE OIL PIPING VALVE STATION WH-4 & WH-5

REGISTRATION STAMP

REVISION _____
NUMBER _____

DESIGNED BY:
DRAWN BY:
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ENGINEER OF RECORD:
SIGNATURE:
DATE:

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3. SEE DRAWING WH-C-201-221 FOR AGGREGATE WALKING PATH DETAIL.
4. ELEVATIONS SHOWN HEREON ARE BASE ON MEAN SEA LEVEL, NAVD88 ON SURVEY PERFORMED BY COLLINS LAND SURVEYORS.

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PLOT PLANS

VALVE STATION WH-5 ACCESS LOCATION

WEST HACKBERRY
CAMERON PARISH, LOUISIANA

OFFICE OF SYSTEMS AND PROJECTS
DEPARTMENT OF ENERGY · UNITED STATES OF AMERICA ·
STRATEGIC PETROLEUM RESERVE

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DATE _____

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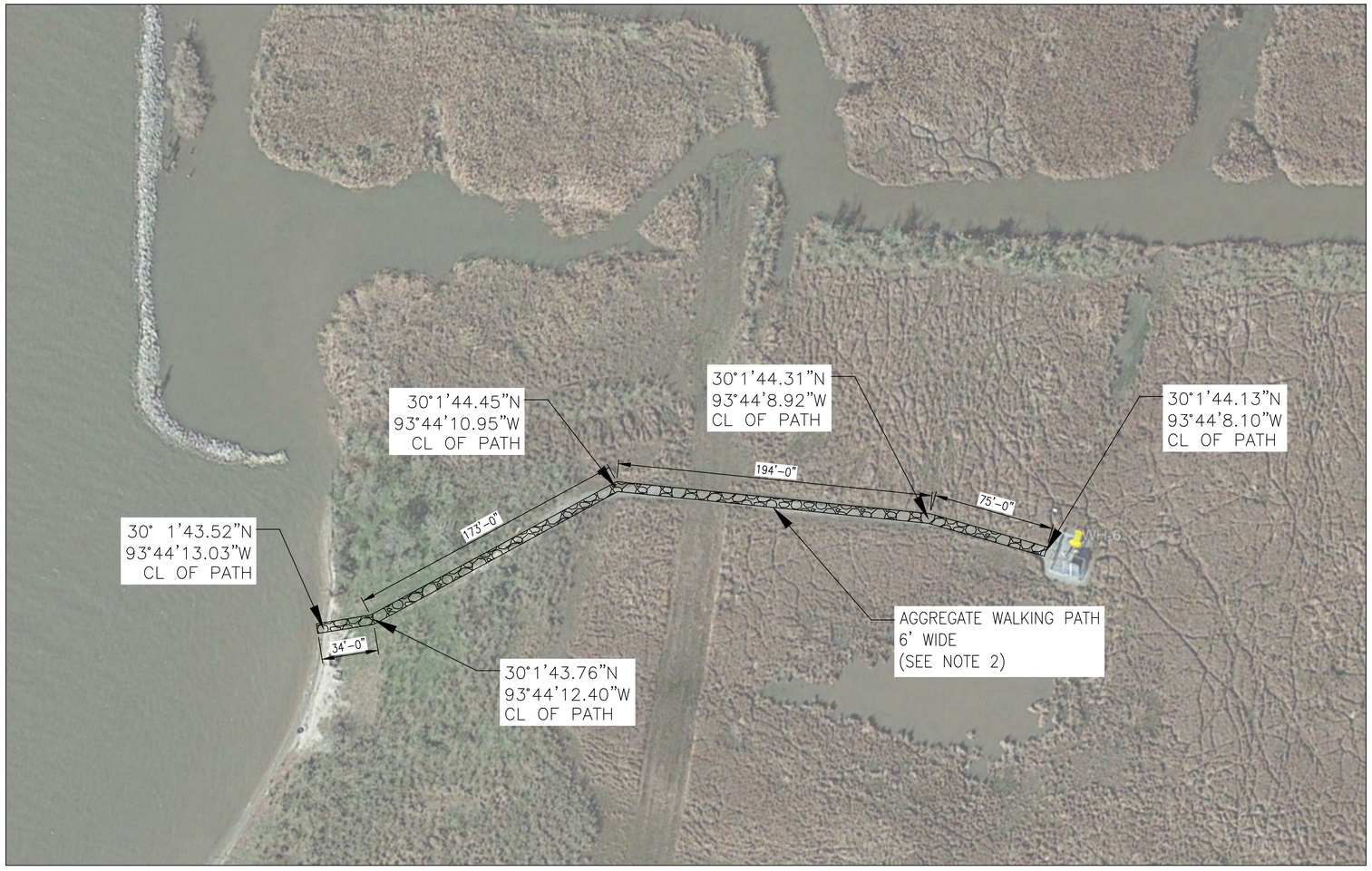
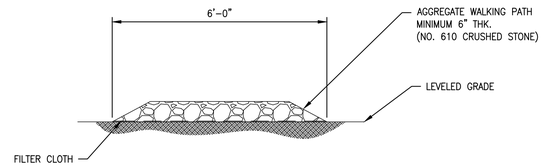
DISCIPLINE: CIVIL
SCALE: AS NOTED
DRAWING NUMBER: WH-C-201-223
SHEET C3 OF 19
REV. 0



WH-6 ACCESS

SCALE: 1"=40'-0"



AGGREGATE WALKING PATH DETAIL

SCALE: 1/2"=1'-0"

STATE OF LOUISIANA
JOSHUA D. SCOTT
License No. 35570
PROFESSIONAL ENGINEER

VCI Project Management Construction Management Engineering

CHANGE NOTICE

DRAWN BY	CHECKED BY	APPROVED BY	TDC/ERU
CJJ	GBT	ZPB	

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CN REVISION NO 100
BY_____ DATE_____

Project Auth. #	Task #	RFI #
03191803	WH-MM-1144	

Drawing #	Rev. #	CN #
WH-C-201-224	0	100

Sheet 1 OF 1

CN 100 ISSUE INCLUDES ALL DETAILS ON THIS DOCUMENT

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FOR TASK NO. WH-MM-1144 ONLY

1" = 40'-0" 40' 20' 0 40' 80'

REGISTRATION STAMP

REVISION _____
NUMBER _____

DESIGNED BY:
DRAWN BY:
CHECKED BY:
ENGINEER OF RECORD:
SIGNATURE:
DATE:

NOTES:
1. CONTRACTOR TO VERIFY ALL DIMENSIONS AND LOCATIONS BEFORE FABRICATION AND CONSTRUCTION.
2. AREA TO BE CLEARED AND GRADED LEVEL FOR WALKING PATH, EXISTING LIMESTONE NOT TO BE DISTURBED/REMOVED.

NO.	CHANGE DESCRIPTION	DRAWN BY	CHECKED BY	PROJECT ENGINEER	ENGINEERING MANAGER	D.O.E. APPROVAL	DATE

NO.	CHANGE DESCRIPTION	DRAWN BY	CHECKED BY	PROJECT ENGINEER	ENGINEERING MANAGER	D.O.E. APPROVAL	DATE

PLOT PLANS

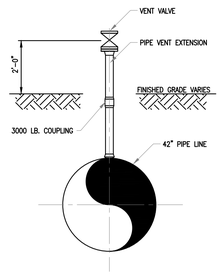
VALVE STATION WH-6 ACCESS LOCATION

WEST HACKBERRY
CAMERON PARISH, LOUISIANA

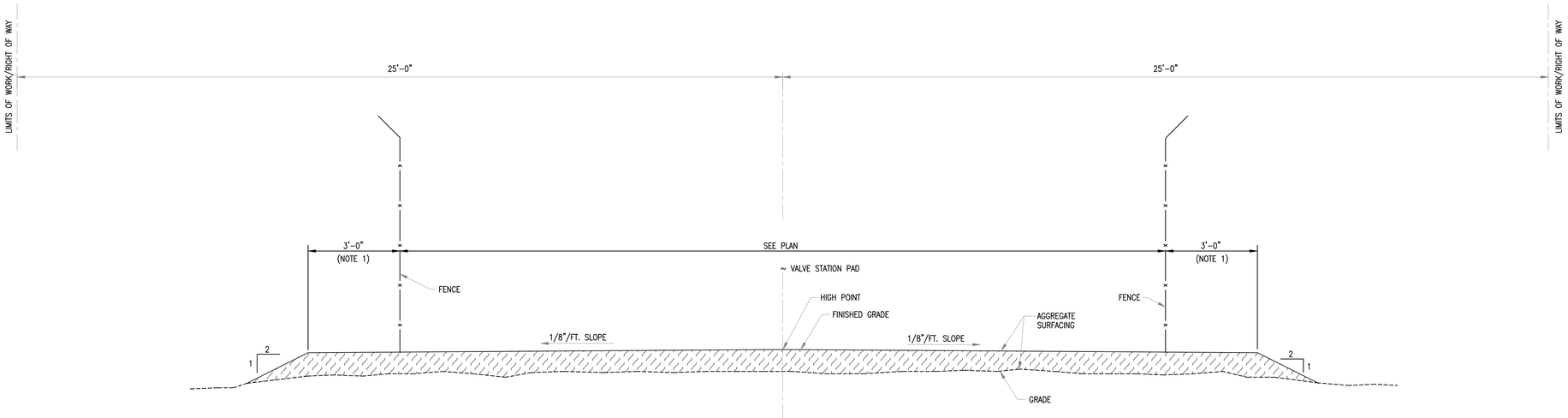
OFFICE OF SYSTEMS AND PROJECTS
UNITED STATES OF AMERICA DEPARTMENT OF ENERGY
STRATEGIC PETROLEUM RESERVE

APPROVED FOR CONSTRUCTION _____
DATE _____

TASK NUMBER: WH-MM-1144
DISCIPLINE: CIVIL
SCALE: AS NOTED
DRAWING NUMBER: WH-C-201-224
SHEET C4 OF 19
REV. 0



PIPE VENT VALVE DETAIL
SEE DWG. WH-C-202-260 THRU WH-C-202-265 & WH-C-202-337
TWO REQUIRED AT EACH STATION



TYPICAL VALVE STATION PAD SECTION

SECTION A

WH-C-202-260
WH-C-202-261
WH-C-202-262
WH-C-202-263
WH-C-202-264
WH-C-202-265

WH-C-202-337

VCI Project Management Construction Management Engineering

ISSUED FOR REFERENCE IN TASK NO. WH-MM-1144 ONLY

DRAWING PULLED FROM TASK NO. WH-MM-659, NOT FROM SPR TECHNICAL BASELINE

REFERENCE DRAWINGS

WH-C-202-261	SITE WORK 42" CRUDE OIL PIPELINE VALVE STATION WH-3
WH-C-202-262	SITE WORK 42" CRUDE OIL PIPELINE VALVE STATION WH-4 & WH-5
WH-C-202-263	SITE WORK 42" CRUDE OIL PIPELINE VALVE STATION WH-6 & WH-7
WH-C-202-264	SITE WORK 42" CRUDE OIL PIPELINE VALVE STATION WH-8 & WH-9
WH-C-202-265	SITE WORK 42" CRUDE OIL PIPELINE VALVE STATION WH-10 & WH-11
WH-C-202-337	SITE WORK 42" CRUDE OIL PIPELINE VALVE STATION WH-2
WH-C-210-199	FOUNDATION LOCATION PLANS 42" CRUDE OIL PIPELINE VALVE STATION WH-2 THRU 11
WH-C-215-051	TYPICAL PERIMETER FENCE SECTIONS AND DETAILS

REGISTRATION STAMP

REVISION ____
NUMBER ____

DESIGNED BY:
DRAWN BY:
CHECKED BY:
ENGINEER OF RECORD:
SIGNATURE:
DATE:

NOTES:

1. VALVE STATION WH-2 IS 1'-0" TYPICAL AROUND PAD.
2. CONTRACTOR TO FIELD VERIFY FINAL LOCATION OF SOLAR SWITCHGEAR AND VSAT DISH FOUNDATION.
3. CONTRACTOR TO FIELD VERIFY DIRECTION OF SITE EXPANSION.

NO.	CHANGE DESCRIPTION	DRAWN BY	CHECKED BY	PROJECT ENGINEER	ENGINEERING MANAGER	D.O.E. APPROVAL	DATE
1	AB PER 999-DOC, CN 101	JD	JTF				7/1/09
0	AB PER TASK WH-MM-316 W/PAN 30987, ECN 100	JD	JTF				9/12/01

SECTION AND DETAIL

42" CRUDE OIL PIPELINE
VALVE STATION PAD

WEST HACKBERRY
CAMERON PARISH, LOUISIANA

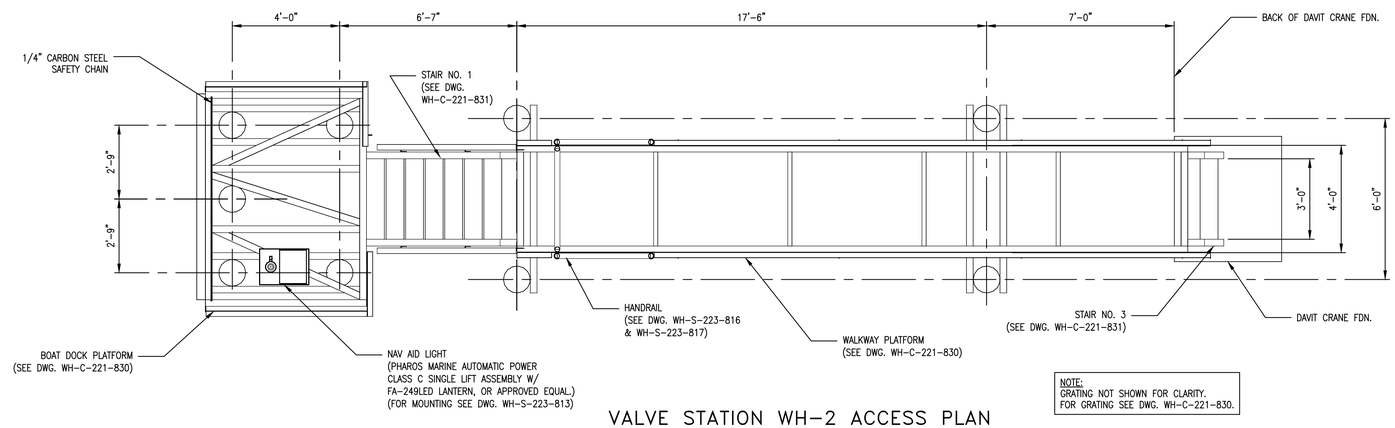
OFFICE OF SYSTEMS AND PROJECTS

STRATEGIC PETROLEUM RESERVE

APPROVED FOR CONSTRUCTION ____
DATE ____

TASK NUMBER: WH-MM-1144
DISCIPLINE: CIVIL/STRUCTURAL
SCALE: NONE
DRAWING NUMBER: WH-C-202-266

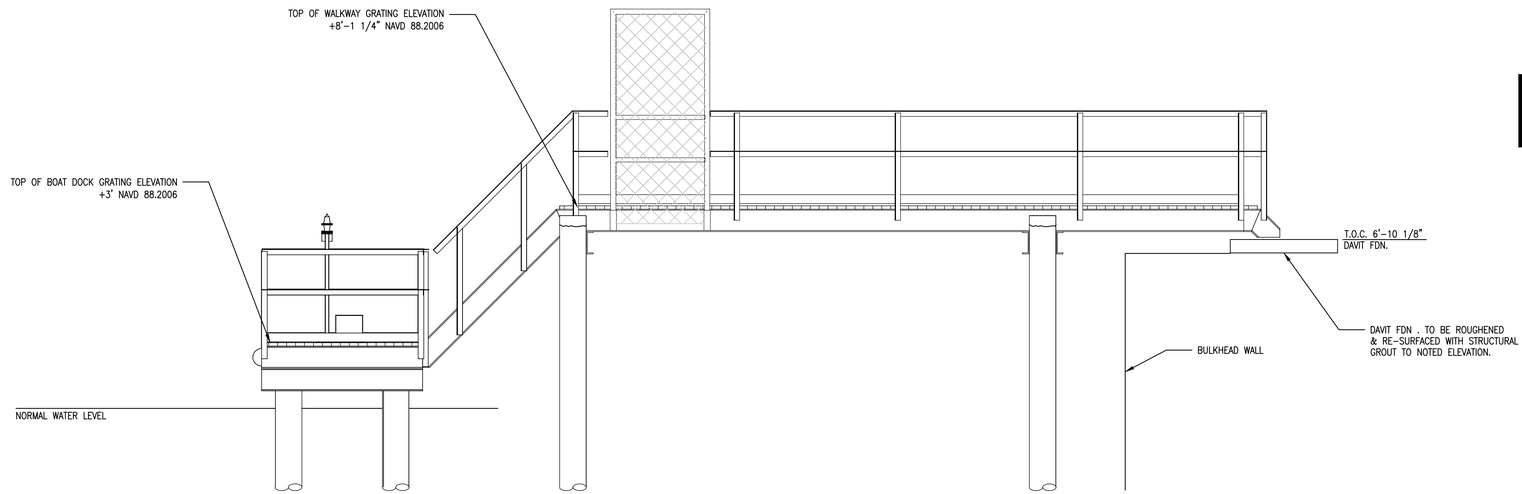
SHEET C10 OF 19
REV. 1



NOTE:
GRATING NOT SHOWN FOR CLARITY.
FOR GRATING SEE DWG. WH-C-221-830.

VALVE STATION WH-2 ACCESS PLAN

SCALE: 3/8"=1'-0"



VALVE STATION WH-2 ACCESS ELEVATION

SCALE: 3/8"=1'-0"

STATE OF LOUISIANA
ZACHARY P. BERGERON
License No. 37624
PROFESSIONAL ENGINEER

VCI Project Management Construction Management Engineering

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BY_____ DATE_____

Project Auth. #	Task #	RFI #
03191803	WH-MM-1144	

Drawing #	Rev. #	CN #
WH-C-221-828	0	100

Sheet 1 OF 1

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12"6"0 1' 2' 3' 4' 5' 6' 7'
3/8"= 1'-0"

REFERENCE DRAWINGS

WH-C-221-830	PLATFORMS, LADDERS, STAIRS, HANDRAIL & GRATING FRAMING PLANS WALKWAY AND BOAT DOCK VALVE STATIONS WH-2, WH-4 & WH-5 ACCESS
WH-C-221-831	PLATFORMS, LADDERS, STAIRS, HANDRAIL & GRATING STAIR ELEVATIONS & TREAD DETAILS
WH-S-223-813	DETAILS, SECTIONS (STRUCTURAL) FOUNDATION, WELDING & CONNECTION DETAILS VALVE STATIONS WH-2, WH-4 & WH-5 ACCESS
WH-S-223-816	DETAILS, SECTIONS (STRUCTURAL) HANDRAIL DETAILS
WH-S-223-817	DETAILS, SECTIONS (STRUCTURAL) HANDRAIL DETAILS

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NUMBER

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DRAWN BY:
CHECKED BY:
ENGINEER OF RECORD:
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DATE:

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PLATFORMS, LADDERS, STAIRS, HANDRAILS & GRATING

PLAN & ELEVATION
VALVE STATION WH-2 ACCESS

WEST HACKBERRY
CAMERON PARISH, LOUISIANA

OFFICE OF SYSTEMS AND PROJECTS
DEPARTMENT OF ENERGY · UNITED STATES OF AMERICA
STRATEGIC PETROLEUM RESERVE

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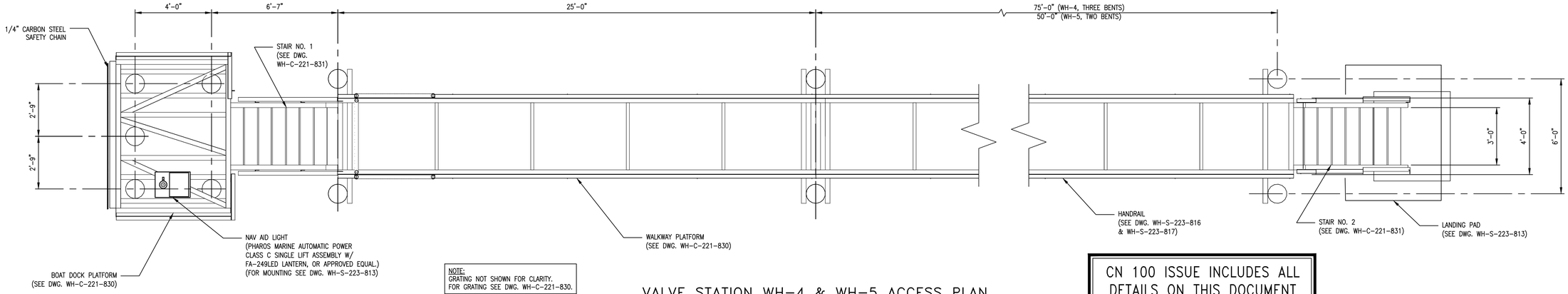
DATE

TASK NUMBER: WH-MM-1144
DISCIPLINE: STRUCTURAL
SCALE: AS NOTED
DRAWING NUMBER: WH-C-221-828
SHEET C11 OF 19
REV. 0



NOTE:
GRATING NOT SHOWN FOR CLARITY.
FOR GRATING SEE DWG. WH-C-221-830.

VALVE STATION WH-4 & WH-5 ACCESS PLAN

SCALE: 3/8"=1'-0"

CN 100 ISSUE INCLUDES ALL DETAILS ON THIS DOCUMENT

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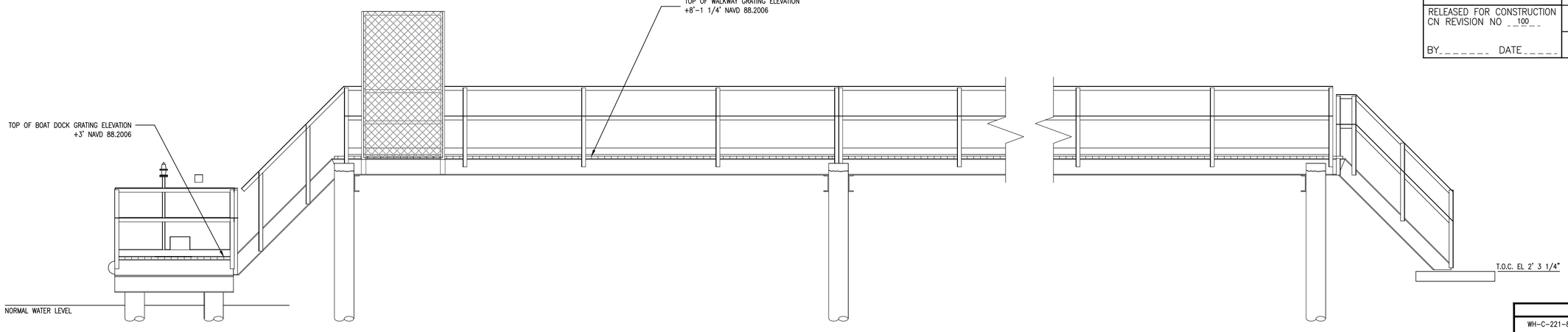

VALVE STATION WH-4 & WH-5 ACCESS ELEVATION

SCALE: 3/8"=1'-0"

12"6"0 1' 2' 3' 4' 5' 6' 7'
3/8"= 1'-0"

REFERENCE DRAWINGS

WH-C-221-830	PLATFORMS, LADDERS, STAIRS, HANDRAIL & GRATING FRAMING PLANS WALKWAY AND BOAT DOCK VALVE STATIONS WH-2, WH-4 & WH-5 ACCESS
WH-C-221-831	PLATFORMS, LADDERS, STAIRS, HANDRAIL & GRATING STAIR ELEVATIONS & TREAD DETAILS
WH-S-223-813	DETAILS, SECTIONS (STRUCTURAL) FOUNDATION, WELDING & CONNECTION DETAILS VALVE STATIONS WH-2, WH-4 & WH-5 ACCESS
WH-S-223-816	DETAILS, SECTIONS (STRUCTURAL) HANDRAIL DETAILS
WH-S-223-817	DETAILS, SECTIONS (STRUCTURAL) HANDRAIL DETAILS

STATE OF LOUISIANA
ZACHARY P. BERGERON
License No. 37624
PROFESSIONAL ENGINEER

VCI Project Management Construction Management Engineering

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CN REVISION NO 100
BY_____ DATE_____

Project Auth. #	Task #	RFI #
03191803	WH-MM-1144	

Drawing #	Rev. #	CN #
WH-C-221-829	0	100

Sheet 1 OF 1

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PLATFORMS, LADDERS, STAIRS, HANDRAILS & GRATING

TYPICAL PLAN & ELEVATION
VALVE STATIONS WH-4, AND WH-5 ACCESS

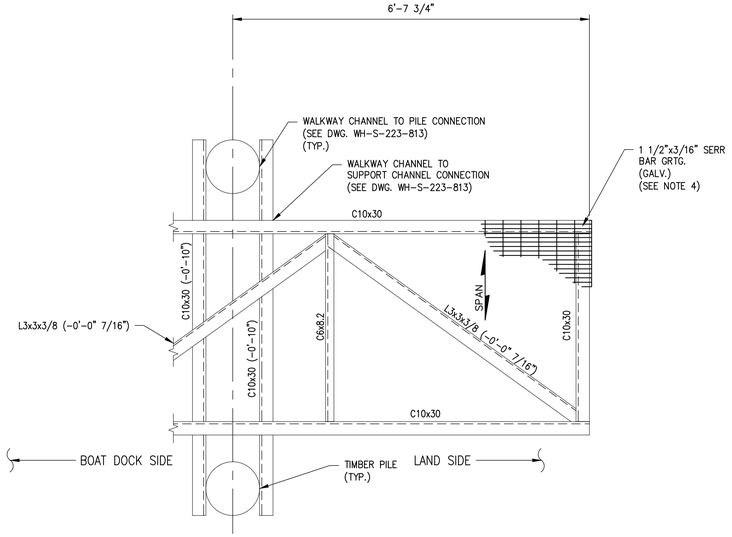
WEST HACKBERRY
CAMERON PARISH, LOUISIANA

OFFICE OF SYSTEMS AND PROJECTS
DEPARTMENT OF ENERGY
UNITED STATES OF AMERICA
STRATEGIC PETROLEUM RESERVE

APPROVED FOR CONSTRUCTION _____
DATE _____

TASK NUMBER: WH-MM-1144
DISCIPLINE: STRUCTURAL
SCALE: AS NOTED
DRAWING NUMBER: WH-C-221-829

SHEET C12 OF 19 REV. 0

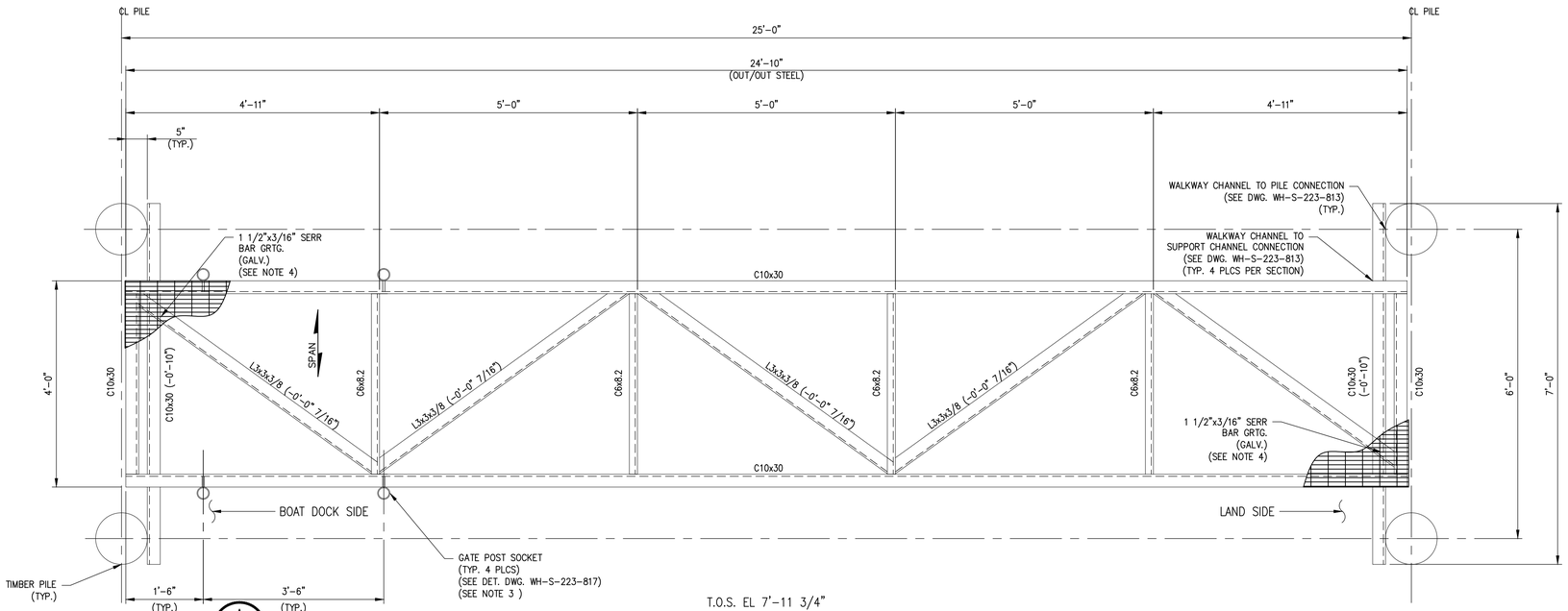


T.O.S. EL 7'-11 3/4"

WH-2 WALKWAY FRAMING PLAN

LAND SIDE ONLY

SCALE: 3/4"=1'-0"



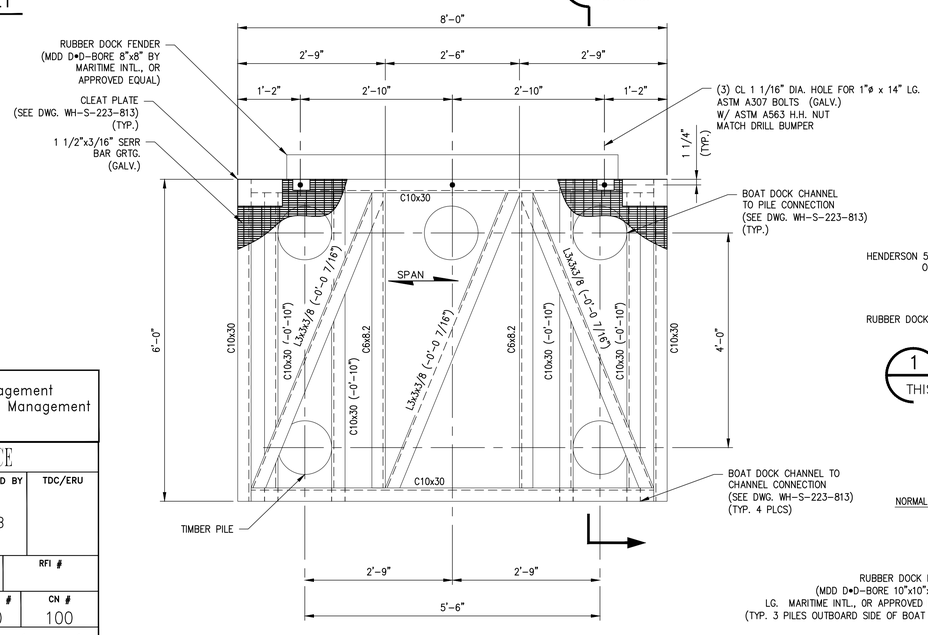
T.O.S. EL 7'-11 3/4"

TYPICAL WALKWAY FRAMING PLAN

SCALE: 3/4"=1'-0"

APPROVED FOR CONSTRUCTION
FOR TASK NO. WH-MM-1144 ONLY

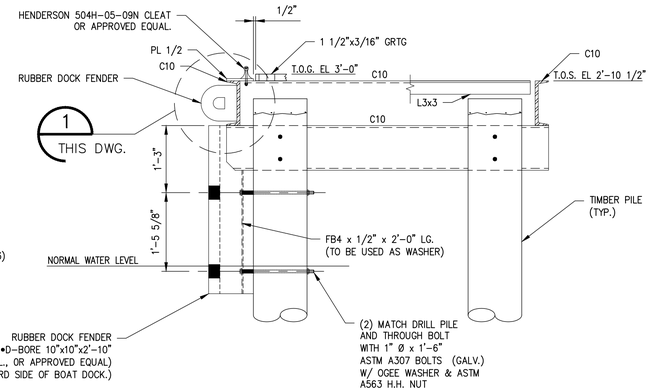
CN 100 ISSUE INCLUDES ALL DETAILS ON THIS DOCUMENT

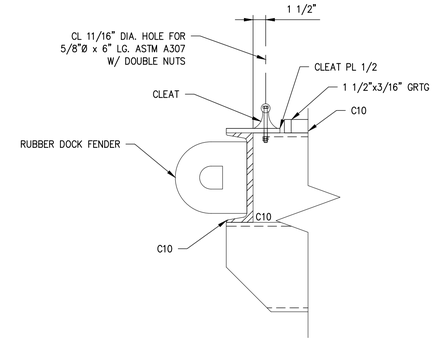


T.O.S. EL 2'-10 1/2"

BOAT DOCK FRAMING PLAN

SCALE: 3/4"=1'-0"





DETAIL 1 THIS DWG.

SCALE: 1 1/2"=1'-0"

12" 6" 0 1' 2' 3'

3/4"= 1'-0"

SECTION A THIS DWG.

SCALE: 3/4"=1'-0"

STATE OF LOUISIANA
ZACHARY P. BERGERON
License No. 37624
PROFESSIONAL ENGINEER

VCI Project Management Construction Management Engineering

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Project Auth. #	Task #	RFI #
03191803	WH-MM-1144	

Drawing #	Rev. #	CN #
WH-C-221-830	0	100

Sheet 1 OF 1

REFERENCE DRAWINGS

WH-S-223-813	SECTIONS AND DETAILS WELDING AND CONNECTION DETAILS

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REVISION _____
NUMBER _____

DESIGNED BY:
DRAWN BY:
CHECKED BY:
ENGINEER OF RECORD:
SIGNATURE:
DATE:

NOTES:
1. ALL STRUCTURAL STEEL SHALL BE HOT DIP GALVANIZED PER ASTM A123 AND PROJECT SPECIFICATIONS.
2. ALL SHARP CORNERS TO BE ROUNDED PRIOR TO GALVANIZING.
3. GATE POST SOCKETS ONLY NEED ON PLATFORM SECTION CLOSEST TO BOAT DOCK.
4. GRATING TO EXTEND 1/2" PAST PLATFORM FRAME LENGTH-WISE.

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NO.	CHANGE DESCRIPTION	DRAWN BY	CHECKED BY	PROJECT ENGINEER	ENGINEERING MANAGER	D.O.E. APPROVAL	DATE

PLATFORMS, LADDERS, STAIRS, HANDRAILS & GRATING

FRAMING PLANS
WALKWAY AND BOAT DOCK
VALVE STATIONS WH-2, WH-4 & WH-5 ACCESS

WEST HACKBERRY
CAMERON PARISH, LOUISIANA

OFFICE OF SYSTEMS AND PROJECTS

DEPARTMENT OF ENERGY · UNITED STATES OF AMERICA

STRATEGIC PETROLEUM RESERVE

APPROVED FOR CONSTRUCTION _____
DATE _____

TASK NUMBER: WH-MM-1144
DISCIPLINE: STRUCTURAL
SCALE: AS NOTED
DRAWING NUMBER: WH-C-221-830
SHEET C13 OF 19
REV. 0

APPENDIX D

FEMA Floodmaps

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations (BFEs) shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Louisiana South State Plane Coordinate System FIPS 1702. The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services, NOAA, N/NGS12
National Geodetic Survey SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was provided in digital format by Calcasieu Parish, Louisiana.

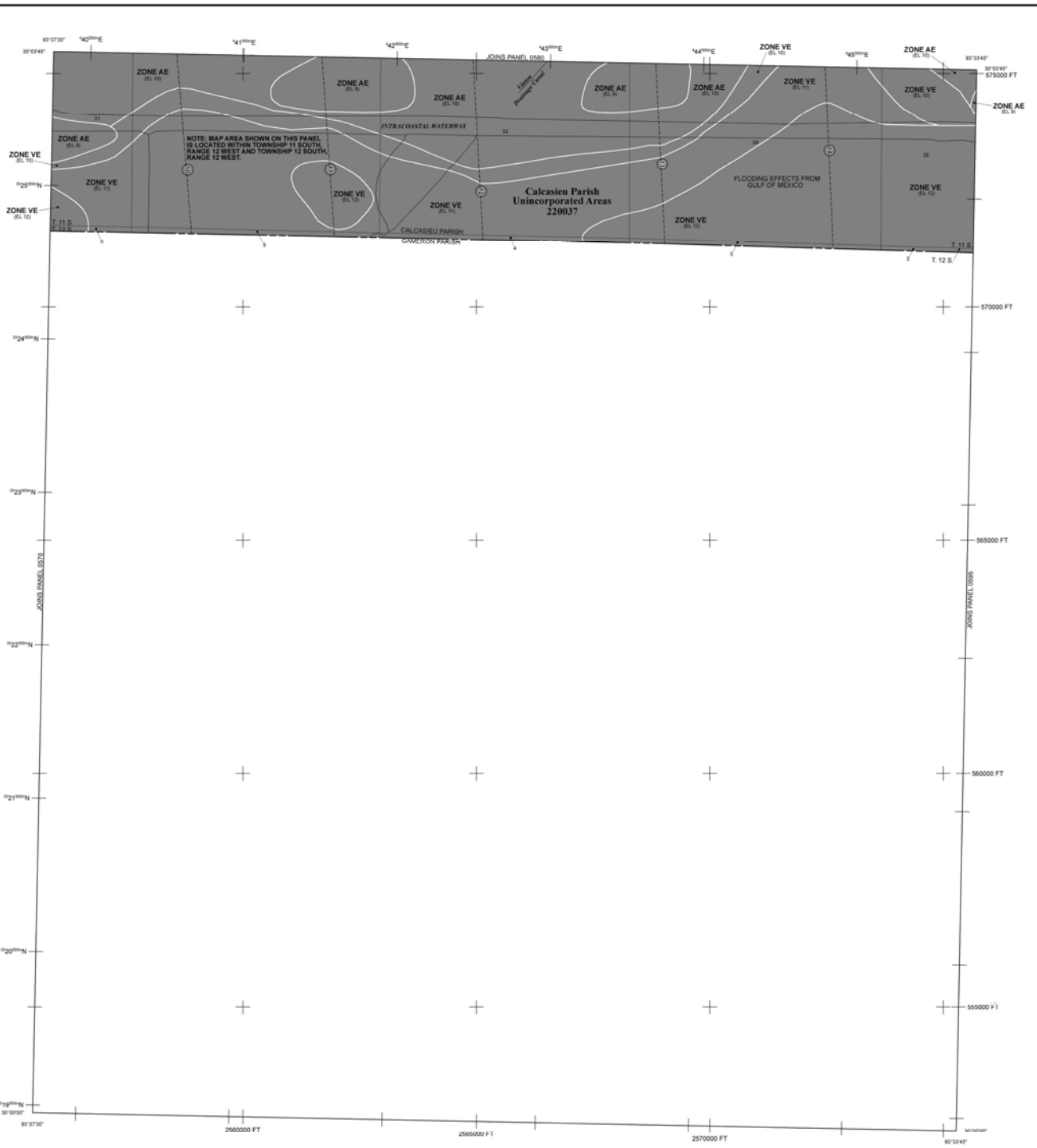
This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://www.msc.fema.gov/.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at www.fema.gov.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

Floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities

513 (EL 987) Base Flood Elevation line and value; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

A — A Cross section line

23 — 23 Transect line

97°07'30", 32°22'30" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

4775000 mE 6000000 FT DX5510 1000-meter Universal Transverse Mercator grid ticks, zone 15

5000-foot grid values: Louisiana State Plane coordinate system, South Zone (FIPSZONE = 1702), Lambert projection

M1.5 Bench mark (see explanation in Notes to Users section of this FIRM panel)

River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
February 18, 2011

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'

500 0 500 1,000 1,500 2,000 FEET

300 0 300 600 METERS

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0590F

FIRM

FLOOD INSURANCE RATE MAP

CALCASIEU PARISH, LOUISIANA

AND INCORPORATED AREAS

PANEL 590 OF 715

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CALCASIEU PARISH	220037	0590	F

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
22019C0590F

EFFECTIVE DATE
FEBRUARY 18, 2011

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations (BFEs) shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Louisiana South State Plane Coordinate System FIPS 1702. The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services, NOAA, N/NGS12
National Geodetic Survey SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was provided in digital format by Calcasieu Parish, Louisiana.

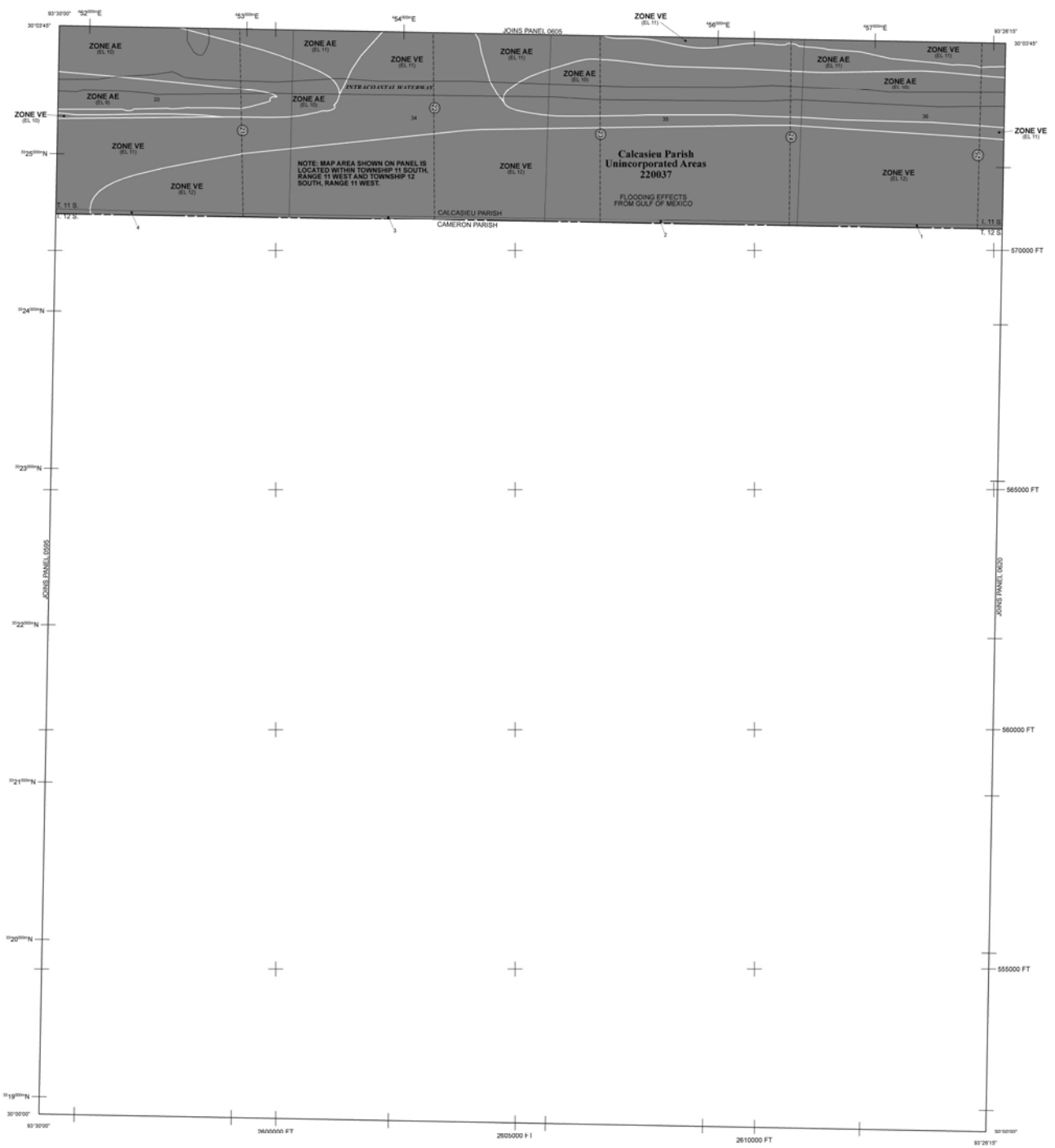
This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://www.msc.fema.gov/.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at www.fema.gov.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- **ZONE A** No Base Flood Elevations determined.
- **ZONE AE** Base Flood Elevations determined.
- **ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- **ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- **ZONE A99** Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.
- **ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- **ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- **ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- **ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.
- **ZONE D** Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*
- * Referenced to the North American Vertical Datum of 1988
- A — A — Cross section line
- 23 — 23 — Transect line
- 97°07'30", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 4775000mE — 1000-meter Universal Transverse Mercator grid ticks, zone 15
- 6000000 FT — 5000-foot grid values: Louisiana State Plane coordinate system, South Zone (FIPSZONE = 1702), Lambert projection
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
February 18, 2011

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'

500 0 500 1,000 1,500 2,000 FEET
150 0 150 300 600 METERS

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0615F

FIRM

FLOOD INSURANCE RATE MAP

CALCASIEU PARISH, LOUISIANA

AND INCORPORATED AREAS

PANEL 615 OF 715

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CALCASIEU PARISH	220037	0615	F

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
22019C0615F

EFFECTIVE DATE
FEBRUARY 18, 2011

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

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Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

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The **projection** used in the preparation of this map was Louisiana State Plane south zone (FIPSZONE 1702). The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

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Base map information shown on this FIRM was derived from multiple sources between 2006 and 2011, including the Louisiana Geological Survey, the Louisiana Oil Spill Coordinator's Office (LOSCO), the US Census Bureau, the National Geodetic Survey, the US Fish and Wildlife Service, and the US Geological Survey.

This map reflects more detailed and up–to–date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables *in the Flood Insurance Study report (which contains authoritative hydraulic data)* may reflect stream channel distances that differ from what is shown on this map.

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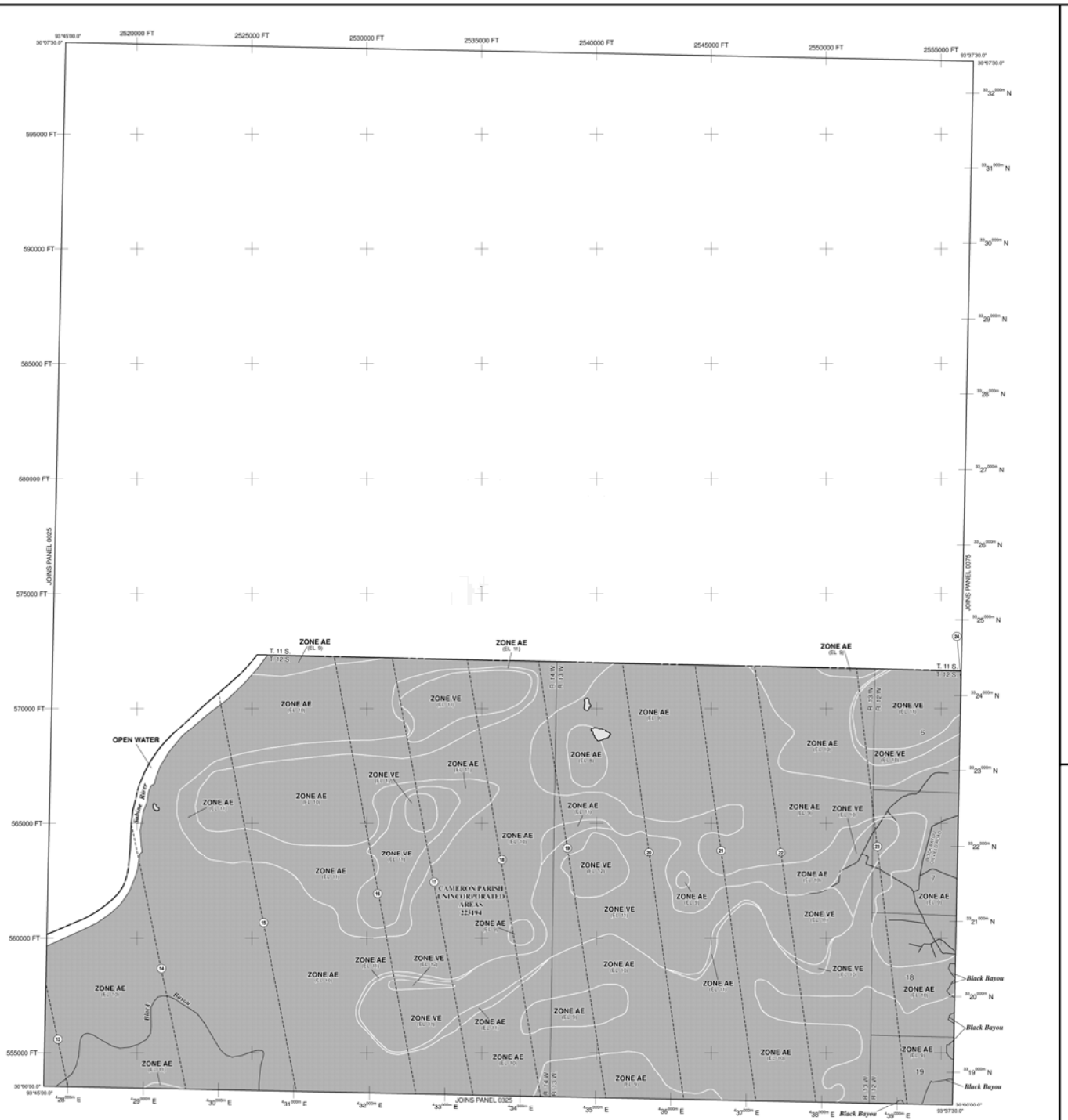
For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the **FEMA Map Service Center** website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the **FEMA Map Service Center** website or by calling the FEMA Map Information eXchange.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

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Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

513 Base Flood Elevation line and value; elevation in feet*

(EL 987) Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

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23 — 23 Transect line

97°07'30", 32°22'30" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)

4275000mN 1000-meter Universal Transverse Mercator grid ticks, zone 15

6000000 FT 5000-foot grid ticks: Louisiana State Plane coordinate system, south zone (FIPSZONE 1702), Lambert Conformal Conic

DX5510 Bench mark (see explanation in Notes to Users section of this FIRM panel)

M1.5 River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
November 16, 2012
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 2000'
1000 0 2000 4000 FEET
300 0 600 1200 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0050H

FIRM
FLOOD INSURANCE RATE MAP
CAMERON PARISH, LOUISIANA

PANEL 50 OF 1275
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CAMERON PARISH	225194	0050	H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
22023C0050H

EFFECTIVE DATE
NOVEMBER 16, 2012

Federal Emergency Management Agency

APPENDIX E

List of Migratory Birds in BCR 25 and 37

Table 23 BCR 25 (West Gulf Coastal Plain/Ouachitas) *BCC 2008* list.[25]

Least Bittern
Little Blue Heron
Swallow-tailed Kite
Bald Eagle (b)
American Kestrel (*paulus* ssp.)
Yellow Rail (nb)
Solitary Sandpiper (nb)
Hudsonian Godwit (nb)
Buff-breasted Sandpiper (nb)
Chuck-will's-widow
Red-headed Woodpecker
Loggerhead Shrike
Brown-headed Nuthatch
Bewick's Wren (*bewickii* ssp.)
Wood Thrush
Sprague's Pipit (nb)
Prairie Warbler
Cerulean Warbler
Prothonotary Warbler
Worm-eating Warbler
Swainson's Warbler
Louisiana Waterthrush
Kentucky Warbler
Bachman's Sparrow
Henslow's Sparrow (nb)
Smith's Longspur (nb)
Painted Bunting
Orchard Oriole

25 (a) ESA candidate, (b) ESA delisted, (c) non-listed subspecies or population of Threatened or Endangered species, (d) MBTA protection uncertain or lacking, (nb) non-breeding in this BCR

Table 35 BCR 37 (Gulf Coastal Prairie U.S. portion only) *BCC 2008* list.[37]

Audubon's Shearwater (nb)
Band-rumped Storm-Petrel (nb)
American Bittern
Least Bittern
Reddish Egret
Swallow-tailed Kite
Bald Eagle (b)
White-tailed Hawk
Peregrine Falcon (b) (nb)
Yellow Rail (nb)
Black Rail
Snowy Plover (c)
Wilson's Plover
Mountain Plover (nb)
American Oystercatcher
Solitary Sandpiper (nb)
Lesser Yellowlegs (nb)
Upland Sandpiper (nb)
Whimbrel (nb)
Long-billed Curlew
Hudsonian Godwit (nb)
Marbled Godwit (nb)
Red Knot (*roselaari* ssp.) (nb)
Red Knot (*rufa* ssp.) (a) (nb)
Buff-breasted Sandpiper (nb)
Short-billed Dowitcher (nb)
Least Tern (c)
Gull-billed Tern
Sandwich Tern
Black Skimmer
Short-eared Owl (nb)
Loggerhead Shrike
Sedge Wren (nb)
Sprague's Pipit (nb)
Prothonotary Warbler
Swainson's Warbler
Botteri's Sparrow
Grasshopper Sparrow
Henslow's Sparrow (nb)
LeConte's Sparrow (nb)
Nelson's Sharp-tailed Sparrow (nb)
Seaside Sparrow (c)
Painted Bunting
Dickcissel

37 (a) ESA candidate, (b) ESA delisted, (c) non-listed subspecies or population of Threatened or Endangered species, (d) MBTA protection uncertain or lacking, (nb) non-breeding in this BCR

APPENDIX F

Agency Correspondence

Solicitation of Views Mailing List and Sample Letter

Solicitation of Views Letter Mailing List

Mr. Darrell S. Barbara
US Army Corps of Engineers
CEMVN-OD-S
Post Office Box 60267
New Orleans, LA 70160

Mr. Tracy Falk
US Army Corps of Engineers
CEMVN-OD-S
Post Office Box 60267
New Orleans, LA 70160

Ms. Kim Baggette
US Army Corps of Engineers
CESWG-RD-E
P.O. Box 1229
Galveston, TX 77553-1229

Ms. Carolyn Murphy
US Army Corps of Engineers
Galveston District
PO Box 1229
Galveston, TX 77553-1229

Mr. Keith Hayden
US Environmental Protection Agency
1445 Ross Avenue
Dallas, TX 75202

Mr. Richard Hartman
National Marine Fisheries Service
c/o LSU, Military Science Building, Room 266
South Stadium Drive
Baton Rouge, LA 70803

Mr. Phil Boggan
Department of Culture, Recreation & Tourism
State Historic Preservation Officer
P.O. Box 44247
Baton Rouge, LA 70804

Mr. Donald Haydel
Department of Natural Resources
Office of Coastal Management, Consistency Section
P.O. Box 94396
Baton Rouge, LA 70804-9396

Captain Paul Dittman
Eighth Coast Guard District
Hale Boggs Federal Building
500 Poydras Street
New Orleans, LA 70130

Mr. Brad Rieck
US Fish and Wildlife Services
Louisiana Ecological Field Services
646 Cajundome Blvd.
Lafayette, LA 70506

Mr. Terence Delaine
Sabine National Wildlife Refuge
3000 Holly Beach Highway
Hackberry, LA 70645

Mr. Kevin Norton
National Resource Conservation Service
3737 Government Street
Alexandria, LA 71302

Ms. Carolyn Michon
Louisiana Department of Wildlife and Fisheries
Louisiana Natural Heritage Program
PO Box 98000
Baton Rouge, LA 70898

Mr. Wes Crain
Calcasieu Parish Police Jury
P.O. Drawer 3287
Lake Charles, LA 70602

Mr. Myles Hebert
Cameron Parish Police Jury
P.O. Box 1280
Cameron, LA 70631

Ms. Kara Bonsall
Cameron Parish Police Jury
P.O. Box 1280
Cameron, LA 70631

Department of Energy
Strategic Petroleum Reserve Project Management Office
900 Commerce East
New Orleans, Louisiana 70123

16-ESH-005

Sample Solicitation of Views Letter

Mr. Darrell S. Barbara
Chief, Western Evaluation Section
U.S. Army Corps of Engineers
New Orleans District
CEMVN-OD-S, P.O. Box 60267
New Orleans, LA 70160

Mr. Barbara:

ENVIRONMENTAL ASSESSMENT FOR ACCESS IMPROVEMENTS FOR STRATEGIC PETROLEUM RESERVE BLOCK VALVE STATIONS, CALCASIEU AND CAMERON PARISHES, LOUISIANA

Pursuant to the National Environmental Policy Act (NEPA), the U.S. Department of Energy (DOE) intends to prepare an Environmental Assessment (EA) document for a project proposed to improve access to four block valve stations for the Strategic Petroleum Reserve (SPR) pipeline sections located in Southwestern Louisiana. The potential environmental impacts of this proposed project will be evaluated in conformance with DOE and the Council on Environmental Quality (CEQ) regulations and provisions.

The project proposes to improve access to four block valve stations identified on the enclosed figure. All these valve stations are accessed from the water on foot. Boat access for West Hackberry (WH)-6 is accomplished as a soft landing on a narrow beach located on the east bank of the Sabine River. The shorelines at WH-2, WH-4, and WH-5 consist of elevated spoil banks created by construction of the Gulf Intracoastal Waterway (GIWW). These banks are difficult to access due to elevation, shallow water during low tides, and rip-rap installed to stabilize the shoreline.

New boat landings and elevated walkways are proposed for Valve Stations WH-2, WH-4, and WH-5. A new walking path at WH-4 will be constructed from the elevated walkway to the existing pipeline right of way. Existing footpaths for WH-2, WH-5, and WH-6 are proposed to be regraded as needed. The footpaths will be surfaced with filter cloth and aggregate. Additional perpetual access ROW for access at each valve location will be acquired for the placement of the footpath for valve stations WH-4, WH-5, and WH-6, and for the boat landing for valve stations WH-2, WH-4, and WH-5.

The U.S. Army Corps of Engineers has been identified for participation in the scoping effort for preparation of the EA. DOE requests your input related to potential impacts from the proposed project to the resources under your department's jurisdiction. In your response to this letter, please indicate if you or your designee would like to receive notice when the EA is available for review.

Please direct any written comments or requests for additional information to Ms. Lynn Maloney-Mújica, ELOS Environmental LLC, 43177 East Pleasant Ridge Road, Hammond, LA 70403 or by email at lmaloney@elosenv.com. You may also contact Mr. Gabriel Adams at the Strategic Petroleum Reserve Project Management Office at 504-734-4400.

Thank you for a prompt response to this communication.

Sincerely,

William C. Gibson, Jr.
Project Manager
Strategic Petroleum Reserve

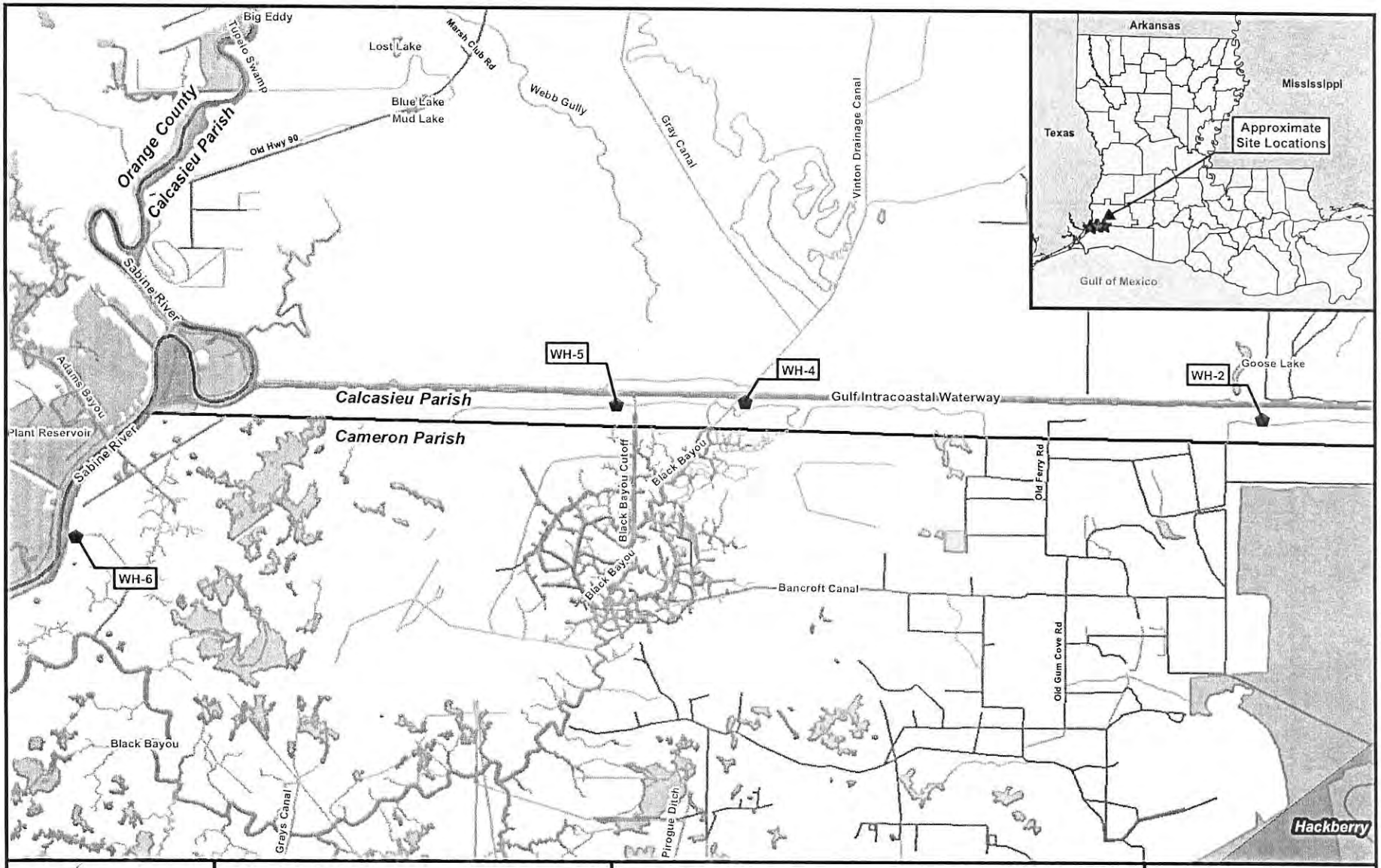
Enclosure

cc:
L. Maloney
G. Adams, FFPO
K. Batiste, FE-4441

SENSITIVE UNCLASSIFIED INFORMATION

The enclosed information is provided for your use as a customer of the Strategic Petroleum Reserve. This information is sensitive unclassified information and it should be granted only to persons who possess the appropriate need-to-know. This information should not be released to anyone who might use it for purposes detrimental to the government, the petroleum infrastructure of the United States of America, or your organization and facilities.

Please keep this information secure when not being used and appropriately destroy (such as shredding or burning) it when no longer required.



ELOS
environmental
http://elosenv.com/
43177 East Pleasant Ridge Road
Hammond, Louisiana 70403
P. 985-662-5501, F. 985-662-5504

Figure 1: Project Overview Map

Access Improvements SPR-WH Valve Stations

Map prepared from public and proprietary spatial data. ELOS Environmental, LLC does not warrant its accuracy or completeness. This map should not be used to establish legal boundaries or specific locations.

Legend:

- Valve Access Location
- City/Town
- Streets
- Stream/River
- Waterbody
- Parish Boundary

N
W E
S

Miles
0 1 2

F:\KLE\VCI Valve Station\GIS Maps\Environmental Assessment\8.5 x 11 Map for Agencies\Figure 1_Project Overview Map.mxd

Reply from Louisiana Office of Coastal Management

JOHN BEL EDWARDS
GOVERNOR

THOMAS F. HARRIS
SECRETARY

State of Louisiana

DEPARTMENT OF NATURAL RESOURCES

OFFICE OF COASTAL MANAGEMENT

August 10, 2016

Ms. Lynn Maloney-Mujica
ELOS Environmental LLC
43177 East Pleasant Ridge Road
Hammond, LA 70403
Via e-mail: lmaloney@elosenv.com

Re: **C20160129 Solicitation of Views**
Department of Energy Strategic Petroleum Reserve (SPR)
Direct Federal Action
Environmental Assessment (EA) for Access Improvements for 4 Block Valve Stations**,**
Calcasieu and Cameron Parishes

Dear Ms. Maloney-Mujica:

This office has received the request for comments regarding the above referenced intent to prepare an EA. The Office of Coastal Management recommends that the project be planned in such a way as to avoid adverse impacts to coastal resources to the maximum extent practicable. Also, when plans for the project are complete, they should be submitted with a consistency determination for review by this office for compliance with the approved Louisiana Coastal Resources Program in accordance with Section 307(c) of the Federal Coastal Zone Management Act of 1972, as amended. A copy of the Environmental Assessment can be included for review as part of the consistency determination documentation.

If you have any questions please contact Jim Bondy of the Consistency Section at (225) 342-3870 or james.bondy@la.gov.

Sincerely yours,

/S/ Don Haydel
Acting Administrator
Interagency Affairs/Field Services Division

DH/SK/jab

cc: W. C. Gibson, Jr., Strategic Petroleum Reserve
Gabriel Adams, FFPO

Reply from National Marine Fisheries Service / Habitat Conservation Division

Lynn Maloney

From: Brandon Howard - NOAA Federal
Sent: Monday, August 29, 2016 9:54 AM
To: lmaloney@elosenv.com
Subject: Access Improvements SPR-WH Valve Stations EA preparation notice

Hi Lynn.

The National Marine Fisheries Service's Habitat Conservation Division (HCD) has reviewed the letter indicating that an Environmental Assessment (EA) is being prepared for the above referenced project. The Gulf Intracoastal Waterway where valve access will be enhanced is essential fish habitat (EFH) for various penaeid shrimp species and red drum. Without construction plans, it is not possible to ascertain what impacts to salt marsh, that fringes the waterway, will occur. It is recommended that the EA contain an EFH Assessment. Please notify NMFS HCD regarding availability of the EA.

Brandon

--
Brandon Howard
Fishery Biologist
Habitat Conservation Division
NOAA Fisheries Service

Louisiana State University
Military Sciences Bldg, Rm 266
South Stadium Rd
Baton Rouge, LA 70803

Office: 225-389-0508, x207

http://sero.nmfs.noaa.gov/habitat_conservation/index.html

Reply from Natural Resources Conservation Service

USDA

United States Department of Agriculture

August 8, 2016

Ms. Lynn Maloney-Mújica
ELOS Environmental, LLC
43177 East Pleasant Ridge Road
Hammond, LA 70403

RE: Environmental Assessment for Access Improvements for Strategic Petroleum Reserve Block Valve Stations, Calcasieu and Cameron Parishes, Louisiana

Dear Ms. Mújica:

I have reviewed the above referenced project for potential requirements of the Farmland Protection Policy Act (FPPA) and potential impact to Natural Resource Conservation Service projects in the immediate vicinity.

Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a federal agency or with assistance from a federal agency. For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements can be forest land, pastureland, cropland, or other land, but not water or urban built-up land.

The project map submitted with your request indicates that the proposed construction areas will not impact prime farmland and therefore is exempt from the rules and regulations of the Farmland Protection Policy Act (FPPA)—Subtitle I of Title XV, Section 1539-1549. Furthermore, we do not predict impacts to NRCS work in the vicinity.

For specific information about the soils found in the project area, please visit our Web Soil Survey at the following location: http://websoilsurvey.nrcs.usda.gov/

Please direct all future correspondence to me at the address shown below.

Respectfully,

Acting for:
Kevin D. Norton
State Conservationist

Attachment

Natural Resources Conservation Service
State Office
3737 Government Street
Alexandria, Louisiana 71302
Voice: (318) 473-7751 Fax: 1-844-325-6947

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request	4. Sheet 1 of _____
1. Name of Project **SPR Block Valve Stations**	5. Federal Agency Involved **DOE**	
2. Type of Project **new boat landings and walkways**	6. County and State **Calcasieu and Cameron Parish**	
PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS **8/8/16**	2. Person Completing Form **M. Mouton**
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form). YES ☐ NO ☑	4. Acres Irrigated	Average Farm Size
5. Major Crop(s)	6. Farmable Land in Government Jurisdiction **Acres:** **%**	7. Amount of Farmland As Defined in FPPA **Acres:** **%**
8. Name Of Land Evaluation System Used	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS **8/8/16**

PART III *(To be completed by Federal Agency)*		**Alternative Corridor For Segment** _____			
		Corridor A	**Corridor B**	**Corridor C**	**Corridor D**
A. Total Acres To Be Converted Directly					
B. Total Acres To Be Converted Indirectly, Or To Receive Services					
C. Total Acres In Corridor					
PART IV *(To be completed by NRCS) Land Evaluation Information*					
A. Total Acres Prime And Unique Farmland					
B. Total Acres Statewide And Local Important Farmland					
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted					
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value					
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*					
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))*	**Maximum Points**				
1. Area in Nonurban Use	15				
2. Perimeter in Nonurban Use	10				
3. Percent Of Corridor Being Farmed	20				
4. Protection Provided By State And Local Government	20				
5. Size of Present Farm Unit Compared To Average	10				
6. Creation Of Nonfarmable Farmland	25				
7. Availablility Of Farm Support Services	5				
8. On-Farm Investments	20				
9. Effects Of Conversion On Farm Support Services	25				
10. Compatibility With Existing Agricultural Use	10				
TOTAL CORRIDOR ASSESSMENT POINTS	160	0	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland (From Part V)	100	0	0	0	0
Total Corridor Assessment (From Part VI above or a local site assessment)	160	0	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	0	0	0	0

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used? YES ☐ NO ☐

5. Reason For Selection:

Signature of Person Completing this Part: | DATE

NOTE: Complete a form for each segment with more than one Alternate Corridor

CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

The following criteria are to be used for projects that have a linear or corridor - type site configuration connecting two distant points, and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor - type site or design alternative for protection as farmland along with the land evaluation information.

(1) How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?
More than 90 percent - 15 points
90 to 20 percent - 14 to 1 point(s)
Less than 20 percent - 0 points

(2) How much of the perimeter of the site borders on land in nonurban use?
More than 90 percent - 10 points
90 to 20 percent - 9 to 1 point(s)
Less than 20 percent - 0 points

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?
More than 90 percent - 20 points
90 to 20 percent - 19 to 1 point(s)
Less than 20 percent - 0 points

(4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?
Site is protected - 20 points
Site is not protected - 0 points

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County ? (Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage or Farm Units in Operation with $1,000 or more in sales.)
As large or larger - 10 points
Below average - deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average - 9 to 0 points

(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?
Acreage equal to more than 25 percent of acres directly converted by the project - 25 points
Acreage equal to between 25 and 5 percent of the acres directly converted by the project - 1 to 24 point(s)
Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points

(7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?
All required services are available - 5 points
Some required services are available - 4 to 1 point(s)
No required services are available - 0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?
High amount of on-farm investment - 20 points
Moderate amount of on-farm investment - 19 to 1 point(s)
No on-farm investment - 0 points

(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?
Substantial reduction in demand for support services if the site is converted - 25 points
Some reduction in demand for support services if the site is converted - 1 to 24 point(s)
No significant reduction in demand for support services if the site is converted - 0 points

(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?
Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points
Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)
Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points

Reply from Louisiana State Historic Preservation Officer

Department of Energy
Strategic Petroleum Reserve Project Management Office
900 Commerce East
New Orleans, Louisiana 70123

16-ESH-005

No known historic properties will be affected by this undertaking. Therefore, our office has no objection to the implementation of this project. This effect determination could change should new information come to our attention.

Phil Boggan
State Historic Preservation Officer

Date
08/27/2016

Mr. Phil Boggan
Assistant Secretary
Department of Culture, Recreation & Tourism
State Historic Preservation Officer
P.O. Box 44247
Baton Rouge, LA 70804

Mr. Boggan:

ENVIRONMENTAL ASSESSMENT FOR ACCESS IMPROVEMENTS FOR STRATEGIC PETROLEUM RESERVE BLOCK VALVE STATIONS, CALCASIEU AND CAMERON PARISHES, LOUISIANA

Pursuant to the National Environmental Policy Act (NEPA), the U.S. Department of Energy (DOE) intends to prepare an Environmental Assessment (EA) document for a project proposed to improve access to four block valve stations for the Strategic Petroleum Reserve (SPR) pipeline sections located in Southwestern Louisiana. The potential environmental impacts of this proposed project will be evaluated in conformance with DOE and the Council on Environmental Quality (CEQ) regulations and provisions.

The project proposes to improve access to four block valve stations identified on the enclosed figure. All these valve stations are accessed from the water on foot. Boat access for West Hackberry (WH)-6 is accomplished as a soft landing on a narrow beach located on the east bank of the Sabine River. The shorelines at WH-2, WH-4, and WH-5 consist of elevated spoil banks created by construction of the Gulf Intracoastal Waterway (GIWW). These banks are difficult to access due to elevation, shallow water during low tides, and rip-rap installed to stabilize the shoreline.

New boat landings and elevated walkways are proposed for Valve Stations WH-2, WH-4, and WH-5. A new walking path at WH-4 will be constructed from the elevated walkway to the existing pipeline right of way. Existing footpaths for WH-2, WH-5, and WH-6 are proposed to be regraded as needed. The footpaths will be surfaced with filter cloth and aggregate. Additional perpetual access ROW for access at each valve location will be acquired for the placement of the footpath for valve stations WH-4, WH-5, and WH-6, and for the boat landing for valve stations WH-2, WH-4, and WH-5.

The Department of Culture, Recreation & Tourism has been identified for participation in the scoping effort for preparation of the EA. DOE requests your input related to potential impacts from the proposed project to the resources under your department's jurisdiction. In your response to this letter, please indicate if you or your designee would like to receive notice when the EA is available for review.

Please direct any written comments or requests for additional information to Ms. Lynn Maloney-Mújica, ELOS Environmental LLC, 43177 East Pleasant Ridge Road, Hammond, LA 70403 or by email at lmaloney@elosenv.com. You may also contact Mr. Gabriel Adams at the Strategic Petroleum Reserve Project Management Office at 504-734-4400.

Thank you for a prompt response to this communication.

Sincerely,

William C. Gibson, Jr.
Project Manager
Strategic Petroleum Reserve

Enclosure

cc:
L. Maloney
G. Adams, FFPO
K. Batiste, FE-4441

Replies from Calcasieu Parish Planning and Coastal Zone Manager

Lynn Maloney

From: Wesley Crain
Sent: Thursday, August 25, 2016 3:09 PM
To: lmaloney@elosenv.com
Cc: Laurie Cormier; Jennifer Cobian
Subject: FW: DEpartment of Energy - Environmental Assessment for Strategic Petroleum Reserve Block Valve Stations

Dear Ms. Maloney-Mujica,

Please be advised this office has reviewed the above referenced project and have no objections. Please provide future notices to Ms. Laurie Cormier, Calcasieu Parish Coastal Zone Manager and Ms. Jennifer Cobian, Senior Financial Analyst/ Grants Coordinator. Their contact information is (337) 721-3600 or lcormier@cppj.net and jcobian@cppj.net . If you have any questions, concerns or need additional information please let me know.

Sincerely,

Wesley W. Crain, ASLA
Director of Planning and Development

Calcasieu Parish Police Jury
Division of Planning and Development
901 Lakeshore Drive, 5th Floor
Lake Charles, Louisiana 70601
Phone: (337) 721-3600
Fax: (337) 437-3586
Email: wcrain@cppj.net

From: Laurie Cormier
Sent: Thursday, August 11, 2016 7:50 AM
To: Wesley Crain
Cc: Jennifer Cobian
Subject: RE: DEpartment of Energy - Environmental Assessment

Wes – I have reviewed the Letter from the Department of Energy (DOE). Value Stations WH-2, Wh-4 and Wh-5 are located in the Calcasieu Parish Coastal Zone. Due to the fact that DOE is proposing elevated walkways for value Stations WH-2, WH-4, and WH-5 it is my opinion that there will be no potential impacts from the proposed project.

Please advise if you have any questions.

Laurie T. Cormier
Assistant Planner/Coastal Zone Manager
Division of Planning & Development
Calcasieu Parish Police Jury
901 Lakeshore Drive, 4th Floor
Lake Charles, LA 70602-3287
Phone: (337) 721-3645
Email: lcormier@cppj.net

From: Wesley Crain
Sent: Tuesday, August 09, 2016 1:57 PM
To: Laurie Cormier <lcormier@cppj.net>
Cc: Jennifer Cobian <jcobian@cppj.net>
Subject: DEpartment of Energy - Environmental Assessment

Laurie,

Please review the attached document from the Department of Energy regarding the above referenced. The project appears to be located in the Coastal Zone. Please provide any comments, if necessary and return to me. If you have any questions or concerns please let me know.

Thanks!

Wes

Wesley W. Crain, ASLA
Director of Planning and Development

Calcasieu Parish Police Jury
Division of Planning and Development
901 Lakeshore Drive, 5th Floor
Lake Charles, Louisiana 70601
Phone: (337) 721-3600
Fax: (337) 437-3586
Email: wcrain@cppj.net

Replies from Cameron Parish Floodplain Manager and Coastal Zone Administrator

Lynn Maloney

From: Kara
Sent: Tuesday, September 13, 2016 3:26 PM
To: 'lmaloney@elosenv.com'
Cc: Myles Hebert
Subject: DOE Block Valve Stations

Lynn,
The Cameron Parish Police Jury received a letter requesting input related to access improvements for Strategic Petroleum Reserve Block Valve Stations located in both Cameron and Calcasieu Parishes. After reviewing the letter and plat the West Hackberry (WH) -6 valve station is located within Cameron Parish and will provide a letter of no objection pending the Coastal Consistency review.

Thanks,

KARA BONSALL
Certified Floodplain Manager
Coastal Zone Administrator
Cameron Parish Police Jury
Phone: 337-775-2800 Ext. 104
Fax: 337-775-5535
kb_cppj@camtel.net

Lynn Maloney

From: Myles Hebert
Sent: Wednesday, September 14, 2016 8:49 AM
To: 'lmaloney@elosenv.com'
Cc: Kara
Subject: DOE Block Valve Stations

Lynn,
The Cameron Parish Police Jury received a letter requesting input related to access improvements for Strategic Petroleum Reserve Block Valve Stations located in both Cameron and Calcasieu Parishes. After reviewing the letter and plat the West Hackberry (WH) -6 valve station is located within Cameron Parish. The Cameron Parish Police Jury has no objection to this project in relation to flood damage prevention.

Myles Hebert, CBO
Flood Plain Administrator
Cameron Parish Police Jury
Phone: 337-775-2800
Fax: 337-775-5535
mh_cppj@camtel.net

Reply from US Army Corps of Engineers – New Orleans District

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVENUE
NEW ORLEANS, LOUISIANA 70118

REPLY TO ATTENTION OF

9/23/2016

Western Evaluation Section
Operations Division

SUBJECT: MVN-2016-1239-EFF
16-ESH-005 (DOE) Strategic Petroleum Reserve-Block Valve Replacement Project

William C. Gibson, Jr.
Department of Energy
Strategic Petroleum Reserve
Project management Office
900 Commerce East
New Orleans, LA 70123

Dear Mr. Gibson:

Reference is made to your letter 16-ESH-005, requesting initial remarks and/or observations on your project to improve access to four block valve stations for the Strategic Petroleum Reserve (SPR) pipeline sections located in Southwest Louisiana, in Calcasieu and Cameron Parishes.

Based on your descriptions of the project and its locations, it is our initial assessment that a Department of the Army permit under Section 10 of the Rivers and Harbors Act of 1899 and/or Section 404 of the Clean Water Act (33 U.S.C. 1344) from this office will likely be required for the subject work. With that, it is recommended that you look to acquire a Jurisdictional Determination from our Surveillance and Enforcement Section (CEMVN-OD-SS) prior to submittal of your Joint Permit Application, as to help us properly assess impacts associated with the work, during our review of your application. Be aware that upon our review of your application, our permit decision reflects the national concern for both protecting and utilizing important resources such as those potentially affected by your proposal. According to the Section 404(b)(1) Guidelines, a permit cannot be issued for a non-water dependent activity if there is a feasible less damaging alternative available. Since the proposed activity may be located within a wetland, it must comply with criteria outlined on our Guidelines for Specification of Disposal Sites for Dredge or Fill Material (40 CFR Part 230). Specifically, Section 230.10 (a) requires that no discharge of dredge or fill material shall be granted if there is a less damaging practicable alternative to the proposed discharge. Where the applicant can demonstrate a lack of practicable alternatives, reveal the public and/or private benefit of the proposed project, and the authorization is not contrary to the overall public interest, a permit can usually be issued. Prior to permit issuance we must determine that impacts have been avoided to the maximum extent practicable, remaining unavoidable impacts are minimized, and a mitigation plan is developed to compensate any unavoidable loss of aquatic resources.

Your enclosed Figure 1 Project Overview Map provides minimal locational information, however be aware that the subject work shows to be located within an area that may alter or occupy an existing US Army Corps of Engineers Civil Works Project (see attached plat)**.** Upon receipt of your Joint Permit Application, a copy will be forwarded to the appropriate Operations Manager with this District for their review, pursuant to 33 USC 408 (Section 408).

Lastly, it appears that a small portion of your project may be located within the Corps of Engineers, Galveston District (see attached plat). Therefore, you should contact the Regulatory Branch with that District to discuss their permit requirements associated with work under their jurisdiction.

We look forward to being notified of the availability of a draft EA for review, and will provide any information or recommendations that we can to aid in processing your Department of the Army permit for the project. If you have any questions, feel free to contact Darrell S. Barbara with this office at (504) 862-2261 or at darrell.barbara@usace.army.mil.

Sincerely,

Darrell S. Barbara
Chief, Western Evaluation Section
Regulatory Branch

Reply from Lacassine Wildlife Refuge (USFWS)

Lynn Maloney

From: Marceaux, Joshua
Sent: Friday, August 05, 2016 3:30 PM
To: Lynn Maloney
Subject: Re: EA for access improvements for strategic petroleum reserve in calcasieu/cameron parishes LA

From what I read and see, I think just sending us the draft EA would be fine.

-Josh

On Fri, Aug 5, 2016 at 3:29 PM, Lynn Maloney <lmaloney@elosenv.com> wrote:

> Thank you, Josh.
>
> While we were waiting for the letters to be distributed by DOE, we used your website and others to describe the existing environment and did the field work.
>
> DOE has asked to review the document by section, so the project description /alternatives and existing conditions are already complete. We are waiting on agency input before drafting the Environmental Consequences section.
>
> Would you like to review what we have put together so far and comment? I am pretty sure there's not much to talk about on this project.
>
> Lynn
>
> Lynn Maloney-Mújica, AICP
>
> Senior Scientist and Project Manager
>
> ELOS environmental

43177 E. Pleasant Ridge Road

Hammond, LA 70403

P.985.662.5501

F.985.662.5504

C.225.802.2086

From: Marceaux, Joshua [mailto:joshua_marceaux@fws.gov]
Sent: Friday, August 05, 2016 2:36 PM
To: lmaloney@elosenv.com
Subject: EA for access improvements for strategic petroleum reserve in calcasieu/cameron parishes LA

Ms. Maloney-Mujica,

Regarding the subject proposal please refer to our website for natural resource information. That website is http://www.fws.gov/lafayette/pdc/

I will be the POC for the EA and can be reached via the information below.

Thanks,

--

Joshua C. Marceaux

Fish and Wildlife Biologist

U.S. Fish and Wildlife Service

Lacassine National Wildlife Refuge

209 Nature Rd, Lake Arthur, LA 70549

337/774-5923

--
Joshua C. Marceaux
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
337/291-3110

Reply from US Army Corps of Engineers – Galveston District

C.225.802.2086

-----Original Message-----
From: Hudson, Jayson M SWG [mailto:Jayson.M.Hudson@usace.army.mil]
Sent: Tuesday, September 06, 2016 4:12 PM
To: lmaloney@elosenv.com <mailto:lmaloney@elosenv.com>
Subject: DOE letter

Lynn,

Please email me a copy of the letter and we will respond accordingly.

Thanks,

Jayson M. Hudson

Regulatory Project Manager

Galveston District

U.S. Army Corps of Engineers

Office: 409.766.3108 Fax 409.766.3931

Please tell me how I am doing by completing the survey found at:

Blockedhttp://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0
<Blockedhttp://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0>

<<...>>

Lynn Maloney

From: Hudson, Jayson M SWG
Sent: Wednesday, September 07, 2016 8:29 AM
To: Lynn Maloney
Cc: Adams, Gabriel
Subject: RE: [EXTERNAL] RE: DOE letter

Thank you, Lynn. I have forwarded it to our Deputy, we should be able to respond shortly.

Jayson M Hudson
Regulatory Project Manager
Office: 409.766.3108 Fax 409.766.3931

Please tell me how I am doing by completing the survey found at:
http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0

-----Original Message-----
From: Lynn Maloney [mailto:lmaloney@elosenv.com]
Sent: Wednesday, September 07, 2016 8:12 AM
To: Hudson, Jayson M SWG <Jayson.M.Hudson@usace.army.mil>
Cc: Adams, Gabriel <Gabriel.Adams@spr.doe.gov>
Subject: [EXTERNAL] RE: DOE letter

Dear Jayson:

Thank you for returning my call. Here is a copy of the letter sent to Kim Baggette. A letter was also sent to Carolyn Murphy.

As discussed, it is our intention to consolidate the coordination with the USACE at the New Orleans District. With that intention, we also sent a letter to Darrell Barbara of the Western Evaluation Section, (504) 862-2261. We have not heard back from him yet.

Best regards,

Lynn Maloney-Mújica, AICP

Senior Scientist and Project Manager

<<...>>

43177 E. Pleasant Ridge Road

Hammond, LA 70403

P.985.662.5501

F.985.662.5504

Reply from US Fish and Wildlife Service - Louisiana Field Office

Trahan, Amy <amy_trahan@fws.gov>

FW: DOE EA 2040: USFWS Coordination

1 message

Lynn Maloney <lmaloney@elosenv.com> Thu, Aug 25, 2016 at 11:33 AM
To: amy_trahan@fws.gov

Dear Amy:

Thank you for discussing this project with me. I have attached a copy of the letter sent to Brad for the project. Please let us know how the USFWS wishes to participate in this process.

Best regards,

Lynn

Lynn Maloney-Mújica, AICP

Senior Scientist and Project Manager

ELOS environmental

43177 E. Pleasant Ridge Road

Hammond, LA 70403

P.985.662.5501

F.985.662.5504

C.225.802.2086

This project has been reviewed for effects to Federal trust resources under our jurisdiction and currently protected by the Endangered Species Act of 1973 (Act). The project, as proposed,
( ) Will have no effect on those resources
(✓) Is not likely to adversely affect those resources. manatee
This finding fulfills the requirements under Section 7(a)(2) of the Act.

Acting Supervisor — Date 9-27-16
Louisiana Field Office
U.S. Fish and Wildlife Service

Letter to UFWS.pdf
941K