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# **ENVIRONMENTAL ASSESSMENT**

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## **SECTION 14 EMERGENCY STREAMBANK PROTECTION**

### **EDWARDS RIVER SEWAGE LAGOONS MATHERVILLE, MERCER COUNTY, ILLINOIS**

**PUBLIC REVIEW DRAFT**

**JULY 2011**



**US Army Corps  
of Engineers** ®  
Rock Island District



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#### EDWARDS RIVER SEWAGE LAGOONS MATHERVILLE, MERCER COUNTY, ILLINOIS

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### I. PURPOSE AND NEED FOR ACTION

The purpose of the *Edwards River Sewage Lagoons, Matherville, Mercer County, Illinois Environmental Assessment* project (Project) is to protect the sewage lagoons for the Village of Matherville, Illinois (Village), from bankline erosion of the Edwards River. The river is eroding the right descending streambank in this area and threatening the stability of the sewage lagoons. The Edwards River has changed course since high water events of 2008, causing the river to migrate toward the sewage lagoons. Large amounts of bankline are lost with each high water event. If immediate action is not taken, it is expected that continuing erosion will cause failure of the sewage lagoons. This would cause the sewage to be released directly into the Edwards River and leave the Village without a sewage treatment facility.

Section 14 of the 1946 Flood Control Act, as amended, provides formal authorization for the US Army Corps of Engineers (Corps) to perform this emergency streambank protection. The Section 14 program is designed to implement projects to protect public or non-profit private facilities and/or services which are open to all on equal terms, have been properly maintained but threatened by natural processes on stream banks and shorelines, and are essential and important enough to merit Federal participation in their protection.

### II. PROJECT DESCRIPTION

This Project would stabilize two stream bends and protect essential infrastructure for the Village. The Edwards River is a tributary of the Mississippi River that flows in a generally westerly direction through Henry and Mercer Counties in western Illinois, with a drainage area of 446 square miles. The Edwards River has been modified and channelized throughout much of its length. As a result, the river is prone to flash flooding and erosion as the river attempts to stabilize itself. The Project area consists of two sites totaling approximately 840 linear feet, along the right descending bankline. The Project site is southwest of Matherville, Illinois, Mercer County, Illinois. Matherville is the non-Federal Sponsor for this Project (NFS). Except for the sewage treatment facility, the landscape surrounding the Project site is predominantly agricultural and lowland forest.

The recommended plan involves removing fallen trees and sediment (1,100 cubic yards) from a 500-foot length of the river channel. Sediment and fallen trees have accumulated on the inside bend, forcing more water toward the outside bend. While material has been accumulating on the inside, bank erosion along the outer bend has forced the river to migrate toward the sewage lagoons, sharpening the angle of the bend. Removal of the material will allow for a proper width and radius for the two river bends. The preferred plan involves using Longitudinal Peak Stone Toe Protection (LPSTP) to stabilize the bank. To create the LPSTP, 250 pound top size riprap would be placed 5 feet high 15 feet wide with side slopes of

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1.5:1 (H:V) beyond the toe of the bank at the two separate erosion locations. The LPSTP would be approximately 330 linear feet at the east site and 510 linear feet at the West site. Keys would be spaced every 75 feet for a total of 10 keys, 4 on the east and 6 on the west locations to provide stability and anchor the LPSTP. The keys would vary in length and have a slope of 3:1 (H:V). The tiebacks, on the ends of the LPSTP structures, will have the same slope as the keys (3:1) and are designed to be 35 feet long.

The accumulated sediment that is removed from the left descending bank would be placed behind the LPSTP structure to assist in establishing a bankfull bench. Willow poles would be placed on the material behind the LPSTP at a rate of 1 pole per foot along the riprap keys. In the most heavily eroded area of the East site (between the two most eastern LPSTP keys) stone revetment would be placed. A 2-foot thick armor layer, consisting of riprap (250 pound top size, 18 inches thick) and bedding stone (1½-inch maximum size, 6 inches thick), would be placed against the slope of the river bank from the toe to the top of the bank, a length of 75 feet. The toe protection of the riprap would extend 8 feet into the river with a thickness of 3 feet. Access would occur from the existing access road for the sewage lagoons. The Village would need to acquire two permanent easements—a channel improvement easement and an access easement—as well as a temporary easement for staging and construction.

### **III. ALTERNATIVES**

**A. No Federal Action.** Under the No Action alternative, bank erosion along the sewage lagoons is likely to continue and likely lead to failure of the sewage lagoons.

**B. Relocation of Sewage Lagoons.** Relocation of the sewage lagoons away from the riverbank was not acceptable to the sponsor and was not determined to be cost effective.

**C. Live Erosion Control.** Vegetative solutions to erosion problems are often desirable, but success is not always achieved even under ideal conditions. Willow plantings were examined and eliminated due to the proximity of the erosion area to the sewage lagoons. This technique is not expected to be suitable for the Project area due to the steep embankment and an existing erosion rate which will not allow the establishment of a vegetation buffer.

**D. Sediment and Fallen Tree Removal.** This alternative would remove fallen trees in the river, roughly 1,100 cubic yards of sediment 500 feet in length. The sediment and trees would be mechanically removed from the stream and hauled to an offsite disposal area owned by the Village. This alternative does not prevent bank erosion along the sewage lagoons.

**E. Bankline Riprap Revetment and Sediment and Tree Removal.** This alternative would remove fallen trees and sediment (1,100 cubic yards) from a 500-foot length of the river channel. The sediment and trees would be mechanically removed from the stream and hauled to an offsite disposal area owned by the Village. A 2-foot thick armor layer, consisting of riprap (250 pound top size, 18 inches thick) and bedding stone (1½-inch maximum size, 6 inches thick), would be placed against the slope of the river bank from the toe to the top of the bank, a length of 75 feet, in the two eroding

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sections. The toe protection of the riprap would extend 8 feet into the river with a thickness of 3 feet. Since this alternative had the highest total Project cost it was dropped from further consideration.

**F. LPSTP, Live Erosion Control, Sediment and Tree Removal.** This alternative would mechanically remove fallen trees and sediment (1,100 cubic yards) from a 500-foot length of the river channel. The trees would be hauled to an offsite disposal area owned by the Village, while the sediment would be placed behind the LPSTP to help establish the bankfull bench. To create the LPSTP, 250 pound top size riprap would be placed 5 feet high, 15 feet wide with side slopes of 1.5:1 (H:V) beyond the toe of the bank at the two separate erosion locations. The LPSTP would be 330 linear feet at the East site and 510 linear feet at the West site. Keys would be spaced every 75 feet for a total of 10 keys, 4 on the East and 6 on the West locations. The keys would vary in length (see table 1) and have a slope of 3:1(H:V). The tiebacks have the same slope as the keys (3:1) and are designed to be 35 feet in length. Willow poles would be laid on the LPSTP at a rate of 1 pole per foot along the riprap keys. Since there was a higher risk associated with this Project it was dropped from further consideration.

**G. Combination of LPSTP, Riprap Revetment, Live Erosion Control, and Sediment and Fallen Tree Removal.** This alternative would mechanically remove fallen trees and sediment (1,100 cubic yards) from a 500-foot length of the river channel. The trees would be hauled to an offsite disposal area owned by the Village, while the sediment would be placed behind the LPSTP to help establish the bankfull bench. To create the LPSTP, 250 pound top size riprap would be placed 5 feet high 15 feet wide with side slopes of 1.5:1 (H:V) beyond the toe of the bank at the two separate erosion locations. The LPSTP would be 330 linear feet at the East site and 510 linear feet at the West site. Keys would be spaced every 75 feet for a total of 10 keys, 4 on the East and 6 on the West locations. The keys would vary in length and have a slope of 3:1 (H:V).

The tiebacks have the same slope as the keys (3:1) and are designed to be 35 feet in length. Willow poles would be placed on the sediment behind the LPSTP at a rate of 1 pole per foot along the riprap keys. In the most heavily eroded area of the East site (between the two most eastern LPSTP keys) stone revetment would be placed. A 2-foot thick armor layer, consisting of riprap (250 pound top size, 18 inches thick) and bedding stone (1½-inch maximum size, 6 inches thick), would be placed against the slope of the river bank from the toe to the top of the bank, a length of 75 feet. The toe protection of the riprap would extend 8 feet into the river with a thickness of 3 feet.

Alternative G is the preferred/recommended alternative for this Project. Alternatives E, F, and G would provide appropriate protection to stabilize the banks. Alternative E, involving primarily riprap for protection, was more costly than alternative G. Alternative G was selected over alternative F based on the risk and uncertainty analysis performed by the Project Delivery Team (PDT). It was determined that the natural backfill erosion that occurs with LPSTP may shorten the life of the Project in certain sections. To mitigate this risk, the PDT decided riprap was needed in the most highly erodible area.

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#### **IV. AFFECTED ENVIRONMENT**

**A. Created Resources.** The Village's sewage lagoons provide a sewage treatment facility for the Village's residents. The combination of LPSTP, riprap revetment, live erosion control, and sediment and fallen tree would stabilize two bends of the Edwards River and prevent the bank erosion from causing failure of the sewage lagoons.

**B. Natural Resources.** The Edwards River has been heavily influenced by channelization upstream of the site. Visible erosion of the banks is evident on site. Both banks along this section of river are experiencing sloughing and undercutting. The roots of trees along the bank are being exposed and numerous trees have fallen into the stream as a result of the bank erosion. Bank erosion is most severe along the outer edge of meanders, one of which is present at the upstream end of the site. The Edwards River has noticeably changed course in sections along the proposed Project site since 2007.

The directly affected environment for this Project includes the riverbank slope and the portion of the river bottom that would be covered by rock for LPSTP and riprap. The impact zone substrate is primarily sand but also contains clay, and silt mixture with some organic matter present, including eroding turf, leaves and twigs/branches.

Grasses and non-woody vegetation along the Project area would be affected by machinery/equipment to access and place the LPSTP and riprap. The vegetation species primarily impacted by the proposed Project are common species associated with disturbance and regularly maintained conditions of the lagoon facilities. Some of the most prevalent species at the Project site include Kentucky blue grass, sweet clover, switchgrass, fox tail, and rag weed. These and similar species should quickly recolonize the disturbed areas after construction is completed. Construction is expected to take approximately one month. The staging area will be located on the sewage lagoon facility roadway.

Silver maple is the dominant tree species but other species, including ash and elm, are present. The majority of trees are live mature trees with few dead trees noted. The Project area does contain potential habitat for Indiana bats. Indiana bats use riparian and upland forests for summer maternity roosts, targeting the tree cavities or trees with exfoliating bark. The Indiana bat uses small stream corridors with well developed riparian woods and upland forests as summer foraging areas.

There is not much aquatic habitat diversity within this section of the Edwards River. Habitat and flow diversity appears to be created primarily from the log jams from fallen trees and also by exposed roots of trees along the bank from erosion. The contribution of sediment from bank erosion within the watershed has created a substrate of shifting material. The current conditions of the Edwards River at the Project site reduce the available habitat for mussels. Although the available habitat for fish species is also reduced, species which are tolerant of degraded conditions may be present. The most common fish species likely include common carp, green sunfish, creek chub, bluntnose minnow, and white sucker.

The Project area is likely used by aquatic birds. Wading birds commonly use the shoreline of rivers as foraging areas. The forested areas would also provide habitat for bird species that use bottomland forest.

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**C. Cultural Resources.** In 1981, an archeological survey was conducted for the location of a proposed settlement pond adjacent to the existing sewage lagoons. The survey is documented in the report titled *Report of Investigations, No. 57, Final Report of an Archaeological Survey of a Proposed Sewage Treatment Facility at Matherville, Illinois* by James G. Stark and Dr. Elizabeth Benchley (1981). This report was prepared by The Archaeological Research Laboratory, University of Wisconsin-Milwaukee through a contract with the Federal Engineering Company of Iowa. The report documented bottomland wetlands with no evidence of archeological sites.

The area of the river proposed for stabilization consists of a partially eroded sewage lagoon embankment which is located within the 1981 survey area and within the river channel. The State of Illinois Geographic Information Systems 2004 site file database revealed that there are no historic properties within 2 miles of the Project area.

**D. Social Resources.** Current census data for Mercer County shows a racial composition that is 98 percent white. The percentage of residents below the poverty level is lower than the State of Illinois. Per capita income (\$18,645) is lower than reported state average (\$23,104). No impacts on any populations or groups would be expected.

## **V. ENVIRONMENTAL IMPACTS OF THE PREFERRED ALTERNATIVE**

**A. Created Resources.** The sewage lagoons, including the berms and other associated structures, are created resources. The access road to the sewage lagoons is also a created resource. These facilities would not be adversely affected by construction. Alternative G would protect the sewage lagoons and berms from failure caused by bank erosion along Edwards River.

**B. Natural Resources.** The affected area for this Project is approximately 6 acres. Temporary disturbances to vegetation and local wildlife may occur during the construction phase. This area would require clearing of grasses to allow equipment to grade the bank where necessary and place the LPSTP and riprap bank protection. The non-woody vegetation species primarily impacted by the proposed Project are common species associated with disturbance and regularly maintained conditions of the lagoon facilities. These and similar species should quickly recolonize the disturbed areas. The rock for the erosion protection features for this Project would come from either new or existing location approved by the Corps' Rock Island District (District). If the rock is obtained from a new quarry, the area must be reviewed to address compliance with National Environmental Policy Act (NEPA) prior to commencement of the Project. The riprap for the LPSTP structures would stabilize the banks and may provide habitat for aquatic organisms. Minor tree removal may be required for riprap placement. All tree removal will be minimized to the extent practicable would only occur between October 1 and March 31 to avoid incidental take of Indiana bats. The current condition of the River and the regular maintenance of the sewage lagoon facilities, limits the scope and severity of potential impacts. With tree removal to only between October 1 and March 31, no significant adverse impacts are anticipated from the implementation of the proposed Project.

**C. Endangered Species.** There are three federally listed threatened or endangered species recorded for Mercer County, Illinois. The federally-threatened species is the eastern prairie fringed orchid

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(*Platanthera leucophaea*), while the Higgins eye pearly mussel (*Lampsilis higginsii*) and the Indiana bat (*Myotis sodalis*) are both federally endangered. The Eastern prairie fringed orchid is mostly found in prairie remnants. This habitat type is not found in the Project area and this species should not be impacted if the project is implemented. The Higgins eye pearly mussel is found in the Mississippi River and the Rock River up to the Steele Dam. Since Higgins eye pearly mussels are not known to occur in the Edwards River and the Project area is highly disturbed, the Higgins eye pearly mussel should not be impacted. Some tree clearing may be required for construction equipment to be able to place the rock for the LPSTP and riprap. All tree clearing will be minimized to the extent practicable, as the point of the Project is stabilization of the bank and would be at odds with tree clearing. All tree removal will occur between October 1 and March 31 to avoid incidental take of Indiana bats.

Although not currently listed as federally threatened or endangered, the Snuffbox (*Epioblasma triquetra*), Sheepnose (*Plethobasus cyphus*), and Spectacle case (*Cumberlandia monodonta*) have been proposed to be added as listed species. Snuffbox mussels are known to inhabit small to medium sized rivers with swift current. The Snuffbox is very sporadic in distribution and is considered extirpated from the Mississippi River in this region. No impact to the Snuffbox is expected if this Project is implemented. Sheepnose mussels are found in larger rivers and streams with shallow sandy and gravel areas with moderate to high current. With the current highly degraded conditions of the proposed Project site, no impacts to the Sheepnose are expected if the Project is implemented. Spectaclecase mussels are found in large rivers where they live in areas sheltered from the main force of the current. They are usually found in clusters in firm mud beneath rock slabs, between boulders, and under tree roots. Given the lack of suitable habitat in the proposed Project area, no impacts are expected to the Spectaclecase.

**D. Cultural Resources.** By letter dated January 13, 2011, the District notified the Illinois Historic Preservation Agency of the proposed Project (Appendix A). This correspondence described the Project, as proposed with the finding that the Project will not affect any known or undocumented archeological properties. The District consulted with the Native tribes and other interested parties, as promulgated under new amendments to the National Historic Preservation Act (2000). By returned letter, stamped “CONCUR”, dated January 20, 2011, the Deputy State Historic Preservation Officer responded to the District’s January 13, 2011 correspondence (Appendix A). No other comments were received from the Native tribes or other interesting parties.

**E. Air Quality.** Minor, temporary increases in airborne particulates are anticipated to occur as a result of mobilization and use of construction equipment. Disturbances to nearby residents during workdays would be minimal, and no air quality standards should be violated during construction of this Project.

**F. Water Quality.** Some initial minor loss of riparian habitat may result from access to, and construction of Project features. Once the Project is completed, the area should quickly recolonize and revegetate. Temporary increases in turbidity may occur during construction, but turbidity levels are expected to return to pre-Project levels or lower, since the bankline would no longer be eroding into the river. For these reasons, no long-term impacts to water quality would be anticipated. Any impacts to the River ecosystem during Project construction would be offset by the ultimate stabilization of the bank and preservation of the sewage lagoons.

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**G. Hazardous, Toxic and Radioactive Waste.** An Environmental Site Assessment Transaction Screening Process for the proposed Project area was completed in general accordance with ASTM E 1528-06; Engineering Regulation 1165-2-132; and Mississippi Valley Division Regulation 1165-2-9. The inquiry consisted of a review of aerial photographs from 2009, 2005, and the 1930s; a US Geological Survey Topographical Map; and interviews with Project Team members and the Mayor. Additionally, a site visit was completed on June 16, 2010. The Project area is currently an eroding streambank along the Village's sewage lagoons, surrounded by agricultural lands and woodland. A search of US Environmental Protection Agency (EPA); Illinois EPA; Illinois Bureau of Mines; and the National Response Center databases revealed no recognized environmental conditions within a 1 mile radius of the Project site.

The site visit indicated the presence of an old railroad spur line located immediately west of the Project area. Regarding the former railroad spur, it is recommended that any soils or materials selected for disposal from that area be tested for hazardous, toxic and radioactive waste (HTRW) parameters prior to removal offsite. No further HTRW assessments are recommended at this site.

**H. Cumulative Impacts.** Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Past, existing, and planned activity in the area may contribute to each cumulative impact. The Edwards River, downstream of the Project site, would benefit from the stabilization of the two river bends by reducing the contribution of sediment from eroding banks. The river downstream of the Project site would also benefit from preventing the failure of the Village's sewage lagoons. Although some benefits could be realized downstream from the Project, the overall condition of the Edwards River and banks would not change. No other actions have been identified that would have cumulative impacts on the environment when combined with the effects of the proposed Project.

**I. Community and Regional Growth.** The Project plan would ensure the viability of sewage lagoon for the Village. No incremental impact on community or regional growth is anticipated.

**J. Community Cohesion.** The Project would have a positive impact on community cohesion as the sewage lagoons provide a sewage treatment facility for the residents. No public opposition is anticipated.

**K. Displacement of People.** No residential displacements would be caused by the proposed Project.

**L. Property Values and Tax Revenues.** Three easements will be required for the Project from the current land owner, to include a permanent access easement for 7 acres, a 3-acre permanent channel easement, and a 3-acre temporary construction easement. No discernable change in property values or tax revenues is anticipated. If, at the time of construction, there are real estate requirements found, the NFS would be responsible for coordinating with the District and providing all rights with documentation. Under the current preferred plan and anticipated real estate requirements, there are no Lands, Easements, Rights-of-Way, Relocations and Disposal/Borrow credits to the NFS.

**M. Public Facilities and Services.** The sewage lagoons are the Village's only sewage treatment facility; protecting the current facility would be a benefit to the Village and its residents.

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**N. Life, Health, and Safety.** The sewage lagoons are essential to the health and safety of the residents. Bank stabilization along the sewage lagoons would prevent erosion of the bank and failure of the sewage lagoons. The release of raw sewage from failure of the lagoons could have negative impacts to individuals downstream. Positive impacts to life, health and safety would be realized from the protection of the sewage lagoons.

**O. Business and Industrial Growth.** No long-term impacts to business and industrial growth are anticipated.

**P. Employment and Labor Force.** No direct long-term impacts on employment and labor force in Mercer County, Illinois would be realized from the Project.

**Q. Farm Displacement.** The area agricultural practices would continue as currently performed and would not be affected by the Project.

**R. Noise Levels.** Elevated noise levels associated with construction activities would occur during the construction phase of the Project. No sensitive receptors are within the immediate Project area. The Project is on the edge of town in a relatively remote location. Construction is expected to take approximately one month. Once the Project is completed, noise levels would return to existing conditions and no significant long-term noise impacts are anticipated.

**S. Aesthetics.** The Project is located in a watershed that has been highly modified and channelized and the results are visibly present at the Project site. The affected environment is limited to the riverbank slope and riparian embankment that would be covered by the riprap and erosion, or that would be cleared for machinery/equipment to access, maneuver and place the riprap. The viewscape would be altered slightly during Project construction, but no permanent, long-term impacts to the aesthetics of the area would result.

## **VI. ENVIRONMENTAL IMPACTS OF NON-PREFERRED ALTERNATIVES**

**A. No Action.** Under the No Action alternative bank erosion would continue and likely lead to failure of the sewage lagoons. This alternative would have a significant negative impact on the river system by degrading water quality and creating potential health risks.

**B. Relocation of Sewage Lagoons.** Implementation of this alternative, if technically feasible, may result in negative environmental impacts at a new location. At a minimum, land clearing and excavation would be necessary to build a new lagoon. This alternative does not address the urgent need to protect the current lagoons from failure.

**C. Live Erosion Control.** No significant environmental impacts would result from implementation of this alternative but this alternative would not be effective at protecting the bankline adjacent to the Sewage Lagoons. The resulting environmental impacts of implementing this alternative are expected to be the same as the “No Action alternative”.

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**D. Sediment and Tree Removal.** No significant environmental impacts would result from implementation of this alternative, but this alternative is not expected to be effective in protecting the bankline adjacent to the sewage lagoons. The resulting environmental impacts of implementing this alternative are expected to be the same as the “No Action alternative”.

**E. Bankline Riprap Revetment, and Sediment and Tree Removal.** No significant environmental impacts would result from implementation of this alternative. This alternative would cost more, have a larger impact area, and would not be more effective at protecting the bankline adjacent to the sewage lagoons than the preferred alternative.

**F. Combination of LPSTP, Live Siltation, Sediment and Tree Removal.** No significant environmental impacts would result from implementation of this alternative. This alternative would have a slightly smaller initial impact on the area, relative to the preferred plan. However, this alternative would have a higher risk of failure for the lagoons. This includes greater economic risk, as well as greater risk of adverse environmental effects resulting from lagoon failure.

## **VII. PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED**

Due to the machinery and rock placement required for the Project, there would be a temporary increase in noise and a slight decrease in the air and water quality during construction. Also, disturbance to some ground vegetation, including some trees and shrubs, would occur as a result of construction activity.

## **VIII. RELATIONSHIP BETWEEN SHORT-TERM USE AND LONG-TERM PRODUCTIVITY**

The temporary increase in noise and the slight, temporary decrease in air and water quality which would occur during construction are minor and temporary negative environmental impacts associated with a project that would produce positive social, economic, and environmental benefits. This Project would stabilize two bends of the Edwards River and prevent failure of the Village’s sewage lagoons from bank erosion.

## **IX. ANY IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES IF THE PROPOSED ACTION SHOULD BE IMPLEMENTED**

The fuel which machinery uses and construction materials such as rock riprap would be irretrievable commitments of resources associated with this Project.

No irreversible or irretrievable commitment has occurred which would preclude the formulation or implementation of any reasonable and prudent alternative. No commitment of resources has occurred that would prejudice the selection of any alternative before making a final decision on this Project.

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## **X. RELATIONSHIP OF THE PROPOSED PROJECT TO LAND-USE PLANS**

The proposed action is compatible with known land-use plans for this area.

## **XI. COMPLIANCE WITH ENVIRONMENTAL QUALITY STATUTES**

**A. Endangered Species Act of 1973, as amended.** The proposed action has been coordinated with the US Fish and Wildlife Service (USFWS), and the Illinois Department of Natural Resources (ILDNR). Those who have responded to the District's coordination effort have concluded that the Project would not impact any Federal or state endangered or threatened species. The Project, as proposed, would be in full compliance.

**B. National Historic Preservation Act of 1966, as amended** and its implementing regulations 36 Part 800: "Protection of Historic Properties." This Act and its regulations ensure early consideration of historic preservation in Federal undertakings and makes Federal agencies responsible for implementing its requirements. Project plans have been coordinated with the Illinois Historic Preservation Agency. No significant historic properties will be affected by the undertaking as proposed. Any modifications or changes to the undertaking as proposed would require coordination with the Illinois State Historic Officer to identify any historic properties and determine potential effects under Section 106 of the National Historic Preservation Act of 1966 and 36 CFR Part 800. Although the District assures that no significant historic properties will be affected by the Project, as proposed, if any undocumented historic properties are identified or encountered during the undertaking, the District will discontinue all construction activities resume coordination with the Illinois Historic Preservation Agency to identify the significance of the historic property and determine potential effects under Section 106 of the National Historic Preservation Act of 1966 and 36 CFR Part 800.

**C. Federal Water Project Recreation Act.** No increases or decreases in current public recreational opportunities would be realized if this Project were implemented. The Project, as proposed, would be in full compliance.

**D. Fish and Wildlife Coordination Act.** Project plans have been coordinated with the USFWS; the US EPA; the ILDNR; and the Illinois EPA.

**E. Wild and Scenic Rivers Act of 1968, as amended.** This reach of the Edwards River is not listed on the National Rivers Inventory used to identify rivers, or sections of rivers that may be designated by Congress to be component rivers in the National Wild and Scenic Rivers Systems. The Project, as proposed, would be in full compliance.

**F. Executive Order 11988 (Flood Plain Management).** Implementation of the preferred alternative would avoid, to the extent possible, long- and short-term adverse impacts associated with the occupancy and modification of the base floodplain and avoids direct and indirect support of development or growth (construction of structures and/or facilities, habitable or otherwise) in the base

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floodplain wherever there is a practicable alternative. The Project, as proposed, is judged to be in full compliance.

**G. Executive Order 11990 (Protection of Wetlands).** The Project would not adversely impact wetlands. The Project, as proposed, is judged to be in full compliance.

**H. Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations).** This executive order (EO) requires the fair treatment and meaningful involvement of all people regardless of race color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations and policies. Fair treatment means that no group of people, including a racial, ethnic, or a socioeconomic group should bear a disproportionate share to the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of Federal, state, local, and tribal programs and policies. Meaningful involvement means that:

- 1) potentially affected community residents have an appropriate opportunity to participate in decision making about a proposed activity that could affect their environment and/or health;
- 2) the public's contribution can influence the regulatory agency's decision;
- 3) the concerns of all participants involved will be considered in the decision making process; and
- 4) the decision makers seek out and facilitate the involvement of those potentially affected.

There are no residential, commercial, or public structures that will be adversely impacted by the construction of this Project. Following the completion of public review of this EA and the signing of the Finding of No Significant Impact, the Project will be judged to be in full compliance.

**I. Executive Order 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds).** Implementation of the preferred alternative is not likely to have a measurable negative effect on migratory bird populations, and is judged to be in full compliance.

**J. Clean Water Act (Sections 401 and 404),** as amended. The proposed action meets the criteria for a Regional Permit 16 Bank Stabilization Activities in the State of Illinois. A Section 404(b)(1) Evaluation is not required. The State of Illinois has issued Section 401 Water Quality Certification for Regional Permit 16. The Project, as proposed, is judged to be in full compliance.

**K. Clean Air Act,** as amended. No aspect of the proposed Project has been identified that would result in violations to air quality standards. If implemented, this Project would be in full compliance.

**L. Farmland Protection Policy Act of 1981.** The proposed Project would not result in the conversion of any prime, unique, or State or locally important farmland to nonagricultural uses. The Project, as proposed, is judged to be in full compliance.

**M. National Environmental Policy Act of 1969,** as amended. Following public review of this EA, the signing of the Finding of No Significant Impact will fulfill NEPA compliance.

*Environmental Assessment  
Section 14 Emergency Streambank Protection*

*Edwards River Sewage Lagoons  
Matherville, Illinois*

*Public Review Draft*

## **XII. COORDINATION**

Coordination for the Project has been and will be maintained with the following state and Federal agencies and other interested publics:

US Fish and Wildlife Service  
US Environmental Protection Agency, Region 5  
Illinois Environmental Protection Agency  
Illinois Department of Natural Resources  
Illinois Historic Preservation Agency  
Sac and Fox Tribe of the Mississippi in Iowa  
Mercer County Historical Society  
New Boston Historical Society  
Mayor Larry Adams  
Mr. Terry Johnson  
Mr. Alan Snyder

Appendix A includes copies of the District's coordination letters and the responses received.  
Appendix B includes the Distribution List for this Environmental Assessment.

The Illinois State Historic Preservation Officer concurred with the District's determination of no effect to archeological resources and potential adverse effects to the proposed Project site in a letter dated January 20, 2011.

The ILDNR responded by letter dated January 27, 2011. They stated no objection to the Project and that the stone toe protection appeared to be the best option for the erosion.

In a letter dated June 21, 2011 the US FWS provided concurrence with the District's determination of "no effect" for Higgins eye pearl mussel (*Lampsilis higginsii*), eastern prairie fringed orchid (*Platanthaera leucophaea*), Sheepnose mussel (*Plethobasus cyphus*), and Spectacle case mussel (*Cumberlandia monodonta*). The US FWS also concurred with the District's determination of "not likely to adversely affect" the Indiana bat (*Myotis sodalis*).

The ILDNR, Office of Water Resources responded to the Joint Application Form For Illinois submitted by the Village of Matherville. The letter dated June 22, 2011 stated, that it appears the project qualifies for approval under the ILDNR, Office of Water Resources statewide permit program.



Environmental Assessment  
 Section 14 Emergency Streambank Protection

Edwards River Sewage Lagoons  
 Matherville, Illinois  
 Public Review Draft



Figure 2. Site Plan





**SECTION 14 EMERGENCY STREAMBANK PROTECTION**

**EDWARDS RIVER SEWAGE LAGOONS  
MATHERVILLE, MERCER COUNTY, ILLINOIS**

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**ENVIRONMENTAL ASSESSMENT**

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**PUBLIC REVIEW DRAFT**

**FINDING OF NO SIGNIFICANT IMPACT**

I have reviewed the information in this Environmental Assessment, along with data obtained from Federal and state agencies having jurisdiction by law or special expertise, and from the interested public. I find that providing emergency streambank protection along the right descending side of the Edwards River near Matherville, Illinois, would protect the sewage lagoons for the Village of Matherville and would not significantly affect the quality of the human environment. Therefore, it is my determination that an Environmental Impact Statement is not required. This determination will be reevaluated if warranted by later developments.

This Finding of No Significant Impact is based on the following factors:

- A. The Project would have only minor and short-term impacts on fish and wildlife resources and on water quality.
- B. The proposed Project would stabilize two bends in the Edwards River and prevent further deterioration of the existing banklines. Bank stabilization would protect the sewage lagoons and prevent the bank erosion caused by high events from moving toward the lagoons.
- C. No significant adverse social, economic, environmental, or cultural impacts are anticipated as a result of the proposed action.

---

Date

---

Shawn McGinley  
Colonel, US Army  
District Commander



**SECTION 14 EMERGENCY STREAMBANK PROTECTION**

**EDWARDS RIVER SEWAGE LAGOONS  
MATHERVILLE, MERCER COUNTY, ILLINOIS**

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**ENVIRONMENTAL ASSESSMENT**

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**APPENDIX A**

**PERTINENT CORRESPONDENCE**

**PUBLIC REVIEW DRAFT**





REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
ROCK ISLAND DISTRICT CORPS OF ENGINEERS  
PO BOX 2004  
ROCK ISLAND, ILLINOIS 61204-2004

January 13, 2010

Planning, Programs and Project  
Management Division

Ms. Anne Haaker  
Deputy State Historic Preservation Officer  
Review and Compliance Section  
Illinois Historic Preservation Agency  
Old State Capitol  
Springfield, Illinois 62701

Dear Ms. Haaker:

The Rock Island District of the U.S. Army Corps of Engineers (Corps) is proposing emergency streambank protection on the Edwards River, southwest of the Village of Matherville, Illinois (Village), under the authority of Section 14 of the 1946 Flood Control Act (Public Law 79-526). The purpose of this Section 14 project (Project) is to protect the Village sewage treatment plant settlement pond embankment from further erosion from the Edwards River. Specifically, the Edwards River has shifted its course and eroding the southern embankment of the lower settlement pond of the treatment plant. The situation along the streambank has become so critical that the next high water event has the potential to damage or destroy the lower pond. The project site is located in Section 33, Township 15 North, Range 2 East, Mercer County, Illinois (Figure 1).

As shown in the photographs in Figure 2, the northern (right descending) bankline of the Edwards River has eroded and the main channel meandered, affecting the embankment of the East Lagoon of Matherville sewage treatment facility. The site plan for the Project (Figure 3) includes the major project features consisting of embankment restoration, armored with limestone riprap. The Project includes a temporary acre staging for vehicles and equipment storage for the duration of the Project and will not be improved nor will the ground surface be disturbed.

The Corps' Geographic Information Systems Iowa site file database for historic properties revealed no archeological or architectural sites within 1 mile of the proposed Project area (Figure 4). An archeological survey has been conducted for the location of a proposed settlement pond. This survey is documented in the report: *Report of Investigations, No. 57, Final Report of an Archaeological Survey of a Proposed Sewage Treatment Facility at Matherville, Illinois* by James G. Stark and Dr. Elizabeth Benchley (1981). This report was prepared through a contract with the Federal Engineering Company of Iowa by The Archaeological Research Laboratory, University of Wisconsin-Milwaukee, (re 1, USGS 7.5' Viola, Illinois Quadrangle) within the Project vicinity. The land remains a bottomland wetlands and no evidence of

archeological sites was discovered by the University of Wisconsin staff. The report recommended that the sewage treatment facility be expanded as proposed (Figure 5, report pages Title Page, Abstract, Figure 1, and Figure 14).

By copy of this letter, the Corps is consulting with the Native tribes and other interested parties, as promulgated under new amendments to the National Historic Preservation Act (NHPA) (2000). All consulting parties must be aware that the specific locations of historic and archaeological properties are subject to protection through nondisclosure under Section 304 of the NHPA. All maps subject to public review/access shall not contain any information on archeological sites. In order to protect the resources at the sites, this information is not to be released to the public.

It is the Corps' determination that no historic properties will be affected by this project, as proposed. If no reply is received from your agency within 30 days upon receipt of this correspondence, the Corps will proceed with the Project as proposed. Concurrence with this recommendation signifies adherence to Section 106 of the NHPA of 1966, as amended, and its implementing regulations 36 CFR Part 800: "Protection of Historic Properties." Although the Corps documents that no historic properties will be affected, if any undocumented historic properties are identified or encountered during implementation of this Project, the Corps will discontinue all activities and resume coordination with the Iowa Historic Preservation Agency to identify the significance of the historic property and determine potential effects under Section 106 of the NHPA of 1966 and 36 CFR Part 800.

If your agency has questions concerning the Corps determination or the project, please call Mr. Ron Deiss of our Environmental Analysis Branch, telephone 309/794-5185, or write to our address above, ATTN: Planning, Programs, and Project Management Division (Ron Deiss).

Sincerely,

ORIGINAL SIGNED BY

Kenneth A. Barr  
Chief, Environmental and  
Economic Analysis Branch

Enclosures (5)

**Consulting and Interested Parties List  
(all with Enclosures)**

Mr. Johnathan Buffalo  
Historic Preservation Officer  
Sac and Fox Tribe of the Mississippi in Iowa  
349 Meskwaki Road  
Tama, Iowa 52339-9629

Mercer County Historical Society  
1402 SE 2<sup>nd</sup> Avenue  
Aledo, Illinois 61231

New Boston Historical Society  
302 Main Street (Box 282)  
New Boston, Illinois 61267

Mayor Larry Adams  
Matherville City Hall  
500 2<sup>nd</sup> St. Matherville, IL 61263

Terry Johnson  
2495 130<sup>th</sup> Ave.  
Aledo, IL 61231

Alan Snyder  
1156 240<sup>th</sup> St.  
Aledo, IL 61231

MFR: Typical coordination with  
the SHPO and consulting parties on  
the proposed Edwards River Section 14.

CF (all w/encls):  
Dist File (PM-M)  
PD-E (Deiss, Afflerbaugh, Jackson)  
PD-F (Savage)

1/2/11  
MFR  
RODKEY  
PM-M  
DEISS  
PD-E  
BARR  
PD-E  
1-12-11

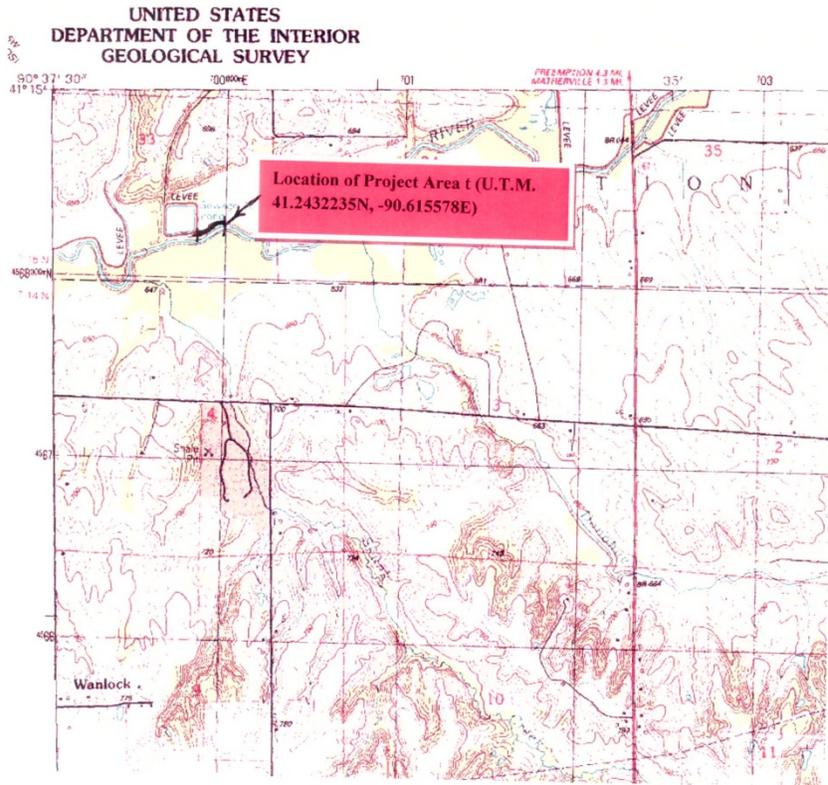


Figure 1: Portions of the 1992 Viola, IL U.S. Geological Survey topographic map depicting the project area in the fractional portions of Section 33, Township 15 North, Range 2 West, of the 3rd principle meridian, Zone 15 (U.T.M. 41.2432235N, -90.615578E)

FIGURE 1



**Photograph 1:** Image taken on July 16, 2010 looking west of a general view of the Matherville sewage treatment settlement lagoons in Preemption Township, Mercer County, southwest of the village of Matherville in the NW  $\frac{1}{4}$  SW  $\frac{1}{4}$  SE  $\frac{1}{4}$  of Section 33, Township 15 North and Range 2 West and the location of the U.S. Army Corps of Engineers proposed Section 14 Emergency Stream Bank Stabilization.



**Photograph 2:** Image taken on July 16, 2010 looking southwest of the Edward River from the embankment of the western sewage lagoon. This images show the close proximity of the river channel immediately adjacent to, and erosion of the embankment.

**FIGURE 2**



**Photograph 3:** Image taken on July 16, 2010 looking SW from west sewage lagoon embankment of the Edwards River.



**Photograph 4:** Image taken on July 16, 2010 looking east from sewage lagoon embankment near the Matherville Sewage Treatment pump station upstream along the Edwards River. This images show that the Edwards River channel is immediately adjacent to the west sewage lagoon.

**FIGURE 2**



Figure 4: Location of Archeological Sites and Surveys Using the 2004 Illinois Site and Survey Location Database.

FIGURE 4

IHPA <sup>Box 13</sup>  
Archaeology Section  
Library

Final Report  
of  
An Archaeological Survey  
of a Proposed  
Sewage Treatment Facility  
at  
Matherville, Illinois

by  
James G. Stark, Supervisor

Dr. Elizabeth Benchley, Project Manager

Report prepared through a contract with  
Federal Engineering Company of Iowa  
by

The Archaeological Research Laboratory  
University of Wisconsin-Milwaukee

Report of Investigations, No. 57

July 1981

FIGURE 5

Abstract

An archaeological survey of the site of a proposed sewage treatment facility for Matherville, Illinois was conducted by the Archaeological Research Laboratory of the University of Wisconsin-Milwaukee under a contract with Federal Engineering Company of Iowa, Inc. The survey was undertaken in June of 1981 to locate prehistoric and/or historic archaeological sites which might be impacted by the sewage project. The survey area was a plowed agricultural field and a standard pedestrian survey was employed. No historic or prehistoric material was recovered during the survey. We recommend that no additional archaeological investigations be undertaken and that the project proceed as planned.

FIGURE 5

Figure 1

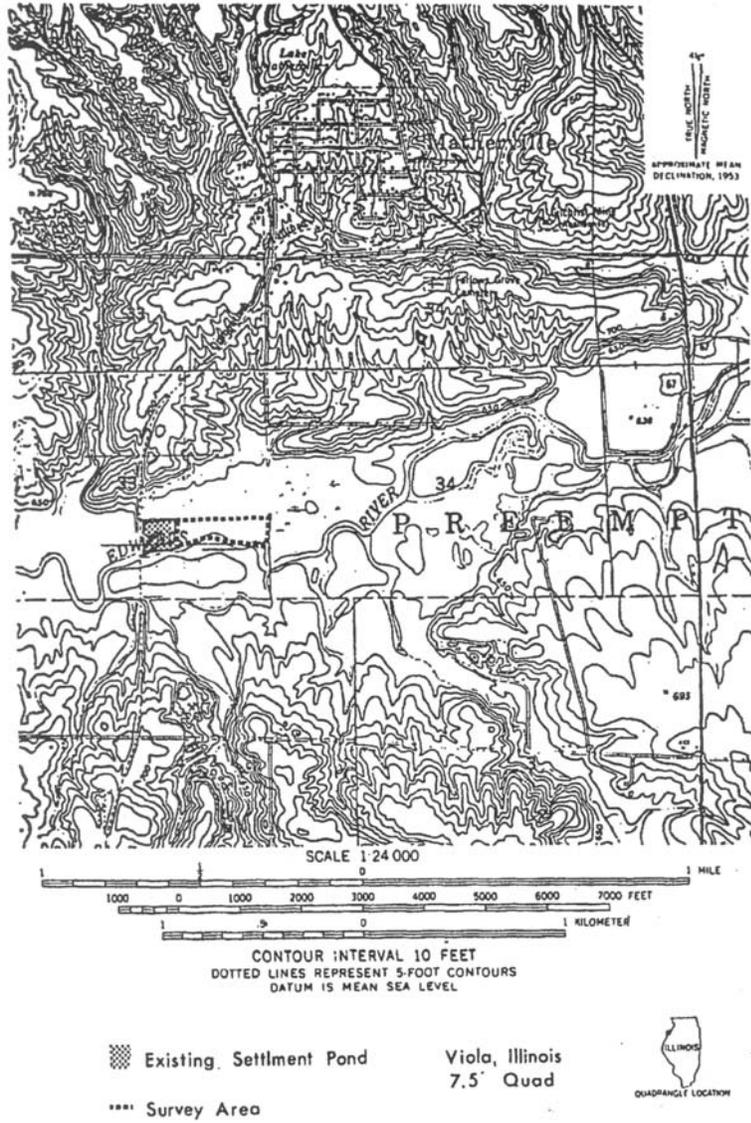


FIGURE 5

Survey Results

The survey of the Matherville Sewerage Facility Expansion did not locate any prehistoric or historic remains. Visibility of the ground surface was excellent. Given the field conditions and the survey method, it is unlikely that artifacts are located within the plow zone of the survey area. Unfortunately, a pedestrian walk over survey is not capable of locating evidence of past human activity which is buried below the plow zone. At present there is no efficient technique available for locating deeply buried sites. The project is located in an area subject to annual flooding and it is possible that buried sites may be located in project area.

Recommendations

Due to the failure of the survey to locate any evidence of archaeological sites, it is recommended that the sewage treatment facility be expanded as planned. As noted above, however, the project area is in an ecological setting favorable to prehistoric exploitation. This fact combined with the location of the project in a floodplain suggests the possibility that buried sites may be present in the project area. In the event that buried cultural materials are found during construction, the State Historic Preservation Office at the Illinois Department of Conservation or the UWM Archaeological Research Laboratory should be notified immediately.

FIGURE 5



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
ROCK ISLAND DISTRICT CORPS OF ENGINEERS  
PO BOX 2004  
ROCK ISLAND, ILLINOIS 61204-2004

January 13, 2010

RECEIVED  
JAN 18 2011

Preservation Services

IHPA REVIEW

H/A \_\_\_\_\_  
AC \_\_\_\_\_  
AR \_\_\_\_\_  
File \_\_\_\_\_

Planning, Programs and Project  
Management Division

Ms. Anne Haaker  
Deputy State Historic Preservation Officer  
Review and Compliance Section  
Illinois Historic Preservation Agency  
Old State Capitol  
Springfield, Illinois 62701

Dear Ms. Haaker:

The Rock Island District of the U.S. Army Corps of Engineers (Corps) is proposing emergency streambank protection on the Edwards River, southwest of the Village of Matherville, Illinois (Village), under the authority of Section 14 of the 1946 Flood Control Act (Public Law 79-526). The purpose of this Section 14 project (Project) is to protect the Village sewage treatment plant settlement pond embankment from further erosion from the Edwards River. Specifically, the Edwards River has shifted its course and eroding the southern embankment of the lower settlement pond of the treatment plant. The situation along the streambank has become so critical that the next high water event has the potential to damage or destroy the lower pond. The project site is located in Section 33, Township 15 North, Range 2 East, Mercer County, Illinois (Figure 1).

As shown in the photographs in Figure 2, the northern (right descending) bankline of the Edwards River has eroded and the main channel meandered, affecting the embankment of the East Lagoon of Matherville sewage treatment facility. The site plan for the Project (Figure 3) includes the major project features consisting of embankment restoration, armored with limestone riprap. The Project includes a temporary acre staging for vehicles and equipment storage for the duration of the Project and will not be improved nor will the ground surface be disturbed.

The Corps' Geographic Information Systems (GIS) site file database for historic properties revealed no archeological or architectural sites within 1 mile of the proposed Project area (Figure 4). An archeological survey has been conducted for the location of a proposed settlement pond. This survey is documented in the report: *Report of Investigations, No. 57, Final Report of an Archaeological Survey of a Proposed Sewage Treatment Facility at Matherville, Illinois* by James G. Stark and Dr. Elizabeth Benchley (1981). This report was prepared through a contract with the Federal Engineering Company of Iowa by The Archaeological Research Laboratory, University of Wisconsin-Milwaukee, (re 1, USGS 7.5' Viola, Illinois Quadrangle) within the Project vicinity. The land remains a bottomland wetlands and no evidence of

archeological sites was discovered by the University of Wisconsin staff. The report recommended that the sewage treatment facility be expanded as proposed (Figure 5, report pages Title Page, Abstract, Figure 1, and Figure 14).

By copy of this letter, the Corps is consulting with the Native tribes and other interested parties, as promulgated under new amendments to the National Historic Preservation Act (NHPA) (2000). All consulting parties must be aware that the specific locations of historic and archaeological properties are subject to protection through nondisclosure under Section 304 of the NHPA. All maps subject to public review/access shall not contain any information on archeological sites. In order to protect the resources at the sites, this information is not to be released to the public.

It is the Corps' determination that no historic properties will be affected by this project, as proposed. If no reply is received from your agency within 30 days upon receipt of this correspondence, the Corps will proceed with the Project as proposed. Concurrence with this recommendation signifies adherence to Section 106 of the NHPA of 1966, as amended, and its implementing regulations 36 CFR Part 800: "Protection of Historic Properties." Although the Corps documents that no historic properties will be affected, if any undocumented historic properties are identified or encountered during implementation of this Project, the Corps will discontinue all activities and resume coordination with the Iowa Historic Preservation Agency to identify the significance of the historic property and determine potential effects under Section 106 of the NHPA of 1966 and 36 CFR Part 800.

If your agency has questions concerning the Corps determination or the project, please call Mr. Ron Deiss of our Environmental Analysis Branch, telephone 309/794-5185, or write to our address above, ATTN: Planning, Programs, and Project Management Division (Ron Deiss).

Sincerely,



Kenneth A. Barr  
Chief, Environmental and  
Economic Analysis Branch

Enclosures (5)

**CONCUR**  
By: *Diane E. Haas*  
Deputy State Historic Preservation Officer  
Date: SSH 1/20/11



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, ROCK ISLAND DISTRICT  
PO BOX 2004 CLOCK TOWER BUILDING  
ROCK ISLAND, ILLINOIS 61204-2004

January 18, 2011

Planning, Programs and Project  
Management Division

#### SEE DISTRIBUTION LIST

The U.S. Army Corps of Engineers, Rock Island District (District) is preparing an Environmental Assessment (EA) for emergency streambank protection on the Edwards River near Matherville, Illinois. Section 14 of the Flood Control Act of 1946, as amended, authorizes the District to construct emergency streambank protection measures to protect public or non-profit private facilities and/or services.

The project area is located in Mercer County, Illinois. Continuing erosion along the right descending bank of the river is threatening the embankment for the Village of Matherville's sewage lagoons. Enclosures 1 through 5 show the location of the project site, proposed features, and photos of existing conditions.

The District is currently considering the following alternatives to address the problem:

- A. Placing Longitudinal peak stone toe protection (LPSTP) along approximately a total of 1,000 feet of the right descending bankline along with removal of accumulated debris and sediment in the stream (enclosures 2 and 3). The cross-section of the LPSTP is triangular, with the base being approximately 10 feet. The LPSTP will not follow the toe exactly, but be placed to form a "smoothed" alignment through the bend. The LPSTP will be keyed into the bank at both the upstream and downstream ends and at regular intervals along the entire length.
- B. Placing Riprap along approximately a total 1,000 feet of the right descending bankline along with removal of accumulated debris and sediment in the stream.
- C. No action on the part of the District (meaning no Federal design or funding). This alternative would not preclude action by the project sponsor on their own initiative using their own funding.

The District has considered using vegetation buffers such as willow post planting as potential alternatives. The critical nature of the sewage lagoons and the urgency of the situation contributed to the vegetation buffers alternative being dropped from further consideration at this location. The District has also considered a large woody material alternative. The large woody material alternative alone has been eliminated from further consideration due to existing condition of the banks and the critical nature of the project.

The District requests your comments on this project with respect to concerns with, or anticipated effects on, any resources within your agency's area of interest. Please provide any comments you may have on this action within 30 days of the date of this letter for incorporation into the EA. If no comments are received within this timeframe, the District will assume that you have no concerns with or objections to the proposed action. If no significant impacts are identified in association with this project, construction is anticipated to begin in the fall of 2012.

If you have any questions or wish to request additional information, please call Mr. Matt Afflerbaugh of our Environmental Economics Branch, telephone (309)794-5384, or write to our address, ATTN: Planning, Programs, and Project Management Division (Afflerbaugh).

Sincerely,

ORIGINAL SIGNED BY

*JS Ross*

*for* Kenneth A. Barr  
Chief, Environmental and Economics Branch

Enclosures

CF: (w/encls)  
PM (Dist File)  
PD-E (Afflerbaugh, Barr, Coyle)  
PD-F (Savage)  
EC-DN (Heddlesten)

*1/4/11*  
*MM*  
RODKEY  
PM-M

AFFLERBAUGH  
PD-E

SAVAGE  
PD-F

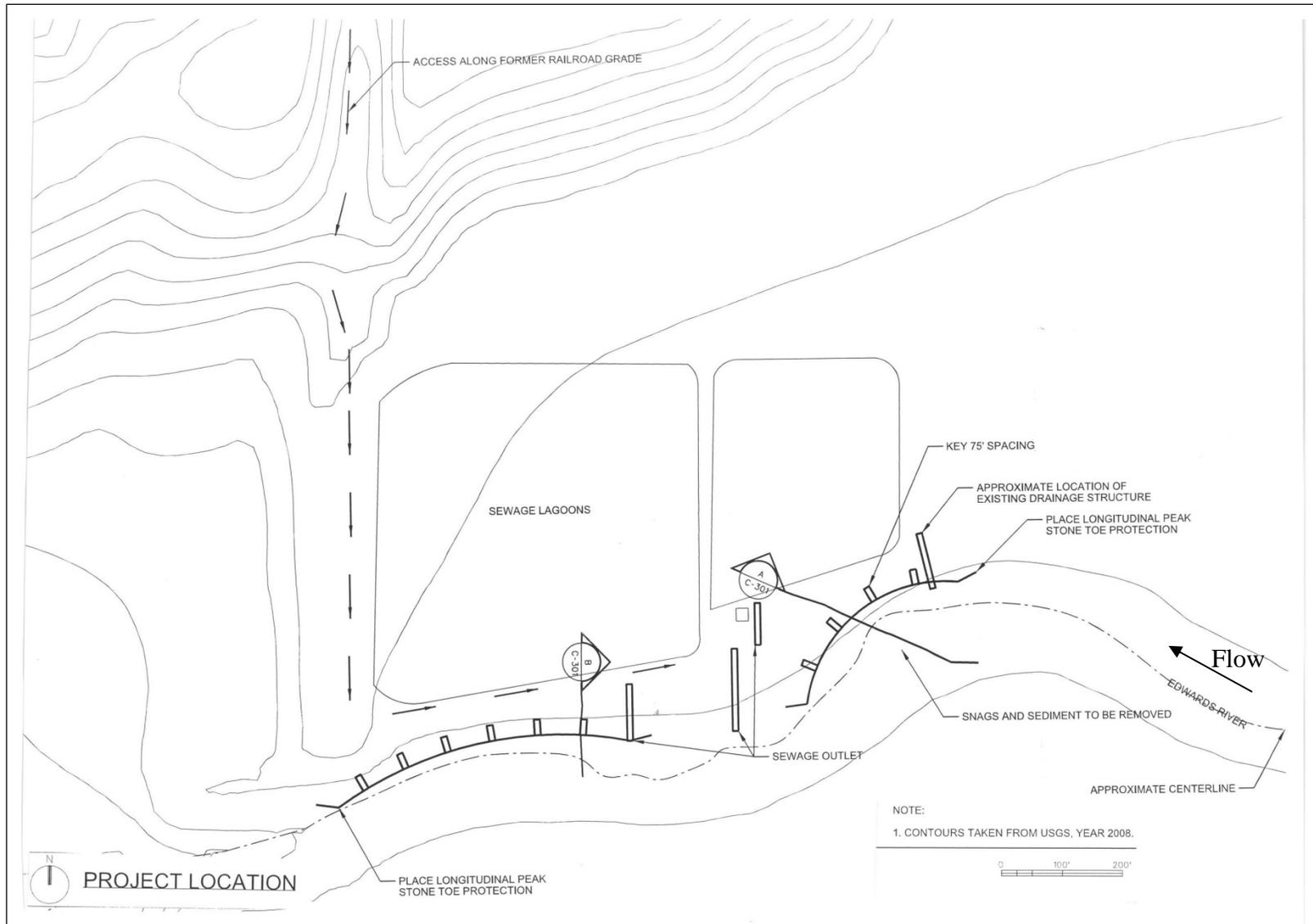
BARR  
PD-E

*MS 1-11*  
*for Barr*  
*Feb 1/11*



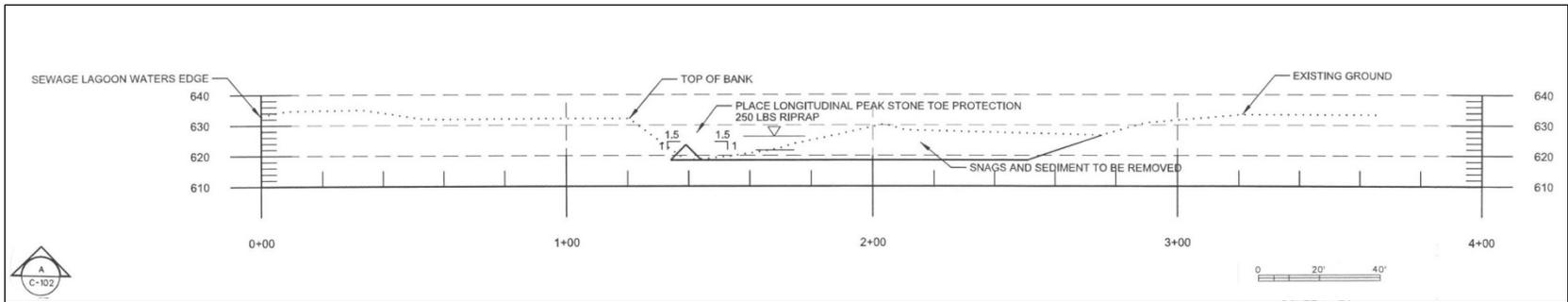
**Project Location**

**ENCLOSURE 1**

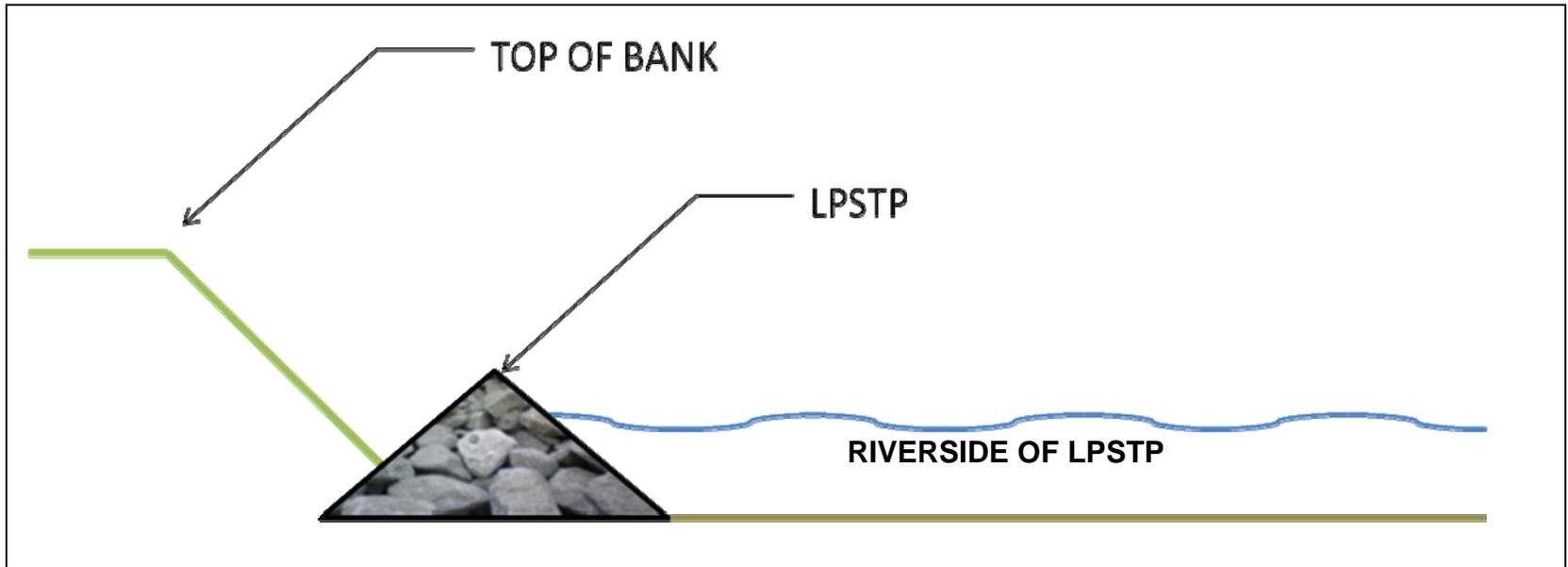


The Project area showing the proposed layout for the LPSTP. Keys will be placed into the bank at 75 foot intervals so river migration will not flank the keys and the LPSTP. Note: Section “A” is shown in cross section on Enclosure 3.

ENCLOSURE 2



**Cross section at section "A"**



**Conceptual drawing of what the LPST would look like in cross section; drawing is not to scale**

## DISTRIBUTION LIST

Kathleen Kowal  
Life Scientist  
Planning & Assessment Br Me-19j  
USEPA - Reg 5  
77 W Jackson Blvd Mailcode 3-19j  
Chicago IL 60604

Richard Nelson  
Field Supervisor  
US Fish and Wildlife Service  
1511 - 47th Ave  
Moline IL 61265

Tom Beissel  
IL Dept of Natural Resources – Wildlife  
2317 E Lincolnway, Ste A  
Sterling IL 61081

Rich Lewis  
OFC of Realty & Environmental Planning  
IL Dept of Natural Resources  
One Natural Resources Way  
Springfield IL 62702

Jim Mick  
Rivers and Streams Program Mgr  
Havana Field Headquarters  
IL Dept of Natural Resources  
700 S 10th St  
Havana IL 62644

Dan Sallee  
Fisheries Administrator Reg I  
IL Dept of Natural Resources  
2317 E Lincoln Way, Ste A  
Sterling IL 61081

Bruce Yurdin, Manager  
Watershed Management Section  
IL Environmental Protection Agency  
1021 N Grand Ave E  
Springfield IL 62794-9276

Karen Rivera  
Streams Program Manager Reg I  
IL Dept of Natural Resources  
2317 E Lincoln Way Ste A  
Sterling IL 61081

Rick Mollahan  
Natural Resource Manager  
Office of Resource Conservation  
IL Dept of Natural Resources  
One Natural Resources Way  
Springfield, IL 62702-1271

Mr. Larry Adams, Mayor  
Village of Matherville  
City Hall  
500 - 2<sup>nd</sup> St.  
Matherville, IL 61263



Photo taken at the upstream end of the proposed Project area, looking downstream



Photo taken just upstream of the first bend where the LPSTP is proposed. The snags and sediment proposed for removal are on the left side of the photo.

ENCLOSURE 4



Photo taken in approximately the middle of the proposed upstream LPSTP structure (near section "A"). The photo shows the snags and sediment proposed for removal.

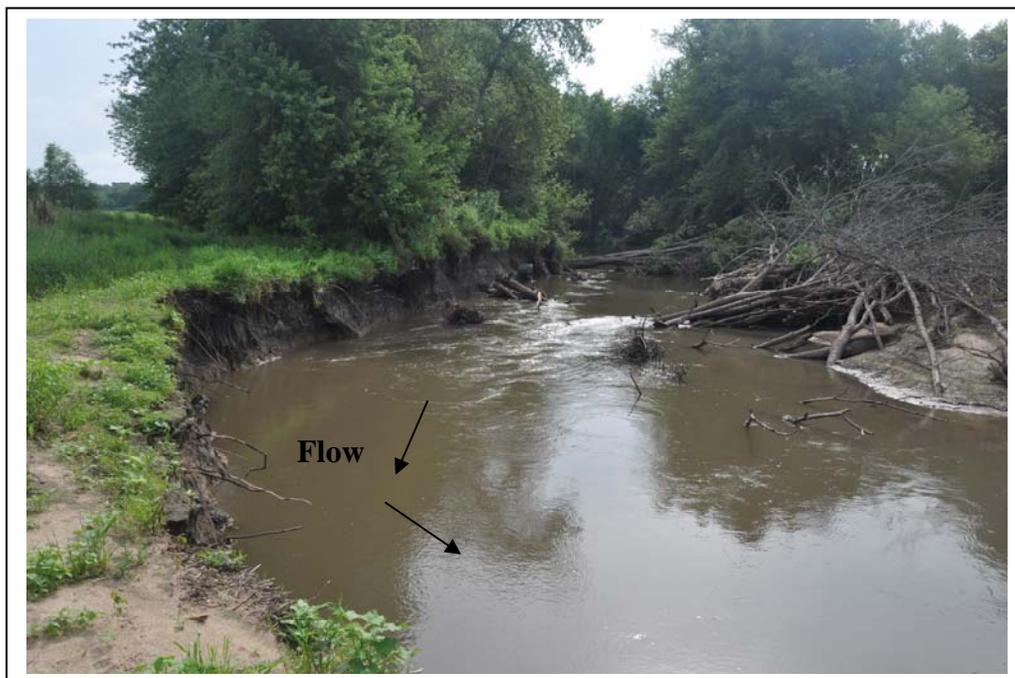


Photo taken in approximately the middle of the proposed upstream LPSTP structure (near section "A"). This is the view looking upstream.

ENCLOSURE 5



## Illinois Department of Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271  
<http://dnr.state.il.us>

Pat Quinn, Governor  
Marc Miller, Director

January 27, 2011

Matt Afflerbaugh  
Corps of Engineers, Rock Island District  
Planning, Programs, and Project Management  
P.O. Box 2004 Clock Tower Building  
Rock Island, IL 61204

Dear Matt:

I am writing in regards to the project on the Edwards River near Matherville in Mercer County, Illinois. The district is planning to place longitudinal peak stone toe protection along approximately 900 feet of the right descending bank-line along with removal of accumulated debris and sediment in the stream. I have talked with Ken Russell and we agree that neither of us have a problem with this project. It appears that the stone toe protection is the best option for the erosion that is occurring in this area, and the stone should benefit the fishery by providing habitat along with reduced silt loads in the stream. Thank you for giving us the opportunity to comment.

Sincerely,

Karen Rivera  
Region I Streams Program Manager

CC: Ken Russell

Rec'd in PD-E  
FEB 01 2011



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, ROCK ISLAND DISTRICT  
CLOCK TOWER BUILDING - PO BOX 2004  
ROCK ISLAND, ILLINOIS 61204-2004

June 9, 2011

Planning, Programs, and Project  
Management Division

Ms. Heidi Woerber  
US Fish and Wildlife Service  
1511 - 47th Ave  
Moline, IL 61265

Dear Ms. Woerber:

This letter is in regard to the Section 14, Emergency Streambank Protection Project (Project) in Matherville, Illinois. The US Army Corps of Engineers, Rock Island District (District) is preparing an Environmental Assessment (EA) under Section 14 of the Flood Control Act of 1946, as amended. The District is proposing to place bankline protection along approximately a total of 900 feet of the right descending bank. The preferred plan involves creating Longitudinal Peak Stone Toe Protection (LPSTP) to stabilize two bends of the Edwards River. The plan also involves removing fallen trees and sediment from the inside bend, along the left descending bank. The proposed Project would provide protection for the Matherville sewage lagoons.

The initial coordination letter for this Project, mailed on January 18, 2011, requested comments from the coordinating agencies with respect to concerns with, or anticipated effects on, any resources within each agency's area of interest. We spoke on the phone on February 7, 2011 regarding this initial coordination letter. As this letter did not provide a determination for the US Fish and Wildlife Service to give concurrence, I stated that once additional information was gathered, I would provide another letter with a determination at a later date. In our phone conversation we discussed that, given the current conditions at the Project site, the Project would have no effect on the Sheepsnose mussel or the Eastern prairie fringed orchid. The primary concern was related to tree removal and impacts to Indiana bats since some potential habitat may exist within the Project area. The dominant tree species is silver maple but other species, including ash and elm, are present. A large number of trees along the banks of the Project area have fallen into the stream as a result of bank erosion. Most of the remaining trees will be avoided by removing sections of fence along the sewage lagoons, providing more access points for equipment to reach the streambank.

A recent survey of the Project area revealed one cluster of silver maples, some of which were dead and contained crevices. This group of trees would be avoided. No other trees with loose or flaking bark, cracks, or crevices were noted. At this point, the Project team believes that it may be possible to limit tree removal to only one tree, a live silver maple along the bank (figure 1).

Other trees which have potential to be impacted can be seen in figures 2 and 3. None of the trees shown in figures 1,2, or 3 have loose, peeling bark. As construction is expected to occur in the fall, tree removal can be performed between October 1 and March 31.

The District is requesting your concurrence with the determination that this Project would have **no effect** on the Higgins eye pearlymussel (*Lampsilis higginsii*) or the Eastern prairie fringed orchid (*Platanthaera leucophaea*) and **not likely to adversely affect** the Indiana bat (*Myotis sodalis*). Additionally, this Project would have **no effect** on the Sheepnose mussel (*Plethobasus cyphyus*) or the Spectacle Case mussel (*Cumberlandia monodonta*), which are proposed to be listed. If new information becomes available or if the Project plans change, the District will review and revise this determination as necessary.

If you have questions or wish to request additional information, please contact Mr. Matt Afflerbaugh of our Environmental and Economics Branch, telephone (309)794-5384, or write to our address, ATTN: Planning, Programs, and Project Management Division (Afflerbaugh).

Sincerely,

**ORIGINAL SIGNED BY**

Kenneth A. Barr  
Chief, Environmental and Economics Branch



**Figure 1.** Live Silver Maple



Figure 2. Tree which may be impacted



Figure 3. Trees which may be impacted



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Rock Island Field Office  
1511 47<sup>th</sup> Avenue  
Moline, Illinois 61265  
Phone: (309) 757-5800 Fax: (309) 757-5807



IN REPLY REFER

TO:

FWS/RIFO

June 21, 2011

Mr. Kenneth A. Barr  
Chief, Environmental and Economic Branch  
U.S. Army Corps of Engineers, Rock Island District  
Attn: Matt Afflerbaugh (PM-A)  
Clock Tower Building, P.O. Box 2004  
Rock Island, Illinois 61204-2004

Dear Mr. Barr:

We have reviewed your June 20, 2011, letter regarding the Section 14, Emergency Streambank Protection Project (Project) in Matherville, Illinois. The project plans include placing bankline protection along approximately a total of 900 feet of the right descending bank. The preferred plan involves creating Longitudinal Peak Stone Toe Protection (LPSTP) to stabilize two bends of the Edwards River. The plan also involves removing fallen trees and sediment from the inside bend along the left descending bank. The proposed project would provide protection for the Matherville sewage lagoons.

We understand from your letter that no suitable habitat exists in the project area for the federally listed Higgins eye pearl mussel (*Lampsilis higginsii*) or the eastern prairie fringed orchid (*Platanthaera leucophaea*). Nor does suitable habitat exist in the project area for the sheepsnose mussel (*Plethobasus cyphus*) or the spectacle case mussel (*Cumberlandia monodonta*) which are proposed to be listed. We concur with your findings that the proposed project should have no effect on these species.

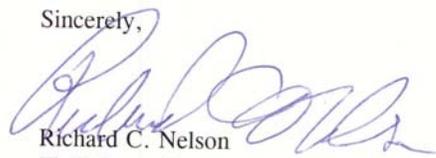
We have reviewed the project plans and understand that it may be possible to limit tree removal to a single live silver maple along the bank. Tree removal is minimal and no other trees that may potentially be impacted have loose or peeling bark. Tree removal will be performed between October 1 and March 31 when bats are not present. We concur with your findings that the proposed project is not likely to adversely affect the endangered Indiana bat. Should the project be modified or new information indicate endangered species may be affected, consultation should be initiated.

Mr. Kenneth A. Barr, Chief, Environmental and Economic Branch

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Thank you for the opportunity to provide comments. If you have any additional questions or concerns, please contact Heidi Woeber of my staff at extension 209.

Sincerely,

A handwritten signature in blue ink, appearing to read "Richard C. Nelson", written over a light blue grid background.

Richard C. Nelson  
Field Supervisor

**RECEIVED**

**JOINT APPLICATION FORM FOR ILLINOIS OFFICE OF WATER RESOURCES**

ITEMS 1 AND 2 FOR AGENCY USE SPRINGFIELD, ILLINOIS

1. Application Number  <p style="font-size: 24px; text-align: center;">20115040</p>		2. Date Received  <p style="text-align: center; font-size: 18px;">JUN 06 2011</p>	
3. and 4. (SEE SPECIAL INSTRUCTIONS) NAME, MAILING ADDRESS AND TELEPHONE NUMBERS			
3a. Applicant's Name Mayor Larry Adams Company Name (if any) City of Matherville Address 500 2 <sup>nd</sup> Street Matherville, IL 61263 Email Address adams77@mchsi.com	3b. Co-Applicant/Property Owner Name (if needed or if different from applicant)  Company Name (if any)  Address  Email Address	4. Authorized Agent (an agent is not required) Monique Savage Company Name (if any) US Army Corps of Engineers Address Clock Tower Building PO Box 2004 Rock Island, IL 61204 Email Address monique.e.savage@usace.army.mil	
Applicant's Phone Nos. w/area code Business: (309) 754-8814 Residence: Cell: (309)737-5206 Fax:	Applicant's Phone Nos. w/area code Business: Residence: Cell: Fax:	Agent's Phone Nos. w/area code Business: (309)794-5342 Residence: Cell: (847)815-8418 Fax:	

**STATEMENT OF AUTHORIZATION**

I hereby authorize, U.S. Army Corps of Engineers \_\_\_\_\_ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

Applicant's Signature \_\_\_\_\_

Date \_\_\_\_\_

5. ADJOINING PROPERTY OWNERS (Upstream and Downstream of the water body and within Visual Reach of Project)						
Name	Mailing Address			Phone No. w/area code		
a. Terry Johnson	2495 130th Avenue Aledo, IL 61231			(309)754-8836		
b. Alan Snyder	1156 240th Street Aledo, IL 61231					
c.						
d.						
6. PROJECT TITLE: Edwards River, Sewage Lagoons, Matherville, Mercer County, IL CAP Section 14						
7. PROJECT LOCATION						
LATITUDE: 41.243175  LONGITUDE: -90.614376			UTMs Northing: 4568497mN  Easting: 699903mE			
STREET, ROAD, OR OTHER DESCRIPTIVE LOCATION Bank adjacent to Matherville Sewage Lagoons		LEGAL DESCRIPT	QUARTER SE	SECTION 33	TOWNSHIP NO. 15N	RANGE 2W
<input type="checkbox"/> IN OR <input checked="" type="checkbox"/> NEAR CITY OF TOWN (check appropriate box) Municipality Name Matherville		WATERWAY Edwards River			RIVER MILE (if applicable) NA	
COUNTY Mercer	STATE IL	ZIP CODE 61263				

Revised 2010

Corps of Engineers

IL Dep't of Natural Resources

IL Environmental Protection Agency

Applicant's Copy

8. PROJECT DESCRIPTION (Include all features):  
 The drainage area of the Edwards River is 277 square miles. Removal of fallen trees and sediment (approximately 1,100 cubic yards) from a 500-foot length of the original river channel. Longitudinal Peak Stone Toe Protection (LPSTP) using 250 lb. top size riprap placed 5 feet high 15 feet wide with side slopes of 1.5:1 (H:V) beyond the toe of the bank at the two separate erosion locations. The LPSTP would be approximately 330 linear feet at the East site and 510 linear feet at the West site. Keys would be spaced every 75 feet for a total of 10 keys, 4 on the East and 6 on the West locations. The keys would vary in length from 66 feet to 25 feet and have a slope of 3:1 (H:V). The tiebacks have the same slope as the keys (3:1) and are designed to be 35-foot length. Willow poles would be laid on the LPSTP at a rate of 1 pole per foot along the riprap keys. In the most heavily eroded area of the East site (between the two most eastern LPSTP keys) stone revetment would be placed. A 2-foot thick armor layer, consisting of riprap (250 lb. top size, 18 inches thick) and bedding stone (1½-inch maximum size, 6 inches thick), would be placed against the slope of the river bank from the toe to the top of the bank, a length of 75 feet. The toe protection of the riprap would extend 7.5 feet into the river with a thickness of 3 feet.

9. PURPOSE AND NEED OF PROJECT: The purpose of the project is to prevent continued erosion of the right descending bank of the Edwards River. If left untreated, the sewage lagoons will be breached, releasing raw sewage into the Edwards River, rendering the Village wastewater treatment facility inoperable and threaten downstream potable water supplies.

**COMPLETE THE FOLLOWING FOUR BLOCKS IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED**

10. REASON(S) FOR DISCHARGE: The reason for discharge and fill material is to prevent continued erosion of the streambank. If left untreated, the sewage lagoons will be breached, releasing raw sewage into the Edwards River, rendering the Village wastewater treatment facility inoperable and threaten downstream potable water supplies.

11. TYPE(S) OF MATERIAL BEING DISCHARGED AND THE AMOUNT OF EACH TYPE IN CUBIC YARDS FOR WATERWAYS:

TYPE:	AMOUNT IN CUBIC YARDS:
Riprap	1500
Bedding Stone	47
Sediment	269

12. SURFACE AREA IN ACRES OF WETLANDS OR OTHER WATERS FILLED (See Instructions)  
 .088 acres

13. DESCRIPTION OF AVOIDANCE, MINIMIZATION AND COMPENSATION (See instructions)  
 Without some type of erosion protection feature sewage lagoon failure is imminent. Relative to the other alternatives investigated the tentatively selected plan minimizes the amount of riprap and cost needed to stabilize the bank. It also incorporates a bioengineering method (willow trees) which has the capacity to create habitat diversity where none currently exists. A reconnaissance of the area determined the construction and staging area that would have the smallest impact, removal likely to be one tree.

14. Date activity is proposed to commence  
 March 2012

Date activity is expected to be completed  
 June 2012

15. Is any portion of the activity for which authorization is sought now complete? Yes  No  NOTE: If answer is "YES" give reasons in the Project Description and Remarks section. Indicate the existing work on drawings.  
 Month and Year the activity was completed

16. List all approvals or certification and denials received from other Federal, interstate, state, or local agencies for structures, construction, discharges or other activities described in this application.

Issuing Agency	Type of Approval	Identification No.	Date of Application	Date of Approval	Date of Denial

17. CONSENT TO ENTER PROPERTY LISTED IN PART 7 ABOVE IS HEREBY GRANTED. Yes No

18. APPLICATION VERIFICATION (SEE SPECIAL INSTRUCTIONS)  
 Application is hereby made for the activities described herein. I certify that I am familiar with the information contained in the application, and that to the best of my knowledge and belief, such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities.

<p>_____          Signature of Applicant or Authorized Agent</p> <p>_____          Signature of Applicant or Authorized Agent</p> <p>_____          Signature of Applicant or Authorized Agent</p>	<p>2 JUN 11          _____          Date</p> <p>_____          _____          Date</p> <p>_____          _____          Date</p>
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Corps of Engineers Revised 2010     IL Dep't of Natural Resources     IL Environmental Protection Agency     Applicant's Copy



Illinois Department of Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
http://dnr.state.il.us

Pat Quinn, Governor
Marc Miller, Director

June 22, 2011

City of Matherville (Mayor Larry Adams)

STATEWIDE PERMIT NOTIFICATION LETTER

Bank Stabilization & Dredge; Edwards River; Mercer County

Thank you for your recent submittal regarding the project as shown on the enclosed copy of your submittal. Based on the information you have submitted, it appears that the project qualifies for approval under the Illinois Department of Natural Resources, Office of Water Resources statewide permit program. We have enclosed a copy of the applicable statewide permit(s) (as noted below) which appear to apply to your work. Please review this material to confirm whether your work will meet the terms and conditions of the permit(s). If any of the conditions would not be met, please inform us of the differences and we will continue with the formal permit process.

If we do not hear from you within thirty (30) days, we will assume it is your intention to comply with the conditions of the statewide permit(s).

This letter should not be construed as a release from any other federal, state or local requirements. If you have not already done so, you should contact the local regulatory agency to ascertain applicable local floodplain construction requirements.

If you have any questions feel free to contact Jerry Bishoff at 217/558-6617.

BY: [Signature of Jerry Bishoff]

cc: Local Agency -
Agent - U.S. Army Corps of Engineers (Monique Savage) w/encl.

Statewide Permit(s) Enclosed:

- SW 1 - Fringe Construction
SW 2 - Rural Bridges
SW 3 - Barge Fleeting Facilities
SW 4 - Aerial Utility Crossings
SW 5 - Minor Boat Docks
SW 6 - Minor Floodway Construction
SW 7 - Outfalls
SW 8 - Underground Crossings
X SW 9 - Shoreline/Streambank Protection
SW 10 - Additions/Accessory Structures
X SW 11 - Dredging
SW 12 - Replacement Structures
SW 13 - Temporary Construction
SW 14 - Special Use of Public Water

**SECTION 14 EMERGENCY STREAMBANK PROTECTION**

**EDWARDS RIVER SEWAGE LAGOONS  
MATHERVILLE, MERCER COUNTY, ILLINOIS**

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**ENVIRONMENTAL ASSESSMENT**

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**PUBLIC REVIEW DRAFT**

**APPENDIX B**

**DISTRIBUTION LIST**



## DISTRIBUTION LIST

Kathleen Kowal  
Life Scientist  
Planning & Assessment Br Me-19j  
USEPA - Reg 5  
77 W Jackson Blvd Mailcode 3-19j  
Chicago IL 60604

Richard Nelson  
Field Supervisor  
US Fish and Wildlife Service  
1511 - 47th Ave  
Moline IL 61265

Tom Beissel  
IL Dept of Natural Resources – Wildlife  
2317 E Lincolnway, Ste A  
Sterling IL 61081

Rich Lewis  
OFC of Realty & Environmental Planning  
IL Dept of Natural Resources  
One Natural Resources Way  
Springfield IL 62702

Jim Mick  
Rivers and Streams Program Mgr  
Havana Field Headquarters  
IL Dept of Natural Resources  
700 S 10th St  
Havana IL 62644

Dan Sallee  
Fisheries Administrator Reg I  
IL Dept of Natural Resources  
2317 E Lincoln Way, Ste A  
Sterling IL 61081

Bruce Yurdin, Manager  
Watershed Management Section  
IL Environmental Protection Agency  
1021 N Grand Ave E  
Springfield IL 62794-9276

Karen Rivera  
Streams Program Manager Reg I  
IL Dept of Natural Resources  
2317 E Lincoln Way Ste A  
Sterling IL 61081

Rick Mollahan  
Natural Resource Manager  
Office of Resource Conservation  
IL Dept of Natural Resources  
One Natural Resources Way  
Springfield, IL 62702-1271

Mr. Larry Adams, Mayor  
Village of Matherville  
City Hall  
500 - 2<sup>nd</sup> St.  
Matherville, IL 61263

Alan Snyder  
1156 240<sup>th</sup> Street  
Aledo, Illinois, 61231

Terry Johnson  
2495 130<sup>th</sup> Avenue  
Aledo, Illinois 61231

New Boston Historical Society  
302 Main Street (Box 282)  
New Boston, Illinois 61267

Mercer County Historical Society  
1402 SE 2<sup>nd</sup> Avenue  
Aledo, Illinois 61231

Mr. Johnathan Buffalo  
Historic Preservation Officer  
Sac and Fox Tribe of the Mississippi in Iowa  
349 Meskwaki Road  
Tama, Iowa 52339-9629