IEPA Log No.: **C-0190-20**
CoE appl. #: **Ref: C-0234-18 Certification Modification request dated July 22, 2020**

Public Notice Beginning Date: **August 6, 2020**
Public Notice Ending Date: **August 21, 2020**

Section 401 of the Federal Water Pollution Control Act
Amendments of 1972

Section 401 Water Quality Certification for Discharge of Dredged or Fill Material

Public Notice/Fact Sheet Issued By:

Illinois Environmental Protection Agency
Bureau of Water
Permit Section
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276
217/782-3362

Name and Address of Discharger: U.S. Army Corps of Engineers – 231 South LaSalle St., Suite 1500, Chicago, IL 60604-1437

Discharge Location: Near Chicago in SE 1/4 of Section 10 of Township 39-North, Range 14-East of the 3rd P.M. in Cook County.

Name of Receiving Water: Lake Michigan

Project Description: Proposed modification of proposal for repairs and enlargement of the north pier adjacent to the locks in Chicago Harbor consisting of a new steel pile wall in Lake Michigan with new and reused quarry stone and broken concrete used as backfill.

The Illinois Environmental Protection Agency (IEPA) has received an application for a Section 401 water quality certification to discharge dredged or fill material into the waters of the State associated with a Section 404 permit application received by the U.S. Army Corps of Engineers. The Public Notice period will begin and end on the dates indicated in the heading of this Public Notice. The last day comments will be received will be on the Public Notice period ending date unless a commenter demonstrating the need for additional time requests an extension to this comment period and the request is granted by the IEPA. Interested persons are invited to submit written comments on the project to the IEPA at the above address. Commenters shall provide their names and addresses along with comments on the certification application. Commenters may include a request for public hearing. The certification and notice number(s) must appear on each comment page.

The attached Fact Sheet provides a description of the project and the antidegradation assessment.

The application, Public Notice/Fact Sheet, comments received, and other documents are available for inspection and may be copied at the IEPA at the address shown above between 9:30 a.m. and 3:30 p.m. Monday through Friday when scheduled by the interested person.

If written comments or requests indicate a significant degree of public interest in the certification application, the IEPA may, at its discretion, hold a public hearing. Public notice will be given 30 days before any public hearing. If a Section 401 water quality certification is issued, response to relevant comments will be provided at the time of the certification. For further information, please contact Darren Gove at email darren.gove@illinois.gov or phone no. 217/782-3362.

DRG:C-0190-20_401 PN and FS_22Jul20(2).docx

Fact Sheet for Antidegradation Assessment
For U.S. Army Corps of Engineers
IEPA Log No. C-0190-20
COE Log No. Ref: C-0234-18 Certification Modification request dated July 22, 2020
Public Notice Start Date: August 6, 2020

The U.S. Army Corps of Engineers ("Applicant") has applied for a 401 Water Quality Certification for impacts associated with the repairs to the North Pier of the Chicago Lock and controlling works within Chicago Harbor located at 108 North Streeter Drive in Chicago, Cook County, Illinois, which is the mouth of the Chicago River, just south of Navy Pier, and north of Monroe Harbor. The proposed impacts associated with this proposal represent a slight increase in the amount of the overall fill material that is associated with the original project that was approved under a Section 401 water quality certification Log number C-0234-18 issued on June 23, 2019.

The purpose of the original project was to repair the existing North Pier crib structure of the Chicago Lock. A Periodic Inspection Report of the Chicago Lock, dated September 2017, found that approximately 13 feet of the sheet pile tie rods were found to be severely corroded on the inside of the North Pier tunnel with additional concern that the North Pier tunnel may require repairs. The aforementioned report also found that the current vehicle analysis of 3,000 lbs. per axel for vehicles driving on top of the tunnel is insufficient for current lock operations, as well as a concern associated with anchoring the existing sheet pile wall into an old rehabilitated timber crib of unknown capacity. The slight increase in overall fill will be to accommodate a recommended increased height of sheet pile retaining wall as a result of the presence of higher water elevations in Lake Michigan. The increased fill material will occur on the bed of Lake Michigan along the toe of the new sheet pile wall and is not expected to exceed an additional 18 inches laterally from the original footprint of stone fill. This amount of lakebed impact from stone fill represents the amount necessary to support construction of a sheet-pile wall that is 18 inches higher than originally proposed.

All other factors and considerations for this project remain the same, therefore; in consideration of convenience the following facts, except regarding the impacts that are subject to approval as discussed above, remain unchanged from the original factsheet public noticed from June 3, 2019 through June 18, 2019.

The existing 450-foot-long by 45-foot-wide North Pier structure consists of a concrete superstructure built over a timber crib bounded on both sides with steel sheet pile walls. The original timber cribs were completed around 1876, with the concrete superstructure and tunnel completed around 1908. The sheet pile walls were added in 1964 to prevent failure of the timber cribs. The Lake Michigan sheet pile wall is supported externally with stone revetment and the Chicago River wall is internally supported using tie-rods connected to the old concrete superstructure.

The proposed project consists of construction of a new sheet pile wall parallel to and north of the existing north sheet pile wall (widening the pier by approximately 25 feet within Lake Michigan) and placement of new and/or reused stone to protect the toe of the new sheet pile wall. New stone fill and broken concrete from the partial demolition of the existing concrete superstructure would be placed behind the proposed sheet pile wall. Approximately 10,000 cubic yards of excavated fill material within the drive-line of the new sheet pile wall would be removed and temporarily stored on work barges or on the lakebed within project limits. Approximately 4,000 cubic yards of the material would be suitable for use as temporary bracing against the Chicago River sheet pile wall during construction and would then be available for reuse as armor stone or backfill on the new wall. The material could also be left along the Chicago River wall for habitat, provided that the highest elevation of the fill is not above a depth of 14 feet below the low water datum. Pile wall backfill below and above the water line and toe stone placement along the new wall in Lake Michigan needed is 13,200 cubic yards. The additional fill volume

would consist of course construction aggregate obtained from an upland quarry and from suitable demolition material obtained from original concrete superstructure.

Work within Lake Michigan would be accomplished using mechanical equipment such as a crane or excavator equipped with a clamshell bucket operated from a flat bottom barge or large vessel. A turbidity curtain is proposed for use around the construction site during operation within Lake Michigan to control the amount of suspended solids leaving the project site. The total area of Lake Michigan surface water that would be converted to land is approximately 0.25 acres and the total area of lakebed and riverbed that may be filled or covered by stone is approximately 0.75 acres. No mitigation is proposed.

Work has commenced on the original scope of this project and is expected to be completed in 2020. Information used in this review was obtained from the revised draft construction drawings and Join Application dated March 8, 2019, and Draft Environmental Assessment for North Pier Repairs of the Chicago Lock dated February 2019.

Identification and Characterization of the Affected Water Body

The proposed project impacts Lake Michigan, a Lake Michigan Basin Use Water, that has 0 cfs of flow during critical 7Q10 low-flow conditions. Lake Michigan, Waterbody Segment IL_QLM-01, is listed on the draft 2016 Illinois Integrated Water Quality Report and Section 303(d) List as impaired for fish consumption use with potential causes given as polychlorinated biphenyls and mercury and aesthetic quality use with a potential cause given as phosphorus. Aquatic life, public and food processing water supply, primary contact, and secondary contact uses are fully supported. Lake Michigan is not listed as a biologically significant stream in the 2008 Illinois Department of Natural Resources publication *Integrating Multiple Taxa in a Biological Stream Rating System* or given an integrity rating in that document. A Total Maximum Daily Load (TMDL) Report was prepared and approved by USEPA and for 51 beaches along the Illinois Lake Michigan shoreline to address primary contact use impairments due to excess bacteria. The proposed activity does not occur within areas identified by the report "Shoreline Segments in Suburban Cook County, Illinois," dated May 15, 2013, as Beach Protection Areas subject to that TMDL.

The proposed project also impacts the Chicago River, a General Use Water, at a point where 0 cfs of flow exists upstream during critical 7Q10 low-flow conditions. The Chicago River is not listed as a biologically significant stream in the 2008 Illinois Department of Natural Resources Publication *Integrating Multiple Taxa in a Biological Stream Rating System*; however, it is given an "E" integrity rating in that document. The Chicago River, Waterbody Segment IL_HCB-01, is listed on the draft 2016 Illinois Integrated Water Quality Report and Section 303(d) List as impaired for aquatic life use with potential causes given as changes in stream depth and velocity patterns, dissolved oxygen, loss of instream cover, other flow regime alterations, pH, and phosphorus (total); fish consumption use with potential causes given as mercury and polychlorinated biphenyls; and primary contact use with a potential cause given as fecal coliform. This segment of the Chicago River is not subject to enhanced dissolved oxygen standards.

Identification of Proposed Pollutant Load Increases or Potential Impacts on Uses

A pollutant load increase of total suspended solids is a normal and unavoidable result of the proposed project at the point of construction activity. Of the 10,000 cubic yards of removed material, approximately 4,000 cubic yards may consist of large stone that could be temporarily placed along the Chicago River side of the pier to brace/shore the existing steel sheet pile during construction. Prior to the end of

construction, the majority of this large stone may be reused on the Lake Michigan side as backfill or toe stone, with the possible exception of a small amount of residual large stone material that has settled into the sediment on the Chicago River side of the pier. Alternately, the contractor may propose that some or all the large stone may remain in place on the Chicago River side of the pier to provide beneficial habitat. Any Chicago River sediment that is accidently removed would be dewatered upland (with no direct return water) and disposed of at an appropriate upland facility. Any debris or unsuitable materials that are observed will not be reused and will be properly disposed of off-site at a landfill.

Approximately 8,200 cubic yards of coarse aggregate material will be needed for backfill and filling the space between the new steel sheet pile anchor wall and North Pier, above and below the water line, and roughly 5,000 cubic yards will be needed for toe stone on the Lake Michigan side of the new steel sheet pile anchor wall. Based on the estimates, the volume needed for backfill and toe stone would exceed the estimated volume that will be removed to clear the drive line by approximately 3,200 cubic yards. Additional backfill or toe stone proposed for this project will primarily consist of coarse aggregate gradation, as described by the current standard specifications adopted by the IDOT. Smaller gravel will be used upland for vehicle access areas.

Fate and Effect of Parameters Proposed for Increased Loading

The increase in suspended solids will be local and temporary. Although the benthic habitat will be disturbed by the construction activities, it is anticipated to recover over time. Impacts to aquatic life uses of this area are not anticipated.

No mitigation plan is proposed for the North Pier. The surface area to be impacted by the installation of the new steel sheet pile wall and stone placement is estimated to be 0.75 acres, with the assumption that the large stone material would be placed on the Chicago River side of the pier to temporarily brace/shore the existing steel sheet pile wall. At the end of the construction, approximately 0.25 acres would be converted from water to land, and approximately 0.25 to 0.5 acres would be impacted by the removal and placement of stone below the water surface.

Purpose and Social & Economic Benefits of the Proposed Activity

The Chicago Lock provides a navigable passage between the Chicago River and Lake Michigan for over 40,000 vessels annually and its operation supports Federal, State, and local Marine, Homeland Security, Safety Law Enforcement, and fire protection. The purpose of this project is to keep the lock open, functional, and safe by repairing and providing stability to the existing crib structure of the North Pier of the Chicago Lock.

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

The Applicant considered two alternatives including the no-action plan and the rehabilitation plan in the environmental assessment. The no-action is the least impactful alternative; however, this structural integrity of the pier would continue to degrade and eventually fail. The rehabilitation plan is the preferred plan.

The construction of the proposed project will follow conditions set forth by the Agency and would include the following construction activities: driving steel sheet piles on the Lake Michigan side of the North Pier, approximately 57 feet behind the existing sheet pile on the Chicago River side of the North Pier; removing and replacing stone as needed to clear the drive line; removing and disposing of the

concrete slab or parts on the Chicago River side of the North Pier between the tunnel and promenade; removing backfill beneath the concrete slab, exposing the existing steel sheet pile wall on the Chicago River side of the North Pier; installing new tie rods on six (6)-foot centers between the existing tie rods that extend from the existing wall on the Chicago River side to the existing tunnel on the North Pier; terminating the sheet pile anchor wall approximately 24 feet east of the easternmost new tie rod; driving sheet pile into parking lot to serve as a dead-man anchor; replacing in-kind portions of the concrete slab removed to install tie rods; off-site disposal of construction debris and unsuitable soils; landscaping with native coastal plants; and possibly constructing an access road over the north pier.

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

An EcoCAT endangered species consultation was submitted on July 24, 2020 to the Illinois Department of Natural Resources and is currently under review. On January 3, 2018, IDNR responded to the Applicant's original request for comments and identified the following state-listed species known to occur near the project: Mudpuppy (*Necturus maculosus*), Longnose Sucker (*Catostomus catostomus*), and the Banded Killifish (*Fundulus diaphanous*). IDNR's 2018 review indicated the scope of described work could adversely affect these species. Mudpuppies could be taken as a result of rock removal rock installation, or other construction related activities occurring in the water. However, seasonal timing of construction activities would reduce the likelihood of adverse impacts to the mudpuppy as this species if believed to move to deeper water during the summer months. Concussive impacts from pile driving could adversely affect fish species. If project plans change significantly, the USACE is advised to consult with the IDNR.

Agency Conclusion

This preliminary assessment was conducted pursuant to the Illinois Pollution Control Board regulation for Antidegradation found at 35 Ill. Adm. Code 302.105 (antidegradation standard) and was based on the information available to the Agency at the time this assessment was written. We tentatively find that the proposed activity will result in the attainment of water quality standards; that all technically and economically reasonable measures to avoid or minimize the extent of the proposed increase in pollutant loading have been incorporated into the proposed activity; and that this activity will provide the stability needed to keep the Chicago Harbor Lock open and functional. Comments received during the 401 Water Quality Certification public notice period will be evaluated before a final decision is made by the Agency.