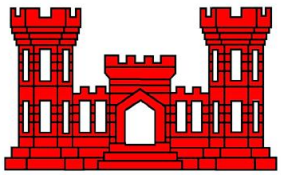
DRAFT

ENVIRONMENTAL ASSESSMENT

Mississippi River Levee Maintenance
Farrenburg Levee Culvert Replacement
Near Levee Milepost 10 (LMP 10)
New Madrid County, Missouri



U.S. Army Corps of Engineers
Mississippi Valley Division
Regional Planning and Environmental Division South

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1.0 INTRODUCTION. The U.S. Army Corps of Engineers (USACE), Mississippi Valley Division, Regional Planning and Environmental Division South, Memphis District (MVM) has prepared this environmental assessment (EA) to evaluate the potential impacts associated with the replacement of an existing Farrenburg Levee culvert located near levee milepost 10 (LMP 10), approximately 6 miles northeast of New Madrid, Missouri (Figure 1). Suitable earthen material to repair the levee surrounding the culvert would be obtained from material previously dredged from the Setback Levee Ditch located 4.5 miles east of the Farrenburg Levee. This EA has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA) and the Council on Environmental Quality's Regulations (40 CFR 1500-1508), as reflected in the USACE Engineering Regulation 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).

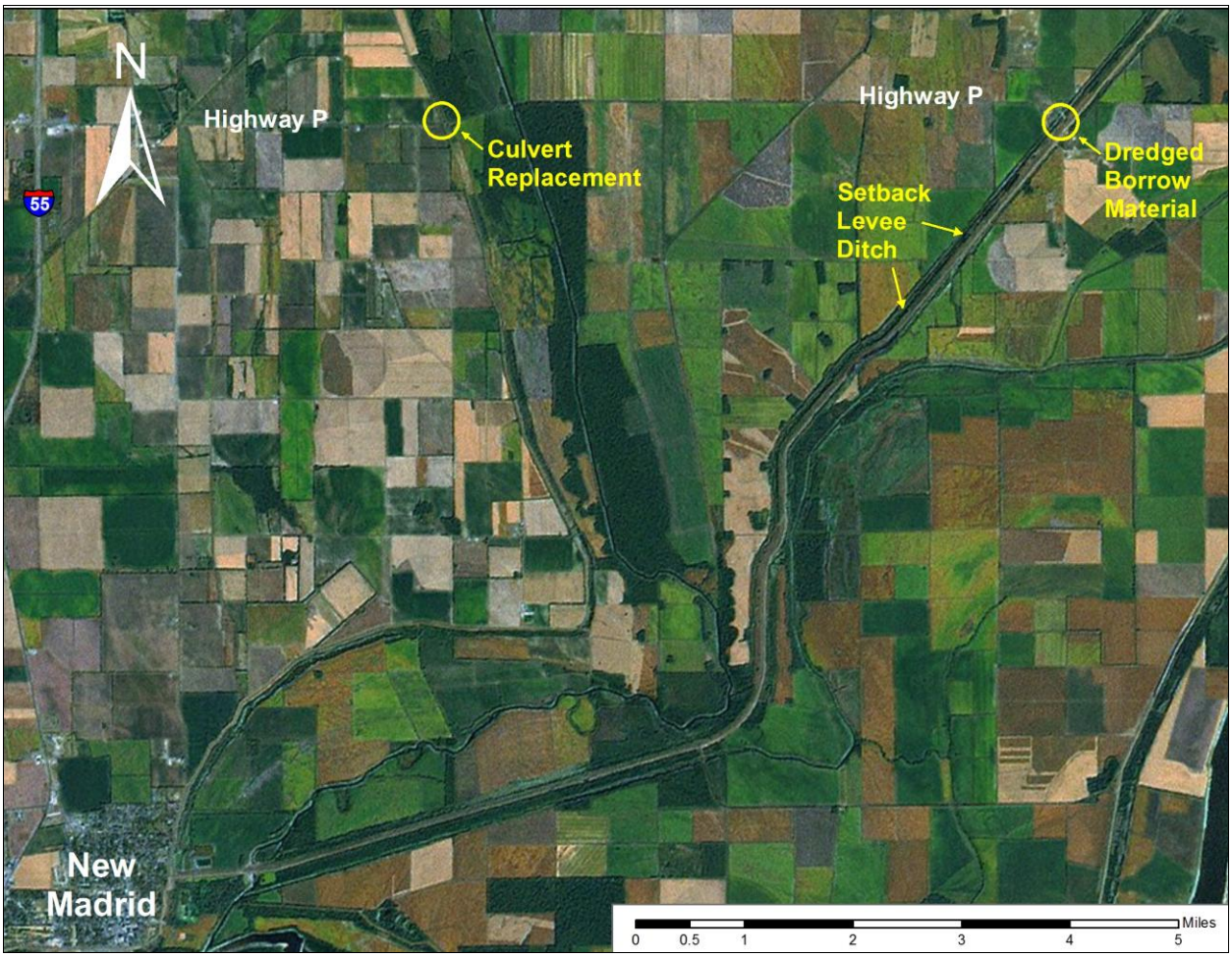

Figure 1. Project Location, Farrenburg Levee Culvert Replacement, New Madrid County, MO

1.1 Proposed Action. The proposed project would replace the existing Farrenburg Levee culvert and install a new 48-inch diameter culvert approximately 100 feet north of the existing culvert (Figure 2). A backhoe or other equipment would excavate a trench through the levee to accommodate the new culvert. The proposed action includes several design features to reduce erosion, including construction of concrete inlet and outlet structures at the ends of the culvert pipe, placing approximately 1,755 tons of riprap and 550 tons of filter gravel around the inlet and outlet structures, and within a landside drainage ditch and a 3-tiered drop structure floodside of the outlet structure. Gravel would be placed on the levee crown after completion of the culvert replacement. Additional project work includes flattening the floodside slope of the levee within the project limits, removal of the existing culvert, and repairing the eroded section of the levee. An estimated 3,500 cubic yards of suitable earthen material would be obtained from material previously dredged from the Setback Levee Ditch that was stockpiled on the left-descending bank of the ditch. Silt fences would be placed along the boundary of the project work areas in compliance with Missouri regulations to contain runoff material during construction activities.

Approximately 0.2 acres of an adjacent farmed field landside of the Farrenburg Levee would be used as a temporary stockpile/staging area. A total of approximately 0.9 acres of forested wetlands would be cleared and grubbed as site preparation for the culvert replacement project. A few isolated trees would be cleared in order to access the stockpiled material dredged from the Setback Levee Ditch. Trees and other vegetation removed would be hauled off or burned onsite by the contractor. Upon completion of the proposed project action, all levee embankments and levee areas disturbed by the construction activities and the area excavated for the earthen material for the levee repair would be seeded or sodded with grass and fertilized. To mitigate for the loss of 0.9 acres of forested wetlands, approximately 2.7 acres of prior converted or non-wet agricultural land would be restored to bottomland hardwoods or a comparable amount of forested wetland mitigation credits would be purchased from an approved mitigation bank.

Inlet Structure and Inlet Channel: An area approximately 50 feet by 25 feet would be cleared of vegetation in and around the landside terminus of the culvert, and approximately 150 feet of an existing drainage ditch would be cleared of trees and other vegetation. An estimated 0.2 acres of forested wetlands would be removed. A flared concrete inlet structure would be installed at the landside terminus of the culvert. As erosion control, the areas cleared for the inlet structure and inlet channel would be covered with a 6-inch layer of filter gravel and overlaid with R200 riprap approximately 2 feet thick.

Outlet Structure, Slope Flattening, and 3-Tiered Drop Structure: The floodside slope of the Farrenburg Levee and approximately 150 feet beyond the toe of the levee would be cleared of vegetation for site preparation. An estimated 0.7 acres of forested wetlands would be removed. A concrete outlet structure would be installed at the floodside terminus of the culvert. To serve as erosion control, an area approximately 20 by 25 feet around the outlet structure would be covered with a 6-inch layer of filter gravel and overlaid with R400 riprap approximately 3 feet thick. Elevation drops approximately 10 feet from the bottom of the culvert to the floodside natural ground level. To reduce the levee slope for construction and maintenance purposes, the floodside of the levee would be flattened and extended 10 to 15 feet beyond the toe of the levee. Earthen material utilized to flatten the levee slope would be from material previously dredged from the Setback Levee Ditch.

To reduce the impacts of water flowing out of the culvert and eroding the levee slope, a 3-tiered drop structure would be constructed within an area approximately 100 feet wide and extending 150 feet out from the outlet structure. The drop in height from tier to tier would be between 4 and 4.5 feet. The drop structure would incorporate PZ-27 sheet pile approximately 25 feet in height and 30 feet in width. The sheet pile would be driven down into the ground at the floodside end of the first 2 tiers, leaving 3.5 feet of the sheet pile above ground to hold back the riprap. The 3 tiers and the remaining 100 by 150 foot area would then be covered with a 6-inch layer of filter gravel and overlaid with 3 feet of R400 riprap.

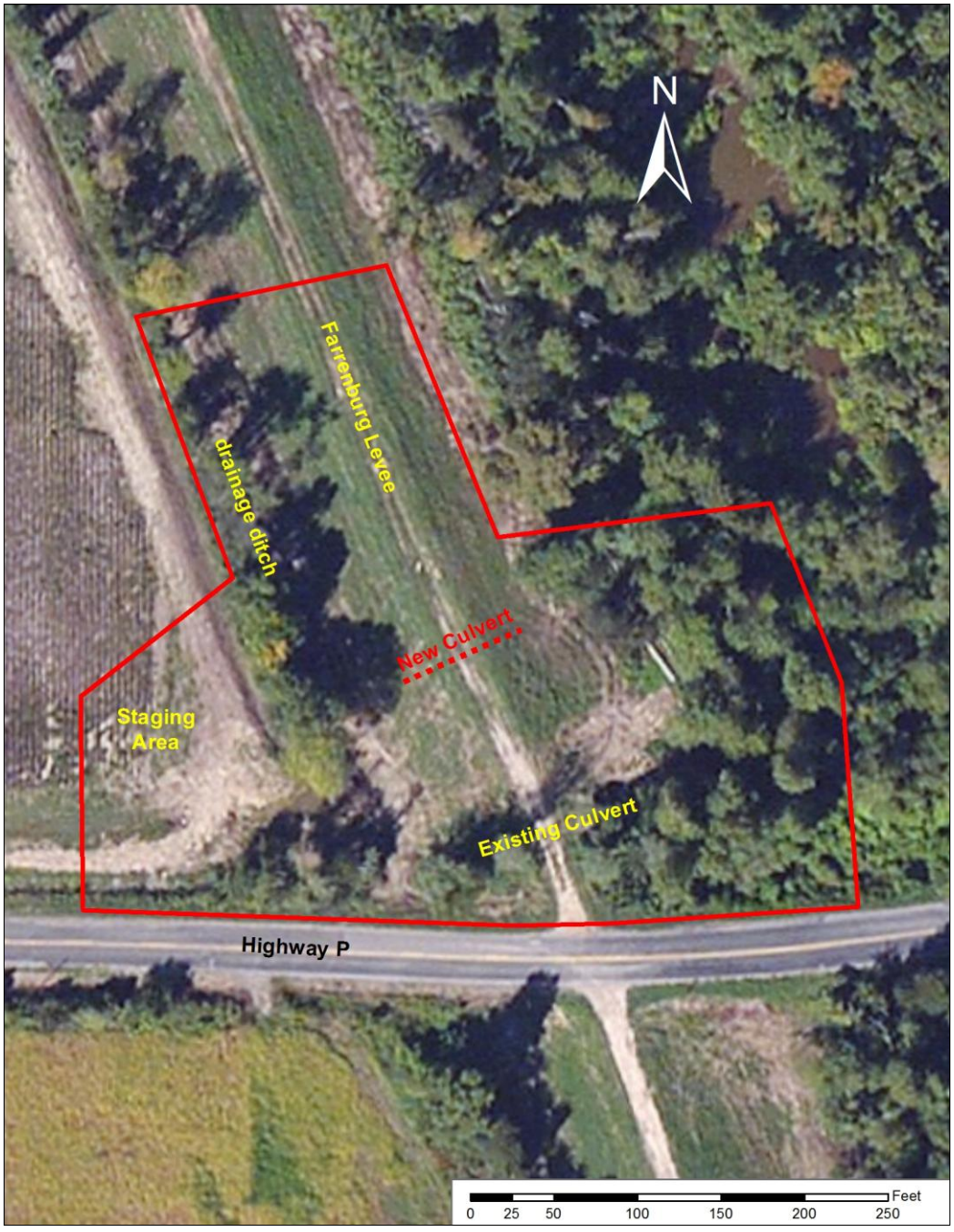

Figure 2. Details of the proposed Farrenburg Levee culvert replacement site.

Remove the Existing Culvert and Repair the Levee: Backhoes or other excavation equipment would excavate the existing culvert and then fill in the trench with the earthen material. Additional material to finish filling in the trench and to repair the eroded section of the levee would be obtained from stockpiled dredged material.

Stockpiled Dredged Material: Earthen material to repair the Farrenburg Levee would be obtained from material previously dredged from the Setback Levee Ditch and stockpiled within an area approximately 3,000 feet by 160 feet (11 acres) located between the ditch and the adjacent Birds Point-New Madrid Setback Levee (Figure 3). Project activities would be conducted during dry or low water periods as much as practicable.

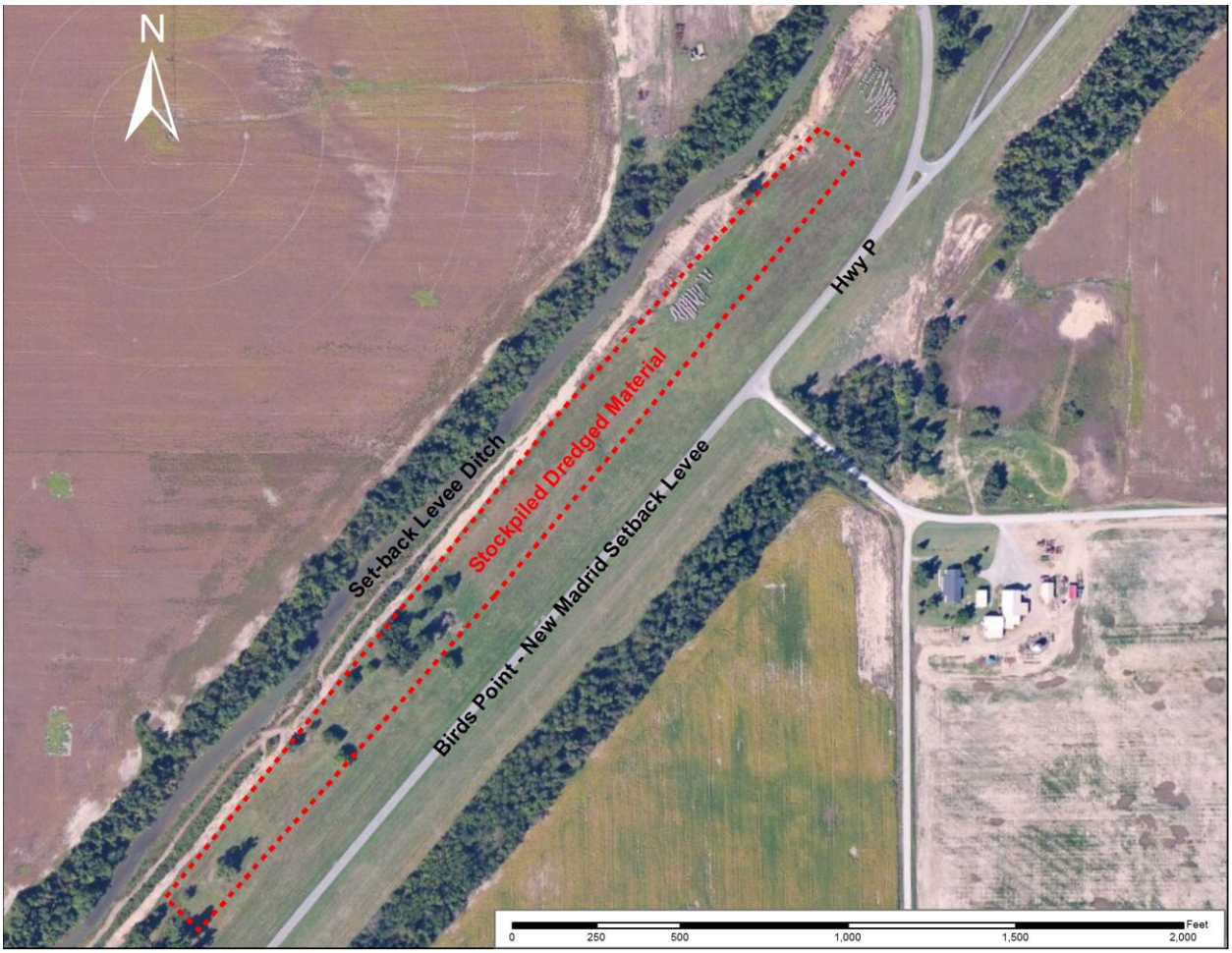

Figure 3. Location of stockpiled dredged material proposed for the Farrenburg Levee repairs.

As site preparation, bulldozers would be utilized to clear and grub the 11-acre stockpile site as needed to obtain sufficient quantities of earthen material necessary to repair the Farrenburg Levee. Project work would start at the existing top of bank and coming no closer than 50 feet to the toe of the levee. The vegetation and unsuitable earthen material removed would be temporarily stockpiled on-site. The cleared area would then be excavated to an elevation no lower than 295 feet NAD83 (North American Datum of 1983). From this point the excavation would continue towards the levee at a 1.0% grade. The tie-in to existing grade would be made at a 1V:6H slope and would tie-in to

the existing grade no more than 50 feet from the toe of the levee. Should groundwater seep into the excavated area, the water would drain with the slope of the excavated area. Excavators would then remove the earthen material deemed suitable, which would be processed on site to reduce the moisture content within the soil. The moisture content processing would be performed by mechanical methods such as utilizing bulldozers to stockpile materials and disks to further reduce the moisture content of the soil.

Access Roads: Access to and from the project areas would be via public roads, primarily Missouri Highway P. Access ramps from the levee to the stockpiled dredged material or from Highway P to the temporary stockpile/staging area for the culvert replacement may be constructed as necessary. Earthen material to repair the Farrenburg Levee would be placed onto the levee in multiple lifts and each lift would be compacted.

1.2 Purpose And Need For The Proposed Action. Water flow through the Farrenburg Levee culvert has severely eroded the levee at the proposed project site, causing a collapse of a section the culvert and surrounding levee (Figure 4). Continued erosion from heavy rains and during flood conditions within the Mississippi River could eventually lead to a levee failure, which would result in potential human injuries and/or loss of life and damage to residential and agricultural properties.

Figure 4. Floodside view of existing culvert pipe and eroded section of the Farrenburg Levee.

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 NEPA Reports. The Farrenburg Levee was constructed by the USACE in the 1930s before NEPA was implemented. The location for the proposed culvert replacement was investigated and cleared for cultural resources and endangered species in 1996. However, the proposed action requires clearing wetland habitat and a search within MVM records was unable to locate NEPA documentation directly pertaining to the proposed culvert replacement or utilizing the stockpiled dredged material. Therefore, the proposed project action and associated impacts are addressed in this draft EA.

1.5 Public Concerns. Public concerns exist regarding the ability of the Mississippi River Levee and connecting levee systems to contain floodwaters during a flood event. The record level flooding of the Mississippi River in May 2011 has heightened public concerns. Continued erosion of the Farrenburg Levee could cause the levee to breach if unabated, which would flood the surrounding lands, residential areas, and businesses.

2.0 ALTERNATIVES TO THE PROPOSED ACTION

Four alternatives were considered for the proposed action: 1) no-action; 2) remove the existing culvert and repair the levee without installing a new culvert; 3) inclusion of Alternative 2 and construct drainage ditches to other drainage structures, 4) remove the existing culvert, repair the levee, and install a new culvert with associated structures and slope flattening.

2.1 Alternative 1 – No-Action Alternative. In the future without project condition (no-action alternative), the proposed project would not be constructed. With the no-action alternative, continued erosion of the Farrenburg Levee from heavy rains and during flood conditions within the Mississippi River could eventually lead to a levee failure. Failure of this flood protection levee would result in potential human injuries and/or loss of life and damage to residential and agricultural properties. Thus, the MVM has determined that this alternative is not practicable.

2.2 Alternative 2 – Remove the Existing Culvert and Repair the Levee Without Installing a New Culvert. This alternative would prevent drainage of the landside areas to the floodside of the Farrenburg Levee. Heavy rainfall could result in flood damage to residential areas, agricultural areas, and roadways, potentially resulting in human injuries and/or loss of life. Thus, the MVM has determined that this alternative is not practicable.

2.3 Alternative 3 – Alternative 2 and Construct Drainage Ditches To Other Drainage Structures. In addition to the negative impacts addressed for Alternative 2, this alternative would result in additional environmental impacts and potential mitigation requirements. Constructing new drainage ditches would delay the proposed project in order to conduct hydrologic surveys to determine the appropriate location of new drainage ditches, contacting landowners and obtaining the real estate rights needed to construct the new ditches, and additional time required to construct the ditches. Thus, the MVM has determined that this alternative is not practicable.

2.4 Alternative 4 – Remove the Existing Culvert, Repair the Levee, and Install a New Culvert with Associated Structures and Slope Flattening. This alternative as described under Section 1.1 *Proposed Action* would allow for drainage from landside areas to the floodside of the levee while maintaining the stability of the Farrenburg Levee by incorporating erosion control features as part of the construction design. In addition, environmental impacts requiring mitigation would be less than one acre, and no significant adverse environmental impacts are associated with this alternative. To mitigate for the loss of 0.9 acres of forested wetlands, approximately 2.7 acres of prior converted or non-wet agricultural land would be restored to bottomland hardwoods, or a comparable amount of forested wetland mitigation credits would be purchased from an approved mitigation bank. All factors considered, Alternative 4 is the most practical solution for flood risk reduction and is the preferred alternative for the proposed project assessed in this draft EA.

3.0 AFFECTED ENVIRONMENT

3.0.1 Environmental Setting. MVM biologists conducted a site visit to the proposed Farrenburg Levee culvert replacement work area on April 10, 2014. The levee is covered by grass and other plant species. Trees within the 0.9 acres of forested wetlands include hackberry, honey locust, American elm, cypress, and willow. Several mature trees are growing at or near the toe of the levee. A second site visit was conducted on May 16, 2014 at the area used to stockpile material dredged from the Setback Levee Ditch. The area between the ditch and the levee is covered with various grass and forb species. A few isolated clumps of trees are found within the southern half of the stockpiled area (refer to Figure 3). Dominant trees are Osage orange and pecan, and individual mature nuttall oak and cottonwood trees were also found within the area.

3.0.2 Climate. New Madrid County, Missouri has a humid, warm-temperate climate characterized by moderately cold winters, warm or hot summers, and generally abundant rainfall. The average annual temperature for New Madrid County is 58.5 degrees Fahrenheit, which is higher than the Missouri average temperature of 54.7 degrees Fahrenheit. Total annual precipitation for New Madrid County averages 47.2 inches, which is slightly higher than the Missouri average of 45.2 inches. In contrast, annual snowfall average of 4.8 inches within New Madrid County is less than the annual state average of 12.7 inches.

3.0.3 Geology. The soil composition adjacent to the Farrenburg Levee includes Sharkey clay soils on the floodside of the levee, and Dubbs silty loam soils adjacent to the landside of the levee with Basket fine silty loam soils further out into the landside farmed field. All three soil types are fertile, but Dubbs and Basket soils are well drained and more suited for agriculture uses. Sharkey soils are poorly drained and more suitable for wetland vegetation such as bottomland hardwoods.

3.1 RELEVANT RESOURCES

This section contains a description of those resources that could be impacted by the proposed project. The important resources described in this section and Table 1 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 general public. The following resources have been considered and found not to be affected by the alternative under

consideration: freshwater marshes, freshwater lakes, state-designated scenic streams, prime and unique farmlands, aquatic resources/fisheries, cultural resources, municipal facilities, municipal utilities, roadways, recreation, aesthetics, socio-economic, environmental justice, and water quality.

Table 1: Relevant Resources

Resource	Institutionally Important	Technically Important	Publicly Important
Forested Wetlands	Section 906 of the Water resources Development Act of 1986 and the Fish and Wildlife Coordination Act of 1958, as amended.	Provides necessary habitat for a variety of plant, fish, and wildlife species; it often provides a variety of wetland functions and values; it is an important source of lumber and other commercial forest products; and it provides various consumptive and non-consumptive recreational opportunities.	The high priority that the public places on its 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.
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.	U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, Environmental Protection Agency, and Illinois 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.
Hydrology	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 the desire for clean drinking water.
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.

3.1.1 Forested Wetlands

Existing Conditions: Tree species found within the forested wetland habitat include hackberry, honey locust, American elm, cypress, and willow. Understory species found included immature trees, blackberry, greenbrier, poison ivy, and ferns.

3.1.2 Wildlife

Existing Conditions: Wildlife species that could potentially be found within the project area include coyotes, deer, raccoons, opossums, rabbits, squirrels, mice, rats, songbirds, neo-tropical migratory birds, raptors, turtles, snakes, and amphibians.

3.1.3 Threatened and Endangered Species

Existing Conditions: MVM biologists conducted a survey for threatened and endangered species within the proposed Farrenburg Levee project areas, including potential roosting habitat for the federally endangered Indiana bat (*Myotis sodalis*). A survey of the Farrenburg Levee culvert replacement site was conducted on April 10, 2014, and a survey of the area used to stockpile material dredged from the Setback Levee Ditch was conducted on May 16, 2014. No threatened or endangered species were found, but trees and snags that could potentially be used as roosting habitat by the endangered bats were found within the project work areas. Acoustic monitoring equipment was set up May 22, 2014 at the culvert replacement project area and the area used to stockpile the dredged material. Preliminary results of the acoustic survey indicate that no Indiana bats are utilizing the proposed project area or the stockpile site. Coordination is currently ongoing with the U. S. Fish and Wildlife Service (USFWS) and a copy of the survey results will be provided to the USFWS.

3.1.4 Hydrology

Existing Conditions: The ditch landside of the Farrenburg Levee is dry except during periods of heavy rainfall. Water flow within the floodside wetlands is also dependent upon rainfall, but this area lies within the St. Johns Bayou Basin. Floodwaters diverted from the Mississippi River could potentially overflow drainage ditches within the Basin and flood the low lying areas, including the wetlands floodside of the levee.

3.1.5 Air Quality

Existing Conditions: The proposed project area is in attainment for all air quality standards.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 Forested Wetlands

Future Conditions with No Action: Without implementation of the proposed action, the 0.9 acres of forested wetlands within project work area would not be removed, and wetland habitats within the project area would be expected to remain as noted in Existing Conditions.

Future Conditions with the Proposed Action: With the proposed project action, approximately 0.9 acres of forested wetland habitat would be removed. The placement of filter gravel and riprap would prevent re-colonization of forested wetlands within the area impacted. To offset the permanent loss of 0.9 acres of forested wetlands, approximately 2.7 acres of prior converted or non-wet agricultural land would be restored to bottomland hardwoods or a comparable amount of forested wetland mitigation credits would be purchased from an approved mitigation bank.

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 unless the levee failed during a flood event. In that case, displacement and some mortality of terrestrial organisms would be expected to occur.

Future Conditions with the Proposed Action: With implementation of the proposed action, impacts to wildlife resources would include the loss of approximately 0.9 acres of forested wetlands and the associated wildlife habitat provided. Disturbance and noise from project-related activities would temporarily displace most wildlife species from the project work areas. Project impacts are not expected to adversely impact the general population of wildlife species within the region, due to other forested wetlands and comparable habitat available within the St. Johns Bayou Basin.

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: With implementation of the proposed action, trees and snags within the project work areas that may be potential roosting trees for the endangered Indiana bat would be removed. Acoustic bat surveys conducted in May 2014 indicated that the Indiana bat was not present in the proposed construction footprint or in the area proposed as a source for borrow material. Coordination with the USFWS is ongoing for the proposed project and a decision on whether to proceed would not be made without USFWS input.

4.4 Hydrology

Future Conditions with No Action: Without implementation of the proposed action, continued erosion of the Farrenburg Levee would cause a levee breach that would impact hydrology landside of the levee by flooding the surrounding lands and drainage ditches with turbid waters heavily laden with sediments from the levee. Tons of sediments within the floodwaters could raise elevations within the surrounding lands and fill in drainage ditches, thus altering the path of future water flow within the area.

Future Conditions with the Proposed Action: With implementation of the proposed action, replacement of the Farrenburg Levee culvert would allow for drainage from landside areas to the floodside of the levee while maintaining the stability of the Farrenburg Levee.

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, the 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 equipment to be used is a mobile source, thus the project is exempt from air quality permitting requirements. Although air emissions would not require a permit, best management practices shall be used throughout the construction to minimize air pollution.

4.6 Hazardous, Toxic, and Radioactive Waste (HTRW)

The USACE is obligated under Engineer Regulation 1165-2-132 to assume responsibility for the reasonable identification and evaluation of all HTRW contamination within the vicinity of the proposed action. A record search has been conducted of the Environmental Protection Agency's (EPA) EnviroMapper Web Page (http://maps.epa.gov). The web site was checked for any superfund sites, toxic releases, and hazardous waste sites within the vicinity of the proposed project area. MVM biologists conducted a site inspection of the proposed culvert replacement work area on April 10, 2014 and the area used to stockpile material dredged from the Setback Levee Ditch was surveyed on May 16, 2014. The environmental records search and site survey conducted did not identify the presence of any hazardous or suspected hazardous wastes in the proposed 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 Missouri Division of Environmental Quality.

4.7 Cumulative Impacts

The Council on Environmental Quality's regulations (40 CFR 1500-1508) implementing the procedural provisions of the National Environmental Policy Act 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)."

Impacts of the proposed project were evaluated during the preparation of this draft EA on the natural and human environment. Based upon site visit surveys for existing conditions and analysis of future conditions with the project action, the impacts associated with the proposed project activities would be minor in magnitude and duration, and should not have any significant adverse cumulative effects on the environment.

5.0 COORDINATION

Preparation of this draft EA and draft FONSI have been coordinated with the representatives from USACE and the USFWS. In addition, this draft environmental assessment is being coordinated with the following agencies and stakeholders: Missouri State Historic Preservation Officer, Missouri Historic Preservation Program, St. Johns Levee and Drainage District, federally recognized tribes, and other interested parties. Coordination with these agencies will continue as required throughout the planning and construction phases of the proposed project.

6.0 MITIGATION

A total of approximately 0.9 acres of forested wetlands would be impacted by the proposed project. To mitigate for the loss of 0.9 acres of forested wetlands, approximately 2.7 acres of prior converted or non-wet agricultural land would be restored to a bottomland hardwood wetland or a comparable amount of forested wetland mitigation credits would be purchased from an approved mitigation bank. Mitigation for project impacts would occur concurrently with project construction. Bottomland hardwoods planted would include those species historically found within the St. Johns Bayou Basin and Birds Point-New Madrid Floodway such as oak, cypress, pecan, ash, locust, and sycamore. Priority for mitigation sites would be given to land within St. Johns Bayou Basin and Birds Point-New Madrid Floodway. If no willing sellers were found in those areas, willing sellers would be sought within New Madrid County and the boot-heel area of southeastern Missouri.

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 review of the Section 404 Public Notice. The draft FONSI would not be signed until the proposed action achieves environmental compliance with applicable laws and regulations.

7.1 Cultural Resources

A cultural resources survey of the project rights-of-way for the proposed Farrenburg Levee culvert replacement work area was conducted in March 2014 by a MVM archeologist. No cultural resources were found during the survey and no previously recorded cultural resources were found in the State of Missouri data base. As earthen material to repair the levee would be obtained from previously stockpiled dredged material, no cultural sites would be disturbed to obtain the borrow material. No further archeological work is recommended. A negative finding letter will be coordinated with the Missouri State Historical Preservation Officer.

7.2 Clean Water Act

The proposed project is authorized as part of the Flood Control Act of 1928, as amended, and the proposed project action to replace the existing Farrenburg Levee culvert is considered to be maintenance. Requirements for Section 404 of the Clean Water Act are fulfilled by the Nationwide Permit Section 3 Maintenance (a) as follows:

3. Maintenance. (a) The repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure, or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3, provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, requirements of other regulatory agencies, or current construction codes or safety standards that are necessary to make the repair, rehabilitation, or replacement are authorized.

The proposed project action also meets the requirements set forth in the State of Missouri, Clean Water Act Section 401 Water Quality Certification, 2012 General and Specific Conditions. The project does not trigger any new permit requirements set forth in the conditions noted in the Missouri Nationwide Permit Regional Conditions for all Nationwide Permits. In particular, the wetlands within the proposed culvert replacement project area are not designated as a priority watershed by the State of Missouri.

8.0 CONCLUSION

The proposed project as described under Section 1.1 *Proposed Action*, involves replacing the existing Farrenburg Levee culvert near LMP 10 and includes several design features to reduce erosion, including construction of concrete inlet and outlet structures at the ends of the culvert pipe, placing riprap and filter gravel around the inlet and outlet structures, a landside drainage ditch, and a 3-tiered drop structure floodside of the outlet structure. Additional project work includes flattening the floodside slope of the levee within the project limits, removal of the existing culvert, and repairing the eroded section of the levee. Approximately 0.9 acres of forested wetlands would be impacted by the proposed project action.

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 forested wetlands, wildlife, hydrology, and air quality. 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, aquatic resources/fisheries, cultural resources, municipal facilities, municipal utilities, roadways, recreation, aesthetics, socio-economic, or environmental justice. No significant adverse impacts would occur to forested wetlands, wildlife, threatened and endangered species, hydrology, air quality, or the human environment. Therefore, a supplemental EIS is not required.

9.0 PREPARED BY

This EA and associated FONSI were prepared by Mr. Alan Bennett, biologist, with cultural resources information provided by Mr. Jimmy McNeil, archeologist. For additional information, contact Mr. Leonard Pitcher at (901) 544-40705, by email at leonard.j.pitcher@usace.army.mil, or by mail at USACE Memphis District, Attn: Leonard Pitcher, 167 North Main St., B202, Memphis, TN 38103-1894.