



DEPARTMENT OF THE ARMY
DETROIT DISTRICT, CORPS OF ENGINEERS
477 MICHIGAN AVE.
DETROIT, MICHIGAN 48226-2550

JUL 25 2018

PUBLIC NOTICE

The U.S. Army Corps of Engineers (USACE), Detroit District, under its operations and maintenance authority, proposes to construct a seepage filter along the east dam embankment (connecting dike) for De Pere Dam on the Fox River. The project site is about 7 miles upstream from Green Bay in Brown County, Wisconsin. Seepage paths have been detected in the embankment and some sinkholes have formed. The proposed filter would prevent movement of material out of the embankment, which could eventually result in undermining of the embankment. Other alternatives considered include no action and construction of a steel sheet pile wall along the embankment. The selected action is to construct a seepage filter/revetment along the river side of the embankment.

An Environmental Assessment (EA) and Clean Water Act Section 404(b)(1) Evaluation of the Effects of Placing Fill in the Waters of the United States are attached to this public notice. Any person who has an interest that may be affected by the proposed in-water placement of stone may request a public hearing. The request must be submitted in writing within the comment period of this notice (as described below) and must clearly set forth the interest that may be affected and the manner in which the interest may be affected by this activity.

Environmental review indicates the proposed seepage barrier/revetment would not result in significant adverse environmental effects, nor would it be expected to result in significant cumulative or long-term adverse environmental effects. Adverse effects would be minor, limited primarily to short-term noise and air emissions from equipment operation, minor disruption of local wildlife and loss of any benthic (bottom dwelling) organisms in the immediate work area. The proposed seepage filter requires a toe section on the bedrock of the riverbed, which results in a loss of approximately 0.12 – 0.16 acre of potential lake sturgeon spawning habitat; however, spawning would not be significantly impacted as the sturgeon would continue to spawn on the adjacent bedrock river bottom.

The project is beneficial in that it will reduce entry of fine-grained material into the waterway from seepage paths through the embankment and will help stabilize the embankment to prevent embankment failure. Embankment failure would result in loss of the pool and navigability and likely catastrophic loss of, or damage to, nearby infrastructure such as the walkway, lock-operators house, and dam abutment.

The proposed seepage blanket is expected to have minimal effect on the coastal zone of Wisconsin, and would be consistent to the maximum extent practicable with the State of Wisconsin Coastal Zone Management program. Water quality certification under Section 401 of the Clean Water Act is being processed under State Chapter 30/31 regulations.

If you have any concerns or comments on the proposed action, please provide them within 30 days of the date on this notice. Comments may be sent to Comments-USACE-Detroit@usace.army.mil or to the following address:

U.S. Army Engineer District, Detroit
ATTN: CELRE-PLE (Charles A. Uhlarik)
477 Michigan Ave.
Detroit, Michigan 48226-2550

Any person who has an historical or cultural interest that may be affected by the proposed action may submit written comments within the comment period of this notice (as described above), clearly describing what historical or cultural interest may be affected by this activity.

Following the comment period and a review of the comments received, the Detroit District, USACE, District Engineer will make a final decision regarding the necessity of preparing an Environmental Impact Statement (EIS) for the proposed seepage blanket/revetment for the east dam embankment at De Pere, Brown County, Wisconsin. Based on the conclusions of the EA, it appears that preparation of an EIS will not be required; therefore, a preliminary Statement of Findings/Finding of No Significant Impact has been included in the EA.

Sincerely,

A handwritten signature in blue ink that reads "Charles A. Uhlarik". The signature is written in a cursive, flowing style.

Charles A. Uhlarik
Chief, Environmental Analysis Branch

Enclosure

ENVIRONMENTAL ASSESSMENT
DE PERE DAM, EAST EMBANKMENT, SEEPAGE BLANKET
BROWN COUNTY, WISCONSIN

Introduction, Purpose and Need, and Authority

The U.S. Army Corps of Engineers (USACE), Detroit District, under its operations and maintenance authority, proposes to construct a seepage filter along the De Pere Dam embankment where seepage paths were detected. De Pere dam is about 7 miles up the Fox River from Green Bay (Figure 1). The east side of the dam is connected to an embankment that extends approximately 800 feet and forms the west side of a boat canal and lock. The seepage filter is needed to prevent continued movement of material out of the embankment, which could eventually result in undermining and catastrophic failure of the embankment, loss of navigation, and loss or damage to associated infrastructure.

Alternatives and Proposed Action

Alternatives to address material loss and sinkhole formation in the embankment include 1) No Action, 2) Construct a Steel Sheet Pile (SSP) Wall, and 3) Construct a Seepage Blanket. Alternative 1, No Action, is not recommended because it will not address dam safety issues and could result in catastrophic loss of the embankment and nearby infrastructure. Alternative 2, Construct a SSP Wall, is not recommended because of the cost and difficulty of embedding SSP into bedrock, which also could result in new seepage paths further fracturing the bedrock during construction. The proposed action is Alternative 3, Construct a Seepage Blanket. Alternative 3 is the selected plan because it best addresses the purpose and need for stabilizing the embankment, it is economical, and it has the least construction impacts of the action alternatives.

Site preparation includes removing existing riprap stone from the construction areas and grading the slope. Then the filter blanket/revetment would be constructed of an aggregate layer over a sand layer, which together form the seepage blanket. A layer of riprap stone protection would be placed on top of the blanket. The edges of the seepage blanket/revetment would be tied into the existing embankment. The areas currently to be addressed include a 240-foot reach in the area south of the lock-operator's house (Figure 1, Area 1) and an optional 120-foot reach immediately north of the lock-operator's house (Figure 1, Area 2). A total of approximately 1630 cubic yards (CY) of material (sand, aggregate, and stone) would be used to construct the seepage blanket/revetment (~1000 CY for Area 1 and ~630 CY for Area 2).

All construction activities will be in accordance with Federal and State regulations and local ordinances. Precautions would be taken to avoid pollution of the waterway by construction equipment and from construction debris. A temporary cofferdam would be installed, if necessary, around the work site to isolate the work area from the waters of the Fox River. A temporary bridge would be formed using barges between the embankment and the shore near the south end of the embankment (see Figure 1, inset). Construction would begin in late October, after the local tour boat operation ends.



Figure 1. De Pere location and proposed work areas (approx.) on dam embankment.

Besides the temporary bridge, the proposed action may require the construction of other temporary structures. The type and location of temporary structures and/or construction materials cannot be determined at this time, since they would be incidental to the work being performed. Examples are work and storage areas, access roads, office facilities, and mooring facilities, such as pilings. Temporary structures or fill material would be at USACE-approved locations within project boundaries or rights-of-way, outside of any

wetlands, areas containing Federal or state protected species or their critical habitat, or properties listed on or eligible for listing on the National Register of Historic Places or state-listed properties. Temporary activities will include appropriate precautionary measures to prevent erosion and sedimentation or other undesirable environmental impacts. These construction aids would be removed when no longer needed and their sites would be restored to pre-project conditions upon project completion.

Some variation in design details may occur as a result of unanticipated design improvements, site conditions, or cost-saving measures. Any variations that result in a significant change to the project design or environmental impacts would be further evaluated under the National Environmental Policy Act. This Environmental Assessment also addresses future maintenance of the seepage blanket and any additional future seepage blanket construction in the areas of the embankment not currently being addressed (approximately 140 feet, mostly at the northern end near the lock), if seepage issues arise for those areas, and Area 2 if not done currently.

Affected Environment and Environmental Consequences

Review of the proposed action indicates that constructing a seepage blanket on the De Pere Dam embankment would not result in significant adverse environmental effects. Nor would the project be expected to result in any significant cumulative or long-term adverse environmental effects. Adverse effects would be minor, limited primarily to construction noise and equipment emissions during construction, and a loss of potential lake sturgeon spawning habitat, but no loss of actual spawning activity as adjacent habitat is also suitable for the sturgeon which spawn in the near shore area along the embankment. The primary need and purpose of this project is dam safety.

The proposed Federal action would help prevent loss of soil material from the embankment into the waterway, thereby reducing sediment loads in the river and helping prevent eventual collapse of the dam embankment. Material loss has already resulted in numerous sinkholes in the embankment. Continued material loss could result in catastrophic failure, with loss of walkway and threaten the adjacent structures such as the concrete dam and abutment or the lock-keepers house, which is on top of the embankment. Embankment failure would also eliminate the pool above the dam, eliminate associated navigation causing economic impacts (fishing, cruise boat, auxiliary power generation, etc.). Failure of the De Pere Dam embankment would also impact the USACE' ability to manage the entire Fox River System, which is managed for multi-purposes of navigation, flood risk management, power, and wildlife.

Physical Substrate: The work area for the seepage blanket/revetment consists of a riprap surfaced earthen embankment (primarily silty clay) on fractured bedrock (Figures 2 – 4). The embankment has a layer of riprap that was more recently placed (prior to 2015 and after the walkway was constructed). The project will change the physical substrate in that the seepage blanket consists of riprap over aggregate stone on a sand layer and will be about three times thicker than the existing riprap layer in order to accommodate the necessary layers.



Figure 2. Dam Embankment Viewed from South.



Figure 3. Seepage Blanket Area 1 Viewed from South.



Figure 4. Low Water Showing the Bedrock beside Embankment (circa 2011).

The seepage blanket/revetment also will extend approximately 10 to 15 feet out onto the bedrock of the Fox River in an area that is typically dry under low water conditions (Figure 4 above) on Lake Michigan, and typically inundated under high water conditions on Lake Michigan. Quantities of material placed below the ordinary high water mark of the Fox River are provided in the attached Clean Water Act Section 404(b)(1) Evaluation.

Water Quality: The construction of the seepage blanket/revetment would have no adverse effect on water quality because, under higher water conditions, a cofferdam would be used to isolate the work area from the waterway. The completed blanket would benefit water quality in that it would eliminate migration of soil material from the embankment into the waterway in the areas being addressed, which are the areas that exhibited substantial seepage. A State Water Quality Certification is being sought from the State of Wisconsin via the State Chapter 31 permitting process.

Coastal Zone: The project site is within the Wisconsin Coastal Zone which is defined as all counties bordering the Great Lakes. The project has been evaluated under the applicable State Coastal Policies and a determination of consistency with those policies has been mailed to the State Federal Consistency Coordinator for review. The project will protect the public interest by preventing disruption of the Fox River Dam System and associated multiple use management for wildlife, navigation, flood management, and power generation. The USACE has determined that the proposed activities would be “consistent to the maximum extent practicable” (as defined in 16 USC 1456, Coastal Zone Management Act, approved 1978) with the enforceable policies of the Wisconsin Coastal Management Program (WCPM).

Floodplains: The project site is within the floodplain as mapped under the Federal Emergency Management Agency (FEMA) Flood Insurance Program. The floodway of the Fox River is mapped close to the project site and may overlap into the footprint of the revetment toe in a couple of areas. However, as the seepage blanket structure is immediately downstream of the dam and along the shore, it does not represent an impediment to flood flows because the dam is the controlling flow structure.

The seepage blanket/revetment complies with the Federal Executive Order on Flood Plain Management (E.O. 11988) because there is no practicable alternative to this work in the floodplain, the activities in the floodplain would not impact flood stages, nor would they induce floodplain development. The project is needed to prevent undermining and eventual failure of the dam embankment, which would result in loss of the pool, navigability, and other embankment infrastructure (walkway and lock operator house).

Fish and Wildlife: Various fish and wildlife use the waters and adjacent habitat in the project vicinity. An undeveloped peninsular extension off the northwest end of the dam embankment provides roughly an acre of wooded wildlife habitat. A walkway extends along the embankment and provides access to two viewing piers into the Fox River. As noted by Definitely De Pere, an organization committed to promoting downtown De Pere: “From the De Pere Riverwalk and Wildlife Viewing Pier, you can see a variety of wildlife including sturgeon, walleye, salmon, bald eagles, black cormorants, pelicans,

and countless more fish and bird species. Just north of the Wildlife Viewing Pier, the Walleye Fishing Decks and surrounding waters offer public access to some of the best walleye fishing spots in Northeast Wisconsin. Thousands of fishermen seek De Pere's Fox River waters in late spring and in winter for ice fishing."¹

Signs posted along the river walk note the presence bald eagle, Canada goose, mallard ducks, and a variety of other birds and waterfowl that frequent the area along with various fish including muskellunge, suckers, small mouth bass, gizzard shad, yellow perch channel catfish, gar, carp, whitefish, and chinook salmon.

Lake sturgeon, a State Special Concern species, spawn below the dam and along the embankment from approximately April 15 through early June. Because the seepage blanket/revetment toe structure will be constructed on the bedrock of the river bottom, which also serves as lake sturgeon spawning habitat during higher water levels, an analysis of effects on lake sturgeon spawning under higher water levels is provided below.

As depicted in Figure 5, the seepage blanket/revetment toe will sit approximately 2.4 feet high on the bedrock bottom occupying the space from the bedrock at an average elevation of ~578.9' to the upper surface of the toe structure at ~581.25' (IGLD 1985).

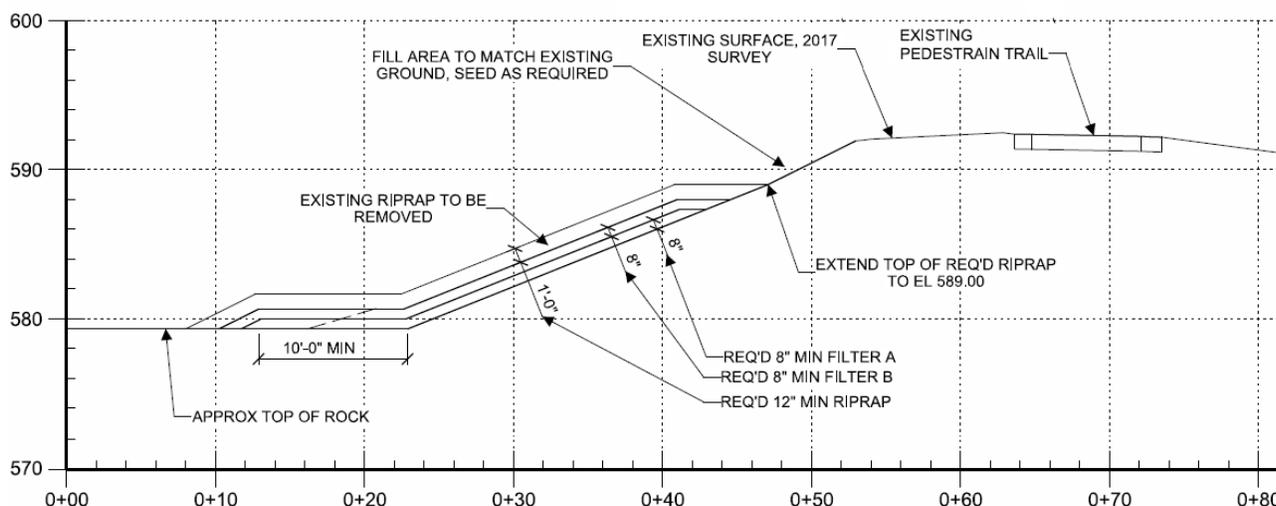


Figure 5. Cross Section from Area 1 of Proposed Seepage Blanket.

The likelihood of sufficient sturgeon spawning water depth (approx. minimum 2 feet) being present over the toe structure is very low considering the long term (1918-2017) maximum Lake Michigan water level is 581.30 (1987). Therefore, the presence of the toe structure eliminates approximately 0.08—0.12 acre (Area 1 plus optional Area 2, Figure 1) of potential lake sturgeon spawning habitat and, if the remainder of the embankment is blanketed in the future, an additional ~0.04 acre (total ~0.16 acre). However, since the sturgeon spawn along the shore and the river bottom is bedrock from one bank to the other, there is ample potential spawning habitat available and the

1 <https://definitelyDePere.org/explore/riverwalk/>

sturgeon are expected to continue spawning in the adjacent bedrock area beside the new toe structure. The net effect then is that there would be minimal to no adverse effect on lake sturgeon spawning, but merely a shift of that spawning to approximately 15 feet away from the existing shoreline, which would be the new shoreline along the toe structure.

Wetlands: There are no wetlands in the work area or immediate vicinity; therefore, there would be no impacts to wetlands.

Exotic/ Nuisance Species: Contract clauses are included requiring the construction contractor to clean equipment before bringing it to the site and before removing it from the site. This helps prevent importation or exportation of exotic species that may be picked up on the equipment. The project would not result in changes to existing exotic and nuisance species in the area.

Federally Listed Species: Federally listed species for Brown County, Wisconsin (as of March 2018), include northern long-eared bat (threatened), piping plover (endangered), rufa red knot (threatened), rusty patched bumble bee (endangered), and dwarf lake iris (threatened). The dam embankment at De Pere Dam does not provide habitat for any of these species; therefore, the proposed seepage filter/revetment would have no effect on Federally listed species.

Air Quality: De Pere, Wisconsin, is in attainment for all applicable air quality standards. Effects on air quality would arise from emissions of motorized construction equipment. However, all equipment would be required to meet emission standards and emissions are expected to be minor.

Traffic: Construction equipment will use designated hauling routes and abide by all applicable hauling regulations. The temporary bridge constructed from barges will block access through the navigation lock from upstream areas. However, as construction would begin in late October, tourist traffic will be largely finished for the season. Therefore, the construction traffic is not expected to have significant adverse traffic impacts.

Recreation, Noise, and Aesthetics: The proposed action would not have significant adverse effects on recreation, noise, or aesthetics. The Riverwalk would be closed to the public during construction, but since construction begins in late October, impacts to recreation are minimal and would pertain more to residents who frequent the Riverwalk or fall bird watchers who can still access the far north end of the embankment and the viewing pier at that end. The increased noise from construction and trucks would detract from recreation, but this is a temporary impact. Some construction noise would carry into the surrounding community, which includes apartments and condominiums; however, it is not likely at that distance to be louder than general traffic noise associated with the city. Aesthetics would be temporarily impacted from the presence of construction activity in the viewshed; however, this is a minor and limited impact.

Cultural Resources: As the proposed work will have minimal impact to the historic nature of the De Pere Dam National Register Property, the proposed work falls under the Historic Property Management Plan for the U.S. Army Corps of Engineers, Detroit District Dams of the Fox River Project, De Pere to Menasha, Wisconsin (2005) Paragraph 5.4.1.2 Undertakings That Do Not Require Review by the State Historic Preservation Office which allows for the placement of riprap and dredged material without additional consultation. Therefore, this project is not being specifically coordinated with the State Historic Preservation Office (SHPO), but will be noted in the annual report to the SHPO of activities completed under the Management Plan exemption.

Cumulative Effects: Cumulative effects are limited as the site would be minimally changed from its present state other than the improved revetment that includes a seepage blanket and the presence of the toe structure. Cumulative effects of equipment operation are limited through compliance with emissions regulations for air quality and procedures to prevent spillage of oil and fuel into the environment.

Other Resources: The proposed action would not have a significant adverse impact on community cohesion, desirable community growth, tax revenues, property values, public facilities, public services, regional growth, employment or the labor force, business and industrial activity, farmland, or man-made resources, nor would the project cause displacement of people.

Early Coordination

Preliminary information on the proposed action was provided to the U.S. Fish and Wildlife Service and the Wisconsin Department of Natural Resources. Coordination pursuant to Section 106 of the National Historic Preservation Act is not being conducted because the proposed work falls under the Historic Property Management Plan for the U.S. Army Corps of Engineers, Detroit District Dams of the Fox River Project, De Pere to Menasha, Wisconsin (2005) and is exempt from specific review per the Management Plan as discussed above (see section on Cultural Resources).

The U.S. Fish and Wildlife Service responded (electronic mail, July 10, 2018) noting that the revetment toe would reduce potential spawning habitat, but that the sturgeon would be able to spawn in adjacent areas. This is addressed in detail in the section above on Fish and Wildlife.

The Wisconsin Department of Natural Resources responded (electronic mail, June 6, 2018) that the project would receive Clean Water Act Section 401 certification through the Chapter 30/31 permitting process.

Conclusions and Determinations

This EA has been prepared in accordance with NEPA; the Council on Environmental Quality, Regulations for Implementing the Procedural Provisions of the National

Environmental Policy Act (40 CFR Parts 1500-1508); and the Corps of Engineers, Policy and Procedure for Implementing NEPA (33 CFR Part 230).

The proposed action has been reviewed pursuant to the following Acts and Executive Orders: Fish and Wildlife Act of 1956; Fish and Wildlife Coordination Act of 1958; National Historic Preservation Act of 1966; National Environmental Policy Act of 1969; Clean Air Act of 1970; Farmland Protection Policy Act (Subtitle I of Title XV of the Agriculture and Food Act of 1981); Executive Order 11593, Protection and Enhancement of the Cultural Environment, May 1971; Coastal Zone Management Act of 1972; Endangered Species Act of 1973; Clean Water Act of 1977; Executive Order 11988, Floodplain Management, May 1977; and Executive Order 11990, Wetland Protection, May 1977; Executive Order 12898 Environmental Justice, February 1994; Executive Order 13653, Preparing the United States for the Impacts of Climate Change, November 2013. The proposed action has been found to be in compliance with these Acts and Executive Orders.

The proposed action is within the coastal zone as defined by the State of Wisconsin. The proposed action has been evaluated and is found to be “consistent to the maximum extent practicable” (as defined in 16 USC 1456, Coastal Zone Management Act, approved 1978) with the enforceable policies of the WCMP; this determination is being provided to the WCMP Federal Consistency Coordinator.

The proposed seepage blanket/revetment is within the Federally delineated floodplain. The project complies with the Federal Executive Order on Floodplain Management (E.O. 11988) because there is no practicable alternative to construction in the floodplain, the project would not induce floodplain development, and would not impact flood stages.

Pursuant to the Clean Water Act (CWA), a Section 404(b)(1) evaluation of the environmental effects of the fill material into the waters of the United States has been prepared and is an attachment to this document. The Section 404(b)(1) Evaluation concludes that the proposed action is in compliance with Section 404 of the Clean Water Act. Water quality certification, pursuant to CWA Section 401 is being completed through the State Chapter 30/31 process.

This EA concludes that the proposed seepage blanket construction at the De Pere Dam east embankment 1) would not have significant cumulative or long-term adverse environmental impacts; 2) would have benefits that outweigh the minor and mostly temporary impacts that may result; and 3) does not constitute a major Federal action significantly affecting the quality of the human environment.

Public Review

This EA is being made available for 30 days to provide opportunity for public review and comment. The EA is being distributed to the U.S. Environmental Protection Agency; U.S. Fish and Wildlife Service; the Wisconsin Department of Natural Resources; Indian tribes/groups; and other Federal, state, and local agencies; interested groups, and local

property owners/individuals. Following this period and a review of the comments received, the District Engineer (USACE) will make a final determination regarding the necessity of preparing an Environmental Impact Statement (EIS) for the proposed action.

Based on the conclusions of this EA and 404(b)(1) Evaluation, it appears that preparation of an EIS will not be required. Therefore, a Statement of Findings / Preliminary Finding of No Significant Impact (SOF/FONSI) is included as the following section of this EA. If, after public review of this EA, the District Engineer determines that an EIS is not necessary, the Preliminary SOF/FONSI would be finalized and signed, and the proposed action would proceed.

PRELIMINARY STATEMENT OF FINDINGS/ FINDING OF NO SIGNIFICANT IMPACT²

Proposed Action: The U.S. Army Corps of Engineers (USACE), Detroit District, under its operations and maintenance authority, proposes to construct a seepage filter along the east dam embankment (connecting dike) for De Pere Dam on the Fox River. The project site is about 7 miles upstream from Green Bay in Brown County, Wisconsin. Seepage paths have developed in the embankment causing sinkholes. The proposed filter would prevent movement of material out of the embankment, which could eventually result in undermining of the embankment. Alternatives include no action and construction of a steel sheet pile wall with impermeable barrier along the back side of the embankment. The selected action is to construct a seepage filter/revetment along the river side of the embankment.

Environmental Effects: Environmental review shows that the proposed seepage barrier/revetment would not result in significant adverse environmental effects, nor would it be expected to result in significant cumulative or long-term adverse environmental effects. Adverse effects would be minor, limited primarily to short-term noise and air emissions from equipment operation, minor disruption of local wildlife and loss of any benthic (bottom dwelling) organisms in the immediate work area. The proposed seepage filter requires a toe section on the bedrock of the riverbed, which results in a loss of approximately 0.12 – 0.16 acre of potential lake sturgeon spawning habitat; however, spawning would not be significantly impacted as the sturgeon are expected to continue spawning on the adjacent bedrock river bottom. The project is beneficial in that it will reduce entry of fine-grained material into the waterway from seepage paths through the embankment and will help stabilize the embankment to prevent embankment failure and associated loss of the pool and navigability, and likely loss of, or damage to, nearby infrastructure such as the walkway, lock-operators house, and dam abutment.

Determinations: The proposed action has been reviewed pursuant to the following Acts and Executive Orders: Fish and Wildlife Act of 1956; Fish and Wildlife Coordination Act

² Preliminary determinations in a combined Statement of Findings on the Section 404(b)(1) Evaluation and Finding of No Significant Impact for the Environmental Assessment. Final determinations pending evaluation of all public review comments and receipt of State water quality certification.

of 1958; National Historic Preservation Act of 1966; National Environmental Policy Act of 1969; Clean Air Act of 1970; Farmland Protection Policy Act (Subtitle I of Title XV of the Agriculture and Food Act of 1981); Executive Order 11593, Protection and Enhancement of the Cultural Environment, May 1971; Coastal Zone Management Act of 1972; Endangered Species Act of 1973; Clean Water Act of 1977; Executive Order 11988, Floodplain Management, May 1977; and Executive Order 11990, Wetland Protection, May 1977; Executive Order 12898 Environmental Justice, February 1994; Executive Order 13653, Preparing the United States for the Impacts of Climate Change, November 2013. The proposed action has been found to be in compliance with these Acts and Executive Orders.

The proposed action is within the coastal zone as defined by the State of Wisconsin. The proposed action has been evaluated and is found to be “consistent to the maximum extent practicable” (as defined in 16 USC 1456, Coastal Zone Management Act, approved 1978) with the enforceable policies of the WCMP; this determination has been provided to the WCMP Federal Consistency Coordinator.

The proposed seepage blanket/revetment is within the Federally delineated floodplain. The project complies with the Federal Executive Order on Floodplain Management (E.O. 11988) because there is no practicable alternative to construction in the floodplain, the project would not induce floodplain development, and would not impact flood stages.

Pursuant to the Clean Water Act (CWA), a Section 404(b)(1) evaluation of the environmental effects of the fill material into the waters of the United States has been prepared and is an attachment to this document. The Section 404(b)(1) Evaluation concludes that the proposed action is in compliance with Section 404 of the Clean Water Act. Pursuant to Section 401 of the Clean Water Act, the State of Wisconsin certified that the project complies with State water quality standards.

Finding and Conclusion: The EA and Section 404(b)(1) evaluation, along with a review of comments received during public review, show that the proposed seepage blanket/revetment for the De Pere Dam embankment does not constitute a major Federal action significantly affecting the human environment; therefore, an Environmental Impact Statement will not be prepared.

Date

Gregory E. Turner
Lieutenant Colonel, U.S. Army
District Engineer

ATTACHMENT

CLEAN WATER ACT SECTION 404(b)(1) EVALUATION

Of the Effects of Placing Fill Material into the Waters of the United States

DE PERE DAM, EAST EMBANKMENT, SEEPAGE BLANKET
BROWN COUNTY, WISCONSIN

I. PROJECT DESCRIPTION

A. Location and Description. De Pere Dam is about 7 miles up the Fox River from Green Bay in Brown County, Wisconsin. A seepage blanket consisting of sand and aggregate layers and topped with riprap is to be constructed on select reaches of the De Pere Dam embankment where seepage paths have been identified. In the future additional reaches of the embankment may also be blanketed if necessary.

B. Authority and Purpose. Maintenance and repair of the Fox River dams is conducted under the USACE operations and maintenance authority. The purpose of the current proposal is to stop loss of material from the embankment, which has caused sinkholes to form. The proposed action is necessary to avoid a potential collapse of the embankment and catastrophic loss of pool, navigation and nearby infrastructure.

C. Proposed Fill Material.

(1) Characteristics of Material. The seepage blanket will be constructed of a layer of sand overlaid with a layer of aggregate. Riprap protection will be placed on top of the seepage blanket.

(2) Quantity and Source of Material. The average quantity of material (sand, aggregate, and riprap stone) to be placed water-ward of the ordinary high water mark (581.5 feet, IGLD 1985) is 1.85 cubic yards (CY) per linear foot of shoreline in the areas to be addressed: 240 feet in the area south of the lock-operator's house (Area 1) and an option of an additional 120 feet immediately north of the lock-operator's house (Area 2). Material totals (sand, aggregate, and riprap) for the two sites are 450 CY in the south area and 215 CY in the north area. In the future, similar blanket work would be constructed, if needed, in the remaining areas of the embankment, which total approximately 140 linear feet, mostly at the north end by the lock.

D. Fill Site.

(1) Location and Size. The site of fill placement is immediately below the De Pere Dam on the east side of the river along the dam embankment that

connects the east dam abutment to the boat lock facility. The area of placement that is water-ward of the ordinary high water mark varies from 20 to 25 feet in width and includes up to 15 feet of the structure on the bedrock of the river bed with the remainder lying on the slope of the earthen dam embankment.

(2) Habitat Type. No wetlands exist at the site. The proposed placement site consists of riprap surfaced earthen embankment and fractured bedrock river bottom. The site is below the last dam on the Fox River before Green Bay of Lake Michigan and is dominated by lake levels. During periods of low lake levels the site is dry. Riprap will provide some habitat (benthic during high water periods) and the fractured bedrock also will provide some limited benthic habitat, and is suitable spawning habitat for lake sturgeon.

(3) Timing and Duration of Discharge. A specific date for the project has not been established; however, the plan is to construct in the fall of 2018 after the tour boat stops running in late October. Depending on timing of contracting and the contractor's ability to mobilize under tight time frames, construction potentially could be delayed until 2019. However, in the event of future seepage issues, additional construction of seepage blanket up to the total embankment length could occur. In event of a future emergency requiring immediate construction (or reconstruction) of a section of blanket, work may be required earlier than late October.

E. Description of Placement Methods. A cofferdam (if the site is under water) or sediment barrier (if the site is in the dry) would be installed about 30 feet out from the embankment toe. In the areas where the erosion blanket is to be constructed the existing riprap stone would be removed, then the embankment would be graded. After grading the layers would be laid down in order (sand, followed by aggregate, and topped with riprap) and compacted where applicable.

II. FACTUAL DETERMINATIONS.

A. Physical Substrate Determinations. The substrate is bedrock and riprap surfaced earthen dam embankment. This will be replaced with the riprap faced seepage blanket up to 15 feet onto the bedrock, so that an area of 0.12 to 0.16 acre of fractured bedrock would be covered with approximately 2.4 feet of sand and stone fill. The riverbed is bedrock throughout this area, so the converting of up to 0.16 acre to sand and stone does not impact wildlife use of bedrock and may provide some extra habitat within the spaces of the riprap stone.

B. Water Circulation, Fluctuation, and Salinity Determinations. The project site is immediately below a dam. The position of the fill is along the shore and would have no effect on water flows from the dam and therefore, would have no effect on water circulation. Water level fluctuation is dominated by lake levels from Green Bay and would not be affected by the proposed fill. Salinity is not a consideration as this is a fresh water environment. There would be no changes to water chemistry as the fill materials are inert.

C. Suspended Particulate / Turbidity Determinations. During construction, appropriate barriers would be used to protect water quality. If the construction is completed during high water levels, a temporary cofferdam would be used to isolate the work area from the waterway. If constructed in the dry during low water levels, appropriate barriers would be used to prevent sedimentation into the waterway during construction.

D. Contaminant Determinations. The seepage blanket/revetment will be constructed using clean sand, aggregate and stone. Evaluation of the project site on the U.S. Environmental Protection Agency's EnviroMapper online tool indicates the embankment site does not include any known toxic release, hazardous waste, or Toxic Substance Control Act sites. One remediation site exists on the embankment, the lock-keeper's house, which had lead soil contamination; however, the contaminated soil was removed and the State determined in 2008 that the clean-up was complete and that no further action is required at the site.

E. Aquatic Ecosystem and Organism Determinations. The fill site provides some limited benthic habitat during higher water periods and is suitable lake sturgeon spawning habitat. The seepage blanket/revetment will eliminate approximately 0.12 (current proposal) to 0.16 acre (potential future) of this potential habitat, but would not significantly impact actual spawning as the sturgeon are expected to spawn in the new near shore area beside the seepage blanket, which is similar bedrock that extends across the river. The placement activity is not expected to impact federally listed endangered and / or threatened species in the immediate vicinity as there are none listed that would be found in the project area. Impacts to wildlife, in general, would be negligible. No special actions are required to minimize impacts to the aquatic ecosystem during project construction beyond use of cofferdam and/or sediment controls as applicable to protect the waters of the Fox River.

F. Proposed Disposal Site Determination. As the work would be done in the dry, either with cofferdams or due to low water levels, there would be no mixing zone. No significant adverse impacts on municipal or private water supplies, recreational or commercial fisheries, water related recreation, aesthetics, parks, national and historic monuments, national seashores, wilderness areas, research sites or similar preserves would be expected.

G. Determination of Cumulative Effects on the Aquatic Ecosystem. The proposed placement operation would be limited to a small percentage of the Fox River that dry during low lake level periods. The main cumulative effect of the seepage blanket/revetment is to stop losses of soil material from the embankment into the waterway. No cumulative adverse effects on the aquatic ecosystem would be anticipated.

H. Determination of Secondary Effects on the Aquatic Ecosystem. The main secondary effect of the proposed fill is that lake sturgeon spawning activity would be shifted roughly 15 feet westward onto similar bedrock substrate. There would be no significant impacts on actual spawning activity and success. Other fish and wildlife

would not be significantly impacted as there is ample and more suitable habitat in the near vicinity.

III. FINDINGS OF COMPLIANCE WITH THE RESTRICTIONS ON DISCHARGE.

A. Adaptation of the Section 404(b)(1) Guidelines to this Evaluation. No significant adaptations of the guidelines were made relative to this evaluation.

B. Evaluation of Alternatives. Alternatives to address material loss and sinkhole formation in the embankment include 1) No Action, 2) Construct a Steel Sheet Pile (SSP) Wall, and 3) Construct a Seepage Blanket. Alternative 1, No Action, is not recommended because it will not address dam safety issues and could result in catastrophic losses of the embankment and nearby infrastructure. Alternative 2, Construct a SSP Wall, is not recommended because of the cost and difficulty of embedding SSP into bedrock and because embedding SSP into bedrock could result in seepage issues from further fracturing the bedrock during construction. Therefore, the proposed action is Alternative 3, Construct a Seepage Blanket.

C. Compliance with State Water Quality Standards. This project is being coordinated with the State of Wisconsin for review under Section 401 of the Clean Water Act. Water quality certification, pursuant to CWA Section 401 is being completed through the State Chapter 30/31 process.

D. Compliance with Applicable Toxic Effluent Standard or Prohibition Under Section 307 of the Clean Water Act (CWA). Since the fill materials are uncontaminated, placement would not violate the Toxic Effluent Standards of Section 307 of the CWA.

E. Compliance with the Endangered Species Act (ESA) of 1973. The project was evaluated for effects on Federally listed species. A determination of No Effect for all species listed for Brown County was provided to the U.S. Fish and Wildlife Service (USFWS) on June 25, 2018. The USFWS responded regarding fisheries considerations but did not comment on the No Effect determination.

F. Compliance with Specified Protection Measures for Marine Sanctuaries Designated by the Marine Protection Restoration and Sanctuary Act of 1972. Not applicable as the project site is in a freshwater system.

G. Evaluation of Extent Waters of the United States would be Degraded. The proposed fill placement would not result in significant adverse effects on human health and welfare, including municipal and private water supplies, recreational and commercial fishing, plankton, fish, shellfish, wildlife, and special aquatic sites. Life stages of aquatic or other wildlife species would not be adversely affected. No significant adverse effects to the aquatic ecosystem in the areas of diversity, productivity, stability, recreation, aesthetic, and economic values would occur.

H. Appropriate and Practicable Steps taken to Minimize Potential Adverse Impacts of the Discharge on Aquatic Ecosystem. Appropriate steps taken to minimize

the adverse effects on the aquatic ecosystem at the proposed site include the use of uncontaminated fill materials and project coordination with the U.S. Environmental Protection Agency (EPA), Wisconsin Department of Natural Resources, and the U.S. FWS. Use of cofferdams and/or sediment controls, as applicable, will protect the waterway from adverse construction impacts.

I. Compliance with Section 404(b)(1) Guidelines. On the basis of the “Guidelines for Specification of Disposal Sites for Dredged or Fill Material” (40 CFR part 230), it has been determined that the proposed fill activity is in compliance with Section 404 of the 1977 Clean Water Act.