

DRAFT ENVIRONMENTAL ASSESSMENT

MISSISSIPPI RIVER MAINLINE LEVEE
CLACK / NORFOLK MS
SEEPAGE CONTROL MEASURES
DESOTO AND TUNICA COUNTIES, MISSISSIPPI
SHELBY COUNTY, TENNESSEE

March 2020



U.S. Army Corps of Engineers
Regional Planning and Environment Division South
Memphis District

Mississippi River Mainline Levee
Seepage Control Measures
Clack / Norfolk, Mississippi

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ATTACHMENTS

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Mississippi River Mainline Levee Seepage Control Measures Clack and Norfolk, Mississippi

1.0 INTRODUCTION

The U.S. Army Corps of Engineers (USACE), Mississippi River Valley Division, Regional Planning and Environmental Division South, has prepared this environmental assessment (EA) for the Memphis District (MVM) to evaluate the potential impacts associated with the proposed seepage control measures at two locations, Clack and Norfolk, along the Mississippi River mainline levee (MRL) in Desoto and Tunica counties, Mississippi, and Shelby County, Tennessee (Figure 1).

This EA has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality's Regulations (40 CFR 1500-1508), as reflected in the USACE Engineering Regulation ER 200-2-2. This EA provides sufficient information on the potential adverse and beneficial environmental effects to allow the MVM District Commander to make an informed decision on the appropriateness of an environmental impact statement (EIS) or a Finding of No Significant Impact (FONSI).

A 1998 final Supplemental Environmental Impact Statement (SEIS), *Mississippi River Mainline Levees Enlargement and Seepage Control*, to the *Mississippi River and Tributaries (MR&T) Mississippi River Levees and Channel Improvements* EIS of 1976, addressed seepage control measures to be implemented along the MR&T. Since publication of the 1998 SEIS, seepage problems have occurred at various locations that were not anticipated. Therefore, in 2007, an EA, *Mississippi River Levee Construction Project Seepage Control Measures*, was prepared to address these issues, which included the construction of relief wells and associated collector ditches located along the left descending bank of the MRL at the locations described in the EA. A finding of no significant impact (FONSI) for the 2007 EA was signed by the District Engineer on 26 September 2007. However, as a result of geotechnical and hydrologic analyses following the winter flood of 2015-16, additional seepage remediation requirements were identified that require rights of way beyond those described in the 2007 EA.

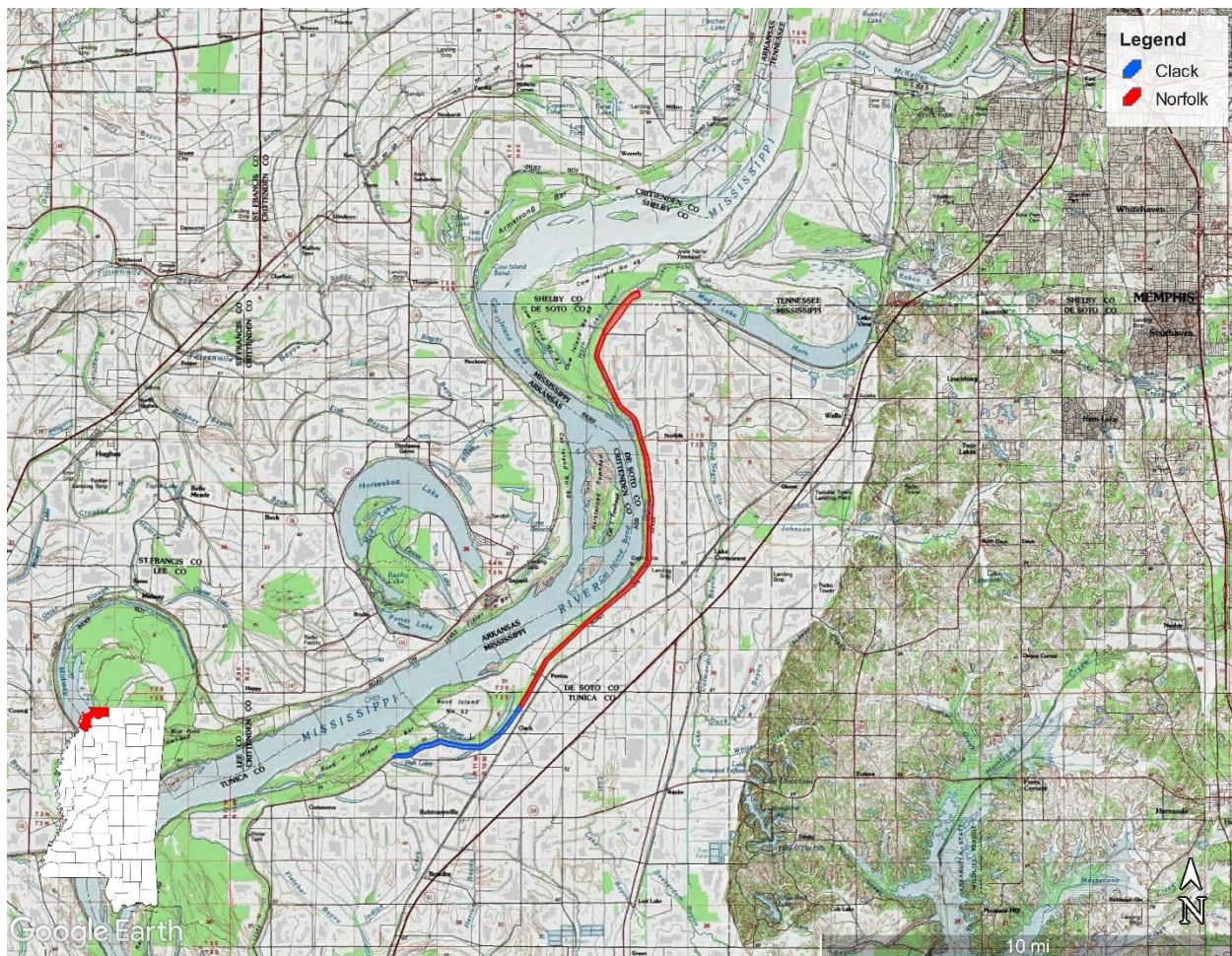


Figure 1. Location of proposed seepage control measures along the Mississippi River mainline levee, Desoto and Tunica counties, Mississippi, and Shelby County, Tennessee.

1.1 Proposed Action

The proposed project involves implementing seepage control measures along the MRL in Desoto and Tunica counties, Mississippi, and Shelby County, Tennessee. Project features for the proposed seepage control action includes constructing an earthen berm adjacent to the landside levee/berm and installation of 31 relief wells (17 Clack / 14 Norfolk). The location of each proposed action is presented in Figures 2 and 3. Access to the project areas would be from Old Highway 61 and County/Levee roads. Specialized drill rigs would be used to drill the holes along the levee, and cranes would be used to install the relief wells. A bulldozer and excavator would be used to construct the seepage berm and to modify the existing ditch. At the Norfolk project site, approximately 32,000 cubic yards of material would be obtained from an abandoned levee riverside of the current MRL and be used to create an earthen berm landside of the existing MRL on land currently maintained and used for cattle grazing. However, as a result of these proposals, it is anticipated that approximately 3 acres of bottomland hardwoods

would be cleared at the proposed borrow location at the Norfolk project area. Compensatory mitigation for unavoidable impacts associated with the proposed action would consist of restoring approximately 3.4 acres of cleared agricultural lands to bottomland hardwood forest as described in the Mitigation Section (6.0) below.



Figure 2. Proposed seepage control measures along the Mississippi River Mainline Levee at the Clack project area, Tunica County, Mississippi.

1.2 Purpose and Need for the Proposed Action

The purpose of the proposed action is to control seepage under the MRL that occurs during flood conditions on the Mississippi River to ensure that the levee system does not fail in a flood event. Continued seepage could eventually lead to a levee failure, which could result in property damage and cause human injuries and/or loss of life.

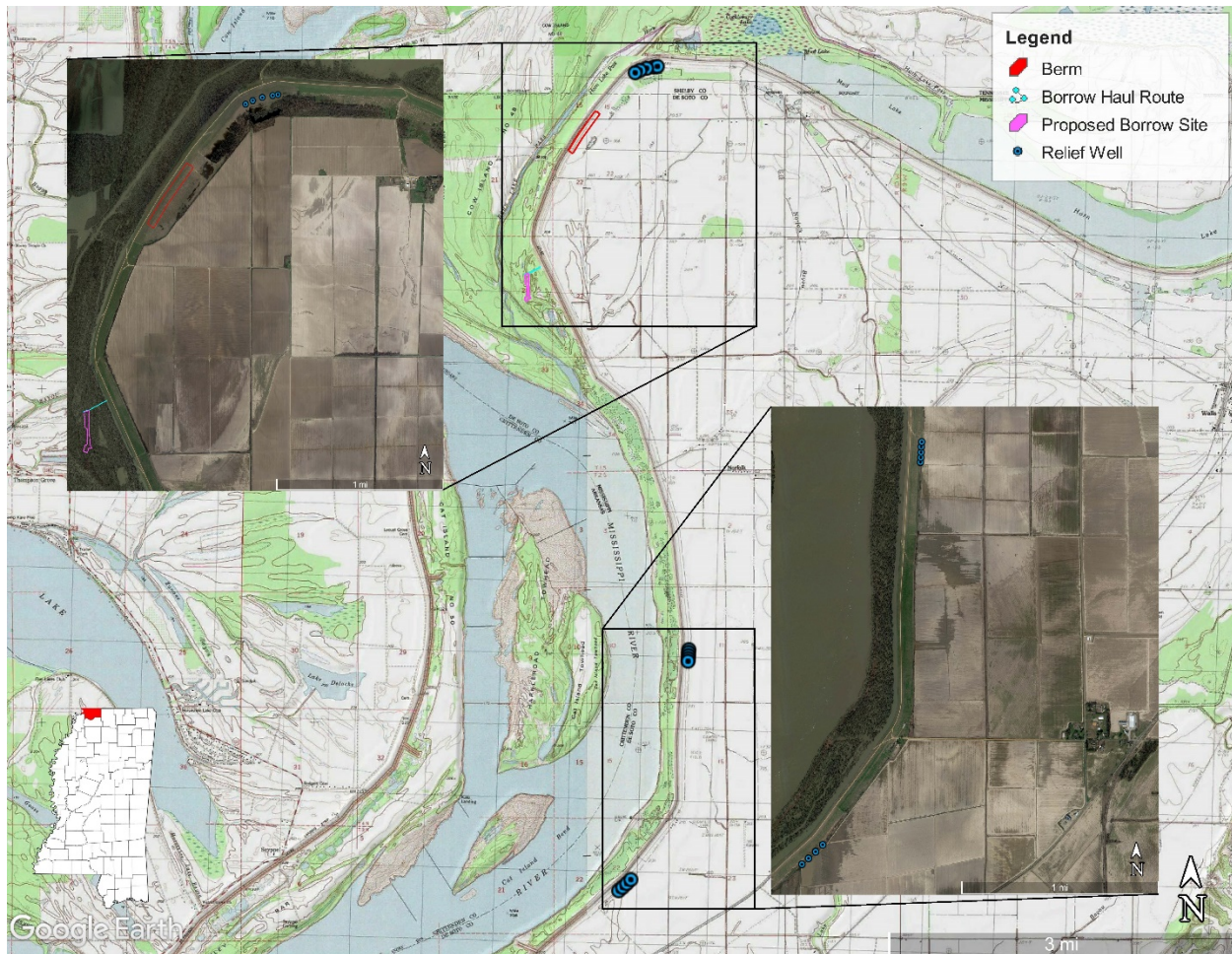


Figure 3. Proposed seepage control measures along the Mississippi River Mainline Levee at the Norfolk project area, Desoto County, Mississippi and Shelby County, Tennessee.

1.3 Authority for the Proposed Action

The proposed action is authorized as part of the Flood Control Act of 1928, as amended.

1.4 Prior Reports

This EA has been prepared because additional rights of way are needed and potential environmental impacts may occur beyond that originally described in the 1998 SEIS. Additionally, in 2007, an EA, *Mississippi River Levee Construction Project, Seepage Control Measures*, was completed to address additional seepage issues along the MRL within MVM that were not identified when the July 1998 final SEIS was completed. However, as a result of geotechnical and hydrologic analyses following the winter flood of 2015-16, additional seepage remediation requirements were identified that require rights of way beyond those described in the 2007 EA. The 1998 final SEIS and 2007 EA are incorporated herein by reference.

1.5 Public Concerns

Public concerns exist regarding the ability of the MRL to contain floodwaters during a flood event. Seepage could undermine the levee causing it to breach if unabated, thus posing a threat of flooding. A levee breach could flood the surrounding lands and residential areas, and threaten the lives and property of residents within the flooded areas. The record level flooding of the Mississippi River in May 2011 has heightened public concerns.

2.0 ALTERNATIVES

Three alternatives were considered: Alternative 1 (No-Action); Alternative 2 (Riverside Slurry Trench); and Alternative 3 (Construct a Landside Berm and Install Relief Wells with Associated Drainage Work).

2.1 Alternative 1 – Future without Project Condition (No-Action)

In the future without project condition (no-action), the proposed action would not be constructed. The no-action alternative would result in continued seepage during flood conditions. Sands and silts would be carried under the levee, potentially causing sand boils. This could eventually lead to levee failure during a major flood event. Failure of the levee could result in property damage, human injuries and/or loss of life.

2.2 Alternative 2 – Construct a Riverside Slurry Trench

This alternative would involve constructing slurry trenches (typically 90-feet deep and 3-feet wide) along the riverside toe of the MRL where seepage occurs. Based on past slurry trench installation, vegetation is usually removed up to 300 feet from the levee toe to allow sufficient room for construction and to spread out the excavated material in preparation for mixing the soil with bentonite. Due to the extensive negative environmental impacts, USACE determined this alternative is not practicable or reasonable.

2.3 Alternative 3 – Construct a Landside Berm and Install Relief Wells

The proposed project action for alternative 3 involves implementing seepage control measures along the MRL. Project features would include constructing a berm along the landside toe of the MRL and installing 31 relief wells. However, it is anticipated that these actions would result in approximately 3 acres of bottomland hardwoods being cleared at the borrow location at the Norfolk project area. Therefore, compensatory mitigation for unavoidable impacts associated with the proposed action would be required and would consist of restoring approximately 3.4 acres of cleared agricultural lands to bottomland hardwood forest as described in the Mitigation Section (6.0) below.

2.4 Preferred Alternative for the Proposed Project

After careful consideration of the alternatives, it was determined that alternative 1 (no-action) was unacceptable because of risks to human life and property. If seepage problems are not addressed, levee failure resulting in catastrophic impacts could ultimately result. However, Alternative 2 (construction of a riverside slurry trench) was deemed impracticable when considering environmental impacts. All factors considered, alternative 3 is the most practical solution for seepage control and is the preferred alternative for the proposed project assessed in this EA.

3.0 AFFECTED ENVIRONMENT

3.0.1 Environmental Setting

The proposed seepage control items are located in Desoto and Tunica counties, Mississippi, and Shelby County, Tennessee. During the fall of 2019, USACE personnel performed site assessments of the proposed project area. At both the Clack and Norfolk project locations, properties on the landside of the levee surrounding the proposed work sites are dominated by large, row crop agricultural production. However, in the batture (riverside of the levee), land is primarily occupied by bottomland hardwood forest and borrow pits previously used in levee construction. Tree species in the batture adjacent to the project areas generally consist of cottonwood, American elm, sugarberry, silver maple, hickory, sycamore, cypress, black willow and various types of oaks.

At the Clack project area, the location proposed for relief well placement is currently levee/berm planted in pasture grass and subjected to routine mowing and/or cattle grazing (Figure 4).

Similar to the Clack project area, the area landside of the MRL at the Norfolk project location where the proposed relief wells and seepage berm would be located is currently levee/berm planted in pasture grass and subjected to routine mowing and/or cattle grazing. Fill material would be obtained from approximately 3 acres of an abandoned levee riverside of the current MRL. This upland bottomland hardwood area primarily consists of eastern cottonwood, sycamore, sugarberry, persimmon, and green ash in the overstory and vines and herbaceous species such as grapes and greenbrier in the understory.

3.0.2 Climate

Climate in the project area is humid subtropical with average winter low temperatures of 38 degrees (°) Fahrenheit (F) and winter highs averaging 59 °F. Summer temperatures average a low of 72 °F with highs averaging around 92 °F. Total annual precipitation averages approximately 56 inches, generally spread out over the year.



Figure 4. Proposed location for relief well placement at the Clack project area, Tunica County, Mississippi.

3.0.3 Geology

The proposed project area is located in the Mississippi River alluvial plain. Soils in the project area are predominantly Commerce and Crevasse soils and Sharkey clay. Commerce soils consist of deep, somewhat poorly drained, moderately slowly permeable soils. Crevasse soils consist of very deep, excessively drained, rapidly permeable soils. Sharkey soils consist of very deep, poorly and very poorly drained, very slowly permeable soils.

3.1 Relevant Resources

This section contains a description of relevant resources that could be impacted by the project. The relevant resources (Table 1) described in this section are those recognized by laws; executive orders; regulations; other standards of National, state, or regional agencies and organizations; technical or scientific agencies, groups, or individuals; and the general public. The following resources have been considered and found to not be affected by the alternative under consideration: agricultural lands, freshwater marshes, freshwater lakes, state-designated scenic streams, fisheries, municipal facilities, municipal utilities, roadways, recreation, and aesthetics. Additionally, proposed alternatives would not be expected to have disproportionate adverse environmental or health effects on minority or low-income populations, as the reduction in flood risk provided would be beneficial to all area residents. Therefore, the proposed project is in full compliance with Executive Order 12898, Environmental Justice in Minority and Low-Income Populations.

Table 1. 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.
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.
Threatened and 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, U.S. Fish and Wildlife Service, NRCS, U.S. Environmental Protection Agency, and Missouri Department of Natural Resources 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.
Cultural Resources	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	State and Federal agencies document and protect sites. Their association or linkage to past events, to historically important persons, and 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.
Air Quality	Clean Air Act of 1963.	State and Federal agencies recognize the status of ambient air quality in relation to the National Ambient Air Quality Standards.	Virtually all citizens express a desire for clean air.
Hydrology and Water Quality	Clean Water Act of 1977, Fish and Wildlife Coordination Act.	State and federal agencies recognize value of fisheries and good water quality. The National and state standards are 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.

3.1.1 Wetlands

Existing Conditions

Within the proposed construction footprints at both the Clack and Norfolk project areas, the area landside of the MRL consists predominantly of agricultural land in row crop production and does not exhibit wetland characteristics. However, land riverside of the MRL is subject to the Mississippi River flood pulse and, depending on elevation and hydrologic regime, often contains vegetative, soil, and hydrologic properties typical of a wetland setting.

3.1.2 Wildlife

Existing Conditions

Wildlife species that could be expected to be found within the Clack and Norfolk project areas include coyotes, deer, raccoons, opossums, rabbits, gray and fox squirrels, muskrats, mice, rats, shrews, songbirds, turtles, snakes, amphibians, and other small animals typically found along the Mississippi River levees.

As described in the 1998 SEIS, Habitat Evaluation Procedures (HEP) developed by the U.S. Fish and Wildlife Service (USFWS) were used to evaluate impacts to wildlife resources for MRL projects. The evaluation species that could be present in the project site and their Habitat Suitability Index (HSI) values are depicted in Table 2. The scores range from 0 to 1 for each evaluation species, with 0 denoting less desirable habitat and 1 indicating more desirable habitat. Habitat units (HU) reported in this EA are calculated by $HSI \times \text{acres} = \text{HUs}$. The HUs are then annualized over the life of the project (approximately 100 years) and become average annual habitat units (AAHU).

Approximately 999 AAHU are contained within the bottomland hardwood area proposed to be impacted at the Norfolk project area borrow site (Table 2).

Table 2. Existing average annual habitat units (AAHU) at the Norfolk project area within bottomland hardwood areas proposed to be impacted.

Species	HSI for Riverside Hardwoods
Barred Owl	0.67
Fox Squirrel	0.40
Carolina Chickadee	0.86
Pileated Woodpecker	0.35
Mink	0.58
Wood Duck	0.47
HSI Sum	3.33
BLH Acres	3.00
Habitat Units	9.99
AAHU	999.00

3.1.3 Threatened and Endangered Species

Existing Conditions

According to results obtained from USFWS Information, Planning, and Conservation (IPaC) planning tool, there are a total of six threatened, endangered, or candidate species that could potentially inhabit the immediate project area. These species are the northern long-eared bat (*Myotis septentrionalis*) (NLEB), least tern (*Sterna antillarum*), wood stork (*Mycteria americana*), pallid sturgeon (*Scaphirhynchus albus*), fat pocketbook (*Potamilus capax*), and pondberry (*Lindera melissifolia*). Of these six species, only the northern long-eared bat, wood stork, and pondberry could potentially utilize the habitat within the project area. In the lower Mississippi River (LMR), interior least terns typically nest on large isolated sandbars from late May to August, depending on timing and duration of low river stages, and are not found within the proposed project area. As sturgeon and the fat pocketbook mussel are limited to the nearby Mississippi River, they are not found within the proposed project area.

In the fall of 2019, USACE biologists conducted a site assessment of the Clack and Norfolk project areas. Potential impact areas were examined for the presence of suitable/potential habitat for the NLEB as well as the presence of pondberry. Dominant tree species include sugarberry, silver maple, cottonwood, sycamore, and black willow. Although the presence of trees larger than 3 inches diameter at breast height were noted, currently, there are no known maternity roost trees in the State of Mississippi and only one known hibernaculum, which is not located in the vicinity of the project area. No evidence of pondberry or the woodstork was noted at either project location. Additionally, habitat within the project areas is not considered critical habitat for any potential species.

3.1.4 Cultural Resources

Existing Conditions

A literature review and cultural resources survey within the project's Area-of-Potential-Effect (APE) were completed by the MVM archaeologist in the fall of 2019. The investigation did not reveal any significant cultural resources within the APE. However, two archaeological sites (40SY202 and 40SY293) have been documented approximately one mile outside of the projects rights of way in Shelby County, Tennessee.

3.1.5 Air Quality

Existing Conditions

The proposed project area is in attainment for all air quality standards. As equipment to be used during construction is a mobile source, best management practices shall be used throughout the construction to minimize air pollution.

3.1.6 Hydrology and Water Quality

Existing Conditions

Water flow within the existing ditches and waterways within the proposed project area is dependent on heavy rainfall and seepage under the MRL from the adjacent Mississippi River. Therefore, the existing drainage ditches are normally dry and only have flowing water during periods of heavy rain and high river stages.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 Wetlands

Future Conditions with No Action

Without implementation of the proposed action, wetland habitats within the project area are expected to remain as noted in Existing Conditions, provided that the adjacent levee remains stable. However, continued seepage could lead to a levee failure during a major flood event. Floodwaters could negatively impact area wetlands through erosion and excess deposition of sand and gravel.

Future Conditions with the Proposed Action

With implementation of the proposed action, no impacts to existing area wetlands would be anticipated. However, the proposed approximate 3-acre borrow source is an abandoned levee riverside of the current MRL. Proposed work would remove the old stock-piled borrow and re-connect the 3-acre site to the Mississippi River flood pulse.

4.2 Wildlife

Future Conditions with No Action

Without implementation of the proposed action, the wildlife resources within the project area are expected to remain as noted in Existing Conditions.

Future Conditions with the Proposed Action

With implementation of the proposed action, impacts to wildlife resources would include the loss of approximately 3 acres (999 AAHU) of bottomland hardwood forest on an abandoned levee. Additionally, disturbance and noise from the construction equipment would temporarily disperse wildlife species from the project area. However, once the project is completed, wildlife species would be expected to return to the project area. The loss of habitat and temporary disturbance would not adversely impact the general populations of wildlife species within the region, as extensive forested areas and suitable habitat is readily available within the vicinity of the project area, specifically riverside of the levee. To mitigate for the loss of 3 acres (999 AAHU) of

bottomland hardwood forest, approximately 3.4 acres of prior converted cropland would be restored to bottomland hardwoods as described in the Mitigation Section (6.0) below.

4.3 Threatened and Endangered Species

Future Conditions with No Action

Without implementation of the proposed action, threatened and endangered species within the project area are expected to remain as noted in existing conditions.

Future Conditions with the Proposed Action

Pursuant to Section 7 of the Endangered Species Act, as amended, USACE has determined that the tree clearing required for the proposed project may affect, but is not likely to adversely affect the NLEB or the wood stork. If feasible, to assist in the protection of bat species, USACE proposes to conduct tree clearing between 1 November and 31 March. Furthermore, based on location of the project and surveys of the project area, USACE has determined that the proposed project would have no effect on the fat pocketbook, pallid sturgeon, least tern, or pondberry. Additionally, no evidence of bald eagles, or their nests, were observed at any project location. The bald eagle is no longer listed as a threatened species, but is still protected by the Bald and Golden Eagle Act and the Migratory Bird Treaty Act. USFWS concurred with the USACE determination on 24 February 2020.

4.4 Cultural Resources

Future Conditions with No Action

Without implementation of the proposed action, cultural resources are expected to remain as noted in Existing Conditions. However, continued seepage could lead to a levee failure during a major flood event, potentially impacting cultural resources.

Future Conditions with the Proposed Action

The proposed project is located within the previously disturbed MRL footprint and/or prior depositional areas; thus, no known historic properties will be affected. No additional cultural resources investigations are recommended prior to project implementation. The Mississippi Department of Archives and History concurred with the USACE determination on 20 November 2019. However, should an inadvertent discovery be made during construction, the resource would be evaluated, assessed for effects, avoided if possible, and mitigated in accordance with Federal statutes and regulations (36 CFR, Part 800).

4.5 Air Quality

Future Conditions with No Action

Without implementation of the proposed action, no change in air quality would occur.

Future Conditions with the Proposed Action

With implementation of the proposed action, project-related equipment would produce small amounts of engine exhaust during construction activities. The temporary, minor impacts to air quality would be localized to the project area, and would not affect area residents. The project area would still be in attainment for all air quality standards. Since the equipment to be used is a mobile source, the project is exempt from air quality permitting requirements. Although air emissions would not require a permit, best management practices would be used throughout the construction to minimize air pollution.

4.6 Hydrology and Water Quality

Future Conditions with No-Action

Without implementation of the proposed action, hydrology and water quality within the project area would be as noted in Existing Conditions. However, in the event of a levee failure due to seepage, the impacts to water quality could be significant.

Future Conditions with the Proposed Action

With implementation of the proposed action, hydrology riverside of the levee will be as noted in Existing Conditions. Impacts to water quality within the Mississippi River would be minimal or have no effect, as the river normally carries a heavy sediment load and that the project action would be conducted during dry or low water periods. Installation of the relief wells would affect the existing hydrology landside of the levees by transporting seepage waters from the wells to the existing drainage ditches. However, water provided through seepage occurs only during high water periods and a majority of the area landside of the levee is in active agricultural production during dry conditions. Furthermore, best management practices (e.g., silt fences, seeding) would be employed throughout construction to minimize impacts. Any temporary impacts to water quality will be anticipated to return to normal shortly after construction ceases. Thus, no significant impacts to water quality would occur as a result of the proposed project.

4.7 Hazardous, Toxic, and Radioactive Waste

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 project funds for HTRW removal and remediation activities. A record search has been conducted of the Environmental Protection Agency's (EPA) EnviroMapper for Envirofacts web site (<https://www.epa.gov/emefdata/em4ef.home>). The web

site was checked for any superfund sites, toxic releases, or hazardous waste sites within the vicinity of the proposed project area. Additionally, a site inspection of the proposed project was conducted by USACE personnel during the fall of 2019. The environmental record search and site survey conducted did not identify the presence of any hazardous or suspected hazardous wastes in the project area. As a result of these assessments, it was concluded that the probability of encountering HTRW is low. If any hazardous waste/substance is encountered during construction activities, the proper handling and disposal of these materials would be coordinated with the EPA and applicable state agencies.

4.8 Cumulative Impacts

The Council on Environmental Quality's (CEQ) regulations (40 CFR 1500-1508) implementing the procedural provisions of the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4321 et seq.) define cumulative effects as "the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions (40 CFR 1508.7). Cumulative Effects can result from individually minor but collectively significant actions taking place over a period of time."

A final SEIS, *Mississippi River Mainline Levees Enlargement and Seepage Control*, was completed in July 1998 to address all remaining work on the levee enlargement and seepage control project. However, the seepage problems at the proposed project locations were not anticipated when the SEIS was completed. Benefits resulting from cumulative effects in the SEIS included 1) the mitigation plan and borrow area reforestation which resulted in a net gain of 4,070 acres of bottomland hardwoods; 2) incremental impacts which resulted in a net gain in nationally significant habitat and environmental values; 3) the action would not improve or worsen any cumulative effects associated with the existing Mississippi River levees; 4) the project would not affect the hypoxia zone in the Gulf of Mexico; and 5) the environmental design and compensation features result in a net increase in terrestrial, wetland, waterfowl, and aquatic resource values such that no significant cumulative environmental impact resulted on an ecosystem, landscape, or regional scale.

Impacts of the proposed project action were evaluated during the preparation of this EA on the natural and human environment. A total of approximately 3 acres of non-wet forested habitat would be impacted by the proposed project action. The proposed mitigation would include restoring approximately 3.4 acres of agricultural land to high quality bottomland hardwood forest. The impacts associated with the proposed project activities should not have any significant adverse cumulative effects on the environment in addition to those reported in the 1998 SEIS.

5.0 COORDINATION

The proposed action, draft EA, and Finding of No Significant Impact (FONSI) have been coordinated with members of the project interagency environmental team (IAT) through distribution of the draft EA. The IAT is comprised of representatives from USACE, USFWS,

EPA, Mississippi Department of Environmental Quality, and the Tennessee Department of Environmental Quality. In addition, this EA is being coordinated with these agencies: Mississippi Department of Archives and History, Tennessee Department of Archives, federally recognized tribes, and other interested parties.

6.0 MITIGATION

With implementation of alternative 3, approximately 3 acres of bottomland hardwoods would be impacted by the proposed project. Utilizing mitigation analysis described in the 1998 SEIS, approximately 3.4 acres of reforested prior converted cropland would be required to mitigate the impact. However, as final MRL construction project designs have been developed, wetland impacts (and likewise, bottomland hardwoods) for the MRL program within Mississippi are currently below the 1998 SEIS estimate. To date, USACE has purchased 5,094 acres of land for construction items within the Vicksburg District (MVK), which tracks and provides mitigation for MVM MRL projects within the State of Mississippi. A mixture of bottomland hardwood species comprised of 70 percent red oaks have been planted on acquired tracts. This acreage represents over 90 percent of the total 5,200 acres recommended for purchase by the mitigation plan. Therefore, required mitigation is 121 acres (504 functional capacity units) less than the expected amount for MRL construction projects to date. Thus, environmental impacts resulting from the recommended alternative are addressed through the ongoing mitigation plan for Mississippi River Levees and Seepage projects. Table 3 provides a detailed cumulative account of losses/required mitigation for MRL items with project modifications not accounted for in the 1998 SEIS.

Table 3. Mississippi River Levee items, losses and mitigation required to date.

Resource Category	Terrestrial		Wetlands		Waterfowl		Aquatics	
	AAHUs Loss	Acres Required	AAFCUs Loss	Acres Required	DUDs Loss	Acres Required	AAHUs Loss	Acres Required
MRL SEIS	5,694	1,930	22,206	5,200	199,440	849	-27,131	N/A
MFRs								
Item 509-L	-74.88	-25.42	-168.54	-39.47	-73,498.61	-312.76	0.00	0.00
Lake Jackson	-22.32	-7.58	-56.76	-13.29	108.56	0.46	-2.92	-0.72
Ben Lomand	-2.06	-0.70	-4.82	-1.13	-68.56	-0.29	0.00	0.00
Greenville	-0.81	-0.28	-1.14	-0.27	0.00	0.00	0.00	0.00
Lake Chicot Pumping Station	-49.50	-16.80	-18.42	-4.31	-4,342.31	-18.48	0.00	0.00
Davis Landing	-4.68	-1.59	-64.08	-15.01	-23,025.65	-97.98	-1.17	-0.29
Item 511-L	-21.06	-7.15	-66.18	-15.50	-1,471.36	-6.26	-110.96	-27.40

**Mississippi River Mainline Levee
Seepage Control Measures
Clack / Norfolk, Mississippi**

**U.S. Army Corps of Engineers
Regional Planning and Environment Division South
Memphis District**

EAs								
Item 336-R	0	0	0	0	0	0	0	0
Item 365-R	-33.57	-11.4	368	86.2	17,783	75.7	34	8.35
Item 374-R	-80.53	-27.33	-125.46	-29.38	-2194.01	-9.34	-18.8	-4.64
Item 377-R	20.18	6.85	20.74	4.86	-1714.07	-7.29	-51.68	-12.76
Item 398-R	121.06	41.09	-180.8	-42.33	-29,780	-126.72	26.46	6.53
Item 407-R	123.02	41.76	314	73.54	-95,932	-408.22	9.69	2.39
Item 411-R	-154.11	-52.31	-88.66	-20.76	3,737	15.9	0	0
Item 414-R	0	0	0	0	0	0	0	0
Item 416-R	306.94	104.19	114.58	26.83	-13281.14	-56.52	0	0
Item 422-R	8.89	3.01	18	4.19	1,550	6.6	-235	-57.95
Item 445-R	1.85	0.63	-5	-1.17	-16334	-69.51	-75	-18.52
Item 450-R	326.5	110.83	-120	-28.1	1081	4.6	1.5	0.37
Item 456-L	-1.5	-0.51	-132.88	-31.12	2536.88	10.8	0.35	0.09
Item 458-L	31.18	10.58	-220.38	-51.6	-2,289	-9.74	-2.92	-1
Item 461-R	244	83	215	50	20,329	86	-38	-9
Item 462-L	386.66	131.25	764.38	179.01	3,029	12.89	0	0
Item 463-L	177.05	60.1	408.93	95.77	5805	24.7	1.46	0.39
Item 465-L	-311.12	-105.6	-551.58	-129.2	-7,830	-33.3	-2.92	-1
Item 465-L	321.62	109.17	710.28	166.34	4685.12	19.94	0	0
Items 466, 464, & 397-R	0.53	0.18	0.24	0.06	114.97	2.48	0	0
Item 474-L	141	48	-599	-140	10,475	45	3	0.8
Item 477-L & 488-R	-171	-58	-1,400	-328	-27,176	-115	-1,561	N/A
Item 485-R	100	34	192	45	-81,985	-349	-300	-74
Item 487-R	3.3	14	87.1	17	-230	-13	-2.5	-1
Item 496-L	0	0	-66.8	-15.6	974	4.14	-178	-44
Item 524-L Avon	0	0	0	0	0	0	0	0
Item 525-L	18.72	6.35	17.45	4.09	1894.07	8.06	0	0
Item 531-R	-3.31	-1.12	-19.1	-4.47	-3314.4	-14.1	0	0
Item 536-R	11.43	3.88	-92.98	-21.77	-32567.29	-138.58	0	0
Item 536-R Laland Chute Berm	-24.65	-8.37	-46.91	-10.99	-446.46	-1.9	0	0
Item 543-L	-4.3	-1.46	-8.21	-1.92	-1373.21	-5.84	0	0
Item 546-R	-101.19	-34.35	16.2	3.79	-47953.91	-204.06	0	0
Item 616-L	-0.87	-0.29	-20.55	-4.81	-6619.23	-28.17	0	0
2020 Norfolk (MVM)	999.00	3.40	0.00	0.00	0.00	0.00	0	0

Mississippi River Mainline Levee
Seepage Control Measures
Clack / Norfolk, Mississippi

U.S. Army Corps of Engineers
Regional Planning and Environment Division South
Memphis District

2003 Trotters (MVM)	10,456.20	35.49	298.9	70	NC	NC	0	0
2018 Trotters (MVM)	9,756.90	33.12			0	0	0	0
2018 Rena Lara (MVM)	0	0	7.61	1.8			0	0
Blackhawk I	0	0	0	0	0	0	0	0
Grand Lake	0	0	0	0	0	0	0	0
Leota	0	0	0	0	0	0	0	0
Willow Lake	0	0	0	0	0	0	0	0
Wilson Point	0	0	0	0	0	0	0	0
Current Total	22,494.57	520.62	-504.84	-121.72	-399,323.88	-1,708.79	-2,504.41	-233.36

7.0 COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS

Environmental compliance for the proposed action would be achieved upon: coordination of this draft EA and draft FONSI with appropriate agencies, organizations, and individuals for their review and comments; and USFWS threatened and endangered species effect determination concurrence. The draft FONSI would not be signed until the proposed action achieves environmental compliance with applicable laws and regulations, as described above.

8.0 CONCLUSION

The proposed action involves implementing seepage control measures along the MRL. A total of approximately 3 acres of bottomland hardwood habitat would be impacted by the proposed project. To mitigate for the impact, approximately 3.4 acres of cleared agricultural land would be restored to bottomland hardwoods.

This office has assessed the environmental impacts of the proposed action and has determined that the proposed work is expected to have only minor impacts on agricultural lands, wildlife, air quality, and hydrology. Impacts to wildlife and air quality would be temporary, and would be expected to return to existing conditions after completion of the project action. The proposed project would have no impacts upon freshwater marshes, freshwater lakes, state designated scenic streams, prime and unique farmlands, cultural resources, municipal facilities, municipal utilities, roadways, recreation, aesthetics, socio-economic, or environmental justice. Also, no significant adverse impacts would occur to wetlands, aquatic resources/fisheries, wildlife, threatened and endangered species, hydrology/water quality, air quality, or the human environment. Therefore, a supplemental EIS is not required.

9.0 PREPARED BY

This EA and FONSI were prepared by Mr. Joshua M. Koontz, USACE biologist, with cultural resources information provided by Ms. Pam Lieb, USACE archeologist. For additional information, contact Mr. Joshua M. Koontz at (901) 544-3975, or by email at joshua.m.koontz@usace.army.mil, or by mail at USACE Memphis District, Attn: Joshua M. Koontz, 167 North Main St., RM-B202, Memphis, TN 38103-1894.

ATTACHMENTS

Attachment A – U.S. Fish and Wildlife Service Coordination

Attachment B – Mississippi Department of Archives and History Coordination

From: [REDACTED]
To: [Koontz, Joshua M CIV USARMY CEMVN \(USA\)](#)
Subject: [Non-DoD Source] Re: Clack/Norfolk Seepage Remediation Project
Date: Monday, February 24, 2020 3:49:32 PM

Hi Josh,

The Fish and Wildlife Service (Service) has reviewed your email correspondence regarding the proposed Clack/Norfolk Seepage Remediation Project located in Tunica and DeSoto Counties, Mississippi.

The Service has received your Northern Long-eared Bat (NLEB) Streamlined Consultation Form for the proposed project and concurs with your determination that the proposed project may affect the NLEB, but that any incidental take of the NLEB is not prohibited by the final 4(d) rule. The Service also concurs with your determination that the proposed project may affect, but is not likely to adversely affect the wood stork.

The Service has no additional comments or concerns regarding the proposed project as it relates to the ESA. No further coordination is required with this office unless there are changes to the scope or location of the proposed project. Please let me know if you have any questions or concerns.

Thanks,

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



HISTORIC PRESERVATION DIVISION
P. O. BOX 571
Jackson, MS 39205-0571
Phone 601-576-6940 Fax 601-576-6955
Website: mdah.ms.gov

November 20, 2019

Ms. Pamela D. Lieb
U.S. Army Corps of Engineers, Memphis District
167 North Main Street B-202
Memphis, Tennessee 38103-1894



RE: Proposed berm for Mississippi River levee and relief wells, (USACE)
MDAH Project Log #11-025-19-19, Desoto and Tunica Counties

Dear Ms. Lieb:

We have reviewed your October 28, 2019, request for a cultural resources assessment, received on November 6, 2019, for the above referenced project in accordance with our responsibilities under Section 106 of the National Historic Preservation Act and 36 CFR Part 800. After reviewing the information provided, it is our determination that no cultural resources are likely to be affected, provided the levee is documented as an archaeological site and a site card is submitted for a trinomial. With this condition, we have no reservations with the proposed undertaking.

Should there be additional work in connection with the project, or any changes in the scope of work, please let us know in order that we may provide you with appropriate comments in compliance with the above referenced regulations.

If you have any questions, please do not hesitate to contact us at (601) 576-6940.

Sincerely,

Hal Bell
Review and Compliance Officer

FOR: Katie Blount
State Historic Preservation Officer