



DEPARTMENT OF THE ARMY
KANSAS CITY DISTRICT, CORPS OF ENGINEERS
700 FEDERAL BUILDING
KANSAS CITY, MISSOURI 64106-2896

REPLY TO
ATTENTION OF:

May 22, 2008

Planning, Programs and Project Management Division
Planning Branch

NOTICE OF AVAILABILITY

An Environmental Assessment titled, Sugartree Bottom Levee District, Item No. 68, Non – Federal, Emergency Levee Rehabilitation Project, and a draft Finding of No Significant Impact (FONSI) prepared by the U.S. Army Corps of Engineers, Kansas City, are available for your review on the project’s website at: [http:// www.nwk.usace.army.mil](http://www.nwk.usace.army.mil).

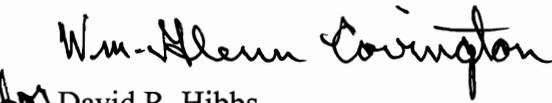
The Kansas City District – U.S. Army Corps of Engineers, in cooperation with the project sponsor, Sugartree Bottom Levee District, propose to construct the Sugartree Bottom Levee District Levee Rehabilitation Project under the authority of Public Law 84-99, of the Flood Control Act of 1944. Under this authority, the Corps of Engineers can provide assistance to public agencies in responding to flood emergencies such as the rehabilitation of flood control works damaged or destroyed by floods.

The project area is located in Carroll County, Missouri along the left descending bank of the Missouri River, between river miles 298.5 to 288.5. The proposed project would involve in-place repairs to landside slope erosion areas, levee breaches, drainage structures, and re-seeding of both levee landside and riverside levee slopes. Repairs are required as a result of the flood event declared on 6 May 2007.

Copies of the EA and the draft FONSI are also available by contacting Mr. Neil Bass; U.S. Army Corps of Engineers; PM-PR, 601 E. 12th St, Kansas City, Missouri, 64106; to request a copy in writing, at (816) 389-3667 to request a copy by phone, or at neil.bass@usace.army.mil to request a copy by e-mail.

The public review and comment period for the EA and draft FONSI will end 30 days from the date of this letter.

Sincerely,


for David R. Hibbs
Acting Chief, Environmental Resource Section



**US Army Corps
of Engineers**
Kansas City District

**KANSAS CITY DISTRICT
CORPS OF ENGINEERS
and the
SUGARTREE BOTTOM LEVEE DISTRICT**

**Public Law 84-99 of the Flood Control Act of 1944
Levee Rehabilitation – NEPA Review, Environmental
Assessment & Finding of No Significant Impact**

**SUGARTREE BOTTOM LEVEE DISTRICT,
ITEM NO. 68, NON-FEDERAL,
EMERGENCY LEVEE REHABILITATION PROJECT**

**Missouri River
Carroll County, Missouri**

May 2008



DEPARTMENT OF THE ARMY
KANSAS CITY DISTRICT, CORPS OF ENGINEERS
700 FEDERAL BUILDING
KANSAS CITY, MISSOURI 64106-2896

DRAFT

Finding of No Significant Impact

Sugartree Bottom Levee District (Item 68)

Levee Rehabilitation Project

Carroll County, Missouri

Project Summary

The U.S. Army Corps of Engineers, Kansas City District (CENWK), in cooperation with the project sponsor, Sugartree Bottom Levee District, proposes to construct the Sugartree Bottom Levee District Levee Rehabilitation Project, under the authority of Public Law 84-99 of the Flood Control Act of 1944. Due to the limited damages to the Sugartree Bottom levee, two alternatives were considered: (1) In-place repairs and (2) No action. The Corps has identified Alternative 1 – In-place repairs as the recommended plan. The proposed project would involve in-place repairs to landside slope erosion areas, levee breeches, a drainage structure, and re-seeding of both levee landside and riverside levee slopes in order to return the agricultural levee damaged by the declared flood event of 6 May 2007 to its pre-existing condition. The proposed repairs are located in Carroll County, Missouri, a few miles south of Carrollton, along the left descending bank of the Missouri River from River Mile 298.5 to River Mile 288.5, the left descending bank of Dirt Slough, and the right descending bank of Moss Creek.

Alternatives

Two alternatives were considered: (1) In-place repairs (**RECOMMENDED PLAN**) and (2) No action.

Recommended Plan

The recommended repair action consists of in-place repair of landside slope erosion area (sta. 60+35 to 137+00); in-place repair of drainage structure (sta. 593+87) using carbon fiber reinforced cured-in-place pipe liner; in-place repair of two breach areas (sta. 624+30 to 631+60 and 670+60 to 677+00); re-seeding of landside levee slope (sta. 166+00 to 263+85, 433+60 to 624+30, 631+60 to 670+60, 677+00 to 701+60 and 703+00 to 788+00); and re-seeding of riverside levee slope (sta. 11+15 to 360+90, 434+60 to 624+30, 631+60 to 670+60, 677+00 to 701+60 and 747+00 to 788+00).

Summary of Environmental Impacts

The levee flood risk management level achieved by the recommended plan would be the same as the pre-flood condition. The recommended plan would result in no impacts to any Federally-listed threatened or endangered species or their habitat. The recommended plan would result in no impacts to any properties listed, proposed for listing, eligible for listing, or potentially eligible for listing in the National Register of Historic Places. The recommended plan will result in minor fill impacts to mitigable resources as defined in USACE Planning regulations and under Section 404 of the Clean Water Act as approximately three acres of scrub-shrub wetland would be filled to repair the levee breaches. However, the recommended plan would have a net benefit to wetlands as approximately 29 acres of riverward wetlands would be enhanced through borrow operations. Additionally, some cottonwood and willow trees, the majority of which measure less than 9 inches diameter breast height (dbh), will be removed during borrow operations to facilitate levee repair. Areas of the existing levee sections damaged by flooding would be temporarily disturbed by the proposed construction activities.

The adverse effects associated with the proposed project are short term/minor associated with project construction. These minor adverse effects would be greatly offset by restoring the flood risk management capability, and its associated social and economic benefits of the existing levee system. Alternative 1, In-place repairs, meets the project purpose and need of rehabilitating the flood risk management capability, and its associated social and economic benefits of the existing levee system. Of the two alternatives considered, Alternative 1 –In-place repairs is recommended because it has a positive cost/benefit ratio, and is consistent with protection of the human environment.

Mitigation Measures

The recommended plan would result in minor fill impacts to mitigable resources as defined in USACE Planning regulations and under Section 404 of the Clean Water Act. These impacts are associated with filling three acres of scrub-shrub wetland to repair the levee breaches. General Permit Number NWKGP-41 authorizes these actions. Additionally, some cottonwood and willow trees, the majority of which measure less than 9 inches dbh, would be removed during borrow operations to facilitate levee repair.

The identification of borrow sites was completed in accordance with the Standard Operating Procedures for the Selection of Borrow Sites Missouri River and Tributaries 1995 Levee Repair (Appendix II). These guidelines were developed through coordination with the U.S. Fish and Wildlife Service (USFWS) and the Missouri Department of Conservation (MDC) to avoid and/or minimize adverse impacts to the aquatic ecosystem to the greatest extent practicable, and where possible, take advantage of the borrow acquisition activity to enhance the aquatic ecosystem. Clearing of early successional woody vegetation and excavation which removes accumulated silt from existing wetlands and scours are considered beneficial and will enhance the overall function and value of the aquatic ecosystem. CENWK has determined in coordination with MDC and the USFWS that natural plant succession should provide adequate re-vegetation of non mast producing trees. Borrow activities which expands existing scour holes increases their

function and value. As the proposed borrow activity within the previously used scour hole/wetland has been designed to enhance the functions and values of the aquatic ecosystem, no mitigation is proposed.

Public Availability

Prior to a decision on whether to prepare an Environmental Impact Statement, CENWK circulated a Notice of Availability (Notice) of the Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI), dated _____, 2008, with a thirty-day comment period ending on _____, 2008 to the public and resource agencies. The Notice was e-mailed to individuals/agencies/businesses listed on CENWK-Regulatory Branch's e-mail mailing list. The Notice informed these individuals that the EA and Draft FONSI were available on the CENWK webpage or that they could request a hard copy of the EA and Draft FONSI in order to provide comment.

Levee rehabilitation projects completed by the Corps under authority of Public Law 84-99 generally do not require the preparation of an Environmental Impact Statement. These projects typically result in long-term social and economic benefits and the adverse environmental effects are typically minor/short-term construction related. Minor, short-term impacts associated with these projects are typically well outweighed by the overall long-term social and economic benefits of these projects. As described above, the recommended plan is consistent with this assessment of typical levee rehabilitation projects completed by the Corps under authority of Public Law 84-99 of the Flood Control Act of 1944.

Conclusion

After evaluating the anticipated environmental, economic, and social effects of the proposed activity, it is my determination that construction of the proposed Sugartree Bottom Levee District Levee Rehabilitation Project does not constitute a major Federal action that would significantly affect the quality of the human environment; therefore, preparation of an Environmental Impact Statement is not required.

Date: _____

Roger A. Wilson, Jr.
Colonel, Corps of Engineers
District Commander



DEPARTMENT OF THE ARMY
KANSAS CITY DISTRICT, CORPS OF ENGINEERS
700 FEDERAL BUILDING
KANSAS CITY, MISSOURI 64106-2896

EXECUTIVE SUMMARY

The U.S. Army Corps of Engineers, Kansas City District (CENWK), in cooperation with the project sponsor, Sugartree Bottom Levee District, propose to construct the Sugartree Bottom Levee District Levee Rehabilitation Project, under the authority of Public Law 84-99 of the Flood Control Act of 1944.

The Sugartree Bottom Levee District levee segment consists of approximately 78,800 linear feet of earthen flood control works (FCW) on the left descending bank of the Missouri River from River Mile 298.5 to River Mile 288.5, the left descending bank of Dirt Slough, and the right descending bank of Moss Creek in Carroll County, a few miles south of Carrollton, Missouri. The FCW protects approximately 20,954 acres of agricultural lands (20,744 acres in cropland), approximately four miles of U.S. Highway 24/65, approximately 40 miles of gravel surfaced County and Township roads, numerous unimproved farm to market roads, approximately 28 miles of AMOCO pipeline, approximately 26 miles of Southwestern Bell phone lines, approximately 26 miles of Farmers Electric power lines, approximately 12 miles of Sprint fiber optic lines, and approximately four miles of Williams natural gas pipeline.

The proposed project would involve in-place repairs to landside slope erosion areas, levee breaches, drainage structures, and re-seeding of both levee landside and riverside levee slopes in order to return the agricultural levees damaged by the declared flood event of 6 May 2007 to their pre-flood conditions.

The recommended plan would result in minor impacts to mitigable resources as defined in USACE Planning regulations and under Section 404 of the Clean Water Act as three acres of scrub-shrub wetland would be filled to repair the levee breaches. General Permit Number NWKGP-41 authorizes these actions. However, the recommended plan would have a net benefit to wetlands as approximately 29 acres of riverward wetlands would be enhanced through borrow operations by shallow excavation and the sloping of perimeter faces.

Borrow material would be obtained from riverward borrow areas adjacent to breach locations and are positioned around existing 1993/1995 "environmentally cleared" scour/borrow areas. A small amount of woody vegetation consisting of cottonwood and willow would be removed during borrow operations.

The proposed action would not impact sites listed on or eligible for inclusion on the National Register of Historic Places or threatened and endangered species. Overall, the minor short-term impacts associated with this project are outweighed by the long-term social and economic benefits. CENWK in cooperation with the Missouri Department of Conservation and the U.S. Fish and Wildlife Service has stated that natural plant succession should provide

adequate re-vegetation of impacted areas. Mast-producing trees are not affected by the project. As such, no mitigation is proposed.

Prior to a decision on whether to prepare an Environmental Impact Statement, CENWK circulated a Notice of Availability (Notice) of the Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI), dated _____, 2008, with a thirty-day comment period ending on _____, 2008 to the public and resource agencies. The Notice was e-mailed to individuals/agencies/businesses listed on CENWK-Regulatory Branch's e-mail mailing list. The Notice informed these individuals that the EA and Draft FONSI were available on the CENWK webpage for review or that they could request the EA and Draft FONSI in writing, in order to provide comment.

Additional information concerning this project may be obtained from Mr. Neil Bass, Environmental Resources Specialist, PM-PR, Kansas City District - U.S. Army Corps of Engineers, by writing the above address, or by telephone at 816-389-3134.

**NEPA REVIEW
ENVIRONMENTAL ASSESSMENT
&
DRAFT FINDING OF NO SIGNIFICANT IMPACT**

**PUBLIC LAW 84-99
SUGARTREE BOTTOM LEVEE DISTRICT
LEVEE REHABILITATION PROJECT
CARROLL COUNTY, MISSOURI**

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FINDING OF NO SIGNIFICANT IMPACT

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ENVIRONMENTAL ASSESSMENT
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DRAFT FINDING OF NO SIGNIFICANT IMPACT**

**PUBLIC LAW 84-99
SUGARTREE BOTTOM LEVEE DISTRICT
LEVEE REHABILITATION PROJECT
CARROLL COUNTY, MISSOURI**

Section 1: INTRODUCTION

This Environmental Assessment provides information that was developed during the National Environmental Policy Act (NEPA) public interest review of the proposed Public Law 84-99 Sugartree Bottom Levee District Levee Rehabilitation Project.

Section 2: AUTHORITY

The Kansas City District – U.S. Army Corps of Engineers (CENWK), in cooperation with the project sponsor, the Sugartree Bottom Levee District, propose to construct the Sugartree Bottom Levee District Levee Rehabilitation Project under the authority of Public Law 84-99 of the Flood Control Act of 1944.

Section 3: PROJECT LOCATION

The Sugartree Bottom Levee District levee consists of approximately 78,800 linear feet of earthen flood control works (FCW) located in Carroll County, a few miles south of Carrollton, Missouri along the left descending bank of the Missouri River from River Mile 298.5 to River Mile 288.5, the left descending bank of Dirt Slough.

Section 4: EXISTING CONDITION

The declared flood event on 6 May 2007 caused damages to the Sugartree Bottom Levee District flood control works. These damages consist of landside slope erosion at station 60+35 to 137+00; two levee breeches at stations 624+30 to 631+60 and 670+60 to 677+00; intermittent reaches of lost (destroyed) sod cover on levee embankment slopes at stations 11+15 to 360+90, 433+60 to 624+30, 631+60 to 670+60, 677+00 to 701+60, and 703+00 to 788+00, and damage to the drainage structure at station 593+87 (see Appendix I, Attachment B-1).

Section 5: PURPOSE & NEED FOR ACTION

The project purpose and need is to rehabilitate the damaged levee and restore the associated social and economic benefits. The Sugartree Bottom Levee District received damages to

sections of its levee during the 6 May 2007 declared flood event. Prior to the May 2007 event, the Sugartree Bottom Levee District levee provided an approximately 10-year level of flood risk management. In its current damaged state, the Sugartree Bottom Levee District levee is estimated to provide an approximate two-year level of protection. The existing condition exposes all public and private infrastructure and agricultural croplands to a higher level of risk from future flooding. Failure to restore the flood risk management capability of the levee system would keep area residents livelihood and social well-being in turmoil, subject to the continuous threat of flooding until a level of flood protection is restored. Failure to reconstruct the levee could adversely affect the tax base of the county and municipal government. In addition, loss of jobs and potential losses in agricultural production on lands previously protected by the levee would also be incurred.

Section 6: ALTERNATIVES CONSIDERED

The alternatives considered for levee repair were based on the type and severity of flood damage.

STATION 11+15 TO 360+90, 433+60 TO 701+60 AND 703+00 TO 788+00. Flood damage includes landside slope erosion and two levee breaches (see Appendix I, Borrow Map). Repair alternatives considered include: (1) In-Place Repair (**RECOMMENDED**) and (2) No Action.

Alternative 1: In-Place Repair. Due to the relatively limited nature of damages at these locations, and that the majority of levee embankments were in-tact, a landward levee setback was not considered a prudent repair action. Based on the Corps economic analysis the in-place repair of erosion and levee breaches was considered the most prudent and economical repair action. Soil to repair the breaches and eroded areas would be obtained from riverside borrow areas as described below in Section 7, Recommended Alternative. Landside and riverside slopes would be seeded following construction to reestablish protective sod cover.

Alternative 2: No Action. The “No Action” Alternative would involve no construction or re-seeding, and the levee would remain in its damaged condition. The no action alternative is unacceptable as it would not achieve the project purpose of repairing the damaged levee to pre-flood conditions. The no action alternative would continue to expose public and private infrastructure and agricultural croplands to a high risk level of future flooding.

STATION 593+87. Flood damages include a damaged drainage structure. Repair alternatives considered include two in-place repair alternatives and the no action alternative.

Alternative 1: In-Place Repair. The repair of the existing drainage structure would be accomplished using either corrugated metal pipe or carbon fiber reinforced cured-in-place pipe liner. Either in-place alternative would repair the structure to pre-damaged conditions. The location of the drainage structure and areas disturbed by construction would be seeded following construction to reestablish protective sod cover.

Alternative 2: No Action. The no action alternative would involve no construction or seeding, and the levee would remain in its damaged condition. The no action alternative is unacceptable as it would not achieve the project purpose of repairing the damaged levee to pre-flood

conditions. The no action alternative would continue to expose public and private infrastructure and agricultural croplands to a high risk level of future flooding.

Section 7: RECOMMENDED ALTERNATIVE

The recommended repair action is Alternative 1, which consists of in-place repair of landside slope erosion area (sta. 60+35 to 137+00); in-place repair of drainage structure (sta. 593+87) using carbon fiber reinforced cured-in-place pipe liner; in-place repair of two breach areas (sta. 624+30 to 631+60 and 670+60 to 677+00); re-seeding of landside levee slope (sta. 166+00 to 263+85, 433+60 to 624+30, 631+60 to 670+60, 677+00 to 701+60 and 703+00 to 788+00); and seeding of riverside levee slopes to reestablish the protective sod cover (sta. 11+15 to 360+90, 434+60 to 624+30, 631+60 to 670+60, 677+00 to 701+60 and 747+00 to 788+00).

The in-place repair of landside slope erosion was determined by Corps economic analysis to be the most prudent and economical repair alternative. The in-place repair of the damaged drainage structure would be accomplished using the carbon fiber reinforced cured-in-place pipe liner as this alternative was determined by Corps economic analysis to be a more cost effective alternative than corrugated metal pipe. Both materials would provide a similar repair solution. Damaged sod cover on riverside and landside erosion areas would be seeded to establish protective sod cover. Borrow to repair the breaches and erosion would be obtained as described below (see Appendix I, Borrow Map).

Station 593+87: Borrow would be obtained from existing riverward spoil piles adjacent to the drainage structure outlet ditch.

Stations 624+30 to 631+60 and 760+60 to 677+00: Borrow would be obtained from two riverward borrow areas adjacent to breach locations that are positioned around existing 1993/1995 scour/borrow areas. A small amount of fringe woody vegetation consisting of cottonwood and willow, the majority measuring less than 9 inches dbh, would be removed to facilitate borrow operations.

All of the above designated borrow locations are positioned within previously “environmentally cleared” borrow locations assessed during the 1993 and 1995 repair actions. Identification of borrow sites was completed in accordance with the Standard Operating Procedures (SOP) for the Selection of Borrow Sites Missouri River and Tributaries 1995 Levee Repair. These guidelines were developed through coordination with the U.S. Fish and Wildlife Service (USFWS) and the Missouri Department of Conservation (MDC) to avoid and/or minimize adverse impacts to the aquatic ecosystem to the greatest extent practicable, and where possible, take advantage of the borrow acquisition activity to enhance the aquatic ecosystem. CENWK has determined in coordination with MDC and the USFWS that natural plant succession should provide adequate re-vegetation of non mast producing trees. The clearing of early successional woody vegetation and excavation which removes accumulated silt and enhances existing wetlands and scour holes are considered beneficial and will enhance the overall function and value of the aquatic ecosystem.

Section 8: NATIONAL ENVIRONMENTAL POLICY ACT REVIEW

As part of the NEPA review for the proposed project, CENWK circulated a Notice of Availability (Notice) of the Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI), dated _____, 2008, with a thirty-day comment period ending on _____, 2008 to the public and resource agencies. The Notice was e-mailed to individuals, agencies, and businesses listed on CENWK-Regulatory Branch's e-mail mailing list. The Notice informed these individuals that the EA and Draft FONSI were available on the CENWK webpage or that they could request the EA and Draft FONSI in writing, in order to provide comment. The following comments were received and evaluated from coordination of the Notice:

(Section pending comments)

Section 9: AFFECTED ENVIRONMENT:

The project area consists of the agricultural levee and riverside borrow areas located on the Missouri River flood plain between river miles 298.5 and 288.5. A wide variety of resources along with related environmental, economic and social effects were considered during the development and evaluation of project alternatives. These include: air quality; noise levels; water quality; water supply; soil control; fish and wildlife; vegetation; energy resources; wetlands; geological resources; agricultural activity; employment; tax base; public service; growth patterns; land use; recreation; archaeological and historical resources; flood control; aesthetics; navigation; transportation; health and safety; community service; population density and other items identified through public and agency comments.

Section 10: ENVIRONMENTAL CONSEQUENCES:

Primary resources of concern identified during the evaluation included: noise levels, water quality, wetlands, fish and wildlife, vegetation, threatened and endangered species, agricultural activity, archeological and historical resources, floodplain, economics and aesthetics. Projects impacts to other resources were determined to be no effect. The recommended plan would disturb an area measuring approximately 15 acres or less including borrow locations.

Noise Levels

The recommended plan, Alternative 1, would result in minor, short-term construction related noise impacts. These impacts are the result of operating heavy machinery during project construction. These noise levels would be in addition, but similar to, those produced by agricultural equipment which is routinely operated in the project area. No residences, businesses, churches, park areas or other areas sensitive to increased noise levels were identified in the project area. Noise from project construction could disturb the occasional boater on the nearby Missouri River or person(s) participating in outdoor recreation within the project area.

The "No Action" alternative would produce no increase in noise levels in the project area.

Water quality

The recommended plan, Alternative 1, could potentially result in minor, temporary, construction related adverse impacts to water quality resulting from site runoff and increased turbidity. The minor, potential impacts associated with the recommended plan would be avoided and/or minimized to the greatest extent possible by the implementation of Best Management Practices and measures required under the National Pollutant Discharge Elimination System (NPDES) permit.

Best management practices would minimize the incidental fallback of material into the river during construction and would minimize the introduction of fuel, petroleum products, or other deleterious material from entering into the waterway. Such measures could include use of erosion control fences; storing equipment, solid waste, and petroleum products above the ordinary high water mark and away from areas prone to runoff; and requiring that all equipment be clean and free of leaks. To prevent fill from reaching water sources by wind or runoff, fill would be covered, stabilized or mulched, and silt fences would be used as required. The NPDES permit will be obtained prior to project construction. All appropriate measures will be taken to minimize erosion and storm water discharges during and after construction.

In the “No Action” Alternative with the absence of a Federal action addressing levee improvements, a high water event could result in a substantial impact the natural and human environment within the project area. Avoiding repair actions could result in adverse impacts to water quality from erosion, increased levels of nutrient loading and wastes, including runoff of pollutants from industrial sources, petroleum products, and non-point sources of human and animal wastes.

Wetlands

Approximately three acres of scrub-shrub wetland that formed in existing riverward scour/borrow areas would be filled to repair the levee breaches. General Permit Number NWKGP-41 authorizes this action (Appendix II). However, the recommended plan would have a net benefit to wetlands as approximately 29 acres of riverward wetlands would be enhanced through borrow operations. Borrow activities have been designed to enhance the existing scour holes/wetland areas through the removal of silt via shallow excavation of approximately two feet and the sloping of perimeter faces, which would increase scour hydrology. Borrow operations would enhance the overall function and value of these areas and benefit the aquatic ecosystem.

The “No Action” Alternative could result in benefits to wetlands located behind the breached levees as these areas would be subject to a new level of future flooding.

Fish and wildlife

The recommended plan, Alternative 1, would result in minor, temporary, construction related adverse impacts to fish and wildlife resources. The impacts to wildlife resources would be related to noise and visual disturbance during the construction activity. The impacts to fishery resources would be related to potential site runoff and increased turbidity, which could make feeding, breeding, and sheltering difficult for species not accustomed to these conditions.

Although approximately three acres of wetlands would be cleared and filled to facilitate the levee breach repairs, displaced wildlife that utilize scrub-shrub wetland and scour habitat would benefit from the enhancement of about 29 acres of wetland as a result of borrow operations as described above.

The “No Action” Alternative would have minimal effects on fish and wildlife resources. These impacts would arise from flooding within the now less protected area. Wetland species may benefit as more frequent flooding could occur in the now less protected area. Wetlands would have a better chance of recharge since they have a direct hydraulic connection to the Missouri River. Other terrestrial organisms could be temporarily displaced or have their habitat degraded by flooding.

Vegetation

The recommended plan, Alternative 1, would be constructed on the agricultural levee and utilize adjacent riverward borrow areas. During borrow operations, some early successional cottonwood and willow trees would be cleared. The majority of this vegetation measures 9 inches dbh or less and is located on the fringe of former borrow/scour areas. The proposed project would also repair sod damaged by the flooding through seeding.

The “No Action” Alternative could result in increases to the floodplain and to floodplain vegetation if levees are not repaired and lands are abandoned from farming due to the higher risk of flooding. Increased hydrology within abandoned agricultural land would result in increased areas of floodplain forest.

Threatened and Endangered Species

The recommended plan would have no adverse effects on any Federally-listed threatened or endangered species or their habitat. Pallid sturgeon (*Scaphirhynchus albus*) are found primarily in the Missouri River and Mississippi River. No work is proposed within these rivers. Indiana bats (*Myotis sodalis*) roost in trees that tend to be greater than 9 inches dbh during the spring and summer and hibernate in caves during the fall and winter. Levee work would not impact any potential Indiana bat habitat. No impacts to any state listed threatened or endangered species or their habitat were identified.

The “No Action” alternative would have no adverse effects on any Federally-listed threatened or endangered species or their habitat. No impacts to any state listed threatened or endangered species or their habitat were identified.

Agricultural Land

The recommended plan would return the flood risk management level of the levee to its pre-existing condition. The recommended plan would allow agricultural activity to return to the area as it did prior to the declared flood event.

The “No Action” Alternative would adversely impact agricultural activity by exposing approximately 20,954 acres of agricultural lands (20,744 acres of croplands) to increased flooding. This loss of agricultural production would have related impacts such as lost income, lower tax base, and decreased land value.

Archeological and Historical Resources

The recommended plan would have no impact to sites listed on or eligible for inclusion on the National Register of Historic Places (NRHP). A background check of the NRHP and site location maps identified no previously recorded sites within or near the proposed project areas. In a letter to State Historic Preservation Officer (SHPO), dated December 3, 2007, the Corps recommended that the project would have no effect on historic properties and that the project should be allowed to proceed. SHPO concurred with this recommendation on December 3 and 5, 2007 (Appendix II). The project will be coordinated with appropriate federally recognized Native American tribes (Tribes). If in the unlikely event that archeological material is discovered during project construction, work in the area of discovery will cease, the discovery would be investigated by a qualified archeologist, and the find would be coordinated with SHPO and the Tribes.

The “No Action” Alternative would result in no effects to archaeological or historical resources.

Floodplain

The recommended plan would restore an approximate 10-year level of flood protection to the existing Sugartree Bottom Levee District levee system, which would equal the level that existed prior to the declared flood event of 6 May 2007. The area is located in the base floodplain and is subject to Executive Order 11988, “Floodplain Management”. Since the proposed levee repair would restore the levee to its original alignment and pre-flood grade and cross section, no increase in floodwater surface elevations would occur. As the recommended plan would not directly or indirectly support more development in the floodplain or encourage additional occupancy and/or modify of the base floodplain, the Corps has determined that the recommended plan complies with the intent of Executive Order 11988.

The “No Action” Alternative would continue to expose all public and private infrastructure and agricultural croplands previously protected to a higher level risk of future flooding.

Economics

With the implementation of the recommended plan, the levees would be restored to a 10-year level of flood protection. Public and private infrastructure and agricultural croplands protected by the levee prior to the flood would continue to be protected against a 10-year flood event. Economic conditions are unlikely to change from those of pre-damage levee conditions with the repair of this levee system. Based on the Corps’ economic analysis, the recommended plan is economically justified with a benefit to cost ratio of 4.7.

The “No Action” Alternative has a zero benefit to cost ratio and would continue to expose all public and private infrastructure and agricultural croplands previously protected by the levee to a high level risk of future flooding. People’s livelihood and social well-being would remain in turmoil, subject to the continuous threat of flooding until the level of flood protection is restored. Failure to reconstruct the levee could adversely affect the tax base of the counties and municipal governments and special districts, such as school districts. In addition, loss of jobs and potential losses in agricultural production on lands protected by the levee would also be incurred.

Aesthetics

The recommended plan would result in very minor and temporary adverse aesthetic impacts associated with construction. The human population that could potentially be affected by the activity would be expected to be very low and restricted to the occasional boater on the Missouri River or person(s) participating in outdoor recreation within the project area. Upon completion of the project, the aesthetic impact of the project would be the same as the original levee.

The “No Action” Alternative would have no effect on esthetics.

Section 11: SUMMARY OF ENVIRONMENTAL EFFECTS OF THE NON-RECOMMENDED PLAN

The “No Action” Alternative has not been recommended because it does not meet the project purpose and need of rehabilitating the damaged flood risk management project to its original condition and; therefore, restoring its associated social and economic benefits. The “No Action” alternative would have no permanent or temporary construction related impacts. The “No Action” alternative would continue to expose all public and private infrastructure and agricultural croplands previously protected by the levee prior to a higher level risk of future flooding. People’s livelihood and social well-being would remain in turmoil, subject to the continuous threat of flooding until the proposed level of flood protection is restored. Failure to repair the levee could adversely affect the tax base of the county and municipal governments. In addition, loss of jobs and potential losses in agricultural production on lands protected by the levee would also be incurred.

Section 12: CUMULATIVE IMPACTS

The combined incremental effects of human activity are referred to as cumulative impacts (40CFR 1508.7). While these incremental effects may be insignificant on their own, accumulated over time and from various sources, they can result in serious degradation to the environment. The cumulative impact analysis must consider past, present, and reasonably foreseeable actions in the study area. The analysis also must include consideration of actions outside of the Corps, to include other Federal and State agencies. As required by NEPA, the Corps has prepared the following assessment of cumulative impacts related to the alternatives being considered in this EA.

Historically, the Missouri River and its floodplain has been altered by bank stabilization, dams on the river and its tributaries, roads/bridges, agricultural and urban levees, channelization, farming, water withdrawal for human and agricultural use, urbanization and other human uses. These activities have substantially altered the terrestrial and aquatic ecosystem within the Missouri River watershed.

The Corps, which administers Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act, has issued and will continue to evaluate permits authorizing the placement of fill material in the Waters of the United States and/or work on, in, over or under a navigable water of the United States including the Missouri River and its tributaries. These levee repair projects typically result in minor impacts to the aquatic ecosystem. The Corps, under the

authority of the Public Law 84-99 Levee Rehabilitation and Inspection Program, has and will continue to provide rehabilitation assistance to Federal and non-Federal levee sponsors along the Missouri River which participate in the Public Law 84-99 Program. These projects typically result in minor, short-term construction related impacts to fish and wildlife and the habitats upon which they depend. Resources typically affected by this type of project generally include, but are not limited to, wetlands, floodplains, water quality, and fish and wildlife habitat. It should be noted that these projects do not result in an addition to existing flood heights or reduced flood plain area but are merely a form of maintenance to that which had previously existed.

Of the reasonably foreseeable projects and associated impacts that would be expected to occur, further urbanization of the floodplain will probably have the greatest impact on these resources in the future. The possibility of wetland conversion and the clearing of riparian habitat are ever present, and these activities also tend to impact these resources. Construction of additional agricultural levees may occur provided land becomes available for this purpose; however, the trend seems to be moving in the opposite direction and towards urban development. The era of major reservoir construction has likely passed, thus impacts from these projects will not likely occur.

The adverse effects associated with the proposed project are short-term/minor associated with project construction. These minor adverse effects would be greatly offset by restoring the flood risk management capability and its associated social and economic benefits of the existing levee system. The PL84-99 Program is designed to merely bring the damaged levees back to pre-existing conditions (i.e., the status quo). Thus, no significant cumulative impacts associated with the proposed rehabilitation of the existing levee system have been identified.

Section 13: MITIGATION MEASURES

The recommended plan would result in minor fill impacts to mitigable resources as defined in USACE Planning regulations and under Section 404 of the Clean Water Act. These impacts are associated with filling three acres of scrub-shrub wetland to repair the levee breaches. General Permit Number NWKGP-41 authorizes these actions. Additionally, some cottonwood and willow trees, the majority of which measure less than 9 inches dbh, would be removed during borrow operations to facilitate levee repair.

The identification of borrow sites was completed in accordance with the SOP for the Selection of Borrow Sites Missouri River and Tributaries 1995 Levee Repair. These guidelines were developed through coordination with the U.S. Fish and Wildlife Service and the Missouri Department of Conservation to avoid and/or minimize adverse impacts to the aquatic ecosystem to the greatest extent practicable, and where possible, take advantage of the borrow acquisition activity to enhance the aquatic ecosystem. Clearing of early successional woody vegetation and excavation which removes accumulated silt from existing wetlands and scours are considered beneficial and will enhance the overall function and value of the aquatic ecosystem. CENWK has determined in coordination with MDC and the USFWS that natural plant succession should provide adequate re-vegetation of non mast producing trees. Borrow activities which expands existing scour holes increases their function and value. Since the proposed borrow activity

within the previously used scour hole/wetland has been designed to enhance the functions and values of the aquatic ecosystem, no compensatory mitigation is proposed.

Section 14: COMPLIANCE WITH ENVIRONMENTAL QUALITY STATUTES

Compliance with Designated Environmental Quality Statutes that have not been specifically addressed earlier in this report is covered in Table 1.

Section 15: CONCLUSION & RECOMMENDATION

The flood risk management level achieved by the recommended plan would be the same as provided by the pre-flood levee system. The recommended plan would result in no impacts to any Federally-listed threatened or endangered species or their habitat. The recommended plan would result in no impacts to any properties listed, proposed for listing, eligible for listing, or potentially eligible for listing in the National Register of Historic Places. Areas of the existing levee sections damaged by flooding would be temporarily disturbed by the proposed construction.

The adverse effects associated with the proposed project are short-term, minor associated with project construction. These minor adverse effects would be greatly offset by restoring the flood risk management capability and its associated social and economic benefits of the existing levee system. Alternative 1 – In-place repairs meets the project purpose and need of rehabilitating the flood damage reduction capability and its associated social and economic benefits of the existing levee system. Of the two (2) alternatives considered, Alternative 1 –In-place repairs is recommended over the no action alternative because it has a positive cost/benefit ratio, and is consistent with protection of the human environment.

Based on coordination with the resource agencies and input gained through a public interest review, as documented in this Environmental Assessment, the Kansas City District – Corps of Engineers has made a preliminary determination that this project would have no significant impacts on the human environment including natural and cultural resources and Federally-listed threatened and endangered species; therefore, a Draft Finding of No Significant Impact (FONSI) has been prepared. This NEPA decision document will be forwarded to the District Engineer with a recommendation for approval.

Section 16: PREPARERS

This EA and the associated draft FONSI were prepared by Mr. Neil Bass (Environmental Resources Specialist), with relevant sections prepared by Mr. Timothy Meade (Cultural and Archaeological Resources). The address of the preparers is: U.S. Army Corps of Engineers, Kansas City, District; PM-PR, Room 843, 601 E. 12th St, Kansas City, MO 64106.

Table 1
Compliance of Preferred Alternative with Environmental Protection Statutes and Other Environmental Requirements

Federal Polices	Compliance
Archeological Resources Protection Act, 16 U.S.C. 470, et seq.	Full Compliance
Clean Air Act, as amended, 42 U.S. C. 7401-7671g, et seq.	Full Compliance
Clean Water Act (Federal Water Pollution Control Act), 33 U.S.C. 1251, et seq.	Full Compliance
Coastal Zone Management Act, 16 U.S.C. 1451, et seq.	Not Applicable
Endangered Species Act, 16 U.S.C. 1531, et seq.	Full Compliance
Estuary Protection Act, 16 U.S.C. 1221, et seq.	Not Applicable
Federal Water Project Recreation Act, 16 U.S.C. 4601-12, et seq.	Full Compliance
Fish and Wildlife Coordination Act, 16 U.S.C. 661, et seq.	Full Compliance
Land and Water Conservation Fund Act, 16 U.S.C. 4601-4, et seq.	Not Applicable
Marine Protection Research and Sanctuary Act, 33 U.S.C. 1401, et seq.	Not Applicable
National Environmental Policy Act, 42 U.S.C. 4321, et seq.	Full Compliance
National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470a, et seq.	Full Compliance
Rivers and Harbors Act, 33 U.S.C. 403, et seq.	Full Compliance
Watershed Protection and Flood Prevention Act, 16 U.S.C. 1001, et seq.	Full Compliance
Wild and Scenic River Act, 16 U.S.C. 1271, et seq.	Not Applicable
Farmland Protection Policy Act, 7 U.S.C. 4201, et. seq.	Full Compliance
Protection & Enhancement of the Cultural Environment (Executive Order 11593)	Full Compliance
Floodplain Management (Executive Order 11988)	Full Compliance
Protection of Wetlands (Executive Order 11990)	Full Compliance
Environmental Justice (Executive Order 12898)	Full Compliance

NOTES:

- a. Full compliance. Having met all requirements of the statute for the current stage of planning (either preauthorization or postauthorization).
- b. Partial compliance. Not having met some of the requirements that normally are met in the current stage of planning.
- c. Noncompliance. Violation of a requirement of the statute.
- d. Not applicable. No requirements for the statute required; compliance for the current stage of planning.

Clean Water Act, Section 404 and 401

The recommended plan involves activities of excavation in wetlands and those activities are covered under the GP-41 permit (Appendix II).

Clean Water Act, Section 402

A NPDES permit was obtained and is located in Appendix II.

Endangered Species Act, Section 7

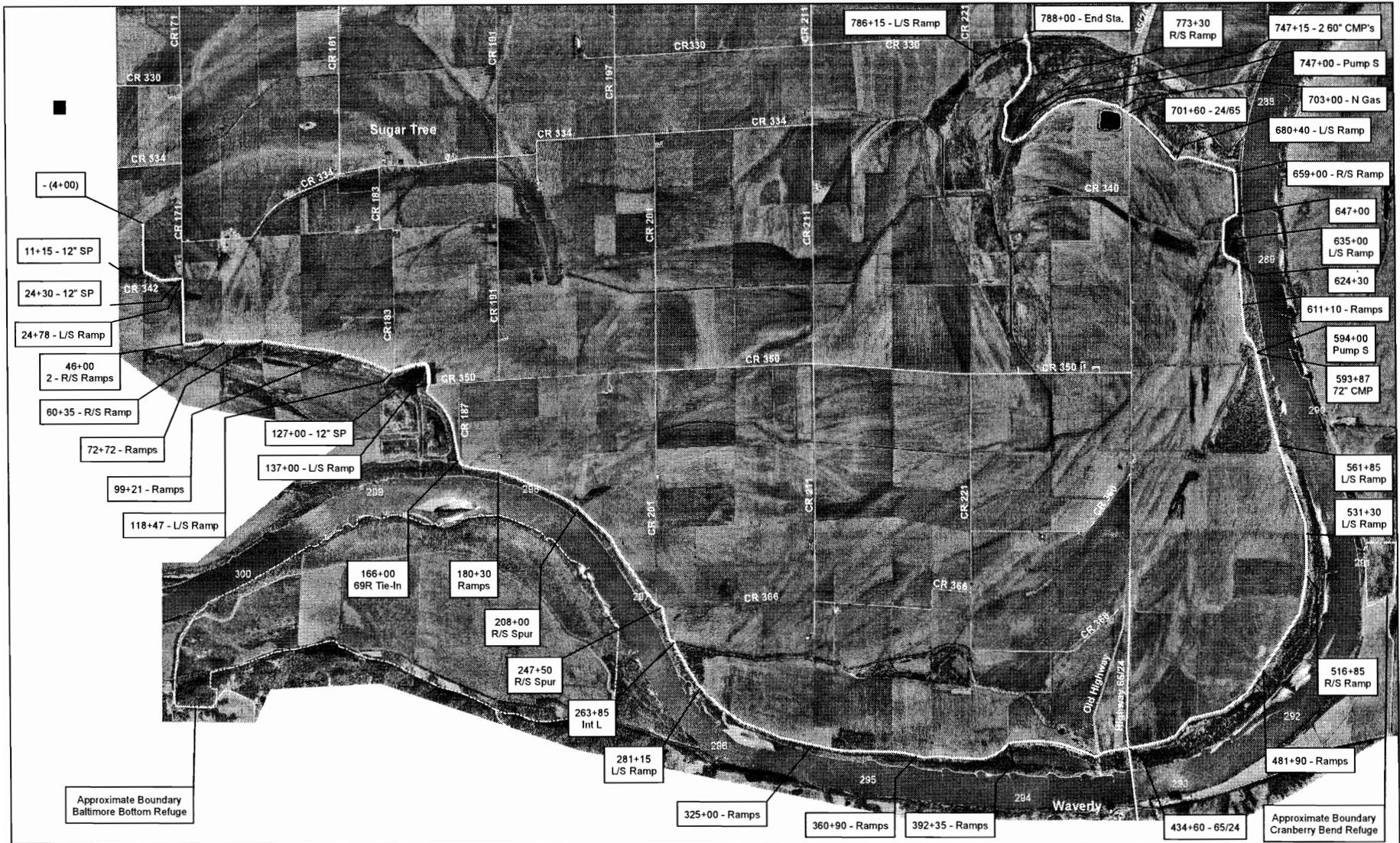
The Corps of Engineers has made a determination that no impacts to any federally listed threatened or endangered species or their habitat would occur with the project action. Coordination of ESA would be completed upon review of this EA and concurrence of this determination with the USFWS.

National Historic Preservation Act

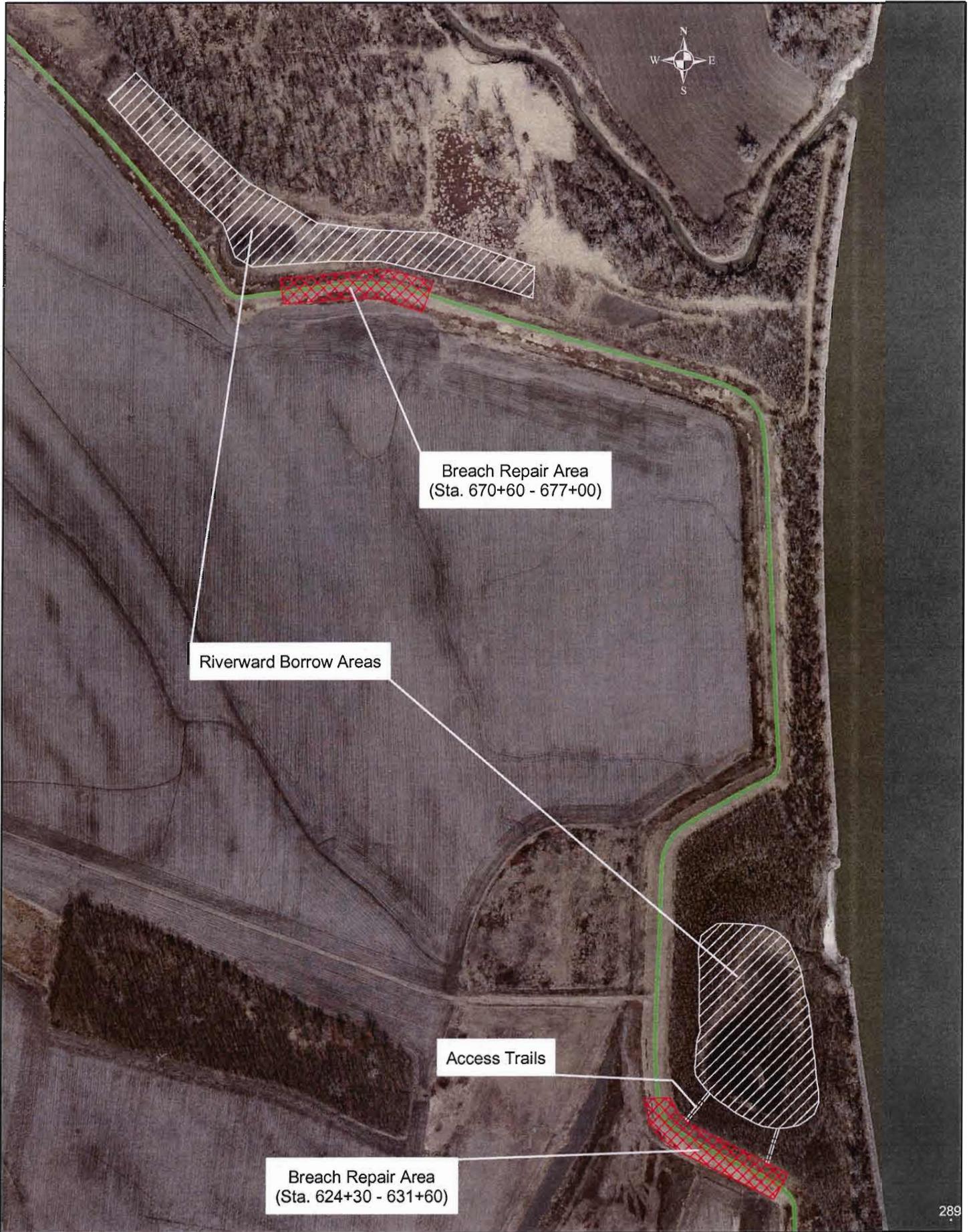
No sites listed on or eligible for listing on the National Register of Historic Places are located within or near the proposed project area. The Missouri State Historic Preservation Office (SHPO) concurred with this recommendation on December 3 and 5, 2007 (Appendix II)

APPENDIX I – PROJECT MAPS

*Sugartree Bottom Levee District (Item 68)
P.L. 84-99 Levee Rehabilitation Project
Carroll County, Missouri
May 2008*



ATTACHMENT B - 1



Breach Repair Area
(Sta. 670+60 - 677+00)

Riverward Borrow Areas

Access Trails

Breach Repair Area
(Sta. 624+30 - 631+60)

Sugartree Levee District



DESCRIPTION

Standing near northern most limits of riverward borrow area for breach at station 624+30 to 631+60 looking generally south at general condition of "open" center portion of borrow area.



DESCRIPTION

Looking at small timber growth (majority < 9" dbh), present around eastern perimeter of riverward borrow area for breach repair at station 624+30 to 631+60.

Sugartree Levee District



DESCRIPTION

Looking at small timber growth (majority < 9" dbh) present around western perimeter of riverward borrow area for breach repair at station 624+30 to 631+60.



DESCRIPTION

Standing at approximate levee station 624+30 looking riverward at small timber growth (majority < 9" dbh) immediately riverward of breach repair at station 624+30 to 631+60. Two access trails are required to gain access to riverward borrow area.

APPENDIX II – NEPA REVIEW

**Missouri SHPO letter
General Permit No. GP-41
Missouri NPDES Permit
Standard Operating Principles for Selection of Borrow**

***Sugartree Bottom Levee District (Item 68)
P.L. 84-99 Levee Rehabilitation Project
Carroll County, Missouri
May 2008***

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

Matt Blunt, Governor • Doyle Childers, Director

www.dnr.mo.gov

December 5, 2007

Timothy Meade
Corps of Engineers, Kansas City District
700 Federal Building
Kansas City, Missouri 64106-2896

Re: Emergency Repairs, Sugartree Bottom Levee (COE) Carroll County, Missouri

Dear Mr. Meade:

Thank you for submitting information on the above referenced project for our review pursuant to Section 106 of the National Historic Preservation Act (P.L. 89-665, as amended) and the Advisory Council on Historic Preservation's regulation 36 CFR Part 800, which requires identification and evaluation of cultural resources.

We have reviewed the information provided concerning emergency repairs to the Sugartree Bottom Levee. Based on this review we concur with your recommendation that that the project is in areas of low potential or areas of previous disturbance and that there will be **no historic properties affected**. We have no objection to the initiation of project activities.

Please be advised that, should project plans change, information documenting the revisions should be submitted to this office for further review. In the event that cultural materials are encountered during project activities, all construction should be halted, and this office notified as soon as possible in order to determine the appropriate course of action.

If you have any questions, please write Judith Deel at State Historic Preservation Office, P.O. Box 176, Jefferson City, Missouri 65102 or call 573/751-7862. Please be sure to include the SHPO Log Number **(010-CA-08)** on all future correspondence or inquiries relating to this project.

Sincerely,

STATE HISTORIC PRESERVATION OFFICE



Mark A. Miles
Director and Deputy
State Historic Preservation Officer

MAM:jd

PUBLIC NOTICE



**US Army Corps
of Engineers
Kansas City District**

**Permit No. GP-41 (2007-2078)
Issue Date: March 21, 2008**

STATES OF MISSOURI AND KANSAS - Including INDIAN COUNTRY
ISSUANCE OF GENERAL PERMIT (GP) 41
FLOOD RECOVERY AND REPAIR ACTIVITIES

The U.S. Army Corps of Engineers, Kansas City District **HAS ISSUED** GP-41 (copy enclosed) for protection and repair of existing flood damaged structures, damaged land areas and damaged fills, under authority of Section 10 of the Rivers and Harbors Act of 1988 (33 USC 403) and Section 404 of the Clean Water Act (33 USC 1344).

Duration of this General Permit: This GP is issued and is in effect for five (5) years, from March 21, 2008 until March 21, 2013, unless revoked or specifically extended.

Notification Procedures (Post and Preconstruction): Preconstruction notification is required by the General Public for all activities involving obtaining borrow from forested wetlands, borrowing material from potential migratory bird nesting areas, clearing trees along stream channels, working in areas with known exotic species, and/or if the proposed repair activity includes restoration of a stream channel back to the original, pre-flood location. Other authorized activities that meet the terms and limits of this GP may proceed without preconstruction notification to the Corps of Engineers. However, post construction reporting is required for all activities undertaken under this GP. See GP Special condition "d" and Appendix I for more information on notification requirements.

APPLICANT: General Public

PROJECT LOCATION: In waters of the United States in the States of Missouri and Kansas, including Indian Country within Kansas boundaries that are declared flood disaster areas by the Governor of either state and/or the President of the United States of America.

AUTHORITY: Section 10 of the Rivers and Harbors Act of 1988 (33 USC 403) and Section 404 of the Clean Water Act (33 USC 1344).

ACTIVITY: Excavation or placement of fill material for protection and/or repair of existing flood damaged structures, damaged land areas and/or damaged fills as follows: a. Repair of levees to existing elevations and cross-section, including breach closures and borrow operations, b. Bridge embankment protection (armoring) and/or repair, c. Repair of pre-existing highway or railroad embankments and the addition or repair of stone (armoring) protection, d. Repair of pre-existing utility protection structures, e. Placement of rock and/or earth materials for stream/ditch bank protection and/or stream/ditch bank restoration, f. Drainage channel/ditch restoration to

pre-flood capacity and flow line unless the flow line must be altered due to other damage associated with the flood event, g. Restoration of creek channels to pre-flooding alignment and capacity, and h. Construction of temporary roads and temporary fills to facilitate the completion of any of the listed activities.

Note: Maintenance of existing flood damaged structures and/or flood damaged fills, which have been previously authorized, may be authorized by Nationwide Permit No. 3 or exempted by Part 323.4 of Federal regulations 33 CFR 320-331. The repair of uplands damaged by storms, floods or other discrete events may be authorized by Nationwide Permit No. 45 upon notification and review by the appropriate Corps of Engineers District, Regulatory Branch.

INDIAN COUNTRY: Work under this permit is not authorized in Indian Country until the applicant obtains individual Section 401 Water Quality Certification from the U.S. Environmental Protection Agency (EPA), Region VII, Watershed Planning and Implementation Branch, 901 North 5th Street, Kansas City, Kansas 66101 (913-551-7003).

EPA may issue programmatic water quality certification during the authorization period of this permit which ends December 31, 2013. If issued, the Corps of Engineers will announce by public notice and post that certification to the Regulatory Program webpage: <http://www.nwk.usace.army.mil/regulatory/regulatory.htm>.

SECTION 401 WATER QUALITY CERTIFICATION: Conditions of any individual or programmatic Section 401 Water Quality Certifications issued by the Missouri Department of Natural Resources (MDNR - for Missouri), Kansas Department of Health and Environment (KDHE - for Kansas), and EPA (for Indian Country) are conditions of this GP. General Condition 5 of the GP states: "If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit."

ADDITIONAL INFORMATION: Additional information about this general permit may be obtained by contacting Mr. Douglas R. Berka, Regulatory Project Manager, Kansas City District Regulatory Branch (ATTN: OD-R) 700 Federal Building, Kansas City, Missouri 64106, at 816-389-3657 or via email at Douglas.R.Berka@usace.army.mil. All inquiries concerning this public notice should be directed to the above address.

Enclosure

DEPARTMENT OF THE ARMY PERMIT

Permittee General Public

Permit No. NWK GP-41

Issuing Office U.S. Army Corps of Engineers, Kansas City District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: To excavate or place fill material for protection and/or repair of existing flood damaged structures, damaged land areas and/or damaged fills as follows:

- a. Repair of levees to existing elevations and cross-section, including breach closures and borrow operations
- b. Bridge embankment protection (armoring) and/or repair
- c. Repair of pre-existing highway or railroad embankments and the addition or repair of stone (armoring) protection
- d. Repair of pre-existing utility protection structures
- e. Placement of rock and/or earth materials for stream/ditch bank protection and/or stream/ditch bank restoration
- f. Drainage channel/ditch restoration to pre-flood capacity and flow line unless the flow line must be altered due to other damage associated with the flood event
- g. Restoration of creek channels to pre-flooding alignment and capacity
- h. Construction of temporary roads and temporary fills to facilitate the completion of any of the listed activities

Note: Maintenance of existing flood damaged structures and/or flood damaged fills, which have been previously authorized, may be authorized by Nationwide Permit No. 3 or exempted by Part 323.4 of Federal regulations 33 CFR 320-331. The repair of uplands damaged by storms, floods or other discrete events may be authorized by Nationwide Permit No. 45 upon notification and review by the appropriate Corps of Engineers District, Regulatory Branch.

Project Location: In Waters of the United States, (rivers, lakes, streams, and wetlands) within the State of Kansas, including Indian Country, and within the State of Missouri that are declared flood disaster areas by the Governor of either state and/or the President of the United States.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on December 31, 2013. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

See continuation sheets, pages 4, 5, and 6 of this document.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

- (x) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
- (x) Section 404 of the Clean Water Act (33 U.S.C. 1344).
- () Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

- a. This permit does not obviate the need to obtain other Federal, state, or local authorization required by law.
- b. This permit does not grant any property rights or exclusive privileges.
- c. This permit does not authorize any injury to the property or rights of others.
- d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

- a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
- b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.
- c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.
- d. Design or construction deficiencies associated with the permitted work.
- e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

- a. You fail to comply with the terms and conditions of this permit.
- b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
- c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

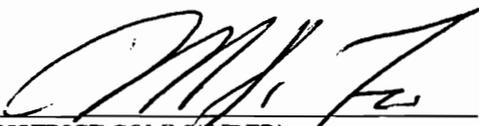
Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

General Public – Signature Not Required

(PERMITTEE)

(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.



(DISTRICT COMMANDER)

ROGER A. WILSON, JR.
BY: MARK D. FRAZIER
Chief, Regulatory Branch
Operations Division

21 March 2008

(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEREE)

(DATE)

U.S. Army Corps of Engineers, KC District
MO-R100043, Various County



Matt Blunt, Governor • Doyle Childers, Director

DEPARTMENT OF NATURAL RESOURCES

www.dnr.mo.gov

NOV 30 2007

U.S. Army Corps of Engineers, KC District
700 Federal Building, 601 E. 12th Street
Kansas City, MO 64106

Dear Permittee:

Pursuant to the Federal Water Pollution Control Act, under the authority granted to the State of Missouri and in compliance with the Missouri Clean Water Law, we have issued and are enclosing a General State Operating Permit for U.S. Army Corps of Engineers, KC District.

Please review the requirements of your permit. Monitoring reports that may be required by this permit must be submitted on a periodic basis. Copies of the necessary report forms, if required, are enclosed and should be mailed to the regional office listed below. Please contact that office for additional forms.

This General Permit is both your federal discharge permit and your new state operating permit and replaces all previous state operating permits and letters of approval for the discharges described within. In all future correspondence regarding this permit, please refer to your general permit number as shown on page one of your permit.

If you were affected by this decision, you may appeal to have the matter heard by the administrative hearing commission. To appeal, you must file a petition with the administrative hearing commission within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the administrative hearing commission.

If you have any questions concerning this permit, please do not hesitate to contact the Water Protection Program at PO Box 176, Jefferson City, MO 65102 (573) 751-1300.

Sincerely,

WATER PROTECTION PROGRAM

A handwritten signature in black ink, appearing to read "Robert M. Childers".

NPDES Permit and Engineering Section

Enclosure

RECEIVED
REGULATORY BRANCH
07 DEC -5 PM 2:30

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



**MISSOURI STATE OPERATING PERMIT
WATER POLLUTION CONTROL PROGRAM**

General Operating Permit

In compliance with the Missouri Clean Water Law, (chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.: MO-R100043

Owner: U.S. Army Corps of Engineers, KC District
Address: 700 Federal Building, 601 E. 12th Street
Kansas City, MO 64106

Continuing Authority: Same
Same

Facility Name: U.S. Army Corps of Engineers, KC District
Facility Address: 700 Federal Building, 601 E. 12th Street
Kansas City, MO 64106

Legal Description: See Page 2, Various County

Receiving Stream: See Page 2
First Classified Stream: See Page 2

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein.

FACILITY DESCRIPTION All Outfalls, SIC 1629

Construction or land disturbance activity (e.g., clearing, grubbing, excavating, grading, and other activity that results in the destruction of the root zone) that are performed by or under contract to a city, county, or other governmental jurisdiction that has a storm water control program for land disturbance activities that has been approved by the Missouri Department of Natural Resources.

This permit authorizes only wastewater, including storm waters, discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System, it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law

May 31, 2007
Effective date

November 30, 2007
Issue date

Handwritten signature of Doyle Childers in black ink.

Doyle Childers, Director, Department of Natural Resources
Executive Secretary, Clean Water Commission

May 30, 2012
Expiration date
MO 780-1481 (7-94)

Handwritten signature of Edward Galbraith in black ink.

Edward Galbraith
Director of Staff, Clean Water Commission

Page 2

Permit Number MO-R100043

This permit accompanies the applicant's General Permit 41 (GP0-41) for the repair of levees due to damages from flooding.

Repair activities may take place anywhere along the Missouri and Grand Rivers and tributaries thereof. Location would be in any county along these waterways from Rulo Nebraska to Saint Louis Missouri.

Detailed receiving stream information is available upon request.

**Standard Operating Procedures
for the
Selection of Borrow Sites
Missouri River and Tributaries
1995 Levee Repair**

1. Borrow Area Determination. It is the responsibility of the Corps of Engineers (Corps) to design and implement Public Law 84-99 levee repair projects that protect jurisdictional wetlands, Federally listed threatened and endangered species and their habitats (i.e., bald eagle, Indiana bat, and pallid sturgeon), and other important riverine and floodplain habitats. It is also the Corps' responsibility to complete levee repairs in a timely and economical fashion without placing undue hardship on landowners and local levee districts.

These Standard Operating Procedures (SOP) are not intended to be absolute. This document should be viewed as a flexible guideline which field personnel and borrow negotiators may apply to meet landowners, levee districts, and environmental concerns and objectives.

a. Riverward borrow areas in open prior converted croplands or farmed wetlands (within 1,000 feet of a levee break) and old borrow areas and scour holes that are filled with sediment are preferred borrow locations. Tree clearing will generally be avoided; however, riverward areas with woody vegetative cover of less than 9 inches diameter at breast height (dbh) may be used if prior converted croplands, farmed wetlands, or old borrow areas and scour holes are not available. Selective clearing in these wooded areas may be accomplished ~~to maintain or enhance riparian habitat. At least an 80-100 foot wide band of timber should~~ be maintained between the levee and the river bank. Riverward areas with stands of timber that died as a result of the 1993 flood event may be used as borrow sources. In these borrow areas, if possible, some large potential cavity nesting or den trees should be preserved on the edge of the borrow site, especially in localities adjacent to live forested areas. Wooded areas may be classified as wetlands and environmental regulations may apply (see Paragraph 8 - Wetlands Protection). Use of mature or dense timbered areas as borrow sites may be cost prohibitive because of the additional expense incurred to clear and grub the timber, the large amount of borrow material that would be unusable because of the undesirable woody material (roots, stumps, etc.) contained in the borrow, and the larger borrow area needed to obtain the required amount of usable material.

Riverward borrow will be used to lessen disruption to flood-protected agricultural lands; however, the levee district should be informed that use of riverward borrow may delay levee repairs because the riverward borrow areas are often wet and difficult to access. To avoid delays in awarding construction contracts, alternate landward borrow areas should also

be identified and made available for use if the riverward borrow areas are too wet immediately and prior to construction.

b. **Landward borrow areas** in open agricultural fields will be used as an alternative to suitable riverward areas. Landowners should be informed that the planting or presence of crops will not eliminate an area from consideration as a potential borrow site. The removal of any vegetation on the landward side to repair the levee will be subject to the same guidelines as previously outlined.

Borrow will not be taken from within 30 feet of the levee toe unless taken to repair minor sidewash damage. Borrow will not be taken from within 30 feet of the high bank of the river. The cut slopes of borrow areas in landward prior converted croplands will not be steeper than 1 vertical (V) to 3 horizontal (H) measurement unit. **Riverward borrow areas** should generally have steeper side slopes and be excavated to the maximum depth practical to reduce the area of disturbance and to maximize the potential for creating aquatic habitat (see Paragraph 8 - Wetlands Protection).

c. **In unusual cases**, levee repairs may not be feasible without the removal of trees larger than 9 inches dbh. In these situations, the borrow areas will be delineated by Corps regulatory personnel or field biologists to lessen adverse impacts and reduce the number of trees removed. Decisions concerning proposed levee repairs or borrow areas affecting one-half acre or more of timber averaging in excess of 9 inches dbh will be made in consultation with the U.S. Fish and Wildlife Service (FWS) and the Missouri Department of Conservation (MDC). The following actions will be considered during borrow negotiations to lessen impacts.

1. **Levees repaired along the original alignment.** Borrow sites in wooded areas will be small in size and scattered randomly. The size of the borrow area should remain small in relation to the size of the existing timber stand (approximately 20 percent). The depth of the borrow pit should be as deep as possible to minimize timber clearing. Where the existing riparian timber resources are narrow, borrow areas would be a minimum of 200 to 300 feet apart. A minimum band of timber 80-100 feet wide from the high bank should be maintained. Every effort will be made to avoid any dominant trees, large cavity nesting or den trees, or trees greater than 9 inches dbh. In most cases, destroyed timber mitigation will be through natural succession of borrow areas or through non-forested buffer areas around scour features or setbacks. However, if mast-producing trees are removed, replacement plantings will be considered.

2. **Levees repaired with landward realignments.** Where scour features were created by the flood event and the proposed remedy is a landward realignment,

landowners should be encouraged to maintain the scour feature. If the scour feature created or expanded is considered a water of the U.S., landowners will be informed that filling of the scour feature (in most cases holes) would be an adverse action and a Clean Water Act regulatory violation. However, the natural filling of the scour feature when caused by river sedimentation would not be considered a regulatory violation. Borrow material may be taken from the scour feature to create shallow water habitat. A 100 foot (average) buffer strip will be maintained between the scour feature and the reconstructed levee. Riverward borrow areas will be hydraulically connected to the scour feature if located in the immediate vicinity of the scour feature but not necessarily connected to the river.

d. The preferred borrow area for repair of minor topwash and sidewash will be agricultural fields adjacent to the levee where the damage has occurred. Borrow for severe topwash and sidewash will be designated and negotiated in the same manner as outlined above.

2. Borrow Negotiations. The levee district has the responsibility to furnish the borrow areas and easements required for the levee repairs. If the Levee District chooses to use the Corps recommended borrow areas, the amount of time required to negotiate and repair the levee should be reduced. The borrow site identification and negotiation process will begin during the first on-site contact with the levee district representative(s). This contact should be made prior to the borrow area assessment conducted by a Corps field biologist or borrow negotiator. An on-site meeting will take place to provide the landowners with a set of written criteria that will be used for identifying borrow (see attached **BORROW SITE SELECTION CRITERIA**). All landowners where damage occurred will be requested to be present. The criteria will be discussed and the landowners will be requested to delineate, on a map, the borrow areas they prefer. When the damage survey and field assessments are complete, a second meeting will take place with the levee district representative(s) to discuss proposed borrow areas. Again, it will be the responsibility of the levee districts' to obtain borrow area easements from landowners. The landowners that sign borrow easements will be informed by letter of any mitigation requirements (e.g., not filling scour features or borrow sites, maintaining designated buffers around borrow areas). After borrow negotiations are completed, a detailed map will be prepared defining specific borrow areas based upon the volume of material required for repairs and the criteria contained in this SOP.

3. Damage Surveys. Survey crews will follow a standard reporting procedure to provide data on the location of reported damage. The survey data will provide an estimate of the damage, stationing, yardage, and alternate methods of repair. Survey crews will not be responsible for any negotiations on borrow sources with the sponsor. Landowners will undoubtedly ask survey crews questions about the source of borrow, but they should be told to contact their levee district point-of-contact representative.

4. Cultural Surveys. The 1993 Midwest flood event Programmatic Agreement for cultural resources compliance for Public Law 84-99 projects is still in effect and will be followed for repair of projects damaged by the 1995 flood event. Many areas were surveyed for cultural resources and cleared with the Missouri State Historic Preservation Officer (SHPO) during the 1993 flood event levee repair effort. Maps/cultural resource assessments prepared for 1993 levee repairs will be utilized to the greatest extent possible.

Cultural resources field work/surveys will not be required in proposed construction work areas or borrow sites if no known sites are present and any of the following apply: (1) excavation depth in agricultural fields is not greater than 8 inches; (2) the subject sites were cleared for cultural resources for the 1993 flood event repair work; (3) subject sites are located within the boundaries of old river channels as shown on Corps' maps of the historic Missouri River channel; or, (4) borrow and/or construction activity remains 150 feet away from any visible structure or building remains.

Cultural resources surveys will be required if there is a potential for cultural resources, such as, but not limited to, areas where the above conditions do not apply, where construction or borrow activities are adjacent to or on the bluff, if there is a known archeological site nearby, or the area was not surveyed in 1993.

However, coordination with the SHPO will be conducted for every levee, as required by the Programmatic Agreement. In those instances where cultural field work is required, the ground surface must be visible, i.e., not inundated, before the area may be surveyed for cultural resources materials.

5. Field Survey. Potential borrow areas (both landward and riverward) within 1,000 feet of levee damage and scour features, and any landowner-identified "preferred" borrow areas outside this band, will be evaluated and mapped during the initial site visit. Significant environmental and cultural resources features, including mature trees, wooded wetlands, farmed wetlands, and potential cultural resource sites, will be accurately outlined and labeled on the map.

6. Fish and Wildlife Agency Coordination. This SOP was coordinated with the FWS and the MDC prior to any borrow designation or negotiation. The FWS and MDC have been provided with a list of levees to be repaired and a set of floodplain maps with highlighted levees. Further coordination will take place on a case-by-case basis if mitigation for the loss of mast-producing trees is warranted or when proposed actions would impact one-half acre or more of trees averaging greater than 9 inches dbh. The agencies will be contacted to discuss appropriate mitigation and/or a proposed mitigation action. The FWS and the MDC will also

be invited to assist and advise the Corps in periodic management and field reviews of the application of this SOP.

7. Toxic and/or Hazardous Substances. The Environmental Protection Agency (EPA) provided a database list of known releases, storage, and/or disposal of toxic and/or hazardous substances (Toxic Release Inventory, National Priorities, etc.) within the State of Missouri. In the application for assistance or the initial site visit, the levee district representative (usually the president) will be asked to provide a list (with addresses) of known businesses, factories, feedlots, etc., where spills may have occurred. This information will be used, along with field surveys, to verify the presence of hazardous substances. The presence of toxic and/or hazardous substances will eliminate a site from borrow consideration.

8. Wetlands Protection. Most wetland borrow areas will be located in prior converted croplands, farmed wetlands, and adjacent to riparian habitat. Naturally vegetated wetlands will be avoided. If naturally vegetated wetlands or riparian timber are impacted, appropriate mitigation will follow. The following is a list of conditions/stipulations that will be used for borrow activities in wetlands and in riparian habitat with wetland potential.

a. Farmed wetlands riverward of the levee should be dug as deep as possible, and, where applicable, connected to scour features, if present. The borrow areas should be configured so that one side has a slope of 1V:4H; the other slopes may be as steep as 1V:1.5H. Landward farmed wetlands can be dug to any depth and must have 1V:5H maximum side slopes. Farmed wetlands used for borrow should not be back filled.

b. Any uniform stand of timber that died as a result of the 1993 flood event may be used for borrow without mitigation for loss of riparian timber. However, riverward areas with stands of timber that died as a result of the 1993 flood event may be used as borrow sources. In these borrow areas, if possible, some large potential cavity nesting or den trees should be preserved on the edge of the borrow site in localities generally adjacent to live forested areas. Riverward borrow areas should be dug as deep as possible. Depths of 5 feet or more are preferred. The borrow areas should be constructed so that one side that has a slope of 1V:4H, the other slopes may be as steep as 1V:1.5H. The borrow areas should be allowed to revegetate naturally.

c. Riparian timbered areas with trees greater than 9 inches dbh may be used for borrow if cost effective and if old borrow areas, or wooded areas with trees less than 9 inches dbh, and riverward agricultural fields are not available. When riparian areas are used for borrow, regardless of timber size, they should be dug as deep as possible to minimize the amount of timber clearing. The borrow areas should be constructed so that one side that has a slope of 1V:4H, the other slopes may be as steep as 1V:1.5H. Borrow areas should be

allowed to revegetate through natural succession unless significant mast-producing trees are lost, then replacement plantings will be considered.

d. Levee repairs will be authorized under the 1995 Corps' General Permit (MRKGP-33M) which is currently under preparation (Permanent Protection and/or Repair of Flood Damaged Structures and/or Fills in the state of Missouri). The General Permit is expected to be finalized by early September 1995, i.e., before construction would begin on any levee repairs. Until finalized, any construction work involving waters of the U.S. must be authorized by individual permit. The 1995 General Permit will be in effect for 5 years.

e. Currently, agricultural land wetland delineations are the responsibility of the Natural Resources Conservation Service (NRCS). The Corps is responsible for wetland delineations on non-agricultural lands (e.g., areas that haven't been farmed in 5 years or more). When damage survey reports are complete, the NRCS will be sent aerial photographs with the locations of levee damage shown on them. The NRCS will delineate agricultural wetlands on the photographs. They will also identify any potential conflicts with land enrolled in the Conservation Reserve Program (CRP), Emergency Wetlands Reserve Program (EWRP), Wetlands Reserve Program (WRP), "minimal effects with mitigation", or other U.S. Department of Agriculture Programs. The marked-up photographs and U.S. Department of Agriculture Program information will be provided to the Corps. Final wetland delineations for all utilized agricultural and non-agricultural borrow sites will be drawn on aerial photographs and furnished to the NRCS.

f. Non-agricultural land wetland delineations will be performed by Corps regulatory personnel or field biologists. Off-site wetland screening will be performed using maps, photographs, and historical records to narrow the area of potential wetlands on non-agricultural lands. ~~The findings of this off-site screening will be verified on-site prior to finalizing borrow negotiations.~~ A short on-site observation report documenting the on-site delineations and a photo/map containing wetland delineations for both agricultural and non-agricultural land will be attached to the Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) and/or placed in the official project files. Landowners will be informed by letter if borrow will be taken from a designated wetland and any potential Food Security Act or Swampbuster Program implications of using wetland borrow sites.

Attachment

BORROW SITE SELECTION CRITERIA

The Corps of Engineers has prepared a list of factors to be used in the selection of borrow sites for levee repairs. Please consider these when recommending sites so that approval can be accomplished as quickly as possible.

- Borrow sites consisting of clay, sandy clay and silty loam are the most desirable.
- Riverward borrow areas located in open agricultural fields will be used when available.
- Tree clearing, especially involving mature trees, will be avoided. However, areas with small to medium size trees may be used for borrow if riverward agricultural fields are not available. Old borrow sites will also be considered for use. The borrow areas will be dug as deep as possible to minimize tree clearing.
- Riverward areas which are frequently wet should be avoided because the selection of these areas may result in construction delays. If wet areas are proposed as borrow sites, drier alternate areas should also be proposed. In most cases, special restrictions may apply if borrow areas have been delineated as wetlands.
- Agricultural lands which are selected for borrow should not be planted to crop, if the crop can not be harvested before construction begins. No compensation for crop damage due to levee repair construction activities will be paid by the Government.
- Borrow will not be taken within 30 feet of the levee toe unless the borrow is taken to repair minor sidewash and/or topwash.
- No borrow will be taken within 30 feet of the high bank of the river.
- Borrow sites should be located within 1,000 feet of the repair. Borrow for minor topwash and sidewash should be within 200 feet adjacent to the levee where the damage has occurred.
- Borrow and/or construction activity should remain 150 feet away from any visible structure or building remains.
- Cultural resource surveys will be required where there are known or potential archeological sites.
- Borrow sites with known or suspected to have hazardous substance contamination will not be considered for use.

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