IEPA Log No.: **C-0334-17**
CoE appl. #: **2017-00834**

Public Notice Beginning Date: **May 11, 2018**
Public Notice Ending Date: **June 11, 2018**

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

Section 401 Water Quality Certification to Discharge into Waters of the State

Public Notice/Fact Sheet Issued By:

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

Name and Address of Discharger: 57 Maple Hill, LLC, 57 Maple Hill Road, Glencoe, IL 60022

Discharge Location: Section 6, T42N, R13E of the 3rd P.M. in Cook County within Glencoe

Name of Receiving Water: Lake Michigan.

Project Description: Breakwater Protected Beach and Boat Launch Ramp.

The Illinois Environmental Protection Agency (IEPA) has received an application for a Section 401 water quality certification to discharge 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 call Thaddeus Faught at 217/782-3362.

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Fact Sheet for Antidegradation Assessment
57 Maple Hill Road LLC – Lake Michigan – Cook County
IEPA Log No. C-0334-17
COE Log No. LRC-2017-00834
Contact: Abby Brokaw 217/782-3362
May 11, 2018

Michael Moyers ("Applicant") has applied for a 401 Water Quality Certification for impacts associated with the construction of a quarrystone breakwater, breakwater island, revetment reconstruction, and boat ramp along Lake Michigan at 57 Maple Hill Road, Glencoe, in Cook County, Illinois. The site's existing quarrystone revetment provides minimal shore protection for the bluff caused by toe erosion and continued lakebed downcutting. The proposed system is designed to help retain a sandy beach, move the focus of wave energy further offshore, reduce lakebed downcutting, and provide safe access for pedestrians and swimmers to and from Lake Michigan.

A 125 ft. (nominal length) breakwater would be constructed approximately 40 ft. north of the south property line and extend lakeward, curving to the north. The crest elevation would be 587 ft. at the landward end tapering to 584 ft. at the lakeward end. A 75 ft. (nominal length) breakwater island would be constructed parallel to the shoreline and north of the south breakwater. Both structures would be located 125 ft. from the toe of the bluff and have a slope of 1h:1.5v. The breakwaters would create a protected beach to be pre-filled with 3,740 tons of clean sand. The revetment would be reconstructed moving the toe landward at a 1h:1.5v slope and a 592 ft. crest elevation. A steel boat launch ramp would be installed on piles with a crest of 588 ft., a length of 50 ft. and a slope of 4h:1v. A boat house is proposed to be constructed on the bluff, but is not included as part of this project.

Identification and Characterization of the Affected Water Body

Lake Michigan is classified as a Lake Michigan Basin Use Water and 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 mercury and polychlorinated biphenyls and aesthetic quality use with a potential cause given as phosphorus. Aquatic life, public and food processing water supply, primary recreational 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. The proposed project would occur just north of a Beach Protection Area identified by the "Shoreline Segments in Suburban Cook County, Illinois" report dated May 15, 2013, but is not subject to the Illinois Lake Michigan shoreline TMDL.

Identification of Proposed Pollutant Load Increases or Potential Impacts on Uses

Pollutant load increases of total suspended solids may occur at the point of construction activity and are a normal and unavoidable result of the placement of clean sand and crushed stone. The Applicant plans to minimize impacts by mobilizing construction via Lake Michigan to reduce sediment loading. Clean stone fill totaling 2,052 yd^3 would be used to stabilize the bluff slope (clean armor stone and clean bedding stone) and clean quarry sand totaling 2,990 yd^3 would be used for beach nourishment. Credits will be purchased from a USACE pre-approved wetland bank to mitigate for the project's total fill of 0.21 acres.

Benthic habitat would also be disturbed in the construction area, but impacts to aquatic life uses are not anticipated. Due to the heavily eroded conditions of the project area, the exposure of lakebed clay and the loss of sand, the project may improve water quality and habitat for aquatic species by minimizing erosion. The addition of the sandy beach will provide an improved transitional environment for flora and fauna.

Although the project site is not subject to the Illinois Lake Michigan shoreline TMDL, supplemental information provided by the Applicant regarding strategies to reduce *E. Coli* loading indicates that the project is likely to comply with the TMDL's water quality concentration limit load allocation of 126 cfu/100ml. Several BMPs regarding beach slope, orientation, embayment and substrate composition would be applied to reduce *E. coli* loading potential. Surface runoff to the beach would be minimized with improvements to a vegetated buffer strip on the adjacent tableland and bluff. Project improvements may contribute to an overall reduction of *E. Coli* loading from the segment of Lake Michigan shoreline impacted by this project.

Fate and Effect of Parameters Proposed for Increased Loading

The increase in suspended solids would be local and temporary. This section of coastline has historically lost sand due to lakebed downcutting especially during prolonged periods of low lake levels. Although the benthic habitat would be disturbed by construction activities, it is anticipated to recover and improve over time.

The Applicant plans to compensatory mitigate for the proposed 0.21 acres of fill. A ratio for purchasing credits from an USACE pre-approved wetland bank has not been finalized.

Purpose and Social & Economic Benefits of the Proposed Activity

Failure to protect the shoreline could lead to the loss of residential property and infrastructure. The proposed project would allow access to the lake for recreation and would protect and stabilize the shoreline.

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

The site has been inspected and options for shore protection were determined using desktop coastal engineering, bathymetric surveys, and shoreline observations.

Option 1: *Do nothing*

- Leaves the site vulnerable to lakebed downcutting, bluff toe erosion, and revetment failure

Option 2: *Revetment Maintenance*

- Existing revetment deflated and wave energy contributes to lakebed erosion
- Revetment will inevitably fail due to continued deflation

Option 3: *Installation of two nearshore disconnected breakwater islands*

- Would protect approximately 75% of the site by providing a nearshore wave break
- No further assessment because of proximity to adjacent structures

Option 4: *Curved headland bay breakwater beach system*

- Includes two curved quarrystone breakwaters with the south breakwater shifted to the north to allow for sand placement
- Not feasible because of nearshore water depths and the additional reinforcement of the revetment needed for the open bay

Option 5: *Proposed Option: Curved quarrystone breakwater beach system and one near shore island breakwater*

- Utilizes best features of Options 3 and 4
- Combination of both elements will protect the shoreline and support restoration of coastal habitats

Option 6: *Single curved quarrystone breakwater extending ~150' offshore*

- Not explored further due to IDNR's current 125' size limitation

Conclusion: The Applicant has selected Option 5 for implementation. The construction of the proposed project will follow conditions set forth by the Agency and USACE. The least intrusive alternative would be to not complete the project. This is not an acceptable alternative given the lakebed downcutting, erosion and sand loss at the site. Completion of the proposed project would allow for protection of the Lake Michigan shoreline and nearby residential structures.

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

An IDNR EcoCAT endangered species consultation, Project #805176, identified protected resources that may be in the vicinity of the proposed project. After further evaluation, IDNR concluded that adverse effects are unlikely and terminated the consultation on January 23, 2018. The project was also reviewed for cultural resource impacts and was determined to be in compliance with the Illinois State Agency Historic Resources Preservation Act.

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 would 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 would benefit the Lake Michigan shoreline by providing a system that reduces the impacts of wave energy, protects benthic habitat, retains a sandy beach, and provides access for landowners to the lake. Comments received during the 401 Water Quality Certification public notice period will be evaluated before a final decision is made by the Agency.