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

28 January 2014

Reply to:
US Army Corps of Engineers
St. Louis District
Environmental Compliance Section (PD-C)
1222 Spruce St.
St. Louis, MO 63103-2833

RE: King's Lake Drainage District PL 84-99

Dear Sir or Madam:

We are providing for your review an Environmental Assessment (EA) and unsigned Finding of No Significant Impact (FONSI) for the King's Lake Drainage District, which incurred levee damages during the spring and summer 2013 flooding. An electronic copy can be obtained from the St. Louis District's website at http://www.mvs.usace.army.mil/Missions/ProgramsProjectManagement/PlansReports.aspx. 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.

Levees throughout the St. Louis District were damaged during flooding in April and July 2013. Many drainage and levee 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 assessments. Please address your comments or questions to Teri Allen of the Environmental Compliance Section (CEMVP-PD-C), at telephone number (314) 331-8084, facsimile number (314) 331-8606, or e-mail at Teri.C.Allen@usace.army.mil, by close of business on 27 February 2014.

Thank you,

Timothy K. George
Chief, Environmental Compliance Section

ENVIRONMENTAL ASSESSMENT
AND
FINDING OF NO SIGNIFICANT IMPACT

PUBLIC LAW 84-99
EMERGENCY FLOOD DAMAGE REPAIR FOR THE
KING'S LAKE DRAINAGE DISTRICT

LINCOLN COUNTY, MISSOURI
MISSISSIPPI RIVER

JANUARY 2014

1. INTRODUCTION

This document is an Environmental Assessment (EA) with an attached Draft Finding of No Significant Impact (FONSI) for levee repairs to the King's Lake Drainage District (KLDD). The purpose of this EA is to address potential environmental impacts of the proposed rehabilitation, and to serve as a record of interagency coordination for the emergency rehabilitation actions.

1.1. Project Authorization

Emergency actions undertaken by 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 Part 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 KLDD is active in the USACE Rehabilitation and Inspection Program, they are eligible for Flood Control and Coastal Emergency funding authorized by PL 84-99.

1.2 Project Location and Scope

The King's Lake Drainage District is located in Lincoln County, Missouri, and is adjacent to the right descending bank of the Mississippi River at approximately River Mile (RM) 246 to 257 (Figures 1 and 2).

It is a non-federal levee system consisting of approximately 7.8 miles of levee that provide protection up to a 14-year flood event. The levee was constructed with an 8-10 foot crown width and 1 on 3 side slopes. A gravity drain and box culvert are located on the southern section of the levee district.

The King's Lake Drainage District is part of a larger system that includes both King's Lake Drainage District and Elsberry Drainage and Levee District. King's Lake Drainage District is bounded by the Mississippi River to the east, Lost Creek on the west, channelized portion of Bryants Creek on the north, and Horseshoe Lake, various wetlands and drainage ditches to the south. The combined system encompasses 22,189 acres and protects primarily agricultural lands. The levee system also protects farm structures, residences, farmsteads, homes, roads, ditches, utilities and infrastructure.

1.2 Project Purpose and Need

The King's Lake levee system sustained damages as a result of high water events in 2013. The purpose of this federal action is to restore the level of flood protection to that which existed prior to the 2013 flood events. There is a need for repairs, because flood damages reduced the level of protection provided by the levee, making the district vulnerable to more frequent flooding. Without federal involvement through the PL 84-99 program, it is unlikely that the Drainage District has the financial ability to restore the level of protection according to Corps of Engineers standards. Damage location(s) are shown in Figure 2.

1.3 Damage Description

Damages sustained by the King's Lake levee as a result of spring 2013 flooding on the Mississippi River consist of erosion and turf loss (Figures 2 and 3). Damage to a gravity drain was originally included. However since the Drainage District repaired the gravity drain damage themselves without federal assistance, it is not covered in this Environmental Assessment.

2. ALTERNATIVES

This section describes and compares the alternatives based on their environmental impact and achievement of project objectives for the damaged King's Lake Drainage District. 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 King's Lake levee. It is possible that the Drainage District would make repairs without federal assistance. Environmental impacts of repairs made by the Drainage District 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 Drainage District 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 sites. The current damages would decrease flood protection, thereby increasing risks to individuals, structures, businesses, and agricultural activities within the leveed areas.

2.2. Alternative 2 – Nonstructural Measures

Section 73 of the WRDA of 1974 (PL93-251) 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 KLDD, would have large costs, and result in loss of numerous acres of prime farmland.

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.****"*

The King's Lake Drainage District declined to request the pursuit of a non-structural alternative; therefore, this alternative was eliminated from further consideration.

2.3 Alternative 3 – Repair of Levees with Federal Assistance

Under this alternative, at the request of the KLDD, the federal government would repair the damaged areas to the pre-flood level of protection. Since the King's Lake DD is active in the USACE Rehabilitation and Inspection Program, it is eligible for Flood Control and Coastal Emergency funding authorized by PL 84-99.

2.3.1 Erosion Repair

The damaged areas of the levee will be reconstructed with suitable semi-compacted impervious material until the original slope and grade of the levee is attained (Figure 4). In areas where filling is required, borrow material would be added to the repair sites to restore areas to pre-flood grade. All repair areas would then be reseeded when conditions are suitable for grass germination to prevent or minimize erosion.

2.3.2 Borrow Material

The proposed landside borrow site, referred to as the King's Lake Borrow Area, is a 4 acre clearing made up of an agricultural field and a 3-4 feet deep pond that was created from the removal of material that was used as borrow during the 2008 flood repairs. The site is located within a half mile of the southern repair areas and within 1.5 miles of the northwestern repair areas. The borrow material will be taken from the western edge of the existing borrow area. The sponsor requested that the existing pond not be made any larger. Lean clay is present to 3 feet depth. The site contains hydric soil characteristics and the likelihood for wetland hydrology, but due to the marginal nature of the wetland pockets in the site the area, could be covered by existing Nationwide Permit 27. The approximate center coordinate is 39.076 N and -90.728 W. The proposed borrow area is shown in Figures 5-6.2.

2.3.3 Construction Limits

Construction limits have been established in the immediate vicinity of the erosion and turf repair areas. No emergent or forested wetlands exist within the construction limits.

2.3.4 Access and Staging Areas

Staging areas and access routes to the repair sites would be established to avoid and minimize environmental impacts. Existing access points such as roads, rights of way, and levees located within a reasonable distance to the construction sites would be utilized. Haul road locations and staging areas would be restored to their pre-project condition after project completion (Figures 6.1-6.2).

2.3.5 Final Plans and Specifications

Following the signing of the FONSI, plans & specs will be finalized for construction. Construction will commence as soon as possible thereafter and will be completed within one construction season**.**

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

3.1 Physical Resources

The KLDD is located on the floodplain of the Mississippi River. 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 14-year return period; and to provide a reasonable amount of certainty of producing crops in most years. Much of the area within the levee is considered prime farmland.

Lincoln County, Missouri, is currently in attainment for all U.S. Environmental Protection Agency air quality criteria. Ambient noise in the study area is generated primarily by agriculturally related activities and vehicular traffic.

Alternative 1 – No Action (Future without Project) - If the King's Lake Drainage District levee is not repaired to the federal standard there would be an increased flood risk and more physical damages would occur within the KLDD, such as erosion and sedimentation. Given the nature of the damages that occurred across the levee system, the system currently provides an approximate 10-year level of protection. Air quality and noise pollution would are not anticipated to be altered by this alternative.

Alternative 3 – Repair of Levees with Federal Assistance - Construction activities would cause an increase in local noise levels. The expected increase would be short-term and negligible relative to normal agricultural and business activities

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 relative to current local business activities and would cease after construction.

Construction activities would occur on the mowed grass levee berms adjacent to streams and water areas. Levee repairs could cause a short-term increase in turbidity in the waterways 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.

3.2 Biological Resources

3.2.1 Fish and Wildlife

Fish and wildlife habitats located in and adjacent to the leveed area include permanent water, temporary water, bottomland forest / wooded swamp, old fields, and agricultural cropland. These habitats provide food and cover for a variety of fish and wildlife, including largemouth bass, bluegill, carp, crappie, warmouth, channel catfish, bullfrog, snapping turtle, muskrat, rabbits, squirrel, red fox, white-tailed deer, and many species of waterfowl, shorebirds, 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. The proposed borrow area is located in an existing agricultural field.

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 2007) 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.

Alternative 1 – No Action (Future without Project) – If the King's Lake Drainage District levee is not repaired to the federal standard, and agriculture use diminish, a more diverse and dynamic terrestrial and aquatic habitat may develop. 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, killing vegetation as flood water ponds on typically dry areas currently dominated by agriculture. However over time, wetland vegetation would 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 would benefit the spawning and rearing of many fish species.

Alternative 3 – Repair of Levees with Federal Assistance – If heavy rain occurs during construction, washing soil into the river and other waterways, there could be a short-term increase in turbidity in the immediate area, temporarily displacing fish and other mobile organisms. Following construction, aquatic species would be expected to return. However, 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 Federal Threatened and Endangered Species

In compliance with Section 7(c) of the Endangered Species Act of 1973, as amended, the St. Louis District Corps of Engineers accessed the U.S. Fish and Wildlife Service (USFWS) website on 4 December 2013 to obtain a listing of federally threatened or endangered species, currently classified or proposed for classification, that may occur in the vicinity of King's Lake Drainage District in Lincoln County, Missouri (Table 1). There is no designated critical habitat in the project area at this time.

Table 1. Federally listed species are currently listed for Lincoln County, Missouri.

County	Species	Status	Habitat
Lincoln	Indiana bat *Myotis sodalis*	Endangered	Hibernacula = Caves and mines; Maternity and foraging habitat = small stream corridors with well developed riparian woods; upland forests
Lincoln	Northern long-eared bat *Myotis septentrionalis*	Proposed as Endangered	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests during spring and summer.
Lincoln	Decurrent false aster *Boltonia decurrens*	Threatened	Disturbed alluvial soils
Lincoln	Running buffalo clover (Trifolium stoloniferum)	Endangered	Disturbed bottomland meadows

Alternative 1 – No Action (Future without Project) –

Indiana Bat (*Myotis sodalis*) - The endangered Indiana bat has been noted as occurring in several Missouri counties. Potential habitat for this species occurs statewide, therefore, 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 include 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 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 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 species or size of tree does not appear to influence whether Indiana bats utilize a tree for roosting, provided the appropriate bark structure is present. However, the use of a particular tree does appear to be influenced by weather conditions, such as temperature and precipitation.

During the summer, the Indiana bat frequents the corridors of small streams with well-developed riparian woods, as well as mature upland forests. It forages 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 fencerows, and over farm ponds in pastures.

A recent review of Indiana bat literature and data indicates that the home range of an Indiana bat maternity colony could be as large as approximately 50,000 acres. The amount of habitat needed for any given colony is dependent upon a number of factors, including size of the colony, quality of foraging and roosting habitat, and intra-specific and inter-specific competition. The estimated home range of male Indiana bats is much smaller, but may be as large as approximately 3100 acres. Again the amount of habitat needed would depend upon many factors.

Disturbance and vandalism, improper cave gates and structures, natural hazards such as flooding or freezing, microclimate changes, land use changes in maternity range, and chemical contamination are the leading causes of population decline in the Indiana bat (USFWS 2000, 2004).

Northern Long-Eared Bat *(Myotis septentrionalis)* - The northern long-eared bat is a federal candidate for listing as an endangered species throughout its range (Federal Register 2 October 2013). 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. 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 occur in the forested areas adjacent and within the King's Lake Drainage District.

Decurrent False Aster (*Boltonia decurrens*) – The decurrent false aster is listed as threatened and is presently known from scattered localities on the floodplains of the Illinois River, and Mississippi River from its confluence with the Missouri River south to Madison County, Illinois. 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. Decurrent false aster favors recently disturbed areas, and flooding may play a role in maintaining this habitat type. Current habitats include riverbanks, old fields, roadsides, mudflats and lake shores.

Running buffalo clover (*Trifolium stolonifereum*) – Running buffalo clover requires periodic disturbance and a somewhat open habitat to successfully flourish, but it cannot tolerate full-sun, full-shade, or severe disturbance. Historically, running buffalo clover was found in rich soils in the ecotone between open forest and prairie. Those areas were probably maintained by the disturbance caused by bison. Today, the species is found in partially shaded woodlots, mowed areas (lawns, parks, cemeteries), and along streams and trails. Clearing land for agriculture and development has led to elimination of populations, loss of habitat, and fragmentation of the clover populations that remain. Small, isolated populations of running buffalo clover are prone to extinction from herbivory, disease, and inbreeding.

Running buffalo clover was historically widespread and ranged from Nebraska to West Virginia. It has disappeared from all known historic sites in Missouri. It formerly occurred in the southern two-thirds of the state. There are historical records from Jasper, Wayne, Cooper, and St. Louis counties. It was considered extirpated from

Missouri until as recently as 1989, when some plants were reported growing in an unattended pile of topsoil in St. Louis. One natural site for running buffalo clover was discovered in Madison county in 1994 and another was discovered in Maries county in 1998 (MDC 2008a). The dense turf formed by the cool season grass, regular mowing or agricultural production would prevent Running Buffalo Clover from germinating; therefore it is unlikely the running buffalo clover occurs in the vicinity of the EPL.

Alternative 3 – Repair of Levees with Federal Assistance – The proposed project would not affect any caves. As currently planned, this project involves no tree clearing. Thus, the St. Louis District has determined that the proposed project will have "*no effect*" on the Indiana bat, or the northern long-eared bat.

The levees are planted with grasses and are mowed regularly. The repairs would take place within the footprint of the existing levees. The proposed borrow site consists of a landside agricultural field and therefore is unlikely to support any native plant populations. Thus, the St. Louis District has determined that the proposed project would have "*no effect*" on decurrent false aster and running buffalo clover.

3.3 Socioeconomic Resources

3.3.1 Economic

The King's Lake Drainage District is part of a larger system that includes both King's Lake Drainage District and Elsberry Drainage and Levee District. The combined system encompasses 22,189 acres and protects primarily agricultural lands. The main occupation in the KLDD is farming, and levees are of regional economic importance to maintain the agricultural productivity occurring in the floodplain. The crop distribution within the area is approximately 45 percent soybeans, 45 percent corn and 10 percent wheat. Most of the agricultural land within the levee is considered prime farmland if drained. The levee system also protects farm structures, residences, farmsteads, homes, roads, ditches, utilities and infrastructure. The total value of the property protected by The King's Lake Drainage District has an estimated total value of $24,150,000. It is estimated that the levee damage due to the 2013 high water events reduced the degree of protection from a 14-year flood event to a 10-year flood event within the King's Lake leveed area.

Alternative 1 – No Action (Future without Project) – If the King's Lake Drainage District levee is not repaired to the federal standard, the level of protection would be decreased from that provided by the design (pre-2013 flood event) levee. The previously leveed area would continue to be subject to flooding, making the area less suitable and

possibly unsuitable for agriculture. This could result in a negative economic effect on the Drainage District and the local economy.

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

3.3.2 Cultural

The repair site locations are composed of areas of erosion in recently deposited material or recently-placed levee berm material. There are no recorded archaeological sites in the repair site locations.

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 culturally significant sites protected by the levee.

Alternative 3 – Repair of Levees with Federal Assistance – The proposed repairs to the levee within the Kings Lake Drainage District will have no effect upon significant historic properties (archaeological remains or standing structures). The borrow area for King's Lake is a berm of disturbed soil alongside an agricultural pond. The soil was excavated during the construction of the pond. There are no previously recorded sites within the borrow area. The area has also not been previously surveyed for cultural resources. A pedestrian survey of the borrow area found no cultural resources.

In the unlikely event that earthmoving activities associated with the proposed repairs did 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 Saint Louis District in concert with the professional staff of the Missouri State Historic Preservation Office (SHPO).

3.3.3 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 King's Lake Drainage District levee is not repaired to the federal standard, the level of protection would be decreased from that provided by the design (pre-2013 flood event) levee. This would not disproportionately affect low income or minority populations.

Alternative 3 – Repair of Levees with Federal Assistance – If the King's Lake Drainage District levee is repaired to the federal standard, the level of protection would be that provided by the design (pre-2013 flood event) levee. This would not disproportionately affect low income or minority populations.

3.3.4 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 Mississippi River within the U.S. Army Corps of Engineers St. Louis District boundaries were damaged by flooding in 2013.

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 culturally significant sites protected by the levee.

Alternative 3 – Repair of Levees with Federal Assistance – The recovery and repair of these damaged levees, authorized under PL84 -99, will be coordinated with all tribes in the following manner: An initial letter to the tribes will describe the locations of existing flood damaged structures, lands and fills. Maps of the areas and a description of the types of impacts resulting from construction are also included. The tribes are requested to contact the USACE if there are known tribal areas of concern in any of the project areas and if they desire further consultation on each or any project. Depending on tribal response, the USACE continues the consultation process until the completion of the project.

3.3.5 HTRW

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 some contaminants.

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.

3.4. Summary Comparison of Project Alternatives

Impacts of the tentatively selected alternative 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 alternatives to physical, biological, and socioeconomic resources.

Resources	**Alternatives**	
	No Action	**Tentatively Selected Alternative**
Physical Resources	Flooding may occur if the levees are not repaired and the levee's integrity is compromised during a flood. Estimated protection is reduced to 10-year flood level with current damages.	Erosion and turf repairs would meet the federal standard.
	Increased potential for further erosion of levee and sedimentation within KLDD during flood events.	Temporary minor impacts to water and air quality during construction.
	Does not meet project objective of repairs to federal standard.	Meets project design objective of 14-year protection level.
Biological Resources	If levee system is compromised, there is potential for beneficial impacts due to potential increase in floodplain wetland habitat.	Construction would be confined to the levee and borrow area which may result in minor temporary impacts.

	Federal T&E species would not be adversely impacted.	There would be no tree clearing; therefore, proposed action should have no adverse affect on listed species.
	Meets project objective of minimal environmental impacts.	Meets project objective of minimal environmental impacts.
Socioeconomic Resources	The KLDD would be susceptible to future floods and potential negative impacts to KLDD 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 (14- year frequency) of the levee system.
	Does not meet project objective of protecting the socioeconomic value of the KLDD.	Meets project objective of protecting the economic value of the KLDD.

3.5 Cumulative Impacts

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 2013. Temporary impacts from noise, air, and water pollution 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. The King's Lake Levee PL84-99 project along with several other levees 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 identified borrow areas. Some PL84-99 projects sustained damage that is infeasible 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 expected. All borrow sites have been coordinated with the resource agencies in an attempt to avoid contributing to cumulative impacts.

4. 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 act, and /or executive orders is shown in Table 3.

Table 3. Relationship of the tentatively selected plan to environmental requirements, environmental act, and /or executive orders.

Environmental Requirement	Compliance
Bald Eagle Protection Act, 42 USC 4151-4157	FC
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
Endangered Species Act, 16 USC 1531-1543	PC
Farmland Protection Policy Act, 7 (Prime Farmland)USC 4201-4208	FC
Fish and Wildlife Coordination Act, 16 USC 661-666c	PC
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
National Historic Preservation Act, 16 USC 470 et seq.	PC
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, PC = Partial Compliance (on-going, will be accomplished before construction)

5. COORDINATION, PUBLIC VIEWS, AND RESPONSES

Notification of this Environmental Assessment and unsigned Finding of No Significant Impact were sent to the officials, agencies, organizations, and individuals listed in Table 4 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.

Table 4. Notification of Environmental Assessment and unsigned Finding of No Significant Impact.

U.S. Fish and Wildlife Service Mr. Rick Hansen Columbia Ecological Services Field Office 101 Park DeVille Drive, Suite A Columbia, MO 65203-0007	Honorable Claire McCaskill 506 Hart Senate Office Building Washington DC 20510
Ken Sessa Federal Emergency Management Agency 9221 Ward Parkway, Suite 300 Kansas City, MO 64114-3372	Rep. Ed Schieffer MO House of Representatives 201 West Capitol Avenue Room 101A Jefferson City MO 65101
Missouri Department of Conservation Ms. Janet Sternburg P.O. Box 180 Jefferson City, MO 65102	Senator Jolie Justus 201 W Capitol Ave., Rm. 333 Jefferson City, Missouri 65101
Missouri Department of Conservation Mr. Alan Leary P.O. Box 180 Jefferson City, MO 65102	Sierra Club Missouri Chapter 7164 Manchester Ave. Maplewood, MO 63143
Missouri Department of Natural Resources Sara Parker Pauley, Director P.O. Box 176 Jefferson City, MO 65102	Robert D. Shepherd Izaak Walton League of America 16 Juliet Ave Romeoville, IL 60446

State of Missouri Emergency Management Agency Logistics, Mitigation & Floodplain Management Branch P.O. Box 116 Jefferson City, MO 65102	Kathy Andria American Bottoms Conservancy P.O. Box 4242 Fairview Heights, IL 62208
Honorable Blaine Luetkemeyer 2440 Rayburn HOB Washington, DC 20515	The Nature Conservancy 2800 S. Brentwood Blvd. St. Louis, MO 63144
Honorable Roy Blunt 260 Russell Senate Office Building Washington DC 20510	

6. ENVIRONMENTAL ASSESSMENT PREPARERS

Teri Allen, Ph.D., Aquatic Ecologist
Experience: 10 years private sector; 12 years Environmental Branch, USACE
Role: EA Coordinator, Environmental Impact Analysis, NEPA and Environmental Compliance

Rick Archeski, Environmental Engineer
Experience: 16 years USFWS, 16 years US Army, 16 years USACE-MVS
Role: Environmental Engineering, HTRW

James E. Barnes, District Archaeologist
Experience: 8 years private sector; 19 years Center of Expertise, Curation and Maintenance of Archaeological Collections
Role: National Historic Preservation Act Analysis and Compliance

Greg Bergtoglio, Project Manager
Experience: 33 years USACE-MVS
Role: Project Manager

Daniel Linkowski, Economist
Experience: 5 years USACE
Role: Economist

David Meyer, Missouri Section Regulatory Project Manager, Wildlife Biologist
Experience: 4 years, USACE-MVS Regulatory Office
Role: Section 404/401 permit review; NEPA and Environmental Compliance Coordination

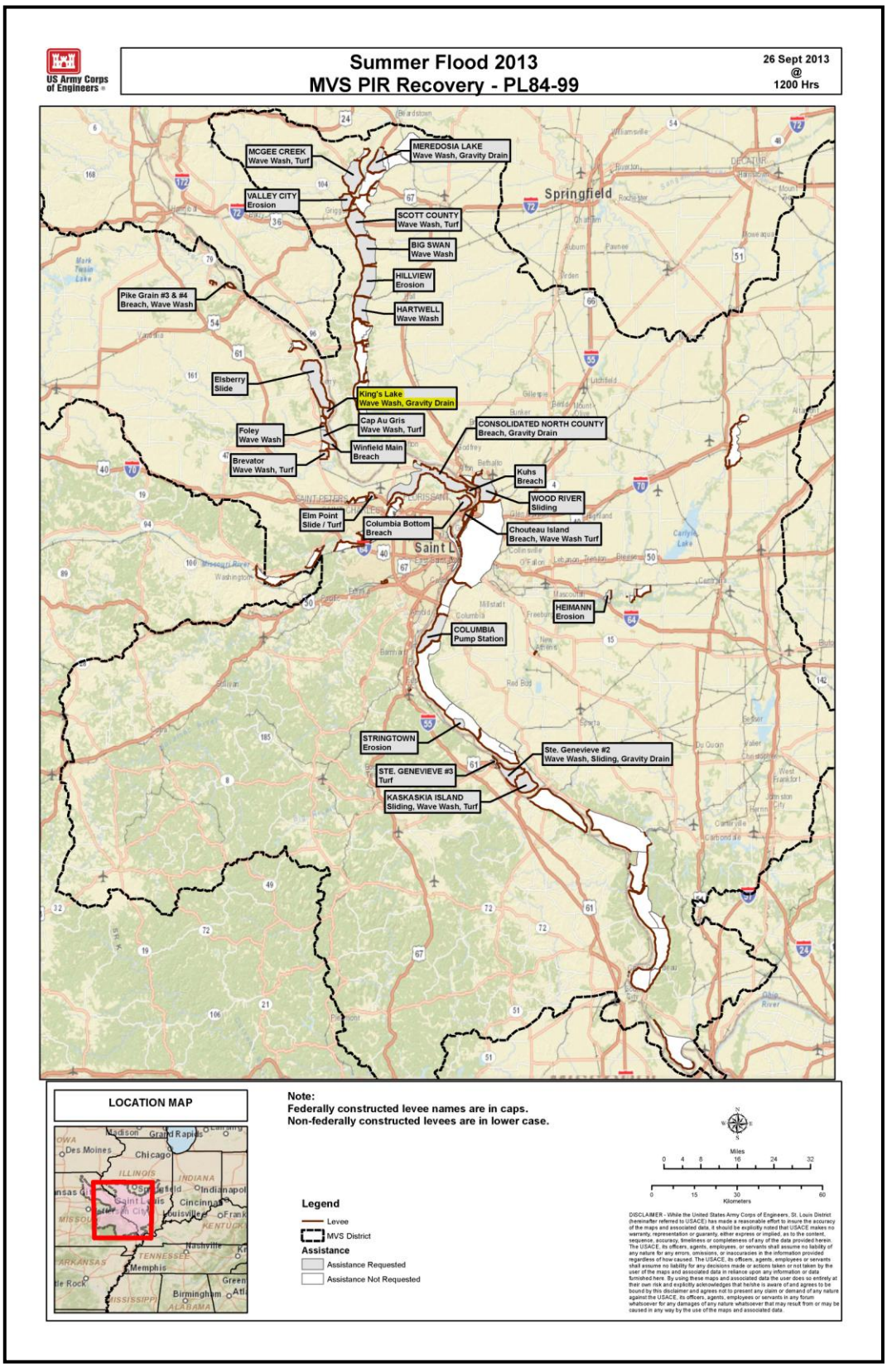


Figure 1. Vicinity map of the King's Lake Drainage District in Lincoln County, Missouri.

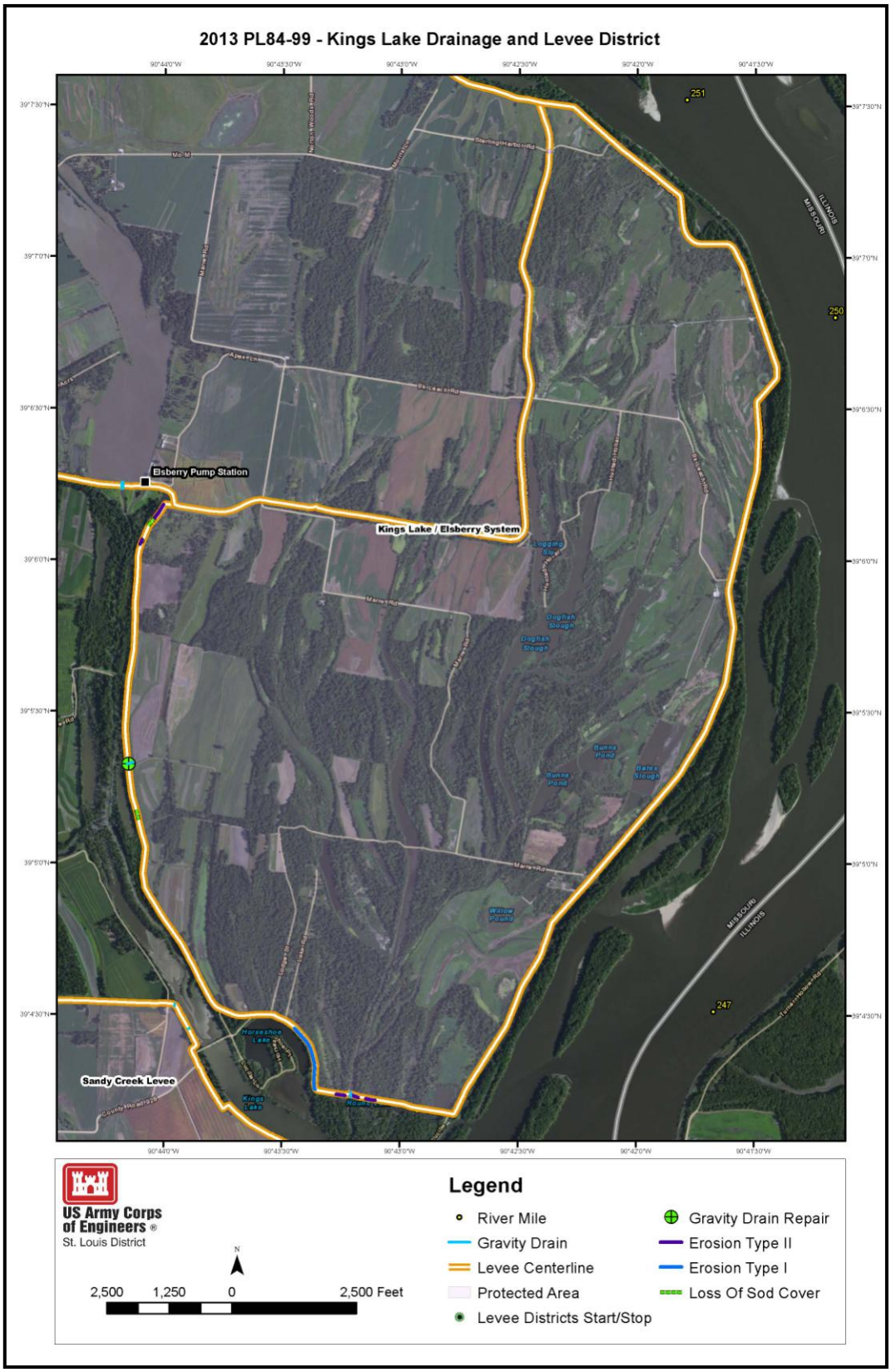
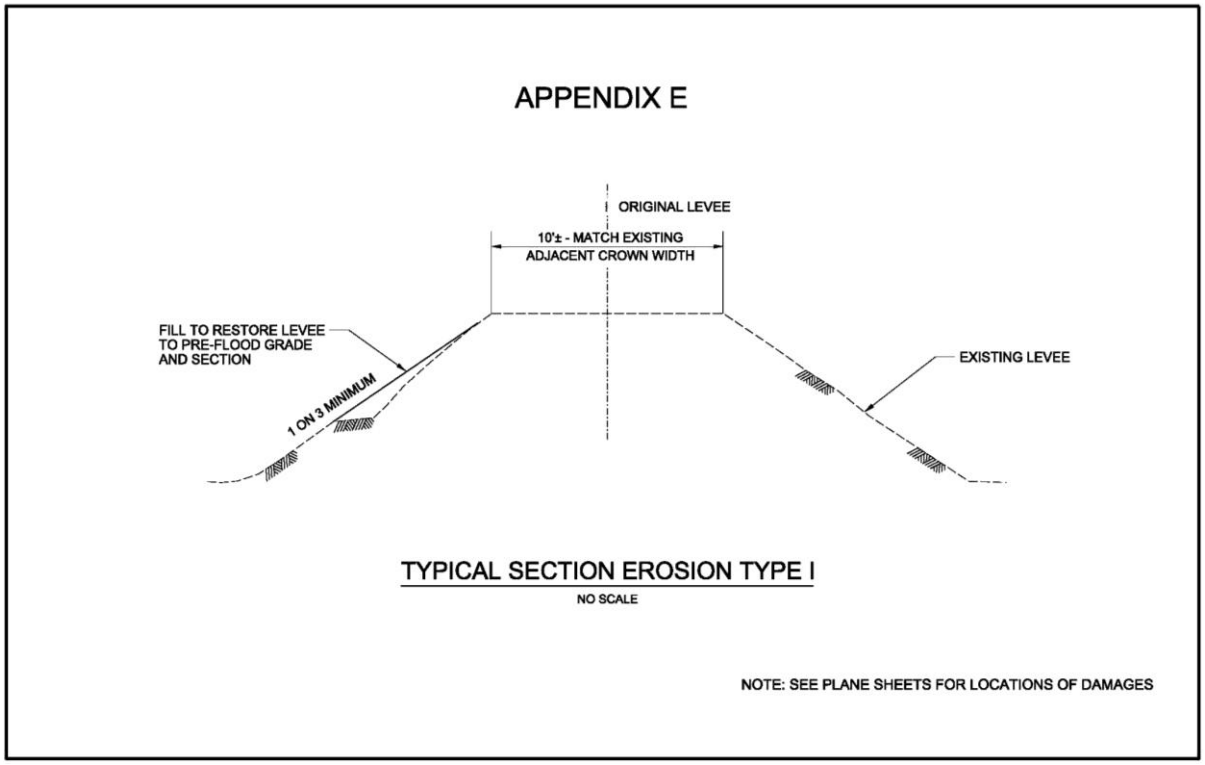


Figure 2. Location of damages to the King's Lake Drainage District in Lincoln County, Missouri.

Figure 3. Example of damage to the King's Lake Drainage District as a result of spring 2013 high water events.



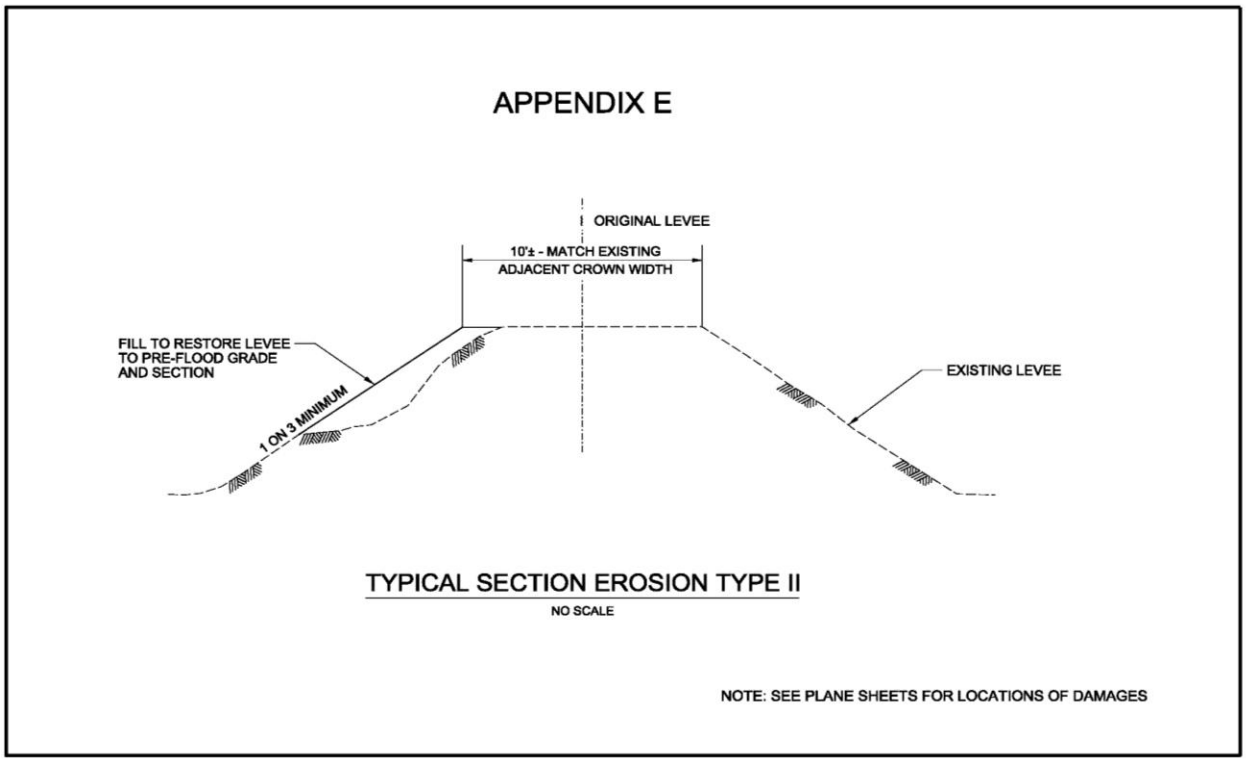


Figure 4. Typical type I and II erosion repairs to levees.

Figure 5. Aerial view of the proposed borrow site for PL 84-99 repairs to the King's Lake Drainage District.

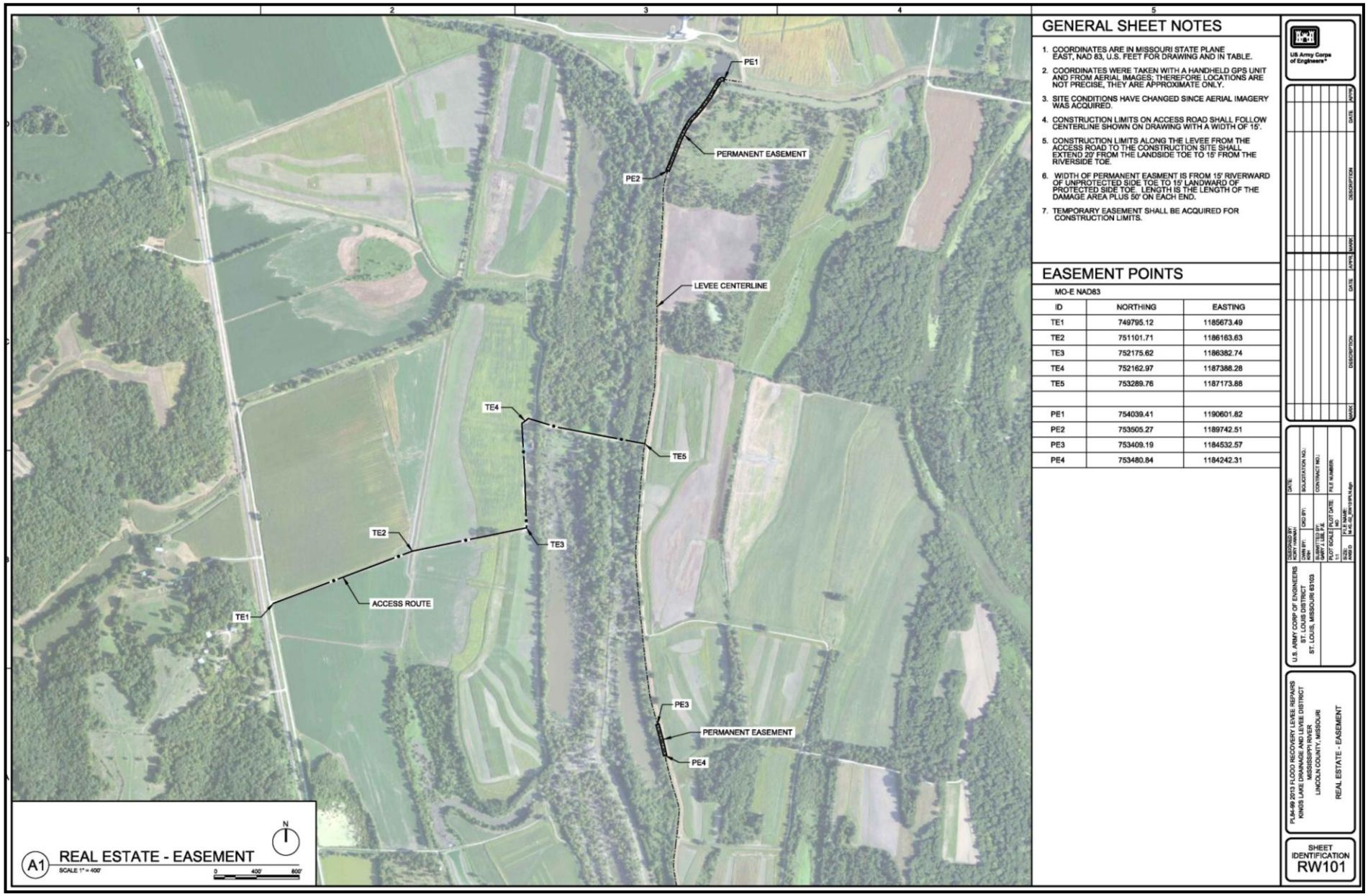


Figure 6-1. Location of the proposed borrow site(s) and anticipated project limits for 2013 PL 84-99 repairs to the Kings Lake Drainage District**.**

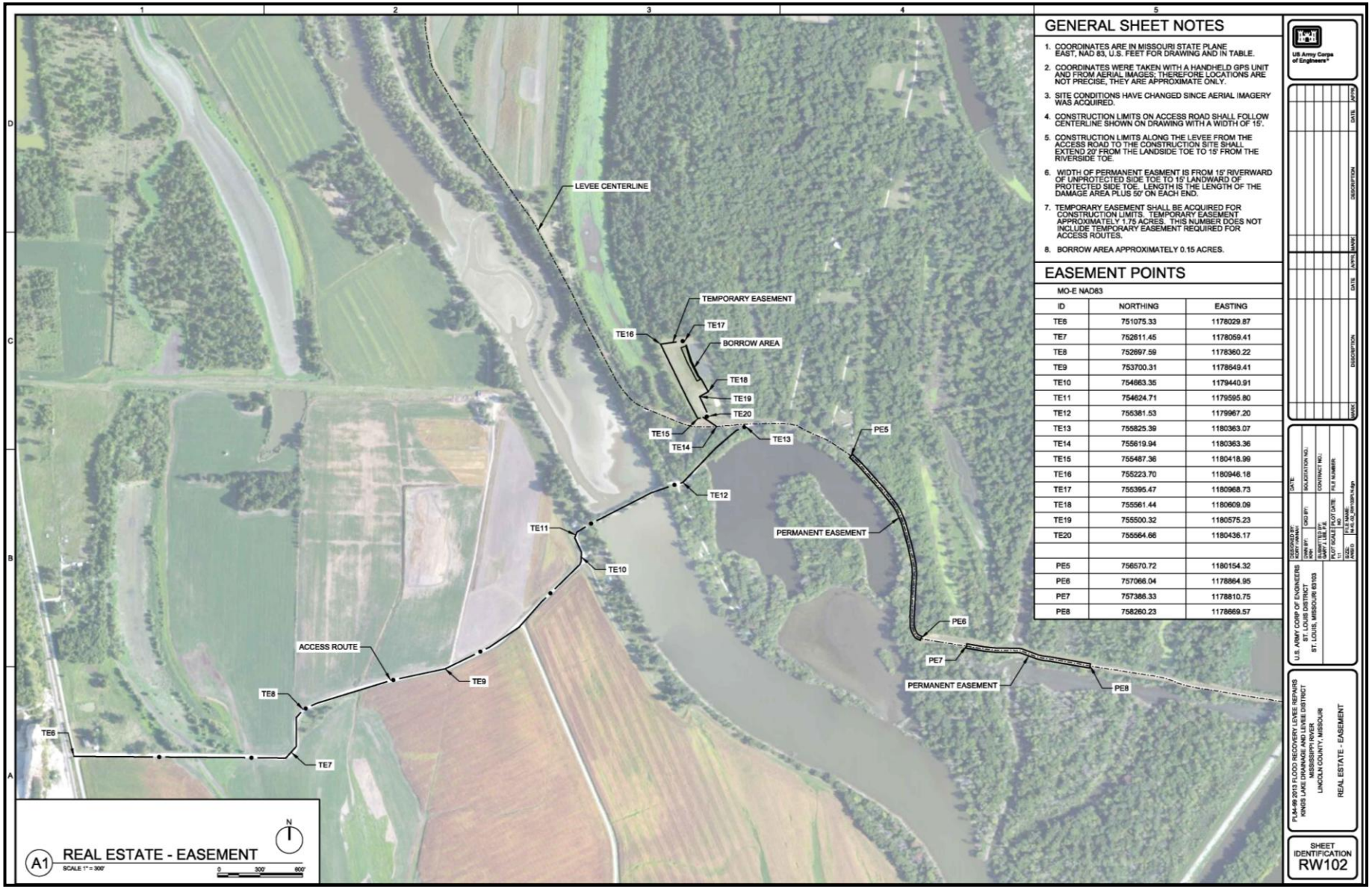


Figure 6-2. Location of the proposed borrow site(s) and anticipated project limits for 2013 PL 84-99 repairs to the Kings Lake Drainage District.

FINDING OF NO SIGNIFICANT IMPACT

PUBLIC LAW 84-99
KING'S LAKE DRAINAGE DISTRICT
LINCOLN COUNTY, MISSOURI

1. I have reviewed the document concerned with the proposed levee repairs to the King's Lake Drainage District. The purpose of this project is to repair levee sections damaged by an extended high water event during the spring of 2013. Repairs would return the drainage district to pre-flood conditions in an expedient manner.

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: Under the no-action alternative, the federal government would not repair the flood damaged levees. It is assumed that, because of the cost of repairs, the levee district would not repair the levee.

b. 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 King's Lake Drainage District 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 these alternatives 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 plan 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. Borrow for the final levee repair would come from the area deemed acceptable by the borrow inspection team.

c. No appreciable effects to general environmental conditions (air quality, noise, water quality) would result from the tentatively selected plan.

d. The tentatively selected plan is not expected to cause significant adverse impacts to general fish and wildlife resources.

e. The tentatively selected plan is not expected to cause unacceptable adverse impacts to riparian habitat, bottomland hardwood forest, or other wetlands.

f. No Federally endangered or threatened species would be adversely impacted by the tentatively selected plan.

g. No prime farmland would be adversely impacted as a result of the tentatively selected plan.

h. No significant impacts to historic properties (cultural resources) are anticipated as a result of the tentatively selected plan.

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-2013 flood protection.

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

Christopher G. Hall
Colonel, U.S. Army
District Commander