Richardson Beach Improvements
Purpose

› Project Introduction
› Background/ History
› Technical rationale/ process
› Concept Work
› Precedents
› Questions/Table Discussions
› Next Steps
Process

PHASE 1

Inventory & Analysis
Fall 2017

Schematic Design
Fall - Winter 2018

Detailed Design
Winter-Spring 2018

PHASE 2

Procurement & Permits
Summer 2018

Construction Begins
2019 - 2020 TBD
(subject to capital budget approval)
Project Background

▷ Key Project resulting from the Kingston Waterfront Master Plan

▷ Rated 1 of 137 projects

Description

The bathhouse and water connection at Richardson’s Beach would be further improved. The intent is to continue to improve this natural and rocky beach area and heritage building.

Recommended improvements:

▷ Site Improvements
▷ Improved access to beach / water’s edge
▷ Concrete steps / access into water
▷ Concrete swim deck
▷ Shoreline improvements
▷ Lookout at end of Emily Street
▷ Relocate parking lot to street edge

Project Risks and Challenges:

▷ Coordination with community/stakeholders
▷ Coordination CRCA/DFO
▷ Dynamic nature of the shoreline must be considered in the design and engineering of the structures
Key Improvements

- Shoreline
- Landscape
- Water access (to and into)
- Swim deck

Does not include building
Richardson Beach: A History of Swimming

View of Kingston Harbor, Ont. from Macdonald Park.

1910
1912 ca.
1948 ca.

MacDonald Park Swimmers, July 11 1948. (V25.5 4-78, George Lilley Fonds, QA)
1950 ca.
Previous Concepts
Kingston Waterfront Master Plan
Kingston Waterfront Master Plan
Kingston Waterfront Master Plan
Coastal Considerations
Project Challenges

• CRCA/ DFO coordination
• Dynamic shoreline (technical)
• Community and stakeholder coordination
Feedback Summary

- over 80 Q&A responses collected via email and surveys
- direct feedback from stakeholders:
  - windsurfers
  - Emily St residents
  - Kingston Yacht Club
  - First Nations
  - Water Access Group
- consensus: desire multi-use space with separate zones to prevent usage conflicts
What is your primary interest in Richardson Beach?

- swimming + water access for all ages
  - over 40 comments
  - clean water, safe access
- windsurfing + small water craft
- walking + sitting/sunning
  - 14 comments
  - water view
  - people-watching
- other: running, biking, heritage commemorations, personal memories, tourism
Activities or elements you would like to see?

- Improved small water craft access
- Better waterfront trail
- Fire pit at foot of Barrie Street
- No wind impediment structures
- Marked distance buoys (triathlon)
- Grassy areas
- Seating (shaded, options)
- Naturalized landscape
- Bike racks
- Winter interest (skating)
- Improved swimming access
- Building/operational upgrades
- Public art
- Heritage celebration
- Land markings for First Nations heritage
- Sandy or pebble beach
Particular improvements to consider

**GATHERING AREA**
- cafe seating
- picnic tables
- remove Norway Maples in front of bathhouse
- large flat rocks or cobblestones for bare feet
- terraced steps
- concrete slab with removable mat
- floating dock

**SEATING**
- benches
- boulders
- area to park and lookout
- sandy or pebble beach (similar to Breakwater)
- path lighting and wayfinding
- play area
- outlook on west side better for views (Tower at Cedar Island)

**WATER ENTRY IDEAS**
- hand rail into water
- paved walkway / accessible boardwalk

**NATURALIZED SHORELINE**
- use limestone
- less concrete
Other comments or suggestions?

- want to provide input once design is complete, before construction
- concrete steps too slippery
- bench at foot of Emily St damaged by snow plows
- in 60s-70s, there was 75x75’ swimming area roped off with raft
- like existing low-key nature of space
- only urban downtown place with parking and windsurf launch conditions
- no paved walkway next to shoreline
- consider off-season usability and safety
- waterfowl an issue (unhygienic, slippery)
- consult with local Indigenous People (Anishinaabe and Haundenosaunee)
- no rock ‘groin’ on east side
Existing shoreline character

**west**
- abrupt transition
  - armourstone
  - high bank

**east**
- gradual transition
  - grass, cobbles and shale
  - low bank
Technical Constraints

- due to greatly fluctuating seasonal water levels, shoreline must accommodate long periods of high or low water levels
- peak water levels in June, lowest in Dec (0.5m difference) annually
- slopes are not flat enough to accommodate sand beach
- high fluctuations over decades
- concrete swim deck would need maintenance to be viable
Wave Action

- southwest provides largest wave conditions
- smaller local waves from south/southwest/east
Bathymetry (underwater topography)

LOT 25

CONCESSION 1

THE SHORE

LAKE ONTARIO

73.2m
72.2m
71.2m
70.2m
69.2m
Bathymetry (underwater topography)

LOT 25
CONCESSION 1

- Deepest waters on southeast 30m out from shoreline
- 7.5m drop from shoreline
Bathymetry (underwater topography)

slopes measured 10-18 metres out from shoreline on Nov 7 2017

most shallow
Water Access

ideal access
not ideal beach location

- highest point on shoreline
- shallowest water entry
- direct access from bathhouse
- poor orientation to wave action
Views

- lookouts
- stakeholder consensus to locate west
Preferred Beach Access

- in front of Richardson Bathhouse
- just west of Richardson Bathhouse
tree removal/protection

- suggested removals
Water Celebration Areas

- First Nations ceremonies
- fire and water
shore ideas and process
Cobble Transport

- 20-60mm diameter
- 50-200mm diameter
- 50-100mm diameter
- 20-60mm dia
- 50-200 mm dia
- 50-100 mm dia

Wave Height (m)
- 2.0
- 1.75
- 1.5
- 1.25
- 1.0
- 0.75
- 0.5

Graph: Cobble Transport for 1.0m High Breaking Waves

- Transport Rate (m^3/hr)
- Cobble Size (mm)
Cobble Beaches

Some of the conditions that form natural cobble beaches include:

- A supply of cobble material of suitable size and shape
- Wave and water level characteristics
- Shoreline orientation and slope
- Lateral restraining structure (partially dependent)

In order to modify a natural beach, one or more of the above conditions must change.
two rocky points
two rocky points

Pros

‣ protected pebble beach
Cons

- restrictive to small craft launch
- interference with KYC Beach
- no platform lookout
- does not integrate well with natural shoreline
- concrete deck would require constant maintenance
- Expensive
one eastern rock revetment
one eastern rock revetment

Pros

› protected pebble beach adjacent to bath house
one eastern rock revetment

Cons

- restrictive to small craft launch
- interference with KYC Beach
- does not integrate well with natural shoreline
one western rock revetment

Pros

- protected beach adjacent to bath house
- Opportunity for access from Bath House
one western rock revetment

Cons

› restrictive to small craft launch
› does not integrate well with natural shoreline
smaller east/west rock revetments
smaller east/west rock revetments

Pros

› small protected beach adjacent to bath house and at Emily Street Wall

› Opportunity for access from Bath House

› minimal disturbance to KYC and small watercraft

› integrates with shoreline
smaller east/west rock revetments

Cons

- minimal protection to shoreline
Option 1
Option 1

- stepped walkway/seating
- west rock revetment/lookout
- accessible ramp walk to meet EAST shoreline
- lookout platform on west
- small craft launch on east lawn
- east rock revetment protection
- beach regenerated
- large boulder placed at western shore
Option 2
Option 2

- stepped walkway/seating
- west rock revetment/lookout
- accessible ramp walk to meet WEST shoreline
- lookout platform on west
- small craft launch on east lawn
- east rock revetment protection
- beach regenerated
- large boulders placed at western shore
Sections

Richardson Beach

improvements
feb 2018
WOOD LOUNGERS (integrated)
or large steps
LARGE STEPS UPPER PATIO
BEACH ACCESS
COBBLE SHORE
OPEN LAWN
CURB
TREED LAWN
GROIN
RAMP
RAMP TO EAST BEACH (<4.9%)
LARGE BOULDER
w/ Vicki Keith commemorative boulder
STEPS DOWN
SHORELINE JANUARY 2017 74.49WL + 74.59 + 76.64 + 78.08 + 76.88 + 75.70 + 76.20 + 77.30 + 76.80 + 78.98
BUFFER PLANTING
NEW WEST CONNECTION
REJUVENATE WEST BEACH

CONCEPTS

Richardson Beach
58
precedents
shoreline work
seating integrated w/ fluctuating water levels
integrated seating
integrated seating
large boulders

Vicky Keith
Commemorative Boulder

Richardson Beach
connection along the water
to and into the water
to and into the water
water access
Candidate Sites for Waterfront Accessibility
spirit of water
Questions/ Table Discussions

1. Concept sheets are provide at each table
2. Please provide comments on the concepts by writing and drawing on the plans
3. Question sheets are also provided help guide your comments
4. Please work through these questions as a group
5. Please feel free to complete an individual question sheet
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Option 1

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- beach regenerated
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CONCEPTS

‣ stepped walkway/seating
‣ west rock revetment/lookout
‣ accessible ramp walk to meet EAST shoreline
‣ lookout platform on west
‣ small craft launch on east lawn
‣ east rock revetment protection
‣ beach regenerated
‣ large boulder placed at western shore
Option 2

water access
Next Steps

› Develop preferred concept plan

› Present preferred at public information session (date tbd)
thank you