

IEPA Log No.: **C-0184-18**
CoE appl. #: **CELRL-PMC-PL**

Public Notice Beginning Date: **March 13, 2019**
Public Notice Ending Date: **April 3, 2019**

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

Section 401 Water Quality Certification for Discharge of Dredged or Fill Material

Public Notice/Fact Sheet Issued By:

Illinois Environmental Protection Agency
Bureau of Water
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, Louisville District – 600 Dr. Martin Luther King Pl., Louisville, KY 40202

Discharge Location: Near Brookport in NW 1/4 of Section 15 of Township 16S, Range 5E of the 3rd P.M. in Massac County.

Name of Receiving Water: Ohio River River Mile 938.9

Project Description: Proposed demolition and removal of Lock and Dam no. 52.

The Illinois Environmental Protection Agency (IEPA) has received an application for a Section 401 water quality certification to discharge dredged or fill material into the waters of the U.S. associated with a Section 404 permit application received by 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 contact Darren Gove at email darren.gove@illinois.gov or phone no. 217/782-3362.

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Fact Sheet for Antidegradation Assessment
For U.S. Army Corps of Engineers, Louisville District
IEPA Log No. C-0184-18
COE Log No. CELRL-PMC-PL
Contact: Abby Brokaw 217/558-2012
Public Notice Start Date: March 13, 2019

U.S. Army Corps of Engineers Louisville District (“Applicant”) has applied for a 401 Water Quality Certification for impacts associated with the demolition of Lock and Dam (L&D) 52 at Ohio River mile 938.9 in Section 15, Township 16 South, Range 5 East, Massac County, Illinois. Olmsted L&D, located downstream of L&D 52, is now capable of maintaining a navigable pool, which renders L&D 52 ineffective and an obstacle to safe navigation.

Demolition activities for L&D 52, as they relate to Illinois land and waters, would begin with decommissioning the electrical and mechanical systems from the power house to the dam. All miter gates would then be removed and scrapped or recycled. Upstream gates may be left in place to reduce flow in the disposal area and would be recycled at a later date. Next, the USACE recommends wicket removal, to occur in Kentucky waters, and demolition of pier 1. Such activities occurring entirely within Kentucky waters are subject to that state’s rules and therefore not considered subject to this Section 401 certification review. The two wickets would be removed and placed in the land wall filling and emptying flume. The upstream face of pier 1 would be drilled and blasted from elevation 304 ft. asl to 284 ft. asl. After blasting, remaining broken parts of the pier would be hoe-rammed. Concurrently, structural excavation and sediment removal would occur. Removal of wickets from a portion of the navigation pass would be completed to allow 800 ft. of unobstructed navigation. If this recommended sequence were to be utilized, relocation of channel buoys would be required to allow for safe navigation. After the above activities are completed, the remainder of the navigation pass wickets would be removed and placed in the land wall filling and emptying flume.

Next, the 1200-ft. land chamber lock would be demolished. The cells of the land chamber lock are filled with concrete and/or granular fill with concrete caps. USACE recommends that cells filled with concrete (concrete monoliths) on the river wall be demolished first. Concrete monoliths would be tipped toward the Illinois bank after being blasted and hoe-rammed and buried with disposal material. Cutting and removing the sheetpiling would be attempted; however, due to the deterioration, empty cells may be pushed toward the Illinois bank and crushed/buried with demolition material. Demolition of upstream mooring cells to 284 ft. asl would occur next and would mirror methods used to demolish cells of the 1200-ft. lock chamber.

Concrete, rock debris, sand and gravel fill, and S-28 piling generated by demolition of the land chamber lock, concrete monoliths, and cells on the River wall (including those that would occur in Kentucky waters) would be deposited in the 1200-ft. lock disposal area, which is within Illinois’ jurisdictional boundary. These materials include: approximately 58,500 CY of concrete from fixed weir, dam piers, and 600’ & 1200’ lock chambers; 35,000 CY of sand and gravel fill; 26,000 CY of material from the river bottom (sediment build up upstream of portions of structure); 43,000 CY of 205# stone protection; 106,542 linear feet (LF) of S-28 piling; and 1,059 CY comprised of 487 steel and timber wickets. Demolition elevation of all structures would be 284 ft. asl. The area of waters to be filled within Illinois’ jurisdictional boundary (the 1200-ft. lock chamber area) is 8.75 acres.

To ensure stability, 205# stone protection would be placed over any demolition material in the lock chamber disposal area. The 3:1 slope of 205# stone protection could terminate into the existing sediment within the lock chamber. The toe of the slope would be below elevation 284 ft. asl.

The recommended plan would not exceed 2.5 years or two low water seasons (June through November). Although USACE has made several recommendations for demolition, the contractor is ultimately responsible for determining the demolition sequence and would be required to submit a demolition plan to USACE for approval. Information used in this review was obtained from the Joint Application Form received January 14, 2019, and CWA Section 404(b)(1) Evaluation for “Demolition of Lock & Dam 52 and Disposal of Materials” prepared January 2019.

Identification and Characterization of the Affected Water Body

The proposed project would impact the Ohio River (IL_A-920-981), a General Use water, at a point where 53,730 cfs of flow exists upstream of L&D 52 during 7Q10 low-flow conditions. The Ohio River is not listed as biologically significant in the 2008 Illinois Department of Natural Resources publication *Integrating Multiple Taxa in a Biological Stream Rating System* or given an integrity rating in that document. The Ohio River, Waterbody Segment IL_A-920-981, is listed in the draft 2016 Illinois Integrated Water Quality Report and Section 303(d) List as impaired for fish consumption use with potential causes given as mercury, polychlorinated biphenyls and dioxin (including 2, 3, 7, 8 – TCDD) and primary contact use with a potential cause given as fecal coliform. Aquatic life and public and food processing water supplies uses are fully supported. This segment of the Ohio River is subject to enhanced dissolved oxygen standards.

Identification of Proposed Pollutant Load Increases or Potential Impacts on Uses

A temporary and localized increase in suspended particulates and turbidity levels are a normal and unavoidable result of demolition and fill material placement from the proposed project. Impacts to surface water and physical substrates from demolition would be minimized by using appropriate construction best management practices and limiting substrate disturbance. Ambient water quality conditions would be unaffected by the temporary impacts from blasting which are primarily the introduction of gaseous by-products (carbon monoxide and nitrous/nitric oxides) and increase in suspended solids. The proposed action would potentially cause a temporary and insignificant nutrient increase of sediment and organic debris to be resuspended. However, nutrients entering the water column would be short-term and temporary and would not occur after blasting and disposal are completed.

Fill would originate from the demolished locks and dam or from the River bottom, as in the case with the cell fill material (sand and gravel) and sediment to be removed from upstream of structures above elevation 284 feet asl. The majority of the fill would have already been in the River. However, the 205# stone protection to cover disposal materials would be acquired from a

USACE and state-approved. All metals, except deteriorated S-28 piling, as well as some steel wickets, would be removed from the River. Metals remaining in the River area already in contact with water and the organisms which inhabit the River. Total temporary impacts to waters within Illinois' jurisdictional boundary is 8.75 acres with no significant negative impacts expected to water quality or existing uses.

The potential for movement of fill material in the River would be minimized by placement of #205 stone protection over disposal and dredged material. Additionally, closure of the upstream miter gate of the 1200-ft. lock chamber during demolition would act to limit water current velocities and movement of material from the disposal area. The incremental removal of embedded structures and the relocation of accumulated upstream sediment would prevent large sediment plumes during demolition.

Temporary and localized impacts to benthic organisms and associated habitats would occur in the immediate areas of disposal. However, the benthic fauna in the vicinity of the project is very limited because of the dynamic movement of the substrate from dredging and other navigation-related activities. The biota inhabiting these shifting sandy substrates are adapted to unstable conditions. Impacts to aquatic life uses of this area are not anticipated.

Fate and Effect of Parameters Proposed for Increased Loading

The increase in suspended solids would be local and temporary. Fines or pollutant dispersal is expected during concrete demolition or blasting but would not contribute to long-term or widespread water quality impairments.

Temporary and localized impacts to benthic organisms and their habitats would occur in the immediate areas of construction. However, the disturbed area would be expected to recolonize rapidly after completion of the project.

Purpose and Social & Economic Benefits of the Proposed Activity

Olmsted L&D was constructed to replace L&Ds 52 and 53 and greatly reduce tow and barge delays through a highly active stretch of the Ohio River. With the Olmsted L&D now capable of maintaining a navigable pool, L&D 52 has become obsolete and a hazard to navigation.

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

The proposed project is the result of thorough evaluation of four alternatives (including a no-action alternative) which were documented in previous USACE Environmental Impact Statements in 1985 and 1993 (not available for this review). The least intrusive alternative would be to not complete the project. This is not an acceptable alternative given the safety and navigation issues caused by L&D 52.

The Applicant reviewed demolition alternatives including a barge-mounted hydraulic excavator, impact breakers, vibrating hammers, wire saws and/or explosives. The Applicant has proposed blasting and hoe-ramming as the proposed alternative for demolition and removal of L&D 52, as it significantly reduces human safety exposure hours of diving required for other removal methods. In addition to worker safety, the elimination of explosives usage on the demolition of L&D 52 would negatively impact the removal schedule, which is required to provide a safe navigational passage to and through the area between the Olmsted locks and L&D 53.

The proposed alternative minimizes impacts to surface water and physical substrates from incidental excavation of riverbed material and limits disturbance to the minimum required by using appropriate construction best management practices, including but not limited to:

- Lowering disposal material underwater within 5 feet of the riverbed before releasing the material to further minimize sediment mobilization.
- Removing sediment above elevation 284 ft. asl and placing it within the 1200-ft. lock chamber disposal area to prevent plumes caused by an uncontrolled sediment release.
- Placing stone protection over disposal materials to prevent largescale movement of materials.
- Closing miter gates during disposal activities to prevent movement of materials.
- Leaving sediment around structures in place to contain energy of the blast and better break up portions of the structures not drilled or blasted.
- Removing sediment built up on the upstream side of structures so the built up sediment does not fall into holes created by structural excavation.
- Implementing an Environmental Protection Plan for the prevention/control of habitat disruption.
- Submitting the blasting plan for approval by IDNR.
- Limiting disposal and riprap placement operations to low flow conditions, where possible, to minimize the overall impacts of disturbances.

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

An EcoCAT consultation has been initiated with IDNR, but additional review has not been completed at this time. However, correspondence with IDNR indicates they do have records of state listed black sandshell, ebonyshell, butterfly and federally and state-listed orange-footed pimpleback mussels in the vicinity of the project. IDNR's jurisdiction is 200 feet into the river and because of the degraded habitat on either side of the dam, IDNR stated a survey or take permits are not likely to be needed. IDNR may make general recommendations for the protection of native wildlife; however, that has not been fully determined at this time. The Applicant would be expected to comply with the recommendations or actions proposed and/or required by IDNR.

The Applicant's plans for demolition of L&D 52 would be fully coordinated with the USFWS. The Applicant found that the USFWS Information for Planning and Consultation website lists 17 federally threatened or endangered organisms that may occur with the L&D 52 project area. A Biological Assessment has been submitted to USFWS which assesses impacts to these species

from the operation of Olmsted L&D and removal of L&Ds 52 and 53. Of the 17-species identified, two were identified as likely to be adversely affected: sheepsnose and rabbitsfoot mussels. However, source of adverse impacts to these species would be generated from the operation of the Olmsted L&D, not the removal of L&D 52. The USACE has made a determination of “may affect, but not likely to adversely affect,” for the species identified that may be in the vicinity of the project area. Through formal coordination with the USFWS, the USACE would mitigate for the potential take of listed species from activities related to the demolition of L&D 52. The demolition would not commence until the USFWS issues a Biological Opinion regarding the proposed activities. Additionally, the project area overlaps with critical habitat for the rabbitsfoot mussel. USACE has reinitiated formal consultation with the USFWS to address potential impacts on habitat from the Olmsted L&D project, to include the removal of L&D 52.

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 this assessment was written. We tentatively find that the proposed activity will result in the attainment of water quality standards; 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 will benefit the safety and navigability of the Ohio River. Comments received during the 401 Water Quality Certification public notice period will be evaluated before a final decision is made by the Agency.