

**UPPER MISSISSIPPI RIVER RESTORATION FEASIBILITY REPORT
WITH INTEGRATED ENVIRONMENTAL ASSESSMENT**

**GREEN ISLAND
HABITAT REHABILITATION AND ENHANCEMENT PROJECT**

**POOL 13, UPPER MISSISSIPPI RIVER
RIVER MILES 545.9 THROUGH 548.7
JACKSON COUNTY, IOWA**

**APPENDIX B
CLEAN WATER ACT COMPLIANCE**

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**APPENDIX B
CLEAN WATER ACT COMPLIANCE**

1. INTRODUCTION

The U.S. Army Corps of Engineers (Corps), Rock Island District (District) is required to comply with Clean Water Act (CWA) Sections 401 and 404 for the *Green Island Habitat Rehabilitation and Enhancement Project* (Project). This appendix details the District justifications why this Project meets the conditions and requirements of CWA Nationwide Permit (NWP) 27 – Aquatic Habitat Restoration, Establishment, and Enhancement Activities.

2. PROJECT DESCRIPTION

2.1. Location. The *Green Island Habitat Rehabilitation and Enhancement Project* (Project) is located along the right descending bank of the Upper Mississippi River System in Jackson County, Iowa south of the Maquoketa River. The Project area is in Pool 13 between river miles 548.5-546.0 near the town of Green Island, Iowa.

2.2. General Description. The Project goal is to restore, to the extent practical, quality, functional floodplain habitat and ecological processes sustaining plant and animal communities native to the Mississippi River Valley. Section VI, *Tentatively Selected Plan*, of the Main Report details the potential Project features (Figure B-1).

2.3. General Description of Excavated and Fill Material. Material for the ridge and swale feature would be material excavated from Green Island. The feature would then be planted with desired bottomland hardwood trees and managed for emergent vegetation.



Figure B-1. Project Features in the Tentatively Selected Plan

3. PROJECT FEATURES

3.1. Management and Restoration Actions. The District performed a thorough plan formulation process to identify potential management measures and restoration actions addressing the Project objectives. Many alternatives were considered, evaluated, and screened in producing a final array of alternatives. The District subsequently identified a National

Ecosystem Restoration Plan. The District developed this alternative from an array of Project features. The Main Report details each feature of this alternative as well as those features the District also considered. The TSP includes ridge and swale area with bottomland hardwood plantings, dredge and side-cast topography creating deeper areas for diverse aquatic vegetation, and water level management for emergent vegetation capabilities.

3.2. Pump Station and Water Control Structure(s). The Project requires replacement of the existing pump station. The new pump station would facilitate dewatering Green Island to a desired management level by allowing two-way pumping into and out of Green Island. The Iowa Department of Natural Resources (IADNR) plans to follow the water level management plan over the 50-year Project life.

New underground power utilities will be required for the new pump station. The existing berm, leading to the current pump station, will need to be widened. Making the berm wider will give the power company enough space for new underground lines for the new pump station. Slope for this berm would adhere to proper slope limits. Materials would be excavated from the project area.

Several aging water control structures are present on existing cell dividing berms. New structures will be installed in their location or new structures will be installed to promote best water level management capabilities.

3.3. Future Water Level Management. The Project Delivery Team (PDT) and Project sponsor, IADNR, developed the proposed Water Level Management Plan (WLMP) to best meet the IADNR's management goal. The plan was developed by assessing optimal growing season length and habitat acres available. The proposed WLMP meets the sponsor's requirements and can be adaptively managed to meet Project goals.

The water level management plan was developed to mimic the historic river flood pulse and meet peak migration dates. During the 50-year Project life the site will most often be managed based on the management needs required for duck habitat.

3.4. Timber Stand Improvement for Bottomland Hardwood, and Ridge and Swale. Areas targeted for Timber Stand Improvement (TSI) are in the north end of the project. Approximately 319 acres were identified to receive TSI. In this area, clearing of dead trees would be required in the first year. Due to decreased ability to manage water forested areas have died and require trees to be interplanted throughout the forest, over a 5-year period.

In addition to planting new trees and TSI on existing forested areas the project will be building a ridge and swale area that will be planted with desired tree species.

4. AUTHORITY

In the 1880s, Congress directed the Corps to prevent dumping and filling in the nation's harbors, a program that was vigorously enforced by the engineers. In the Rivers and Harbors Act of 1899, Congress gave the Corps the authority to regulate most kinds of obstructions to navigation, including hazards resulting from effluents (under the so-called Refuse Act of 1899, Section 13).

Within its current regulatory program, the Corps has authority over work on structures in navigable waterways under Section 10 of the Rivers and Harbors Act of 1899, and over the

discharge of dredged or fill material under Section 404 of the Federal Water Pollution Control Act Amendments of 1972 (P.L. 92-500). This latter requirement applies to wetlands and other valuable aquatic areas throughout the United States. The Corps' current regulatory mission is a natural product of historical evolution, for the Corps has been exercising regulatory responsibilities for over a hundred years.

The IADNR has promulgated authority to issue CWA Section 401 Water Quality Certification certifying that the Project's discharge would comply with the Iowa water quality standards on a case-by-case basis. However, for certain nationwide permits, the IADNR has issued 401 Water Quality Certification for all projects meeting the conditions and limits of the NWP. Each project must also comply with IADNR conditions specific to each NWP.

On December 27, 2021, the Corps published in the Federal Register (86 FR 245), the Final Rule for the Nationwide Permits Program under the Rivers and Harbors Act of 1899; the Clean Water Act; and the Marine Protection, Research and Sanctuaries Act. These rules became effective on February 25, 2022. The planning team used this approved version of the NWP language, terms, and conditions.

The District acknowledges that NWP 27 may be modified, reissued, or revoked prior to construction, or on March 14, 2026. The planning team would remain informed of changes to the NWPs. If construction activities are not completed prior to 12 months from the date of the modifications or revocation of the NWP, the team would reevaluate the Project's 404 compliance status and coordinate the Project with the District's Regulatory Division. The Project would be required to be in full compliance with the current CWA regulations prior to any construction and activities.

5. PERMITTING PROCESS

The Corps requires permits for building or developing in, on, or over wetlands and waters of the United States. The Corps regulatory program permit evaluation process results in permit decisions which balance the need for proposed development with protection of the nation's aquatic environment.

The level of the Corps evaluation is commensurate with the level of the environmental impacts and the aquatic functions and values involved in the particular area being impacted. Authorization can range from minor permits such as Nationwide and Programmatic and Regional General Permits to Individual Permits. Impacts to higher ecological value areas would be subject to a much more detailed evaluation and a strong focus on avoidance of impacts to the aquatic environment. In the case of this Project, the planning team's CWA compliance procedures include:

- Consulting with the local Corps regulatory office, which is located at the District headquarters office in Rock Island, Illinois. This consultation concluded that the Project preliminarily complies with NWP 27 and does not require an individual 404 permit. See Appendix D for correspondence.
- Demonstrating why NWP 27 would be the appropriate level of compliance. This appendix outlines the information the District's regulatory office reviewed to make their final concurrence/nonoccurrence determination.

6. NATIONWIDE PERMIT COMPLIANCE DOCUMENTATION

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In order to use an NWP, the Project must comply with four sets of conditions:

- General NWP conditions for NWPs
- NWP 27 conditions
- Iowa Regional Conditions for nationwide Permit use
- Iowa Department of Natural Resources 401 Water Quality Certification conditions

For the full language of NWP permit conditions and NWP 27 conditions, refer to the District's Regulatory Division website for *Nationwide Permits – Iowa* link at <https://www.mvr.usace.army.mil/Missions/Regulatory/Permits/>.

Table B-1 shows the 32 general NWP conditions and the District's compliance responses.

Table B-2 shows the NWP 27 conditions and the District's compliance responses.

There are seven Iowa Regional Conditions for nationwide Permit use. Table B-3 documents the District's response to each Condition.

Table B-4 shows the IA DNR Section 401 Water Quality Certification conditions for NWP 27 and the District's compliance responses.

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Table B-1. General NWP Conditions and Compliance Responses

#	General NWP Condition	Compliance Response
1	Navigation	No navigation impacts expected. Pump and water control outfalls would not impact the 9-foot navigation channel in the UMRs. The Project would not impact barge operation, safety, or tow handling.
2	Aquatic Life Movements	No substantial impacts expected.
3	Spawning Areas	Project would not negatively impact spawning areas
4	Migratory Bird Breeding Areas	Water level management would improve emergent wetland habitat for bird nesting habitat. See HABITAT EVALUATION AND QUANTIFICATION, Appendix A, Attachment A.
5	Shellfish Beds	No shellfish beds present in planning area
6	Suitable Material	Local material (sand and clay) would be used for ridge and swale. Planted trees would be from local seed sources and flood tolerant. Water control features would require standard construction materials.
7	Water Supply Intakes	No public water supply intakes present in planning/impact area.
8	Adverse Effects From Impoundments	Water level management would periodically impound water, but in a fashion to replicate historic river/floodplain flood pulse conducive to quality habitat maintenance.
9	Management of Water Flows	Project features would handle fluctuating water levels including fluctuating river levels.
10	Fills Within 100-Year Floodplains	This Project would comply with applicable FEMA approved floodplain management requirements.
11	Equipment	Use of heavy equipment would be done in dry conditions and would not impact the water column clarity or water quality standards. If construction would take place in wet conditions, turbidity would be short term and no material would be allowed to migrate off site.
12	Soil Erosion and Sediment Controls	The Project would require standard construction guidelines to avoid erosion and sediment resuspension.
13	Removal of Temporary Fills	Temporary fills to control flow or reduce soil impacts would be removed and their locations would be restored to preconstruction conditions or a more natural condition based on local ecological reference.
14	Proper Maintenance	The Iowa DNR would maintain Project features over the 50-year Project life.
15	Single and Complete Project	The Project would be a single project.
16	Wild and Scenic Rivers	Not Applicable
17	Tribal Rights	Not Applicable
18	Endangered Species	Full Compliance. See Main Report Section VI.G.
19	Migratory Birds and Bald and Golden Eagles	Full Compliance. One Bald Eagle nest is in the project area. The nest is located more than 100 feet from any construction.
20	Historic Properties	Full Compliance. See Main Report Section VI.G.
21	Discovery of Previously Unknown Remains and Artifacts	The District Engineer would be notified immediately, and coordination initiated, if previously unknown remains and artifacts are discovered.
22	Designated Critical Resource Waters	This Project is not located in or does not contain any Iowa Designated Critical Resource Waters.

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#	General NWP Condition	Compliance Response
23	Mitigation	This Project would not require wetland mitigation.
24	Safety of Impounded Structures	Full compliance. This Project would restore and improve water level management allowing for better erosion control on the surrounding levee.
25	Water Quality	This Project would comply with the Iowa water quality standards (See Table B-4, page B-14.)
26	Coastal Zone Management	Not Applicable
27	Regional and Case-By-Case	Not Applicable
28	Use of Multiple Nationwide Permits	The PDT requests only NWP 27.
29	Transfer of NWP Verifications	The PDT anticipates Iowa DNR management of the Project site for the 50-year Project life.
30	Compliance Certification	Not applicable
31	Activities Affecting Structures or Works Built by the United States	This Project does not require Section 408 permission.
32	Pre-Construction Notification	Full compliance expected.

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Table B-2. Nationwide Permit 27 Conditions and Compliance Responses

#	NWP 27 Condition	Compliance Response
1	Project Intent. Does it meet the intent of aquatic habitat restoration, establishment, and enhancement activities?	This Project's goals and objectives (Main Report Section III.G.) focus solely on bottomland forest, habitat restoration, and wetland enhancement.
2	Tidal Areas	This Project does not include any tidal areas.
3	Net increase in aquatic resource function and services	Water level management would provide quality aquatic resources/habitats over the life of the Project for fish and wildlife. Without Project, bottomland floodplain and wetland habitat would decline from extended inundation periods. See Appendix D, which demonstrates a net increase in habitat value.
4	Project features meet the NWP intent	Three Project features are proposed: water pumps to enhance wetland vegetation growth; gated structures to augment water levels; and bottomland hardwood timber stand improvement- to provide mast tree habitat.
5	Alteration of a stream or natural wetlands is prohibited	The proposed Project would not alter any stream or areal quantity of wetland habitats.
6	Reversion	Not applicable
7	Reporting	Full compliance expected
8	Notifications	Full compliance expected

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Table B-3. Iowa Regional Conditions and Compliance Responses

#	Iowa Regional Condition	Compliance Response
1	Side slopes of a newly constructed channel will be no steeper than 2:1 and planted to permanent, perennial, native vegetation if not armored.	The proposed channels would have side slopes greater than 2H:1V. This area is a wetland, areas above water will be planted and anything underwater should revegetate quickly.
2	For projects that impact an Outstanding National Resource Water, Outstanding Iowa Water, fens, bogs, seeps, or sedge meadows, a Pre-Construction Notice in accordance with General Condition No. 32 and an Individual Section 401 Water Quality Certification will be required.	Not applicable
3	Any bank stabilization activity involving a method that protrudes from the bank contour, such as jetties, stream barbs and/or weirs, will require a Pre-Construction Notice in accordance with General Condition No. 32.	No bank stabilization method would protrude from the existing bank.
4	Beyond what is described in General Condition #6, suitable fill material shall consist of clean materials, free from debris, trash, and other deleterious materials. If broken concrete is used as riprap, all reinforcing rods must be cut flush with the surface of the concrete, and individual pieces of concrete shall be appropriately graded and not exceed 3 feet in any dimension. Asphalt, car bodies, and broken concrete containing asphalt, and liquid concrete are specifically excluded.	All materials used will be clean, free from debris, trash, and other deleterious materials
5	No non-native, invasive or other plant species included on the Corps "Excluded Plant List" shall be planted for re-vegetation or stabilization purposes, with the exception of any species that hold particular cultural or traditional significance to the Meskwaki Nation (the Sac and Fox Tribe of the Mississippi in Iowa). The plant list can be found on the Corps website at: http://www.mvr.usace.army.mil/Missions/Regulatory.aspx . To prevent the spread of non-native and/or invasive plant species, the permittee shall ensure that equipment to be utilized in Waters of the United States is cleaned before arriving on site. Wash water shall not be discharged into any wetland, waterway, or any other surface water conveyances.	Only native species appropriate for the habitat conditions will be planted. All equipment will be free of any potential invasive species prior to arrival.
6	All authorizations requested by applicants other than the Tribal Authority for use within lands under the jurisdiction of the Sac and Fox Tribe of the Mississippi in Iowa require preconstruction notification to the District Engineer and coordination with the Tribal Authority.	Not applicable
7	For Nationwide Permit 14, all proposed projects that result in the loss of greater than 300 linear feet of streambed located within Waters of the U.S., as defined in the definitions contained in the Nationwide Permits, require a Pre-Construction Notice in accordance with General Condition No. 32 to the District Engineer	Not applicable

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Table B-4. Iowa DNR Section 401 Water Quality Certification for NWP 27 Conditions and Compliance Responses (February 25th, 2022)

#	Iowa DNR Section 401 Water Quality Certification for NWP 27	Compliance Response
1	During construction and upon completion of the project, actions must be taken to prevent pollution affecting public health, fish, shellfish, wildlife, and recreation due to turbidity, pH, nutrients, suspended solids, floating debris, visible oil and grease, or other pollutants entering a water of the state. This condition will ensure permittees comply with Iowa's narrative water quality standards found at 567 IAC 61.3(2)	Full compliance expected. Contractor would be expected to use appropriate steps to prevent pollution into waters of the state.
2	Equipment used in waters of the state shall be cleaned of all hazardous materials, pesticides, fuels, lubricants, oils, hydraulic fluids, or other construction-related, potentially hazardous substances before arriving on site. Wash water shall not be discharged into a water of the state. This condition will ensure permittees comply with Iowa's narrative water quality standards found at 567 IAC 61.3(2)	Full compliance expected. All equipment will be free of all hazardous materials, pesticides, fuels, lubricants, oils, hydraulic fluids, or other construction-related substances before arriving on site.
3	All cleared vegetative material shall be properly managed in such a manner that it cannot enter a water of the state and cause a violation of water quality standards. This condition will ensure permittees comply with Iowa's narrative water quality standards found at 567 IAC 61.3(2)	Full compliance expected. All vegetation and woody debris will be cleared and disposed of properly
4	All construction debris shall be properly managed in such a manner that it cannot enter a water of the state. This condition will ensure permittees comply with Iowa's narrative water quality standards found at 567 IAC 61.3(2)	Full compliance expected.
5	Erosion shall be managed so that sediment is not discharged to a water of the state in a manner that causes a violation of water quality standards. This condition will ensure permittees comply with Iowa's narrative water quality standards found at 567 IAC 61.3(2)	Full compliance expected. Contractor would be expected to use appropriate erosion preventative techniques
6	Riprap and temporary crossings shall consist of clean material free of coatings of potentially hazardous substances. No asphalt or petroleum-based material shall be used as or included in riprap material placed in any water of the state or within the high-water table. This condition will ensure permittees comply with Iowa's narrative water quality standards found at 567 IAC 61.3(2)	Full compliance expected.
7	Stockpiled dredged materials on the shore shall be managed so that sediment is not discharged to a water of the state in a manner that causes a violation of water quality standards. This condition will ensure permittees comply with Iowa's narrative water quality standards found at 567 IAC 61.3(2)	Full compliance expected.
8	Hydraulically dredged material shall be managed to ensure the return water meets water quality standards found at 567 IAC 61.3(2)	Full compliance expected.

7. CONCLUSION

The planning team concludes this Project meets the conditions of CWA, Section 404 by an existing Department of Army NWP for aquatic habitat restoration, establishment and enhancement activities, as described in the December 27, 2021, Federal Register, Reissuance of Nationwide Permits; Notice (86 FR 245).

The District realizes NWP 27 may be modified, reissued, or revoked prior to construction or on March 15, 2026. The planning team would remain informed of changes to the NWPs. If construction activities are not completed prior to 12 months from the date of the modifications or revocation of the NWP, the team would reevaluate the Project's 404 compliance status and would coordinate the Project with the District's Regulatory Branch. The Project would be in full compliance with the current CWA regulations prior to any construction and activities.