

IEPA Log No.: **C-0002-12**  
CoE appl. #: **2011-806**

Public Notice Beginning Date: **November 20, 2012**  
Public Notice Ending Date: **December 11, 2012**

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  
Facility Evaluation Unit  
1021 North Grand Avenue East  
Post Office Box 19276  
Springfield, Illinois 62794-9276  
217/782-3362

**Name and Address of Discharger:** Southwestern Illinois Flood Prevention District Council, 104 United Drive, Collinsville, IL 62234

**Discharge Location:** Along the Wood River levee system between approximate Mississippi River miles 195 and 203 in Madison County.

**Name of Receiving Water:** Indian Creek, Unnamed Stream, and Unnamed Wetlands

**Project Description:** Levee improvements in the Wood River Drainage and Levee District

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 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 call Thaddeus Faught at 217/782-3362.

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Fact Sheet for Antidegradation Assessment  
Southwestern Illinois Flood Prevention District Council – Wood River Drainage and Levee  
District – Indian Creek, Unnamed Stream and Unnamed Wetlands – Madison County  
IEPA Log No. C-0002-12  
COE Log No. 2011-806  
Contact: Brian Koch at 217-558-2012  
November 20, 2012

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The Southwestern Illinois Flood Prevention District Council (“Applicant”) has applied for a 401 water quality certification for permanent stream and wetland impacts associated with proposed levee improvements to the Wood River (WR) levee system. The WR levee system is located in Madison County adjacent to the Mississippi River between River Miles (RM) 195 and 203 and consists of three separate standalone levees; the Upper, Lower, and East-West Forks Wood River Drainage and Levee Districts. The Upper Wood River District originates near the Intersection of Langdon and Front Streets (US Highway 67) in Alton, Illinois, and extends downstream to Wood River Creek (1,641 acres of Mississippi River floodplain protection). The Lower Wood River District originates at the West Fork of Wood River Creek near Powder Mill Road in East Alton, Illinois, and extends downstream to the mouth of the Cahokia Creek Diversion Channel at RM 195 (10,687 acres of Mississippi River floodplain protection). The East-West Forks portion of the District occurs on the north side of the East and West Forks of the Wood River (428 acres of Mississippi River floodplain protection).

The purpose of these improvements is to restore the level of protection such that the levee systems will be eligible for FEMA accreditation in accordance with 44 CFR 65.10 criteria, which requires protection from the base flood (100-year flood) shown on Flood Rate Insurance Maps. The improvements are required to control underseepage of groundwater and relieve excessive hydrostatic pressures beneath the levee system during flood conditions. In the absence of these control measures, high river levels would force groundwater to flow naturally as uncontrolled seepage throughout and along the landward side of the levee systems into low-lying areas such as wetlands, sloughs, and drainage channels. Uncontrolled seepage would have the potential to infiltrate and erode permeable areas of the levees and create sandboils, which would compromise the structural integrity of the levee systems.

The proposed improvements throughout the WR levee system include clay caps, cutoff walls, piezometers, relief wells, blanket drains, seepage berms, clean earthen fill (for grading purposes), 0.26 acres of rip rap fill (780 linear feet) for bank protection in Indian Creek, and one pump station. This current project plan is outlined in the Applicant’s October 25, 2012 submittal to the Agency and serves as an addendum to the original “60% Design Plans” for the project summarized in Applicant’s Section 404 Permit/401 Water Quality Certification Application dated December 16, 2011. The Applicant has stated that minor design plans are subject to change, but any changes would not result in an increase in the amount of stream or wetland impacts.

Completion of the project would result in permanent impacts to 0.07 acres of farmed palustrine emergent wetlands, 0.16 acres of unfarmed palustrine emergent wetlands, 1.71 acres of palustrine forested wetlands, and 5.8 acres of palustrine unconsolidated bottom wetlands. Along with the rip rap fill proposed in Indian Creek, 0.04 acres (370 linear feet) of an unnamed stream

in the Upper Wood River District (designated as “WRLS100” for the purposes of this project) would be permanently impacted by sand/gravel fill associated with installation of a blanket drain. In all, completion of the project would result in permanent impacts to 7.74 acres of wetlands and 0.30 acres (1,150 linear feet) of streams. The proposed pump station would be located in the vicinity of Hartford, Illinois along the Lower Wood River levee system and directly adjacent to the existing Hawthorne Pump Station. The pump station would supplement the Hawthorne Pump Station by returning floodwater and groundwater underseepage from the landward side of the levee system back to the Mississippi River. Construction of the pump station would not result in fill activities in streams or wetlands.

Impacts to stream and wetland areas have been minimized to the greatest extent possible. The proposed levee improvements would be located on or adjacent to previously disturbed land associated with original construction of the levee, and seepage berms would be located along the landward flanks of the levee. Permanent impacts would result from fill activities associated with the installation of relief wells, seepage berms, blanket drains, piezometers, and rip rap bank protection for Indian Creek. Clean fill would be used for all fill activities. Work within wetlands would be avoided to the extent practicable, but temporary impacts to wetland areas may also be necessary. If conditions are wet at the time of construction, clean fill materials may need to be placed into wetlands to create temporary work pads and/or access routes to allow for construction activities. These actions would be temporary, and fill materials would be removed and affected sites restored to pre-project conditions following construction. Best management practices and an erosion control plan would be followed to minimize erosion, turbidity, or other temporary impacts. Temporarily impacted wetland areas would be restored as specified in section 11.0 of the Applicant’s Section 404 Permit/401 Water Quality Certification Application dated December 16, 2011.

Mitigation for stream and wetland impacts would follow that specified in the April 5, 2012 document entitled “Formal Mitigation Plan” submitted to SIFPDC by SCI Engineering, Inc. Mitigation for the impacts associated with this project would be completed in collaboration with mitigation for wetland impacts associated with two other levee projects proposed by the Applicant (IEPA Log No. C-0001-12 and C-0003-12). The mitigation site for the impacts associated with all three SIFPDC projects is located near Roxana, Illinois (Sections 7 and 8, Township 4 North, Range 8 West) in the floodplain of Indian Creek and Cahokia Creek, near the confluence of these waterways. A wetland habitat would be established consisting of approximately 54.5 acres of emergent and forested wetlands and wet mesic prairie habitat areas. Additionally, approximately 1.1 acres of planted riparian corridor creation and 6.4 acres of riparian preservation would be provided along Indian Creek and Cahokia Creek. Wetland mitigation credit requirements were determined using standard USACE ratios for offsite mitigation. In regards to the impacts proposed in the Wood River Levee Districts, the Applicant is proposing to mitigate the 0.07 acres of farmed palustrine emergent wetlands at a 1.5:1 ratio (mitigation commitment of 0.11 acres), the 0.16 acres of unfarmed palustrine emergent wetlands at a 2:1 ratio (mitigation commitment of 0.32 acres), the 1.71 acres of palustrine forested wetlands at a 2.5:1 ratio (mitigation commitment of 4.3 acres), and the 5.8 acres of palustrine unconsolidated bottom wetlands at a 1:1 ratio (mitigation commitment of 5.8 acres). A total of 39.4 wetland mitigation credits are required from all three SIFPDC projects, whereas the mitigation plan would provide 51.9 wetland mitigation credits (an excess of required credits).

Stream mitigation commitments were calculated using the *Illinois Stream Mitigation Guidance*. A total of 1,597 linear feet of stream impacts were initially proposed in the Applicant's Section 404 Permit/401 Water Quality Certification Application dated December 16, 2011, which resulted in a total of 3,064 stream mitigation credits required for mitigation. As stated in the Applicant's "Formal Mitigation Plan", the stream mitigation plan consists of 7.5 acres of riparian corridor creation/preservation which equates to a total of 3,892 stream mitigation credits. The stream mitigation plan provides an excess of the minimum credit requirements for the previously proposed stream impacts (1,597 linear feet) and the currently proposed stream impacts (1,150 linear feet). Despite the reduction of stream impacts, the Applicant has stated that the "Formal Mitigation Plan" will not be revised and the plan will continue to provide an excess of stream mitigation credits.

Construction of the stream and wetland mitigation site would be concurrent with impacts associated with construction activities of the three levee projects. Newly graded wetland slopes (no steeper than 4:1) would be planted using a nurse crop of quick growing, annual species (red top, oats or rye grass) in order to stabilize the soil and minimize erosion until natural vegetation becomes established. The soil onsite may contain a natural seed bank capable of naturally revegetating the site with herbaceous cover, but supplemental planting of emergent areas would be performed if natural revegetation does not occur (See Table 7.1 of Formal Mitigation Plan for list of herbaceous species). Native tree and shrub species for wetland areas would be planted with a 20 foot spacing and would consist of flood tolerant species, many of which would be mast producing trees (See Table 7.2 of Formal Mitigation Plan for list of wetland tree species). Trees would consist of two to three gallon containerized advance root system varieties to enhance growth and survival rates. Riparian corridor plantings would also be planted with a 20 foot spacing and would consist of two to three gallon containerized advance root system varieties. Species would consist of a mix of flood tolerant and semi flood tolerant species (See Table 7.3 of Formal Mitigation Plan). Annual monitoring of the constructed wetland and riparian areas would be conducted for a period of five years following completion of construction and planting. Performance standards for herbaceous vegetation in wetland areas would be based on percent composition and percent relative cover of hydrophytic species after each growing season. After the first growing season, 40 percent hydrophytic species composition and 40 percent relative cover of hydrophytic species would be required, and after the fifth growing season 80 percent hydrophytic species composition and 80 percent relative cover of hydrophytic species would be required. Performance standards for trees planted within wetland and riparian corridor areas would be based on a minimum of 80 percent survivorship of planted tree species after each growing season.

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

The unnamed wetlands within the project site have zero 7Q10 flow and are General Use waters. The waters have not been assessed under the Agency's 305(b)/303(d) program and have not been given an integrity rating or been listed as biologically significant in the 2008 Illinois Department of Natural Resources publication *Integrating Multiple Taxa in a Biological Stream Rating System*. The water bodies are not enhanced in regards to the dissolved oxygen water quality standard.

The unnamed stream, herein identified as “WRLS100”, is a headwater stream with a watershed area of 1.56 square miles. The stream is a General Use water with zero 7Q1.1 flow. It has not been assessed under the Agency’s 305(b)/303(d) program and has not been given an integrity rating or been listed as biologically significant in the 2008 Illinois Department of Natural Resources publication *Integrating Multiple Taxa in a Biological Stream Rating System*. The stream is not enhanced in regards to the dissolved oxygen water quality standard.

Indian Creek (Segment JQA-01) is a General Use water with zero 7Q10 flow which possesses a watershed area of 38.1 square miles upstream of the proposed impact site. The stream is listed as impaired for aquatic life use (causes = phosphorus (total), dissolved oxygen (non-pollutant), and cause unknown) on the draft 2010 Illinois Integrated Water Quality Report and Section 303(d) List. The water body is not listed as a biologically significant stream but has been given a D integrity rating in the 2008 Illinois Department of Natural Resources publication *Integrating Multiple Taxa in a Biological Stream Rating System*. The water body is not enhanced in regards to the dissolved oxygen standard.

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

Construction activities would likely result in increases of suspended solids to the impacted stream and wetland areas. These potential impacts would be minimized to the greatest practical extent through implementation of a site-specific storm water pollution prevention plan and the best management practices previously described in the project narrative. Permanent fill activities would remove the aquatic life uses of filled wetland areas, but these impacts would be offset with wetland mitigation. Temporarily impacted wetland areas would be restored to pre-project conditions following construction and should support the same community structure currently found. Riprap and sand/gravel fill activities in Indian Creek and the unnamed stream would temporarily disturb the aquatic life uses of these streams, but the aquatic life uses of these areas would likely return to present conditions or could possibly improve due to increased habitat heterogeneity. Impacts associated with stream fill activities would be offset with riparian mitigation.

The installation of relief structures would allow for upward flow of groundwater to relieve excessive hydrostatic pressures beneath the levee system during flood conditions. Flow from relief structures would be short-term and temporary and would be comprised of the same groundwater that currently has the potential to uncontrollably seep in a destructive manner. Groundwater in the Hartford area is known to contain hydrocarbon plumes from legacy contamination, but the plumes are situated East of the proposed levee relief structures. Recent groundwater monitoring of volatile and semi-volatile organic compounds conducted at eleven wells adjacent to the proposed project area found these compounds to be below acute and chronic General Use water quality standards, and most analytes were found below detection limits. Based on this data and the location of the hydrocarbon plumes, these substances are not expected to be present in relief well seepages located near the Hartford area. Pollutant load increases from the proposed project would be limited to potential increases in suspended solids during construction activities.

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

The increase in suspended solids would be local and temporary. Erosion control measures would be utilized to minimize any increase in suspended solids and prevent further impact to the water bodies. Loss of aquatic life uses in the waters to be permanently filled would be offset with wetland and riparian mitigation.

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

Completion of the proposed activities is necessary to attain levee re-accreditation through FEMA in accordance with 44 CFR 65.10 criteria. Although FEMA accreditation does not necessarily constitute a determination of levee performance during flooding events, the concern for public safety from catastrophic flooding events is also paramount. If the levee system failed, the population affected from the imminent flooding is estimated at over 200,000 people, along with 12,700 acres of industrial and commercial businesses. The potential social and economic impact of the levees losing accreditation would be substantial. Levee decertification would trigger massive cost increases in flood insurance rates to individuals and businesses and potentially harm economic growth and investment in the region. Federally regulated financial institutions would not be able to issue loans to homeowners or businesses that do not carry adequate flood insurance, and communities would need to adopt development ordinances that include strict requirements for building in flood zones. If the proposed activities were to not proceed, hardships would be endured locally as well as regionally due to the social and economic consequences of levee decertification.

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

An assessment of alternatives for the proposed project, as well as the two other SIFPDC levee projects, was provided in the January 20, 2012 Environmental Assessment prepared by the Corps of Engineers, St. Louis District. A “no action” and an “action” alternative consisting of individual or a combination of measures were developed for each levee area requiring underseepage control.

**No Action Alternative:** This alternative would result in no action being taken to correct the deficiencies required to bring the levees to the level required for FEMA accreditation. As previously described, the social and economic impact of levees losing accreditation would be substantial. Additionally, the no action alternative would compromise the effectiveness and safety of the current levee systems and could jeopardize public safety. No action is not a viable alternative given the social, economic, and catastrophic public safety ramifications that could result in the absence of proceeding with the project.

**Proposed Action Alternative:** If the levees are to be re-accredited, the project as proposed is the preferred method of correcting levee deficiencies. Solutions were selected, where needed, to match the requirements identified by the USACE for the authorized level of protection. Relief wells, seepage berms, cutoff walls, clay caps, toe drains, graded filters, blanket drains, and trench drains were all considered as solutions to meet the appropriate level of protection for each

specific levee reach. Because of their relatively low capital cost and small footprint (<20 square feet of fill required per well), relief wells were generally recommended as the preferred control where they would adequately reduce exit gradients. Where relief wells were not determined to adequately reduce gradients, other control measures were selected with regard to minimization of stream/wetland impacts. Wetland impacts were reduced or avoided at several locations along the levee system by selecting blanket drains or cutoff walls instead of seepage berms. In the Lower Wood River drainage area, a cutoff wall is now proposed rather than a seepage berm, which avoided approximately 35 acres of wetland impacts.

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

Pat Malone of IDNR reviewed all applicable information for the proposed project and determined that the project will not have any significant adverse ecological impacts. Consultation was therefore terminated as stated in the May 2, 2012 e-mail correspondence from Pat Malone to Thaddeus Faught. No further comments from INDR were provided. The U.S. Army Corps of Engineers, St. Louis District released an Environmental Assessment, with Draft Finding of No Significant Impact for the proposed project on January 20, 2012.

### **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 streams and wetlands 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 community at large by providing public safety from flooding events and allowing for attainment of FEMA accreditation. Comments received during the 401 Water Quality Certification public notice period will be evaluated before a final decision is made by the Agency.