Illinois Department of Natural Resources, Office of Water Resources

Public Notice

Proposed Shoreline Protection System, in Lake Michigan, at 925 Sheridan Road, Lake Bluff, IL 60044

Nicholas Robertson, 925 Sheridan Road, Lake Bluff, IL 60044, has applied for an Illinois Department of Natural Resources, Office of Water Resources permit to construct a shore protection system, in Lake Michigan, at 925 Sheridan Road, Lake Bluff, IL 60044.

The applicant proposes to replace an existing failing stone revetment with a new quarystone revetment and a shore parallel offshore quarystone breakwater. The proposed revetment will be approximately 410 ft. long with a crest elevation of approximately 590 ft. The proposed breakwater will be located approximately 107 ft. lakeward of the existing toe-of-bluff and will have an approximate crest length of 98 ft.; a crest width of approximately 6 ft. and a crest height of approximately 582.5 ft. A minimum of 706 cubic yards of clean sand will be placed as premitigational fill. All elevations are in International Great Lakes Datum – 1985 adjusted. The proposed project will be reviewed using the Department’s Part 3704 Rules. A location map and plans are attached to this notice.

No work is to start on this project unless and until such a time that the permit is issued.

Plans for the work may be seen at the Office of Water Resources, Chicago Office, 100 W. Randolph Street 15th floor, Chicago, Illinois 60601. Inquiries and requests to review the plans may be directed to James Casey of the Chicago Office at (312) 793-5947 or james.casey@illinois.gov. An expanded version of the public notice can be viewed at http://www.dnr.illinois.gov/WaterResources/Pages/PublicNotices.aspx. You are invited to send comments regarding the work to the Chicago Office by August 11, 2022.

July 13, 2022
June 21, 2022

Ms. Kathleen Chernich
Senior Project Manager
U.S. Army Corps of Engineers
Chicago District Regulatory Branch
231 South LaSalle Street
Suite 1500
Chicago, IL 60604

Mr. J. Kessen
Illinois Department of Natural Resources
Office of Water Resources
Lake Michigan Management Section
160 N LaSalle Street
Suite S-703
Chicago, IL 60601

Subject: Request for Permit to Replace an Existing Revetment and to Construct a Nearshore Breakwater Along the Lake Michigan Shoreline at 925 Sheridan Rd, Lake Bluff, IL
IDNR Navigable Waterway and USACE Section 404/401 Permit Applications

We are transmitting herewith a Joint Application Form and supporting documents for an Individual Permit request to allow 1) the replacement of a failed concrete rubble revetment with 1,400 cu.yds. of clean quarrystone; 2) the construction of a nearshore rubblemound breakwater consisting of approximately 540 cu.yds. of clean quarrystone; and 3) placement of 706 cu. yds sand for beach nourishment, which volume includes the 120% required overfill. Lake levels, while lower than record high water elevations, are still capable of allowing energetic storms to impact shore protection structures for which protection is essential. Furthermore, the revetment and salvaged concrete rubble will serve as bluff toe ballast to prevent further sliding of bluff soils to lakeward.
A permit check in the amount of $5000.00, made out to the Illinois Department of Natural Resources, is being sent to Mr. Kessen under separate cover.

Sincerely,

Can Kupfer, P.E.
President
Tamcor, Ltd.
300 Marquardt Dr.
Wheeling, IL 60090

cc: Nicholas Robertson

Illinois
300 Marquardt Dr. Wheeling, IL 60090

Wisconsin, IL 60090
740 Waters Edge Rd., Racine, WI 53402
tamcorconsulting@gmail.com
JOINT APPLICATION FORM FOR ILLINOIS

ITEMS 1 AND 2 FOR AGENCY USE

3a. Applicant’s Name: Nicholas Robertson
   Company Name (if any): 
   Address: 925 Sheridan Rd
   Lake Bluff, IL 60044
   Email Address: 

   3b. Co-Applicant/Property Owner Name
   (if needed or if different from applicant):
   Company Name (if any): 
   Address: 
   Email Address: 

   4. Authorized Agent (an agent is not required):
   Carl Kupfer, P.E.
   Company Name (if any):
   Address: Suite 102
   300 Marquardt Dr.
   Wheeling, IL 60090
   Email Address: 

STATEMENT OF AUTHORIZATION

I hereby authorize, Carl Kupfer, to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application. 

Applicant’s Signature: ___________________________ Date: 6/17/22

5. ADJOINING PROPERTY OWNERS (Upstream and Downstream of the water body and within Visual Reach of Project)

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<tr>
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<td></td>
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<tr>
<td>c.</td>
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6. PROJECT TITLE:
Bluff Remediation And Shore Protection Improvements

7. PROJECT LOCATION:

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<th>SECTION</th>
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<td>16</td>
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<td>12</td>
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IN OR ☐ NEAR CITY OF TOWN (check appropriate box)
Municipality Name: Village of Lake Bluff

COUNTY | STATE | ZIP CODE
--------|-------|--------
Lake | IL | 60044

Lake Michigan

Revised 2010
☐ Corps of Engineers ☐ IL Dept of Natural Resources ☐ IL Environmental Protection Agency ☐ Applicant’s Copy
8. PROJECT DESCRIPTION (include all features):
Install:
   a. a quarrystone revetment approx. 410 feet in length;
   b. a nearshore quarrystone breakwater with a crest length of 98.3 ft, (30 m) and situated approx. 107 feet as measured from the toe of the bluff to farthest point of the lakeward breakwater toe;
   c. beach nourishment sand fill totalling 706 cubic yards, including the required 120% overfill volume.

9. PURPOSE AND NEED OF PROJECT:
Stabilizing the bluff toe which is currently sliding to lakeward; replacing the failing concrete rubble revetment with a properly constructed quarrystone revetment; constructing a quarrystone breakwater to reduce wave impacts and to provide a protected beach in the lee of the breakwater; import beach sand for further wave energy reduction and beach development

COMPLETE THE FOLLOWING FOUR BLOCKS IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

10. REASON(S) FOR DISCHARGE:
to replace an existing failing revetment, and to construct a nearshore breakwater

11. TYPE(S) OF MATERIAL BEING DISCHARGED AND THE AMOUNT OF EACH TYPE IN CUBIC YARDS FOR WATERWAYS:
   TYPE: clean approved quarrystone and beach sand
   AMOUNT IN CUBIC YARDS:

12. SURFACE AREA IN ACRES OF WETLANDS OR OTHER WATERS FILLED (See Instructions)
   2640 sq.ft. (0.06 ac.)

13. DESCRIPTION OF AVOIDANCE, MINIMIZATION AND COMPENSATION (See instructions)
The revetment and breakwater footprints are at a minimum needed for robust shore protection and minimizing impacts on the aquatic environment. The breakwater lee will be nourished with beach sand to offset withdrawals from the littoral drift and nearshore lakebed surfaces.

14. Date activity is proposed to commence
   Autumn 2022
   Date activity is expected to be completed
   Summer 2023

15. Is any portion of the activity for which authorization is sought now complete? Yes ☑ No ☐
   Month and Year the activity was completed

16. List all approvals or certification and denials received from other Federal, interstate, state, or local agencies for structures, construction, discharges or other activities described in this application.

<table>
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<tr>
<th>Issuing Agency</th>
<th>Type of Approval</th>
<th>Identification No.</th>
<th>Date of Application</th>
<th>Date of Approval</th>
<th>Date of Denial</th>
</tr>
</thead>
</table>

17. CONSENT TO ENTER PROPERTY LISTED IN PART 7 ABOVE IS HEREBY GRANTED.
   Yes ☑ No ☐

18. APPLICATION VERIFICATION (SEE SPECIAL INSTRUCTIONS)
   Application is hereby made for the activities described herein. I certify that I am familiar with the information contained in the application, and that to the best of my knowledge the information is true, correct and accurate. I further certify that I possess the authority to undertake the proposed activities.
   Signature of Applicant or Authorized Agent
   6-21-2022
   Date
   Signature of Applicant or Authorized Agent
   Date
   Signature of Applicant or Authorized Agent
   Date

☐ Corps of Engineers
☐ IL Dep't of Natural Resources
☐ IL Environmental Protection Agency
☐ Applicant's Copy

Revised 2010

SEE INSTRUCTIONS FOR ADDRESS
INDEX OF SHEET 18

1. COVER SHEET
2. BLUFF AND TABLELAND TOPOGRAPHY
3. BATHYMETRY SURVEY
4. EXISTING CONDITIONS and PHOTO GALLERY
5. EXISTING CONDITIONS SITE PLAN with BASELINE and CROSS SECTION KEY
6. PROPOSED CONDITIONS SITE PLAN
7. PROPOSED BLUFF GRADING, DRAINAGE (SOUTH SECTION) and EROSION CONTROL PLAN
8. PROPOSED BLUFF GRADING, DRAINAGE (NORTH SECTION) and STONE STAIRCASE DETAIL
9. PROFILES A-A and B-B
10. PROFILES C-C and D-D
11. PROFILES E-E and F-F
12. PROFILES G-G, H-H, I-I, and TYPICAL REMEENT and BLUFF TOE BALLAST SECTION
13. SOIL BORING LOG, STORM SEWER PROFILES and VEGETATION PLAN
14. DRAINAGE DETAILS
15. PROPOSED BREAKWATER, BEACH SWEET and REMEENT OVERALL PLAN
16. PROPOSED BREAKWATER and PROFILE DETAILS
17. BREAKWATER CONSTRUCTION NOTES and SPECIFICATIONS
18. GENERAL CONSTRUCTION NOTES

NOTES:
1. SURVEY BY BURCH ENGINEERING COMPANY, INC. DATED 4-1-2012.
2. SURVEY BY TECHNOMETIC LAND SURVEYING, INC. DATED 12-13-2011.
3. CONTRACTOR TO CONTACT JULIE FOR BLUFF LOCATION WARNING PRIOR TO CONSTRUCTION. PHONE NO.: 847-583-0123
4. CONTRACTOR TO NOTIFY OWNER'S REPRESENTATIVE 48 HOURS PRIOR TO STARTING WORK.
TOPOGRAPHIC / BATHYMETRIC SURVEY

925 SHERIDAN ROAD
LAKE BLUFF, ILLINOIS

LAKE MICHIGAN
WITH SHORES AND WATERWAY

BATHYMETRIC SURVEY
PER TERRA TECHNOLOGY
LAND SURVEYING, INC.

BLUFF REMEDIATION AND
SHORE PROTECTION
IMPROVEMENTS

TAMCOR, LTD.

920 NORTHERN DRIVE
WHEELING, ILLINOIS 60090
PHONE: 847-684-4660
A. DESCRIPTION OF THE BREAKWATER WORK

1.0 The work under this scope of work consists of the following:
1.1 Digging by baby or other means to the depth required for construction of the breakwater.
1.2 Placement of new oars and annexes to construct the breakwater.
1.3 Placement of fill sand.

2.0 Contractor's Scope:
2.1 The work to be done by the Contractor under the Contract shall include the following:
2.2 Placement of fill sand in accordance with the plans and specifications.
2.3 Placement of new oars and annexes in accordance with the plans and specifications.
2.4 Placement of fill sand in accordance with the plans and specifications.

B. DEFINITIONS

1.0 The word "shall" means "must".
1.1 The word "may" means "may".
1.2 For purposes of the contract, "Owner's Representative" and "Engineer" shall have the
1.3 Work Schedule:
1.4 Provide within 10 working days after Contract award, schedule showing anticipated progress stages and final completion of work to be performed pursuant to contract documents.

2.0 Work sequence:
2.1 Define work in workable sections as per the plans.
2.2.Location of all equipment and materials shall be by drawings. The location shall be worked out prior to commencement of any work.

3.0 Material Specifications:
3.1.1 Measurement Procedures:
3.1.1.1 Dimensions shall be measured in feet of material supplied and placed on the site in the sections indicated on the plans.

3.2 General Specifications:
3.2.1 All materials shall be as shown on the plans.

3.3 Quality Control:
3.3.1 Fill sand shall be clean and free from debris.

3.4 Quality Control:
3.4.1 Quality Control - refer to the table below.

Table 1. Criteria for Stone Quality

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<th>Test</th>
<th>Test Method</th>
<th>Acceptance Criteria</th>
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<tr>
<td>Specific Gravity</td>
<td>ASTM C 127</td>
<td>2.6 to 3.0</td>
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<tr>
<td>Absorption</td>
<td>ASTM C 127 or ASTM D 6473</td>
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<td>Los Angeles Abrasion</td>
<td>ASTM C 535</td>
<td>&lt; 20% after 500 revolutions</td>
</tr>
<tr>
<td>Freeze-Thaw</td>
<td>ASTM D 3312</td>
<td>&lt; 2% after 100 cycles</td>
</tr>
<tr>
<td>Ultrasonic Velocity</td>
<td>ASTM C 295</td>
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<td>ASTM D 4992</td>
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<tr>
<td>Field Examination</td>
<td>ASTM C 688</td>
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<tr>
<td>Soundness</td>
<td>ASTM C 688</td>
<td>No deleterious materials allowed</td>
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</table>

The minimum sample size for A-Stone shall be a stone of 2,000 pounds. Contractor shall ensure that the selected laboratory is approved by the owner for the required capacity of equipment to allow for testing of this sample size. The minimum testing slab size shall be 12 x 12 inches, 2 inches thick for designation ASTM C 312 and ASTM C 531, and shall be cut perpendicular to the bedding planes within the stone.

See section 2.4 for applicability of the tests.

For stone having specific gravity outside the range of 2.5 to 3.0, reference test section 2.8.1 for further restriction on the geologic types of stone that are acceptable.

1. Applies only to rubble fill concrete
2. Applies to Rubble fill and stone material
PROJECT REPORT
FOR REPLACING AN EXISTING FAILED REVETMENT,
A NEARSHORE QUARRYSTONE BREAKWATER,
AND SAND NOURISHMENT

925 Sheridan Road
Lake Bluff, Illinois

June 21, 2022

Project # 22200

Prepared By:
Tamcor, Ltd.
300 Marquardt Dr
Wheeling, IL 60090
OUTLINE

1. Background
   a. Location
   b. Existing shoreline conditions
2. Lake Level Variability and Storm Impacts
   a. Water surface elevations
3. Proposed Shore Improvements
   a. Replacement of Existing Concrete Rubble Revetment
   b. Nearshore Quarrystone Breakwater
   c. Sand Nourishment
4. Proposed Improvement Design and Construction
5. Construction Access

EXHIBITS

A. Design Considerations and Protection Elevation Determination
   A1. Design Report
   A2. Nearshore Bathymetry Grid
   A3. Bathymetry Tabulation
   A4. Wave Protection Height Calculations
B. Construction Plans
1. Background

a. Location of Property

The subject property is located at 925 Sheridan Rd, Lake Bluff, IL. Refer to Exhibit B, the construction plans, including location and area maps.

b. Existing Shoreline Conditions

The shoreline consists of a degraded scattered concrete rubble revetment extending the length of the property’s lake frontage. There are three steel sheetpile groins extending from 30 to 65 feet to lakeward within the property’s lake frontage. The adjacent section of shore to the north is also owned by the property owner, but there are no plans to remediate shore conditions. The adjacent property to the south is protected by steel sheetpile groins and a pocket beach, lined with an extensive quantity of broken concrete rubble. The water elevation observed by the surveyor on 12-13-2021 was 579.6 (IGLD85). Current water levels are averaging 580.0, but are expected to rise according to predictions per the NOAA/USACE website.

2. Lake Level Variability and Storm Impacts

a. Water Surface Elevations

Lake water surface elevations along the shore experience short term and long-term variations. Short-term factors include changes in barometric pressure, wind-driven waves, and storm setups. Longer term variations (year-to-year) are attributable to snow and rainfall-induced runoff, overlake precipitation and evaporation; the extent and duration of ice cover; the rates inflow from Lake Superior, and outflows through Lake St. Clair into Lake Erie.

The highest water surface elevation was recorded in October of 1986 at 582.35 International Great Lakes Datum (IGLD 85), while the lowest elevation occurred in January 2013, dropping to 576.0. The difference between low and high water surface levels
is in excess of 6 feet. In 2020, high monthly mean water elevations persisted through much of the summer and fall, setting new records.

3. Proposed Shore Improvements

The shoreline is proposed to be improved by placing a) a 30 meter (98.4 ft.) wide quarystone breakwater located a maximum distance of 107 ft. to lakeward of the bluff toe; b) a 410 foot long quarystone revetment; and c) placing approximately 700 cu. yds of sand that includes a surplus of 20% will be placed in the lee of the breakwater to nourish the nearshore, enhance shore protection, and encourage development of a bathing beach. The sand will be a blend of 50% torpedo and 50% birds eye sand to enhance retention of the sand medium.

We are recommending revetment and breakwater designs based on the following parameters. Refer to Exhibit A1 for design considerations and crest elevation determination.

a. Design Water Level – 20 year recurrence interval using Corps of Engineers standard criteria and water elevations (including storm surge), Design Water Level Determinations on the Great Lakes, USACE, Detroit, MI, September 1993, interpolated to the project location.

b. Wave runup and crest elevation determinations based on a storm event with a 2% probability of occurrence in any given year (the “50-yr sto

4. Proposed Improvement Design and Construction

The Construction Plans, Exhibit B, depict the proposed improvements in detail.

5. Construction Access

Access for breakwater construction will be by barge. Shore work, including sand placement will be by way of a land route, a temporary construction road down the South Ravine. Plans are being prepared by the project’s civil engineering firm.
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Datum is IGLD85
Add 500.0 to all tabular values

N-S Baseline (Y (m))

Tamcor Project # 22200
### WAVE PROTECTION HEIGHT CALCULATION SUMMARY

**Datum:** IGLD85 (IGLD85 = NAV88 minus __ 0.53 ft) 
**Date:** 5/25/2022 
**Project No.:** 22200

**Project Name:** Bluff Remediation and Lakeshore Improvements 
**Location:** 925 Sheridan Rd, Lake Bluff, IL

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**Expressions and formulas:**

* Design Water Level Determinations on the Great Lakes, USACE, Detroit MI September 1993

\[ H_{mo} = H_s = 0.031 \times U_a \times \sqrt{F} \]

\[ T = 2 \times \sqrt{H_s} \]

\[ D_s = SWL - Et \]

\[ R_{max} = H_b \times (a \times \sqrt{s}) / [1 + (b \times \sqrt{s})] \]

**Hb calculated using Fig. 2-2 in USACE Shore Protection Manual EM 1110-2-1614**

\[ \text{Sp} = \tan \theta / \sqrt{2 \times \pi \times H_s / g \times T^2} \]

Hs for Milwaukee from USACE publication ERDC/CHL TR-12-23, Wave Heights and Water Level Variations on Lake Mich, 2012
Attachment B to Joint Application Form
BLUFF REMEDIATION AND SHORE PROTECTION IMPROVEMENTS
925 Sheridan Rd., Lake Bluff, IL
Tamcor, Ltd. Project # 22200
AGENCY COMPLIANCE RESPONSES

IDNR/OWR Section 3704.80(a) and USACE RP-11 Compliance Responses

Background and Project

Project: Proposed Lakeshore Breakwater, Revetment Replacement and Sand Nourishment

The project consists of placing 1) an 98.3 foot long shore-parallel breakwater a maximum distance of 107 feet from the bluff toe utilizing 1-6 ton armorstone and quarry-run corestone; 2) to replace an existing failed concrete rubble revetment, approximately 410 feet in length with clean quarry armor and corestone; and 3) placing approximately 700 cu. yds. cu. yds. of sand fill placed in the lee of the breakwater to minimize littoral drift diversion and develop a protective beach.

A. Section 3704.80(a) Compliance

The proposed activity must not:

1. Cause an obstruction to, or interfere with the navigability of a public body of water-
   The proposed work will take place within 107 feet of the shoreline and within cells bounded by steel sheetpile groins located on the subject property. Also, nearshore depths are too shallow for navigational purposes.
2. Result in an encroachment on a public body of water-
   The encroachment will be minimal, totaling around 640 c.y. core and armorstone.
3. Cause an impairment of any rights, interests and usage of any public water of water or to its natural resources-
   No impairment of rights, interests, usage of public waters and impacts on natural resources are expected.
4. Cause bank or shoreline instability on other properties-
   The proposed work is not expected to impact banks and shores of other properties since activities are confined to work within the nearshore boundaries of the subject property.

Additional Guidance For Shore-Parallel Revetments and Bulkheads

Refer to the response in the preceding paragraph.
Breakwater Design Parameters

*Construction will be carried out from the land side.*

*Refer to the Project’s Design Report for design parameters.*

Scaled Vicinity Map

Vicinity and location maps, showing location of the properties, nearby harbors, community borders, existing lakefront structures, and roadways are included in the plans. A scaled Vicinity map is shown on the cover sheet of the plans.

*Refer to the construction plans.*

Updrift and Downdrift Landowners

*Names and contact information are given in Attachment C to the Joint Application Form.*

B. **Item list under RP 11 e.**

1. Photo images are included in the construction plans;
2. Please refer to the attachment which states project purpose and need;
3. Please refer to the plans for existing shoreline conditions and bathymetry of the nearshore;
4. Please refer to the plans for proposed conditions cross-sections and related work;
5. The OHWM is at elevation 585.0+/- an occurs in the vertical plane of both the existing and the proposed replacement revetment;
6. Approximately 490 cu.yds. of core and armorstone fill will be placed below the OHWM; Lakebed coverage of stone fill is 2,600 sq.ft., or 0.06 ac.
7. Access will be top-down from the land side for revetment construction. Equipment and materials for the breakwater will be delivered to the site using an excavator hauled by tug and barge. The barge will extend spuds onto the lakebed for safe unloading and operation;
8. Dig-in to the site is not likely to occur since the equipment to be used is shallow-draft, drawing approximately 5 ft. at the point of stone placement. If dig-in is required, the material will be removed by excavator situated on the barge to remove only sand which would be cast downdrift of the site.

Shore protection projects on Lake Michigan shall not:

1. The subject property’s shoreline is less than 300 ft in length.
2. There are no waterways within 200 ft. of the project site that discharge into Lake Michigan;
3. This project is not attempting to regain land lost to erosion
4. Dredged lakebed materials will be removed by barge. Fill materials consist of approved quarry stone;
5. The completed shoreline improvements will not diminish public access.

*All conditions have been met and/or will be complied with.*
1. An evaluation of the benefits to the public interest in Lake Michigan which would result from the activity. **R: The proposed nearshore breakwater will improve shore parallel access along the proposed beach that will be sheltered in the lee of the breakwater from significant wave action.**

2. A discussion of the measures to be provided in the project design, construction and operation which would minimize and/or mitigate the negative impacts. **R: Negative impacts are not expected. Construction of the breakwater will be carried out by barge-based equipment. All bluff remediation and revetment construction access will be from the land side.**

3. An analysis of the extent and permanence of the activity's encroachment on Lake Michigan and of any impairment the activity would have on the rights, interests or uses of the public in Lake Michigan and in the natural resources thereof. The analysis shall consider both the activity alone and the combined effects of similar activities which exist and/or could be lawfully undertaken in the locality. The analysis should be expressed in quantitative terms to the fullest extent practicable and should be performed by persons with expertise in such impact analysis. **R: We do not anticipate impairment or diminution of the rights or interests of the public using Lake Michigan. Neither would natural resources suffer. The proposed quarystone breakwater will be situated in a littoral cell bounded by an existing steel sheetpile groin to the south which serves to block and discourage shorelong watercraft from crossing in close proximity. We cannot perceive of existing or potential lawfully undertaken activities that might be precluded with the proposed project in place. It is our professional opinion that there will be neither qualitative nor quantitative negative impacts. To the contrary, the proposed project will 1) protect shorelong pedestrian access under most conditions, 2) effectively eliminate beach erosion, 3) maintain a neutral cross-shore equilibrium of littoral drift, and 4) offer fish habitat within the voids and pockets of the breakwater stone matrix.**
ADDITIONAL USACE COMPLIANCE RESPONSES

1. Description of existing site conditions:

   a. On-site man-made structures, such as piers, revetments, breakwaters. *The shoreline at the subject property consists of a failing concrete rubble revetment placed around 20 years ago, including three steel sheetpile groins, and a narrow sand beach; the adjacent property to the north is likewise armored in the same manner; the adjacent southerly property has steel sheetpile groins and extensive layers of concrete rubble along its shoreline terminating at a sheet steel groin.*

   b. Assessment of shoreline morphology including shoreline orientation, condition and description of shoreline (ex. beach, bluff, maintained turf lawn, recent erosion, existing vegetation), and any other relevant features; *Please refer to the photo gallery in the construction plans. Refer also to the description of shore features in para. 1a. above.*

   c. Applicable site history such as past permits, recent changes in site conditions or water levels, etc. Describe any significant recent storm events that may have influenced site conditions and the date that the qualitative assessment (item 6 below) was completed; *We have no knowledge of permits issued for shore work on the subject property. The high lake levels in recent years have sufficiently softened the soils at the bluff and triggering mudslides.*

2. Qualitative assessment of the habitat near the project area: *Due to the nature of existing shore structures, existence of aquatic and terrestrial habitat adjacent to and on the site is unlikely.*

   d. Describe substrate composition, basic description of aquatic and terrestrial vegetation, and any other habitat features observed or known/document; *clay lakebed with shallow littoral sand and gravel veneer; there is little to no terrestrial vegetation in the vicinity of the shore. Much of the shoreline is covered by scattered, eroded concrete rubble.*
e. Distance from, and location of, nearest tributary, ravine, or other aquatic resource;

    The closest ravine, other than a minor onsite ravine, is about 1500 feet
downdrift

f. Distance from, and location of, nearest known reef/shoal or other habitat feature;
   and to our knowledge there are no reefs or shoals in proximity to the subject
   property

g. Bathymetric survey conducted within the last 12 months. Included in the Plans
   as sheet 3.

3. A discussion of the measures taken to avoid and minimize impacts to aquatic resources
   on the project site; The proposed activities are not expected to impact aquatic resources,
   if even present (see paragraph 3 response above)

4. Address the following special conditions for Activity 4:

   a. Acceptable materials to be used include poured (formed) concrete, clean quarried
      stone, fabric-formed concrete, gabions, steel (piling), and clean recycled concrete
      chunks with the reinforcement steel removed. Rubble, asphalt, pavement, debris,
      and other waste products may not be used for shore protection; Clean
      quarzystone only
   b. Shoreline structures must be designed to withstand the expected wave forces of
      the lake. Steepening of stone structure faces that include a stone toe design may
      be allowed by this office on a case-by-case basis; The improvements have been
designed accordingly
   c. For shoreline protection structures consisting of steel, the addition of stone may
      be required to reduce erosion of adjacent shorelines from reflected waves or
      induced eddies at the end of structures; Not applicable.
d. A construction sequence describing how access to the site will be accomplished. Water-based access is limited to the use of barges for the transport of heavy equipment and construction materials; Refer to sheet 18 of the Plans for the construction sequence.

e. A contingency plan for temporary “dig-in” and sidecasting of lake substrate for access to the work area by barge. If temporary “dig-in” is needed, you must provide notification to this office of the change prior to sidecasting and relocating the substrate; A contingency plan note has been added to sheet 18 of the Plans.

f. Revetments must be the minimum width below the OHWM necessary for completing the work and for structural integrity of the proposed design; so noted and complied with.

g. Groins and breakwaters must be situated within 125 feet of the toe of the bluff, as determined by this office. A variance in the maximum offshore distance of a structure may be granted for public facilities. All variances must be approved by this office on a case-by-case basis; The Plans comply with these limitations.

h. Pre-fill sand at a volume of 120% of the calculated capture volume of the proposed structure(s) must be provided in conjunction with the construction of the structure. A pre-construction bathymetric survey must be completed within one (1) month of the start of construction to recalculate the pre-fill sand volume to account for changes in site conditions since the original survey. Surveys more than one (1) month old will be considered if the start of construction is delayed due to weather conditions. A copy of the survey and final pre-fill sand volume must be provided to this office prior to the start of construction activities; So noted.

i. Structures must provide reasonable accommodations, as determined by this office, to maintain public access to the shoreline. The proposed improvements will not interfere with public access opportunities. The presence of the proposed nearshore breakwater will allow improved pedestrian transit along the protected beach, once constructed.

Your notification will not be processed under the LMRGP until you submit the above information to this office. If you choose not to furnish this information, you may request in writing that your project be reviewed through the Individual Permit (IP) process. The IP process, which normally takes about 90 to 120 days to complete, requires the same information requested above and the issuance of a public notice. If you do not respond to this letter within thirty (30) days of the date of this letter providing either the necessary information, a request for additional time to gather the information, or a request that your project be reviewed through the IP process, your application will be withdrawn.
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<tr>
<th>Address</th>
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| Updrift |      |          | Jack and Renate Schuler  
|         |      |          | Chicago Title Land Trust  
|         |      |          | Chicago Title Land Trust  
| Downdrift |      |          | Trust # RV 011643  
|          |      |          | Howard and Helen Jessen  
|          |      |          | Neil Dahlmann  
|          |      |          | Bruce VorBroker  
|          |      |          | Gerald and Barbara Schultz  
|          |      |          | M. Podesta & F. Barcello  
|          |      |          | Michael & Karen Buoscio  
|          |      |          | Jason Beans  
|          |      |          | Lake Bluff Park District, 355 Washington Ave  
|          |      |          | Scott D. Rice  

Project: Bluff Remediation and Shore Protection Improvements  
Updrift and Downdrift Property Owners  
21-Jun-22  
Applicant: 925 Sheridan Rd, Lake Bluff, IL  
Tamcor Proj: #22200