

IEPA Log No.: **C-0477-10**  
CoE appl. #: **LRC-2010-474**

Public Notice Beginning Date: **April 30, 2014**  
Public Notice Ending Date: **May 30, 2014**

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  
Permit Section  
1021 North Grand Avenue East  
Post Office Box 19276  
Springfield, Illinois 62794-9276  
217/782-3362

**Name and Address of Discharger:** City of Joliet – 921 E. Washington St., Joliet, IL 60433

**Discharge Location:** Near Joliet in Sections 10, 11, 14 and 15 of Township 35N, Range 10E of the 3rd P.M. in Will County.

**Name of Receiving Water:** Hickory and Spring Creeks

**Project Description:** Flood control project includes channel modifications with aquatic habitat enhancements.

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 Darren Gove at 217/782-3362.

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Fact Sheet for Antidegradation Assessment  
For City of Joliet  
IEPA Log No. C-0477-10  
COE Log No. LRC-2010-474  
Contact: Diane Shasteen (217) 558-2012  
Public Notice Start Date: April 30, 2014

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The City of Joliet (“Applicant”) has applied for Section 401 water quality certification for impacts of approximately 3,050 linear feet of Hickory Creek (6.2 acres) and 8,700 linear feet of Spring Creek (8.9 acres). The proposed stream mitigation/flood control project encompasses Sections 2, 10, 11, 12, 14, and 15, Township 35 North, Range 10 East, within the city limits of Joliet. The proposed work will be completed on Hickory Creek near Hillcrest Road and on Spring Creek from the confluence with Hickory Creek to Draper Avenue. The Illinois Department of Natural Resources (IDNR) is the authorized agent for the Applicant on this project. In 1984, the Army Corps of Engineers (COE) issued a permit (#3297901) for the Hickory and Spring Creek channel modification improvements to contain the 100-year frequency flood discharges within the city of Joliet. COE granted two permit extensions which expired in 2005; construction halted leaving the remaining phases of the project incomplete. The purpose of this project is a continuation of the 1984 project that was designed to alleviate major chronic flooding of structures and infrastructure along Hickory and Spring Creeks in Joliet. Approximately 1,362 homes and businesses still occur within the 100-year floodplain, the completion of this project would protect all of these structures from this flood. The project will lower the channel bottom on Spring Creek from its confluence with Hickory Creek to Draper Avenue and on Hickory Creek from Grant to Washington Streets to increase the channel conveyance capacity. The proposed project will also impact 0.10 acres of low quality emergent wetlands, mitigated with the purchase of 0.15 acre wetland credit from an approved wetland bank in the Des Plaines River basin.

Information used in this review was obtained from the applicant in a document entitled, Hickory and Spring Creeks Flood Control Project, Permit Application Narrative dated May 2010.

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

Hickory Creek (IL\_GG-22 and IL\_GG-04), a direct tributary to the Des Plaines River, is a General Use Water with an estimated 5.3 cfs 7Q10 flow. According to the draft 2014 Illinois Integrated Water Quality Report and Section 303(d) List, Hickory Creek (IL\_GG-22), downstream of the Spring Creek confluence, has been assessed by Illinois EPA and is listed as not supporting Aquatic Life, Primary Contact Recreational, and Aesthetic Quality uses. Causes for Aquatic Life impairment include Alteration in stream-side or littoral vegetative covers, Changes in Stream Depth and Velocity Patterns, Other flow regime alterations (non-pollutants), Phosphorus (Total), and Total Suspended Solids (TSS). The cause of impairment listed for Primary Contact Recreational use is Fecal Coliform. Visible Oil is listed as the cause for impairment for Aesthetic Quality use. Fish Consumption and Secondary Contact uses have not been assessed. Hickory Creek, (IL\_GG-04), upstream of the Spring Creek confluence, has been assessed by Illinois EPA and is listed as not supporting Aquatic Life use. Causes for Aquatic Life impairment include Chloride, Dissolved Oxygen, and Phosphorus (Total). Fish Consumption, Primary Contact Recreational, Secondary Contact, and Aesthetic Quality uses have not been assessed for this stream segment. Hickory Creek, in the project area, is not listed

as a biologically significant stream in the 2008 Illinois Department of Natural Resources Publication *Integrating Multiple Taxa in a Biological Stream Rating System*; it is given an integrity rating of “C” in that document. Hickory Creek is designated as an enhanced water pursuant to the dissolved oxygen water quality standard.

Spring Creek (IL\_GGA-02), a direct tributary to the Hickory Creek, is a General Use Water with an estimated 0.30 cfs 7Q10 flow. According to the draft 2014 Illinois Integrated Water Quality Report and Section 303(d) List, Spring Creek has been assessed by Illinois EPA and is listed as not supporting Aquatic Life and Aesthetic Quality uses. Causes for Aquatic Life impairment include Dissolved Oxygen, Phosphorus (Total), and Sedimentation/Siltation. Visible Oil is listed as the cause of impairment for Aesthetic Quality. Fish Consumption, Primary Contact Recreation, and Secondary Contact uses have not been assessed. Spring Creek, in the project area, is not listed as a biologically significant stream in the 2008 Illinois Department of Natural Resources Publication *Integrating Multiple Taxa in a Biological Stream Rating System*; it is given an integrity rating of “C” in that document. Spring Creek is not designated as an enhanced water pursuant to the dissolved oxygen water quality standard.

The Illinois Natural History Survey (INHS) investigated 23 sites (Sites 1-23) in the project area; 20 sites (6.9 acres) met the criteria of wetlands. Three of those wetlands (Sites 1, 2, and 7) totaling 0.10 acres will be impacted by the project. Sites 1 (0.02 acre) and 2 (0.03 acre), low quality wet meadows, are located along Spring Creek in a railroad yard near the upper end of the project area. Site 7 (0.05 acre) is a low quality wet meadow island located within Hickory Creek upstream of Washington Street. A fish ramp, the transition from the modified channel to the natural channel bottom, is proposed for this location. Impacts to these areas are unavoidable and will be mitigated with the purchase of 0.15 acre wetland credit from an approved wetland bank in the Des Plaines River basin.

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

The pollutant load increases that would occur during this project include possible increases in suspended solids during construction. A soil erosion and sediment control plan will be developed based on IDOT’s “Standard Specifications for Road and Bridge Construction” and the “Illinois Urban Manual.” Channel construction will be completed in the dry and restricted to half the channel to prevent sediment from entering the creek. The excavated substrate will be utilized as a temporary cofferdam in the center of the existing channel and then redistributed over the channel bottom when construction is complete to encourage reestablishment of channel bottom habitat. Silt fences and other erosion control measures will be utilized along channel banks to minimize soil and debris entering the channel and avoiding increases in suspended solids. The project will eliminate .10 acres of low quality wetlands within the project area.

Aquatic life use may be negatively impacted in the portions of Hickory and Spring Creeks disturbed during construction. IDNR completed fish surveys in 2006 at twelve locations in the watershed to determine current status of the fish communities. One species, the fantail darter, was collected only on Spring Creek adjacent to the railroad yard. This species will be relocated

downstream during construction of this reach and a small barrier will be utilized to keep the fantail darter out of the construction area. Several additional habitat features have been incorporated in the project including the following:

- redistributing the excavated substrate in the channel
- placing in-stream structures at intervals of 5 channel widths to create a low flow sinuous channel and excavating pools below these structures to provide additional depth for fish
- placing fish ramps in transition areas between the natural channel bottom and the lowered channel bottom
- reestablishing disturbed vegetation on creek banks

The goals of the channel mitigation are to recreate the instream habitat and improve water quality of the creeks which should lead to increased aquatic community diversity. The fish community surveys conducted by IDNR will serve as a guideline to evaluate the potential ecosystem impacts from the planned flood control project.

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

The Applicant will purchase 0.15 acre wetland credit from an approved wetland bank in the Des Plaines River basin, the result of a 1.5 to 1 mitigation ratio applied to Sites 1, 2, and 7. The increase in suspended solids in the project area will be local and temporary. Erosion control measures and dry channel construction will be utilized to minimize any increase in suspended solids and prevent further impact to the stream. Channel mitigation measures should improve channel stability and reestablish channel vegetation, which in turn, should lead to water quality improvements in the creeks.

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

Fifteen major flood events have occurred in Joliet along Hickory and Spring Creeks since 1867 causing millions of dollars of damage to homes and businesses. The most recent event occurred in 1996. Prior to the implementation of the Hickory and Spring Creeks Flood Control Project, approximately 1,863 homes and businesses would flood during a 100-year frequency flood. Due to improvements made thus far, this number has been reduced to approximately 1,362. Completion of the flood control project would remove all homes and businesses from the 100 year floodplain. In addition, the project would alleviate the costs associated with flood damage, emergency action, utility repairs, traffic disruption, health hazards and loss of wages.

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

The applicant has gone through an extensive alternative analysis process that assessed the amount of flood control provided, the level of environmental impact, availability of land rights and public acceptance, and total cost of the project. Hickory Creek and Spring Creek were analyzed separately; alternatives for each creek are listed in Table 1 and 2, respectively (provided by Applicant). Criteria listed in the tables were scored from 1 to 10 with the exception

of Criteria 1 of Hickory Creek which was scored on a scale of 1 to 20. The alternative with the highest combined points was the selected alternative (listed in bold).

**Table 1: Hickory Creek Selection Criteria Scoring**

Alternative	Flood Control Provided		Level of Environmental Concern		Land Rights Available		Cost		Total Score
	Criteria <sup>(1)</sup>	Score	Criteria	Score	Criteria	Score	Criteria	Score	
<b>Alt 1-100' BW Channel w/ Vertical Concrete Walls</b>	<b>0' higher</b>	<b>20</b>	<b>125' Topwidth</b>	<b>7</b>	<b>Yes</b>	<b>10</b>	<b>\$13,500,000</b>	<b>5</b>	<b>42</b>
Alt 2- 50' BW Channel w/ 3:1 Side Slopes	1' to 2' higher	15	175' Topwidth	5	No	7	\$5,850,000	10	37
Alt 3 - 80' BW Channel w/ Comb vertical and 3:1 Side Slope	1' to 2' higher	15	175' Topwidth	5	No	7	\$7,925,000	7	34
Alt 4 - 300' BW Channel w/ 3:1 Side Slopes and No Lowering of Bottom	6' to 7' higher	5	450' Topwidth	3	No	3	N/A	1	12
Alt 5 - Diversion Box Culverts	6' to 7' higher	5	Channel at the Diversion Weir	10	Yes	10	\$13,250,000	5	30

(1) Water surface profile of alternatives is compared to originally permitted project.

Alternative 1, the alternative selected for Hickory Creek, provides channel modifications similar to the originally permitted project, full flood control benefits, minimal land rights, and the second smallest environmental impact. While not the least costly, Alternative 1 will have the lowest annual maintenance costs in the future.

**Table 2: Spring Creek Selection Criteria Scoring**

Alternative	Flood Control		Level of Environmental		Land Rights		Cost		Total Score
	Criteria <sup>(1)</sup>	Score	Criteria	Score	Criteria	Score	Criteria	Score	
	Lower 4.5' to								
6S Diversion to Des Plaines River	1'; 1708 structures removed	15	Additional flow to I & M Canal	10	Land near I & M Canal	4	\$16,801,000	9	38
	Lower 4' to								
7S Offline Reservoir	1'; 1255 structures removed	10	Disturbance to 100-year floodplain	5	Not Available	0	\$19,042,000	7	22
	Lower 4.5' to								
8S Online Reservoir	1.5'; 1748 structures removed	17	Embankment Construction	7	130 Acres	2	\$15,433,000	10	36
	Lower 6' to								
9S Channel Modification	2.5'; 1863 structures removed	20	Disturbance of Channel Bottom	8	Railroad Yard	8	\$15,325,000	10	46

(1) Water surface profile of alternatives is compared to current As-Built condition.

Alternative 9S, the alternative selected for Spring Creek, eliminates flooding and removes all structures from the 100-year floodplain, requires minimal land rights, is least costly, and has the support of the City of Joliet.

**Conclusion:**

The construction of the proposed project will follow conditions set forth by the Agency and USACE. The completion of the flood control project is the most cost effective, viable means for preventing Hickory and Spring Creek flooding in the City of Joliet, removing homes and businesses from the 100 year floodplain, and preventing the associated costs of such occurrences in the future. IDNR has suggested several aquatic habitat features that will be utilized on Hickory and Spring Creeks during the channel modification project. These features, mentioned above, are designed to encourage aquatic ecosystem recovery in Hickory and Spring Creeks. Soil erosion and sediment control plans, structural BMPs, and re-vegetation plans have been outlined to protect water quality within the project area. Wetland mitigation of 0.15 acre wetland credit from an approved wetland bank in the Des Plaines River basin has been proposed for the loss of 0.10 acres of low quality wetlands.

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

An Eco-CAT endangered species consultation submitted on April 11, 2014 to the Illinois Department of Natural Resources resulted in the identification of wetlands within 250 feet of the project location. IDNR has evaluated the EcoCAT information and concluded that adverse effects to wetlands are unlikely and terminated consultation for IDNR Project #1410285 on April 14, 2013.

#### **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 draft 401 Water Quality Certification 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 community at large by removing approximately 1,362 homes and businesses from the 100-year floodplain in the City of Joliet and preventing the associated costs of such occurrences in the future. Comments received during the 401 Water Quality Certification public notice period will be evaluated before a final decision is made by the Agency.