Ravine 8 Ecosystem Restoration Project

US Army Corps of Engineers®
Project Details

- Ravine Restoration
- Lakefront Bluff Preservation
- Public Private Partnership
- Army Corps Grant Funding
- Easement Considerations
- BMPs
Pre-Restoration Pictures
Prescribed Burning

Before

After
The NER plan would deal with the water currently flowing through the ravine as it is within the open channel. After minor grading, the stream channel would be gently graded and fitted with 22 small cobble riffles and step pools that will provide channel stability and habitat. The earthen check dam would be removed to allow fish passage for spring spawning minnows and suckers.

Invasive species would be removed by the USACE on the D - Dune and RB Ravine/Bluff and plant these areas with native species. The dune would primarily consist of state listed marram grass and the slopes and bluff would be an open woodland setting with patches of sloped wetland due to ground water discharge and seepage. The non-Federal sponsor is willing to remove invasive species in the RB Removed Area to further restore the health of the ravine/bluff/dune system.
Collapsed Ravine Toe/Distressed Utility Lines (Before)

Restored Step Up Pool (After)
Including: A. 24 Each Step Pools & Riffles
Bluff Restoration
(Before)

Bluff Restoration
(After)
Bluff Restoration (Vegetation)
Upstream Plunge/Step Pool-Riffles Under Construction, 2016 (Panoramic View)
Upstream Pools and Riffles Under-Construction
BMP’s Summary

- Step Pool/Riffles Cobble Stone - 740 Tons
- Plunge Pool Cobble Stone - 100 Tons
- Step Pool Weir Boulders - 113 Tons
- Trees/Shrubs - 100 Each
- Plugs - 48,000 Each
- Beech Grass - 2,500 Each
- Invasive Tree Specie Removal/Prescribed Burning
- Migratory Birds/Lake Fish Spawning Habitat Restoration
Lake Avenue Outfall (Before)

Restored Plunge Pool Outfall (After)
B. 2 Each - Ravine/Lake Shoreline Plunge Pools

**PLUNGE POOL AT RAVINE HEAD - SECTION DETAIL**

**PLUNGE POOL AT RAVINE MOUTH - SECTION DETAIL**

**PLUNGE POOL AT RAVINE HEAD - PLAN VIEW**

**PLUNGE POOL AT RAVINE MOUTH - PLAN VIEW**

**NOTES:**

1. Boulders to be used for plunge pool should have diameters between 1 ft and 2 ft.
2. A decrease of 1 ft elevation from the top of plunge pool to the ravine shoreline is required.
3. End boulders keyed into ravine slope to function as retentive cutoff.
Restored Plunge Pool Outfall (After)
Collapsed 8 Toe (Before)

Armored Step-Up Pool/Ravine Toe (After)
Ravine 8 North Bluff/Sand Dunes (Before)

Ravine 8
Completed North Bluff/Sand Dunes (After)
Armored Step-Up Pool/ Ravine Toe (After) Last Pile of Brush for Prescribed Burning
Ravine 8 - Opened Shoreline Plunge Pool (After)
Step Up Pools/Riffles
Habitat in play!
Ravine 8 - Opened Shoreline Plunge Pool (After)
Step Pools
Opened Shoreline Plunge Pool (Bluff Dune Planting Inspection)
Step Pools
(View from Lake Michigan)
Project Costs

- $1.6 Million
- City $600K
- ACOE $1 Million
Ravine 8 Completed North Bluff/Sand Dunes (After)
Project Contacts

Project Manager: Edgar Joves, P.E. ejoves@cityhpil.com

City Engineer: Manny Gomez, P.E. egomez@cityhpil.com

Director of Public Works: Ramesh Kanapareddy, P.E., CFM rkanapareddy@cityhpil.com
Questions?
Questions?