

## Kaskaskia River Regional Port CAP Section 107 Study Randolph County, Illinois



### Clean Water Act

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**US Army Corps  
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# 1 CLEAN WATER ACT

The purpose of this section is to comply with Section 404 of the Clean Water Act pertaining to guidelines for the placement of fill material into waters of the United States. This evaluation, in conjunction with the *Kaskaskia River Regional Port Feasibility Study with Integrated Environmental Assessment* (i.e., the main report) assisted in the analysis of alternatives resulting in a Tentatively Selected Plan (TSP). Further, this evaluation provides information and data to the state water quality certifying agency demonstrating compliance with state water quality standards. Information in this section pertains to the TSP.

## 1.1 GENERAL DESCRIPTION OF EXCAVATED AND PLACED MATERIALS

### 1.1.1 General Characteristics of Materials

#### a. Fill material:

Fill materials will include earthen materials including silt, sand, and clays.

#### b. Excavated material:

Excavated material is defined as material that is either hydraulically dredged or mechanically excavated from waters of the United States. Earthen material excavated from the oxbow will consist of alluvial sands, silts, and clays, and will be placed within two sites surrounded by containment berms.

### 1.1.2 Quantity of Materials

#### a. Boating Channel:

*Dredged material:* The initial dredged material from the oxbow channel would be approximately 45,000 CY, and the total dredged material over the 50-year planning horizon would be approximately 90,000 CY.

## 1.2 DESCRIPTION OF THE PROPOSED PLACEMENT SITES

### 1.2.1 Location

The DD-1 site is located to the south of the TMW building on KRPD-owned land. The site has been gradually filled by KRPD over time. The DD-2 site is located to the east of the port terminal across the oxbow channel on a peninsula.

The two placement areas (DD-1 and DD-2) were identified by USACE after careful consideration regarding the National Environmental Policy Act (NEPA) and the Council on Environmental Quality's Regulations (40 Code of Federal Regulations §1500-1508, as reflected in the USACE Engineering Regulation 200-2-2). The study area was evaluated for the environmental, cultural, and social effects of a proposed Kaskaskia River Regional Port CAP Section 107 project. All project construction and dredging will be executed by a government contract. Dredging would take place from the opening of the channel up to the KRPD#2 port terminal to a depth of 12ft and a width of 110ft. Bottom sediment would be removed by hydraulic dredging or mechanical dredging and placed within one of two disposal areas, DD-1 and DD-2. Dredge material disposal at DD-2 would involve approximately 13 acres of tree clearing.

### 1.2.2 Type of Site

#### a. Permanent Deposits of Excavated or Fill Material

Permanent placement of dredged material would occur at disposal areas DD-1 and DD-2.

#### b. Temporary Deposits of Excavated or Fill Material.

No temporary placement of excavated or fill material is being proposed.

### 1.2.3 Timing and Duration of Placement

Depending on local weather and river flooding conditions, the construction period may occur over several years.

## 1.3 DESCRIPTION OF THE PLACEMENT METHOD

Bottom sediment would likely be removed by a hydraulic or mechanical dredging and dried within two placement areas, DD-1 and DD-2. Hydraulic dredging equipment could consist of a cutterhead dredge, pontoons, and/or pipelines to transport the excavated dredge material in the form of a slurry. Mechanical dredging equipment could consist of a crane with clamshell bucket or a barge mounted excavator along with deck barges to transport the excavated dredge material in a more solid or cohesive condition. Either method would remove material from the channel. Excavated dredge material would be transported on site to the disposal areas by either pipeline system (hydraulic dredging) or by barge (mechanical dredging). After material has been placed in the placement areas and dried, the material may be re-graded using earth-moving equipment.

## 1.4 FACTUAL DETERMINATIONS

### 1.4.1 Physical Determinations

- a. Elevation and Slope –The east side of DD-2 nearly filled to the top of the berm is at 380 ft elevation, while the west side of the disposal area has more capacity and drops to an elevation of approximately 370 ft. Due to the close proximity of the Kaskaskia River and south oxbow, the berm would need to be built up and in, with the internal side slopes of the berm migrating further into the interior of the dredge disposal area.
- b. Sediment Type – The study team assumed the sediment in the south oxbow is of a similar composition to the north oxbow given their geographic and hydrologic similarities. Sediments of the north oxbow were characterized from samples taken during a preliminary investigation on November 8, 2023. Two 1" diameter by 48" soil samples were taken. The first sample was taken approximately 200' west of the oxbow mouth while the second sample was retrieved approximately 240' southwest of the first sample. The sieve analysis revealed the primary particle size to be fines with a mean of 97.5% (passing through the #200 sieve). Sampling will be done in the south oxbow in the Preconstruction Engineering and Design (PED) phase after the feasibility study is complete.

### 1.4.2 Water Circulation, Fluctuation, and Salinity Determinations

**Table E-1** shows the potential impacts of the TSP on the physical and chemical characteristics of the south oxbow.

**Table E-1.** Potential Impacts on Physical and Chemical Characteristics

Physical and Chemical Characteristics	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Substrate				X		
Suspended particulates/ turbidity				X		
Water				X		
Current patterns and water circulation			X			
Normal water fluctuations		X				
Salinity gradients	X					

**1.4.3 Water**

- a. Salinity – Not applicable.
- b. Water Chemistry – Hydraulic or mechanical dredging is expected to have a short-term temporary effect on water chemistry. Increased turbidity in areas where dredging occurs is expected; however, turbidity levels are not expected to significantly affect any aquatic organisms or downstream habitat. The removal of material in the channel area would improve depth and connectivity throughout the channel, thus improving water chemistry. The channel would be dredged to a depth of 12ft and a width of 110ft. This will help slow future sedimentation as well as increase water flow throughout the channel.
- c. Clarity – Elevated suspended sediment levels are expected to occur in a localized nature within the channel during dredging. Decreased water clarity is expected to be short-term.
- d. Color – No change is expected.
- e. Odor – The project is not expected to have an impact on water odors.
- f. Taste – The project is not expected to impact water taste.
- g. Dissolved Gas Levels – Construction activities associated with the project are not expected to have a significant adverse impact on dissolved gas levels.
- h. Nutrients – Nutrients would be released to the water column during dredging; however, this would represent a temporary increase and is not considered significant due to water flow and dredging construction being temporary.
- i. Eutrophication – The project is not expected to contribute toward eutrophication of the water body.
- j. Water Temperature – Temperatures change is expected to be negligible with increased depth and flow and width.

#### **1.4.4 Current Patterns and Circulation**

The TSP would increase depth, connectivity, and access through the channel from the Kaskaskia River to KRDP#2. The removal of sediment deposited from the inflow of the Kaskaskia River should increase flow throughout the channel.

Overall, the project would slightly alter circulation and flow patterns; however, these alterations are not expected to significantly change river hydraulics.

- a. Velocity – There should be negligible changes in current velocity in the south oxbow.
- b. Stratification – Stratification is not anticipated to change significantly after construction.
- c. Hydrologic regime – The project would increase flow through the channel from the inflow of the Kaskaskia River to KRDP#2.

#### **1.4.5 Normal Water Level Fluctuations**

Normal water level fluctuations in the south oxbow or Kaskaskia River would be unaffected. The TSP would not detrimentally increase flood heights or adversely affect private property or infrastructure.

#### **1.4.6 Suspended Particulate/Turbidity Determinations**

- a. Expected Changes in Suspended Particles and Turbidity Levels in Vicinity of Placement Site: Increases in suspended particulates and turbidity due to construction activities are expected to be greatest within the vicinity of the channel dredging. This would cease after construction completion. Construction activities associated with proposed dredging may temporarily increase sediment suspended in the water column. Once construction is completed, it is anticipated that the water quality of the project area would remain similar to or be better than the existing conditions.
- b. Effects on Chemical and Physical Properties of the Water Column:
- c. Light Penetration - There would be a temporary reduction until sediments suspended as part of the project activities settle out of the water column.
- d. Dissolved Oxygen - No adverse effects expected. Improved dissolved oxygen is expected post-construction due to increased depths in the channel.
- e. Toxic Metals and Organics - No adverse effects are expected. Hazardous material surveys would be completed during Preconstruction Engineering and Design phase.
- f. Aesthetics - Aesthetics of the water column are likely to be minorly adversely affected during construction but are expected to be temporary and improve after construction.
- g. Effects on Biota - Dredging would likely eliminate the benthic macroinvertebrate community in the impacted area. The benthic community is anticipated to repopulate the dredged area from adjacent undredged sites over a period of several months to several years. Short-term negative effects would occur for aquatic organisms in the vicinity of the construction activities due to temporary decreases in water quality and disturbance by construction equipment.

#### 1.4.7 Contaminant Determinations

A Phase I Environmental Site Assessment (ESA) has been conducted for the Kaskaskia Regional Port District (KRPD) Terminal 2 (KRPD#2) project using methods outlined by ASTM E1527-21. This included a records review, physical site visit, and communications with persons knowledgeable of the project footprint and adjoining properties. This assessment has revealed the following RECs in connection with the subject property. 1) The stockpile of drums with potentially hazardous substances and petroleum products in DD-1. 2) The burn pile with potentially hazardous substances in DD-1. The stockpile of drums was reportedly cleaned up shortly after the site visit was conducted. Contingent upon the Finding 2 burn pile being removed from DD-1, the subject property contains no major sites of interest that would impact the project's design, cost, or schedule. The environmental impact for the migration of off-site contaminants onto the Project Area is negligible, a Phase II ESA is currently not recommended. There is no expected risk of HTRW contamination within the project area.

#### 1.4.8 Aquatic Ecosystem and Organism Determinations

Table E-2 shows potential impacts of the TSP on biological characteristics of the south oxbow.

**Table E-2.** Potential Impacts on Biological Characteristics

Biological characteristics	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Threatened and endangered species			X			
Fish, crustaceans, mollusk, and other aquatic organisms				X		
Other wildlife				X		

- a. Effects on Plankton – The project could have a temporary adverse effect on the plankton in the immediate vicinity of the project area. This would cease after construction completion.
- b. Effects on Benthos – Channel dredging would temporarily disrupt the aquatic environment. Benthic organisms present in these areas would be adversely affected by dredging during excavation. However, the subsequent benefits gained from improved aquatic habitat conditions outweigh any loss in benthic organisms during the time of construction.
- c. Effects on Nekton – Temporary adverse effects may be experienced by free-swimming aquatic life during construction, as with the benthic community; the long-term impact would be beneficial.

- d. Effects on Aquatic Food Web – The project would improve channel habitat for larger aquatic species in the south oxbow. Temporary loss of benthic organisms in the dredge cut will occur, but the increase in water transport capacity would improve the overall health and food web.
- e. Effects on Special Aquatic Sites – Dredge disposal sites have been designed to avoid any wetlands. Any disturbance will have a minor short-term effect as seen in **Table E-3** and discussed below:

**Table E-3.** Potential Impacts on Special Aquatic Sites

Special Aquatic Sites	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Sanctuaries and refuges	X					
Wetlands		X				
Mud flats	X					
Vegetated shallows	X					
Coral reefs	X					

- a. Wetland Habitat – All construction activities would avoid wetland within the study area. The sediment placement areas (disposal areas) were designed to avoid any wetlands to help avoid impacts on wetland habitat. The TSP would not impact the wetland habitat nor its function within the ecosystem. Therefore, it is anticipated impacts to wetlands within the project area as a result of the TSP would be negligible and short term. No compensatory mitigation is required.
- b. Threatened and Endangered Species - Impacts are expected to result from the TSP due to the loss of potential bat roost trees and foraging areas.
- c. Forest Clearing – The proposed project would require the clearing of approximately 13 acres of trees. Tree clearing would only occur 1 November to 31 March of any year to minimize impacts to federally threatened or endangered bat species.

#### 1.4.9 Proposed Placement Site Determinations

- a. Mixing Zone Determinations – Suspended particulates and turbidity would increase during construction activities. These increases would be most evident at the point of excavation or dredging and would quickly fall within baseline conditions in the mixing zone. Excavated or dredged material will be placed within the sediment placement areas. Mixing zones will be applied where applicable to the placement area effluent for water quality parameters

identified in the 401 water quality certification. No significant adverse impacts to the chemical and physical properties of the water body are expected.

- b. Determination of Compliance with Applicable Water Quality Standards – This Clean Water Act Section 404(b)(1) provides the necessary compliance required by law. Section 401 Water Quality certification in compliance with the Clean Water Act, and all other permits necessary for the completion of the project, would be obtained prior to project construction.
- c. Potential Effects on Human Use Characteristics – No long-term adverse impacts to municipal and private water supplies; water-related recreation; or parks, national and historic monuments, national seashores, wilderness areas, research sites or similar preserves would occur. During construction the area would not be available for recreational and commercial fishing. Following construction, the proposed project may enhance fishing in the area and improve the overall aquatic condition of the study area.

### **1.5 DETERMINATIONS OF CUMULATIVE EFFECTS ON THE AQUATIC ECOSYSTEM**

The initial dredging action at KRPD#2 is expected to occur over a 6-month timeframe, with periodic maintenance dredging every 5 years. The TSP would have long-term beneficial impacts on the aquatic ecosystem. Refer to Section 5.15, Cumulative Impacts in the main report (EA) for more details.

### **1.6 DETERMINATIONS OF SECONDARY EFFECTS ON THE AQUATIC ECOSYSTEM**

No adverse secondary effects should result from the proposed action. Long-term benefits to aquatic habitat are expected.

### **1.7 FINDINGS OF COMPLIANCE OR NON-COMPLIANCE WITH THE RESTRICTIONS ON DISCHARGE**

No significant adaptations of the 404(b)(1) guidelines were made relative to this evaluation.

- 1 Certification under Section 401 of the Clean Water Act would be obtained from the Illinois Department of Natural Resources where applicable.
- 2 Prior to construction, full compliance with the Endangered Species Act would be documented.
- 3 The project is situated along an inland freshwater river/lake system. No marine sanctuaries are involved or would be affected by the proposed action.
- 4 No municipal or private water supplies would be affected by the proposed action, and no degradation of waters of the United States is anticipated to result from the proposed action. The proposed construction activity would not have a significant adverse effect on human health and welfare, recreation and commercial fisheries, plankton, fish, shellfish, wildlife, or special aquatic sites. No significant adverse effects on life stages of aquatic life and other wildlife dependent on aquatic ecosystems are expected to result. The proposed construction activity would have no significant adverse effects on aquatic ecosystem diversity, productivity, and stability. No significant adverse effects on recreational, aesthetic,



and economic values would occur.

- 5 The materials used for construction would be chemically and physically stable and non-contaminating.
- 6 No other practical alternatives have been identified. The proposed action will be in compliance with Section 404(b)(1) of the Clean Water Act, as amended prior to construction. The proposed action would not significantly impact water quality.

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Date

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