The meeting was called to order at 7:00pm and roll was called.

Committee Members present: Dudley Onderdonk, Chair/Treasurer  Lisa Brooks, President  Stefanie Boron, Vice President  Steve Gaines, Commissioner  Josh Lutton, Commissioner

Staff present: Lisa Sheppard, Executive Director/Secretary  Chris Leiner, Director of Parks/Maintenance  Bobby Collins, Director of Recreation/Facilities

Members of the Public in attendance who signed in or spoke: Caleb Barth, John McManus, Edward Torrez

Matters from the Public: There were no matters from the public.

Discussion on Lakefront Park / Glencoe Beach Bluff Study: Executive Director Sheppard introduced John McManus of Altamanu stated that preliminary findings will be shared tonight, not the final report. John McManus relayed Board directives, water effects on the bluff, the bluff’s condition. Mr. McManus introduced Baird’s Marine Engineer Caleb Barth who addressed surface water management and erosion, bluff slope stability, conclusion, and recommendations. Mr. Barth answered commissioner questions. Edward Torrez of Bauer Latoza Studio gave observations of the Halfway House and the Beach House. Mr. Torrez answered commissioner questions. All presentations are attached to these minutes.

The final report will be presented to the Board in a few months.

Discussion on Parks with Standing Water: Executive Director Sheppard explained that extreme rainfall has led to standing water in our parks and has been very challenging. Discussion ensued.

Update on Park Projects: Executive Director Sheppard then updated the committee on ongoing capital projects. The playgrounds are coming along really well. Grand openings are to be announced.

Director of Finance/HR Carol Mensinger and Administrative Assistant Jenny Runkel entered the meeting.

Recognition of Retiring Commissioner – Steve Gaines: Commissioners and staff commented on Commissioner Gaines’ time as a Park Board Member and thanked him for his service. Chair Onderdonk read and Executive Director presented retiring
commissioner Steve Gaines with a plaque. Commissioner Gaines was offered an honorary plaque to be placed at a park of his choice.

Comments from Retiring Commissioner – Steve Gaines: Commissioner Gaines commented on his role at the District, personal experiences, praised staff members and commissioners, and thanked the community.

Matters from the Public: There were no matters from the public.

Other Business: The committee discussed ongoing projects.

Adjourn: Commissioner Lutton moved to adjourn the meeting at 9:13pm. Commissioner Boron seconded the motion, which passed by unanimous voice vote.

Respectfully submitted,

Lisa M. Sheppard
Secretary
Glencoe Bluff and Beach Stabilization

Presentation Glencoe Park District
July 10th, 2018
Tonight:
Brief reminder why study had to be done and the Process

Preliminary Findings
Caleb Barth, P.E. Marine Engineer, Baird

Edward Torrez, AIA, LEED, AP BD+C
Principal, Bauer Latoza Studio
Carried out Master Plan of Lakefront Park

Blue Print for the Future
Make Park Accessible,
More Inviting entryways,
Accessible for all Glencoe Residents,
Diverse Activities
- play pods, nature based play
  overlooks, mini-decks, picnic tables, etc.
“Uninviting entryways”

“forced to navigate an obstacle course just to get through”
Lakefront Park Master Plan: A Series of Entryways

Open up to the Community and Create a Series of Spaces
Lakefront Park Master Plan: North West Entryway Scheme 1
But How to Deal with Storm Water January 2017

Water Flows Across Paths in Park and Along Hazel Ave
Lakefront Park: Storm Water & Drainage

Stairs and Half Way House Inundated after rainfall
All Seasons: Storm Water & Drainage
Potential Movement of Bluff? July 7th 2017
Structural Failure July 7th 2017

Cribbing Failure – Bluff is pressing down on Beach House
**Project Limits**

**EXISTING CONDITIONS**

1. GLENCOE BOAT HOUSE (NOT IN SCOPE)
2. NORTH BEACH
3. GLENCOE VILLAGE WATER PLANT (NOT IN SCOPE)
4. OVERLOOK
5. PRECAST CONCRETE ORB RETAINING WALL
6. ROADWAY CURB
7. NORTH ROADWAY (WITH STONE RETAINING WALL)
8. HALFWAY HOUSE
9. SOUTH BEACH
10. LAKEFRONT PARK
11. STAIRWAY WITH STONE RETAINING WALL
12. SOUTH ROADWAY (WITH STONE RETAINING WALL)
13. BEACH HOUSE

**Lakefront Park**
Not In Scope

EXISTING CONDITIONS
1. GLENCOE BOAT HOUSE (NOT IN SCOPE)
2. NORTH BEACH
3. GLENCOE VILLAGE WATER PLANT (NOT IN SCOPE)
4. OVERLOOK
5. PRECAST CONCRETE CRIB RETAINING WALL
6. ROADWAY CURB
7. MYRTLE ROADWAY (WITH STONE RETAINING WALL)
8. HALFWAY HOUSE
9. SOUTH BEACH
10. LAKEFRONT PARK
11. STAIRWAY WITH STONE RETAINING WALL
12. SOUTH ROADWAY (WITH STONE RETAINING WALL)
13. BEACH HOUSE
Direction from Chris Leiner
“Find the best, Glencoe deserves the best”
Altamanu and Baird working together on the future design of N. Lake Shore Drive and seven and half miles of Chicago’s northern lakeshore.
"a global coastal engineering company that boasts offices in Canada, Chile, the United Arab Emirates, Barbados, and Australia…….Baird has now been in business for 25 years, but their work spans – and in a small but significant way, remakes – the globe".

In Business Magazine
Baird Team

Lars Barber, P.L.A.
Principal in charge and will be reviewing deliverables.

Caleb Barth, P.E. Marine Engineer
Project Manager, data acquisition and structural reviews.

Richard Christensen, P.E., Ph.D.,
Technical lead for bluff stability

Mohammad Dibajnia, P.E., Ph.D.,
Technical lead for coastal processes
(nearshore hydrodynamics, sediment transport, erosion control and beach protection.)
Baird Overview

– Team of engineers, planners, scientists, and geomorphologists

– Specialists 100% dedicated to water related projects

– Thousands of marine projects and studies worldwide

– Approximately 74 employees
Beach and Bluff Erosion Projects

- Port Vincent Development
  - Port Washington, WI, Lake Michigan

- Whitesand First Nation Shoreline Stabilization
  - Lake Nipigon, Ontario, Canada

- Forest Park Beach, Lake Forest, IL, Lake Michigan

- Illinois Interim Shoreline Study, Northern Illinois, Lake Michigan

- Rosewood Beach, Highland Park, IL, Lake Michigan
Process To Date

Preliminary Technical Analysis

Bluff Global Stability
Soil borings and visual assessment
Cross sections analyzed to estimate the existing factor of safety of the bluff.

Bluff/Structure Local Stability
Park District prefers a structural solution

Storm Water Management
Review the existing conditions of storm water system
Top of Bluff - Surface water in park
Down Bluff – Collecting and/or redirecting surface water
Outfall - Review the existing outfalls and proposal of new or updated outfalls if required

Coastal Review
Cursory coastal review of beach.
Use data library of similar projects in the region.
Alternative Analysis
2 alternatives will be developed and costed.
   Conceptual drawings, consisting of plans and sections.
   Summary of benefits and challenges and
   Recommendations for priority of implementation.

Preliminary Opinion of Construction Costs
A Preliminary Opinion of Construction Costs for each conceptual design alternative

Deliverable and Presentation to Staff
The results of the alternative analysis, conceptual drawings and opinion of probable costs will be submitted in a draft report.

The Team will present to PD staff and respond to the comments & incorporate revisions
Delivery of Final Report
Project Team

Bauer Latoza Studio
Project Team

Architecture - Planning - Historic Preservation

Sustainable Design

Local, national, and international

more than 30 design awards

Federal, State, and Local Government

MBE and DBE
Bauer Latoza Studio

- Founded in 1990
- Award-winning Preservation firm
- Architecture, Interiors, Planning, Restoration & Adaptive Reuse
- Masonry Repairs Experience
- Technically Skilled
- Strong Project Management
- Coordination with Stakeholders

Columbus Monument, Chicago, IL
Museum of Science & Industry, Chicago, IL

Grant Monument, Chicago, IL
Humboldt Park Boathouse, Chicago, IL
Bathing Beach House
Century of Progress District
Bauer Latoza Studio

Edward Torrez, AIA, LEED AP BD+C

Andrea Terry, RA, LEED AP
- related skills range from technical expertise with exterior envelopes, to research, interior renovation and preservation planning.

Kirk Sippel, AIA, LEED AP
- is responsible for the design and daily administration of BLS and has served as project architect on a number of award-winning projects.
Baird
Project Team

Bauer Latoza Studio
Thank You
DISCUSSION
Glencoe Beach and Bluff Restoration
Condition Assessment and Recommendations Summary
July 10, 2018
Presentation Outline

• Surface-water Management
• Bluff Toe Stability / Coastal Review
• Bluff Slope Stability
• Bluff/Structure Local Stability – North Overlook
• Bluff/Structure Local Stability – Precast Concrete Crib Wall
• Bluff Stability Conclusions
• Recommendations

Causes and Effects of Coastal Erosion
(cite: UW Sea Grant Institute)
Surface-water Management – Lakefront Park / South Bluff
Surface-water Management – Center Bluff

Surface Erosion (due to damming of ravine)

Armored Ravine

Armored Ravine

Possible Catch Basin for Outfall

Armored Ravine

Surface-Water Erosion
Surface-water Management

- Lakefront Park/South Bluff
  - Capacity of outfalls appears adequate.
  - Grading/routing/collection needs improvements to limit erosion.

- Center Bluff
  - Surface-water collected in armored ravine.
  - Capacity of outfall is adequate.
  - Recommend modifying gate/fence to limit erosion.
Bluff Toe Stability / Coastal Review
Bluff Toe Stability / Coastal Review (cont.)

- Responds to natural variations in lake levels, wave action, and sediment supply/transport.
- Will continue to require beach nourishment – requirements minimized if coastal structures are added.
- Outfall design causes additional erosion.
Bluff Slope Stability

[Diagram showing soil layers and profile with annotations]

NOTE: SEE TABLE 3 IN REPORT FOR INTERPRETED GEOTECHNICAL PARAMETERS OF EACH LAYER
Bluff Slope Stability (cont.)

South Bluff
1V:2.5H
F.S. ~1.4 – 1.5

Center Bluff
1V:2.5H
F.S. ~1.4 – 1.5

North Bluff
1V:2.2H
F.S. ~1.2 – 1.3

Southern limits of South Bluff
1V:2H
F.S. ~1.1 – 1.2
Bluff Slope Stability (cont.)

**Surficial Soil Creep Failure:** Slow-moving, soil surface failures where slope material gradually moves downhill. Commonly caused by seasonal freeze-thaw or wet-dry cyclical loading.

(Image Citation: MnDOT Slope Stabilization Guide.)
Bluff/Structure Local Stability – North Overlook

Historical Photo – 1998-99

Site Photo – May, 23, 2018
Bluff/Structure Local Stability – North Overlook (cont.)
Bluff/Structure Local Stability – Precast Crib Wall

Historical Photo – 1998-99
Bluff Stability Conclusions

- South Bluff & Center Bluff – factor of safety acceptable
- North Bluff & southern limits of South Bluff – factor of safety marginal
- Local stability issues likely associated with creep and surface-water drainage issues.
- Surficial creep visually observed – slow gradual process
- Southern section of South Bluff has lowest factor of safety.
## Summary

<table>
<thead>
<tr>
<th>Priority Level</th>
<th>Recommendations</th>
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<tbody>
<tr>
<td>High Priority</td>
<td>1. Restore North Overlook</td>
</tr>
<tr>
<td></td>
<td>2. Surface-water Management Modifications</td>
</tr>
<tr>
<td></td>
<td>3. Replace Crib Wall</td>
</tr>
<tr>
<td>Medium Priority</td>
<td>1. Restore/Replace Lower North Roadway STW and curb</td>
</tr>
<tr>
<td></td>
<td>2. Restore Upper North Roadway STW</td>
</tr>
<tr>
<td></td>
<td>3. Fill “The Cave”</td>
</tr>
<tr>
<td></td>
<td>4. Restore Halfway House</td>
</tr>
<tr>
<td>Low Priority</td>
<td>1. North Beach Outfall Modifications / Add Coastal Structures?</td>
</tr>
<tr>
<td></td>
<td>2. Restore South Overlook</td>
</tr>
<tr>
<td></td>
<td>3. Improve Beach House Drainage</td>
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</tbody>
</table>

- High Priority – Recommendations should be implemented in the next 1-2 years.
- Medium Priority – Recommendations should be implemented in the next 5 years.
- Low Priority – Recommendations should be implemented in the next 10 years.

Next Step: Develop Alternatives and Costs

July 10, 2018
Bluff/Structure Local Stability – Lower North Roadway STW & Curb

- Halfway House
- Crumbling Foundation
- Stone Terraced Wall
Bluff/Structure Local Stability – “Cave”
Bluff/Structure Local Stability – Halfway House
Glencoe Beach Structures

Edward Torrez, AIA, LEED AP
Bauer Latoza Studio
July 10, 2018
Glencoe Beach Structures
Glencoe Beach Structures
Glencoe Beach Structures
Glencoe Beach Structures
Glencoe Beach Structures
Thank you!

www.bauerlatozastudio.com