In addition to completing the Joint Application Form for Activities Affecting Water Resources in Minnesota, applicants whose proposed projects may require an MPCA Individual 401 Water Quality Certification for work in aquatic resources must also provide the information requested below. This will facilitate the MPCA’s review of the proposed project for compliance with the antidegradation water quality standards (Minn. R. 7050.0250 to 7050.0335). Section 401 of the Clean Water Act requires any applicant for a federal license or permit to conduct an activity that may result in a discharge to waters of the United States to obtain certification from the state in which the discharge originates to ensure compliance with state water quality standards. The antidegradation assessment is not required for all projects; if you know that your project will qualify for a U.S. Army Corps of Engineers 404 General Permit or Letter of Permission (LOP), you do not need to fill out this form. If the information requested below is already provided in your Joint Permit Application (JPA), please indicate where.

Applicant/Project Name: USACE – Repair and Improvement of the Duluth Vessel Yard, Duluth, St. Louis County, Minnesota
Date:

Environmental Assessment Worksheet (EAW)/Environmental Impact Statement (EIS)
Identify whether an EAW or EIS was prepared (or will be required) for this project, and include the EAW/EIS process completion date.

The USACE, Detroit District, has a draft environmental assessment (EA) with a preliminary Statement of Findings/Finding of No Significant Impact dated June.2020 out for public and agency review and comment. The comment period will end on 25.July.2020. Barring receipt of significant comments, it is expected that the EA and Statement of Finding/Finding of No Significant Impact will be finalized and signed by the District Engineer (USACE, Detroit District).

The EAW process was completed on 25.June.2020. The USACE acquired answers from RGUs identified by the MPCA, which were the City of Duluth and the Minnesota Department of Natural Resources. In regards to Minnesota Rules 4410.4300 and 4410.4400. The relevant subparts of Minnesota Rule 4410.4300 to this proposed project were: Subp. 27, Subp. 31, and Subp. 36a. The relevant subparts of Minnesota Rule 4410.4400 to this proposed project were: Subp. 20 and Subp. 27. Attachment 1 includes confirmation from the RGU’s in relation to this proposed project not requiring a mandatory EAW and that a discretionary EAW is not being requested.

Analysis of Non-Preferred Alternatives That Avoid and Minimize Degradation
Describe prudent and feasible alternatives that would minimize degradation and avoid or minimize surface water impacts (such as wetlands, lakes, streams, etc.). An analysis of each alternative must include a description of how impacts to surface waters are avoided and/or minimized, and include information on any design considerations and constraints, expected performance, construction, operation, and maintenance costs, and reliability for each alternative.
Alternative 1: No Action Alternative
NEPA requires that each project include a “No Action” Alternative and that this alternative is carried through the entire process, receiving full consideration. This alternative assumes that no project would be implemented; all structures would be left in their current state and existing processes would continue. The No Action Alternative helps to establish a “baseline” for the system to measure the impact that actions of all other alternatives would have, including cumulative impacts. In this case, the No Action Alternative will be no Federal Action. No repairs would be conducted and no improvements would be installed or constructed. Alternative 1 was not selected due to the extensive deterioration of the existing structures posing a safety risk to users and continued operations. Additionally, it is likely that excessive costs would be incurred to maintain operational activities of the DuAO without addressing the increasing safety risks.

Alternative 2: In-kind replacement of Piers
Alternative 2 would involve the replacement of the existing piers with new structures that have a similar design and footprint. This would involve the demolition and removal of existing structures, filling of any voids or sinkholes to low water datum (LWD 601.1 feet; International Great Lakes Datum, 1955), and then construction of new seawalls, supports, and concrete capping structures. Additional improvements would be installed as part of the replacement design. Alternative 2 was not selected due to the project mooring loads and a lack of confidence in the ability of soils below the existing structures to support new construction.

Alternative 3: Encasing the existing piers in steel sheet pile (SSP) and a concrete cap.
Alternative 3 involves constructing new steel sheet pile (SSP) seawalls surrounding the existing piers, backfilling any space between the new and old SSP walls, and then constructing a new concrete cap that extends to the limits of the new SSP seawall. Additional improvements would be installed during construction as part of the new pier design. Alternative 3 is the proposed action as this method would stabilize the existing (deteriorating) piers in-place, reduce the risk of compromising the stability of adjacent dock walls or structures during construction by leaving them in place, restore and stabilize the substrate under the piers, and reduce the amount of demolition and excavation necessary.

Preferred Alternative
Provide a description of and justification for the preferred alternative, and verify that the preferred alternative is the least degrading prudent and feasible alternative for surface water. Note: Information in Attachment C of the Joint Application Form for Activities Affecting Water Resources in Minnesota (Application) may be used to help determine if the preferred alternative, relative to other available prudent and feasible alternatives, is appropriate.

Alternative 3 is the proposed action as this method would stabilize the existing (deteriorating) piers in-place, reduce the risk of compromising the stability of adjacent dock walls or structures during construction by leaving them in place, restore and stabilize the substrate under the piers, and reduce the amount of demolition and excavation necessary. These measures would likely reduce the turbidity during operations and limit turbidity to the SSP driving only as all other elements would then occur behind the new SSP seawall or on the pier structure above the water.

The primary impacts from this alternative would be temporary turbidity while the SSP is being driven and a loss of approximately 0.15 acres of aquatic habitat due to the expansion of the pier footprint. As the site has been an industrial pier and work area for decades, this project would not alter the operations or impact of USACE activity in the Vessel Yard.

Alternative 1 would not address the need to repair the piers and allow for continued degradation of the structures. If continued, the degradation would limit or prevent normal USACE operations, impacting the mission and capability of USACE in the Duluth-Superior Harbor and surrounding area.

Alternative 2 would likely produce greater turbidity throughout the construction process as a greater amount of demolition and site preparation would be necessary to remove existing structures and address voids that are present. This could also increase the duration of construction operations as the level of effort necessary could not be fully determined until demolition begins.
Beneficial Uses

Describe the current existing beneficial uses of the surface waters impacted by the project and how the beneficial uses will be protected during and after the project. Review Minnesota Rules 7050. 0410-0430 for the classification that fits the existing beneficial uses of the waters impacted by your project. [https://www.revisor.mn.gov/rules/?id=7050](https://www.revisor.mn.gov/rules/?id=7050)

The primary current beneficial uses of the surface waters within Duluth-Superior Harbor (St. Louis River Estuary) are for industrial/commercial Shipping/harbor freight, recreational boating, and scenic activities. The Duluth Vessel Yard is an active industrial slip and work area for the US Army Corps of Engineers (USACE). The Vessel Yard is Federal property that is closed to the public as it is an active work area. Mooring space for ships is available to rent in agreement with USACE; currently the National Oceanic and Atmospheric Administration (NOAA) and University of Minnesota Duluth (UMD) dock research vessels on the South Pier. The proposed actions would directly benefit partner agencies that use the Vessel Yard piers to dock their ships by maintaining the piers for future use. The proposed actions would also indirectly benefit the Federal Navigation Channel, which is a public facility for commerce and recreation, by providing a functional hub for USACE operations to maintain said navigation channel.

Work in the project area would be conducted in phases so that the operational capacity of the Vessel Yard is maintained as much as practical to allow for the USACE mission to continue throughout. Activities would have no impacts on recreational activities and would only impact scenic activities at the Vessel Yard during operations. Following project completion, all Vessel Yard activities would be allowed to continue unabated and at full capacity.

Indirect Impacts

Where partial alteration of a surface water will occur, describe the potential indirect impacts to the remaining surface water, and the potential impact to nearby wetlands, stream, lakes, etc. When the entire function/acreage of a surface water is lost, describe the impacts to nearby wetlands, streams, lakes, etc. Indirect impacts can include changes in hydrology, aquatic species health or population, changes in vegetation or macroinvertebrate (bug) populations, etc.

The proposed actions would have no cumulative impact on the natural resources within the area. The Vessel Yard was industrialized in the past and has been maintained in its current state for some time. The proposed actions are designed to provide similar pier structures, with a slightly larger footprint, that will undergo maintenance and operations that are equivalent to existing operations. The proposed and any future actions to repair or maintain the Vessel Yard will use state of the art engineering and technology, which could potentially reduce the impact to natural resources, thereby decreasing the cumulative impact over time. As such, there will not be a negative cumulative impact to natural resources.

The proposed actions would cause a one-time expansion of the pier footprint within the Federal property limits of the Duluth Vessel Yard. Reasonably foreseeable actions would include the maintenance of the pier structures as-is considering that further expansion would limit the water-space available for vessels and maneuvering. These changes from existing conditions do not change the land use of zoning of the Vessel Yard, and future work would be to maintain said use and zoning. Construction work, and impacts, to physical resources would be limited in time and space to the work being conducted, which would not cause a cumulative impact. As such, the proposed actions will not cause a cumulative impact to physical resources.

The proposed actions are intended to preserve the Historic nature of the Duluth Vessel Yard. Reasonably foreseeable future actions would be to achieve the same level of preservation to maintain the Vessel Yard as a Historic and Cultural Resource. Combined, the proposed and future actions will have no cumulative impact on Historic and Cultural Resources.

Loading and Degradation to Surface Waters

*water is lost, describe the impacts to nearby wetlands, streams, lakes, etc. Indirect impacts can include changes in hydrology, aquatic species health or population, changes in vegetation or macroinvertebrate (bug) populations, etc.*
Describe any anticipated net increases in loading and other causes of degradation expected in surface waters that are not directly filled or dredged when your proposed project preferred alternative is fully implemented.

Turbidity effects in the Vessel Yard and nearby waters would occur during the driving of SSP; however, this turbidity would be limited in scale and duration. BMPs would be employed similar to those used by USACE in other areas of the Duluth-Superior Harbor so as to minimize temporary degradation of surface waters during driving of SSP. Alternative 3 is designed to place fill behind newly installed SSP, so no impacts or increases in turbidity would occur in the surface waters as all work would be contained in the annulus between the new SSP and existing seawall. All other improvements would occur above water and are not anticipated to impact the water in any appreciable manner.

Water Quality Comparison Before and After Project

Compare and describe the existing water quality at the project site with the anticipated water quality after the project is fully complete and operational. If the surface area of a water resource will be completely filled, this step is not necessary, but must be addressed in the Mitigation Plan below.

There would be no measurable change to water quality after the project vs. before the project following the settling of temporary turbidity.

Comparison of Existing and Expected Economic Conditions and Social Services

Provide a comparison of existing and expected economic conditions and social services when the proposed project (preferred alternative) is fully implemented. Include description of economic gains or losses attributable to the proposed activity; contribution to social services; prevention/remediation of environmental or public health threats; trade-offs between environmental media; the value of the water resources; and other relevant environmental, social, and economic impacts of the proposed activity.

There would be no change in economic conditions or social services. The project actions are designed to allow for USACE to continue its existing and future missions in the Duluth-Superior Harbor and surrounding areas, which individually and collectively provide benefits in both of these areas.

Description of the Mitigation Plan

If the applicant will mitigate the project’s permanent surface water impacts via an approved wetland bank AND the mitigation is type-for-type AND located in the same major watershed (https://www.pca.state.mn.us/water/watersheds) the applicant does not need to complete this portion.

Using the project information provided above, describe how the proposed compensatory mitigation will replace existing uses and maintain the current level of water quality at the proposed project site (e.g. wetland types, replacement ratio, water monitoring data if available).

No mitigation is needed as the installation of SSP will generate a temporary increase in turbidity that will quickly dissipate after installation is complete. Placement of fill will occur only after SSP is installed so as to contain that material in the annulus between the new and existing seawall structures.
Describe how the compensatory mitigation will be maintained and the monitoring activities that will be conducted to ensure the proposed mitigation is viable. Include a timeline for reporting progress and an intervention/remediation plan to be implemented if the mitigation fails.

N/A