RECORD OF DECISION

FINAL SUPPLEMENT II (SEIS II) TO THE FINAL ENVIRONMENTAL IMPACT STATEMENT, MISSISSIPPI RIVER AND TRIBUTARIES (MR&T) PROJECT, MISSISSIPPI RIVER MAINLINE LEVEES AND CHANNEL IMPROVEMENT OF 1976 (1976 EIS), AS UPDATED AND SUPPLEMENTED BY SUPPLEMENT NO. 1, MISSISSIPPI RIVER AND TRIBUTARIES PROJECT, MISSISSIPPI RIVER MAINLINE LEVEE ENLARGEMENT AND SEEPAGE CONTROL OF 1998 (1998 SEIS)

ILLINOIS, MISSOURI, KENTUCKY, TENNESSEE, ARKANSAS, MISSISSIPPI, AND LOUISIANA

The Final Supplemental Environmental Impact Statement No. 2 (SEIS II) dated December 2020, for the Mississippi River and Tributaries (MR&T) Project, Mississippi River Mainline Levees and Channel Improvement of 1976 (1976 EIS), as updated and supplemented by Supplement No. 1, Mississippi River and Tributaries Project, Mississippi River Mainline Levee Enlargement and Seepage Control of 1998 (1998 SEIS), addresses construction of remaining authorized work on the Mississippi River mainline levees (MRL) across portions of seven states: Illinois, Missouri, Kentucky, Tennessee, Arkansas, Mississippi, and Louisiana. The SEIS II supplements and, as necessary, augments the 1976 EIS and 1998 SEIS using the primary goals of: (1) providing flood risk management from the project design flood (PDF); and (2) developing an environmentally sustainable project. The final recommendation is contained in the Final SEIS II. Based on the Final SEIS II; the reviews by other Federal, State, and local agencies, and Tribes; input of the public; and the review by my staff; I find the Preferred Alternative as described in the Final SEIS II (the Avoid and Minimize Alternative; hereafter, the Recommended plan) to be technically feasible and environmentally justified, in accordance with environmental statutes and the public interest.

The Final SEIS II, incorporated herein by reference, evaluated various alternatives related to the Mississippi River Levees that would reduce flood risks from the PDF in the Mississippi River alluvial valley between Cape Girardeau, Missouri, and the Head of Passes, Louisiana. The Recommended Plan consists of 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 Recommended Plan includes:

- 143 Work Items summarized into the following categories: levee enlargements, floodwall deficiencies, slope flattenings, seepage berms, and relief wells. Some Work Items contain multiple deficiencies (e.g., grade deficiency and seepage issues) that need to be addressed.
    - 101 Work Items recommend levee enlargements where the existing levee is not at the authorized grade.

- 22 Work Items recommend measures to address stability concerns or height deficiencies at existing floodwalls, typically located in urban settings.
- 7 Work Items recommending flattening the slopes of the levee to reduce the chances of levee slides along those reaches of the MRL that are experiencing recurring slides and in need of repairs beyond ordinary operation and maintenance.
- 14 Work Items recommending seepage berms constructed on the landside of the levee using impervious soils to reinforce existing top stratum and to reduce underseepage pressure near the toe of the levee.
- 12 Work Items recommending relief wells to intercept underseepage and provide a controlled outlet for the water while minimizing material transport underneath the levee.

- Prioritization criteria used for the identification of earthen borrow material to avoid and minimize environmental impacts.
- Additional environmental features (e.g., irregular shorelines, islands, variable depths, reforestation, etc.) that will be explored with willing landowners and non-Federal sponsors during project design that could be incorporated into borrow area designs to increase habitat and property values.
- Implementation of the environmental compensatory mitigation and associated monitoring and adaptive management plan. Monitoring will continue until the mitigation is determined to be successful based on the identified criteria within Section 5 of the Final SEIS II. Compensation measures will be implemented concurrent with construction. After acquiring compensation lands, the U.S. Army Corps of Engineers (USACE), in coordination with appropriate Federal and state resource agencies, will prepare management plans that will address site-specific implementation details.

Several alternatives were suggested during scoping and considered for the Final SEIS II to address the deficiencies along the MRL, with suggestions ranging from using similar procedures outlined in the 1998 SEIS to most expeditiously make the required repairs to setting back the levees. A majority of the Work Items require the use of earthen borrow material for construction. Location of these proposed borrow areas was a common theme identified during scoping. Thus, the Final SEIS II also evaluated alternative methods of selecting borrow sources. Several alternatives regarding location of borrow areas were suggested during scoping. Some alternatives were eliminated from further analysis while others were carried forward. Reasons for non-selection include an inability to meet the purpose and need, technical and economic factors, and other factors as described in the Final SEIS II. Ultimately, three alternatives were carried forward for detailed analysis, including the required No Action alternative and two structural alternatives. With Alternative 1 (No Action), the threat of catastrophic flooding and associated economic damages, environmental degradation, displacement of wildlife, and impacts to the human environment from the PDF would remain. Local levee boards and USACE would continue to expend significant amounts of public funds to fight floods, including temporarily raising levee reaches and sandbagging sand boils. Alternative 2 (Traditional Construction) would implement

the proposed improvements and modifications at the 143 Work Items by emphasizing engineering feasibility and cost efficiency. Most often, borrow areas for levee repairs would be located along the riverside toe of the levee adjacent to the proposed construction locations. Impacts to wetlands and wildlife habitat would be greatest under this alternative. By relocating borrow areas to less environmentally sensitive areas, Alternative 3 (Avoid and Minimize) would reduce impacts to bottomland hardwood wetlands, waterfowl, and wildlife. However, avoiding and minimizing impacts to these resources would result in a tradeoff of increased lost acreage of agricultural lands, including more acres of prime farmland when compared to Alternative 2. Alternative 3 (Avoid and Minimize) was determined to be the environmentally preferable alternative.

For all alternatives, the potential effects were evaluated, as appropriate. A summary assessment of the potential effects of the recommended plan are listed in Table 1:

Table 1: Summary of Potential Effects of Recommend Plan

	Significant adverse effect	Insignificant effects due to mitigation	Insignificant effects	Resource unaffected by action
Land use	☐	☐	☒	☐
Waterfowl resources	☐	☒	☐	☐
Terrestrial habitat	☐	☒	☐	☐
Bats	☐	☐	☒	☐
Migratory birds	☐	☐	☒	☐
Threatened and endangered species	☐	☐	☒	☐
Wetland resources	☐	☒	☐	☐
Aquatic resources	☐	☐	☒	☐
Water quality	☐	☐	☒	☐
Air quality	☐	☐	☒	☐
Cultural resources	☐	☐	☒	☐
Socioeconomic resources	☐	☐	☒	☐
Environmental justice	☐	☐	☒	☐
Agricultural lands/Prime farmland	☐	☐	☒	☐
Hazardous, toxic, & radioactive waste	☐	☐	☒	☐
Recreation	☐	☐	☒	☐
Aesthetics	☐	☐	☒	☐
Noise	☐	☐	☒	☐
Floodplain management	☐	☐	☒	☐
Invasive species	☐	☐	☒	☐

All practicable means to avoid or minimize adverse environmental effects were analyzed and incorporated into the Recommended Plan. As described in Section 2 of the Final SEIS II, using the prioritization criteria to relocate borrow areas to less environmentally sensitive areas, impacts were reduced: to bottomland hardwood and wetland habitats by 20,241 functional capacity units/habitat suitability units, to waterfowl habitat by 120,859 duck-use-days, and to terrestrial wildlife habitat by 1,470 average annual habitat units. This reduction in impacts results in 329 fewer acres of compensatory mitigation. To further minimize impacts to environmental resources and landowners, additional environmental features (e.g., irregular shorelines, islands, variable depths, reforestation, etc.) that can be incorporated into borrow area designs would be explored with willing landowners and non-Federal sponsors during project design. Best management practices (BMPs) as detailed in Chapter 4 of the Final SEIS II will also be implemented to minimize impacts. These BMPs will include:

- The use of existing roads and location of staging areas in previously disturbed areas to the extent practical.
- Interim flood reduction measures during ongoing construction at any of the Work Item locations, as needed.
- Consultation with the local U.S. Fish and Wildlife Service (USFWS) Ecological Services Field Office with each Work Item, pursuant to the Migratory Bird Treaty Act, after Congressional appropriations are received and while detailed plans are being developed. Applicable surveys would be conducted and USFWS recommendations and BMPs (e.g., species-specific seasonal buffer restrictions to colonial nesting waterbirds, tree clearing during fall or winter, etc.) would be followed to avoid and minimize impacts to any protected birds to the extent practicable.
- Implementation of BMPs for nonpoint pollution at construction sites. A stormwater pollution prevention plan (SWPPP) would be prepared in compliance with EPA and associated State regulations with 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.
- Coordination with State Air Quality agencies during detailed design with the potential for phased construction scheduling to ensure compliance with air quality State Implementation Plans if future Congressional appropriations allow for the possibility of multiple Work Items to begin within any given year within non-attainment or maintenance areas that are forecasted to reach the de-minimis limits.
- Placement of temporary noise barriers adjacent to construction activities; monitoring of noise levels to verify adherence to contract specifications; limiting pile driving activities associated with pile founded T-walls to daylight hours; vibration monitoring near residences and occupied buildings that could be adversely affected by excessive ground vibrations; muffling and shielding intakes and exhaust on construction equipment (per the manufacturer's specifications), and by shrouding or shielding impact tools; turning off all equipment, haul trucks, and worker vehicles when not in use for more than 30 minutes; and, locating equipment warm up areas, water tanks, equipment storage areas, and staging areas as far from existing residences as is feasible.

The Recommended Plan will result in unavoidable adverse impacts to wetland habitat by 42,293 wetland functional capacity units/habitat suitability units, to waterfowl habitat by 662,951 duck-use-days, and to terrestrial wildlife habitat by 1,606 average annual habitat units. The Recommended Plan will result in a gain of 866 aquatic habitat units. To mitigate for unavoidable adverse impacts, the USACE will perform active reforestation on 1,447 acres of agricultural lands within three hydrologic zones, as described in Section 5 of the Final SEIS II: Mitigation Zone 1) in the batture area (i.e., lands between the river and the levee); Mitigation Zone 2) frequently flooded areas, or those with a hydrologic connection to the Mississippi River landside of the MRL; and Mitigation Zone 3) low lying flooded areas landside of the MRL whose hydrologic conditions are dictated by precipitation and landscape position. Restoring wetland vegetation within these three zones would mitigate 100 percent of the wetland losses and greater than 100 percent of the waterfowl and terrestrial habitat/wildlife losses. The project results in benefits to aquatic resources; thus, compensatory mitigation was not required for fish and other aquatic resources.

Public review of the draft SEIS II was completed on 13 October 2020. All comments submitted during the public comment period were responded to in the Final SEIS II. A 30-day waiting period and state and agency review of the Final SEIS II was completed on 14 December 2020. Comments from state and federal agency review did not result in any substantive changes to the Final SEIS II.

Funding for the 143 Work Items will be received through annual Congressional appropriations. Based on traditional funding allocations, detailed design and construction of these phased Work Items is likely to extend for many years; and the strategic framework for the coordination and updating of environmental compliance are incorporated into the Final SEIS II.

As described in the coordination report dated 5 November 2020, the USFWS recommended addressing threatened and endangered species in a programmatic manner, consulting on impacts with individual Work Items after construction details (site-specific conditions, exact timing, etc.) are developed prior to the construction phases of each Work Item. USACE anticipates there will be no effect to interior least tern, pallid sturgeon, fat pocketbook mussel, whooping crane, piping plover, and red knot with implementation of the proposed project. USACE anticipates the proposed activities may affect but are not likely to adversely affect the wood stork, gray bat, Indiana bat, northern long-eared bat, and eastern black rail. Pursuant to Section 7 of the Endangered Species Act of 1973, as amended, after Congressional appropriations are received and as investigations and additional design work for each work item are underway, USACE will reevaluate these effect determinations and will initiate consultation with USFWS, as appropriate. Applicable surveys and Endangered Species Act coordination, including an official effects determination, will be made for each Work Item during the consultation process.

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, USACE determined that the effects on historic properties could not be fully determined before Congressional funding was received for each Work Item, and accordingly USACE, the State Historic Preservation Officers for the States of Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee, and the Advisory Council on Historic Preservation entered into a Programmatic Agreement, dated 4 March 2021, that would govern USACE's Section 106

review process for this series of undertakings. All terms and conditions resulting from the agreement shall be implemented in order to minimize adverse impacts to historic properties.

Pursuant to the Clean Water Act of 1972, as amended, all discharges of dredged or fill material associated with the recommended plan have been found to be compliant with the section 404(b)(1) Guidelines (40 CFR 230). The Clean Water Act Section 404(b)(1) Guidelines evaluation is found in Appendix 3 of the Final SEIS II.

Water quality certifications pursuant to Section 401 of the Clean Water Act will be coordinated with from the respective states with each Work Item, as scheduled according to annual Congressional appropriation funding. No adverse comments on the framework for receiving Section 401 water quality certifications were received from any state during the review period.

A determination of consistency with the State of Louisiana Coastal Zone Management program pursuant to the Coastal Zone Management Act of 1972 will be coordinated for each applicable Work Item from the Louisiana Department of Natural Resources, Office of Coastal Management, prior to construction. In a letter dated 13 October 2020, the State of Louisiana stated that the Recommended Plan appears to be consistent with state Coastal Zone Management plans, pending confirmation of each applicable Work Item based on information to be developed during the pre-construction engineering and design phase.

All applicable laws, executive orders, regulations, and local government plans were considered in evaluation of impacts to the human environment. The Final SEIS II and supporting documentation contain sufficient information to make a reasoned, informed decision. After careful consideration of the purpose of and need for the project; the analysis contained in the Final SEIS II; the reviews by other Federal, State, and local agencies, and Tribes; input of the public; and based on the Project's Congressional authority and continued benefit of the remaining construction; I find that the public interest will best be served by implementing the Recommended Plan. Based on the review of these evaluations, I certify that all of the alternatives, information and analyses submitted by State, Tribal, and local governments and public commenters based on the summary in the Final SEIS II have been considered. This Record of Decision completes the National Environmental Policy Act process.

March 11, 2021
Date

DIANA M. HOLLAND
Major General, USA
Commanding