

US Army Corps
of Engineers
Kansas City District

**KANSAS CITY DISTRICT
CORPS OF ENGINEERS**

and the

**CHERRY VALLEY LEVEE DISTRICT, BALTIMORE BEND LEVEE DISTRICT,
BELCHER-LOZIER LEVEE DISTRICT, MILES POINT LEVEE DISTRICT, RAY
COUNTY LEVEE AND DRAINAGE DISTRICT - NO. 2, AND HENRIETTA-CROOKED
RIVER LEVEE AND DRAINAGE DISTRICT – SECTION 2**

Public Law 84-99 of the Flood Control Act of 1944

**Levee Rehabilitation – NEPA Review, Environmental
Assessment & DRAFT Finding of No Significant Impact**

**CHERRY VALLEY LEVEE DISTRICT (ITEM 70), BALTIMORE BEND
LEVEE DISTRICT (ITEM 69E), BELCHER-LOZIER LEVEE DISTRICT
(ITEM 69R), MILES POINT LEVEE DISTRICT (ITEM 70A), RAY COUNTY
LEVEE AND DRAINAGE DISTRICT - NO. 2 (ITEM 71), AND
HENRIETTA-CROOKED RIVER LEVEE AND DRAINAGE DISTRICT
(ITEM 71TS2), NON-FEDERAL, EMERGENCY LEVEE REHABILITATION
PROJECT**

**Missouri River
Carroll and Ray Counties, Missouri**

November 2007



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

DRAFT

Finding of No Significant Impact

Cherry Valley Levee District (Item 70), Baltimore Bend Levee District (Item 69E), Belcher-Lozier Levee District (Item 69R), Miles Point Levee District (Item 70A), Ray County Levee and Drainage District - No. 2 (Item 71), and Henrietta-Crooked River Levee and Drainage District (Item 71TS2)
Levee Rehabilitation Project
Carroll and Ray Counties, Missouri

Project Summary

The U.S. Army Corps of Engineers, Kansas City District (CENWK), in cooperation with the project sponsors, Cherry Valley Levee District, Baltimore Bend Levee District, Belcher-Lozier Levee District, Miles Point Levee District, Ray County Levee and Drainage District - No. 2, and Henrietta-Crooked River Levee and Drainage District – Section 2, (the Associated Levee Districts), propose to construct the Associated Levee Districts Levee Rehabilitation Project, under the authority of Public Law 84-99 of the Flood Control Act of 1944. Three alternatives were considered: (1) In-place repairs; (2) Landward levee setbacks; and (3) No action. The Corps has identified Alternative 2 – Landward levee setbacks as the recommended plan. The proposed project would involve the re-seeding of landside and riversides slopes, repairs to breaches using earthen fill, repairs to intermittent levee crowns and erosion areas, levee setbacks, and the replacement of lost sod to repair the agricultural levees damaged by the declared flood event of 6 May 2007. The proposed repairs are located in Carroll and Ray Counties, Missouri, just downstream from the town of Hardin, along the left descending bank of the Missouri River from River Mile 313.8 to River Mile 298.2. The Henrietta-Crooked River levee also has an upstream tie-back along the Crooked River.

Alternatives

Three alternatives were considered: (1) In-place repairs; (2) Landward levee setbacks (**RECOMMENDED PLAN**); and (3) No action.

Recommended Plan

Cherry Valley

The recommended plan consists of re-seeding landside and riverside levee slopes (sta. 9+00 to 42+50 and 84+65 to 100+50); repairs of lost sod cover on landside and riverside slopes (sta. 0+00 to 2+05), one severe breach (sta. 2+05 to 5+65), and intermittent crown and landside erosion areas (sta. 5+65 to 9+00), with an approximate 1,850 linear-foot-long landward levee setback; and repairs of lost sod cover on landside and riverside levee slopes (42+50 to 49+90 and 66+10 to 84+65), and one severe breach (sta. 49+90 to 66+10), with an approximate 4,280 linear-foot-long landward levee setback. Construction areas would be seeded and mulched.

Baltimore Bend

The recommended plan consists of in-place repair of all intermittent landside slope erosion areas and re-seeding landside and riverside levee slopes (sta. 0+00 to 136+00). Construction areas would be seeded and mulched.

Belcher-Lozier

The recommended plan consists of re-seeding of landside and riverside levee slopes (sta. 0+00 to 78+25); re-seeding of crown, landside and riverside levee slopes (sta. 85+25 to 90+00); in-place repairs to crown erosion area (sta. 63+00 to 85+25); and in-place repairs to breach area (sta. 78+25 to 85+25). Construction areas would be seeded and mulched.

Miles Point

The recommended plan consists of re-seeding of riverside levee slopes (sta. 0+00 to 114+00). Construction areas would be seeded and mulched.

Ray County

The recommended plan consists of re-seeding riverside levee slope (sta. 0+00 to 245+00); and in-place erosion repairs at riverside ramp erosion area (sta. 87+00). Construction areas would be seeded and mulched.

Henrietta-Crooked River

The recommended plan consists of re-seeding of riverside levee slopes (sta. 1+00 to 4+00, 7+00 to 35+50, and 40+50 to 336+00); re-seeding of landside slopes (sta. 24+40 to 35+50); and repairs to riverside toe slope erosion (sta. 4+44 to 5+64), with construction of an approximately 400-linear-foot-long landward levee setback. Construction areas would be seeded and mulched.

Summary of Environmental Impacts

As the repairs for the levee setbacks would be on alignments landward of the existing levees, the recommended plan would require that the Cherry Valley Levee District and the Henrietta-Crooked River Levee and Drainage District acknowledge that some agricultural lands would be taken out of production for construction of the setback levees. The setbacks would reduce available agricultural cropland by occupying approximately 49 acres of lands currently available for this purpose. Flood risk management level achieved by the recommended plan would be the same as the original pre-flood levees. Alternative 2 would result in very minor improvements to floodway conveyance. 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 activity. The adverse effects associated with the proposed project are long-term/minor associated with the loss of agricultural cropland, and 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 2—Landward levee setback 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 three (3) alternatives considered, Alternative 2 – Landward levee setback is recommended because it has the highest cost/benefit ratio and is consistent with protection of the nation's environment.

Mitigation Measures

The recommended plan will result in minor impacts to mitigable resources as defined in USACE Planning regulations and under Section 404 of the Clean Water Act. These impacts are associated with minor excavation of sandy material from within farmed wetland areas and excavation of borrow material from Natural Resource Conservation Service (NRCS) Wetland Reserve Program lands. General Permit Number NWKGP-41 authorizes these actions. In addition, the project sponsor will consult with the NRCS to obtain a Compatible Use Authorization agreement to ensure that borrow operations are conducted accordingly and that excavation does not adversely impact the wetland or easement area.

A small fringe of timber, cottonwoods and willows, (< 9 inches breast diameter height) will be removed during project construction. The U.S. Fish and Wildlife Service has stated that natural plant succession should provide adequate re-vegetation of impacted area, so long as mast-producing trees are not affected. Therefore, no mitigation measures are warranted or 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 December xx, 2007, with a thirty-day comment period ending on January xx, 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 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/long-term and minor/short-term construction related. Minor long-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 Cherry Valley Levee District, Baltimore Bend Levee District, Belcher-Lozier Levee District, Miles Point Levee District, Ray County Levee and Drainage District - No. 2, and Henrietta-Crooked River Levee and Drainage District - Section 2, 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 sponsors, Cherry Valley Levee District, Baltimore Bend Levee District, Belcher-Lozier Levee District, Miles Point Levee District, Ray County Levee and Drainage District - No. 2, and Henrietta-Crooked River Levee and Drainage District - Section 2, (Associated Levee Districts) propose to construct the Associated Levee Districts Levee Rehabilitation Project, under the authority of Public Law 84-99 of the Flood Control Act of 1944. The proposed project would involve the re-seeding of landside and riversides slopes, repairs to breaches using earthen fill, repairs to intermittent levee crowns and erosion areas, levee setbacks, and the replacement of lost sod as described below. Repairs are required as a result of the flood event declared on 6 May 2007.

The Cherry Valley levee segment consists of approximately 10,050 linear feet of earthen flood control works (FCW) on the LDB of the Missouri River between river mile 304.2 and 302.5 in Carroll County, Missouri. The FCW protects approximately 12,200 acres of agricultural lands; 11,700 acres of crop lands; the town of Hardin, with associated schools, residences, barns, machine sheds, out-buildings, irrigation systems, grain bins, overhead power lines, and fiber optics and telephone lines. Additionally, the FCW protects portions of State Route 10, State Route J, State Route FF, gravel county roads, unimproved farm roads, and railroad embankments. The recommended plan consists of re-seeding landside and riverside levee slopes (sta. 9+00 to 42+50 and 84+65 to 100+50); repairs of lost sod cover on landside and riverside slopes (sta. 0+00 to 2+05), one severe breach (sta. 2+05 to 5+65), and intermittent crown and landside erosion areas (sta. 5+65 to 9+00), with an approximate 1,850 linear-foot-long landward levee setback; and repairs of lost sod cover on landside and riverside levee slopes (42+50 to 49+90 and 66+10 to 84+65), and one severe breach (sta. 49+90 to 66+10), with an approximate 4,280 linear-foot-long landward levee setback. Construction areas would be seeded and mulched. The material for the levee setbacks would be obtained from two sources. Approximately 70% of borrow material would be obtained from sand washed onto adjacent agricultural lands, and the remaining 30% would come from the damaged levees located riverward of the new levee setbacks. A few cottonwood and willow saplings would unavoidably be cleared during levee setback construction.

The Baltimore Bend levee segment consists of approximately 13,600 linear feet of earthen FCW on the LDB of the Missouri River between river mile 302.5 to 300.0 in Carroll County, Missouri. The levee unit adjoins the Cherry Valley segment and works in concert in protecting the assets described above. The recommended plan consists of in-place repair of all intermittent landside slope erosion areas and re-seeding landside and riverside levee slopes (sta. 0+00 to 136+00). Construction areas would be seeded and mulched.

The Belcher-Lozier levee segment consists of approximately 9,000 linear feet of earthen FCW on the LDB of the Missouri River between River Mile 300.0 to 298.2 in Carroll County, Missouri. The levee unit adjoins the Baltimore Bend segment and works in concert in protecting the assets described above. The recommended plan consists of re-seeding of landside and riverside levee slopes (sta. 0+00 to 78+25); re-seeding of crown, landside and riverside levee slopes (sta. 85+25 to 90+00); in-place repairs to crown erosion area (sta. 63+00 to 85+25); and

in-place repairs to breach area (sta. 78+25 to 85+25). Construction areas would be seeded and mulched. Approximately 90% of borrow material would be obtained from existing stockpiles located on levee embankments and adjacent landside/riverside slopes, and the remaining 10% would come from landside Wetland Reserve Area pools, which are located within previously "environmentally cleared" borrow areas assessed during the 1993 flood repair actions.

The Miles Point levee segment consists of approximately 11,400 linear feet of earthen FCW on the LDB of the Missouri River between river mile 307.0 to 304.2 in Carroll County, Missouri. The levee unit adjoins the Cherry Valley segment and works in concert in protecting the assets described above. The recommended plan consists of re-seeding of riverside levee slopes (sta. 0+00 to 114+00). Construction areas would be seeded and mulched.

The Ray County levee segment consists of approximately 10,050 linear feet of earthen FCW on the LDB of the Missouri River between River Mile 311.8 to 307.0 in Ray County, Missouri. The levee unit adjoins the Miles Point segment and works in concert in protecting the assets described above. The recommended plan consists of re-seeding riverside levee slope (sta. 0+00 to 245+00); and in-place erosion repairs at riverside ramp erosion area (sta. 87+00). Construction areas would be seeded and mulched. Borrow material will be obtained from adjacent riverward ditch slopes that extend into agricultural lands.

The Henrietta-Crooked River levee segment consists of approximately 33,600 linear feet of earthen FCW on the LDB of the Missouri River between river mile 313.8 to 311.8, and the LDB of the Crooked River in Ray County, Missouri. The levee unit adjoins the Ray County segment and works in concert in protecting the assets described above. The recommended plan consists of re-seeding of riverside levee slopes (sta. 1+00 to 4+00, 7+00 to 35+50, and 40+50 to 336+00); re-seeding of landside slopes (sta. 24+40 to 35+50); and repairs to riverside toe slope erosion (sta. 4+44 to 5+64), with construction of an approximately 400-linear-foot-long landward levee setback. Construction areas would be seeded and mulched. Approximately 90% of borrow material would be obtained from portions of the existing levee riverward of the new levee setback. The remaining 10% would come from off-site abandoned levees or from an open area located riverward of levee station 20+00 to 24+00.

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 December 11, 2007, with a thirty-day comment period ending on January 9, 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. Matthew D. Vandenberg, Environmental Resources Specialist, PM-PR, Kansas City District - U.S. Army Corps of Engineers, by writing the above address, or by telephone at 816-389-3146.

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

**PUBLIC LAW 84-99
CHERRY VALLEY LEVEE DISTRICT, BALTIMORE BEND LEVEE DISTRICT,
BELCHER-LOZIER LEVEE DISTRICT, MILES POINT LEVEE DISTRICT, RAY
COUNTY LEVEE AND DRAINAGE DISTRICT - NO. 2, AND HENRIETTA-CROOKED
RIVER LEVEE AND DRAINAGE DISTRICT - SECTION 2
LEVEE REHABILITATION PROJECT
CARROLL AND RAY COUNTIES, MISSOURI**

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FINDING OF NO SIGNIFICANT IMPACT

EXECUTIVE SUMMARY

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

**PUBLIC LAW 84-99
CHERRY VALLEY LEVEE DISTRICT, BALTIMORE BEND LEVEE DISTRICT,
BELCHER-LOZIER LEVEE DISTRICT, MILES POINT LEVEE DISTRICT, RAY
COUNTY LEVEE AND DRAINAGE DISTRICT - NO. 2, AND HENRIETTA-CROOKED
RIVER LEVEE AND DRAINAGE DISTRICT – SECTION 2
LEVEE REHABILITATION PROJECT
CARROLL AND RAY COUNTIES, 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 Cherry Valley Levee District, Baltimore Bend Levee District, Belcher-Lozier Levee District, Miles Point Levee District, Ray County Levee and Drainage District - No. 2, and Henrietta-Crooked River Levee and Drainage District – Section 2 (Associated Levee Districts) Levee Rehabilitation Project.

Section 2: AUTHORITY

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

Section 3: PROJECT LOCATION

The Associated Levee Districts are located in Carroll and Ray Counties, Missouri, just downstream from the town of Hardin, along the left descending bank of the Missouri River from River Mile 313.8 to RM 298.2, and are described further below. The Henrietta-Crooked River levee also has an upstream tieback along the Crooked River.

The Cherry Valley levee segment consists of approximately 10,050 linear feet of earthen flood control works (FCW) on the left descending bank (LDB) of the Missouri River between river mile 304.2 and 302.5 in Carroll County, Missouri.

The Baltimore Bend levee segment consists of approximately 13,600 linear feet of earthen FCW on the LDB of the Missouri River between river mile 302.5 to 300.0 in Carroll County, Missouri. The levee unit adjoins the Cherry Valley segment.

The Belcher-Lozier levee segment consists of approximately 9,000 linear feet of earthen FCW on the LDB of the Missouri River between river mile 300.0 to 298.2 in Carroll County, Missouri. The levee unit adjoins the Baltimore Bend segment.

The Miles Point levee segment consists of approximately 11,400 linear feet of earthen FCW on the LDB of the Missouri River between river mile 307.0 to 304.2 in Carroll County, Missouri. The levee unit adjoins the Cherry Valley segment.

The Ray County levee segment consists of approximately 10,050 linear feet of earthen FCW on the LDB of the Missouri River between river mile 311.8 to 307.0 in Ray County, Missouri. The levee unit adjoins the Miles Point segment.

The Henrietta-Crooked River levee segment consists of approximately 33,600 linear feet of earthen FCW on the LDB of the Missouri River between river mile 313.8 to 311.8, and the LDB of the Crooked River in Ray County, Missouri. The levee unit adjoins the Ray County segment.

Section 4: EXISTING CONDITION

The declared flood event on 6 May 2007 caused the follow damages to the Associated Levee District's levees:

The damages to the Cherry Valley levee segment consist of two severe levee breaches, intermittent crown and landside erosion, and loss of sod cover on the levee embankment slopes at station 0+00 to 100+50.

The damages to the Baltimore Bend levee segment consist of intermittent landside slope erosion and lost sod cover loss on the levee embankment slopes at station 0+00 to 136+00.

The damages to the Belcher-Lozier levee segment consist of one levee breach, crown erosion, and intermittent reaches of lost sod cover on the crown and levee embankment slopes at station 0+00 to 90+00.

The damages to the Mile Point levee segment consist of intermittent reaches of lost sod cover on the riverside levee embankment slope at station 0+00 to 114+00.

The damages to the Ray County levee segment consist of one area of riverside ramp erosion and intermittent reaches of lost sod cover on the riverside levee embankment slopes at station 0+00 to 245+00.

The damages to the Henrietta-Crooked River levee segment consist of riverside toe slope erosion and intermittent reaches of lost sod cover on levee embankment slopes at stations 1+00 to 35+50 and 40+50 to 336+00.

Section 5: PURPOSE & NEED FOR ACTION

The project purpose and need is to rehabilitate the damaged levees and restore the associated social and economic benefits. The Associated Levee Districts received damages to sections of their respective levees during the 6 May 2007 declared flood event. Prior to the May 2007 event, the Associated Levee District levees provided an approximately 50+ year level of flood risk management. In their current damaged state, the Associated Levee District levees are estimated to provide an approximately two-year level of protection. The existing condition exposes all public and private infrastructure and agricultural croplands to a high 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 levees 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 previously protected by the levees would also be incurred.

Section 6: ALTERNATIVES CONSIDERED BUT NOT SELECTED

Two alternatives were considered but not selected. One build alternative (Alternative 1 – In-Place Repairs) and Alternative 3 – The No Action Alternative. A brief description of Alternative 1 is provided below.

Cherry Valley

STATION 9+00 TO 42+50 AND 84+65 TO 100+50; NATURAL RE-VEGETATION OF LANDSIDE AND RIVERSIDE SLOPES: Natural re-vegetation of slopes was considered (no cost).

STATION 0+00 TO 9+00; BREACH REPAIR, INTERMITTENT CROWN AND LANDSIDE EROSION REPAIR, AND NATURAL RE-VEGETATION OF LANDSIDE AND RIVERSIDE SLOPES: In-place repairs were considered for this station. Cost of in-place repairs were estimated at \$322,542.00. Natural re-vegetation of slopes was considered (no cost).

STATION 42+50 84+65; BREACH REPAIR AND NATURAL RE-VEGETATION OF LANDSIDE AND RIVERSIDE SLOPES: In-place repairs were considered for this station. Cost of in-place repairs were estimated at \$1,573,265.00. Natural re-vegetation of slopes was considered (no cost).

Baltimore Bend

STATION 0+00 TO 136+00; INTERMITTENT LANDSIDE EROSION REPAIR AND NATURAL RE-VEGETATION OF LANDSIDE AND RIVERSIDE SLOPES: Natural re-vegetation of slopes was considered (no cost). In-place repairs to erosion areas were considered. Costs of in-place repairs were estimated at \$31,185.00.

Belcher-Lozier

STATION 0+00 TO 90+00; BREACH REPAIR, CROWN EROSION REPAIR, NATURAL RE-VEGETATION OF CROWN, and LANDSIDE AND RIVERSIDE SLOPE REPAIR: Due to the limited nature of scour within the breach area, in-place repairs were considered. In addition, natural re-vegetation was considered (no cost). Costs of these repairs were estimated at \$33,713.00.

Miles Point

STATION 0+00 TO 114+00; NATURAL RE-VEGETATION OF RIVERSIDE SLOPE: Natural re-vegetation of slopes was proposed (no cost).

Ray County

STATION 0+00 TO 245+00; RIVERSIDE RAMP EROSION REPAIR WITH NATURAL RE-VEGETATION OF RIVERSIDE SLOPE: In-place repairs at the riverside ramp erosion location were considered the only practical and prudent repair action. Natural re-vegetation of slopes was proposed (no cost). Costs of these repair actions were estimated at \$32,835.00.

Henrietta-Crooked River

STATION 4+44 to 5+64; REPAIR OF RIVERSIDE TOE SLOPE EROSION: In-place repairs were considered. Cost of in-place repairs were estimated at \$24,420.00.

STATION 1+00 TO 4+00, 7+00 TO 35+50, and 40+50 TO 336+00; NATURAL RE-VEGETATION OF LANDSIDE AND RIVERSIDE SLOPES: Natural re-vegetation of slopes was proposed (no cost).

“No Action” Alternative

The “No Action” Alternative would involve no construction and the levees would remain in their damaged condition. 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

Cherry Valley

The recommended plan consists of re-seeding landside and riverside levee slopes (sta. 9+00 to 42+50 and 84+65 to 100+50); repairs of lost sod cover on landside and riverside slopes (sta. 0+00 to 2+05), one severe breach (sta. 2+05 to 5+65), and intermittent crown and landside erosion areas (sta. 5+65 to 9+00), with an approximate 1,850 linear-foot-long landward levee setback; and repairs of lost sod cover on landside and riverside levee slopes (42+50 to 49+90 and 66+10 to 84+65), and one severe breach (sta. 49+90 to 66+10), with an approximate 4,280 linear-foot-long landward levee setback. Construction areas would be seeded and mulched. The material for the levee setbacks would be obtained from two sources. Approximately 70% of borrow material would be obtained from sand washed onto adjacent agricultural lands, and the remaining 30% would come from the damaged levees located riverward of the new levee setbacks. A few cottonwood and willow saplings would unavoidably be cleared during setback levee construction. Construction areas would be seeded and mulched. Total cost of all recommended repair actions is estimated at \$575,675.00.

Baltimore Bend

The recommended plan consists of in-place repair of all intermittent landside slope erosion areas and re-seeding landside and riverside levee slopes (sta. 0+00 to 136+00). Construction areas would be seeded and mulched. Total cost of all recommended repair actions is estimated at \$34,927.00.

Belcher-Lozier

The recommended plan consists of re-seeding of landside and riverside levee slopes (sta. 0+00 to 78+25); re-seeding of crown, landside and riverside levee slopes (sta. 85+25 to 90+00); in-place repairs to crown erosion area (sta. 63+00 to 85+25); and in-place repairs to breach area (sta. 78+25 to 85+25). Construction areas would be seeded and mulched. Approximately 90% of borrow material would be obtained from existing stockpiles located on levee embankments and adjacent landside/riverside slopes, and the remaining 10% would come from landside Wetland Reserve Area pools, which are located within previously “environmentally cleared” borrow areas assessed during the 1993 flood repair actions. Construction areas would be seeded and mulched. Total cost of all recommended repair actions is estimated at \$37,759.00.

Miles Point

The recommended plan consists of re-seeding of riverside levee slopes (sta. 0+00 to 114+00). Construction areas would be seeded and mulched. Total cost of all recommended repair actions is estimated at \$17,557.00.

Ray County

The recommended plan consists of re-seeding riverside levee slope (sta. 0+00 to 245+00); and in-place erosion repairs at riverside ramp erosion area (sta. 87+00). Construction areas would be seeded and mulched. Borrow material will be obtained from adjacent riverward ditch slopes that extend into agricultural lands. Construction areas would be seeded and mulched. Total cost of all recommended repair actions is estimated at \$36,775.00.

Henrietta-Crooked River

The recommended plan consists of re-seeding of riverside levee slopes (sta. 1+00 to 4+00, 7+00 to 35+50, and 40+50 to 336+00); re-seeding of landside slopes (sta. 24+40 to 35+50); and repairs to riverside toe slope erosion (sta. 4+44 to 5+64), with construction of an approximately 400-linear-feet-long landward levee setback. Construction areas would be seeded and mulched. Approximately 90% of borrow material would be obtained from portions of the existing levee riverward of the new levee setback. The remaining 10% would come from off-site abandoned levees or from an open area located riverward of levee station 20+00 to 24+00. Construction areas would be seeded and mulched. Total cost of all recommended repair actions is estimated at \$57,949.00.

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 December 11, 2007, with a thirty-day comment period ending on January 9, 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 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:

A wide variety of resources along with the related environmental, economic and social effects were considered during the development and evaluation of project alternatives. These include: atmospheric 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; esthetics; navigation; transportation; health and safety; community service; population density and other items identified through public and agency comments.

The project area consists of agricultural row crop ground located on the Missouri River flood plain between river miles 313.8 and 298.2. The project area disturbance involves approximately 100 acres or less (including borrow locations) for Cherry Valley, approximately 10 acres or less (including borrow locations) for Baltimore Bend, approximately three acres or less (including borrow locations) for Belcher-Lozier, approximately nine and one half acres for Miles Point, approximately 0.1 acre for Ray County, and approximately three acres or less for Henrietta-Crooked River. The Corps Kansas City District's Standard Operating Procedures for identification of potential borrow sites, which was developed in consultation with the resource

agencies to avoid/and or minimize adverse environmental effects, would be implemented for this project if different or additional borrow sites are needed.

Section 10: ENVIRONMENTAL CONSEQUENCES:

Primary resources of concern identified during the evaluation included: noise levels, water quality, fish and wildlife, vegetation, wetlands, geologic resources, agricultural activity, archeological and historical resources, flood control, economics and esthetics. Projects impacts to other resources were determined to be no effect.

Noise levels

The recommended plan, Alternative 2, would result in minor short term construction related noise impacts. These impacts are the result of the operation of 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. There is a remote chance that the noise from project construction could disturb the occasional boater on the nearby Missouri River or person(s) participating in outdoor recreation on the private land in the project area.

Alternative 1 - Repairs resulting from implementation of this alternative would result in noise impacts similar to those described above.

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

Water quality

The recommended plan, Alternative 2, would result in minor, temporary, construction related adverse impacts to water quality resulting from site runoff and increased turbidity. The minor 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. The best management practices would be designed to minimize the incidental fallback of material into waterways during construction and to 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. The recommended plan does not involve placement of fill material in a Water of the United States and therefore, Clean Water Act, Section 401 Water Quality Certification and Section 404b1 are not required.

Alternative 1 – Repairs resulting from implementation of this alternative would result in minor, temporary, construction related adverse impacts to water quality similar to those describe above. As with the Recommended Alternative, these impacts 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 permit.

In the "No Action" Alternative with the absence of the Federal action addressing levee improvements, a high water event could result in the release of a variety of industrial chemicals

and substantially impact the natural and human environment within the project area. Avoiding repair actions could result in adverse impacts to water quality from 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.

Fish and wildlife

The recommended plan, Alternative 2, 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 site runoff and increased turbidity, which could make feeding, breeding, and sheltering difficult for species not accustomed to these conditions.

Alternative 1 – Repairs resulting from implementation of this alternative would result in similar impacts 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 unprotected area. Wetland species may benefit as more frequent flooding could occur in the now unprotected areas. Wetlands would likely recharge since they are now hydrologically connected to the Missouri River. Other terrestrial organisms could be killed, be temporarily displaced or have their habitat degraded by flooding.

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 the Missouri River. Indiana bat (*Myotis sodalis*) roost in trees that tend to be greater than 9 inches diameter breast height during the spring and summer, and hibernate in caves during the fall and winter. Levee work will be conducted during the winter months, and only cottonwood and willow saplings will be removed at the Cherry Valley site. No impacts to any state listed threatened or endangered species or their habitat were identified.

Alternative 1 – Repairs resulting from implementation of this alternative would have no adverse effects on any Federally-listed threatened or endangered species or their habitat for the same reasons as described above.

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.

Vegetation

The recommended plan, Alternative 2, would be constructed in agricultural crop fields reducing the area used for that purpose. The acres currently used to grow harvestable crops (approximately 49 acres) would be converted to grassed-levee slopes. At the Cherry Valley site, a few isolated cottonwood and willow saplings would be cleared for the alignment of the new levee setback. The US Fish and Wildlife Service has stated that natural plant succession should provide adequate revegetation for these minor impacts.

Alternative 1 – Repairs resulting from implementation of this alternative would result in no impacts to vegetation (cottonwoods or willows) as the levees would be placed on their current alignments.

The "No Action" Alternative could result in increases to the floodplain and to floodplain vegetation if lands are abandoned from farming due to the high risk of flooding. Overtime, successional vegetative growth could result in large expanses of floodplain forest.

Wetlands

The recommended plan would result in minor impacts on wetlands. At the Cherry Valley site, breaches in the levee allowed isolated farmed wetlands to become filled with heavy sand deposits. As the setback levee is constructed, borrow from within this sand deposition area will be taken down to the limits of the original ground contours, thus removing all sand (over approximately 100 acres) and restoring these former farmed wetlands. General Permit Number NWKGP-41 authorizes these actions. Additional borrow material will still be needed to complete the setback and it is proposed that the borrow be obtained from adjacent Wetland Reserve Program (WRP) lands. As borrow is obtained from these sites, it will be removed in accordance with Natural Resources Conservation Service (NRCS) specifications that have been coordinated between the project sponsors and the NRCS in the Compatible Use Authorization agreement. Borrow obtained from WRP sites will aid in the creation of wetlands in these areas. Finally, at both the Cherry Valley and Henrietta-Crooked River levee setback sites, the scour holes in front of the setback levees will add additional floodplain wetland habitat to the area until they accrete with river sediments.

Alternative 1 - Repairs resulting from implementation of Alternative 1 would result in increased impacts to wetlands. These impacts would result from the blow holes being filled to place the levees on their previous alignments rather than having the levees re-constructed landward around them.

The "No Action" Alternative could result in benefits to wetlands located on the flood plain within the now unprotected areas as these areas would be subject to a high level risk of future flooding.

Geologic resources

The recommended plan will require borrow material to repair erosion areas and to setback levees. This material will primarily come from sand washed onto agricultural lands, excavation of the damaged levees, and earthen material excavated from nearby borrow sources.

Alternative 1 – Repairs resulting from implementation of this alternative would result in similar impacts as those described above.

The "No Action" Alternative would have no effect on geologic resources.

Agricultural activity

The recommended plan, while restoring the previous level of flood risk management, would have an incremental adverse impact on agricultural production. This impact is related to the conversion of approximately 49 acres of agricultural land to grassed-levee land as the levees are set-back. However, once the project is completed, approximately 12, 150 acres of agricultural land will again be protected.

Alternative 1 – Repairs resulting from implementation of Alternative 1 would have no impacts on agricultural land as the levee would be placed back on their previous alignments.

The "No Action" Alternative would adversely impact agricultural activity by exposing approximately 12,200 acres of agricultural lands and 11,700 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), 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 November 14 and 20, 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.

Alternative 1 – Repairs resulting from implementation of this alternative would result in no impacts to archaeological or historical resources.

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

Flood Control

The recommended plan would restore an approximately 50+ year level of flood protection to the existing Associated Levee Districts 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". In addition, since the proposed levee repair would restore this levee to its near 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.

Alternative 1 – Repairs resulting from implementation of this alternative would result in a similar level of flood protection as described above for the recommended plan since the purpose of the PL 84-99 program is to restore damaged levees back to their original level of protection.

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

Economics

Based on the Corps' economic analysis, the recommended plan is economically justified with a benefit to cost ratio of 3.5.

Based on the Corps' economic analysis, repairs resulting from implementation of Alternative 1 resulted in a lower benefit to cost ratio of 1.4. A much greater amount of fill and stone would be required for this alternative due to increased borrow needed to fill in the blew holes.

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

turnoil, 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.

Esthetics

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

Alternatives 1 and 2 – Repairs resulting from implementation of the alternative plans would result in impacts similar to those described above.

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

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

The Alternative Plans have not been recommended. Alternative 1 would provide lower economic benefits and have increased environmental impacts, particularly to wetland habitat, than the recommended plan.

The “No Action” Alternative has not been recommended because it would not meet the project purpose and need of rehabilitating the damaged flood damage reduction 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 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 proposed level of flood protection is restored. Failure to reconstruct the levee could adversely affect the tax base of the county 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.

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 State and Federal 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.

Currently, the Corps is undertaking studies of the Federal levees along the Missouri River to determine if measures to improve the reliability of these existing flood risk management projects are warranted. In addition, 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, flood plain values, water quality, and fish and wildlife habitat. It should be noted that these projects do not result in an addition to 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 is 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 past, thus impacts from these projects likely will not occur.

The adverse effects associated with the proposed project are long-term/minor associated with the loss of agricultural cropland, and 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 will result in minor impacts to mitigable resources as defined in USACE Planning regulations and under Section 404 of the Clean Water Act. These impacts are associated with minor excavation of sandy material from within farmed wetland areas and excavation of borrow material from Natural Resource Conservation Service (NRCS) Wetland Reserve Program lands. General Permit Number NWKGP-41 authorizes these actions. In addition, the project sponsor will consult with the NRCS to obtain a Compatible Use Authorization agreement to ensure that borrow operations are conducted accordingly and that excavation does not adversely impact the wetland or easement area.

A small fringe of timber, cottonwoods and willows, (< 9 inches breast diameter height) will be removed during project construction. The U.S. Fish and Wildlife Service has stated that natural

plant succession should provide adequate re-vegetation of impacted area, so long as mast-producing trees are not affected. Therefore, no mitigation measures are warranted or 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

Because the repairs at Cherry Valley and Henrietta-Crooked River would be off current alignments in order to construct the landward levee setbacks, the recommended plan would reduce available agricultural cropland by approximately 49 acres. The flood risk management level achieved by the recommended plan would be the same as the original pre-flood levees. 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 activity. The adverse effects associated with the proposed project are long-term/minor associated with the loss of agricultural cropland, and 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 2 – Landward levee setback 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 three (3) alternatives considered, Alternative 2 – Landward levee setback is recommended because it has the highest cost/benefit ratio, satisfies all the project needs, and is consistent with protection of the nation's 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 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. Matthew D. Vandenberg (Environmental Resource Specialist), with relevant sections prepared by Mr. Timothy Meade (Cultural Resources). The address of the preparers is: U.S. Army Corps of Engineers, Kansas City, District; PM-RP, Room 843, 601 E. 12th St, Kansas City, MO 64106.

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

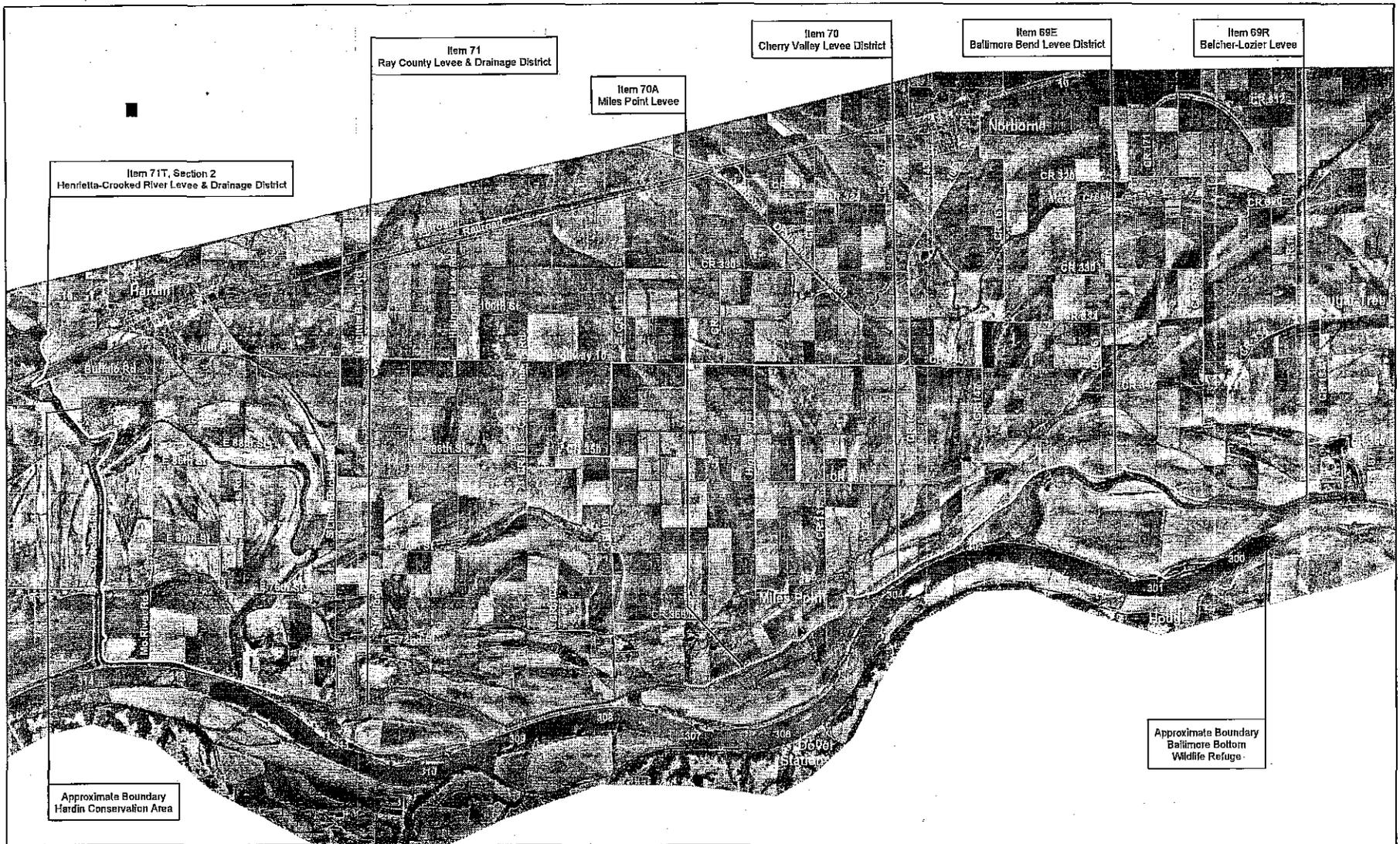
Federal Polices	Compliance
Archeological Resources Protection Act, 16 U.S.C. 470, et seq.	Full Compliance
Clean Air Act, as amended, 42 U.S. C. 7401-7671g, et seq.	Full Compliance
Clean Water Act (Federal Water Pollution Control Act), 33 U.S.C. 1251, et seq.	Full Compliance
Coastal Zone Management Act, 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:

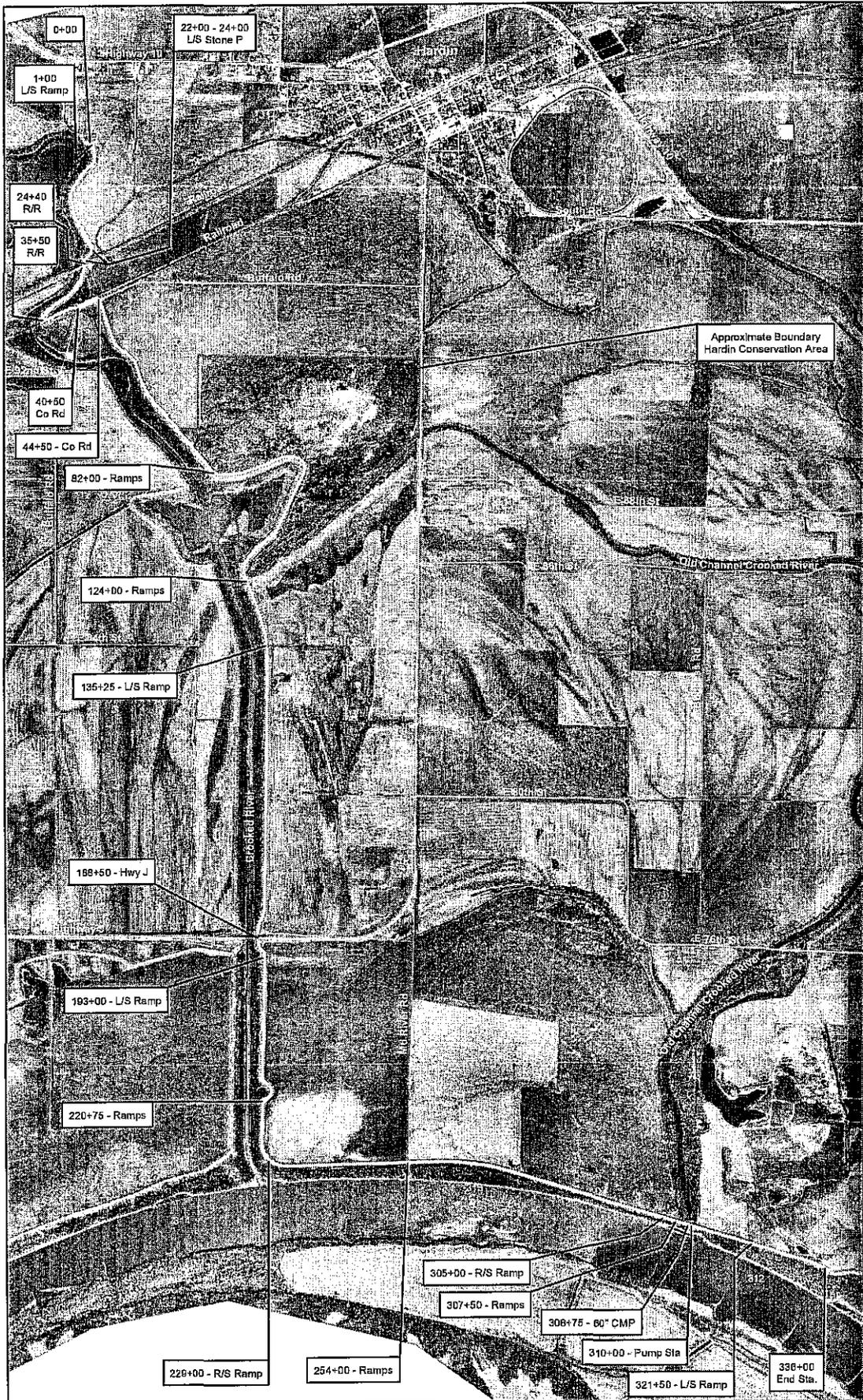
- a. Full compliance. Having met all requirements of the statute for the current stage of planning (either preauthorization or postauthorization).
- b. Partial compliance. Not having met some of the requirements that normally are met in the current stage of planning.
- c. Noncompliance. Violation of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

APPENDIX I – PROJECT MAPS

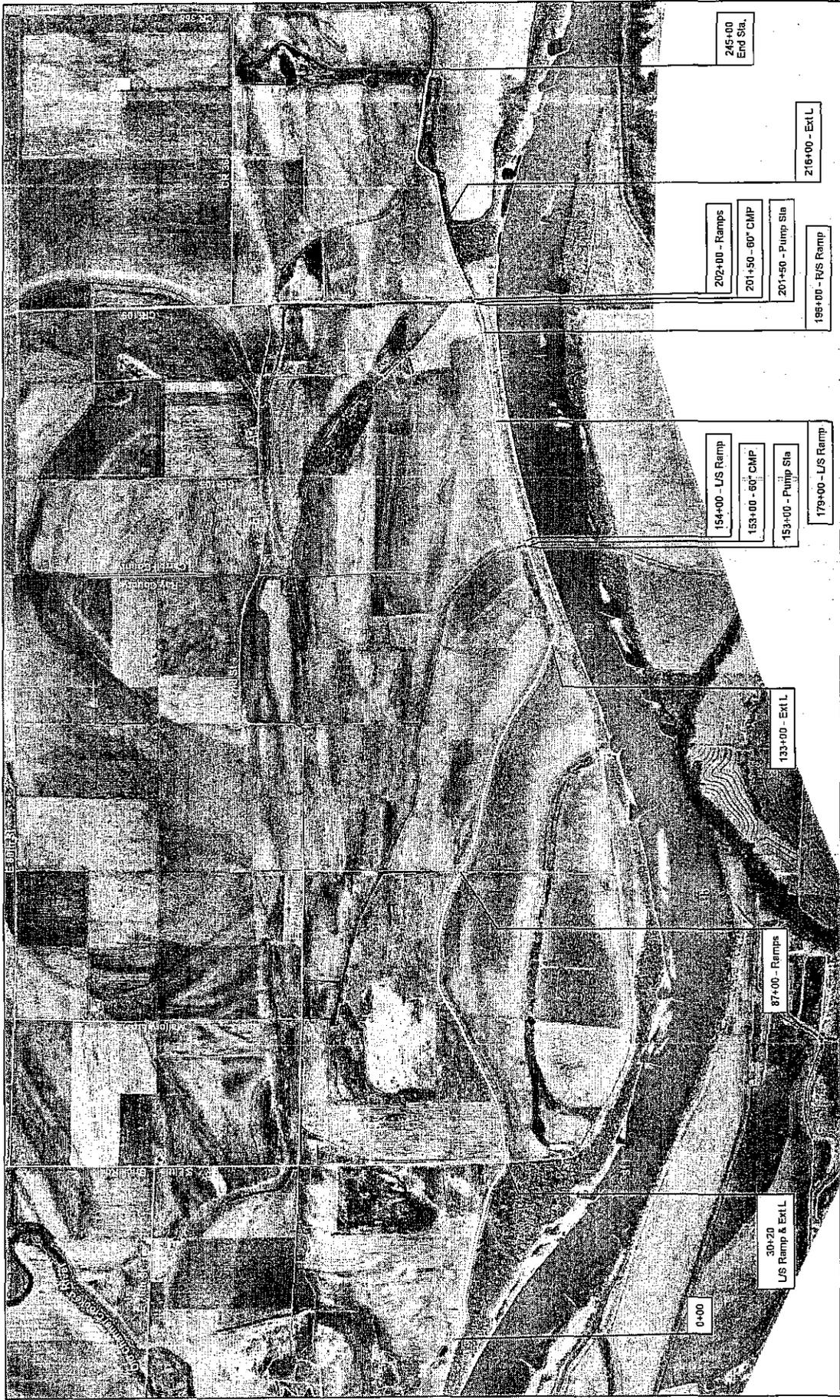
*Cherry Valley Levee District (Item 70),
Baltimore Bend Levee District (Item 69E),
Belcher-Lozier Levee District (Item 69R),
Miles Point Levee District (Item 70A),
Ray County Levee and Drainage District - No. 2 (Item 71), and
Henrietta-Crooked River Levee and Drainage District (Item 71TS2)
P.L. 84-99 Levee Rehabilitation Project
Carroll and Ray Counties, Missouri
November 2007*



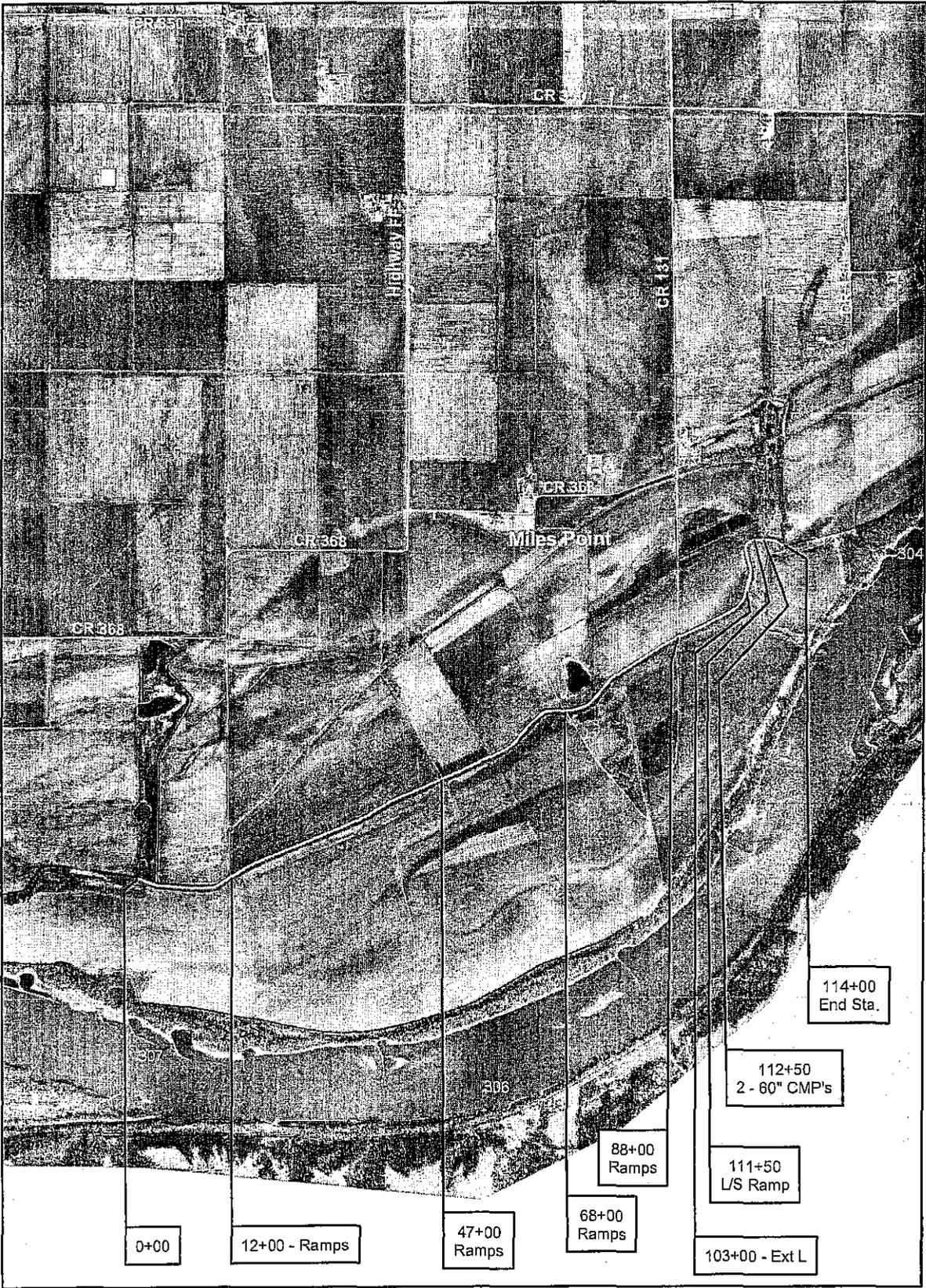
**Complete Flood Control Work
Item's 71T Section 2, 71, 70A, 70, 69E & 69R**



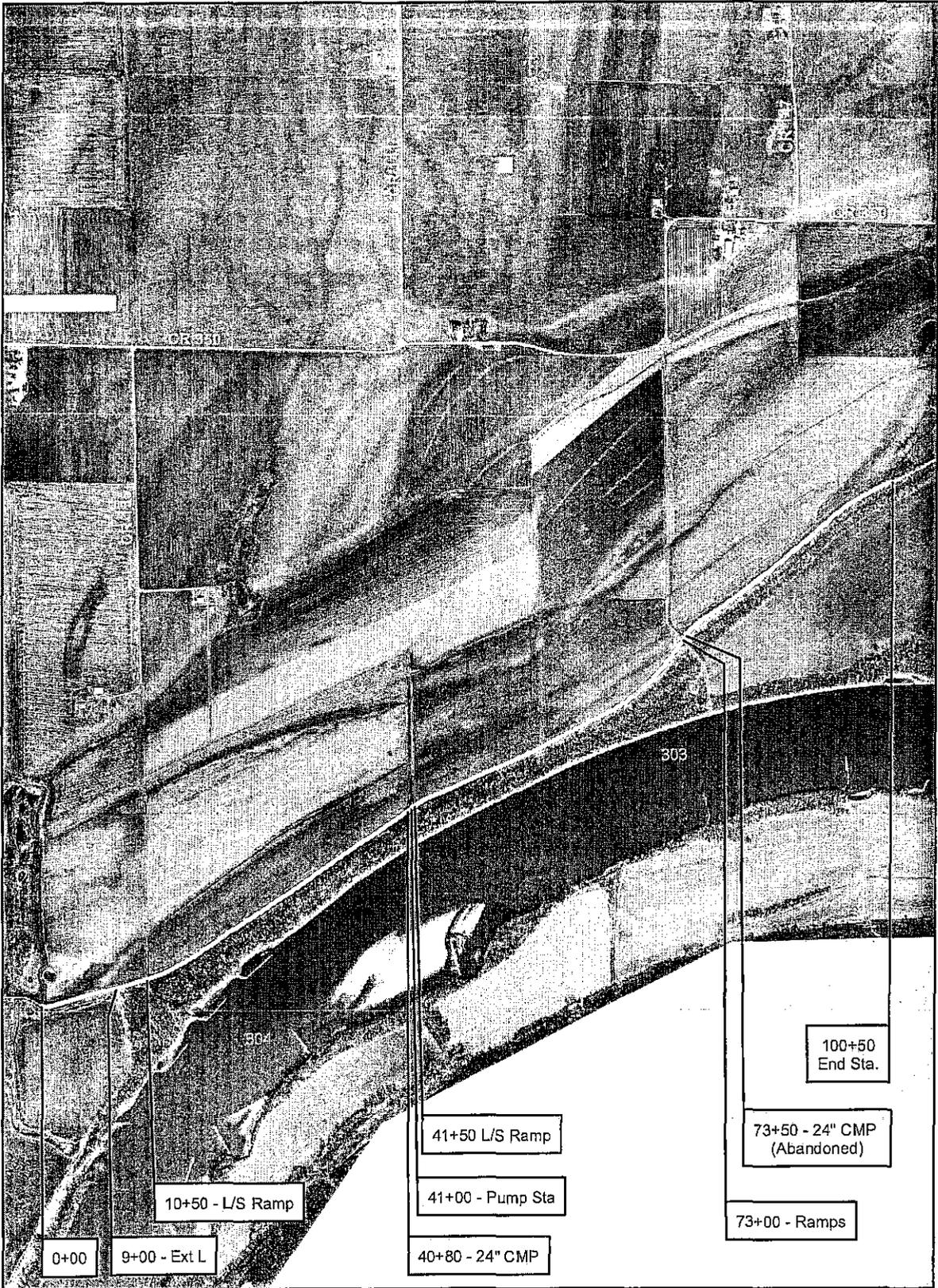
Item 71T - Section 2
Henrietta-Crooked River Levee & Drainage District



Item 71
Ray County Levee & Drainage District No. 2

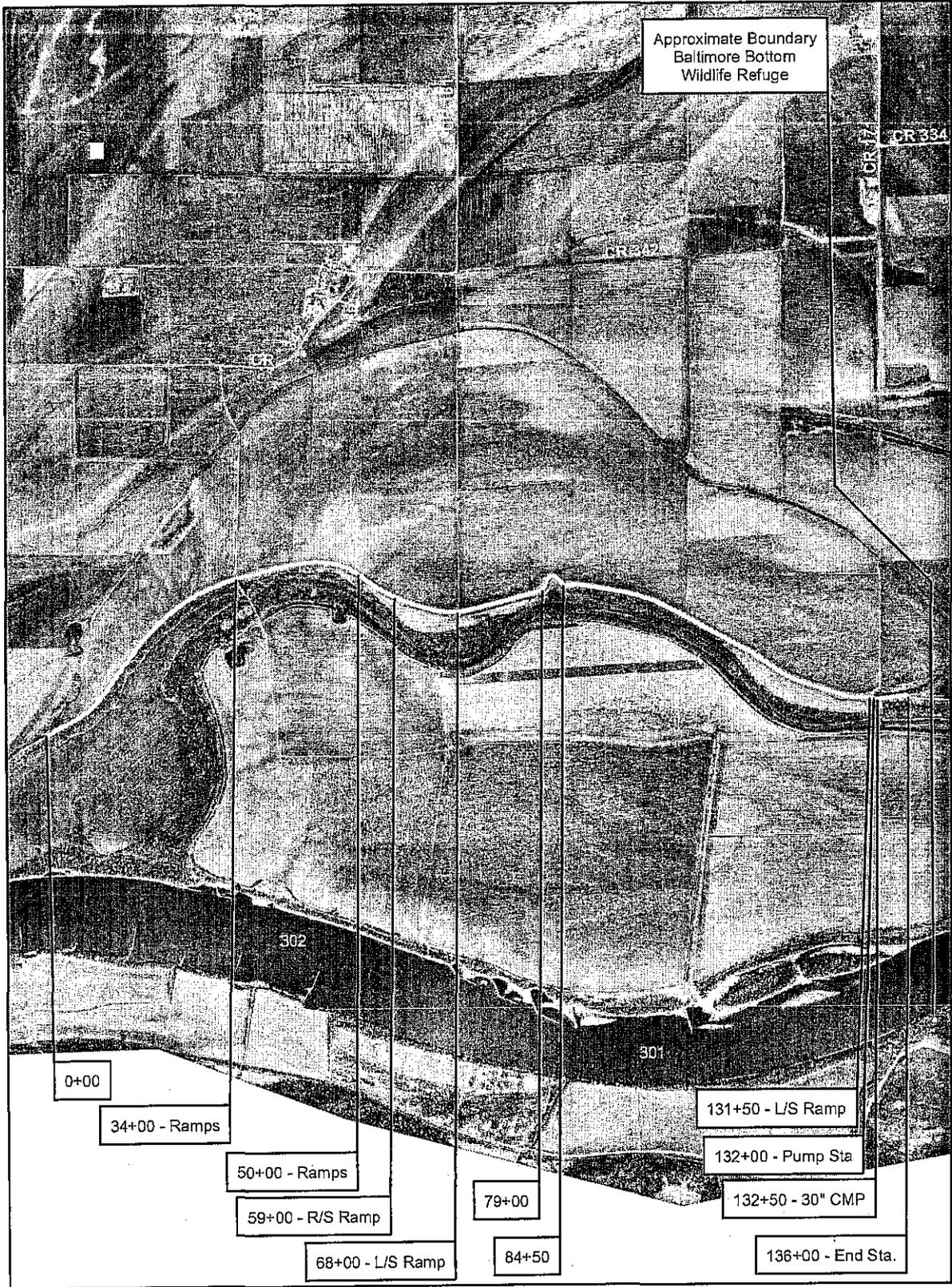


**Item 70A
Miles Point Levee**

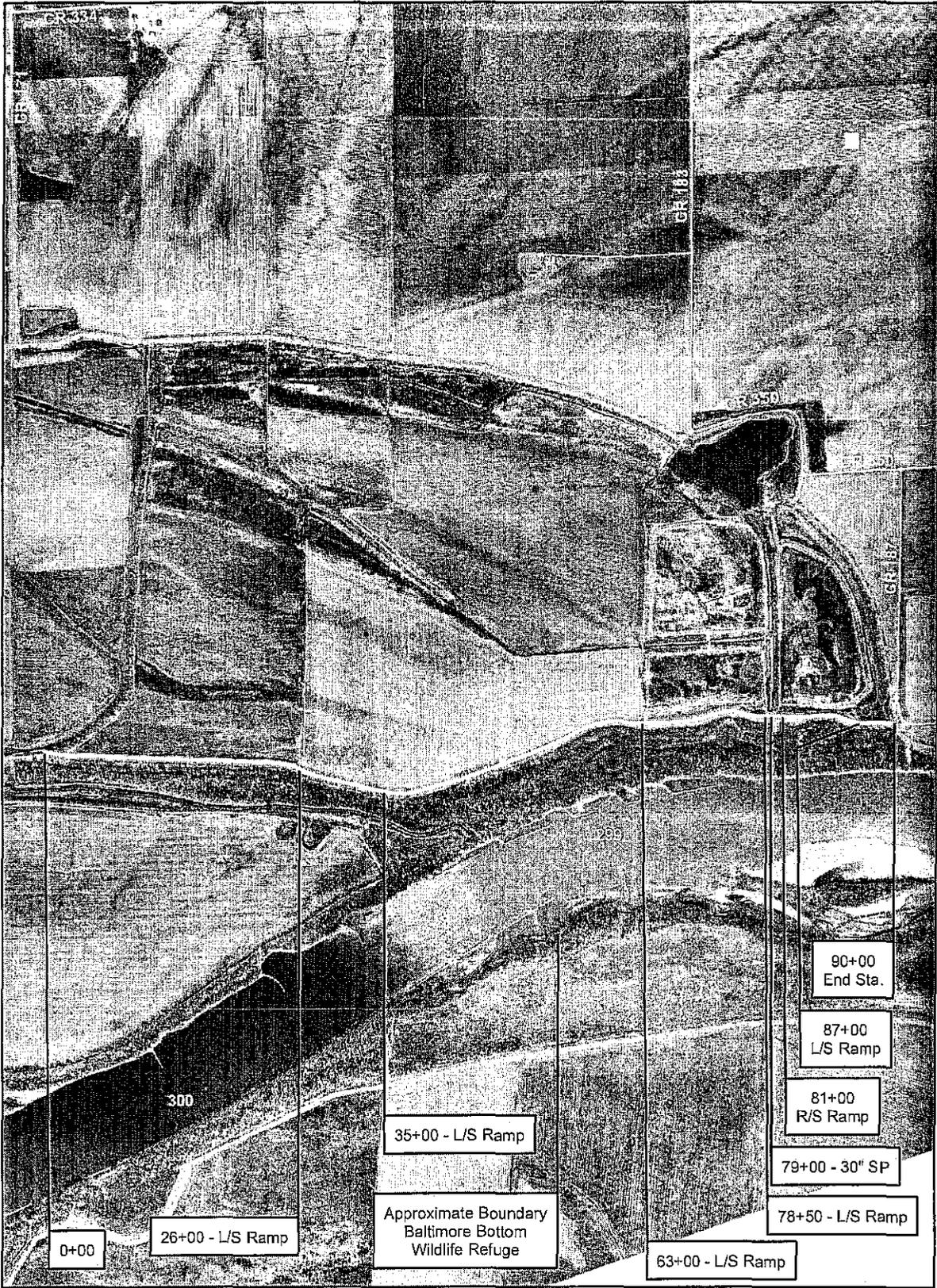


Item 70
Cherry Valley Levee District

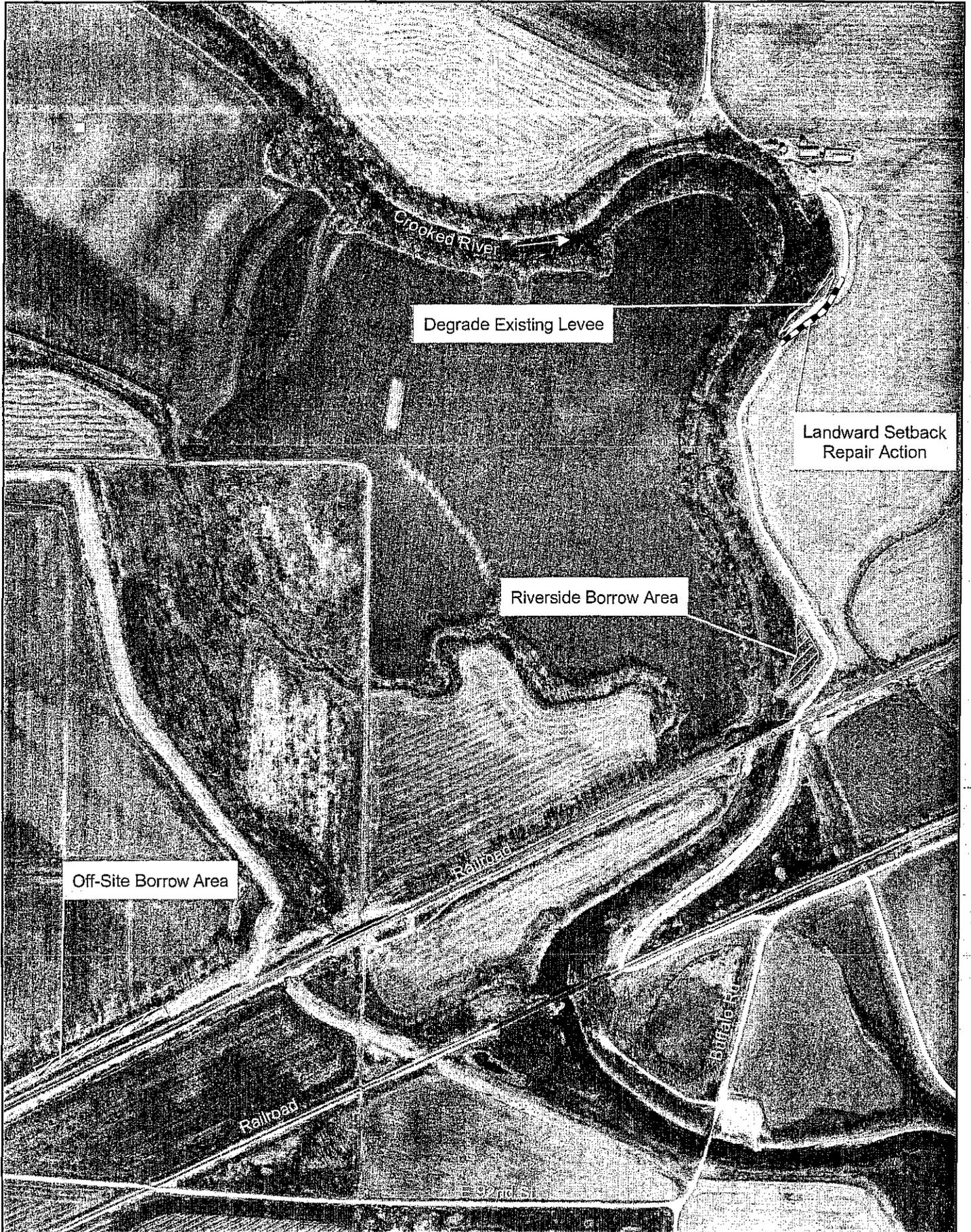
ATTACHMENT B - 5



Item 69E
Baltimore Bend Levee District



Item 69R
Belcher-Lozier Levee



Off-Site Borrow Area

Degrade Existing Levee

Riverside Borrow Area

Landward Setback
Repair Action

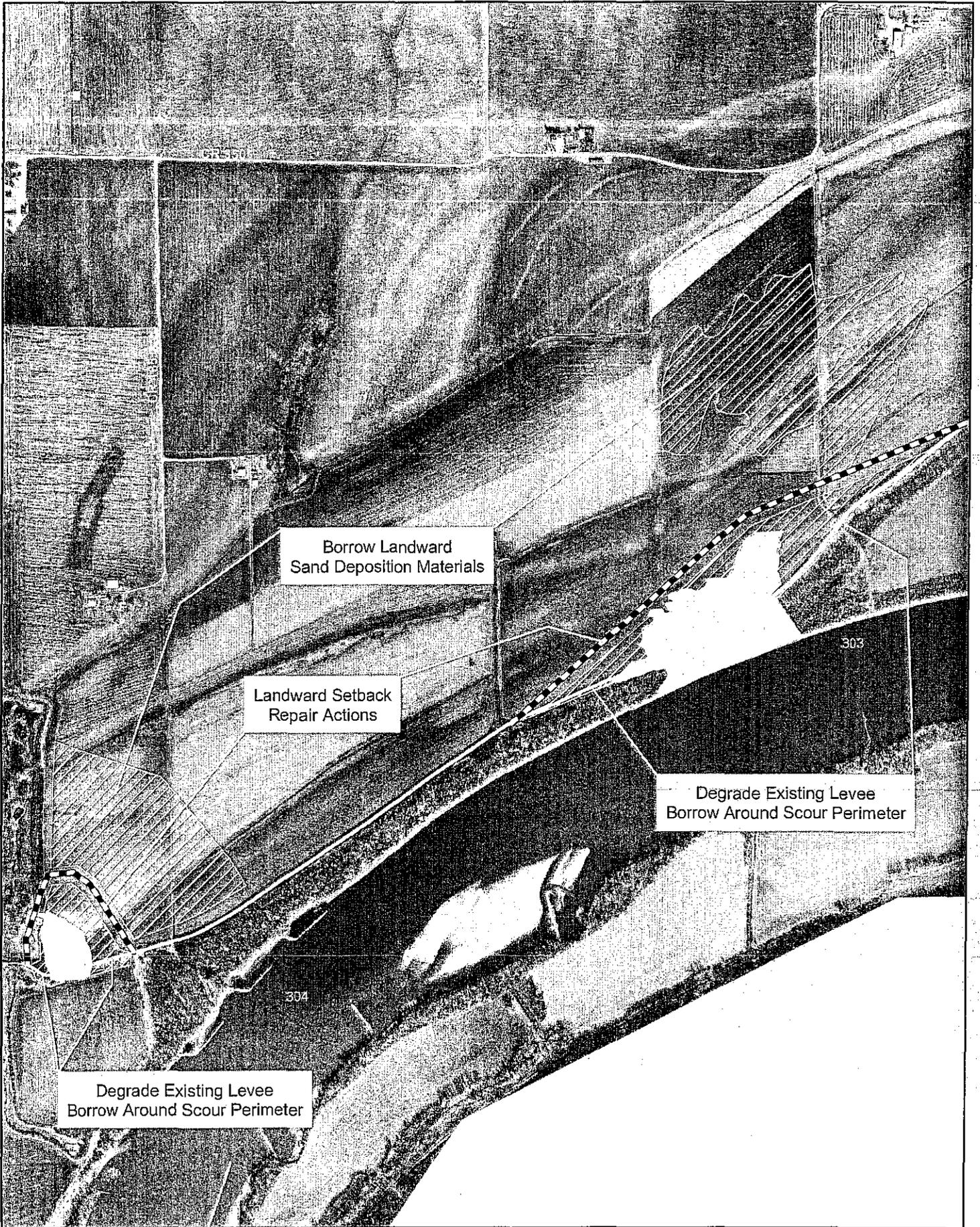
Crooked River

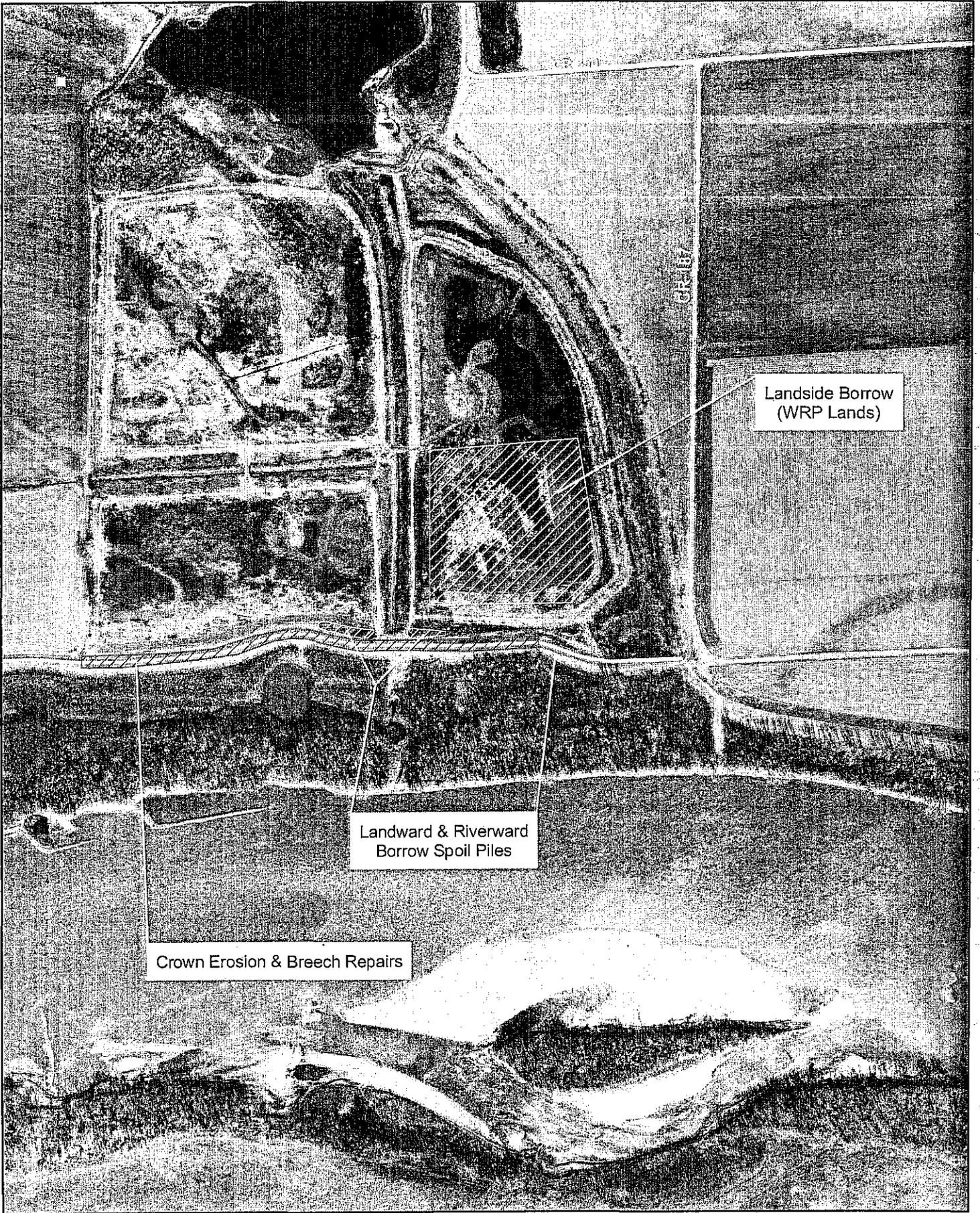
Railroad

Railroad

Buffalo Rd

0 50 100
feet





Landside Borrow
(WRP Lands)

Landward & Riverward
Borrow Spoil Piles

Crown Erosion & Breach Repairs

APPENDIX II – NEPA REVIEW

*Cherry Valley Levee District (Item 70),
Baltimore Bend Levee District (Item 69E),
Belcher-Lozier Levee District (Item 69R),
Miles Point Levee District (Item 70A),
Ray County Levee and Drainage District - No. 2 (Item 71), and
Henrietta-Crooked River Levee and Drainage District (Item 71TS2)
P.L. 84-99 Levee Rehabilitation Project
Carroll and Ray Counties, Missouri
November 2007*



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

November 14, 2007

REPLY TO
ATTENTION OF

Environmental Resources Section
Planning Branch

Mr. Mark Miles
Director and Deputy State Historic Preservation Officer
State Historic Preservation Office
Department of Natural Resources
P. O. Box 176
Jefferson City, Missouri 65102-0176

Dear Mr. Miles:

The U.S. Army Corps of Engineers, Kansas City District (Corps) is planning emergency repairs to the Ray County Levee, Miles Point Levee, Cherry Valley Levee District, Baltimore Bend Levee District, and Belcher-Lozier Levee. All of the repairs are part of a contiguous levee system that extends north of the Missouri River in Ray and Carroll Counties. The repairs are required because of damage to the existing structures during flooding events in May of 2007. The Corps has completed its review of the project in compliance with the terms as described in the 1993 Programmatic Agreement with your office regarding the implementation of emergency repair and restoration of damaged flood control projects as authorized by Public Law 84-99. Attached for your review and comment are project maps showing locations of the proposed work.

A description of the damage and repairs in each of the above mentioned levees are presented below. The locations of all repair sites are depicted on the attached aerial map. Repairs that will require borrow areas are depicted on topographic maps

Ray County Levee & Drainage District

The damages consist of one area of riverside ramp erosion and intermittent reaches of destroyed sod cover on the riverside levee embankment slope. The recommended repair action consists of re-seeding riverside levee slope; and in-place repairs at riverside ramp erosion area. No borrow is required for these repairs.

Miles Point Levee District

The damages consist of intermittent reaches of destroyed sod cover on the riverside levee embankment slope at station. The recommended repair action consists of re-seeding of riverside levee slope. No borrow is required for these repairs.

Cherry Valley Levee District

The damages consist of two severe levee breaches, intermittent crown and landside erosion and destroyed sod cover on levee embankment slopes. The recommended repair action consists of re-seeding of landside and riverside levee slopes; repairs of lost sod cover on landside and riverside levee slopes, one severe breach, and intermittent crown and landside erosion areas; an approximate 1,850-linear-foot-long landward levee setback; repairs of lost sod cover on landside and riverside levee slopes and one severe breach with an approximate 4,280-linear-foot-long landward levee setback. Three borrow areas have been selected for the repairs. The borrow would be from the upper 24 inches and will be taken from areas that

have been previously borrowed and disturbed by construction of the present levee. The area is likely also recently accreted land.

Baltimore Bend Levee District

The damages consist of intermittent reaches of landside slope erosion and destroyed sod cover on levee embankment slopes. The recommended repair action consists of in-place repair of all intermittent landside slope erosion areas and re-seeding of landside and riverside levee slopes. No borrow is required for these repairs.

Belcher-Lozier Levee

The damages consist of one levee breach, crown erosion and intermittent reaches of destroyed sod cover on crown and levee embankment slopes. The recommended repair action consists of re-seeding of landside and riverside levee slopes; re-seeding of crown and landside and riverside levee slopes; in-place repairs to crown erosion area; and in-place repairs to breach area. Three borrow areas have been selected for the repairs (see attached map 2). The borrow would be from the upper 24 inches and will be taken from areas that have been previously borrowed and disturbed by construction of the present levee. The area is likely also recently accreted land.

A review of the National Register of Historic Places (NRHP) found no properties listed on the NRHP within or near any of the five proposed repair areas. A check of Missouri River topographic site location maps in the Corps District office (Dover and Waverly, Mo. 7.5 minute topographic quads) depict no sites within or near any of the five project locations. No shipwrecks are recorded within any of the proposed project areas. Examination of historic channel maps from 1879 and 1926 indicates that the Cherry Valley Creek District borrow areas are situated on former channel locations. All of the proposed construction areas have been previously disturbed by levee construction including borrowing activity and agricultural related disturbances.

Given the previous disturbances in the proposed repair and borrow areas, it appears unlikely that the projects will have an effect on sites listed on or eligible for inclusion on the National Register of Historic Places (NRHP). Therefore, we recommend no further work for the project. If in the unlikely event that archeological materials are discovered during project construction, work in the area of discovery will cease and the discovery investigated by a qualified archeologist. The findings on the discovery would be coordinated with your office and appropriate federally recognized Native American tribes.

Thank you for your consideration in this matter. If you have any questions or have need of further information please contact Timothy Meade, USACE Kansas City District Cultural Resource Manager at Timothy.M.Meade@nwk02usace.army.mil or at (816) 389-3138.

Sincerely,

Timothy Meade
District Archeologist

Enclosure

Vandenberg, Matthew D NWK

From: Meade, Timothy M NWK
Sent: Wednesday, November 14, 2007 1:06 PM
To: Vandenberg, Matthew D NWK
Subject: FW: Levee Repair Letter #1

....and SHPO's response.

-----Original Message-----

From: Judith Deel [mailto:judith.deel@dnr.mo.gov]
Sent: Wednesday, November 14, 2007 11:26 AM
To: Meade, Timothy M NWK
Subject: Re: Levee Repair Letter #1

Tim, we have reviewed the information submitted for the emergency repairs to the Ray County Levee, Miles Point Levee, Cherry Valley Levee District, Baltimore Bend Levee District and the Belcher-Lozier Levee. Based on this review we concur with your recommendation that the projects are 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. A hard copy letter will follow.

Judith Deel
State Historic Preservation Office
Missouri Department of Natural Resources P.O. Box 176 Jefferson City, MO 65102
573/751-7862
judith.deel@dnr.mo.gov

"Meade, Timothy M NWK" <Timothy.M.Meade@usace.army.mil>

11/14/2007 11:12 AM To

"Deel, Judith MVS External Stakeholder" <Judith.Deel@dnr.mo.gov> cc Subject Levee Repair Letter #1

Hi Judith,

As we discussed yesterday, attached is a letter emergency repairs to the Ray County Levee, Miles Point Levee, Cherry Valley Levee, Baltimore Bend Levee, and the Belcher-Lozier Levee. We will also be forwarding a hard copy of the letter and attachments for your records. Let me know if you have any questions.

Thanks,

Tim

District Archeologist
700 Federal Building
601 E. 12th St., Rm. 843

Kansas City, MO 64106-2896

(V) 816-389-3138

(Fax) 816-389-2025

(Cell) 816-519-4186

Timothy.M.Meade@usace.army.mil

[attachment "AR-M350_20040605_140028.pdf" deleted by Judith Deel/DSP/MODNR] [attachment "Levee RepairItem 71, 70A, 70, 69E, 69R SHPO letter 11.1.2007.doc" deleted by Judith Deel/DSP/MODNR]



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

November 2, 2007

REPLY TO
ATTENTION OF

Environmental Resources Section
Planning Branch

Mr. Mark Miles
Director and Deputy State Historic Preservation Officer
State Historic Preservation Office
Department of Natural Resources
P. O. Box 176
Jefferson City, Missouri 65102-0176

Dear Mr. Miles:

The U.S. Army Corps of Engineers, Kansas City District (Corps) is planning emergency repairs to the Henrietta-Crooked River Levee in Ray County, Missouri. The repairs are required because of damage to the existing structure during flooding events in May of 2007. The Corps has completed its review of the project in compliance with the terms as described in the 1993 Programmatic Agreement with your office regarding the implementation of emergency repair and restoration of damaged flood control projects as authorized by Public Law 84-99. Attached for your review and comment are project maps showing locations of the proposed work and a portion of the Hardin Co., Missouri 7.5-minute USGS topographic map that depict probable archeological sites in the vicinity of the project.

The Henrietta-Crooked River levee segment consists of approximately 33,600 linear feet of earthen levee on the left descending bank (LDB) of the Missouri River between river mile 313.8 to 311.8, and the LDB of the Crooked River in Ray County. The levee unit adjoins the Ray County segment. The recommended plan consists of repairs to riverside toe slope erosion and construction of an approximately 400-linear-foot-long landward levee setback. The repairs and levee set back would require borrow material that would be obtained from the immediately adjacent area (see project plan). Approximately 90% of borrow material would be obtained from portions of the existing levee riverward of the new levee setback. The remaining 10% would come from off-site abandoned levees or from an open area located riverward of levee. The maximum depth of borrowing activity would be no more than two feet below present ground surface.

A review of the National Register of Historic Places (NRHP) found no properties listed on the NRHP within or near the proposed project area. Corps topographic maps obtained by the Corps for levee repairs associated with the 1993 flood found four probable sites Marked as 9, 21, 22, and 23 in the general vicinity of the project area See attachment. The Corps does not have site forms or any additional information for these assumed sites, so the site type and eligibility are not known. The sites as depicted on the map will not be impacted by the proposed work. The nearest is 22 which is mapped 300-400 feet east of the proposed levee setback and a proposed borrow area. Given the location of these sites, it is possible some or all of the project area has been

previously surveyed. No shipwrecks are recorded within the proposed project area. The project was not examined during investigations following the 1993 flood. The proposed construction areas have been previously disturbed by levee construction including borrowing activity and agricultural related disturbances.

Given the previous disturbances in the proposed repair and borrow areas, it appears unlikely that the project will have an effect on sites listed on or eligible for inclusion on the National Register of Historic Places (NRHP). Therefore, we recommend no further work for the project. If your records indicate that these likely nearby sites extend into the project area or additional potential historic properties may be impacted by the undertaking, then the Corps would complete any needed fieldwork to identify potential NRHP-eligible properties prior to construction.

If in the unlikely event that archeological materials are discovered during project construction, work in the area of discovery will cease and the discovery investigated by a qualified archeologist. The findings on the discovery would be coordinated with your office and appropriate federally recognized Native American tribes.

Thank you for your consideration in this matter. If you have any questions or have need of further information please contact Timothy Meade, USACE Kansas City District Cultural Resource Manager at Timothy.M.Meade@nwk02usace.army.mil or at (816) 389-3138.

Sincerely,

Timothy Meade
District Archeologist

Enclosure

CULTURAL RESOURCE ASSESSMENT
Section 106 Review

CONTACT PERSON/ADDRESS

C:

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

Joe Cothorn, EPA

PROJECT:

Emergency Repairs, Henrietta-Crooked River Levee

FEDERAL AGENCY

COE

COUNTY:

RAY

The State Historic Preservation Office has reviewed the information submitted on the above referenced project. Based on this review, we have made the following determination:

After review of initial submission, the project area has a low potential for the occurrence of cultural resources. A cultural resource survey, therefore, is not warranted.

Adequate documentation has been provided (36 CFR Section 800.11). There will be "no historic properties affected" by the current project.

An adequate cultural resource survey of the project area has been previously conducted. It has been determined that for the proposed undertaking there will be "no historic properties affected".

For the above checked reason, the State Historic Preservation Office has no objection to the initiation of project activities. PLEASE BE ADVISED THAT, IF THE CURRENT PROJECT AREA OR SCOPE OF WORK ARE CHANGED, A BORROW AREA IS INCLUDED IN THE PROJECT, OR CULTURAL MATERIALS ARE ENCOUNTERED DURING CONSTRUCTION, APPROPRIATE INFORMATION MUST BE PROVIDED TO THIS OFFICE FOR FURTHER REVIEW AND COMMENT. Please retain this documentation as evidence of compliance with Section 106 of the National Historic Preservation Act, as amended.

By: Mark A. Miles, Deputy State Historic Preservation Officer

November 30, 2007
Date

MISSOURI DEPARTMENT OF NATURAL RESOURCES
STATE HISTORIC PRESERVATION OFFICE
P.O. Box 176, Jefferson City, Missouri 65102

For additional information, please contact Judith Deel, (573) 751-7862. Please be sure to refer to the project number:
004-RY-08



Matt Blunt, Governor • Doyle Childers, Director

DEPARTMENT OF NATURAL RESOURCES

www.dnr.mo.gov

November 26, 2007

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

Re: Emergency Repairs, Ray County Levee, Miles Point Levee, Cherry Valley Levee District,
Baltimore Bend Levee District & Belcher-Lozier Levee (COE) Carroll & Ray Counties, 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 Ray County Levee, Miles Point Levee, Cherry Valley Levee District, Baltimore Bend Levee District and the Belcher-Lozier Levee. Based on this review we concur with your recommendation that the projects are 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 **(012-MLT-08)** on all future correspondence or inquiries relating to this project.

Sincerely,

STATE HISTORIC PRESERVATION OFFICE

A handwritten signature in black ink, appearing to read "Mark A. Miles".

Mark A. Miles
Director and Deputy
State Historic Preservation Officer

MAM:jd



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

REPLY TO
ATTENTION OF:

Planning, Programs and Project Management Division
Planning Branch

NOTICE OF AVAILABILITY

An Environmental Assessment titled Cherry Valley Levee District, Item No. 70; Baltimore Bend Levee District, Item No. 69E; Belcher-Lozier Levee District, Item No. 69R; Miles Point Levee District, Item No. 70A; Ray County Levee and Drainage District – No 2, Item No. 71, and the Henrietta-Crooked River Levee and Drainage District, Item No. 71TS2, 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 (CENWK), in cooperation with the project sponsors, Cherry Valley Levee District, Baltimore Bend Levee District, Belcher-Lozier Levee District, Miles Point Levee District, Ray County Levee and Drainage District – No 2, and the Henrietta-Crooked River Levee and Drainage District (Associated Districts), propose to construct the Associated Districts 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 and Ray Counties, Missouri along the left descending bank of the Missouri River, between river miles 313.8 to 298.2. The proposed project would involve the re-seeding of landside and riversides slopes, repairs to breaches using earthen fill, repairs to intermittent levee crowns and erosion areas, levee setbacks, and the replacement of lost sod. 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. Matthew D. Vandenberg; U.S. Army Corps of Engineers; PM-PR, 601 E. 12th St, Kansas City, Missouri, 64106; to request a copy in writing, at (816-) 389-3146 to request a copy by phone, or at matthew.d.vandenberg@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,

Wm. Glenn Covington
for David L. Combs
Chief, Planning Branch