DRAFT ENVIRONMENTAL ASSESSMENT #584

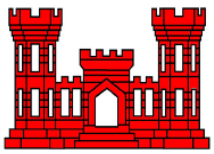
MISSISSIPPI RIVER AND TRIBUTARIES PROJECT

MISSISSIPPI RIVER LEVEE SYSTEM

UPPER FIFTH LOUISIANA LEVEE ENLARGEMENT

FIFTH LOUISIANA LEVEE DISTRICT

CONCORDIA PARISH, LOUISIANA



U.S. Army Corps of Engineers
Mississippi Valley Division
Regional Planning and Environment Division South
New Orleans District

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1. INTRODUCTION

The U.S. Army Corps of Engineers (USACE), Mississippi Valley Division, Regional Planning and Environment Division South, has prepared this draft Environmental Assessment (EA #584) for the New Orleans District (CEMVN) to evaluate the potential impacts of a levee straddle or slight flood side shift (proposed action) for approximately 19,000 linear feet (3.5-miles) of levee (intermittent) to the authorized design grade for the west bank of the Mississippi River Levee (MRL) system feature of the Mississippi River and Tributaries (MR&T) Project in Concordia, Parish, Louisiana (Figure 1). EA #584 has been prepared in accordance with the National Environmental Policy Act of 1969 (42 U.S.C. § 4331 et seq. (NEPA) and the Council on Environmental Quality's (CEQ) Regulations (40 CFR 1500-1508), as reflected in the USACE Engineering Regulation (ER) 200-2-2 and USACE Engineering Pamphlet (EP) 500-1-1. EA #584 provides sufficient information on the potential adverse and beneficial environmental effects of the proposed action to allow the District Commander, USACE, CEMVN, to make an informed decision on the appropriateness of an Environmental Impact Statement and/or a Finding of No Significant Impact.

1.1 PROPOSED ACTION

1.1.1 The proposed action or work consists of a levee straddle or slight flood side shift for approximately 19,000 linear feet (3.5-miles) of MRL levee (intermittent) to the authorized MR&T Project design grade on the west bank of the Mississippi River in Concordia, Parish, Louisiana (Figure 2). The work area would begin approximately at Mississippi River mile 320 and end at River mile 317 (levee reach). This levee reach has an average grade deficiency ranging up to 4.0 feet. The levee reach has settled over the years and requires approximately 95,000 cubic yards of earthen borrow material to raise the levee reach to the authorized design grade.

1.1.2 In order to prepare the levee reach for construction, stormwater erosion protection would be installed and surficial materials from the existing levee would need to be removed. A silt fence would be constructed on the land side of the levee reach at the edge of the existing MRL right-of-way (5-feet from MRL landside toe), in order to minimize any erosion and sediment runoff from impacting the adjacent LA Highway 15. The silt fence would be designed to retain sediment from stormwater runoff during clearing and grubbing, excavation, embankment placement, and final grading. The existing aggregate surface located on the crown of the levee would be excavated and removed from the work site. After removal of the limestone aggregate surface, the site preparation would require stripping vegetation and topsoil from areas that would receive embankment. For the entire levee reach, this vegetation and topsoil may be stockpiled within the

Figure 1. Upper Fifth Levee Enlargement Vicinity Map

levee right-of-way and later placed on the levee to spur the growth of new vegetation. Any excess material that cannot be reused would become property of the construction contractor who may dispose of the material in any legal manner.

1.1.3 The earthen material needed to complete the levee enlargement would be obtained from a proposed borrow site located on the west bank of the Mississippi River on the riverside of the MRL, and approximately 0.25 miles from the work area (from baseline station 17+00 to station 31+00). The proposed borrow site is a riverside forested wetland (not in federal conservation program) land use type comprised entirely of bottomland hardwood forested wetlands, and consists of a 12.71 acre borrow site, plus a 0.64 acre access road (870 ft. long and 32 ft. wide) along the riverside levee toe to the borrow site (for a total proposed borrow site acreage of 13.35 acres), (center point: Latitude 31°07'41.68” N, Longitude 91°38'19.08" W), in Concordia Parish, LA approximately five miles north of the Old River Control Structure located in Vidalia, LA of Concordia Parish. The location of the proposed borrow site is depicted in greater detail in Figures 1, 2, and 5. Approximately 95,000 cubic yards of material would be excavated from the

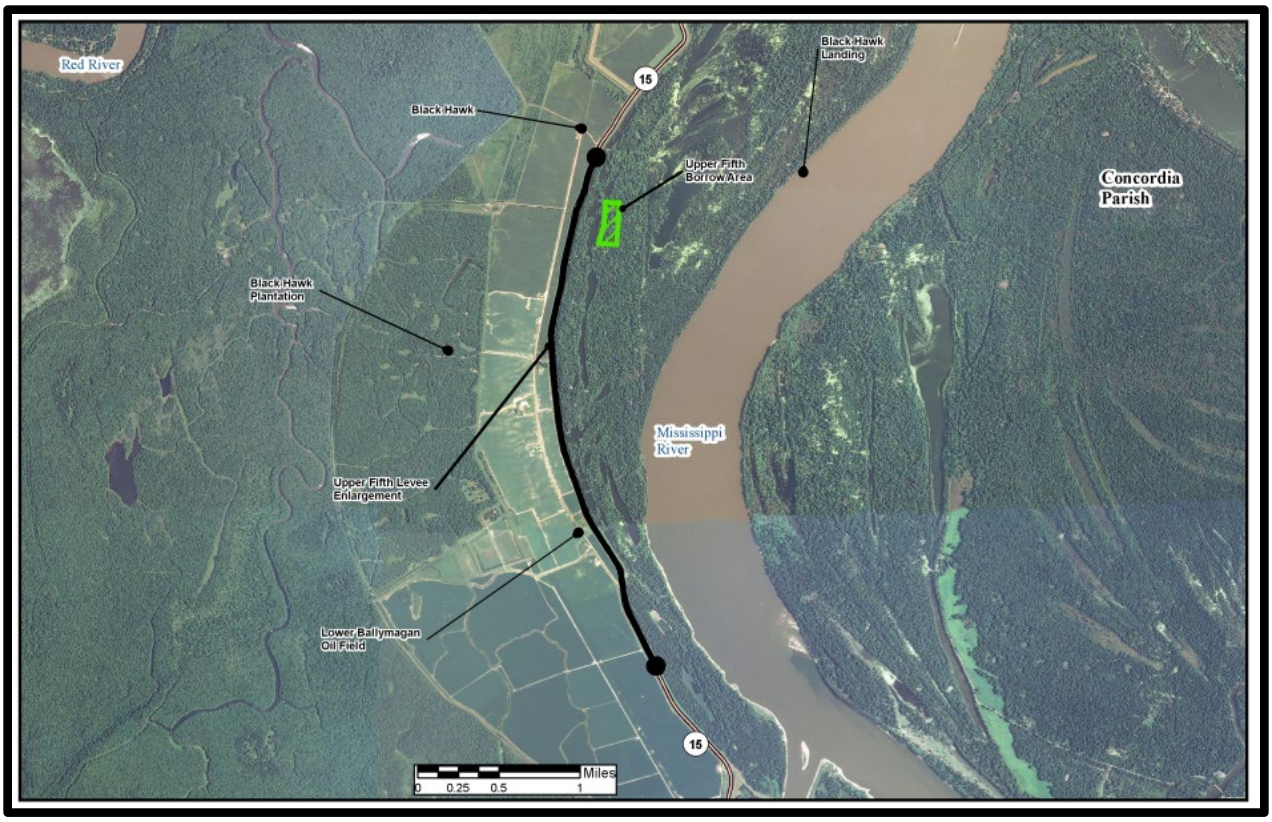


Figure 2. Mississippi River Levee, Upper Fifth Louisiana Levee Enlargement Project Location, Concordia Parish, Louisiana

proposed borrow site and transported to the work area. Prior to excavation at the borrow site, to the borrow area bulldozers would be utilized to clear the site of trees, shrubs, other vegetation, and earthen material deemed not suitable for the levee enlargement work. The borrow site would then be excavated to a depth of approximately –12.0-feet (North American Vertical Datum 1988 (NAVD88)). Excavation activities at the proposed borrow site and clearing of vegetation for the access road would be conducted during dry or low water periods to the extent practicable. Any removed vegetation and unsuitable earthen material would be used to form a dike surrounding the borrow area. Groundwater seeping into the borrow site would be pumped out into adjacent areas and drain to the Mississippi River. Excavators (i.e. backhoes) would remove the earthen material deemed suitable for the work, and which would then be processed within and adjacent to reduce the moisture content within the soil. Moisture content processing would likely be performed by mechanical methods such as utilizing bulldozers to stockpile material and disks to further reduce the moisture content of the soil. Once the moisture content has been reduced to acceptable levels, borrow material would be hauled in trucks with secured binders on tailgates to the place of destination along the work area. Transportation routes for trucks carrying borrow material would be either on top of the existing levee or along the flood side levee toe. Transportation of the borrow material from the borrow site will occur from the access road to both the work area and the staging area along the levee crown and floodside toe, thus reducing the need to utilize Louisiana Highway 15. After all suitable earthen material is excavated from the borrow site, the trees, shrubs and other vegetation removed during clearing and grubbing operations of the borrow site would be placed along the edges of the borrow pit in order to provide

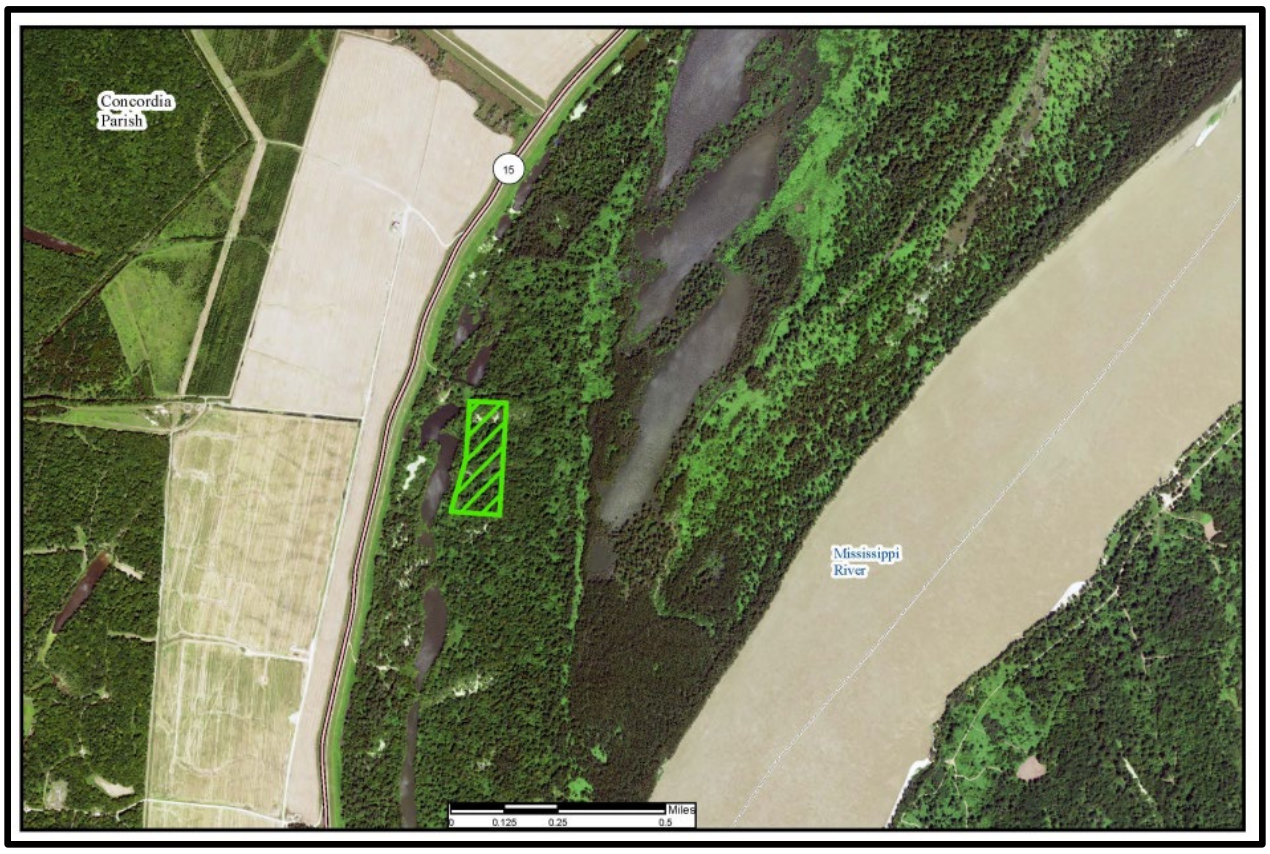


Figure 3. Mississippi River Levee, Upper Fifth Levee Enlargement Work Borrow Site Map, Concordia Parish, Louisiana.

cover habitat for various wildlife and aquatic resources. Earthen material deemed unsuitable for the work or use as embankment fill would also be placed into the pit with slopes not steeper than 1-foot vertical on 3-feet horizontal creating a shallow ledge extending approximately 10 to 15 feet into the borrow site.

1.1.4 Before placement of the new embankment material, the entire levee surface shall be thoroughly broken or scarified to a depth of 6 inches. Fill materials shall be placed or spread in layers, with the first or bottom layer and the last two layers being not more than 6 inches thick and all layers between the first and the last two layers not more than 12 inches thick prior to compaction. Layers would be started full, out to the existing MR&T right-of-way (ROW) and would be carried substantially horizontal and parallel to the levee centerline with sufficient crown or slope to provide drainage during construction.

1.1.5 Variation of slopes are due to the enlargement being a straddle or flood side shift to avoid interference to LA Highway 15 and its drainage features. Upon completion of the placement of the new levee embankment, the levee crown would be re-surfaced with limestone aggregate material throughout the entire work area. All levee embankments and areas disturbed by the construction activities would be seeded with either Bermuda, Bahia or Seashore Paspalum or rye

grass and fertilized. The silt fence barriers would be removed after construction is complete and the soil is stabilized.

1.1.6 A 0.39 acre proposed staging area will be located within the existing MRL right-of-way on a mowed grass area and is approximately 0.6 miles south and outside of the work area (Figure 3). The staging area can be used by the contractor for field trailers and stockpiling of construction material. Any site work performed by the contractor to establish and use the staging area would be removed prior to completion of the levee enlargement construction, and the staging area location would be restored by the contractor to the condition in which the site existed prior to use by the contractor.

Figure 4. Mississippi River Levee, Upper Fifth Levee Enlargement Work Proposed Staging Area

1.2 MR&T PROJECT AUTHORITY

The MR&T Project is authorized by the Flood Control Act of 1928 (Public Law 70-391), as amended, including but not limited to, the Flood Control Act of 1936 (Public Law 74-738), the Flood Control Act of 1938 (Public Law 75-761), the Flood Control Act of 1941 (Public Law 77-228), the Flood Control Act of 1946 (Public Law 79-526), the Flood Control Act of 1950 (Public Law 81-516), the Flood Control Act of 1954 (Public Law 83-780), the Flood Control Act of 1962 (Public Law 87-874), the Flood Control Act of 1965 (Public Law 89-298), the River and Harbor and Flood Control Act of 1968 (Public Law 90-483), and the Water Resources Development Act (WRDA) of 1986 (Public Law 99-662).

1.3 PURPOSE AND NEED FOR THE PROPOSED ACTION

1.3.1 The MR&T Project is designed to reduce flood risk in the Mississippi River alluvial valley between Cape Girardeau, Missouri and the Head of Passes, Louisiana from the MR&T project design flood (PDF), which is defined as the greatest flood having a reasonable probability of occurrence. The goal of the MR&T Project is to provide an environmentally sustainable project for comprehensive flood damage control, protection, and risk reduction from the PDF, in the alluvial valley beginning at Cape Girardeau, Missouri to the Head of Passes, Louisiana, by means of levees, floodwalls, floodways, reservoirs, banks stabilization and channel improvements in and along the Mississippi River and its tributaries. There is a need to design, build, maintain, operate, and repair the mainline MRL to ensure that the MRL system provides protection up to the congressionally authorized level of the PDF. A catastrophic failure of the MRL, at any point, would likely cause grievous loss of life and personal injury, extensive damage to property and natural resources, serious harm to river navigation, and significant and long-lasting economic and social upheaval. One of the greatest threats to a levee or floodwall is overtopping during high water events. Once a levee or floodwall overtops, the flow of water over the top would erode the protected side of the structure, often creating a full breach. Every section of levee or floodwall raised to the congressionally authorized height along the entire Mississippi River helps strengthen the system and reduce the areas subject to overtopping that would need supplemental flood fighting measures during floods (typically done by using sandbags or other temporary water retarding methods).

1.3.2 Through evaluation of information and data obtained from levee inspections, seepage analyses, research, studies, and engineering assessments, USACE has concluded that this levee reach does not meet the federally authorized design grade due to effects from various changed conditions, including, but not limited to consolidation of levee materials, subsidence, and changes in river conditions and survey datums over time.

1.3.3 The purpose of the proposed action is to continue providing flood risk reduction resulting from Mississippi River high water events to valuable land uses including, but not limited to, residential and agricultural resources located on the west bank of the Mississippi River in Concordia Parish, Louisiana. The proposed action will correct a severe levee deficiency and performance index determination, improve the current poor LSAC rating, and reduce the high risk of damage to property and loss of life in the event of a levee failure. Since this levee reach of the MRL system is approximately four feet (4'), there exists a critical need to provide adequate flood risk reduction to the properties that are located on the landside of this levee reach.

1.4 PRIOR NEPA DOCUMENTS

1.4.1 The April 1976 Final Environmental Impact Statement (1976 FEIS), "*Mississippi River and Tributaries Mississippi River Levees and Channel Improvement*", evaluated the environmental impacts for previously identified Mississippi River and Tributaries (MR&T) Project features, including the Mississippi River levees and floodwalls. A Statement of Findings was signed by Major General Ernest Graves, USACE, Director of Civil Works, on April 4, 1976.

1.4.2 The July 1998 "*Flood Control, Mississippi River and Tributaries, Mississippi River Mainline Levees, Enlargement and Seepage Control, Cape Girardeau, Missouri to Head of Passes, Louisiana*" Final Supplemental Environmental Impact Statement (1998 SEIS), was a joint effort of

USACE Vicksburg, Memphis and New Orleans districts. The 1998 SEIS was prepared to report the findings of studies conducted for the MR&T Project in the alluvial valley between Cape Girardeau, Missouri, and Head of Passes, Louisiana, based on environmental laws and regulations passed since 1976 to cover the remaining unconstructed Mississippi River mainline levees and seepage control projects that are part of the MR&T Project. A Record of Decision was signed by Major General Phillip R. Anderson, U.S. Army President Designee, Mississippi River Commission, on October 5, 1998. The proposed action was originally identified and evaluated in the 1998 SEIS.

1.4.3 The March 2021 Final Supplement II (2021 SEIS II) to the 1976 Final Environmental Impact Statement (FEIS), Mississippi River and Tributaries (MR&T) Project, Mississippi River Mainline Levees (MRL), evaluated the environmental impacts associated with a total of 143 additional Work Items, along various reaches of the MRL feature of the MR&T Project located across portions of seven states: Illinois, Missouri, Kentucky, Tennessee, Arkansas, Mississippi and Louisiana. The proposed action, which was also evaluated in the 2021 SEIS II, consists of constructing remedial measures necessary to control seepage and/or raise and stabilize deficient sections of the existing levees and floodwalls to protect the structural integrity and stability of the MRL system, as well as measures to avoid and minimize adverse impacts and compensate for unavoidable losses to significant environmental resources. The 2021 SEIS II supplements and, as necessary, augments the 1976 FEIS and 1998 SEIS to achieve USACE's primary goals for the MR&T: (1) providing flood risk management from the Project Design Flood; and (2) being an environmentally sustainable project. The Record of Decision was signed by Major General Diana Holland, Commanding General, USACE Mississippi Valley Division, on March 11, 2021.

1.5 **PUBLIC CONCERNS**

1.5.1 The comprehensive MR&T Project has four major elements: levees and floodwalls to contain flood flows; floodways to pass excess flows past critical Mississippi River reaches; channel improvement and stabilization to provide efficient navigation alignment, increased flood-carrying capacity and protection of the levee system; and tributary basin improvements. The MR&T Project in the alluvial valley between Cape Girardeau, Missouri, and Head of Passes, Louisiana, provides protection from floods by means of levees, floodwalls, floodways, reservoirs (in Yazoo and St. Francis Basins), bank stabilization and channel improvements in and along the river and its tributaries and outlets insofar as affected by backwater of the Mississippi River.

1.5.2 Historically, the MRL feature has been under construction since 1928 and the engineering, construction, and operation and maintenance capability exists to continue work on the MR&T Project for the foreseeable future. The Mississippi River mainline levees were first constructed by settlers at New Orleans in the early 1700's. Federal construction of the Mississippi River mainline levees began shortly after the passage of the Flood Control Act of 1928 and has continued ever since. The Mississippi River mainline levees protect the lower Mississippi River valley against the Project Design Flood (PDF) by confining flow to the leveed channel, except where it enters backwater areas, allowing the overflow of several levees designed to overtop and fill tributary basins, or diverting flow into four project floodway areas. The mainline levee system, comprised of levees, floodwalls, and various control structures, is approximately 1,610 miles long.

1.5.3 Widespread public support exists for the protection of environmental resources and for flood control along the Mississippi River. Throughout history, special emphasis has been placed on the construction and maintenance of channel training devices such as levees. The flood

control plan of the MR&T Project is designed to control the Mississippi River PDF, which is a theoretical flood greater than the great flood of 1927. The comprehensive flood control plan includes several features that protect a large part of the alluvial valley from the PDF, with a major element of this plan being levees for the containment of flood flows.

2. ALTERNATIVES TO THE PROPOSED ACTION

2.1 ALTERNATIVE 1 – NO ACTION

2.1.1 In the future without the proposed action (a.k.a. FWOP or No-action Alternative), the proposed action would not be constructed. Without the proposed improvements to the designated levee reaches there exists an increased risk of flood damages to the west bank of the Mississippi River in Concordia Parish during high river periods typically ranging from early March to June as well as during hurricane season beginning in June and lasting until mid-November. If additional earthen material is not placed on the proposed levee reaches, it is likely that temporary flood risk reduction would be required during either high water on the Mississippi River or if a tropical weather system is approaching. Temporary flood risk reduction measures could include temporary placement of earthen fill, a cofferdam, Hesco® baskets, sheet pile, or other engineering methods that would in no way affect the stability of the existing flood risk reduction feature (i.e. the existing levee). It is likely that during the periods that temporary flood risk reduction measures are enacted those portions of the existing MRL in Concordia Parish would be subject to restricted access.

2.2 BORROW SITE ALTERNATIVES ANALYSIS

2.2.1 Under the Clean Water Act, Section 404(b)(1) Alternatives Analysis requirement {40 CFR 230; and 33 CFR 323.6}, borrow site alternatives associated with the structural or action alternatives, which would bring the existing mainline Mississippi River levees to the approved design grade, were explored and evaluated by USACE personnel.

2.2.2 Criteria utilized by CEMVN which are specifically applicable to borrow sources under Section 404(b)(1) of the Clean Water Act, include the following:

- Plans are formulated to the extent practicable that would first avoid, and then, if impacts are not avoidable, minimize adverse impacts to aquatic resources and aquatic habitat including wetlands. Avoidance of impacts to the aquatic environment is a restriction on dredged material discharge in that no discharge of dredged material can be permitted if there is a practicable alternative to the discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other adverse environmental consequences (40 CFR 230.10 (a)).
- Unavoidable adverse impacts to aquatic resources would be identified for appropriate and practicable compensatory mitigation.
- Unavoidable adverse impacts to aquatic resources would be mitigated concurrently with construction at 100 percent Federal cost.

2.2.3 In addition to the criteria listed above, both the 1998 SEIS and the 2021 SEIS II establish a method for identifying and ranking potential borrow sources in terms of land use and locations that best avoid and minimize adverse environmental effects from the excavation and placement

of borrow material. Environmentally sensitive areas, forested areas of BLH, and wetlands are critical areas to be avoided whenever practicable and possible. The following is a list of eight different types of land uses that are traditionally used as borrow sources for the MR&T Project. These land uses are ranked in order from most preferable to least preferable, in terms of borrow source locations that have the greatest ability to avoid and minimize environmental impacts:

MOST PREFERABLE:
1) Riverside prior-converted cropland
2) Landside cropland from willing sellers
3) Riverside farmed wetlands (cropland)
4) Riverside farmed wetlands (pasture)
5) Riverside herbaceous wetlands not in federal conservation programs
6) Riverside forested non-wetlands not in federal conservation programs
7) Riverside forested wetlands not in federal conservation programs

LEAST PREFERABLE:
8) Landside/Riverside cropland condemnation

2.2.4 Borrow alternatives were evaluated in order to identify the alternative which is the least environmentally damaging alternative that is practicable, available and possible after considering cost, existing technology, and logistics relative to project purposes (40 CFR 230.10 (a) (2)). When considering the borrow source locations (i.e., land use types) located within the work area and the ranking criteria of "Most Preferable" to "Least Preferable", only two of the above-stated eight land use types are recognized as being available: a) Landside cropland from willing sellers (land use type option #2); and b) Riverside forested wetland not in federal conservation programs (land use type option #7).

2.2.5. **Landside cropland from willing sellers (Landside borrow use alternative) –** This alternative presumes obtaining the necessary land rights from willing landowners to use and acquire borrow material to construct the levee enlargement from areas located on the landside of the levee but as close to the construction site as is engineeringly feasible. Under this land use type, the Non-Federal Sponsor (NFS) would obtain permanent easements from the landowner(s) for access to, and excavation of, borrow areas. A pit depth of -20.0 feet (NAVD88) was assumed for all potential landside borrow areas based on the typical design depth for MRL borrow sources. Borrow locations which are currently used as farmland and pastureland, would be required to be located a minimum of 1,500 feet from the centerline of the existing MRL levee to prevent under-levee seepage problems. These minimum distances are required because the geology of the area in the vicinity of the levee enlargement work is not uniform, and sand seams, organic material, relict watercourses and other discontinuities could become seepage pathways and undermine levee integrity. Although the landside borrow analysis in the 1998 SEIS sets forth a minimum distance of 2,000 feet from the landside levee toe to the closest borrow area, since 1998, setback distances for landside borrow sites have been reduced to less than 1,500 feet, and may be reduced further, if detailed site-specific information indicates that seepage pathways would not be created (SEIS, July 1998, Volume I, p. 34).

2.2.6 Based on the previously discussed minimum setback distances, the landside area boundaries established for investigation consisted of all lands located immediately adjacent to the proposed work area (i.e., upper and lower limits of MRL work area) on the landside of the MRL

within Concordia Parish. This area was selected as the most feasible location for a landside borrow source given both its proximity to the work area and it is within jurisdiction of the Non-Federal Sponsor. Approximately 450 acres of cropland/pastureland were identified as being situated within the minimum setback distance of 1,500 feet up to approximately 2,000 feet. It should be noted that beyond the 2,000-foot setback distance, the land use type within the work area limits is completely comprised of upland BLH habitat. As such, the limitations on available landside borrow would be restricted to an area of approximately 500-feet in width by 20,000-feet in length (i.e. multiple individual parcels).

2.2.7 **Riverside forested wetland not in federal conservation programs (Riverside borrow land use alternative) –** This alternative is the standard approach to constructing Mississippi River levee enlargements. This borrow source would be located on the riverside of the levee as close to the construction site as feasible from an engineering perspective. A pit depth of -20.0 feet (NAVD88) was assumed for any potential riverside borrow areas based on the typical design depth for MRL borrow sources. Previous development of riverside borrow areas has demonstrated that typical borrow sites permanently hold water, do not fully refill with sediment, but are periodically flushed by normal river fluctuations. Floral communities within these areas consist primarily of bottomland hardwood forest. Trees typically include sweetgum, green ash, cottonwood, American elm, water oak, hackberry, sycamore, black willow and Chinese tallow. These areas have been extensively documented to support numerous faunal species including swamp rabbit, raccoon, opossum, gray squirrel, fox squirrel as well as various species of birds, reptiles and fish. Prior typical designs of riverside borrow sites have included constructing 1 vertical on 3 to 5 horizontal side slopes on the riverside of the pit, burying woody debris on the shallow side of the pit thereby resulting in a shallow shelf that produces desirable spawning habitat for several fish species as well as foraging habitat for several species of wading birds, and leaving selected trees for shading and creating some sinuosity along the edges of the borrow pit.

2.2.8 Based upon data obtained during prior New Orleans District engineering investigations, one riverside borrow source was identified in close proximity to the work area. (See Section 1.1.3) The borrow site is located 0.25 miles away from the work area on the riverside of the existing MRL in Concordia Parish and is approximately 12.71 acres; an additional 0.64 acre access road along the riverside levee toe would be used to access the borrow area (riverside borrow source totals approximately 13.35 acres total) (Figures 1, 2, and 5).

2.2.9 **Screening of Borrow Alternatives -** Each of the borrow source alternatives were screened according to the following criteria: Real estate costs; site access to local roadway network; site closure costs; time to acquisition; excavation and transport of borrow; air/noise impacts; proximity to construction site; NFS ability to implement. Table 1 provides summary information of the previously noted screening criteria.

Table 1		
Screening Factor	**Landside**	**Riverside**
Real Estate Costs (NFS)	Unirrigated Agricultural land cost per acre = **$6,500**. Title acquisition/legal fees per multiple parcels = **$7,500**. Cost to purchase approximately 13 acres (assumed pit depth -20.0 feet (NAVD88)) identified across multiple real estate parcels = **$100,000**.	There is no land acquisition cost associated with obtaining the riverside borrow source.
Site Access to Local Roadway Network	Multiple/Single sites, typically greater than 1,500-feet from project site, would require additional haul access on local roads and Louisiana Highway 15.	Minimal haul access required as most work is done within the levee footprint and Louisiana Highway 15.
Site Closure Costs	Unknown, may include additional costs associated with local municipality or parish ordinances.	No site closure requirements for the riverside borrow source.
Time to Acquisition	Unknown, could take years to acquire multiple parcels.	Once contract is let for construction, the riverside borrow source would be immediately available, but subject to high water on the Mississippi River.
Excavation and Transport of Borrow (costs and time to complete)	Excavation and Transportation of approximately 95,000 cubic yards (cy) = **$850,000** (excavation and transport costs for single borrow source, may be increased if multiple sources are required). Transportation of 95,000 cy = **7,500 truckloads** (transport numbers for single borrow source, may be increased if multiple sources are required) Time to complete = **130 calendar days** (time to complete for single borrow source, may be increased if multiple sources are required)	Excavation and Transportation of approximately 95,000 cubic yards (cy) = **$750,000**. Transportation of 95,000 cy = **7,500 truckloads.** Time to complete = **130 calendar days.**

Table 1		
Screening Factor	**Landside**	**Riverside**
Air/noise impacts	Increased diesel emissions both at the landside borrow source and Louisiana Highway 15 during the 130-day excavation and transportation of borrow material. Potential for increased PM-10 near agricultural land operations immediately adjacent to Louisiana Highway 15. Vehicle noise due to gear shift and engine sound will exceed 65 dBa near borrow sites and along travel routes (e.g., Louisiana Highway 15 and any local roads).	Air and noise effects for this alternative will largely be confined to the MRL work area. Hauling would primarily be confined to the riverside levee maintenance corridor and crown of the levee. The potential exits for the contractor to utilize Louisiana Highway 15, as needed, during construction. Emissions would be minimized due to short haul distances.
Proximity to Construction Site	Landside borrow source would, at minimum, be located greater than 1,500-feet from the MRL work area.	Located 0.25 miles adjacent to existing levee.
NFS Ability to Implement	The NFS is not staffed or funded to acquire real estate for borrow sites on landside of the Mississippi River levee. Substantial local costs would be incurred to implement this alternative.	The NFS is able to fulfill its responsibilities under this alternative.

2.2.10 **Selected Borrow Alternative –** The borrow alternatives analysis indicates that the landside borrow alternative would be difficult to implement as the Non-Federal Sponsor would be responsible for land acquisition and would likely have to contract this process to private sector at a high cost. The initial costs that could be estimated indicate that the riverside borrow alternative would require approximately $750,000 to implement at a minimum. Additionally, the riverside alternative is the only alternative that would require mitigation. The forecast mitigation costs would likely be around $150,000 depending upon the mitigation bank that is finally selected and upon the number of acres that would have to be purchased in order to achieve the calculated 6.5 average annual habitat units lost as a result of the unavoidable impacts to the riverside borrow alternative. The Landside borrow alternative would require approximately $1 million to implement at a minimum or almost 11% more than the riverside borrow alternative.

2.2.11 Logistically, while both the riverside and landside borrow alternatives would likely result in an increase in local traffic along Louisiana Highway 15 (i.e., truck hauling operations), the riverside borrow alternatives would have the opportunity to haul material along the levee crown and floodside toe, thus reducing the need to utilize Louisiana Highway 15. Additionally, the safety of motorists traversing both Louisiana Highway 15 and local roads would be a subject of considerable concern under the landside borrow alternative as truck hauling operations would definitively require the use of Louisiana Highway 15 and local roads versus the riverside alternative. For the landside borrow alternative, the increased roadway demand (e.g., Louisiana Highway 15 and local roads) could result in above average roadway maintenance costs which are not estimated for this analysis. The landside borrow alternative would also adversely affect air quality and ambient noise through the many forecast truck haul trips and would bring these

impacts closer to agricultural land operations immediately adjacent to Louisiana Highway 15, versus the riverside borrow alternative. While the landside borrow alternative would have the least impact upon the aquatic environment, it would have other considerable adverse environmental consequences as noted.

2.2.13 However, with the additional costs of acquiring real estate, extracting, and transporting borrow material, and logistical safety considerations of local motorists associated with the landside borrow alternative, the riverside borrow alternative is considered to be the least environmentally damaging practicable alternative.

2.2.14 As the landside borrow alternative was not considered to be a reasonable alternative, it was eliminated from further consideration under this Environmental Assessment.

3. AFFECTED ENVIRONMENT

3.1. DESCRIPTION OF THE WORK AREA

3.1.1 The proposed action would be performed within the Mississippi River deltaic plain, with the Mississippi River acting as the primary influence on geomorphic processes in the delta region. The Mississippi River levees are designed to protect the alluvial valley against the PDF by confining flow between the levees with the exception of areas where it enters the natural backwater areas or is diverted purposely into floodway areas. The MRL System consists of levees and floodwalls along the river, floodways and control structures. The MRL levee on the west bank of the River begins just south of Cape Girardeau, Missouri, and extends to Venice, Louisiana.

3.1.2 Concordia Parish is located within central Louisiana, along the eastern border of the state, and situated along the Mississippi River across from Natchez, Mississippi. Concordia Parish is almost entirely bounded by rivers, except for short stretches of land on the north and south boundaries. The Ouachita River runs along the west boundary, the Red River along the south, and the Mississippi River along the east. All three rivers are contained by large levee systems. The parish has a total area of 748 square miles, with approximately 696 square miles comprised of land and the remaining 52 square miles consisting of water. Elevation ranges from about 30 feet above sea level in the southern part of the parish to about 65 feet in the northern part, a distance of about 50 miles. The parish is completely agricultural bottomlands. There are four incorporated municipal areas in Concordia Parish: Clayton, Ferriday, Ridgecrest and Vidalia. Vidalia, the parish seat, overlooks the Mississippi River on the eastern border. The parish is chiefly rural and according to the U.S. Census data, the parish had a population of 19,259 in 2019.

3.2 DESCRIPTION OF THE WATERSHED

3.2.1 A watershed is an area of land drained by a particular set of streams and rivers. Of the twelve major watersheds within Louisiana, the proposed action is located within the Mississippi River Basin on the right descending bank of the Mississippi River in Concordia Parish, Louisiana (Figure 3). The Mississippi River has the third largest drainage basin in the world, exceeded in size only by the watersheds of the Amazon and Congo Rivers. The entire Mississippi River basin covers more than 1,245,000 square miles and includes all or parts of 31 states and two Canadian provinces. The lower Mississippi River is the portion of the Mississippi River downstream of Cairo, Illinois. From the confluence of the Ohio River and upper Mississippi River at Cairo, the lower Mississippi River flows just under 1,000 miles to the Gulf of Mexico. The lower Mississippi River

alluvial valley is generally bounded by bluffs on the eastern side of the river and the valleys of merging tributaries to the west (LDWF-CWCS 2005). Within CEMVN, the Mississippi River is bounded by levees that extend along the west bank from the vicinity of Black Hawk, Louisiana, generally southward to the vicinity of Venice, Louisiana, and on the east bank from Baton Rouge, Louisiana to Bohemia, Louisiana encompassing over 500 miles of levee and associated infrastructure.

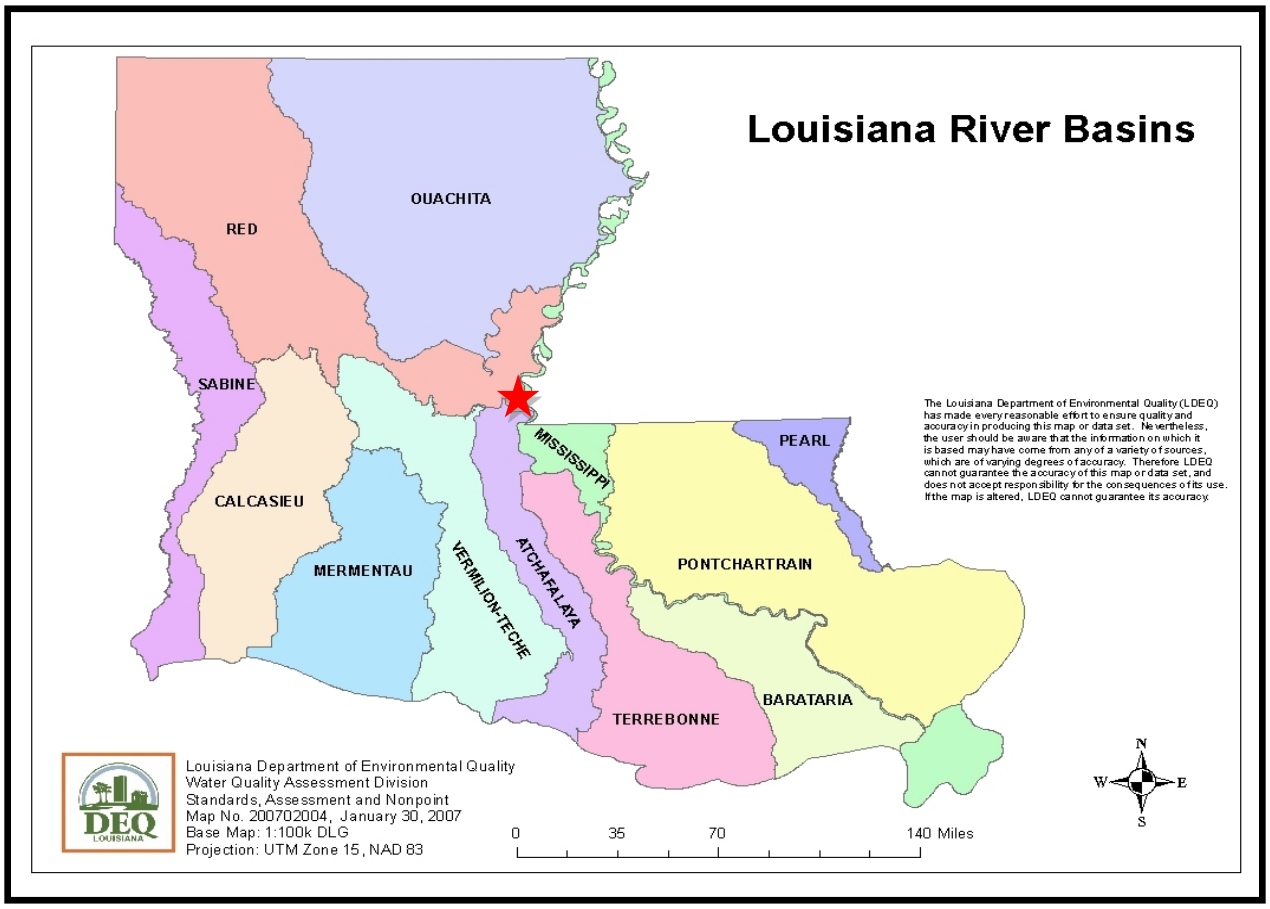


Figure 5. Louisiana River Basins (LDEQ, 2007). The Mississippi River Basin Watershed is shown in green. The location of the Upper Fifth Levee Enlargement Work is represented by the red star.

3.3 CLIMATE

3.3.1 The climate in the work area is humid and subtropical with a strong maritime character. Warm, moist, southeasterly winds from the Gulf of Mexico prevail throughout most of the year, with occasional cool, dry fronts dominated by northeast high-pressure systems. The influx of cold air occurs less frequently in autumn and only rarely in summer. In winter, the average temperature is 54˚F and the average daily minimum temperature is 41˚F. In summer, the average temperature is 78˚F and the average daily maximum temperature is 89˚F. Summer thunderstorms are common, and tornadoes strike occasionally. The total annual precipitation is about 60.7 inches, of this, 30 inches (50 percent) usually falls in April through September. The growing season for

most crops falls within this period. In 2 years out of 10, the rainfall in April through September is less than 16 inches (http://www.srcc.lsu.edu/).

3.4 GEOLOGY

3.4.1 The work area lies on an existing levee located on the west bank of the Mississippi River. Fluvial activity in the proposed action area includes lateral migration and overbank deposition during flood stages. This activity is the dominant geologic process operating on the landscape in this region. The formation of natural levees point bar deposits, and other geomorphic features such as crevasse channels and abandoned river courses has been documented. There are also two major land resource areas-Southern Mississippi Valley Silty Uplands and Southern Mississippi Valley Alluvium. The Southern Mississippi Valley Silty Uplands Major Land Resource Area consists dominantly of well drained, moderately well drained, somewhat poorly drained, and poorly drained loamy soils. The Southern Mississippi Valley Alluvium Major Land Resource Area consists mainly of well drained and somewhat poorly drained loamy soils on natural levees and poorly drained and very poorly drained clayey soils on natural levees and in back swamps.

3.4.2 The overall Mississippi River Delta complex was formed by river deposits between 700 and 7,400 years ago. The Natural Resources Conservation Service (NRCS) classifies soils within the proposed action area as typically peat, mucks, clays mixed with organic matter, and silts derived from river deposits. The soil composition is subject to change as floodwaters and storm surges deposit new sediments. They are composed predominantly by Balize and Larose soil types. These soils are classified as continuously flooded deep, poorly drained, and permeable mineral clays and mucky clays. Marsh and swamp deposits are found in the vicinity of the River from New Orleans to the Heads of Passes at the Gulf of Mexico. Marsh deposits are primarily organic, consisting of 60 percent or more by volume of peat and other organic material with the remainder being a composition of various types of clays. Total organic thickness is normally 10 feet with variances less than one foot. Inland swamp deposits are composed of approximately 70 percent clay and 30 percent peat and organic materials. The percentage of sand and sandy silts increases with proximity to the open waters of the Gulf of Mexico (Saucier 1974).

3.5 RELEVANT RESOURCES

3.5.1 This section contains a description of relevant resources that could be impacted by the proposed action. The important resources described are those recognized by laws, executive orders, regulations, and other standards of national, state, or regional agencies and organizations; technical or scientific agencies, groups, or individuals; and the public. Table 1 provides summary information of the institutional, technical, and public importance of these resources.

3.5.2 The following resources have been considered and found to not be affected by the proposed action: estuarine water bodies; estuarine or marine fisheries resources, including essential fish habitat; recreation resources; aesthetic visuals; and socioeconomic resources. The objectives of Executive Order 11988 (Floodplain Management) were considered; however, CEMVN has determined that there would be no floodplain impacts from the proposed action. Additionally, there is no practicable alternative for construction outside the 100-year floodplain. No portion of the proposed action area has been designated a Louisiana Natural and Scenic River; therefore, a Scenic Rivers permit is not warranted. Environmental justice concerns were considered in accordance with the Executive Order 12898 of 1994 and the Department of Defense's Strategy on Environmental Justice of 1995, which direct federal agencies to identify

and address any disproportionately high adverse human health or environmental effects of federal actions to minority and/or low-income populations. However, CEMVN determined that no significant populations or residential areas would be affected by the proposed action. Finally, the proposed action is located outside the Louisiana Coastal Zone.

3.5.3 The following relevant resources listed in Table 1 are discussed in this EA: wetlands; aquatic resources/fisheries; wildlife; terrestrial resources; threatened or endangered species; cultural resources; water quality; and air quality.

Table 2: Relevant Resources

Resource	Institutionally Important	Technically Important	Publicly Important
Wetlands	Clean Water Act of 1977, as amended; Executive Order 11990 of 1977, Protection of Wetlands; Coastal Zone Management Act of 1972, as amended; and the Estuary Protection Act of 1968., EO 11988, and Fish and Wildlife Coordination Act.	They provide necessary habitat for various species of plants, fish, and wildlife; they serve as ground water recharge areas; they provide storage areas for storm and flood waters; they serve as natural water filtration areas; they provide protection from wave action, erosion, and storm damage; and they provide various consumptive and non-consumptive recreational opportunities.	The high value the public places on the functions and values that wetlands provide. Environmental organizations and the public support the preservation of marshes.
Aquatic Resources/ Fisheries	Fish and Wildlife Coordination Act of 1958, as amended; Clean Water Act of 1977, as amended; Coastal Zone Management Act of 1972, as amended; and the Estuary Protection Act of 1968.	They are a critical element of many valuable freshwater and marine habitats; they are an indicator of the health of the various freshwater and marine habitats; and many species are important commercial resources.	The high priority that the public places on their esthetic, recreational, and commercial value.
Wildlife	Fish and Wildlife Coordination Act of 1958, as amended and the Migratory Bird Treaty Act of 1918	They are a critical element of many valuable aquatic and terrestrial habitats; they are an indicator of the health of various aquatic and terrestrial habitats; and many species are important commercial resources.	The high priority that the public places on their esthetic, recreational, and commercial value.
Terrestrial Resources	Food Security Act of 1985, as amended; the Farmland Protection Policy Act of 1981; the Fish and Wildlife Coordination act of 1958, as amended.	The habitat provided for both open and forest-dwelling wildlife, and the provision or potential provision of forest products and human and livestock food products.	The present economic value or potential for future economic value.
Threatened or Endangered Species	The Endangered Species Act of 1973, as amended; the Marine Mammal Protection Act of 1972; and the Bald Eagle Protection Act of 1940.	USACE, USFWS, NMFS, NRCS, EPA, LDWF, and LDNR cooperate to protect these species. The status of such species provides an indication of the overall health of an ecosystem.	The public supports the preservation of rare or declining species and their habitats.

Table 2: Relevant Resources			
Resource	**Institutionally Important**	**Technically Important**	**Publicly Important**
Cultural Resources	National Historic Preservation Act (NHPA), as amended, and Section 110 of the NHPA; the Native American Graves Protection and Repatriation Act of 1990; the Archeological Resources Protection Act of 1979; and USACE's Tribal Consultation Policy (2012)	Federal, State, and Tribal stakeholders document and protect cultural resources including archaeological sites, districts, buildings, structures, and objects that are significant in American history, architecture, archaeology, engineering, and/or sites of religious and cultural significance based on their association or linkage to past events, to historically important persons, to design and construction values, and for their ability to yield important information about prehistory and history.	Preservation groups and private individuals support protection and enhancement of historical resources.
Water Quality	Clean Water Act of 1977, Fish and Wildlife Coordination Act, Coastal Zone Mgt. Act of 1972, and Louisiana State & Local Coastal Resources Act of 1978.	USACE, USFWS, NMFS, NRCS, EPA, and State DNR and wildlife/fishery offices recognize value of fisheries and good water quality and the national and state standards established to assess water quality.	Environmental organizations and the public support the preservation of water quality and fishery resources and the desire for clean drinking water.
Air Quality	Clean Air Act of 1963, Louisiana Environmental Quality Act of 1983.	State and Federal agencies recognize the status of ambient air quality in relation to the NAAQS.	Virtually all citizens express a desire for clean air.

3.6 **WETLANDS**

3.6.1 General Existing Conditions: The borrow site and access road are primarily composed of wet bottomland hardwood forest habitat. Intact tracts of wet bottomland hardwood (BLH) forest habitat are primarily located on the eastern side of the work area. These BLH forest patches tend to be small remnants of once larger forested alluvial wetlands that occupied floodplain regions of large flooding water bodies and rivers (Cowardin et al., 1979). These habitats are characterized by a mix of deciduous and evergreen vegetation often grouped into particular species associations based upon the hydrology and topography of the area.

3.6.2 BLH forests provide all basic ecosystem services of a typical wetland (Smith et al. 1995). Hydrologically, these forested areas act to store ground water, maintain surface water, and aid in flood and storm protection by acting as natural "sponges". Biogeochemically, these forested areas provide numerous valued services such as carbon sequestration, nutrient detention, and natural nonpoint source pollution mitigation (Coastal Wetland Forest Conservation and Use Science Working Group 2005).

3.6.3 On July 9, 2021, personnel from the USFWS provided a preliminary estimate for work induced impacts to forested wetland habitats using the WVA model for BLH, which calculated the project's induced impacts to wetland habitats. The WVA BLH model was selected because it presents the most appropriate evaluation model for habitat-related variables for riverine / adjacent riverside forest habitats. It is anticipated that the borrow site would be cleared and grubbed prior to excavation of the site, and the pit would be excavated to a depth of -20.0 feet (NAVD88). This area is currently experiencing high water and a physical visit was not conducted. Therefore, the investigations, analysis and evaluations completed by USACE for another Environmental Assessment (EA #516) prepared for a proposed action for another

MR&T work item (Old River Seepage), that included a similar nearby 8.2 acre borrow site in Concordia Parish, LA was utilized in the preparation of this EA #584. In September 2012, a Wetland Value Assessment (WVA) (2012 WVA) was conducted by personnel from the U.S. Fish and Wildlife Service (USFWS), Louisiana Department of Wildlife and Fisheries (LDWF), and USACE for Environmental Assessment (EA) #516 *"Old River Seepage Project, Pointe Coupee and Concordia Parishes, Louisiana"*, which is incorporated herein by reference. The 2012 WVA was conducted for an 8.2-acre borrow site (EA #516 borrow site) located on the riverside of the existing west bank MRL in Concordia Parish. The EA #516 borrow site is located approximately 2 miles south of the borrow site proposed for this work (Figure 4). The habitat assessment completed for EA #516 by representatives from USFWS, LDWF, and the USACE determined the borrow site to be a low-quality BLH forest consisting of cotton wood, box elder, and black willow. The USFWS and USACE determined that the EA #516 borrow site was reasonably similar enough in habitat composition to warrant substituting previous WVA data for the proposed borrow site. Additionally, the USFWS and USACE have agreed to conduct a follow-up field inspection once high-water levels have receded on the Mississippi River to provide a more accurate habitat impact assessment. See Table 3 herein which depicts the number of acres to be impacted (e.g. borrow site and access road) by the proposed action and associated net change in Average Annual Habitat Units that would result with the Future with Project condition.

Figure 6. Proximity of Upper Fifth Levee Enlargement borrow site in comparison to EA #516 borrow site for MRL – Old River Seepage work.

3.7 **AQUATIC RESOURCES/FISHERIES**

3.7.1 General Existing Conditions: The riverbank where the proposed borrow site would be located is subject to regular flooding from the Mississippi River as it lies on the floodside of the levee; therefore, it provides temporary aquatic/fisheries habitat nearly every year during late winter and spring when the river is typically high. During high water events on the Mississippi River, the riverbank typically provides sufficient, albeit temporary, depths to support fisheries habitat.

3.8 **WILDLIFE**

3.8.1 General Existing Conditions: The proposed action will be conducted adjacent to forested wetlands which exists both upstream and downstream along the west riverbank of the river, which provide habitat for many wildlife species. Mammals that adapt in varying degrees to periodically wet riparian or early successional BLH habitat are likely to inhabit or frequent land adjacent to the proposed action area. Beaver, swamp rabbit, nutria, muskrat, gray squirrel, fox squirrel, and white-tailed deer are likely present in the vicinity of the proposed action area. Woodlots in the batture also provide habitat for many resident passerine birds and essential resting areas for many migratory songbirds including warblers, orioles, thrushes, vireos, tanagers, grosbeaks, buntings, flycatchers, and cuckoos. Many of these and other passerine birds have undergone a decline in population primarily due to habitat loss. The area also supports resident hawks and owls including the red-shouldered hawk, barn owl, common screech owl, great horned owl, and barred owl. The red-tailed hawk, marsh hawk, and American kestrel are seasonal residents which utilize habitats within the vicinity of the proposed action area. Amphibians such as the pig frog, bullfrog, leopard frog, cricket frog, and Gulf Coast toad are expected to occur in the fresh and low salinity wetlands adjacent to the proposed action area. Reptiles such as the snapping turtle, soft-shell turtle, and red-eared turtle are also expected to occur in the wetlands and water bodies adjacent to the proposed action area.

3.8.2 The Fish and Wildlife Coordination Act (FWCA) provides authority for USFWS involvement in evaluating impacts to fish and wildlife from proposed water resource development projects. It requires that fish and wildlife resources receive equal consideration to other project features. It requires Federal agencies that construct, license or permit water resource development projects to first consult with the USFWS and State resource agencies regarding the impacts on fish and wildlife resources and measures to mitigate these impacts. The Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703, et seq.) is the primary legislation in the United States established to conserve migratory birds. The MBTA prohibits taking, killing, or possessing of migratory birds unless permitted by regulations promulgated by the Secretary of the Interior. The USFWS and the Department of Justice are the federal agencies responsible for administering and enforcing the statute. Similar to the ESA consultation, USACE would consult with the local USFWS Ecological Services Field Office on the proposed action, pursuant to the MBTA.

3.8.3 The USFWS was a Cooperating Agency for 2020 MRL SEIS II. The USFWS final FWCA Report dated November 05, 2020, including all fish and wildlife conservation measures, service position and recommendations, and MBTA recommendations and best management practices (e.g., species-specific seasonal buffer restrictions to colonial nesting waterbirds, tree clearing during fall or winter, etc.) would be followed to avoid impacts to any protected birds, and are incorporated herein by reference.

3.9 TERRESTRIAL RESOURCES

3.9.1 General Existing Conditions: The proposed levee enlargement area is categorized as a developed, maintained site. Vegetation within this area consists primarily of mowed Bermuda grass. The primary habitat type in the borrow sits consists of hardwood forests in the Mississippi River batture and are frequently inundated due to their direct hydrologic connection to the Mississippi River.

3.9.2 BLH are the predominant terrestrial habitat within the work area. The two dominant BLH communities are riverfront BLH and mixed BLH. Dominant species of the riverfront BLH communities include cottonwood *(Populus deltoides),* sycamore *(Platanus occidentalis),* and black willow (*Salix nigra)* while dominant mixed BLH species include pecan (*Carya* spp.), green ash *(Fraxinus pennsylvanica),* sugarberry *(Celtis laevigata),* hackberry *(Celtis occidentalis),* oaks *(Quercus* spp.), and elm *(Ulmus* spp.). Wildlife species commonly found within BLH habitat in the work area include white-tailed deer, raccoon, woodpeckers, owls, various songbirds, rabbits, mice, wild turkey, and grey and fox squirrels. Cottontail rabbit, mourning dove, raccoon, coyote, and opossum are species commonly found in agricultural lands. Other wildlife common to the work area include waterfowl, herons, egrets, and wood ducks which commonly use open water habitats. In addition, muskrats, nutria (invasive), swamp rabbits, minks, river otters, and beavers are commonly found in wetlands.

3.9.3 Within National Environmental Policy Act evaluations, USACE must consider the protection of the Nation's significant/important agricultural lands from irreversible conversion to uses that result in their loss as an environmental or essential food production resource. The Farmland Protection Policy Act, 7 USC 4201 et seq., and the U.S. Department of Agriculture's implementing procedures (7 CFR § 658) require Federal agencies to evaluate the adverse effects of their actions on prime and unique farmland soils, including farmland of statewide and local importance. A farmland conversion impact rating form (AD 1006) was completed for the borrow site and sent by letter dated April 12, 2021 (Appendix A) to the Natural Resources Conservation Service (NRCS) with information on those lands that could be converted by the proposed levee enlargement work.

3.10 THREATENED OR ENDANGERED SPECIES

3.10.1 General Existing Conditions: Four federally threatened or endangered species are either known to or may possibly occur in Concordia Parish, Louisiana are: Pallid sturgeon, (*Scaphirhynchus albus*) (endangered), Fat Pocketbook *(Potamilus capax)* (endangered), Interior least tern (*Sterna antillarum*) (endangered), and the Northern Long-eared Bat *(Myotis septentrionalis)* (threatened).

3.10.2 The pallid sturgeon only occurs in large rivers within the Mississippi and Missouri River Basins from Montana to Louisiana. This includes the Mississippi River and Atchafalaya River in south Louisiana. Pallid sturgeons tend to select main channel habitats in the Mississippi River. Additional habitat descriptions state that the pallid sturgeon generally inhabits large, turbid, free-flowing riverine type environments with swift moving waters and rocky or sandy substrates (USFWS, 1990). The species is long-lived, and spawning is believed to occur between June and August. Larval fish drift downstream from the hatching site and settle in the lower portion of the water column 11 to 17 days after hatching. Anthropogenic alterations to the Mississippi River such as bendway cutoffs, tributary impoundments and channel erosion have led to changes in

deposition and erosion patterns potentially affecting pallid sturgeon populations. Pallid sturgeons are more frequently encountered in the Missouri and Atchafalaya Rivers than in the Mississippi River, but are “nowhere common” (USACE, 1998). Habitat decline for this species has been attributed to channelization of rivers and construction of reservoirs that ultimately reduce the amount of turbidity in the water, which is vital for the pallid sturgeon for not only feeding areas but also spawning habitat (LDWF, 2012b). Pallid sturgeons are generally thought to avoid shallow water and inhabit thalwegs with hard-packed, sandy substrate, and channels of relatively low slope.

3.10.3 The fat pocketbook is a freshwater mussel of the family Unionidae occurring in the Ohio and Mississippi River systems within the central United States (Watters et al. 2009). Habitats where the species is currently found range from relatively natural and stable (Wabash River watershed), to impounded (Ohio River), channelized (St. Francis River watershed), and in secondary channels (lower Mississippi River) (Miller and Payne 2005, USFWS 2019, Killgore et al. 2014). Historically, the species was likely more common in large river sloughs and oxbows with clay silt substrate. Current navigation and flood control activities (lock and dams, levees and bank protection measures) have reduced or eliminated much of this depositional habitat generally occurring at the mouths of rivers (Miller and Payne 2005). Today, the fat pocketbook mussel generally occurs in sand, mud, and silt substrates, typically in slow flowing waters of moderate to large-sized rivers. Local populations are rarely encountered in high abundance and are seldom found in floodplain waterbodies of the LMR (USFWS 2019; Jones et al. 2019). Fat pocketbook mussels can be found in some secondary channels on the lower Mississippi river (USFWS 2019). Open water habitat within the batture of the work area is not considered typical for the species. The proposed borrow area construction would not be in close proximity to fat pocketbook habitat.

3.10.4 Least terns are the smallest members of the tern family. Terns are generally considered seabirds, but several species are also found along rivers, lakes, or other wetlands. The Interior least tern is a migratory bird species, nesting along freshwater habitats of the Missouri and Mississippi rivers and their major tributaries and overwintering in the Caribbean and South America. Least terns primarily feed on small fish. Interior least terns historically nested along sand and gravel bars of the Lower Mississippi River and its major tributaries, including the Missouri, Red, Ohio, and Arkansas rivers. At the time of listing, the interior least tern was believed to have been eliminated from much of this summer nesting range by the construction of dams or other forms of river engineering, such as channelization that inundated and destroyed their nesting islands and bars and altered flow regimes. There were also a number of proposed water withdrawal projects on the southern plains that were potential threats to their habitats. In 1985, the population was estimated at fewer than 2,000 adults nesting in a few dozen scattered colonies along the Mississippi River and its tributaries. Interior least terns currently nest along more than 2,800 miles of river channels across the Great Plains and the Lower Mississippi Valley, with nesting colonies documented in Montana, North Dakota, South Dakota, Nebraska, Colorado, Iowa, Kansas, Missouri, Illinois, Indiana, Kentucky, New Mexico, Oklahoma, Arkansas, Tennessee, Texas, Louisiana and Mississippi.

3.10.5 The Northern long-eared bat is a listed bat specie that use forest and forested wetland habitats, where they are known to roost in tree cavities, exfoliated bark and snags. It is a medium sized bat about 3 to 3.7 inches in length with a wingspan of 9 to 10 inches and is distinguished by its long ears. Its fur color can range from medium to dark brown on the back and tawny to pale brown on the underside. The northern long-eared bat can be found in much of the eastern and north central United States and all Canadian provinces from the Atlantic Ocean west to the

southern Yukon Territory and eastern British Columbia. Northern long-eared bats are often found in mixed pine/hardwood forest with intermittent streams, where they roost alone or in small colonies underneath bark or in cavities or crevices of both live trees and snags (dead trees), over 5 inches (diameter breast height). During the winter, northern long-eared bats can be found hibernating in caves and abandoned mines, although none have been documented using caves in Louisiana. Northern long-eared bats emerge at dusk to fly through the understory of forested hillsides and ridges to feed on moths, flies, leafhoppers, caddis flies and beetles, which they catch using echolocation. This bat can also feed by gleaning motionless insects from vegetation and water surfaces. There are currently no known maternity colonies within the work area footprint.

3.11 CULTURAL RESOURCES

3.11.1 General Existing Conditions: This resource is institutionally important because of the National Historic Preservation Act of 1966, as amended; the Native American Graves Protection and Repatriation Act of 1990; and the Archeological Resources Protection Act of 1979; as well as other statutes. Cultural resources are technically important because of their association or linkage to past events, to historically important persons, and to design and/or construction values; and for their ability to yield important information about prehistory and history. Cultural resources are publicly important because preservation groups and private individuals support their protection, restoration, enhancement, or recovery. Additionally, a Programmatic Agreement Among The U.S. Army Corps Of Engineers, Memphis, New Orleans, And Vicksburg Districts The Chickasaw Nation; The Choctaw Nation Of Oklahoma; The Osage Nation; The Quapaw Nation; The Arkansas State Historic Preservation Officer; The Illinois State Historic Preservation Officer; The Kentucky State Historic Preservation Officer; The Louisiana State Historic Preservation Officer; The Mississippi State Historic Preservation Officer; The Missouri State Historic Preservation Officer; The Tennessee State Historic Preservation Officer; And The Advisory Council On Historic Preservation Regarding The Mississippi River And Tributaries Project: Mississippi River Levee Features to guide consultation on MRL project was executed on March 4, 2021. These documents can be found at: https://www.mvk.usace.army.mil/MRLSEIS/

3.11.2 Consultation was **conducted** pursuant to the Programmatic Agreement. The proposed action has been coordinated with the Louisiana State Historic Preservation Office (SHPO) and Federally recognized Tribes (Caddo Nation, Choctaw Nation of Oklahoma, Coushatta Tribe of Louisiana, Jena Band of Choctaw Indians, Mississippi Band of Choctaw Indians, Muscogee (Creek) Nation, Seminole Nation of Oklahoma, Tunic-Biloxi Tribe of Louisiana) for a determination of no historic properties affected, as stated in a consultation letter emailed to all consulting parties on May 4, 2021. Work area specifics for cultural resources are presented below.

3.11.3 The proposed action would be conducted primarily within the existing MR&T Project ROW. A temporary silt fence would be placed within the existing LA Highway 15 ROW. Background and literature review was conducted by CEMVN staff in March 2021. Historic properties in the vicinity of the work area were identified based on a review of the National Register of Historic Places (NRHP) database, the Louisiana Division of Archaeology (LDOA), Louisiana Cultural Resources Map (LDOA Website), historic aerial photography, historic map research, and a review of cultural resources survey reports. Review of current cultural resources map reveals there are no previously recorded cultural resources located within the work area. Historic maps indicate the area was in the direct path of the Mississippi River as late as 1828 which would limit human occupation and activity in the area. Due to the late development of the area, the high degree of erosion, and heavy disturbance from previous construction within the work area, staging area and

the proposed borrow site, it is unlikely that intact historic or pre-contact archaeological deposits or cultural resources are within the work area.

3.12 **WATER QUALITY**

3.12.1 General Existing Conditions: Water quality in the work area is affected by both point source and non-point source discharges. Point sources include mainly agricultural discharges. Non-point sources include storm water runoff, landscape maintenance activities, and natural sources. For the proposed borrow site, it anticipated that the groundwater seeping into the borrow site would be pumped out into adjacent areas and drain to the Mississippi River.

3.12.2 The Clean Water Act sets and maintains goals and standards for water quality and purity. USACE administers regulations under Section 404(b)(1) of the CWA, which establishes a program to regulate the discharge of dredged and fill material into waters of the U.S., including wetlands. Section 401 requires a Water Quality Certification from State water quality agencies that the proposed action does not violate established effluent limitations and water quality standards. Section 402 establishes the National Pollutant Discharge Elimination System Program, which the State of Louisiana also administers, requiring a permit for storm water discharges from construction sites or other areas of soil disturbance. A Stormwater Pollution Prevention Plan (SWPPP) would be prepared in compliance with EPA and associated state regulations for each construction contract. The SWPPP would outline temporary erosion control measures such as silt fences, retention ponds, and dikes. The construction contract would include permanent erosion control measures such as turfing and placement of riprap and filter material. While the preferred alternative minimizes impacts to wetlands to the extent practical, there are unavoidable impacts adjacent to the MRL from increasing the levee footprints and associated borrow material.

3.12.3 The LDEQ surface water monitoring program is designed to measure progress towards achieving water quality goals at state and national levels in order to gather baseline data used in establishing and reviewing the state water quality standards, and to provide a data base for use in determining the assimilative capacity of the waters of the state. Information is also used to establish permit limits for wastewater discharges. The program provides baseline data on a water body to monitor long-term trends in water quality.

3.12.4 Section 303(d) of the Clean Water Act requires states to identify water bodies that are not meeting water quality standards and to develop total maximum daily loads for those pollutants suspected of preventing the water bodies from meeting their standards. Total maximum daily loads are the maximum amount of a given pollutant that can be discharged into a water body from all natural and anthropogenic sources including both point and non-point source discharges. In Louisiana, the Department of Environmental Quality oversees the program. LDEQ Section 305(b) and 303(d) reports for 2020, included in the Water Quality Inventory Integrated Report, lists one water body that is located adjacent to the work area, the Mississippi River. The assigned sub-segment code for the Mississippi River is LA070101. Sub-segment Code LA070101 boundaries are described as Mississippi River – from Arkansas State Line to Old River Control Structure. Available LDEQ records indicate that prior to the 2004 Water Quality Inventory (WQI) Report, suspected causes of impairment for the Mississippi River are listed as mercury, nitrate/nitrite (nitrite + nitrate as N), pesticides, phosphorous, priority organics (including dioxin) and total fecal coliforms.

3.12.5 As shown in Table 3 utilizing the 2020 U.S. Environmental Protection Agency (USEPA) Integrated Report methodology guidance categories, which categorize water body/pollutant combinations, the LDEQ 2020 report no longer assigns the LA070101 (Mississippi River) segment an Integrated Report Category number since it is fulfilling all standards (LDEQ 2020).

Table 3: Final Approved 2020 Integrated Report of Water Quality in Louisiana

Subsegment Number	Designated Uses					Impaired Use	Suspected Causes of Impairment	Suspected Sources of Impairment
	PCR[1]	SCR[2]	FWP[3]	DWS[4]	OYS[5]			
LA070101_00	N[7]	F[6]	F	F		PCR	FECAL COLIFORM	UNKNOWN

[1] Primary Contact Recreation (swimming),[2] Secondary Contact Recreation (boating),[3] Fish and Wildlife Propagation (fishing),[4] Drinking Water Supply,[5] Oyster Propagation, [6] Fully supporting, [7] Not Supporting
Note: Primary Contact Recreation includes, but is not limited to, swimming, diving, water skiing, skin diving and surfing. This particular segment of the Mississippi River is not conducive to those activities due to the very high streamflow.

3.13 **AIR QUALITY**

3.13.1 General Existing Conditions: Federal air quality policies are regulated through the Clean Air Act. In accordance with this Act, the Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for six criteria pollutants considered harmful to public health and the environment, which include: carbon monoxide (CO), NOx, ozone (O3), lead, particulates of 10 microns or less in size (PM-10 and PM-2.5), and sulfur dioxide (SO2). The EPA is required to designate counties or air basins as in attainment or nonattainment for each criteria pollutant. If an area is in nonattainment, the state must develop an implementation plan to achieve compliance. Once in compliance with NAAQS, the area becomes a maintenance area. The EPA has issued regulations addressing the applicability and procedures for ensuring that Federal activities comply with the Clean Air Act. The EPA Final Conformity Rule (58 FR 63214) requires Federal agencies to ensure that Federal actions in designated nonattainment or maintenance areas conform to an approved or promulgated State implementation plan or Federal implementation plan to ensure that a Federal action would not cause a new violation of the NAAQS, contribute to any increase in the frequency or severity of violations of existing NAAQS, or delay the timely attainment of any NAAQS interim or other attainment milestones. If a project would result in a total net increase in pollutant emissions that is less than the applicable *de minimis* threshold established in 40 CFR 93.153(b), or if the action is otherwise exempt, detailed conformity analyses are not required.

3.13.2 Ozone is the only parameter not directly emitted into the air, forming in the atmosphere when three atoms of oxygen (03) are combined by a chemical reaction between oxides of nitrogen (NOx) and volatile organic compounds (VOC) in the presence of sunlight. Motor vehicle exhaust and industrial emissions, gasoline vapors, and chemical solvents are some of the major sources of NOx and VOC, also known as ozone precursors. Strong sunlight and hot weather can cause ground-level ozone to form in harmful concentrations in the air.

3.13.3 The USEPA *Green Book Nonattainment Areas for Criteria Pollutants* (Green Book) maintains a list of all areas within the United States that are currently designated "nonattainment" areas with respect to one or more criteria air pollutants. Nonattainment areas are discussed by county or metropolitan statistical area (MSA). MSAs are geographic locations characterized by a large population nucleus, which are comprised of adjacent communities with a high degree of social and economic integration. MSAs are generally composed of multiple counties. Review of

the Green Book indicates that Concordia Parish is currently in attainment for all Federal NAAQS pollutants, including the 8-hour ozone standard (USEPA 2011). This classification is the result of area-wide air quality modeling studies. Therefore, further analysis required by the CAA general conformity rule (Section 176(c)) would not apply for the proposed action.

4. ENVIRONMENTAL CONSEQUENCES

4.1 WETLANDS

4.1.1 Future Conditions with No Action Alternative: Under the No Action Alternative, the proposed action would not be undertaken and impacts to BLH would not likely immediately change from current conditions.

4.1.2 Future Conditions with the Proposed Action: With implementation of the proposed action, clearing and excavation of the borrow site and access road would result in a direct impact to approximately 13.35 acres of BLH forested wetlands. Approximately 12.71 acre (borrow pit) and 0.64 acre (access road) of BLH forested wetlands would be permanently impacted through the conversion from forest to an open water environment. The removal of the low-quality wooded vegetation would constitute a permanent loss of land-based wildlife habitat afforded by the cotton wood, box elder, and black willow species presently located within the borrow sites. Approximately 0.64 acres of BLH forested wetlands would be cleared for the access road and would likely be maintained as a permanent access road by the Non-Federal Sponsor. The proposed temporary staging area will be located in a vegetated area and the site restored to pre-construction conditions after construction is complete, and therefore will have no effect to the BLH habitat.

4.1.3 On July 9, 2021, personnel from the USFWS provided a preliminary estimate for work induced impacts to forested wetland habitats using the WVA model for BLH, which calculated the project's induced impacts to wetland habitats. The WVA BLH model was selected because it presents the most appropriate evaluation model for habitat-related variables for riverine / adjacent riverside forest habitats. It is anticipated that the borrow site would be cleared and grubbed prior to excavation of the site, and the pit would be excavated to a depth of -20.0 feet (NAVD88). This area is currently experiencing high water and a physical visit wasn't conducted, but an adequate field inspection would be completed once the area is safe to visit. The borrow site evaluated in EA 5#16 *"Flood Control, Mississippi River and Tributaries Mississippi River Levees, Old River Seepage, Pointe Coupee and Concordia Parishes, Louisiana"* habitat's composition is similar to the proposed borrow site, therefore, USFWS and CEMVN agreed to use the WVA data from EA #516 a preliminary estimate. Table 4depicts the number of acres to be impacted (e.g. borrow site and access road) by the proposed action and associated net change in Average Annual Habitat Units that would result with the Future with Project condition.

Table 4: Upper Fifth Levee Enlargement, Imagery Analysis of Preliminary BLH Impacts of Borrow Site Acres and Average Annual Habitat Units (AAHUs)

	Acres	**AAHUs[1]**
Borrow Site	12.71	

Table 4: Upper Fifth Levee Enlargement, Imagery Analysis of Preliminary BLH Impacts of Borrow Site Acres and Average Annual Habitat Units (AAHUs)		
Borrow Access Road	0.64	
Total	**13.35**	**-6.5**

[1] US Fish and Wildlife Service WVA survey data from EA 516 for preliminary estimate.

4.1.4 Executive Order 11990, Protection of Wetlands, directs Federal agencies to avoid to the extent possible, long and short-term adverse impacts associated with the destruction or modification of wetlands, and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. The borrow site was selected to specifically avoid and minimize impacts to wetlands. All unavoidable impacts would be mitigated for as described in Section 6.

4.2 AQUATIC RESOURCES/FISHERIES

4.2.1 Future Conditions with No Action Alternative: Under the No Action Alternative, the proposed action would not be undertaken and nursery areas for forage and game fish species would not be expanded at the borrow site. Open water habitats would not be formed by the conversion of riverside forested habitat to permanent borrow ponds, and areas that would provide habitat and breeding ground for fisheries resources would not be created. It is expected that there would be no direct or indirect impacts to existing fisheries resources with the No Action Alternative.

4.2.2 Future Conditions with Proposed Action: With the proposed action, approximately 12.71 acre (borrow area) of BLH forested wetlands would be excavated to a maximum depth of -20.0-feet (NAVD88). It is possible that some adjacent existing fisheries resources could be indirectly impacted from the excavation of the proposed borrow areas. An additional approximate 0.64 acre of BLH forested wetlands would be cleared for the borrow site access road and would likely be maintained as a permanent access road by the Non-Federal Sponsor. Any groundwater seeping into the pit would be pumped out into adjacent areas and would likely drain into the Mississippi River. It is expected that there would be a temporary increase in turbidity within the river directly surrounding any areas of runoff or groundwater pumping operations. Any increases in turbidity would likely be diminished by the swift moving currents of the river, and any free-floating sediment would likely quickly settle downstream of the work area. Development of a new borrow pit with shallow fringes and gradual side slopes would ultimately be expected to provide habitat and breeding ground for various species of fish located within the adjacent Mississippi River. Impacts to adjacent existing fisheries resources resulting from any borrow site excavation activities would be expected to be temporary and localized and pose no long-term adverse effects to any fisheries resources.

4.2.3 The temporary use of the 0.39 acre staging area will cause temporary displacement to species, however such impacts are unlikely to reduce overall sustainability of the populations. Upon completion of the project, it will be returned to pre-existing conditions and they will be able to reoccupy the area.

4.3 **WILDLIFE**

4.3.1 Future Conditions with No Action Alternative: Under the No Action Alternative, the proposed action would not be undertaken and, wildlife that presently occupy the riverside forested habitat would continue to inhabit the area. The impacts to wildlife species within the work area would not likely immediately change from current conditions.

4.3.2 Future Conditions with the Proposed Action: With the proposed action, approximately 12.71-acres of BLH forested wetlands would be permanently converted to a shallow open water environment as result of the excavation of the borrow site. It is expected that any terrestrial wildlife habitat would be directly lost due to the conversion from forest to open water habitat. Terrestrial wildlife located within the proposed borrow area would be forced to relocate to adjacent suitable habitat. While the overall loss of terrestrial wildlife habitat would be considered adverse, the previously discussed adjacent terrestrial habitat (i.e. undeveloped hardwood forest) would allow for the continued movement and existence within the riverside forested corridor for any displaced wildlife. Approximately 0.64-acres of BLH forested wetlands would be permanently cleared for the borrow site access road and would likely be maintained as a permanent access road by the Non-Federal Sponsor.

4.3.3 Environmental design features would be incorporated into the construction of the borrow site. Features would include placing trees, shrubs and other vegetation removed during clearing and grubbing operations into the pit to provide potential cover habitat for wildlife and creating slopes not steeper than 1-foot vertical on 3-feet horizontal that would create a shallow ledge in order to offer some additional habitat benefits for wildlife that are traditionally adapted to wetland habitats. It is expected that the detrimental impacts to wildlife, derived from the overall loss of habitat, would be lessened by the opportunity for wildlife to relocate to adjacent suitable habitat and the retention of suitable wetland habitat for wildlife resulting from environmental design features incorporated into the borrow sites. While further study is warranted, the potential for previously excavated riverside borrow sites to naturally re-vegetate over time given additional sediment accrual attributed to seasonal high river could result in the lessening of any foreseeable cumulative impacts to land-based wildlife.

4.3.4 The temporary use of the 0.39 acre staging area will cause temporary displacement to species, however such impacts are unlikely to reduce overall sustainability of the populations. Upon completion of the work, the staging area will be restored to pre-existing conditions and the species will be able to reoccupy the area.

4.4 **TERRESTRIAL RESOURCES**

4.4.1 Future Conditions with No-Action: Under the No Action Alternative, the proposed action would not be undertaken and land-based resources would not change from current conditions. There would be no impact to terrestrial resources or conversion of the current BLH land use type.

4.4.2 Future Conditions with the Proposed Action: With implementation of the proposed action, there would be marginal effects to existing terrestrial resources (i.e., land use types) associated with the proposed levee enlargement. The construction of the proposed levee enlargement would add clayey topsoil over an additional approximately 13 acres of loam alluvium from placement of fill material from the borrow site.

4.4.3 With the excavation of the 12.71-acre borrow site, there would be a permanent loss of the existing land use type classified as BLH forested wetlands due to the conversion to shallow open water habitat. An additional approximate 0.64 acres of BLH forested wetlands would be cleared for the borrow site access road and would likely be maintained as a permanent access road by the Non-Federal Sponsor. In a letter dated April 12, 2021 (Appendix A), the United States Department of Agriculture, Natural Resources Conservation Service determined that the proposed levee enlargement borrow area would 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.

4.4.4 The temporary use of the 0.39 acre staging area will cause temporary displacement to species, however such impacts are unlikely to reduce overall sustainability of the populations. Upon completion of the work, the staging area will be restored to pre-existing conditions and the species will be able to reoccupy the area.

4.5 THREATENED OR ENDANGERED SPECIES

4.5.1 Future Conditions with No Action Alternative: Under the No Action Alternative, there would be no effect to any threatened or endangered species. The proposed action would not be constructed and impacts to threatened and endangered species in the area would not likely change from current conditions.

4.5.2 Future Conditions with the Proposed Action: The USFWS has determined that the proposed action would have “no effect” to the fat pocketbook and the interior least tern and “not likely to adversely affect” the pallid sturgeon., For the Northern Long-eared bat, the proposed action is consistent with the Programmatic Biological Opinion (PBO) (USFWS, 2018). The proposed action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Pallid sturgeons are normally found in the fast moving, deep waters of the Mississippi River main current, so their presence near or within the work area (i.e., riverbank) would be considered highly unlikely. Should pallid sturgeon be present in or near the work area, they would be able to temporarily relocate to adjacent suitable habitat during the construction period. Endangered Species Act clearance for the proposed action (the proposed borrow area as well as the levee enlargement and staging area) was provided by the USFWS in their determination letter dated July 07, 2021 (Appendix B).

4.5.3 CEMVN has determined that no threatened or endangered species or critical habitat under the purview of National Marine Fisheries Service, Office of Protected Resources, has been designated within the proposed work area and that the proposed action would result in a “No Effect”.

4.6 CULTURAL RESOURCES

4.6.1 Future Conditions with No Action Alternative: Under the No Action Alternative, the proposed action would not be undertaken and therefore, CEMVN has no further responsibilities under Section 106 of the NHPA and no new direct, indirect, or cumulative impacts to cultural resources would be incurred.

4.6.2 Future Conditions with the Proposed Action: The proposed action would decrease future potential that flooding of land in the area could occur. CEMVN determined that no historic properties would be affected by this undertaking. Concurrence for this determination was received in writing by the Louisiana SHPO on May 25, 2021, and from the Seminole Nation of Oklahoma on May 4, 2021. No other consulting parties responded within the regulatory consultation timeframe as specified per 36 CFR 800.4(d)(1)(i) and 36 CFR 800.5(c)1. No impact to known or unknow cultural resources is expected to occur by the proposed action. This proposed action would be subject to the standard change in scope of work, unexpected discovery, and unmarked human burial sites act provisions.

4.7 **WATER QUALITY**

4.7.1 Future Conditions with No-Action: Under the No Action Alternative, the proposed action would not be undertaken and no new direct or indirect impacts to water quality are expected to occur.

4.7.2 Future Conditions with the Proposed Action: With implementation of the proposed action, it is expected that there would be a temporary impact to water quality through an increase in turbidity within the Mississippi River directly surrounding any areas of runoff or groundwater pumping operations. Best management practices would be employed to minimize disturbances to the surrounding water bodies during the excavation of earthen material from the borrow area. After the protective vegetative cover is removed from the levee surface, a silt fence would be placed along the levee toe on both the landside and riverside to contain any sediment runoff material. Any groundwater seeping into the site would be pumped out into adjacent areas and would likely drain into the Mississippi River. Any increases in turbidity would likely be diminished by the swift moving currents of the River, and any free-floating sediment would likely settle downstream. After completion of the levee enlargement, vegetative cover would be replaced and maintained on the levees, and natural vegetative growth in and around the borrow site would be expected to return. It is expected that there would be no long-term adverse effects to water bodies with construction of the proposed action (including the clearing , site preparation and excavation of the borrow site and access road, and use of the staging area).

4.7.3 Future Conditions with the Proposed Action: A Clean Water Act Section 404(b)(1) Public Notice was distributed to the public and comments were solicited on June 25, 2021. No adverse comments were received in response to the 30-day public review. A Section 404 (b)(1) short for evaluation was signed on August 09, 2021, Additionally, a Water Quality Certificate (WQC 210708-01/AI 100873/CER 20210001) was issued by the LDEQ in a letter dated July 12, 2021 (Appendix C).

4.8 **AIR QUALITY**

4.8.1 Future Conditions with No-Action: Under the No Action Alternative, the proposed action would not be undertaken and no new direct or indirect impacts to ambient air quality would be expected to occur.

4.8.2 Future Conditions with the Proposed Action: With implementation of the proposed action, it is expected that there would be minimal short-term direct impacts to both air quality and noise surrounding the immediate work area, to include proposed borrow site, access road, hauling road(s), and staging area during construction activities. Construction will be restricted to

normal construction hours (e.g., daylight hours) for the duration of the project. For the proposed borrow site excavation, it is expected that portable and stationary equipment such as bulldozers, excavators (i.e. backhoes), dump trucks, diesel generators and ground water pumps would likely be responsible for the temporary bulk increase in both air pollution and increased noise (i.e, increase in dBa to ambient noise) impacting the surrounding work area. Due to the short duration of the proposed action, any increases or impacts to ambient air quality are expected to be short-term and minor and are not expected to cause or contribute to a violation of Federal or State ambient air quality standards. Once all construction activities associated with the proposed action cease, air quality and noise within the vicinity of the project area is expected to return to pre-construction conditions.

4.9 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE

4.9.1 The USACE is obligated under Engineer Regulation (ER) 1165-2-132 to assume responsibility for the reasonable identification and evaluation of all Hazardous, Toxic, and Radioactive Waste (HTRW) contamination within the vicinity of proposed actions. ER 1165-2-132 identifies that HTRW policy is to avoid the use of USACE project funds for HTRW removal and remediation activities. An abridged Phase 1 Environmental Site Assessment (ESA), HTRW 21-04, dated July 8, 2021, has been completed for the work area. A copy of the Phase 1 ESA would be maintained on file at the U.S. Army Corps of Engineers, New Orleans District Headquarters. Based on the initial site assessments the probability of encountering HTRW for the proposed actions is moderately low. If a recognized environmental condition is identified in relation to the work area, the U.S. Army Corps of Engineers, New Orleans District would take the necessary measures to avoid the recognized environmental condition so that the probability of encountering or disturbing HTRW would continue to be low.

4.10 CUMULATIVE IMPACTS

4.10.1 Overall, the proposed action, in comparison to past, present, and reasonably foreseeable future actions, would not incrementally contribute adversely to the general work area. This flood risk reduction feature is part of an overall comprehensive plan for the MR&T Project. The preferred alternative would accomplish flood risk reduction objectives, which are of great importance in the Lower Mississippi Valley, and provide for the preservation and enhancement of the very significant fish, wildlife, and other natural resources of the basin. Raising the west bank MRL in Concordia Parish would ensure the ability of the levee to prevent flood damage to the natural and human environment on the protected side of the levee. Wetland impacts from the proposed action would be fully mitigated so as to achieve no net loss of wetland functions. In addition to compensatory mitigation, there is the further possibility that the borrow area may refill in time with river sediment and allow some re-growth of vegetation within the affected areas. The cumulative impacts of the proposed action are not expected to result in long-term adverse impacts.

5. COORDINATION AND PUBLIC INVOLVEMENT

Preparation of this draft EA and draft FONSI is being coordinated with the public, appropriate congressional, federal, tribal, state, and local interests, as well as environmental groups and other interested parties.

6. MITIGATION

6.1 On January 4, 2007, the 110th Congress of the United States of America finalized the Water Resources Development Act (WRDA) of 2007 (H.R. 1495, Public Law 110-114). Under Section 2036(c), *Mitigation for Fish and Wildlife and Wetlands Losses – Wetlands Mitigation*, it specifically directs the USACE to consider the use of commercial mitigation banks to fulfill the mitigation responsibilities of Civil Works projects, stating:

> *In carrying out a water resources project that involved wetlands mitigation and that has impacts that occur within the service area of a mitigation bank, the Secretary, where appropriate, shall first consider the use of the mitigation bank if the bank contains sufficient available credits to offset the impact and the bank is approved in accordance with the Federal Guidance for the Establishment Use and Operation of Mitigation Banks (60 Fed. Reg. 58605) or other applicable Federal law (including regulations).*

6.2 Therefore, the following mitigation plan proposes to acquire appropriate bottomland hardwood (BLH) compensatory mitigation bank credits for unavoidable impacts to BLH forested wetlands resulting from the proposed use of the 13.35-acre borrow site and access road. Because the impacts associated with the construction of the proposed action and mitigation required to compensate for those impacts is relatively minor, a decision was made to purchase credits in a mitigation bank. This affords for the best value from an ecosystem perspective, in that small blocks of restored forested land have a lesser overall value to an ecosystem than would a larger block of land, as would be the case in establishing a mitigation bank. USACE-constructed mitigation options were evaluated in place of purchasing credits from commercial mitigation banks but were ultimately eliminated from further consideration due to lack of affordable options regarding land acquisition and costs associated with site development and operation and maintenance. Preliminary costs for Corps-constructed mitigation options would far exceed the cost of acquiring mitigation credits from an existing commercial mitigation bank within the appropriate watershed. Additionally, WRDA 2007 states that mitigation should be accomplished either prior to or concurrently with construction. Initial time estimates (i.e., time to acquire appropriate real estate from willing landowners) to develop Corps-constructed mitigation sites would delay the construction of this vitally important repair that is necessary for the protection of life and property.

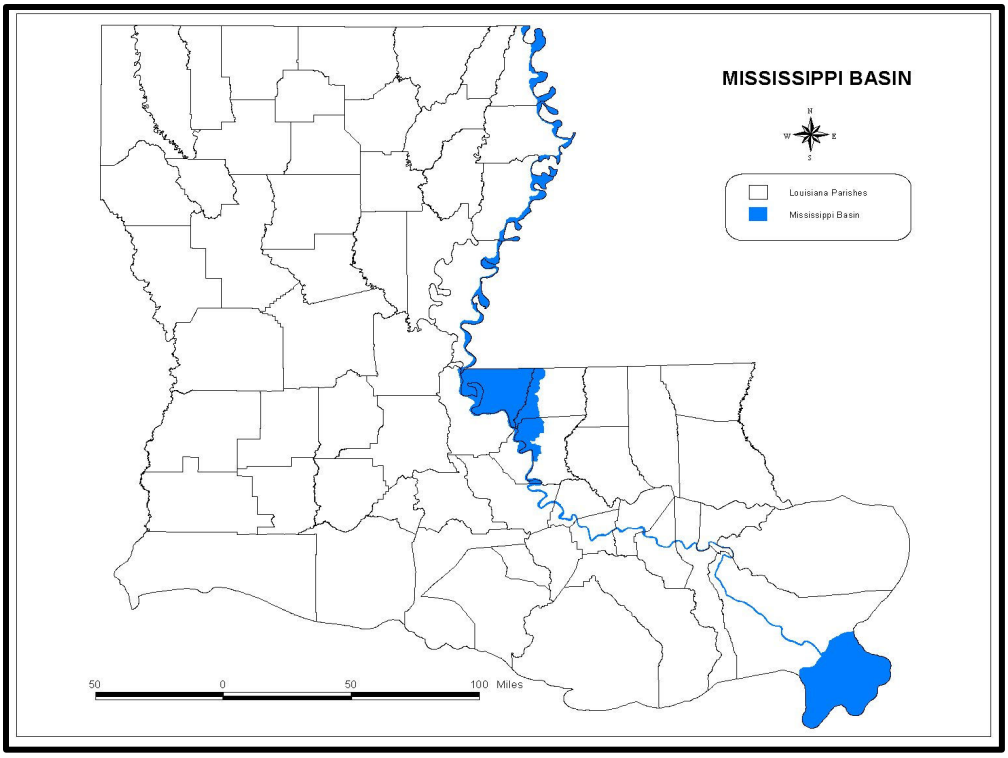
6.3 In Federal Register Vol. 73, No. 70, April 10, 2008, specifically Part 332, § 332.4 (c)(1) *Compensatory Mitigation for Losses of Aquatic Resources, Planning and documentation, Mitigation Plan, Preparation and Approval*, guidance was set forth requiring the preparation of a draft and final mitigation plan that would address the following 12 items: 1) preparation and approval; 2) objectives; 3) site selection; 4) site protection instrument; 5) baseline information; 6) determination of credits; 7) mitigation work plan; 8) maintenance plan; 9) performance standards; 10) monitoring requirements; 11) long-term management plan; 12) adaptive management plan; financial assurances; and other information. However, since the proposed mitigation plan proposes to utilize a compensatory mitigation bank, the following language included in Part 332 § 332.4 (c)(1)(i)(ii) would apply, “For permittees who intend to fulfill their compensatory mitigation obligations by securing credits from approved mitigation banks…their mitigation plan need include only the items described in paragraphs (c)(5) and (c)(6)….” Therefore, only items 5 and 6, baseline information and determination of credits, would be addressed further.

6.4 Item 5 – Baseline Information. For a complete description of "Baseline Information", please refer to the following Sections within this EA #584: *3.1 Description of the Project Area*; *3.2 Description of the Watershed*; *3.3 Climate*; *3.4 Geology*; and *3.6 Wetlands*.

6.5 Item 6 – Determination of Credits. The proposed mitigation bank plan is designed to comply with the requirements set forth under USACE guidance "Implementation Guidance for Section 2036(a) of the Water Resources Development Act of 2007 – Mitigation for Fish and Wildlife and Wetland Losses" dated August 31, 2009, which further highlights the need for Civil Works mitigation plans to be consistent with the regulations and policies governing the USACE Regulatory Program. To comply with these multiple laws and directives and to be consistent with the USACE Regulatory Program, the New Orleans District investigated the use of mitigation banks within appropriate, applicable service area, the Mississippi River watershed basin. However, in the event that the total amount of credits that would be required to fully compensate for unavoidable wetlands impacts would not be achievable, the proposed mitigation bank plan is meant to afford the CEMVN the opportunity to explore reasonable and available mitigation opportunities both within the impacted service area as well as adjacent service area (Lake Pontchartrain River Basin) in order to compensate for unavoidable wetlands impacts. The amount of credits that would be required to fully compensate for unavoidable wetlands impacts would be determined upon selection of an appropriate compensatory mitigation bank. The mitigation bank plan is as follows:

6.6 Mitigation Bank Plan - Primary. The CEMVN proposes to mitigate for approximately 13.35 acres of unavoidable adverse impacts to forested BLH habitat at available bottomland hardwood mitigation banks located within the Mississippi River Basin, within the CEMVN boundaries. Within Louisiana, and specifically within the CEMVN boundaries, the Mississippi River Basin is comprised of the Mississippi River along with Concordia Parish, portions of East Feliciana Parish east of Redwood Creek, portions of East Baton Rouge Parish east of the Comite River and the city of Baton Rouge, and the delta. The river is completely leveed on its western side from the Concordia Parish to Venice and on its eastern side from Baton Rouge to Venice (Figure 5).

6.7 In the Mississippi River Basin, there are currently five approved mitigation banks with available bottomland hardwood mitigation credits: Cypress Plantation; Cypress Plantation II; Tunica Swamp Silos; Ash Slough Headwaters; and Ash Slough Headwaters Addendum 1.

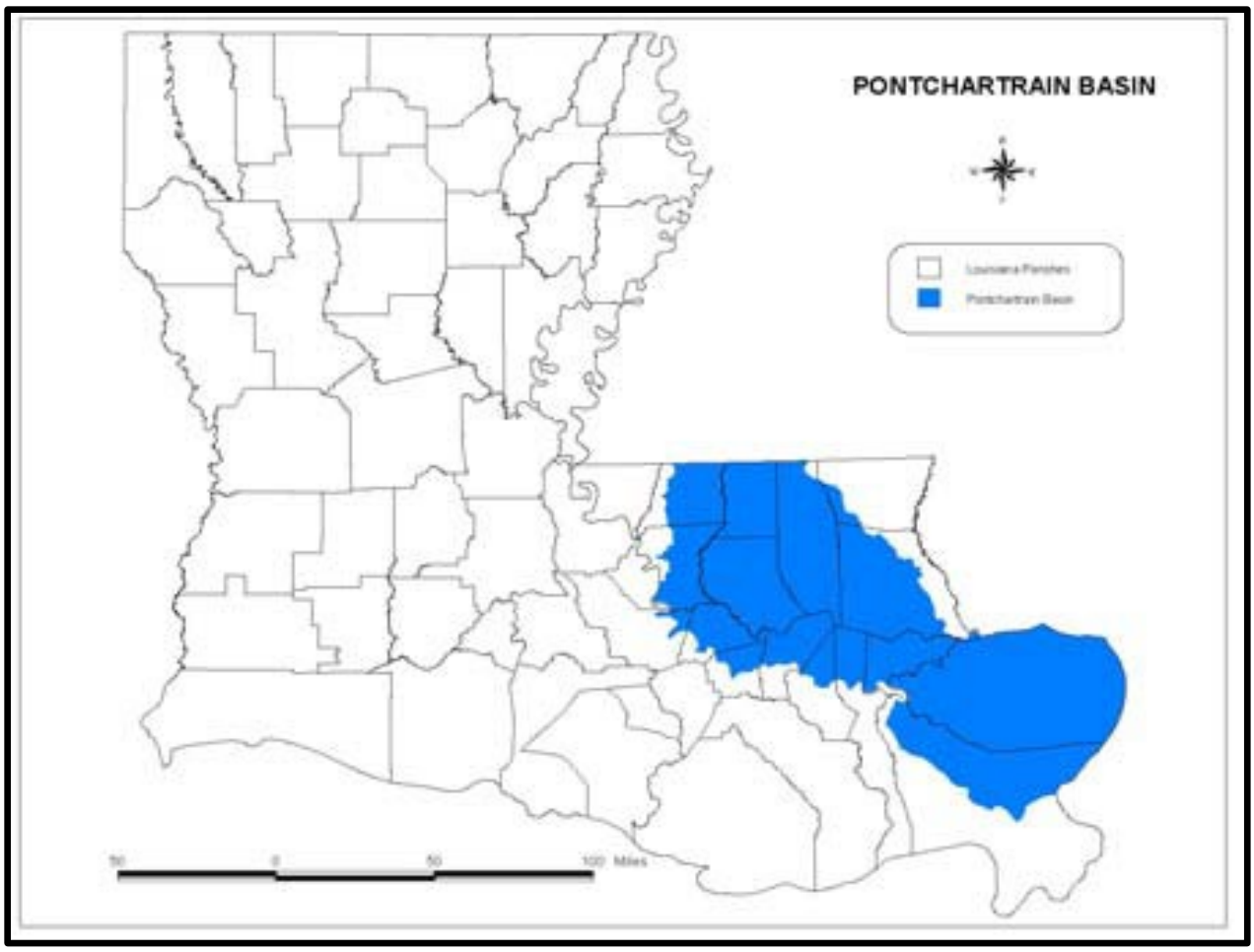


Mississippi River Basin

Figure 7. Mississippi River Basin.

6.8 Mitigation Bank Plan - Secondary. The CEMVN proposes to mitigate for approximately 13.35 acres of unavoidable adverse impacts to forested BLH habitat at available bottomland hardwood mitigation banks located within the adjacent Lake Pontchartrain River Basin. The Lake Pontchartrain River Basin is a 4,700 square mile watershed in southeast Louisiana and southwest Mississippi. The topography of the basin ranges from more than 300 feet above sea level in the rolling hills along the Louisiana and Mississippi state line to sea level throughout the coastal wetlands to more than 10 feet below sea level in some areas of New Orleans. The northern half of the basin is commonly referred to as the Florida Parishes and it contains all or portions of 7 parishes: East Baton Rouge, East Feliciana, Livingston, St. Helena, St. Tammany, Tangipahoa, and Washington (Figure 7).

6.9 In the Lake Pontchartrain River Basin, there are currently 14 approved mitigation banks with available bottomland hardwood mitigation credits: Ash Slough Headwaters; Zachary - Copper Mill Bayou; Zachary – Redwood Creek; Zachary - Comite Flats I; Zachary - Comite Flats II; Comite Properties - Tract A; Comite Properties - Tract B; Beaver Creek; Crooked Branch; Bayou Manchac – Oakley; Bayou Conway; Timberton; Timberton II; and Timberton III.



Lake Pontchartrain River Basin

Figure 8. Lake Pontchartrain River Basin.

7. COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS

Environmental compliance for the proposed action would be achieved upon coordination of this draft SEA and draft FONSI with all appropriate agencies, organizations, and individuals for their review and comments.

- Coordination with the NRCS was completed on April 12, 2021. NRCS concurred that the proposed actions of the proposed action would not impact prime farmland and therefore is exempt from the rules and regulations of the FPPA - Subtitle I of Title XV, Section 1539-1549. (Appendix A)
- The USFWS concurred with CEMVN's determination of "may affect" for the Northern Long-eared bat, "not likely to adversely affect" for the Pallid Sturgeon, and "no effect" for the Interior Least Tern and the Fat Pocketbook under Section 7 of the Endangered Species Act of 1973 and returned a copy of USACE's letter with their office stamp of concurrence dated July 07, 2021. (Appendix B)
- The LDEQ issued Water Quality Certificate 210708-01/AI 100873/CER 20210001 by letter dated July 12, 2021. (Appendix C)
- In accordance with responsibilities under Executive Order 13175, the NEPA, and Section 106 of the NHPA, CEMVN determined that there are no historic properties as defined in 36 CFR 800.16(l) within the APEs. Accordingly, on May 04, 2021, CEMVN submitted a finding of "No Historic Properties Affected" for this Undertaking to the Louisiana State Historic Preservation Office (SHPO) and Federally recognized Tribes (Caddo Nation, Choctaw Nation of Oklahoma, Coushatta Tribe of Louisiana, Jena Band of Choctaw Indians, Mississippi Band of Choctaw Indians, Muscogee (Creek) Nation, Seminole Nation of Oklahoma, Tunic-Biloxi Tribe of Louisiana). SHPO concurrence was received on May 25, 2021 (Appendix D). A concurrence was also received by the Seminole Nation of Oklahoma on May 4, 2021. The remaining Tribes did not respond within the regulatory timeframes; therefore, CEMVN has fulfilled its NHPA Section 106 responsibilities to consult with Tribes.
- Additionally, USACE, requires that its agents understand and acknowledge the following conditions required as a result of Section 106 consultation for ground disturbing activities that provide for the protection of and notification protocols for, unexpected discoveries or unexpected effects to historic properties and human remains:

    - Inadvertent Discovery and Unexpected Effects: If during the course of work, archaeological artifacts (prehistoric or historic) are discovered or unexpected effects to historic properties, including architecture, architectural elements, and/or archaeology, are identified, the contractor shall stop work in the general vicinity of the discovery or unexpected effect and take all reasonable measures to avoid or minimize harm to the finds or affected property. The contractor would ensure that the discovery or unexpected effects are secured and stabilized, as necessary, and access to the area is restricted. The contractor shall inform their Operations Division (OD) contacts at USACE, who would in turn contact Planning Division (PD) staff. The contractor would not proceed with work until USACE PD completes consultation with the Louisiana SHPO and others, as appropriate.
    - Louisiana Unmarked Human Burial Sites Preservation Act: If human bone or unmarked grave(s) are present within the proposed action area, compliance with the Louisiana Unmarked Human Burial Sites Preservation Act (R.S. 8:671 et seq.) is required. The contractor shall notify the law enforcement agency of the

jurisdiction where the remains are located within 24 hours of the discovery. The contractor shall also notify USACE and the Louisiana Division of Archaeology within 72 hours of the discovery. Discoveries of unmarked graves, burials, human remains, or items of cultural patrimony on federal or tribal lands shall be subject to the Native American Graves Protection and Repatriation Act (NAGPRA) (25 U.S.C. §3001-3013, 18 U.S.C. § 1170) and the Archaeological Resources Protection Act of 1979 (ARPA)(16 U.S.C. §470aa – 470mm).

8. CONCLUSION

8.1 This office has assessed the environmental impacts of the proposed action and has determined that the proposed action would have no impact upon cultural resources and no impact would occur to threatened or endangered species. Unavoidable permanent impacts to wetlands would require 13.35 acres of compensatory mitigation.

8.2 The proposed action has been found to have an overall beneficial effect on the human environment by insuring adequate flood protection along the flood prone lower Mississippi River. While there would be impacts to bottomland hardwood resources, these impacts would be fully mitigated in a manner that would provide comparable wildlife habitat value to the areas impacted. Therefore, the overall result of the proposed work would result in no net loss of wetland resources. Additionally, viable aquatic habitat for fish and waterfowl would be created by the excavation of the borrow site.

9. PREPARED BY

Draft Environmental Assessment #584 and the associated Finding of No Significant Impact were prepared by Ms. Samantha Martin, Environmental Protection Specialist, with relevant sections and contributions prepared by: Ms. Ashley Fedoroff (Cultural Resources); and Mr. Joseph Musso (HTRW). The address of the preparers is: U.S. Army Corps of Engineers, New Orleans District; Regional Planning and Environment Division South, Environmental Compliance Branch, Coastal Environmental Compliance Section, CEMVN-PDC-C; 7400 Leake Ave, New Orleans, Louisiana 70118.

10. REFERENCES

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APPENDIX A

USDA United States Department of Agriculture

April 12, 2021

Samantha Martin
U.S. Army Corps of Engineers
Regional Planning and Environmental Division South
CEMVN-PDC-C
7400 Leake Avenue
New Orleans, LA 70118

RE: Upper Fifth Levee Enlargement Project – Concordia, LA

Dear Ms. Martin:

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 and narrative submitted with your request indicates that the proposed levee renovation and borrow area 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,
Michael R. Lindsey

Dr. Michael Lindsey
State Soil Scientist

Attachment

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

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APPENDIX B

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Louisiana Ecological Services Field Office
200 Dulles Drive
Lafayette, LA 70506
Phone: (337) 291-3100 Fax: (337) 291-3139

In Reply Refer To:
Consultation code: 04EL1000-2021-TA-1887
Event Code: 04EL1000-2021-E-05261
Project Name: MR&T, 5th Levee District, Upper 5th Levee Enlargement

July 07, 2021

Subject: Verification letter for 'MR&T, 5th Levee District, Upper 5th Levee Enlargement' for specified threatened and endangered species that may occur in your proposed project location pursuant to the Louisiana Endangered Species Act project review and guidance for other federal trust resources determination key (Louisiana DKey).

Dear Samantha Martin:

The U.S. Fish and Wildlife Service (Service) received on July 07, 2021 your effects determination(s) for the 'MR&T, 5th Levee District, Upper 5th Levee Enlargement' (the Action) using the Louisiana DKey within the Information for Planning and Consultation (IPaC) system. The Service developed this system in accordance with the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based on your answers, and the assistance in the Service's Louisiana DKey, you made the following effect determination(s) for the proposed Action:

Species	Determination
Endangered Pallid sturgeon (*Scaphirhynchus albus*)	NLAA
Endangered Fat pocketbook (*Potamilus capax*)	No Effect
Threatened Northern Long-eared Bat (*Myotis septentrionalis*)	May Affect

Species protective measures (contained within this application), if applicable, will be used by the applicant and will be incorporated into any special conditions of a DA permit; therefore the Service concurs with the U.S. Army Corps of Engineers "may affect, not likely to adversely affect" determination (s) for the species listed above. Your agency has met consultation requirements by informing the Service of your "No Effect" determinations. No consultation for this project is required for species that you determined will not be affected by this action.

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your

IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under ESA Section 7(a)(2) with respect to the northern long-eared bat.

The Service recommends that your agency contact the Louisiana Ecological Services Field Office or re-evaluate the project in IPAC if: 1) the scope or location of the proposed project is changed significantly, 2) new information reveals that the action may affect listed species or designated critical habitat; 3) the action is modified in a manner that causes effects to listed species or designated critical habitat; or 4) a new species is listed or critical habitat designated. If any of the above conditions occurs, additional consultation with the Louisiana Ecological Services Field Office should take place before project changes are final or resources committed.

The proposed project is within the range of the Louisiana black bear. The Louisiana black bear (*Ursus americanus luteolus*) was listed as a threatened subspecies in 1992. Due to recovery, it was officially removed from the List of Endangered and Threatened Species on March 11, 2016 (effective April 11, 2016). Although the Louisiana black bear is no longer protected under the ESA it remains protected under Louisiana state law. Please go to the following site for more information https://www.fws.gov/southeast/pdf/fact-sheet/louisiana-black-bear-post-delisting-consultation.pdf.

Please Note: If the Federal Action may impact bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act (BGEPA) (54 Stat. 250, as amended, 16 U.S.C. 668a-d) may be required. Please contact Ulgonda Kirkpatrick (phone: 321/972-9089, e-mail: ulgonda_kirkpatrick@fws.gov) with any questions regarding potential impacts to bald or golden eagles.

APPENDIX C

JOHN BEL EDWARDS
GOVERNOR

CHUCK CARR BROWN, PH.D.
SECRETARY

State of Louisiana

DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL SERVICES

Ms. Samantha Martin
US Army Corps of Engineers, New Orleans District
Regional Planning Division, South
Coastal Environmental Compliance Section
CEMVN-PDC-C
7400 Leake Avenue
New Orleans, Louisiana 70118

AI No.: 100873
Activity No.: CER20210001

RE: Mississippi River & Tributaries, Fifth Levee District, Upper Fifth Levee Enlargement
Water Quality Certification WQC 210708-01
Concordia Parish

Dear Ms. Martin:

The Louisiana Department of Environmental Quality, Water Permits Division (LDEQ), has reviewed the application to raise the height of approximately 19,000 linear feet of the Mississippi River mainline levee on the west bank in Concordia Parish beginning at approximately River Mile 320 to end at River Mile 317.

The information provided in the application has been reviewed in terms of compliance with State Water Quality Standards, the approved Water Quality Management Plan and applicable state water laws, rules and regulations. LDEQ determined that the requirements for a Water Quality Certification have been met. LDEQ concludes that the discharge of fill will not violate water quality standards as provided for in LAC 33:IX.Chapter 11. Therefore, LDEQ hereby issues US Army Corps of Engineers, New Orleans District – Mississippi River & Tributaries, Fifth Levee District, Upper Fifth Levee Enlargement Water Quality Certification, WQC 210708-01.

Should you have any questions concerning any part of this certification, please contact Elizabeth Hill at (225) 219-3225 or by email at elizabeth.hill@la.gov. Please reference Agency Interest (AI) number 100873 and Water Quality Certification 210708-01 on all future correspondence to this Department to ensure all correspondence regarding this project is properly filed into the Department's Electronic Document Management System.

Sincerely,

Scott Guilliams
Administrator
Water Permits Division

c: IO-W

ec: Samantha Martin
samantha.c.martin@usace.army.mil

Post Office Box 4313 • Baton Rouge, Louisiana 70821-4313 • Phone 225-219-3181 • Fax 225-219-3309
www.deq.louisiana.gov

APPENDIX D

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVE
NEW ORLEANS LA 70118-3651

Regional Planning and
Environment Division, South
Environmental Planning Branch
Attn: CEMVN-PDS-N

May 3, 2021

Kristin Sanders, SHPO
LA State Historic Preservation Officer
P.O. Box 44247
Baton Rouge, LA 70804-4241

RE: Section 106 Review Consultation
Undertaking: Mississippi River Levee, Upper 5th Levee District, Enlargement, Concordia Parish, Louisiana
(Center Point: Latitude 31° 8'38.08" N, Longitude 91°38'0.74" W).
Determination: **No Historic Properties Affected**

Dear Ms. Sanders:

The U.S. Army Corps of Engineers, New Orleans District (CEMVN) is evaluating a straddle and flood-side shift of approximately 3.5 miles of the east bank Mississippi River mainline levee (MRL), a feature of the Mississippi River and Tributaries Project (MR& T). As part of CEMVN's evaluation and in partial fulfillment of responsibilities under the National Environmental Policy Act and Section 106 of the National Historic Preservation Act, CEMVN offers you the opportunity to review and comment on the potential of the proposed action described in this letter to affect historic properties. Additionally, in accordance with the of responsibilities of Executive Order 13175, CEMVN offers Federally-recognized Tribes the opportunity to review and comment on the potential of the proposed undertaking described in this letter to significantly affect protected tribal resources, tribal rights, or tribal lands. The proposed project will begin approximately 5 miles north of the Old River Low Sill Control Structure. Work will begin approximately at river mile 320 and end at river mile 317 in Concordia Parish, Louisiana.

Project Authority

The MR&T Project was authorized by the Flood Control Act of 15 May 1928, as modified and amended in subsequent Acts of 23 April 1934, 15 June 1936, 18 August 1941, 24 July 1946, and 27 October 1965. A Record of Decision was signed on March 11, 2021 finalizing the environmental review and commitments for the remaining items for the MRL features. Additionally, a *Programmatic Agreement Among The U.S. Army Corps Of Engineers, Memphis, New Orleans, And Vicksburg Districts The Chickasaw Nation; The Choctaw Nation Of Oklahoma; The Osage Nation; The Quapaw Nation; The Arkansas State Historic Preservation Officer; The Illinois State Historic Preservation Officer; The Kentucky State Historic Preservation Officer; The Louisiana State Historic Preservation Officer; The Mississippi State Historic Preservation Officer; The Missouri State Historic Preservation Officer; The Tennessee State Historic Preservation Officer; And The Advisory Council On Historic Preservation Regarding The Mississippi River And Tributaries Project: Mississippi River Levee Features* to guide consultation on MRL project was executed on March 4, 2021. These documents can be found here: https://www.mvk.usace.army.mil/MRLSEIS/. Consultation is pursuant to this PA.

Description of the Undertaking

The existing west bank MRL in Concordia Parish has an average grade deficiency ranging of 4.0 feet over the 3.5 mile length of the project area. The proposed levee reach has settled over the years and requires approximately 95,000 cubic yards of earthen borrow material to raise the proposed levee reach to the authorized design grade. Aggregate surfacing will be placed on the levee crown for the length of the project. The earthen borrow material needed to complete the levee enlargement will be obtained from

an adjacent borrow pit located on the flood side of the existing west bank MRL within the previously described limits of work (Figure 1, portions of Enclosure 1). The project area is located within Sections 35-49, Township 2N, Range 8E on the Shaw, LA 7.5 minute USGS topographic quadrangle, and in Sections 50-58, Township 2N, Range 8E on the Tumbull Island, LA 7.5 minute USGS topographic quadrangle.

To prepare the existing east bank MRL for construction, erosion protection will be installed and surficial materials from the existing levee will need to be removed. A silt fence will be constructed on the land side levee right-of-way, approximately 1 foot from Highway 15, to minimize erosion and sediment runoff. The silt fence will be designed to retain sediment from runoff during clearing and grubbing, excavation, embankment placement, and final grading. The existing aggregate surface located on the crown of the levee will be excavated and removed from the work site. After removal of the aggregate surface, the site preparation will require stripping vegetation and topsoil from areas that will receive clay.

Prior to excavation at the proposed borrow site, bulldozers will be utilized to clear the areas of trees, scrub brush, other vegetation, and earthen material deemed not suitable for the levee enlargement project. The borrow site will then be excavated to a pit depth of approximately 13.0-feet (North American Vertical Datum 1988). Borrow material will be hauled in trucks with secured binders on tailgates to the place of destination along the proposed levee reach. Transportation routes for trucks carrying borrow material will be situated either on top of the existing levee or within the existing flood side maintenance corridor. After all suitable earthen material is excavated from the pits, the trees, shrubs and other vegetation removed during clearing and grubbing operations will be placed into the pit to provide potential cover habitat for wildlife and fisheries resources. Earthen material deemed to be unsuitable for the levee project or as embankment fill will also be placed into the pit.

The levee will be constructed with a flood side slope ranging from a 1-foot vertical on 3-feet horizontal near the crown to a 1-foot vertical on 4-feet horizontal near the levee toe with a final average elevation of 77-feet (North American Vertical Datum 1988). Variation of slopes are due to the enlargement being a straddle lift and flood side shift to avoid interference Highway 15 and its drainage features. Upon completion of the levee embankment work, the levee crown will be re-surfaced with aggregate material throughout the entire proposed project limits. All levee embankments and areas disturbed by the construction activities will be seeded with Bermuda grass and fertilized. Removal of silt fence barriers would be after construction is complete and the soil is stabilized.

Area of Potential Effects (APE)

The APE for direct and indirect effects is represented in Figures 2 through 5. The APE is confined to the existing right-of-way, with the addition of a small staging area. The project area and buffer is approximately 75.7 acres (30.69 hectares) (Figures 1-5). A potential staging/work area easement has been designated along the proposed project corridor and within the project right-of-way (Figure 4). Staging/work area 1 is an open grass field approximately 1.5-acres and is located just south of the project area. It will be on the flood side of the MRL at B/L STA. 230+00. The borrow site, including the access road, will be approximately 14-acres (center point: Latitude 31° 8'38.08"N, Longitude 91°38'0.74"W). Therefore, the total APE for direct and indirect effects measures 91.2 acres (36.9 ha) in size and incorporates project area, staging, access, and borrow areas.

Identification and Evaluation of Historic Properties

Background and literature review was conducted by CEMVN staff in March 2021. Historic properties in the project vicinity were identified based on a review of the National Register of Historic Places (NRHP) database, the Louisiana Division of Archaeology (LDOA), Louisiana Cultural Resources Map (LDOA Website), historic aerial photography, historic map research, and a review of cultural resources survey reports. Review of current cultural resources map reveals there are no previously recorded cultural resources located within the project APE. The literature review revealed one archaeological site (16CO196) is located within a 1-mile radius of the project APE and is listed as ineligible for the National

Register of Historic Places (NRHP) (Figure 5). One cultural survey was previously executed within a 1-mile radius of the project APE. *Cultural Resources Survey Of Palmetto And Coochie Revetments, Mississippi River M-326 To 315 22-1640* (LDOA Report #22-1640) revealed no cultural resources on the batture side of the levee in close proximity to the current project APE. The report demonstrates through use of historic USGS 7.5 minute quad maps, that the current project APE was in the direct path of the Mississippi River as late as 1828. Additionally, this project is a portion of that which was evaluated as part of the MRL SEIS II effort. Enclosed is the location specific background information (for a larger/combined project item), which supports this later analysis (Enclosure 1).

The proposed project will be limited to previously constructed levee right of way (ROW). The temporary silt fence will be placed within the existing Highway 15 ROW. Due to the late development of the area, the high degree of erosion, and heavy disturbance from previous construction within the area of project and the borrow source, it is unlikely that any additional intact historic or pre-contact archaeological deposits or cultural resources are within the APE.

Assessment of Effects

Based on the information presented in this letter, CEMVN has determined that there are no historic properties, as defined in 36 CFR 800.16 (l) in the APE. Therefore, CEMVN is making a finding of **No Historic Properties Affected** for this undertaking and submitting it to you for review and comment. This project will be subject to the standard change in scope of work, unexpected discovery, and unmarked human burial sites act provisions. CEMVN requests your comments within 30 days, per 36 CFR 800.5(c).

If you have any questions or require additional information concerning this undertaking, please contact Ms. Ashley Fedoroff, Archaeologist, at (601) 631-5278 or via e-mail Ashley.M.Fedoroff@usace.army.mil, or Mr. Jason Emery, Tribal Liaison, at (504) 862-2364 or via email at Jason.A.Emery@usace.army.mil.

Sincerely,

for MARSHALL K. HARPER
Chief, Environmental Planning Branch

CC: File
An electronic copy of this letter with enclosures will be provided to the Section 106 Inbox, section106@crt.la.gov.

Enclosure

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.

Kristin P. Sanders

Kristin P. Sanders
State Historic Preservation Officer
Date 05/25/2021

APPENDIX E

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, NEW ORLEANS DISTRICT
7400 LEAKE AVE
NEW ORLEANS LA 70118-3651

June 25, 2021

Regional Planning and
Environment Division South
Environmental Compliance Branch

CLEAN WATER ACT, SECTION 404
PUBLIC NOTICE

Draft Environmental Assessment #584

Mississippi River and Tributaries Project,
Mississippi River Levees,
Fifth Louisiana Levee District, Upper Fifth Levee Enlargement,
Concordia Parish, Louisiana

Interested parties are hereby notified that the U.S. Army Corps of Engineers (USACE), New Orleans District (CEMVN), proposes to raise the height of approximately 19,000 linear feet (3.5-miles) of levee (intermittent) to authorized design height on the west bank Mississippi River levee (MRL) in Concordia Parish, Louisiana. The project will begin approximately at River Mile 320 and end at River Mile 317 (Figure 1). The existing MRL reach has an average grade deficiency of approximately 4.0 feet and requires excavation of approximately 93,000 cubic yards of earthen fill material from the project borrow site (Figure 2). Excavation of fill material from the project borrow site involves discharge of dredged material and fill into navigable waters of the U.S.; therefore, the provisions of Title 33 CFR Parts 336.1(b)(1) and 337.1, effective April 26, 1988, are applicable and issuance of this public notice is required.

PROJECT AUTHORITY: The proposed action was authorized by the Flood Control Act of 1928 (Public Law 70-391), as amended, including but not limited to, the Flood Control Act of 1936 (Public Law 74-738), the Flood Control Act of 1938 (Public Law 75-761), the Flood Control Act of 1941 (Public Law 77-228), the Flood Control Act of 1946 (Public Law 79-526), the Flood Control Act of 1950 (Public Law 81-516), the Flood Control Act of 1954 (Public Law 83-780), the Flood Control Act of 1962 (Public Law 87-874), the Flood Control Act of 1965 (Public Law 89-298), the River and Harbor and Flood Control Act of 1968 (Public Law 90-483), and the Water Resources Development Act (WRDA) of 1986 (Public Law 99-662).

PROJECT PURPOSE: The purpose of the proposed action is to continue providing flood risk reduction resulting from Mississippi River high water events to valuable land uses including, but not limited to, residential and agricultural resources located on the west bank of the Mississippi River in Concordia Parish, Louisiana.

The MRL continues to serve as an integral part of reducing the risk to communities from not only Mississippi River high water events but also any potential hurricane driven storm surge traveling upstream from the mouth of the Mississippi River.

DESCRIPTION OF ACTION: The proposed action consists of a levee straddle or slight flood side shift for approximately 19,000 linear feet (3.5-miles) of levee (intermittent) to authorized design height on the west bank MRL in Concordia, Parish, Louisiana. The project will begin approximately at River Mile 320 and end at river mile 317. The existing west bank MRL reach in Concordia Parish has an average grade deficiency of approximately 4.0 feet. The levee reach has settled over the years and requires excavation of approximately 93,000 cubic yards of earthen fill material. The earthen fill material needed to complete the levee enlargement will be obtained from a government furnished borrow area located approximately 0.25 miles from the adjacent existing west bank MRL reach on the riverside of the existing levee within the previously described limits of work.

In order to prepare the existing levee for construction, stormwater erosion protection would be installed and surficial materials from the existing levee would need to be removed. A silt fence would be constructed on the land side approximately a foot from LA Highway 15 in order to minimize erosion and sediment runoff. The silt fence would be designed to retain sediment from stormwater runoff during clearing and grubbing, excavation, embankment placement, and final grading. The existing aggregate surface located on the crown of the levee would be excavated and removed from the work site. Site preparation would require stripping vegetation and topsoil from areas that will receive embankment. For the entire proposed levee reach, this vegetation and topsoil may be stockpiled within the levee right-of-way (ROW) and later placed on the levee to spur the growth of new vegetation. Any excess material that cannot be reused would become property of the construction contractor who may dispose of the material in any legal manner.

Prior to excavation at the proposed borrow site, bulldozers would be utilized to clear the site of trees, shrubs, other vegetation, and earthen material deemed not suitable for the levee enlargement project. The borrow site would then be excavated to a depth of approximately –12.0-feet North American Vertical Datum 1988 (NAVD88). Excavation activities at the proposed borrow site would be conducted during dry or low water periods to the extent practicable. Any removed vegetation and unsuitable earthen material would be used to form a dike surrounding the borrow area. Groundwater seeping into the borrow site would be pumped out into adjacent areas and drain to the Mississippi River. Excavators would remove the earthen material deemed suitable for the levee project, and either process the material within and adjacent to the borrow area to reduce the moisture content. Moisture content processing would likely be performed by mechanical methods such as utilizing bulldozers to stockpile material and disks to further reduce the moisture content of the soil. Once the moisture content has been reduced to acceptable levels,

borrow material would be hauled in trucks to the proposed levee reach. Transportation routes for trucks carrying borrow material would be either on top of the existing levee or along the flood side levee toe. Transportation to the ROW and staging area will be via Highway 15 to the levee. After all suitable earthen material is excavated from the pits, the trees, shrubs and other vegetation removed during clearing and grubbing operations would be placed along the edges of the pit in order to provide cover habitat for various wildlife and aquatic resources. Earthen material deemed unsuitable for the levee project or as embankment fill would also be placed into the pit with slopes not steeper than 1-foot vertical on 3-feet horizontal creating a shallow ledge extending approximately 10 to 15 feet into the borrow site.

Before placement of the new embankment material, the entire levee surface shall be thoroughly broken or scarified to a depth of 6 inches. Fill materials shall be placed or spread in layers, with the first or bottom layer and the last two layers being not more than 6 inches thick and all layers between the first and the last two layers not more than 12 inches thick prior to compaction. Layers would be started full, out to the existing levee ROW and would be carried substantially horizontal and parallel to the levee centerline with sufficient crown or slope to provide drainage during construction.

Variation of slopes are due to the enlargement being a straddle or flood side shift to avoid interference from Highway 15 and its drainage features. Upon completion of placing levee embankment, the levee crown will be re-surfaced with aggregate material throughout the entire proposed project limits. All levee embankments and areas disturbed by the construction activities will be seeded with either Bermuda, Bahia or Seashore Paspalum or rye grass and fertilized. Removal of silt fence barriers would be after construction is complete and the soil is stabilized.

One potential staging area has been designated along the project baseline and within project ROW. It is approximately 0.5 acre and is located south and outside of the Construction area at approximately at B/L STA. 220+00.

NATIONAL ENVIRONMENTAL POLICY ACT DOCUMENTATION: The April 1976 Final Environmental Impact Statement (1976 FEIS), "*Mississippi River and Tributaries Mississippi River Levees and Channel Improvement*", evaluated the environmental impacts for previously identified Mississippi River and Tributaries (MR&T) Project features, including the Mississippi River levees and floodwalls. A Statement of Findings was signed by Major General Ernest Graves, USACE, Director of Civil Works, on April 4, 1976.

The July 1998 "*Flood Control, Mississippi River and Tributaries, Mississippi River Mainline Levees, Enlargement and Seepage Control, Cape Girardeau, Missouri to Head of Passes, Louisiana*" Final Supplemental Environmental Impact Statement (1998 SEIS), was a joint effort of USACE Vicksburg, Memphis and CEMVN Districts. The 1998 SEIS was prepared to report the findings of studies conducted for the MR&T Project in the

alluvial valley between Cape Girardeau, Missouri, and Head of Passes, Louisiana, based on environmental laws and regulations passed since 1976 to cover the remaining unconstructed MRL and seepage control projects that are part of the MR&T Project. A Record of Decision was signed by Major General Phillip R. Anderson, U.S. Army President Designee, Mississippi River Commission, on 5 October 1998.

The March 2021 Final Supplement II (Final SEIS II) to the 1976 Final Environmental Impact Statement (FEIS), MR&T Project, Mississippi River Mainline Levees, evaluated the environmental impacts associated with a total of 143 additional Work Items, to include the proposed project, along various reaches of the MRL feature of the MR&T project located across portions of seven states: Illinois, Missouri, Kentucky, Tennessee, Arkansas, Mississippi and Louisiana. The 2021 Final SEIS II proposed action consists of constructing remedial measures necessary to control seepage and/or raise and stabilize deficient sections of the existing levees and floodwalls to protect the structural integrity and stability of the MRL system, as well as measures to avoid and minimize adverse impacts and compensate for unavoidable losses to significant environmental resources. The Final SEIS II supplements and, as necessary, augments the 1976 FEIS and 1998 SEIS to achieve USACE's primary goals for the MR&T: (1) providing flood risk management from the Project Design Flood; and (2) being an environmentally sustainable project. The Record of Decision was signed by Major General Diana Holland, Commanding General, USACE Mississippi Valley Division, on March 11, 2021.

The impacts of the proposed action and alternative to the proposed action will be analyzed and disclosed in draft Environmental Assessment #584, which is scheduled to be available for public review and comment August 2021.

SECTION 404(b)(1) GUIDELINES: The proposed borrow site is approximately 14 acres and is located on the river side of the levee and is approximately 0.25 miles from the existing levee baseline. The proposed borrow area that CEMVN, Engineering Division, identified as a viable earthen borrow source is located adjacent to the project site on the river side of the existing levee protection system for the subject project.

In order to prepare the borrow site, bulldozers and other heavy construction equipment would be utilized to clear the area of any trees, shrubs, and other vegetation, and earthen material deemed not suitable for the levee enlargement project. The borrow site would then be excavated to a pit depth of approximately -12.0 feet NAVD88. Excavation activities at the proposed borrow site would be conducted during dry or low water periods, or as much as practicable. Any removed vegetation and unsuitable earthen material would be used to form a dike surrounding the borrow area. Groundwater seeping into the borrow area would be pumped out into adjacent areas and drain to the Mississippi River. After all suitable earthen material is excavated from the borrow site, the borrow site would be allowed to fill with both rainwater and water resulting from seasonal high-water events

on the Mississippi River. It is expected that the borrow area would remain an open water site for the life of the project.

Any placement of earthen fill material into the waters of the U.S. would be made through the application of guidelines promulgated by the Administrator, Environmental Protection Agency, in conjunction with the Secretary of the Army.

STATE WATER QUALITY CERTIFICATION: Pursuant to the Clean Water Act (CWA) of 1972, as amended, a CWA Section 401 State Water Quality Certificate has been requested from the Louisiana Department of Environmental Quality (LDEQ) by letter dated May 25, 2021. Coordination with the LDEQ is still ongoing and will be completed prior to the signing of a Finding of No Significant Impact.

THREATENED AND ENDANGERED SPECIES: Pursuant to section 7 of the Endangered Species Act of 1973, as amended, the U.S. Fish and Wildlife Service (USFWS), CEMVN has determined that the project would not likely adversely affect any threatened or endangered species or any critical habitat. Coordination with the USFWS is still ongoing and will be completed prior to signing a Finding of No Significant Impact.

CEMVN has determined that there would be no effect to any threatened or endangered species or critical habitat under the purview of the National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS) , Protected Resources Division. The NOAA, NMFS, will review the proposed action during the 30-day public review to ensure compliance with Section 305 of the Magnuson-Stevens Fishery Conservation and Management Act and the Fish and Wildlife Coordination Act.

CULTURAL RESOURCES: The proposed project is being reviewed for past cultural resources compliance and coordination towards determinations of no historic properties affected. Interested parties will be contacted for review and conclusions of potential impacts, as required by Section 106 of the National Historic Preservation Act of 1966, as amended.

ADJACENT PROPERTIES: The only adjacent properties identified are privately owned agricultural lands.

DREDGING BY OTHERS: No accurate estimate can be given to the amounts and/or frequency of dredging required to maintain non-Federal facilities in the vicinity of this project.

COORDINATION: The following is a partial list of agencies to which a copy of this notice is being sent:

U.S. Environmental Protection Agency, Region VI
U.S. Fish and Wildlife Service

National Marine Fisheries Service
U.S. Coast Guard, Eighth District
Louisiana Department of Environmental Quality
Louisiana Department of Natural Resources
Louisiana Department of Wildlife and Fisheries
Louisiana Department of Transportation and Development
Louisiana State Historic Preservation Officer

This notice is being distributed to these and other appropriate Congressional, Federal, Tribal, state, and local interests, environmental organizations, and other interested parties.

PROJECT PLANS: Plans for the proposed work will be on file in the Regional Planning and Environmental Division South Office, Environmental Compliance Branch, Coastal Environmental Compliance Section, U.S. Army Corps of Engineers, New Orleans District, 7400 Leake Avenue, New Orleans, Louisiana 70118, and may be seen by anyone having an interest in them.

PUBLIC INVOLVEMENT: Interested parties may express their views on the disposal of material associated with the proposed action or suggest modifications. All comments postmarked on or before the expiration of the comment period for this notice will be considered.

Any person who has an interest that may be affected by deposition of excavated or dredged material may request a public hearing. The request must be submitted in writing to the District Engineer within the comment period of this notice and must clearly set forth the interest that may be affected and the manner in which the interest may be affected by the proposed action.

You are requested to communicate the information contained in this notice to any parties who may have an interest in the proposed action. For further information regarding the proposed action, please contact Samantha Martin at (504) 862-2207 or by email at Samantha.C.Martin@usace.army.mil.

Sincerely,

For Edward P. Lambert
Chief, Environmental Compliance Branch

Enclosures

COMMENT PERIOD FOR THIS PUBLIC NOTICE EXPIRES: **July 26, 2021**