

IEPA Log No.: **C-0509-13**

CoE appl. #: **2013-618**

Public Notice Beginning Date: **October 28, 2013**

Public Notice Ending Date: **November 18, 2013**

Section 401 of the Federal Water Pollution Control Act  
Amendments of 1972

**Section 401 Water Quality Certification to Discharge into Waters of the State**

**Public Notice/Fact Sheet Issued By:**

Illinois Environmental Protection Agency  
Bureau of Water  
Division of Water Pollution Control  
Permit Section  
1021 North Grand Avenue East  
Post Office Box 19276  
Springfield, Illinois 62794-9276  
217/782-3362

**Name and Address of Discharger:** U.S. Army Corps of Engineers, St. Louis District, 1222 Spruce Street, St. Louis, Missouri 63103-2833

**Discharge Location:** Along the Mississippi River between river miles 2.2 and 3 in Alexander County near Cairo.

**Name of Receiving Water:** Mississippi River

**Project Description:** Dike and weir construction.

The Illinois Environmental Protection Agency (IEPA) has received an application for a Section 401 water quality certification to discharge into the waters of the state associated with an application received from the U.S. Army Corps of Engineers. The Public Notice period will begin and end on the dates indicated in the heading of this Public Notice. The last day comments will be received will be on the Public Notice period ending date unless a commenter demonstrating the need for additional time requests an extension to this comment period and the request is granted by the IEPA. Interested persons are invited to submit written comments on the project to the IEPA at the above address. Commenters shall provide their names and addresses along with comments on the certification application. Commenters may include a request for public hearing. The certification and notice number(s) must appear on each comment page.

The attached Fact Sheet provides a description of the project and the antidegradation assessment.

The application, Public Notice/Fact Sheet, comments received, and other documents are available for inspection and may be copied at the IEPA at the address shown above between 9:30 a.m. and 3:30 p.m. Monday through Friday when scheduled by the interested person.

If written comments or requests indicate a significant degree of public interest in the certification application, the IEPA may, at its discretion, hold a public hearing. Public notice will be given 30 days before any public hearing. If a Section 401 water quality certification is issued, response to relevant comments will be provided at the time of the certification. For further information, please call Thaddeus Faught at 217/782-3362.

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## Fact Sheet for Antidegradation Assessment

U.S. Army Corps of Engineers – Mississippi River Miles 2.2-3.0 – Alexander County

IEPA Log No. C-0509-13

CoE Log# 2013-618

Contact: Brian Koch (217) 558-2012

October 28, 2013

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The U.S. Army Corps of Engineers, St. Louis District (“Corps” or “Applicant”) has applied for a 401 water quality certification for permanent fill activities associated with the installation of river training structures between River Miles (RMs) 3.0-2.2 of the Mississippi River. The project purpose is to reduce sedimentation and provide a safe and dependable navigation channel. The project would reduce the amount of dredging activities in this reach and would disperse river velocities across the channel to maintain alignment through the bridge piers at RM 1.4. The proposed structures include a rootless dike at RM 3.0 and weirs at RMs 2.6, 2.5, 2.3, and 2.2 which would permanently fill 25,150 feet<sup>2</sup>; 16,642 feet<sup>2</sup>; 28,145 feet<sup>2</sup>; 35,530 feet<sup>2</sup> and 41,981 feet<sup>2</sup> of benthic habitat, respectively. The rootless dike would be constructed to a +18 feet Low Water Reference Plane (LWRP) and the weirs would be constructed to a -15 feet LWRP using graded ‘A’ stone. The total project would require 34,655 tons of fill (approximately 19,803 cubic yards). All construction would be performed from floating platforms without the use of bank line access.

### **Identification and Characterization of the Affected Water Body.**

The Mississippi River (Segment I-84) is a General Use water with a 7Q10 flow of 49,200 cfs at the project location. It is listed in the draft 2012 Illinois Integrated Water Quality Report and Section 303(d) List as impaired for primary contact recreation (cause = fecal coliform), fish consumption (causes = mercury and polychlorinated biphenyls), and public and food processing water supply use (cause = manganese). The river at this location is an enhanced waterbody pursuant to the dissolved oxygen water quality standard. Using the 2008 Illinois Department of Natural Resources publication *Integrating Multiple Taxa in a Biological Stream Rating System*, the Mississippi River at this location is not listed as a biologically significant stream and has not been given an integrity rating.

### **Identification of Proposed Pollutant Load Increases or Potential Impacts on Uses.**

The pollutant load increases that would occur from this project include some possible increases in suspended solids during construction, but this is expected to be minimal given the quality and grading of stone to be used. Aquatic life use of the existing benthic habitat would be permanently removed by fill activities. However, the increased surface area provided by new structures would provide increased habitat for fish and invertebrates, as well as shelter from stream flow during critical periods.

### **Fate and Effect of Parameters Proposed for Increased Loading.**

The increase in suspended solids would be local and temporary. The new habitat provided by the entrainment structures would more than offset the loss of existing habitat to be permanently filled.

### **Purpose and Social & Economic Benefits of the Proposed Activity.**

The purpose of the proposed project is to reduce dredging between RMs 3.0 – 2.0 and disperse flow velocities across the channel to maintain the existing alignment through the downstream bridge piers at RM 1.4. Completion of the project would maintain the navigational channel in this reach which would benefit recreational and commercial users.

### **Assessments of Alternatives for Less Increase in Loading or Minimal Environmental Degradation.**

The Applicant and its stakeholders (Missouri Department of Conservation, United States Fish and Wildlife Service, Illinois Department of Natural Resources, River Industry Action Committee, and Illinois River Carriers Association) explored several alternatives before agreeing on the proposed action plan. The rootless dike structure at RM 3.0 was selected to meet the goals of increasing energy

and sediment transport in this reach. Twenty-five other structures and configurations were analyzed and had varying degrees of efficiency at removing the sediment while maintaining the existing alignment and not negatively affecting the right descending bank near RM 1.3 – 0.0. A notched dike, chevron dike, and rootless dike were all determined to be successful entrainment structures. The environmental partners (Missouri Department of Conservation, United States Fish and Wildlife Service, Illinois Department of Natural Resources) preferred the use of either a chevron dike or rootless dike because of the presence of secondary flow along the Angelo Island bankline and the ability of these structures to facilitate existing flow. The rootless dike was eventually selected because it would require a smaller footprint and would require less rock to construct compared to chevron dike. The dike would be constructed with a gap of 100 feet between the dike and the bankline to retain the existing flow regime along Angelo Island. The weirs would work in conjunction with the rootless dike to alleviate dredging at RM 3.0 – 2.0 and help maintain the existing channel alignment through the downstream bridge piers. There were several alternatives that tested different numbers of weirs, different angles, different locations, and even shortening existing weirs. Comments from industry partners were also considered in the selection of weir locations. Tow pilots were concerned over the location of the weirs near the Bird's Point Grain Elevator, as turbulence generated over the weirs could potentially draw the tows away from the bankline or cause issues while loading. The Applicant considered these comments and is proposing to construct the weirs upstream and downstream of the actual elevator so tows would not be waiting directly over the weirs.

The construction of the proposed project would follow guidelines set forth by the Agency and USACE. The least intrusive alternative would be to not construct the entrainment structures. This is not acceptable given that in the absence of the proposed entrainment structures the channel must be maintained with repeated dredging activities. Dredging is more intrusive, comes at a greater cost (\$828,053 spent on dredging in this area over the past 5 years), and requires blocking of portions of the river for extended periods. The cost of the entrainment structures is estimated at \$554,480 and would allow for natural sediment transport without the need for further maintenance in the foreseeable future.

#### **Summary Comments of the Illinois Department of Natural Resources, Regional Planning Commissions, Zoning Boards or Other Entities.**

The IDNR EcoCAT system was consulted on September 17, 2013. It was immediately determined that no State-listed threatened or endangered species, Illinois Natural Area Inventory sites, dedicated Illinois Nature Preserves, or registered Land and Water Reserves are in the vicinity of the project location. Consultation was immediately terminated.

#### **Agency Conclusion.**

This preliminary assessment was conducted pursuant to the Illinois Pollution Control Board regulation for Antidegradation found at 35 Ill. Adm. Code 302.105 (antidegradation standard) and was based on the information available to the Agency at the time the assessment was written. We tentatively find that the proposed activity would result in the attainment of water quality standards; that all existing uses of the river would be maintained or mitigated; that all technically and economically reasonable measures to avoid or minimize the extent of the proposed increase in pollutant loading have been incorporated into the proposed activity; and that this activity would provide social and economic benefits to the public by maintaining a navigational channel for recreational and commercial use. Comments received during the 401 Water Quality Certification public notice period will be evaluated before a final decision is made by the Agency.