MacEachron Park
Shoreline Restoration
Schematic Designs

Hastings-on-Hudson
June 14, 2022
MacEachron Park - Purpose of today’s meeting

• Provide a status update to the public regarding work accomplished to date
• Solicit input from park users, stakeholders and the general public
• Discuss next steps
MacEachron Park – Shoreline Restoration Schematic Designs

Public Insights

Questionnaire to solicit ideas and input from this evening’s presentation

Two ways:

1. Preferred – on-line form
   https://forms.office.com/r/HstfNEKf9S

2. Paper (we have 15 blank forms tonight)
The Grant – Hudson River Estuary Program

Conceptual Design – Produce a conceptual design with nature-based elements to stabilize the shoreline, remediate park-side erosion, manage stormwater runoff, and include an area to access the water. Design will accommodate tidal flooding and climate change impacts.
MacEachron Park

The park is named after Frances MacEachron, the Village’s first female mayor who served from 1981 to 1993

The park is popular as it is, along with adjacent Kinnally Cove, the Village’s only waterfront park

Thousands of residents and visitors use the park each year

Views of the Hudson River, the new Mario M. Cuomo bridge, the Palisades, and the Manhattan skyline

Amenities currently include natural scenery with a short trail, a playground, picnic tables and park benches
MacEachron Park
Park Setting
Topographic and Hydrographic Survey

We created a base map from which:

Existing conditions can be defined, and,

Concept designs can be prepared
Existing Conditions Report
Prepared January 2022

• Shoreline and Erosion
• Stormwater
• Flood Risk Assessment
• Trees and Soils
• Permitting Assessment
• Resilience
• Environmental Assessment

• An Engineering Basis of Design was prepared
  – Tidal elevations and river stage including sea level rise
  – Storms, waves and vessel wake
  – Currents and ice
  – Salinity
Previous Uses

Industrial

- Stone
- Timber
- Bulkhead
- Offshore piers and mooring
- Dolphin
- Storage Tanks

1976
Shoreline
Along the Hudson River
Extreme high and low water

**High**
- River stage due to rain
- High astronomical tide
- Storm surge
- Wind working with an incoming tide

**Low**
- Lack of rain
- Wind working with an outgoing tide
Erosion and Sedimentation

- Erosion is occurring along the western and northern shorelines
- Storm Waves
- Increased Water levels
- Vessel Wake
- Displaced Stone Revetment and failing timber bulkhead

- Geotechnical instability exists along the southern shoreline
- Collapsing wall along Kinnally Cove

- Sedimentation of Kinnally Cove is expected to increase with the remediation of the Anaconda Wire site.
Erosion

• Loss of Benches
• Safety
• Loss of usable park land
• Periodic flooding
Vessel Wake
Areas of accelerated erosion

Cove
Southern Shoreline
Along Kinnally Cove
Shoreline
Along Kinnally Cove
Hastings Stormwater MS4
Existing Stormwater Flow

Elevations
• Parking lot +6.19 to +6.59 ft
• Park +3.98 to +5.29 ft

Outfall Pipe
• Inverts +4.12 to +3.08 ft

Final Grading Plan
• Account for raised elevations in the park
Existing Conditions
Stormwater
MacEachron Waterfront Park: 48 trees inventoried by Matt Weibel (SavATree Consulting Group)
Existing Conditions

Trees

- BL – Black Locust (*Robinia pseudoacacia*)
- WA – White Ash (*Fraxinus americana*)
- BA – Bigtooth Aspen (*Populus grandidentata*)
- WM – White Mulberry (*Morus alba*)
- EC – Eastern Cottonwood (*Populus deltoides*)
- RO – Northern Red Oak (*Quercus rubra*)
- ELM – Elm spp. (*Ulmus spp.*)
- BC – Black Cherry (*Prunus serotina*)
Concept Design
Setting and Inspiration

Hudson River Landscape School of Landscape Painters

Autumn on the Hudson River by Local Artist Jasper Francis Cropsey, 1860

Trail along Kinnally Cove
MacEachron Park
Concept Design
Overlook area with raised elevation and nature-based edges

Profile C
Conceptual stone revetment and sill w/ plantings
Increased elevation to +6.5 ft. NAVD 88 northern 2/3 of the park
Concept Designs
Overlook/Photo Spot
Concepts – Lawn seating

Low Stone Wall
Design Elements – Low Stone Wall
Concepts
Lawn seating
Concept Designs – Cove, Ring and Boat Launch
Concept Design
Cove/Tidal Pool

Enhancing Water Access
Cove/Tide Pool
Areas of accelerated erosion

Cove
Concepts
Cove/Tide Pool

Enhancing Water Access
The Ring - Water Access
Increase Educational opportunities and Ecosystem Services
“The Ring” Water Access with Floating Boat Launch
The Ring with Water Tower
The Ring with Floating Boat Launch and Water Tower
Concept Design for Southern shoreline along Kinnally Cove

- Enhanced Trail
- Amenities
- Alternative location for boat launch
Example Amenities - Bike Racks and Kayak Storage

Scenic Hudson Long Dock Park, Beacon, NY

Example bike racks
Enhanced Trail
Summary of Concept Designs

Major work efforts for next phases
Temporary protection of the shoreline has been initiated, but erosion will likely continue
• Develop Preferred Plan
• Obtain additional funding
• Conduct geotechnical and environmental borings, and final designs
• Restore the shoreline to protect against future erosion and loss of parkland
• Improve the stability of the southern shoreline to prevent collapse
• Provide final grading plan to enhance stormwater flow

Design Elements – Modularity and Phasing – for the Preferred Plan
• Raise elevation in specific areas – park will continue to flood, but less often, and with reduced impact
• Increase public access to the river
• Add historical, cultural and educational context to the park
• Enhance public use through amenities
• Allow subtle demarcation of areas within the park
• Some elements may be more difficult to obtain permits
Acknowledgements

This project has been funded in part by a grant from the New York State Environmental Protection Fund through the Hudson River Estuary Program of the New York State Department of Environmental Conservation.
Public Input
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