



DEPARTMENT OF THE ARMY
ST. LOUIS DISTRICT, CORPS OF ENGINEERS
ROBERT A. YOUNG BUILDING - 1222 SPRUCE ST.
ST. LOUIS, MISSOURI 63103-2833

8 November 2017

Reply to:

U.S. Army Corps of Engineers
St. Louis District
Environmental Compliance Section (PD-C)
1222 Spruce Street
St. Louis, MO 63103-2833

RE: Mud Creek Drainage and Levee District PL 84-99

Dear Sir or Madam:

We are providing for your review an Environmental Assessment and unsigned Finding of No Significant Impact for the Mud Creek Drainage and Levee District, which incurred levee damages during winter 2015 and spring 2017 flooding. Please note that the Finding of No Significant Impact is unsigned. This document will be signed into effect only after having carefully considered comments received as a result of this public review.

An electronic copy can be obtained from the St. Louis District's website at:

<http://www.mvs.usace.army.mil/Portals/54/docs/pm/Reports/EA/MudCreekEAandFONSI2015and2017PL8499Repairs8Nov2017.pdf>

Levees throughout the St. Louis District were damaged during flooding in 2015 and 2017. Many levee and drainage districts have requested assistance under Public Law 84-99, which provides repair assistance for flood damaged levees. We are in the process of preparing plans and specifications and completing all necessary documentation including environmental compliance documents.

We invite your comments related to the content of the Environmental Assessment. Please address your comments or questions to Dr. Teri Allen of the Environmental Compliance Section (CEMVP-PD-C), at telephone number (314) 331-8084, or e-mail at Teri.C.Allen@usace.army.mil, by close of business on 08 December 2017.

Thank you,

A handwritten signature in blue ink, appearing to read "T C Allen".

Teri C. Allen, Ph.D.

Chief, Environmental Compliance Section
REPDN at St. Louis District

**ENVIRONMENTAL ASSESSMENT
WITH
FINDING OF NO SIGNIFICANT IMPACT**

**LEVEE REPAIR (PL 84-99)
MUD CREEK DRAINAGE AND LEVEE DISTRICT
CASS COUNTY, ILLINOIS
ILLINOIS RIVER, RIVER MILE 73 to 80**



November 2017

**Environmental Compliance Branch
U.S. Army Corps of Engineers
St. Louis District
1222 Spruce Street
St. Louis Missouri 63103-2833**



**US Army Corps
of Engineers**
St. Louis District

TABLE OF CONTENTS

1. INTRODUCTION 2

 1.1. Project Authorization 2

 1.2. Project Location and Scope 2

 1.3. Project Purpose and Need..... 5

 1.4. Damage Description 5

2. PROJECT ALTERNATIVES CONSIDERED 7

 2.1. Alternative 1 - No Action (Future without Project)..... 7

 2.2. Alternative 2 – Non-structural Measures..... 7

 2.3. Alternative 3 – Structural Repair of Levees with Federal Assistance..... 8

 2.3.1. Levee Setback 9

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS 13

 3.1. Physical Resources 13

 3.2. Biological Resources 15

 3.2.1. Fish and Wildlife 15

 3.2.2. Bald Eagle..... 16

 3.2.3. Biological Assessment..... 16

 3.2.5. Cultural Resources (Historic and Archaeological) 20

 3.2.6. Socioeconomic Resources 21

 3.2.7. Environmental Justice..... 22

 3.2.8. Tribal Coordination..... 23

 3.2.9. HTRW 23

 3.3. Summary Comparison of Project Alternatives 24

4. CUMULATIVE IMPACTS 26

 4.1. Relationship of Tentatively Selected Plan to Environmental Requirements 26

5. COORDINATION, PUBLIC VIEWS, AND RESPONSES 28

6. ENVIRONMENTAL ASSESSMENT PREPARERS..... 30

7. REFERENCES 31

FONSI.....32

1. INTRODUCTION

This document is an Environmental Assessment (EA) with an attached unsigned Finding of No Significant Impact (FONSI) for levee repairs to the Mud Creek Drainage and Levee District (D&LD). The purpose of this EA is to evaluate potential environmental impacts of proposed levee repairs, determine if the environmental impacts rise to the level of significant, and to serve as a record of interagency coordination for the emergency rehabilitation actions.

1.1. Project Authorization

Emergency actions undertaken by U.S. Army Corps of Engineers (USACE) to repair flood control works damaged or destroyed by flooding are authorized by Public Law 84-99, as amended by Section 206 of the Flood Control Act of 1962 (hereafter referred to as PL 84-99). USACE regulations covering these and other emergency rehabilitation activities are contained in the Rehabilitation Code 910-300 of ER 500-1-1 (33 CFR 203). The Code states that actions taken to *restore facilities to pre-disaster conditions* under PL 84-99 will not be construed to be either major federal actions or as having significant effects. However, the effect of rehabilitation on the environment must be considered. This includes the effects of construction on endangered species (PL 93-205 and Appendix B of ER 1105-2-50) and archeological and historic properties (Chapter 3 of ER 1105-2-50). Since the Mud Creek D&LD is active in the USACE Rehabilitation and Inspection Program, it is eligible for Flood Control and Coastal Emergency funding authorized by PL 84-99.

1.2. Project Location and Scope

The Mud Creek Drainage and Levee District is a non-federally constructed and maintained levee located about 3.7 miles southwest of the town of Hagener in Cass County, Illinois. It is adjacent to the left descending bank of Indian Creek, a tributary which enters the Illinois River at approximately River Mile 79 on the left descending bank (Figure 1). The Mud Creek Drainage and Levee District is a segment of the Meredosia, Mud, Indian, New Panky System, which is comprised of the Willow Creek Drainage District, the Meredosia Drainage & Levee District, Indian Creek Drainage District No. 2, Mud Creek Drainage and Levee District, and the New Pankeys Pond Special Drainage District (Figure 2). The Mud Creek levee segment provides a 500-year level of flood risk reduction for approximately 16,119 acres of primarily agricultural land along with commercial structures, residences, and outbuildings. The segment consists of 2.5 miles of levee constructed with a representative crown width of 7 feet, and a representative side slope of 1 on 3.

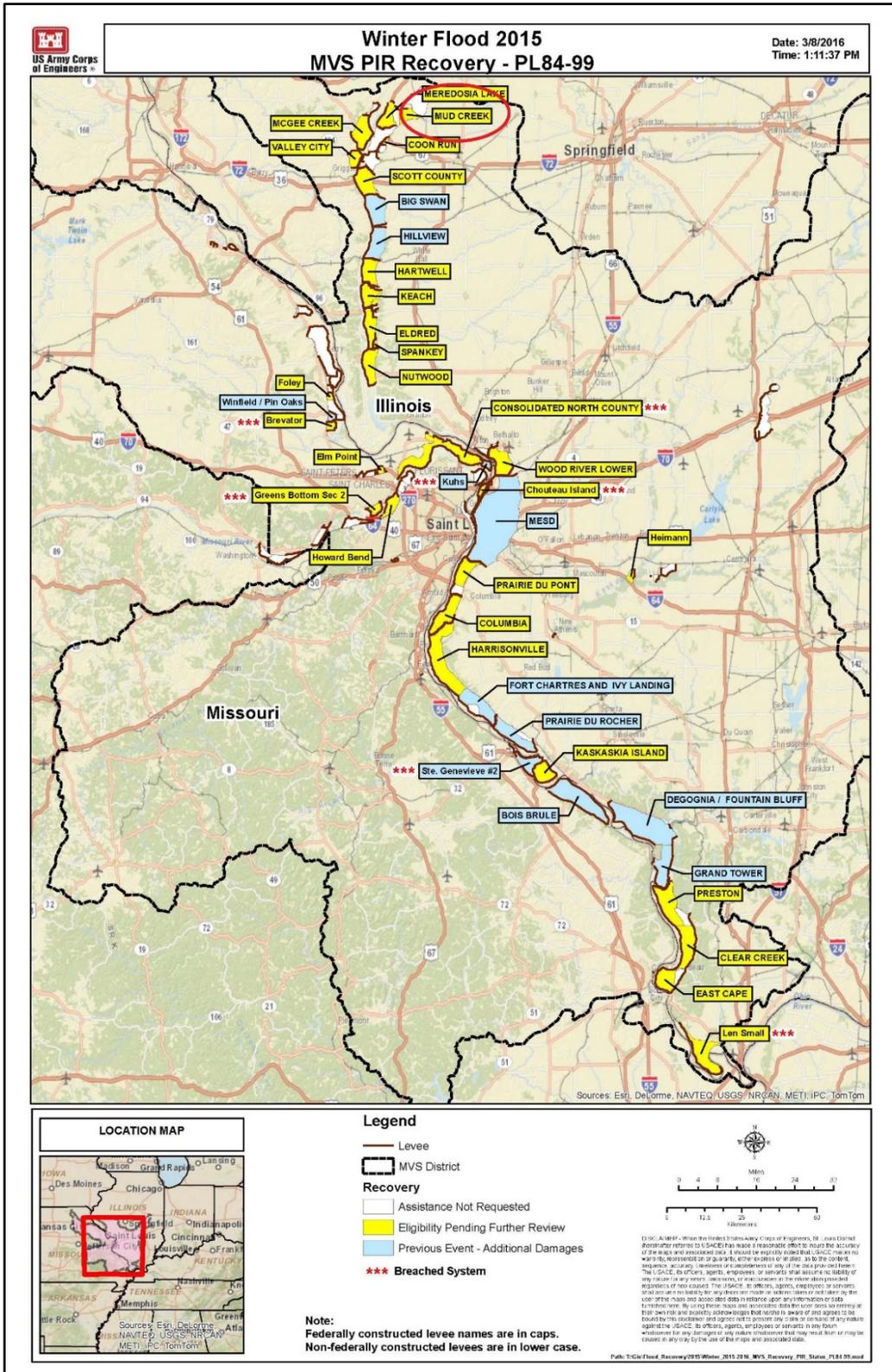


Figure 1. Vicinity map of the Mud Creek Drainage and Levee District in Cass County, Illinois.

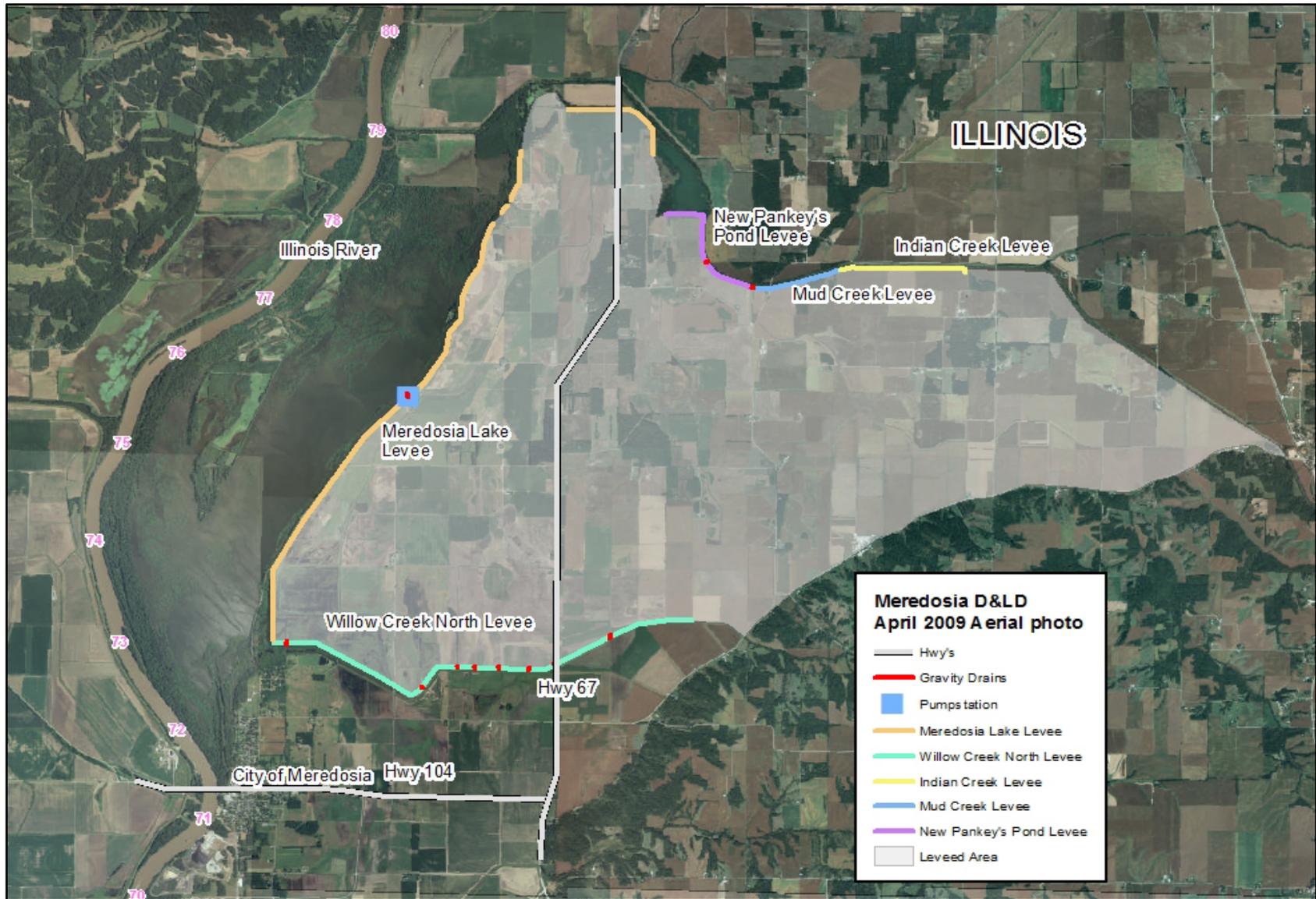


Figure 2. Map of the Mud Creek Drainage and Levee District and adjoining levees.

1.3. Project Purpose and Need

The Mud Creek D&LD levee sustained damages from high water events that resulted from a powerful winter storm that occurred in the Midwest during 26-29 December 2015, bringing torrential rain and heavy snow across the region. Additional damages occurred in the same area from a high water event which occurred between 28 April and 11 May 2017. The purpose of this federal action is to restore the level of flood protection to that which existed prior to the 2015 flood event. There is a need for repairs, because flood damages reduced flood protection provided by the levee, making the district vulnerable to the next flood event. Without federal involvement through the PL 84-99 program, it is unlikely that the Mud Creek D&LD has the financial ability to restore the level of protection according to Corps of Engineers' standards.

1.4. Damage Description

The damage to the Mud Creek levee segment sustained from the high water events is classified as creek or bank erosion. The Mud Creek D&LD requested assistance in repairing creek erosion along a bend of the Indian Creek. As a result of the high water events, Indian Creek scoured into the riverside levee section starting approximately 1500 feet west of Levee Road South (Figure 3). The bank erosion has scoured approximately 7 feet into the levee over a length of approximately 200 feet (Figures 4-5).

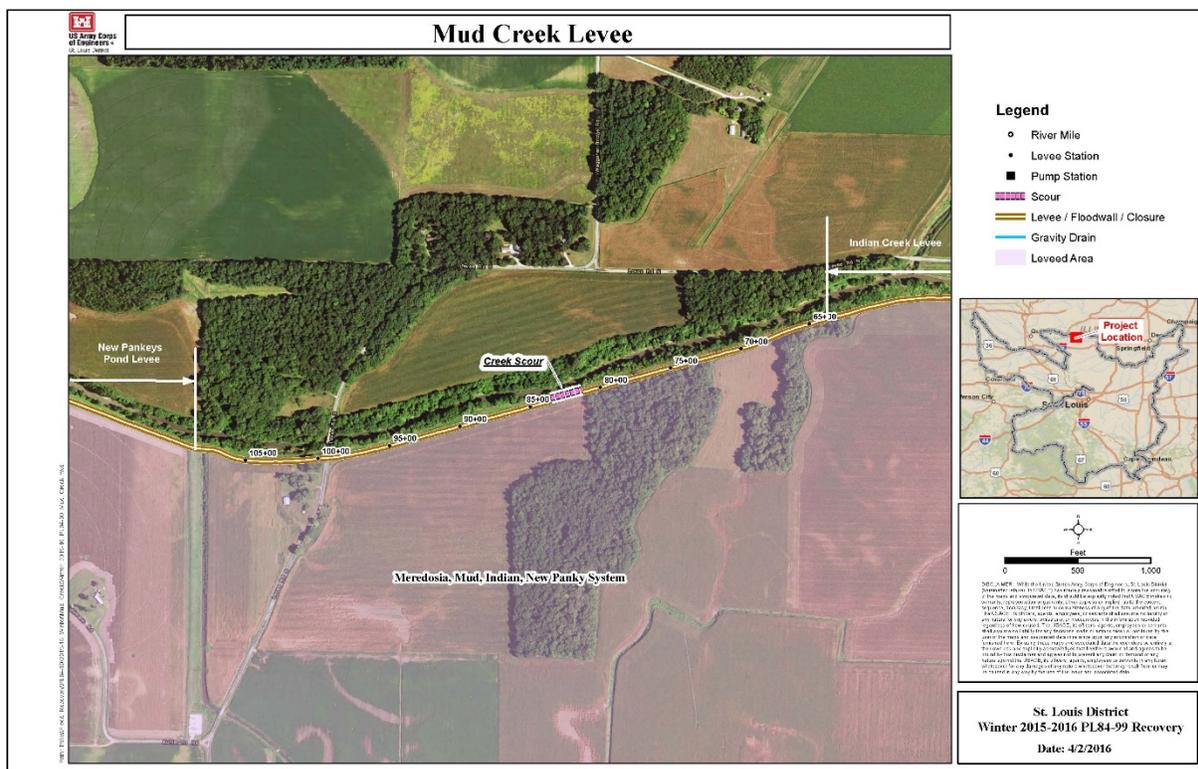


Figure 3. Map of Mud Creek D&LD levee segment riverside scour damage.



Figure 4. Erosion along Indian Creek at Mud Creek Drainage and Levee District.



Figure 5. Erosion along Indian Creek at Mud Creek Drainage and Levee District.

2. PROJECT ALTERNATIVES CONSIDERED

This section describes and compares the alternatives based on their geotechnical, engineering design, economic, and environmental impact and achievement of project objectives for the damaged Mud Creek D&LD. NEPA requires that in analyzing alternatives to a proposed action, a federal agency must consider an alternative of “No Action.” Likewise, Section 73 of the WRDA of 1974 (PL 93-251) requires federal agencies to give consideration to nonstructural measures to reduce or prevent flood damage.

2.1. Alternative 1 - No Action (Future without Project)

Under the No Action Alternative, the federal government would not repair the damages to the Mud Creek D&LD. It is possible that the Mud Creek D&LD would make repairs without federal assistance. Environmental impacts of repairs made by the Mud Creek D&LD would be similar to the tentatively selected alternative, except that the repair duration may differ and the environmental protections may be reduced. However, due to the uncertainty of the Mud Creek D&LD making all necessary repairs, **the environmental impacts of allowing the damage to remain unrepaired are regarded as the No Action Alternative.** This would presumably perpetuate a state of reduced levee structural integrity. The levee would be susceptible to further erosion at the damaged site. The current damages would decrease flood protection, thereby increasing risks to individuals, commercial and residential properties, structures, businesses, and agricultural activities within the leveed area.

2.2. Alternative 2 – Non-structural Measures

Section 73 of the WRDA of 1974 (PL 93-251) requires federal agencies to give consideration to non-structural measures to reduce or prevent flood damage. Nonstructural measures reduce flood damages without significantly altering the nature or extent of flooding. Damage reduction from nonstructural measures is accomplished by changing the land use within the floodplains, or by accommodating existing uses to the flood hazard. Examples include flood proofing, relocation of structures such as levees, flood warning and preparedness systems, and regulation of floodplain uses. A flood warning system would do little to reduce structural and agricultural damages. Flood proofing or relocation is not desirable to the Mud Creek D&LD, because it would have large costs, and result in loss of numerous acres of agricultural land.

Under PL 84-99, the Corps has the authority to pursue a non-structural alternative only if the project sponsor requests such an alternative.

*“There is hereby authorized an emergency fund to be expended in preparation for emergency response to any natural disaster, in flood fighting and rescue operations, or in the repair or restoration of any flood control work threatened or destroyed by flood, including the strengthening, raising, extending, or other modification thereof as may be necessary in the discretion of the Chief of Engineers for the adequate functioning of the work for flood control, or in implementation of **nonstructural alternatives to the repair or restoration of such flood control work if requested by the non-federal sponsor.**”*

Additionally, ER 500-1-1, dated 30 September 2001, states that:

*“Under P.L. 84-99, the Chief of Engineers is authorized, **when requested by the non-Federal public sponsor**, to implement nonstructural alternatives (NSA’s) to the rehabilitation, repair, or restoration of flood control works damaged by floods or coastal storms. The option of implementing an NSA project (NSAP) in lieu of a structural repair or restoration is available only to non-Federal public sponsors of flood control works (FCW’s) eligible for Rehabilitation Assistance in accordance with this regulation, and only **upon the written request of such non-Federal public sponsors. The principal purposes of an NSAP are for floodplain restoration, provision or restoration of floodways; and/or reduction of future flood damages and associated (FCW) repair costs.** [NOTE: Habitat restoration is recognized as being a significant benefit that can be achieved with an NSAP, and may be a significant component of an NSAP, but **is not considered to be a principal purpose under this authority.**]*

The Mud Creek D&LD declined to request the pursuit of a non-structural alternative because present owners desire to continue agricultural use; therefore, this alternative was eliminated from further analysis in this EA.

2.3. Alternative 3 – Structural Repair of Levees with Federal Assistance

Under this alternative, at the request of the Mud Creek D&LD, the federal government would repair the damaged areas to the pre-flood level of protection. Since the Mud Creek D&LD is active in the USACE Rehabilitation and Inspection Program, it is eligible for Flood Control and Coastal Emergency funding authorized by PL 84-99.

Repairs – Due to the widening creek meander and continued scour, it is not practical to reestablish the levee in its original footprint.

2.3.1. Levee Setback

The total repair area would be approximately 300 feet in length, with 200 feet of levee crown setback 5 feet towards the landside with 50 feet of transition to the original levee crown alignment at each end of the 200 foot setback, while adding 27 inches of riprap on 9 inches of bedding material to restore/protect the riverside of the levee. The levee setback structural alternative provides the least federal cost solution that stabilizes the repair and the levee segment (Figure 6), and thus is the Tentatively Selected Plan.

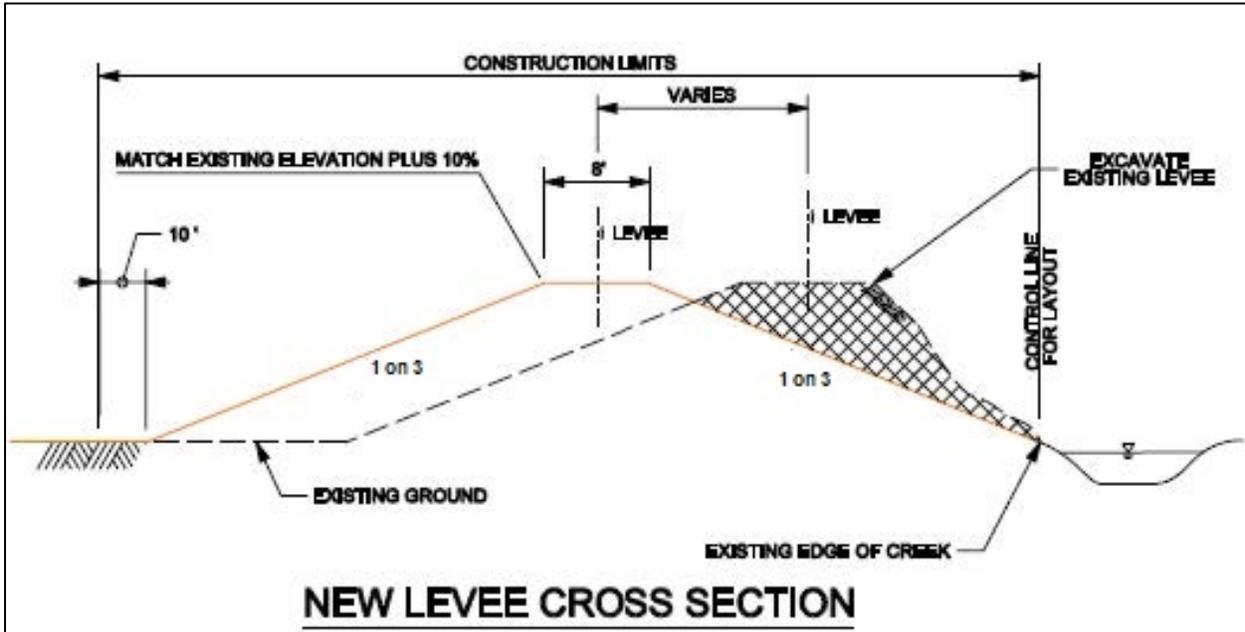


Figure 6. Diagram of typical cross-section of creek erosion.

2.3.1.1. Borrow Material

The Tentatively Selected Plan would require approximately 1,000 CY of embankment (borrow) material. Commercial fill would be used, so there would be no associated borrow site.

2.3.1.2. Construction Limits and Levee Setback Alignment

The construction limits are shown in Figure 7. As currently planned, shrubby vegetation along the levee scour area would be removed as part of these repairs. Any tree removal required within the construction footprint would occur between 1 October and 31 March in order to avoid impacting potential bat habitat.

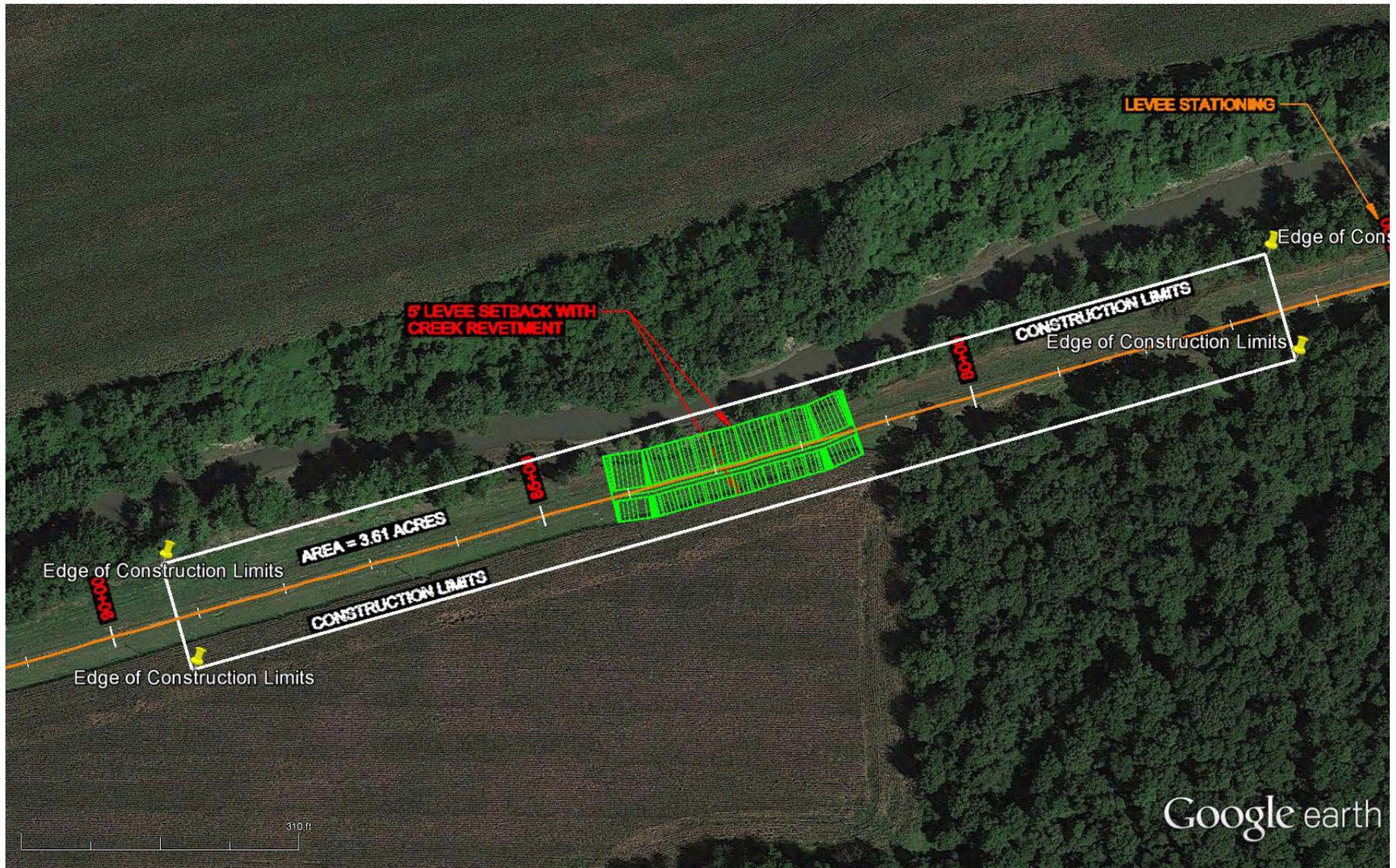


Figure 7. Construction limits and approximate setback alignment along the levee setback repair at the Indian Creek at Mud Creek Drainage and Levee District.

According to preliminary project plans, the levee setback would be constructed so that the new levee centerline would be offset along the scoured area at the minimum distance required to construct the full levee section (estimated a 5' setback). At each end of scoured area, the levee would transition smoothly back to the existing levee section and alignment. The final alignment of the levee setback and stone protection would be staked in the field by the contractor, and must be approved by the USACE contracting officer's representative prior to commencing repair.

2.3.1.3. Access and Staging Areas

Staging areas and access routes to the repair sites would be established to avoid and minimize environmental impacts (Figure 8). Existing access points such as roads, rights of way, and levees located within a reasonable distance to the construction sites would be utilized. Currently, the creation of haul roads, other than existing access points, is not deemed necessary. The repair area is to be accessed from Levee Road South.

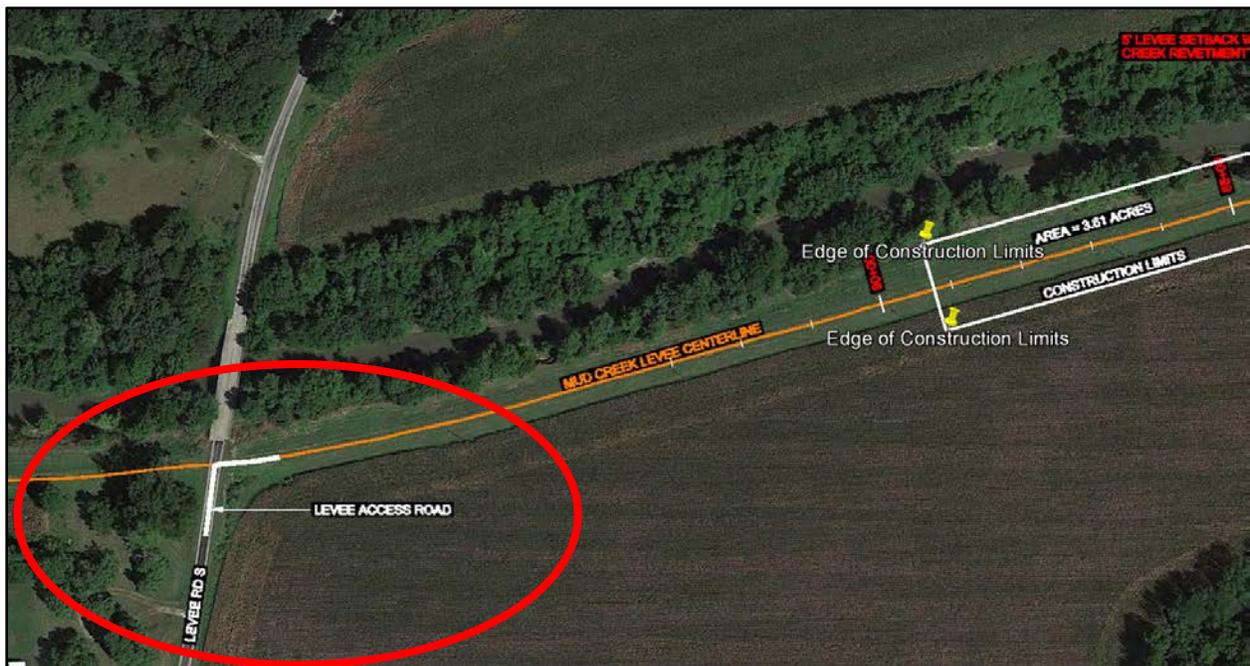


Figure 8. Proposed access route to levee setback repair at Indian Creek at Mud Creek Drainage and Levee District.

2.3.1.4. Final Plans and Specifications

Following review of comments and the signing of the FONSI (should that be the decision), plans and specifications would be finalized for construction. Construction would commence as soon as possible thereafter and would be completed within one construction season.

2.3.1.5. Environmental Protection Measures

Environmental protection is the prevention/control of pollution and habitat disruption that may occur during construction. The control of environmental pollution and damage requires consideration of air, water, land, biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive materials; and other pollutants. The designated contractor shall adhere to all environmental protection requirements listed in the Construction Plans and Specifications. Examples include, but are not limited to:

- The Contractor shall submit an Environmental Protection Plan for review and acceptance by the USACE Contracting Officer, which shall include: a list of state and local laws and regulations; a Spill Control Plan; a Recycling and Waste Minimization Plan; a Contaminant Prevention Plan; a Storm Water Pollution Prevention Plan; and an Environmental Monitoring Plan.
- No fill shall be excavated or permanently placed except where required for erosion.
- There shall be no removal of existing vegetation outside of the construction area.
- All earthwork shall be planned and conducted to minimize the duration of exposure of unprotected soils; and all contractor work areas shall be re-vegetated with fast germinating grass mixtures to reduce any further erosion.
- Thoroughly clean all construction equipment at the prior job site in a manner that ensures all residual soil is removed and that egg deposits from plant pests are not present.
- Proper disposal of solid waste and debris.
- Proper storage and use of fuels and lubricants.
- Minimize interference with, disturbance to, and damage of, fish and wildlife.
- Protection of water resources to avoid pollution of surface and ground waters.
- Construct or install temporary and permanent erosion and sedimentation control features such as berms, dikes, drains, grassing and mulching, silt screens, or hay bales.
- Maintain all excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, disposal sites, and all other work areas free from airborne dust which would cause a hazard or nuisance.

- Hydrocarbons and carbon monoxide emissions from equipment shall be controlled to Federal and State allowable limits at all times.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

This chapter summarizes the biological, physical, and social environments of the affected project area relative to the alternatives under consideration. Relevant resources are addressed in terms of their present condition, their projected condition under the No Action Alternative, and the expected effects of the Tentatively Selected Plan.

3.1. Physical Resources

The Mud Creek D&LD is located in Cass County, Illinois approximately four miles from the left descending bank of the Illinois River. The leveed area provides flood risk reduction for residential and commercial properties, and abundant agricultural land. Because of the fertility of the soil and moisture, the land is prized for its agricultural productivity. Levees have been constructed to the federal standard to reduce the likelihood of inundation within the leveed area to a 500-year frequency; and to provide a reasonable amount of certainty of producing crops in most years. Much of the area within the levee is considered valuable farmland. Cass County, Illinois, is currently in attainment for all U.S. Environmental Protection Agency air quality criteria (USEPA 2017). Ambient noise in the study area is generated by wildlife, human activities, agricultural activities, and vehicular traffic.

Alternative 1 – No Action (Future without Project) – Because of the increased risk of levee failure and landside flooding under the current conditions, future high water events could have adverse impacts including increased scour and sedimentation as well as temporary or permanent changes in land use. Continued bankline scour along Indian Creek is threatening the levee and potentially a nearby bridge. Debris, deposition of unsuitable materials, and contaminated liquids or solids could enter farm fields creating less than desirable agricultural conditions and hinder future farming productivity. However, without the levee, the adjacent creek waters could gain lateral connectivity with the floodplain, possibly benefitting fish and wildlife. Air quality and noise levels are not anticipated to be altered by this alternative.

Alternative 3 – Repair of Levees with Federal Assistance – Construction activities would occur within an agricultural area adjacent to Indian Creek, and along the bankline of Indian Creek. The levee setback could cause a short-term increase in turbidity in the waterway at the immediate construction site if flooding or heavy rains occurred during construction. However, the

Contractor shall comply with all applicable federal, state, and local laws and regulations. The Contractor shall provide environmental protective measures and procedures to prevent and control pollution, limit habitat disruption, and correct environmental damage that occurs during construction. All disturbed areas would be reseeded following construction to reduce the potential for erosion. The levee setback would provide an increased creekside floodplain width over a short distance.

The proposed project would be expected to temporarily increase noise levels near the repair and associated worksites. The U.S. Environmental Protection Agency has set a limit of 85 decibels on the A scale (the most widely used sound level filter) for eight hours of continuous exposure to protect against permanent hearing loss (Figure 9). Based upon similar construction activities conducted in the past, noise above this level would not be expected to occur for periods longer than eight hours. Noise levels would return to normal after construction completion.

Construction activities would cause a slight increase in suspended particulates (i.e., dust). Emissions from construction equipment would increase the carbon monoxide and carbon dioxide levels in the vicinity of the construction site. The expected increases would be very negligible and would cease after construction.

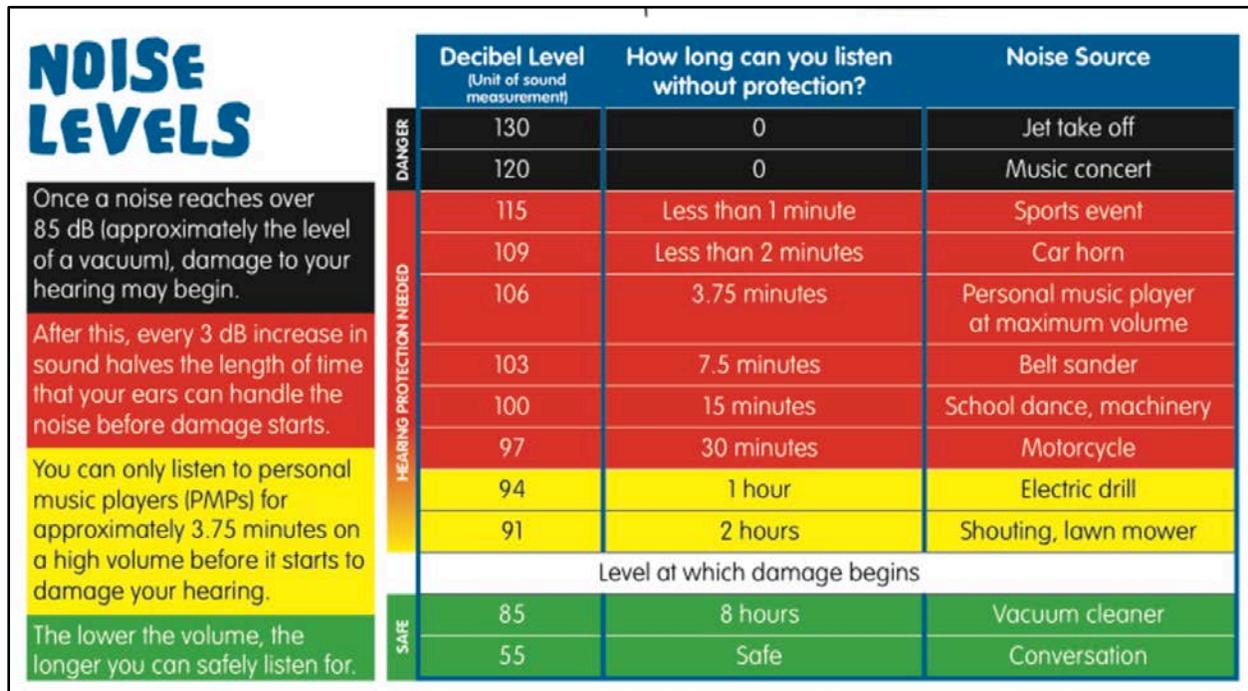


Figure 9. Example of noise levels and time exposure in relation to hearing loss.

3.2. Biological Resources

3.2.1. Fish and Wildlife

Fish and wildlife habitats located in and near the leveed area include permanent water, temporary water, bottomland forest / wooded swamp, old fields, and agricultural cropland. These terrestrial habitats provide food and cover for a variety of wildlife species including Rabbit, Squirrel, Beaver, Red Fox, and White-Tailed Deer; and the aquatic habitats provide habitat for a variety of reptiles such as the Common Snapping Turtle, amphibians such as the Gray Tree Frog and fish species including Largemouth Bass, Bluegill, Carp, Crappie, Warmouth, and Channel Catfish. Common birds in the area include Great Blue Herons, Bald Eagles, Geese, Gulls, Pelicans and many species of waterfowl, other shorebirds, and songbirds. Typical tree species include Pecan, Eastern Cottonwood, American Elm, Box-Elder, Silver Maple, Pin Oak, Shagbark Hickory, and River Birch. The levees are mowed grass areas that are managed to prevent shrub and tree growth and animal damage.

Alternative 1 – No Action (Future without Project) – If the Mud Creek D&LD is not repaired to the federal standard, the levee system would have less stability and there is an increased probability of future flooding. During highwater events, the bankline scour would continue to erode into the levee and wash soil into Indian Creek, resulting in a short-term increase in turbidity in the immediate area, and temporarily displacing fish and other mobile organisms. Additionally, if flooding were to occur, and agricultural use diminishes, then a more diverse and dynamic terrestrial and aquatic habitat may develop over time. The terrestrial habitat could be inundated by high water more frequently, and the vegetative composition may be altered. During high water events, water could pond on the landside of the levee and deposit sediment, decreasing flood water turbidity, filling wetlands, and killing vegetation as flood water ponds on typically dry areas that are currently dominated by agriculture. However over time, wetland vegetation could become established. During high water events, terrestrial fauna would be displaced as their habitat is inundated. Conversely, fishes and other aquatic organisms would gain access to a large area of floodplain habitat, which could benefit the spawning and rearing of many fish species.

Alternative 3 – Repair of Levees with Federal Assistance – It is anticipated that impacts of the levee setback on fish and wildlife resources would be minimal. Repairs would be made by clearing, grubbing and stripping the remaining scrubby vegetation from the bankline scour area. Bedding material and riprap would then be placed. The riprap and bedding material would extend approximately 15' upstream and downstream of ends of creek scour to avoid flanking. Approximately 1000 CY of impervious embankment (clay) would be placed on the landside of the levee to restore the levee to its full cross section. The levee setback area would be reseeded with turf.

If heavy rain occurs during the levee repair, the bankline scour would continue to erode and wash soil into Indian Creek, resulting in a short-term increase in turbidity in the immediate area, and temporarily displacing fish and other mobile organisms. Following construction, aquatic species would be expected to return. The Contractor is required to comply with all applicable federal, state, and local laws and regulations. The Contractor is required to provide environmental protective measures and procedures to prevent and control pollution. This includes the condition that the Contractor shall keep construction activities under surveillance, management and control to minimize interference with, disturbance to, and damage of, fish and wildlife. Therefore, no more than short-term limited impacts to fish and wildlife resources are anticipated.

3.2.2. Bald Eagle

Although the Bald Eagle (*Haliaeetus leucocephalus*) was removed from the federal list of threatened and endangered species in 2007, it continues to be protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act (BGEPA). The BGEPA prohibits unregulated take of bald eagles, including disturbance. The U.S. Fish and Wildlife Service developed the National Bald Eagle Management Guidelines (USFWS 2007a, 2007b, 2007c) to provide landowners, land managers, and others with information and recommendations regarding how to minimize potential project impacts to bald eagles, particularly where such impacts may constitute disturbance. On 7 November 2016, USACE biologist Ken Cook conducted a field investigation and survey of Mud Creek D&LD to determine the presence of bald eagle nests/nesting within the drainage district. No bald eagle nests were observed.

Alternative 1 – No Action (Future without Project) – Without bank stabilization, additional vegetation in the path of the active scour may be washed away. Trees which may potentially be used for bald eagle nests in the future could become dislodged.

Alternative 3 – Repair of Levees with Federal Assistance – Based on the site investigation and survey results showing no nests or eagle activity in the vicinity of the proposed project, no detrimental impacts on bald eagles or nests are anticipated.

3.2.3. Biological Assessment

In compliance with Section 7(c) of the Endangered Species Act of 1973, as amended, a list of species and critical habitat potentially occurring in the vicinity of the proposed project was acquired from the USFWS Information for Planning and Conservation (IPaC) website at

(<https://ecos.fws.gov/ipac/>) on 01 November 2017 (Table 1). Habitat requirements and impacts of the federal action are discussed for each listed species.

Table 1. List of federally threatened and endangered species and habitat potentially occurring in the vicinity of the proposed project.

Common Name (Scientific Name)	Classification	Habitat
Indiana Bat (<i>Myotis sodalis</i>)	Endangered	Caves, mines (winter hibernacula); trees (summer roosting); and small stream corridors with well-developed riparian woods; upland forests (foraging)
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	Threatened with 4(d) rule	Caves, mines; rivers and reservoirs adjacent to forests
Decurrent False Aster (<i>Boltonia decurrens</i>)	Threatened	Disturbed alluvial soils
Eastern Prairie Fringed Orchid (<i>Platanthera leucophaea</i>)	Threatened	Mesic to wet prairies
Prairie Bush-Clover (<i>Lespedeza leptostachya</i>)	Threatened	Dry to mesic prairies with gravelly soil

3.2.3.1. Indiana Bat

The endangered Indiana Bat has been noted as occurring in several Illinois and Missouri counties. Indiana Bats are considered to potentially occur in any area with forested habitat. Indiana Bats migrate seasonally between winter hibernacula and summer roosting habitats. Winter hibernacula includes caves and abandoned mines. Females emerge from hibernation in late March or early April to migrate to summer roosts. Females form nursery colonies under the loose bark of trees (dead or alive) and/or in cavities, where each female gives birth to a single young in June or early July. A maternity colony may include from one to 100 individuals. A single colony may utilize a number of roost trees during the summer, typically a primary roost tree and several alternates. Some males remain in the area near the winter hibernacula during the summer months, but others disperse throughout the range of the species and roost individually or in small numbers in the same types of trees as females. The best available data indicate that the species or size of tree does not appear to influence whether Indiana Bats utilize a tree for roosting provided the tree exhibits any of the following characteristics: exfoliating bark, cracks, crevices,

cavities. Data also indicate that the use of a particular tree is influenced by conditions, such as solar exposure, temperature and precipitation (USFWS 1999, USFWS 2007d).

During the summer, Indiana Bats frequent the corridors of small streams with well-developed riparian woods, as well as mature bottomland and upland forests. They forage for insects along stream corridors, within the canopy of floodplain and upland forests, over clearings with early successional vegetation (old fields), along the borders of croplands, along wooded fence rows, and over farm ponds and in pastures. It has been shown that the foraging range for the bats varies by season, age and sex and ranges up to 81 acres (33 ha). Suitable Indiana Bat summer habitat may be located in the forested areas in and adjacent to the Mud Creek D&LD.

Alternative 1 - No Action (Future without Project) – Without bank scour stabilization, trees which may potentially be used by Indiana Bats could become dislodged. Riparian habitat would be adversely impacted by scour.

Alternative 3 - Repair of Levees with Federal Assistance – The proposed project would not affect any caves or summer roost / foraging habitat (i.e., trees). As currently planned, limited tree clearing may occur between 1 October and 31 March. Therefore, the St. Louis District has determined that the proposed project “*may affect, but is not likely to adversely affect the Indiana Bat*”.

3.2.3.2. Northern Long-Eared Bat

The Northern Long-Eared Bat is sparsely found across much of the eastern and north central United States, and all Canadian provinces from the Atlantic Ocean west to the southern Yukon Territory and eastern British Columbia. Northern Long-Eared Bats spend winter hibernating in large caves and mines. During summer, this species roosts singly or in colonies underneath bark, in cavities, in crevices of both live and dead trees, and manmade structures such as barns and culverts. Foraging occurs in interior upland forests. Forest fragmentation, logging and forest conversion are major threats to the species. One of the primary threats to the Northern Long-Eared Bat is the fungal disease, white-nose syndrome, which has killed an estimated 5.5 million cave hibernating bats in the Northeast, Southeast, Midwest and Canada. Suitable Northern Long-Eared Bat summer habitat may be located in the forested areas in and adjacent to the Mud Creek D&LD.

Alternative 1 - No Action (Future without Project) – Without bank scour stabilization, trees which may potentially be used by Northern Long-Eared Bats could become dislodged. Riparian habitat would be adversely impacted by scour.

Alternative 3 - Repair of Levees with Federal Assistance – The proposed project would not affect any caves. As currently planned, limited tree clearing may occur between 1 October and 31 March. Therefore, the St. Louis District has determined that the proposed project “*may affect, but is not likely to adversely affect the Northern Long-Eared Bat*”.

3.2.3.3. Decurrent False Aster

The Decurrent False Aster grows in wetlands, on the borders of marshes and lakes, and on the margins of bottomland oxbows and sloughs. Historically, this plant was found in wet prairies, marshes, and along the shores of some rivers and lakes. The species favors recently disturbed areas and flooding may play a role in maintaining its habitat. Current habitats include riverbanks, old fields, roadsides, mudflats and lake shores. It primarily prefers a moist habitat but can tolerate drought (MDC 2008a). The typical flowering season for Decurrent False Aster is from August through October.

Alternative 1 - No Action (Future without Project) – Without bank scour stabilization, riparian habitat would be adversely impacted by scour.

Alternative 3 - Repair of Levees with Federal Assistance – With levee setback, creekside scour would be stabilized and riparian habitat should remain intact. Therefore, the St. Louis District has determined that the proposed project “*may affect, but is not likely to adversely affect the Decurrent False Aster*”.

3.2.3.4. Eastern Prairie Fringed Orchid

The Eastern Prairie Fringed Orchid occurs in a wide variety of habitats, from mesic prairie to wetlands such as sedge meadows, marsh edges, even bogs. It requires full sun for optimum growth and flowering and a grassy habitat with little or no woody encroachment.

Alternative 1 - No Action (Future without Project) – Without bank scour stabilization, riparian habitat would be adversely impacted by scour.

Alternative 3 - Repair of Levees with Federal Assistance – The levee portions of the proposed project area are planted with grasses and are mowed regularly. The creek bank in the area is vegetated. Therefore, the proposed project would not alter habitat that coincides with the habitat required for the Eastern Prairie Fringed Orchid (i.e., mesic prairie, wetlands, marsh edges and bogs). Based on this site-specific information, the St. Louis District has determined that the proposed project would have “*no effect*” on the Eastern Prairie Fringed Orchid.

3.2.3.5. Prairie Bush-Clover

The Prairie Bush-Clover occurs in dry gravel prairies and dry-mesic prairies in Illinois. The levees are planted with grasses and are mowed regularly.

Alternative 1 - No Action (Future without Project) – Without bank scour stabilization, riparian habitat would be adversely impacted by scour.

Alternative 3 - Repair of Levees with Federal Assistance – The levee portions of the proposed project area are planted with grasses and are mowed regularly. The creek bank in the area is vegetated. Therefore, the proposed project would not alter habitat that coincides with the habitat required for the Prairie Bush-Clover (i.e., dry to mesic prairies with gravelly soil). Based on this site-specific information, the St. Louis District has determined that the proposed project would have “no effect” on the Prairie Bush-Clover.

3.2.4. State Species

Based on an Illinois Department of Natural Resources (IDNR) Ecological Compliance Assessment Tool (EcoCAT) assessment conducted on 11 October 2016 (#1703574), the Illinois Natural Heritage Database contains no record of State-listed threatened or endangered species, Illinois Natural Area Inventory sites, dedicated Illinois Nature Preserves, or registered Land and Water Reserves in the vicinity of the project location. Further attempts to access EcoCAT for an updated report were unsuccessful (EcoCAT program malfunction).

3.2.5. Cultural Resources (Historic and Archaeological)

Historic Properties Determinations - The proposed repairs to the levee within the Mud Creek D&LD would have no effect upon significant historic standing structures. They do, however, include a five foot “scab” along part of the landside slope of the existing levee. A site survey will be undertaken to verify that the repair does not adversely impact any unknown cultural resources. All actions taken will be in accordance with the National Historic Preservation Act of 1966, as amended (NHPA). The NHPA requires that any Federal undertaking consider the effects to historic properties and consultation with State Historic Preservation Officer. This act is further codified in 36 CFR Part 800, Protection of Historic Properties. The St. Louis District initiated consultation with the Illinois Historic Preservation Agency (IHPA) in a letter dated 03 November 2017.

Alternative 1 – No Action (Future without Project) – Without flooding, there would be no change from current conditions. With flooding, there is the potential for damage to potentially culturally significant sites protected by the levee.

Alternative 3 – Repair of Levees with Federal Assistance – The proposed repairs to the levee within the Mud Creek D&LD are not anticipated to have impacts to significant historic properties (archaeological remains or standing structures). The repairs consist of minor earth work and filling the scour area with earthen and rock material.

In the unlikely event that earthmoving activities associated with the proposed repairs impact potentially significant archeological/historic remains, all construction activities and earthmoving actions in the immediate vicinity of the remains would be held in abeyance until the potential significance of the remains could be determined. The precise nature of such investigations would be developed by the USACE Saint Louis District in concert with the professional staff of the Illinois State Historic Preservation Office (SHPO).

3.2.6. Socioeconomic Resources

The Mud Creek D&LD is a non-federally constructed and maintained levee located just north of Meredosia in Cass County, Illinois. The system is adjacent to the left descending bank of the Illinois River at approximately River Mile 73 to 80. The Mud Creek levee segment provides a 500-year level of flood risk reduction for over 16,119 acres of primarily agricultural land (14,045 cropland acres). The Mud Creek segment consists of 0.84 miles of levee constructed with a representative crown width of 10 feet, and a representative side slope of 1 on 3.

Levees are of regional economic importance to maintain the agricultural productivity occurring in the floodplain. The crop distribution within the area is approximately 69% corn, 29% soybeans, and 2% wheat. The levee system also protects commercial structures, farm structures, residences, farmsteads, homes, roads, ditches, utilities and infrastructure, as well as two small airports. Levee damage due to the 2015 high water event reduced the degree of protection from a 500-year frequency to a 333-year frequency due to the damage to the system. The benefit to cost (b/c) ratio is estimated at 1.5 to 1.

According to 2010 census data for Cass County, Illinois, there were approximately 5270 households in the county, with a median household income of \$41,544, and an average of 2.5 persons per household. The median value of owner-occupied housing units was \$77,000 (2011-2015 census data). The population was approximately 87.4% white, 3.5% black, 0.5% American Indian or Alaska Native, 0.5% Asian, 9.4% some other race; and 16.8% Hispanic. According to

2015 data, approximately 9.7% of families fall below the poverty level in Cass County, IL. This is below the national average of 14.7%. Furthermore, the most common race or ethnicity living below the poverty line in Cass County, IL is white, followed by Hispanic or Latino.

Alternative 1 - No Action (Future without Project) – If the Mud Creek levee is not repaired to the federal standard, there would be increased flood risk due to levee instability during future flood events. The previously leveed area would be subject to a higher probability of flooding, making the area less suitable for reliable agricultural productivity, residential and commercial establishments, and may decrease recreational activities, especially under flood conditions. This could result in potential negative economic effects on the Drainage & Levee District and the local economy.

Alternative 3 - Repair of Levees with Federal Assistance – Residents, businesses, and local agricultural would benefit from levee repair and subsequent flood risk reduction. The proposed repairs would not require residential displacement. No adverse impacts to life, health, or safety would result from levee repair.

3.2.7. Environmental Justice

Environmental justice refers to fair treatment of all races, cultures and income levels with respect to development, implementation and enforcement of environmental laws, policies and actions. Environmental Justice analysis was developed following the requirements of:

- Executive Order 12898 ("Federal Actions to Address Environmental Justice in Minority Population and Low-Income Populations," 1994)
- "Department of Defense's Strategy on Environmental Justice" (March 24, 1995).

Alternative 1 – No Action (Future without Project) – If the levee is not repaired to the federal standard, the level of risk reduction would be reduced from that provided by the pre-2015 flood event levee. This would not disproportionately affect low income or minority populations.

Alternative 3 - Repair of Levees with Federal Assistance – If the Mud Creek D&LD levee is repaired to the federal standard, the level of risk reduction would be that provided by the pre-2015 flood event levee. This would not disproportionately affect low income or minority populations.

3.2.8. Tribal Coordination

The St. Louis District consults with 27 tribes that have an interest in projects along all rivers within our District boundaries. Many levees adjacent to the Illinois River within the U.S. Army Corps of Engineers St. Louis District boundaries were damaged by flooding in 2015.

Alternative 1 - No Action (Future without Project) – Without flooding, there would be no change from current conditions. With flooding, there is the potential for damage to any culturally significant sites protected by the levee.

Alternative 3 - Repair of Levees with Federal Assistance – The recovery and repair of levees damaged by the 2015 flood events, authorized under PL 84-99, was coordinated with all tribes in the following manner: An initial letter, dated 10 May 2016, was sent to the tribes. Along with the letter, enclosed maps and tables indicated the Drainage and Levee Districts that incurred damage and had requested assistance. Also enclosed was a summary of the typical repairs that are performed for each type of damage. The letter specifically called out those levees with breaches. The tribes were requested to contact the USACE if there were known tribal areas of concern in any of the project areas and if they desired further consultation on each or any project. No tribes responded regarding the proposed project at the Mud Creek D&LD. USACE would continue the consultation process until the completion of the projects.

3.2.9. HTRW

The U.S. Army Corps of Engineers (USACE) regulations (ER-1165-2-132, ER 200-2-3) and District policy requires procedures be established to facilitate early identification and appropriate consideration of potential HTRW in reconnaissance, feasibility, preconstruction engineering and design, land acquisition, construction, operations and maintenance, repairs, replacement, and rehabilitation phases of water resources studies or projects by conducting Phase I Environmental Site Assessment (ESA). USACE specifies that these assessments follow the process/standard practices for conducting Phase I ESA's published by the American Society for Testing and Materials (ASTM).

The purpose of a Phase I ESA is to identify, to the extent feasible in the absence of sampling and analysis, the range of contaminants (i.e. REC's) within the scope of the U.S. Environmental Protection Agency's (EPA) Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and petroleum products. Current policy is to avoid known HTRW sites. However, the Environmental Quality Section should be contacted immediately if HTRW material is encountered at any point during construction activities. At this time, there are no recognized

environmental conditions that would indicate a risk of HTRW contamination within the project area.

Alternative 1 – No Action (Future without Project) – Without flooding, there would be no change from current conditions. With flooding, there is the potential for flood water to spread contaminants if they exist in the area.

Alternative 3 – Repair of Levees with Federal Assistance – The likelihood of hazardous substances adversely affecting the project area due to the proposed construction activities is very low. The St. Louis District would conduct a modified Phase I assessment including a site investigation prior to construction to ensure that no HTRW contamination exists within the project area.

3.3. Summary Comparison of Project Alternatives

Impacts of the Tentatively Selected Plan to natural resources, cultural resources, and other aspects and features of the human environment are summarized in Table 2 of this EA.

Table 2. Summary of the “No Action” and Tentatively Selective Plan alternatives to physical, biological, and socioeconomic resources.

Resources	Alternatives	
	No Action	Tentatively Selected Plan
Physical Resources	Additional bankline scour will occur if the damage is not repaired; and the integrity of the levee would be compromised during high water events.	Erosion and turf repairs would meet the Federal standard.
	Increased potential for further erosion of bankline and levee; with eventual sedimentation within the drainage district during flood events.	Temporary minor impacts to water and air quality during construction.
	Does not meet project objective of repairs to Federal standard.	Brings the levee protection level back to pre-2015 flood event conditions.
Biological Resources	If levee system is compromised in the future, there is potential for beneficial impacts due to potential increase in floodplain wetland habitat. However, there is a potential for water/land	Construction would be confined to the bankline scour area and levee which may result in minor temporary impacts.

	pollution if contaminants exist in either area or in the floodwaters.	
	It is unlikely that federally listed threatened or endangered species would be adversely impacted. However, there is the potential for eventual loss of trees (possible bat or bald eagle habitat) and other vegetation along the riparian area due to continued bankline erosion.	The Tentatively Selected Plan would not result in the removal of habitat during a time period that coincides with summer use for the Indiana Bat, and Northern Long-Eared Bat. The Tentatively Selected Plan would not adversely impact habitat associated with Decurrent False Aster, Eastern Prairie Fringed Orchid, or the Prairie Bush-Clover. Therefore, federally listed species are not anticipated to be adverse affected.
	Meets project objective of minimal environmental impacts.	Meets project objective of minimal environmental impacts.
Socioeconomic Resources	The Drainage & Levee District would be susceptible to future floods and potential negative impacts to the drainage district and regional economy due to levee damages.	Repair of levee would result in the protection of croplands, businesses and structures from floods up to the design (500-year frequency) of the levee system.
	Does not meet project objective of protecting the socioeconomic value of the levee district and regional economy.	Meets project objective of protecting the economic value of the levee district and regional economy.

4. CUMULATIVE IMPACTS

A cumulative impact is defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions of what agency (Federal or non-federal) or person undertakes such actions” (40 CFR 1508.7). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

The majority of the levee systems in the region have been in place for decades. Repairs would involve returning most of the damaged levee sections to the same alignment and level of protection as existed prior to the high water events of 2015. Temporary impacts from noise, air, and increased water sedimentation would occur; however, repair sites are widely scattered throughout the St. Louis District and therefore additive effects of these impacts would be negligible. These repairs are not anticipated to decrease the post-flood productivity of lands riverward or landward of the levee systems. Several levee systems will require borrow for levee repairs. Borrow sites have been examined and selected in order to avoid sensitive areas and resources. Borrow for the majority of these projects will come from agriculture areas, low quality farmed wetlands, and previously utilized borrow areas. Some PL 84-99 projects, including Mud Creek D&LD, sustained damage that is impractical to repair on the original levee alignment. For new levee alignments, some acreage would be removed from agricultural use causing a minor loss to overall farm production and increase in floodplain habitat. The widely scattered nature of repair sites and shallow excavation depth of borrow sites would reduce impacts and no long term adverse cumulative impacts are anticipated. Borrow sites have been evaluated during site visits to reduce environmental impacts.

4.1. Relationship of Tentatively Selected Plan to Environmental Requirements

The relationship of the Tentatively Selected Plan (Alternative 3 – Repair of Levees with Federal Assistance) to environmental requirements, environmental acts, and /or executive orders is shown in Table 3.

Table 3. Relationship of the Tentatively Selected Plan to environmental requirements, environmental acts, and /or executive orders.

Environmental Requirement	Compliance
Bald Eagle Protection Act, 42 USC 4151-4157	FC

Environmental Requirement	Compliance
Clean Air Act, 42 USC 7401-7542	FC
Clean Water Act, 33 USC 1251-1375	FC
Comprehensive Environmental Response, Compensation, and Liability Act, (HTRW) 42 USC 9601-9675	PC ¹
Endangered Species Act, 16 USC 1531-1543	PC ¹
Farmland Protection Policy Act, 7 (Prime Farmland) USC 4201-4208	FC
Fish and Wildlife Coordination Act, 16 USC 661-666c	PC ¹
Food Security Act of 1985 (Swampbuster), 7 USC varies	FC
Land and Water Conservation Fund Act, (Recreation)16 USC 460d-4601	FC
National Environmental Policy Act, 42 USC 4321-4347	PC ²
National Historic Preservation Act, 16 USC 470 et seq.	PC ¹
Noise Control Act of 1972, 42 USC 4901-4918	FC
Resource, Conservation, and Rehabilitation Act, (Solid Waste) 42 USC 6901-6987	FC
Rivers and Harbors Appropriation Act, (Sec. 10) 33 USC 401-413	FC
Water Resources Development Acts of 1986 and 1990 (Sec 906 – Mitigation; Sec 307 - No Net Loss - Wetlands)	FC
Floodplain Management (EO 11988 as amended by EO 12148)	FC
Federal Compliance with Pollution Control Standards (EO 12088)	FC
Protection and Enhancement of Environmental Quality (EIS Preparation) (EO 11991)	FC
Protection and Enhancement of the Cultural Environment (Register Nomination) (EO 11593)	FC
Protection of Wetlands (EO 11990 as amended by EO 12608)	FC

FC = Full Compliance, PC¹ = Partial Compliance (on-going, will be accomplished prior to construction), PC² full compliance will be achieved upon signing of the NEPA document.

5. COORDINATION, PUBLIC VIEWS, AND RESPONSES

Notification of this Environmental Assessment and unsigned Finding of No Significant Impact was sent to the officials, agencies, organizations, and individuals listed below for review and comment. Additionally, an electronic copy will be available on the St. Louis District's website at <http://www.mvs.usace.army.mil/Missions/ProgramsProjectManagement/PlansReports.aspx> during the public review period.

Please note that the Finding of No Significant Impact is unsigned. These documents will be signed into effect only after having carefully considered comments received as a result of this public review.

To assure compliance with the National Environmental Policy Act, Endangered Species Act, and other applicable environmental laws and regulations, coordination with these agencies will continue as required throughout the planning and construction phases of the proposed levee repairs.

Notification of Environmental Assessment and unsigned Finding of No Significant Impact was sent to the entities listed in Table 4.

Table 4. A letter regarding the availability of an Environmental Assessment and unsigned FONSI for the Mud Creek D&LD PL 84-99 2015 repair was sent to the following entities.

US Senator Dick Durbin (IL) 711 Hart Senate Building Washington, D.C. 20510	Federal Emergency Management Agency, Region 5 536 South Clark Street, 6th Floor Chicago, IL 60605
US Senator Tammy Duckworth (IL) 524 Hart Senate Office Building Washington, D.C. 20510	Illinois Emergency Management Agency 1301 Knotts Street Springfield, IL 62703
U.S. Rep. Darin LaHood U.S. House District 18 (IL) 1424 Longworth HOB Washington, DC 20515	The Nature Conservancy Illinois Field Office 8 S. Michigan Avenue, Suite 900 Chicago, IL 60603
Matt Mangan Fish and Wildlife Biologist Ecological Services Marion Illinois Sub-Office 8588 Route 148 Marion, IL 62959	Sierra Club Illinois Chapter 70 E Lake Street, Suite 1500 Chicago, IL 60601

Adam Rawe Resource Planner Impact Assessment Section Illinois Department of Natural Resources One Natural Resources Way Springfield, IL 62702	Robert D. Shepherd Izaak Walton League of America 16 Juliet Ave Romeoville, IL 60446
Kathy Andria American Bottoms Conservancy P.O. Box 4242 Fairview Heights, IL 62208	

6. ENVIRONMENTAL ASSESSMENT PREPARERS

Mark Smith, Ph.D.; District Archaeologist

Experience: 10 years private sector; 8 years Center of Expertise, Curation and Maintenance of Archaeological Collections

Role: National Historic Preservation Act Analysis and Compliance

Bryan Dirks, P.E.

Experience: 10 years Civil Design Section, USACE

Role: Technical Engineering Lead

Teri C. Allen, Ph.D.; Chief – Environmental Compliance Section; Aquatic Ecologist

Experience: 10 years private sector; 16 years Planning and Environmental Branch, USACE

Role: EA Coordinator, Environmental Impact Analysis, NEPA and Environmental Compliance

Sheila A. McCarthy, RA, PMP; Project Manager

Experience: 7 years USACE-CERL; 8 years NPS; 9 years USACE

Role: Project Manager

Danny McClendon, Chief Regulatory Branch

Experience: 256 years USACE-MVS Regulatory; 5 years USACE-NWK Planning Division

Role: Section 404/401 permit review; NEPA and Environmental Compliance Coordination

Evan Stewart, Economist

Experience: 4 years USACE

Role: Economic Analysis

7. REFERENCES

USEPA (U.S. Environmental Protection Agency). 2016. Current Nonattainment Counties for All Criteria Pollutants as of 13 February 2017.

<https://www3.epa.gov/airquality/greenbook/ancl.html> (Accessed: 2 November 2017).

USFWS (U.S. Fish and Wildlife Service). 1999. Agency draft Indiana Bat (*Myotis sodalis*) revised recovery plan. U.S. Fish and Wildlife Service, Fort Snelling, Minnesota. 53 pp.

USFWS (U.S. Fish and Wildlife Service). 2007a. Species Profile: Bald Eagle (*Haliaeetus leucocephalus*). Available at

<http://ecos.fws.gov/speciesProfile/SpeciesReport.do?sPCODE=B008>

USFWS (U.S. Fish and Wildlife Service). 2007b. National Bald Eagle Management Guidelines.

<https://www.fws.gov/southdakotafieldoffice/NationalBaldEagleManagementGuidelines.pdf>

USFWS (U.S. Fish and Wildlife Service). 2007c. Protection of Eagles; Definition of “Disturb”. Federal Register 72(107): 31132-31133.

USFWS (U.S. Fish and Wildlife Service). 2007d. Indiana Bat (*Myotis sodalis*) Draft Recovery Plan: First Revision. U.S. Fish and Wildlife Service, Fort Snelling, MN. April 2007. 258 pp. (This document has been peer-reviewed and is available at

<http://www.fws.gov/midwest/Endangered/mammals/inba/index.html>).

FINDING OF NO SIGNIFICANT IMPACT

PUBLIC LAW 84-99 MUD CREEK DRAINAGE AND LEVEE DISTRICT CASS COUNTY, ILLINOIS

1. I have reviewed the documents concerned with the proposed levee repairs to the Mud Creek Drainage & Levee District. The purpose of this project is to repair levee sections damaged by a high water events during the winter of 2015, and spring 2017. Repairs would return the levee district to pre-flood conditions.

2. I have also evaluated pertinent data concerning practicable alternatives relative to my decision on this action. As part of this evaluation, I have considered the following alternatives:

- a. No Action Alternative: Under the no-action alternative, the federal government would not repair the flood damaged levee. It is assumed that, because of the cost of repairs, the levee district would not repair the levee.
- b. Nonstructural Alternative: Under PL 84-99, the Corps has the authority to pursue a non-structural alternative only if the project sponsor requests such an alternative. The Mud Creek D&LD declined to request the pursuit of a non-structural alternative; therefore, this alternative was eliminated from further consideration.
- c. Repair of Levees with Federal Assistance (Tentatively Selected Plan): Under this alternative, the federal government would repair the damaged areas to the pre-flood level of protection. Since the Mud Creek D&LD is active in the USACE Rehabilitation and Inspection Program, it is eligible for Flood Control and Coastal Emergency funding authorized by PL 84-99.

3. The possible consequences of the No Action Alternative and Tentatively Selected Plan have been studied for physical, environmental, cultural, social and economic effect, and engineering feasibility. Major findings of this investigation include the following:

- a. The No Action Alternative was evaluated and subsequently rejected primarily based upon the higher potential for future flooding and damage to area agricultural fields, primary and secondary residences, outbuildings, and infrastructure.
- b. No appreciable effects to general environmental conditions (air quality, noise, water quality) would result from the Tentatively Selected Plan.

- c. The Tentatively Selected Plan is not expected to cause significant adverse impacts to general fish and wildlife resources.
- d. The Tentatively Selected Plan is not expected to cause unacceptable adverse impacts to riparian habitat, bottomland hardwood forest, or other wetlands.
- e. No Federally endangered or threatened species would be adversely impacted by the Tentatively Selected Plan.
- f. No prime farmland would be adversely impacted as a result of the Tentatively Selected Plan.
- g. No significant impacts to historic properties (cultural resources) are anticipated as a result of the Tentatively Selected Plan.
- h. The Tentatively Selected Plan would not disproportionately affect low income or minority populations.
- i. Under the Tentatively Selected Plan, local economies would benefit through an increased labor demand to carry out levee repairs. Agricultural land and structures within the drainage district would be provided with pre-2015 flood risk reduction levels.
- j. The Contractor shall comply with all applicable federal, state, and local laws and regulations. The Contractor shall provide environmental protective measures and procedures to prevent and control pollution, limit habitat disruption, and correct environmental damage that occurs during construction. All disturbed areas would be reseeded following construction to reduce the potential for erosion.

4. Based upon the Environmental Assessment of the Tentatively Selected Plan, no significant impacts on the environment are anticipated. The proposed action has been coordinated with appropriate resource agencies, and there are no significant unresolved issues. Therefore, an Environmental Impact Statement will not be prepared prior to proceeding with this action.

Date

Bryan K. Sizemore
Colonel, U.S. Army
District Commander