



**CLASS ENVIRONMENTAL ASSESSMENT FOR REMEDIAL
FLOOD AND EROSION CONTROL PROJECTS**

Appendix D

CLC 1	
Contents	Prepared By
Meeting Attendees	TRCA, 2023
Meeting Agenda	TRCA, 2023
Presentation Slide Deck	TRCA, 2023
Meeting Minutes	TRCA, 2023

PIC 1	
Contents	Prepared By
Presentation Slide Deck	TRCA, 2023
Meeting Minutes	TRCA, 2023
Public Comment and Response Tracking Spreadsheet	TRCA, 2023

CLC 2	
Contents	Prepared By
Meeting Agenda	TRCA, 2023
Presentation Slide Deck	TRCA, 2023
Meeting Minutes	TRCA, 2023

PIC 2	
Contents	Prepared By
Introductory Slide Deck	TRCA, 2024
Meeting Handout	TRCA, 2024
Presentation Panels	TRCA, 2024



APPENDIX D: CLC 1

Meeting Attendees

Natasha Gibson

From: Ashley Brown
Sent: January 27, 2023 11:05 AM
To: Natasha Gibson
Subject: CLC Attendees

Attendees Present:

Whitney Brennan (WB), TRCA
Ashley Brown (AB), TRCA
Natasha Gibson (NG), TRCA
Jet Taylor (JT), TRCA
Emily Thomas (ET), TRCA (*left at 6:30*)
Derek Williamson (DW), Baird
Derek Lee (DL), Durham Region Cycling Coalition
Shaun Collier (SC), Mayor (*left early*)
Joanne Dies (JD), Regional Councillor, Ward 3
Lisa Bower (LB), Councillor, Ward 3
***Nancy Henry, Regional Councillor (dialled in)**
Stephen Ruddy (SR), Town of Ajax
***Dhiman Saha (DS), Town of Ajax (dhiman.saha@ajax.ca)**
Samuel Twumasi (ST), Town of Ajax
Adam McDermott (AD), Town of Ajax
Devon Jarvis (DJ), Town of Ajax

Attendees Absent:

Marilyn Crawford (Deputy Mayor, Town of Ajax)
Shaun Walker (Town of Ajax)
Mohammad Dibajnia (Baird)

Ashley Brown (She/Her)

Environmental Technician
Erosion Risk Management | Restoration & Infrastructure

T: [\(416\) 661-6600](tel:4166616600)

C:

E: ashley.brown@trca.ca

A: [9755 Canada Company Ave, Woodbridge, ON, L4H 0A3](https://www.trca.ca) | [trca.ca](https://www.trca.ca)





APPENDIX D: CLC 1

Meeting Agenda

**AJAX WATERFRONT EROSION MITIGATION PROJECT:
CLASS ENVIRONMENTAL ASSESSMENT FOR REMEDIAL FLOOD AND EROSION
CONTROL PROJECTS**

COMMUNITY LIAISON COMMITTEE MEETING #1

DATE: January 26, 2023 @ 6:00pm – 8:00pm

LOCATION: GoToMeeting Portal

HOSTED BY: Erosion Risk Management, Toronto and Region Conservation Authority (TRCA)

INVITEES:

Natasha Gibson (NG), TRCA

Jet Taylor (JT), TRCA

Whitney Brennan (WB), TRCA

Ashley Brown (AB), TRCA

Emily Thomas (ET), TRCA

Derek Williamson (DW), W.F. Baird and Associates

Coastal Engineers Limited (Baird)

Mohammad Dibajnia (MD), Baird

Shaun Collier (SC), Mayor

Marilyn Crawford (MC), Deputy Mayor

Joanne Dies (JD), Regional Councillor, Ward 3

Lisa Bower (LB), Councillor, Ward 3

Stephen Ruddy (SR), Town of Ajax

Shaun Walker (SW), Town of Ajax

Samuel Twumasi (ST), Town of Ajax

Devon Jarvis (DJ), Town of Ajax

Adam McDermott (AD), Town of Ajax

Derek Lee (DL), Durham Region Cycling Coalition

AGENDA

1. Land Acknowledgement
2. Administrative Items
3. Welcome and Introductions
4. Project Background
5. General Concept Designs
6. Site-specific Recommendations
7. Discussion Period
8. Next Steps



APPENDIX D: CLC 1

Presentation Slide Deck

Ajax Erosion Mitigation Project Class Environmental Assessment

Community Liaison Committee Meeting #1

Presented by:
Natasha Gibson
Senior Project Manager, Erosion Risk Management

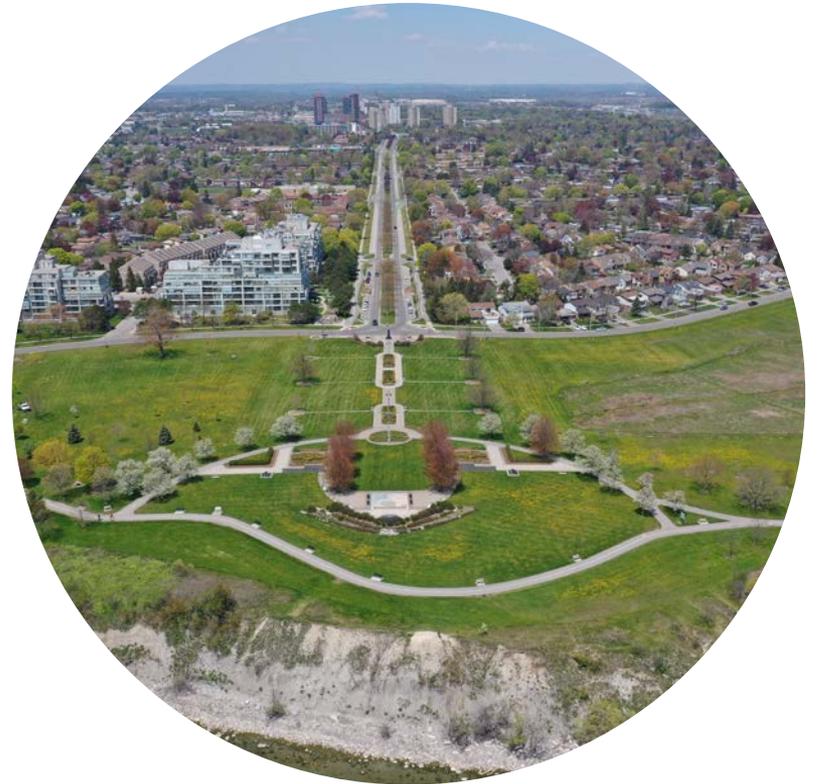
January 26, 2023

Land Acknowledgement

"We respectfully acknowledge the lands we are situated on are Traditional Territories and Treaty Lands, in particular those of the Mississaugas of the Credit, as well as the Anishinaabeg of the Williams Treaty First Nations, the Huron-Wendat, the Haudenosaunee, and are now home to many diverse First Nations, Inuit and Métis peoples. The Toronto and Region Conservation Authority appreciates and respects the history and diversity of the land and is grateful to have the opportunity to work and meet in this territory."

Agenda

- Administrative Items
- Welcome & Introductions
- Project Background
- Conceptual Designs & Preliminary Evaluation
- Open Discussion Sessions
- Next Steps



Administration Items

- Meeting Structure and Participation
 - Please hold questions/comments until prompted
 - Please ensure your microphone is on mute
- Open Discussion Sessions
 - Raise Hand Function
 - Chat Window
- Other
 - Reference Sheet
 - Post-Meeting Feedback:
natasha.gibson@trca.ca



Aerial Photo of Ajax Waterfront Park. Source: TRCA, 2021

Administration Items

CLC Terms of Reference

Purpose:

- To assist TRCA and the Town of Ajax in obtaining additional public and stakeholder input concerning the planning and design process for the Project

Functions and Objectives:

- Identify items of public interest and concern related to the impact and design of the Project
- Offer advice or solutions to resolve concerns
- Assist in reaching out to, and maintaining communication with, residents, local groups, associations, and organizations that share an interest in the Project
- Act as the voice of the community during the Class EA process

Project Team and CLC Member Introductions

TRCA

- *Jet Taylor*, Manager (ERM)
- *Natasha Gibson*, Senior Project Manager (ERM)
- *Whitney Brennan*, Project Coordinator (ERM)
- *Ashley Brown*, Environmental Technician (ERM)
- *Emily Thomas*, Government and Community Relations

Consulting Team

- *Derek Williamson*, W.F. Baird and Associates Coastal Engineering Limited
- *Mohammad Dibajnia*, WF Baird and Associates Coastal Engineering Limited
- Grounded Engineering

CLC Members

Mayor and Council

- Mayor *Shaun Collier*
- Deputy Mayor *Marilyn Crawford*
- Regional Councillor *Joanne Dies*
- Local Councillor *Lisa Bower*

Town of Ajax

- *Stephen Ruddy* (Planning and Development)
- *Shaun Walker* (Operations)
- *Samuel Twumasi* (Economic Development and Tourism)
- *Devon Jarvis* (Communication)
- *Adam McDermott* (Recreation)

Durham Region Cycling Coalition

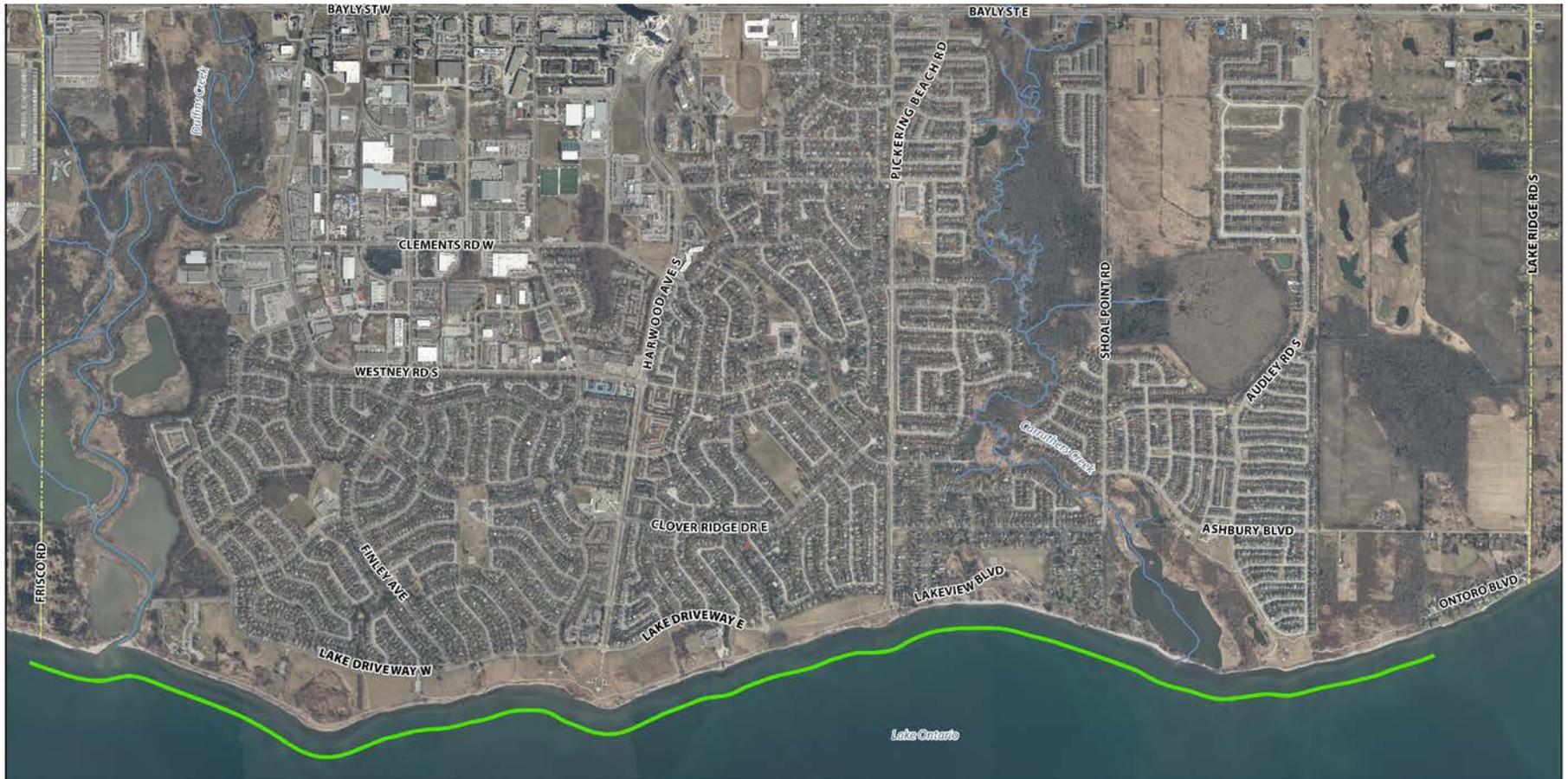
- *Derek Lee*

Project Background

- Buffer between shoreline and residential / transportation infrastructure
- Waterfront Trail
- Mostly unprotected shoreline with bluffs and sand beach
- Evidence of increased erosion due to more recent events



Aerial view of shoreline and Waterfront Trail. Source: TRCA, 2021



Phase 1 – Gap Analysis

- Completed a gap analysis and initial coastal analysis in 2021 to determine areas of concern along the Ajax shoreline
- Compiled existing information on the Ajax shoreline to determine where further research was needed for designing shoreline protection



Phase 2 – Class Environmental Assessment

- Class EA Purpose:
 - Understand environmental impacts of project work and potential designs
 - Facilitate public engagement and feedback
- Class EA Scope:
 - Baseline Data Collection: Background Review, Ecological and Archaeological Studies, Coastal Analysis, Geotechnical Investigation
 - Concept Designs and Evaluation – Develop and evaluate several alternative solutions to select the preferred approach

Existing Conditions



Erosion damage along park shoreline. Source: TRCA, 2021



Erosion exposing infrastructure along shoreline. Source: TRCA, 2021

Existing Conditions



Erosion damage along park shoreline. Source: TRCA, 2021



Bank Swallow colony nesting site along bluffs. Source: TRCA, 2022

Concept Design Options

Concept Designs: General Overview



Erosion damage along park shoreline. Source: TRCA, 2021

- Concept Designs tailored to needs of each delineated reach; coastal engineers identified 12 separate reaches along footprint
- Design goals focused on:
 - Public access
 - Public safety
 - Environmental integrity
 - Park and infrastructure protection
- Design considerations included:
 - Bluff height & location
 - Erosion rates
 - Proximity to creek mouths
 - Environmental variables
 - Surrounding infrastructure
 - Sediment availability

Concept Design Option 1: Offshore Breakwater with Gaps

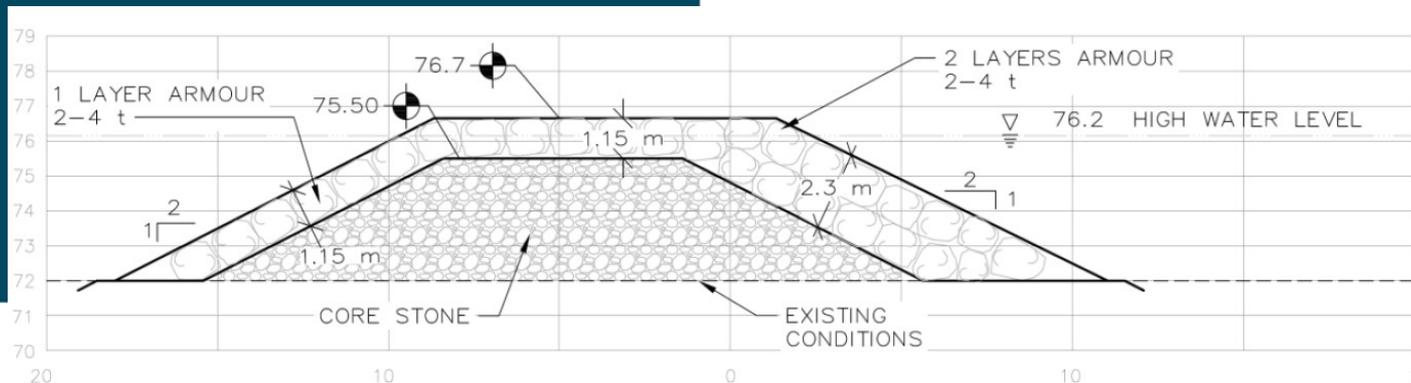
- Offshore emergent structures providing wave protection
- Increases circulation, allows for potential sediment movement
- High level of protection while still allowing for water movement and some natural erosion

Advantages

- Provides protection without altering the shoreline
- Some potential habitat behind structures nearshore
- Increases shoreline useability
- Designs can be variable to reduce cost

Disadvantages

- Installation & maintenance complexity
- Visible from shoreline
- Source materials potentially more expensive due to size



Offshore Breakwater Cross-section. W.F. Baird, 2022

Concept Design Option 2: Nearshore Reefs

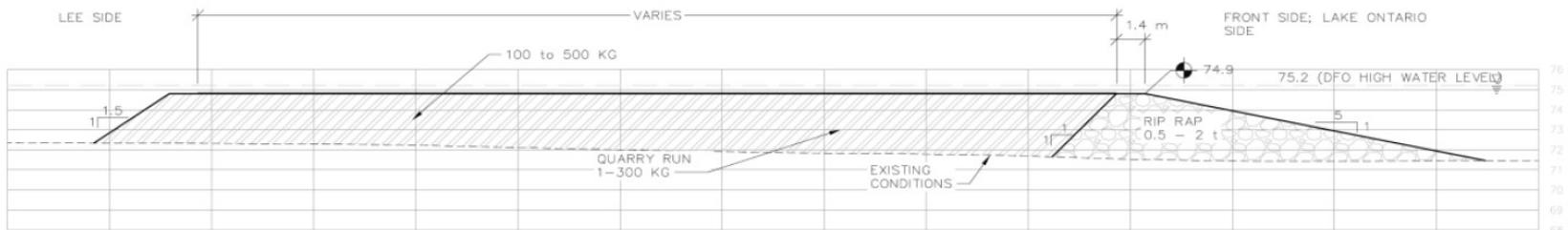
- Built along the shoreline into nearshore
- Simultaneously provide wave protection and aquatic habitat

Advantages

- Does not change physical composition/aesthetic of shoreline
- Provides aquatic habitat
- Structure damage/failure gradual
- Source material potentially less expensive

Disadvantages

- Significant in water work; navigation concerns
- Large amount of material to be brought to site
- Less effective at high water levels



Nearshore Reef Cross-section. W.F. Baird, 2022

Concept Design Option 3: Groynes with Beach Fill*

- Structure disrupts lateral movement of shoreline material, protects fill
- Stabilizes shoreline
- Sizes can be variable

Advantages

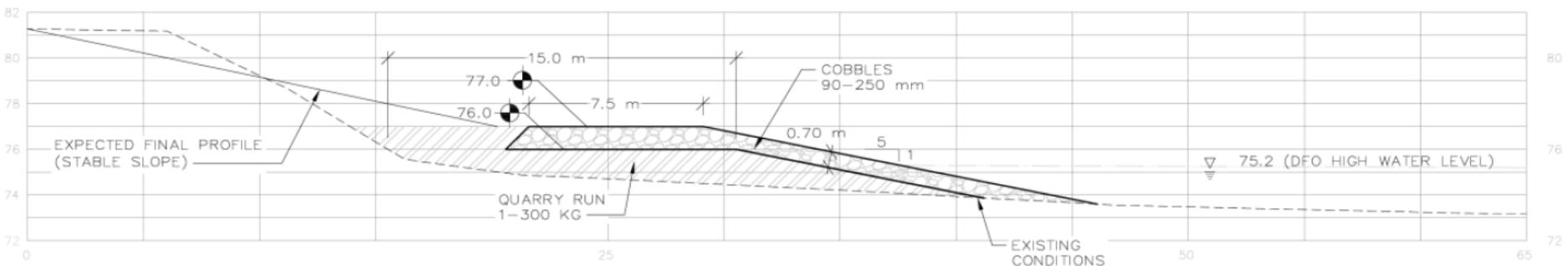
- Could create larger more useable beach
- Structure damage/failure would be gradual
- Availability of source material

Disadvantages

- Less protection during high lake levels
- Fill protection may adjust



Groyne and Beach Fill, Port Union Waterfront Park. TRCA, 2022



**not listed as preferred or recommended in preliminary options*

Concept Design Option 4: Cobble/Boulder Beach



Veteran's Point Cobble Beach. TRCA, 2022

- Coarse shoreline material prevents some movement
- Larger structures not as necessary for shoreline stabilization

Advantages

- Consistent with natural conditions
- Does not change area aesthetic
- Damage and failure is gradual

Disadvantages

- Cost complications for size and natural boulder sourcing
- Limited design guidance

Concept Design 5: Conventional Revetment

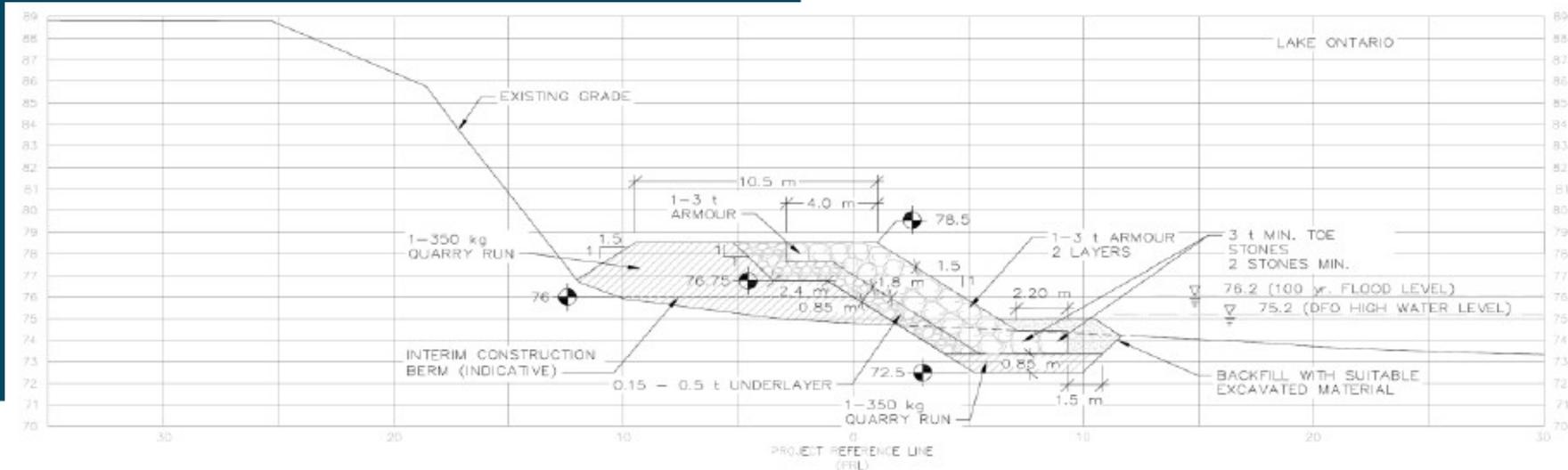
- Long lasting erosion protection
- Will halt any further toe regression of bluffs
- Set far enough lakeward to allow for slope adjustment and maintenance access

Advantages

- Proven design efficacy
- Easy material sourcing
- No to limited in-water work

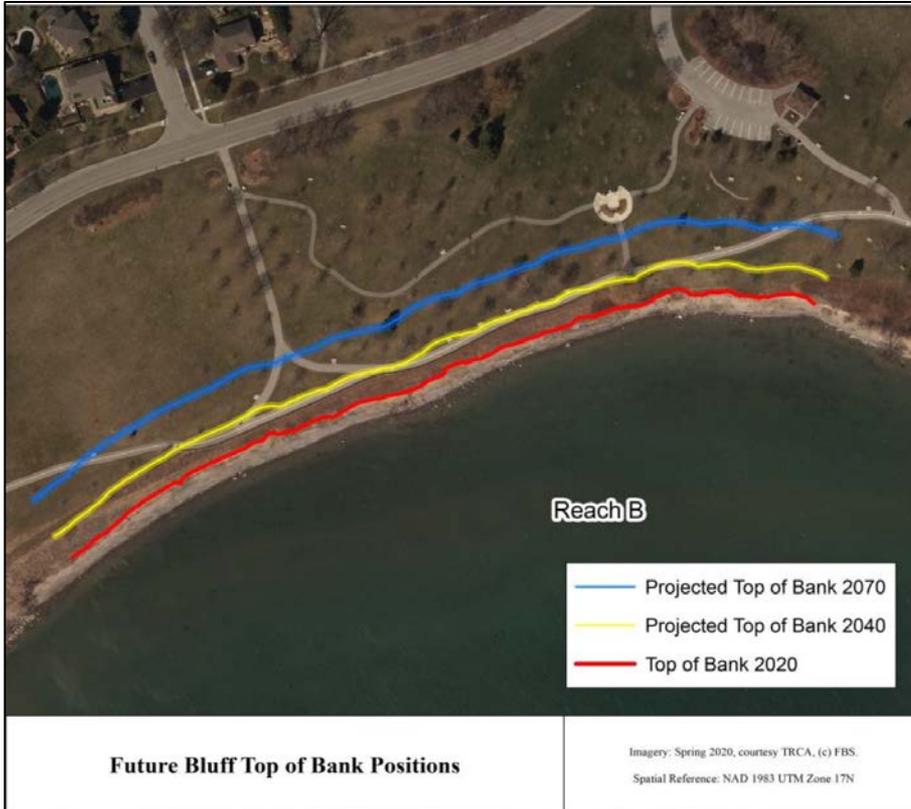
Disadvantages

- Will significantly change shoreline aesthetics
- Beach subject to downcutting, eventually washing out along toe
- Changes natural shoreline habitat



Revetment Cross-section. W.F. Baird, 2022

Concept Design 6: Do Nothing



"Do nothing" top of bank positions at Reach 5. Baird, 2021.

- Recommended for areas without particularly urgent near-term erosion concern
- Coupled with monitoring program

Advantages

- Low cost
- Maintains natural shoreline/natural processes

Disadvantages

- Shoreline remains unprotected
- Eventual loss of park and long-term residential area



Ajax Shoreline Reaches

- 12 naturally separated areas along the shoreline called “reaches”
- Reaches were delineated by:
 - Shoreline orientation
 - Bluff height
 - Erosion Rate
 - Landslide risk to amenities
 - Public usage
- Concept designs tailored to provide most benefits for specific conditions



Aerial view of Ajax Waterfront Shoreline. Source: TRCA, 2021

Reach Location Breakdown



Bluff Reaches
AJAX, ONTARIO

Imagery: Spring 2020, courtesy TRCA. (c) FBS.
Spatial Reference: NAD 1983 UTM Zone 17N

Baird.

Map Published: 2022-10-10

FRISCO ROAD TO ROTARY PARK



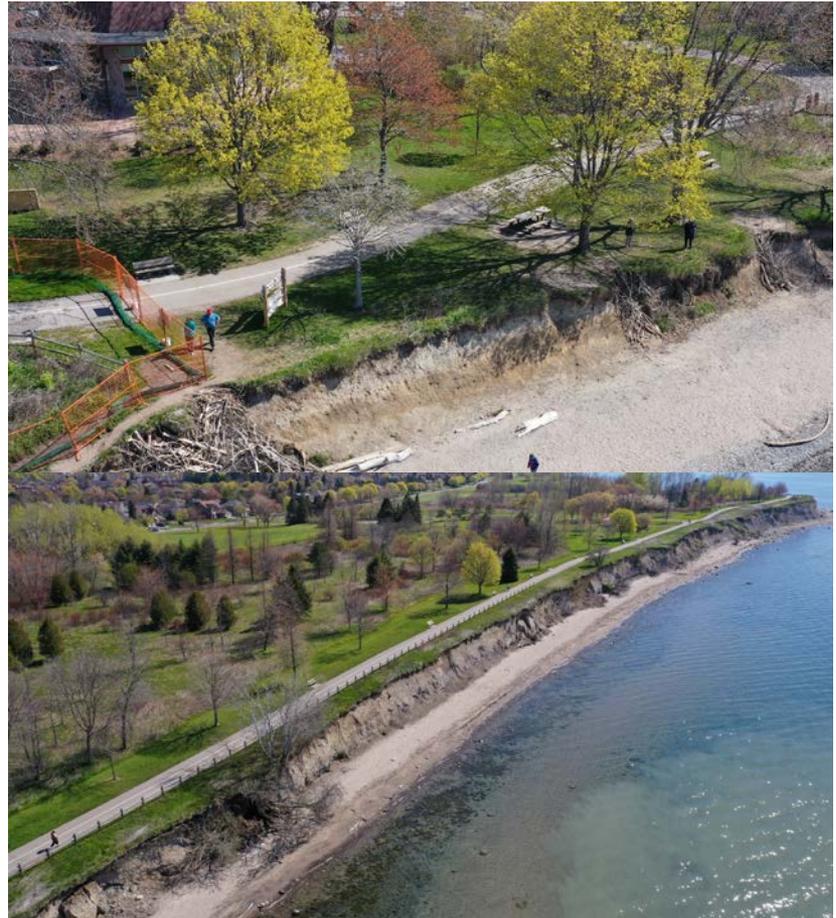
- Reach 1 – 220m
 - Rapid erosion, limited infrastructure, low bluffs
 - Low priority
 - Cobble beach, earshore reef
- Reach 2 – 260m
 - Creek mouth and barrier beach, includes boardwalk
 - Low/no priority
 - Do nothing



Reach 1 (above) and Reach 2 (below). Source: TRCA, 2021

ROTARY PARK TO LION'S POINT

- Reach 3 – 110m
 - Includes Rotary Park Pavilion and rapidly eroding shoreline bluffs
 - High priority
 - Offshore breakwater, revetment
- Reach 4 – 650m
 - Slower erosion rates but higher bluffs; larger greenspace between shoreline and residential area
 - Medium priority
 - Revetment, cobble beach



Reach 3 (above) and Reach 4 (below). Source: TRCA, 2021

LION'S POINT TO VETERAN'S POINT GARDENS

- Reach 5 – 1050m
 - Narrow greenspace between rapidly eroding bluff shoreline and Lake Driveway W
 - High priority
 - Revetment, cobble beach
- Reach 6 – 330m
 - Naturally occurring boulder shoreline around headland
 - Medium priority
 - Cobble beach, revetment



Reach 5 (above) and Reach 6 (below). Source: TRCA, 2021

VETERAN'S POINT GARDENS TO PARADISE BEACH

- Reach 7 and Reach 8 – 620m
 - High bluff shoreline including adjacent water supply plant; some erosion control infrastructure present
 - Medium priority
 - Cobble beach, revetment
- Reach 9 – 220m
 - Low shoreline with scattered treed riparian buffer zone leading to Paradise Beach
 - Medium priority
 - Offshore breakwater, cobble beach



Reach 7 (top), Reach 8 (middle) and Reach 9 (bottom). Source: TRCA, 2021



PARADISE BEACH TO CARRUTHERS MARSH

- Reach 10 – 1060m
 - Paradise Beach; flooding at high water levels, no erosion observed
 - Low priority
 - Do nothing, nearshore reef
- Reach 11 – 520m
 - Carruthers Marsh mouth; no observed erosion
 - Low/No priority
 - Do nothing



Reach 10 (above) and Reach 11 (below). Source: TRCA, 2021

CARRUTHERS MARSH TO ONTORO BLVD

- Reach 12 – 600m
 - Sand beach & bluff shoreline bordered by woodland, green space and riparian marsh area; minimal concerning erosion
 - Low priority
 - Revetment, cobble beach



Reach 12. Source: TRCA, 2021

Next Steps

Next Steps and Timelines



** Final timeline for approval may be delayed if additional round of consultation/revisions is required*

Questions?

Thank you for participating!

Remember to contact ajaxshoreline@trca.ca with formal comments or feedback by February 17, 2023.

You should receive an email linking the slide deck and related material by the end of the day. Please email natasha.gibson@trca.ca if you do not receive it.





APPENDIX D: CLC 1

Meeting Minutes

**AJAX SHORELINE EROSION MITIGATION PROJECT:
CLASS ENVIRONMENTAL ASSESSMENT FOR REMEDIAL FLOOD AND EROSION
CONTROL PROJECTS**

COMMUNITY LIAISON COMMITTEE MEETING #1

DATE: January 26, 2023 @ 6:00pm – 8:00pm

LOCATION: Virtual (GoToMeeting)

HOSTED BY: Erosion Risk Management, Toronto and Region Conservation Authority (TRCA)

ATTENDEES:

Whitney Brennan (WB), TRCA

Ashley Brown (AB), TRCA

Natasha Gibson (NG), TRCA

Emily Thomas (ET), TRCA

Jet Taylor (JT), TRCA

Derek Williamson (DW), Baird

Adam McDermott (AD), Town of Ajax

Devon Jarvis (DJ), Town of Ajax

Derek Lee (DL), Durham Region Cycling Coalition

Shaun Collier (SC), Mayor

Joanne Dies (JD), Regional Councillor, Ward 3

Lisa Bower (LB), Councillor, Ward 3

Stephen Ruddy (SR), Town of Ajax

Dhiman Saha (DS), Town of Ajax

Samuel Twumasi (ST), Town of Ajax

Nancy Henry (NH), Councillor, Ward 2

REGRETS:

Marilyn Crawford, Deputy Mayor

Shaun Walker, Town of Ajax

Mohammad Dibajnia, Baird

ATTACHMENTS:

https://torontoregion-my.sharepoint.com/:f/g/personal/ashley_brown_trca_ca/EmE2VN3fbSpMinY7kKTF4U8Bmvuu4nVPNjoLbDroJ-CpCA?e=gxdF4j

MEETING PURPOSE

The purpose of this meeting was to receive feedback from the Community Liaison Committee (CLC) that has been formed for the Ajax Shoreline Erosion Mitigation Project (the "Project") as part of the Class Environmental Assessment (EA) process. Material was circulated before and after the meeting for committee review to facilitate the discussion period. The goal of the meeting was to collect community input on the draft conceptual designs that have been prepared by the Project Consultants (see *Attachment 1*). The comments documented below will be considered and incorporated into the design package before it is presented to external stakeholders and the public as part of the EA consultation process.

1. Community Liaison Committee Introductions

- NG introduced the Project Team, Consultants, and Community Liaison Committee (CLC) members (see *Attachment 2*).
- The project is being led by Toronto and Region Conservation Authority (TRCA) in partnership with the Town of Ajax. The design process is being led by W.F. Baird and Associates Coastal Engineers Ltd. (Baird)
- CLC invitees were selected from a range of community groups including elected representatives of Ajax City Council, environmental advocacy groups and recreational clubs.

2. Project Background

- NG provided a high-level overview of the project including site history, EA scope, and design approach.
- The Town of Ajax has partnered with TRCA to undertake the Project to develop long-term flood and erosion control measures that will help protect the Ajax Shoreline against predicted future high lake level events.
- The concept phase will focus on twelve reaches which have been identified for inclusion in the EA for long-term flood protection. These reaches were selected based on a review of existing conditions, proximity to infrastructure, and current/projected erosion rates
- JD: Asked to clarify the bottom versus top of bluff face
 - NG: Explained bluff erosion starts by eroding the toe of the bluff. As the lower slope material erodes, the upper slope becomes unstable, material dislodges from above and accretes at the toe to compensate for the erosion. The new material that filled that space is then washed away and the process repeats until the toe is protected.

3. Concept Designs & Evaluation

3.1 Concept 1: Offshore Breakwater with Gaps

- NG provided an overview of the proposed concept including the key advantages and disadvantages
 - Provides shoreline protection without significantly altering the existing shoreline
 - Installation complex and potentially expensive
- JD: Raised concerns for potential beach damage/loss with sediment movement if concept is implemented; stressed importance of maintaining beaches where possible
 - JT: Noted consultation is an important part of the EA process; concept will stop sediment movement but will not "harden" the beach which gets rid of the beach and stops movement completely
- DL: Inquired how far would the breakwater be constructed and what would their effect be?
 - DW: Noted gaps between allow waves to penetrate and move sediment; promoting some sediment movement and protects sediment simultaneously. The breakwaters are 20-30 meters from the shore, to avoid water stagnation
- DL: At what height is the breakwater effective?

- DW: 1.5 meters is enough to break wave action, marginally above high-water mark but wide enough to provide effective energy break
- JT: Highlighted all concepts are at the preliminary level; details on concepts forthcoming pending suggestions

3.2 Concept 2: Nearshore Reef

- NG provided an overview of the proposed concept including the key advantages and disadvantages
 - Provides aquatic habitat, maintains natural shoreline
 - Significant in-water work, less effective when water levels are high

3.3 Concept 3: Groynes with Beach Fill

- NG provided an overview of the proposed concepts for the groynes with beach fill, including presentation of the key advantages and disadvantages of each
 - Could create larger, more useable beaches
 - Less protection during high lake levels, alters the natural shoreline

3.4 Concept 4: Cobble/Boulder Beach

- NG provided an overview of the proposed concepts, including key advantages and disadvantages
 - Consistent with current shoreline conditions, supportive of minor maintenance
 - Materials difficult to source, potentially expensive

3.5 Concept 5: Conventional Revetment

- NG provided an overview of the proposed concept including key advantages and disadvantages
 - Proven effective shoreline protection and durability
 - Significantly changes the shoreline
- DL: Asked where bluff erosion is coming from; notes observed spring seepage on top of slope
 - DW: Noted the areas causing collapse is the erosion at the toe; plans allow for a natural flattening of the bluff face, v shape at the back of the structure would fill in with sediment; designs of pathways in this area will be accounted for. As toe is protected, natural flattening will occur.
 - JT: Reiterated material at the toe keeps waves from eroding the toe leading to the oversteepening that causes large pieces to fall; seepage is something that happens upslope and will be considered
- JD: Inquired about storm water gardens efficacy in helping to alleviate groundwater seepage along the bluffs
 - SR: There are opportunities to do something about drainage in the park where there is clear upper slope erosion; options can include rain gardens
- JD: Inquired if designs can address pinch points where private residences are close
 - SR: Noted this is the coastal engineering portion but the report will incorporate the larger area; the do nothing approach is incorporated as well as cost
- JT: TRCA and Baird will consult on priorities and options but ultimate decision is for the Town

3.6 Concept 6: Do Nothing

- NG provided an overview of the proposed concepts, including the key advantages and disadvantages
 - Paired with monitoring plan
 - Leaves shoreline intact, feasible for areas with limited proximal infrastructure

Open Discussion Period:

- DL: Asked if designs would account for access to the shoreline for recreation (beach walking)
 - NG: Any options where we maintain the existing shoreline would; cobble beach option would mimic some of the natural shoreline; classic revetment would have a walkable area but starting and ending at the revetment
- DL: Asked if there would be more formalized beach access points in designs
 - DW: Noted walkability is a priority factored into planning but considerations included the trail on the top; Baird looked at access for opportunities to keep beaches walkable but kept in mind areas where walkways that are isolated or a dead end
 - JT: walkability and access is a priority for TRCA; CLC meetings are important for steering the direction of designs in the public interest

4. Reaches Breakdown

Frisco Road to Rotary Park

- Approximately 500m, low priority
- Includes sand beach and Duffins Creek mouth
- Concepts suggested: do nothing, cobble beach
- NH: Concerned about the use of the beach, requests leave the sand beach intact
 - JT: nearshore reef recommendation incorporates that option and protects the beach
- DL: Where the high-water level is in relation to the slope; does the toe need protecting or does the beach need protecting
 - SR: This was given low priority for many reasons
 - JT: Low priority is because there is no infrastructure though rapid erosion occurring
 - DW: Unmitigated current erosion rate would lead to no beach whatsoever; adding submerged reef or some cobble would protect beach
- NH: Inquired about cost per meter of shoreline
 - DW: Answered 20-30k per meter of shoreline
 - JT: Cost is substantially less to relocate the trail and remove trees; moving trail back would be cheaper
- NH: Asked if you move the trail could you maintain the existing beach and add to it? Concern of implementing a cobble beach and eliminating natural beach
- SR: Highlighted that these are coastal engineering recommendations, not final report recommendations. Cost will be one of the primary decision factors, and priority areas will be chosen very deliberately.
- NH: Reiterated public desire to maintain and potentially expand sand beaches
 - SR: Suggested responsible step forward is to consider proper management; this meeting does not represent final choices; actual implementation is far out and will consider cost and priority
 - DW: Added that of the 12 reaches, only 2 are high priority; options are not representative of what should be done but what could be done.

Rotary Park to Lions Point

- Approximately 800m, high priority
- Shoreline close to Waterfront Trail and infrastructure
- Concepts suggested: revetment, cobble beach, offshore breakwater
- No Questions

Lion's point to Veteran's Point Gardens

- Approximately 1400m, high & medium priority areas
 - High bluff face shoreline with rapid erosion close to trails and infrastructure
 - Concepts suggested: revetment, cobble beach
- No Questions

VPG to Paradise Beach

- Approximately 800m, medium priority
 - Includes sand/cobble beach, water treatment plant
 - Concepts suggested: cobble beach, revetment, offshore breakwater
- No Questions

Paradise Beach to Carruthers Marsh

- Approximately 1600m, low priority
 - Includes sand beach and Carruthers Marsh
 - Concepts suggested: do nothing, nearshore reef
- No Questions

Carruthers Marsh to Ontoro Boulevard

- Approximately 600m, low priority
- Includes sand beach and bluff shoreline, minimal erosion
- Concepts suggested: revetment, cobble beach
- JD: Re: paradise beach, last 8-10 years municipality has been raking cobbles off beach to make a sand beach for recreation; are we risking losing beach by removing stones?
 - DW: Removing stones does put beach at risk of erosion
- JD: Any environmental concerns for removing the cobbles?
 - NG: Removing cobbles would have little effect ecologically along the beach
- NH: Asked when proposal would come to council?
 - SR: Estimated timeline for 2023, with cost not affecting the current annual budget and spread over multiple years' capital budgets
- NH: Inquired about Great lakes alliance funding as a possible resource
 - SR: Town looking into grants available via accounts staff
 - JT: Noted TRCA has been successful in high dollar grants through Disaster Mitigation and Adaptation Fund
- NH: Asked how many other neighbouring municipalities have implemented something this kind of shoreline protection work
 - SR: Municipalities east of Ajax are out of TRCA jurisdiction but are working with their respective Conservation Authorities to address shoreline erosion. However, the Ajax waterfront is a unique area in that there is a significant buffer area between the shoreline and development, giving the project timeline more flexibility to explore options.

5. Next Steps & Action Items

- CLC members were advised that any further questions or comments were to be sent to NG via email (natasha.gibson@trca.ca) by end of day February 17th, but that the date could be flexible.
- Comments from the CLC, indicated as action items above, will be compiled and incorporated into the next design revision.
- JT: Final note: timelines are aggressive but not firm; flexibility for spacing and extra time is accessible

Prepared By: Ashley Brown

Date Issued: 02/23/2023

This confirms and records TRCA's interpretation of the discussions that occurred during this meeting. Unless notified in writing within ten (10) business days, these minutes will be considered final.



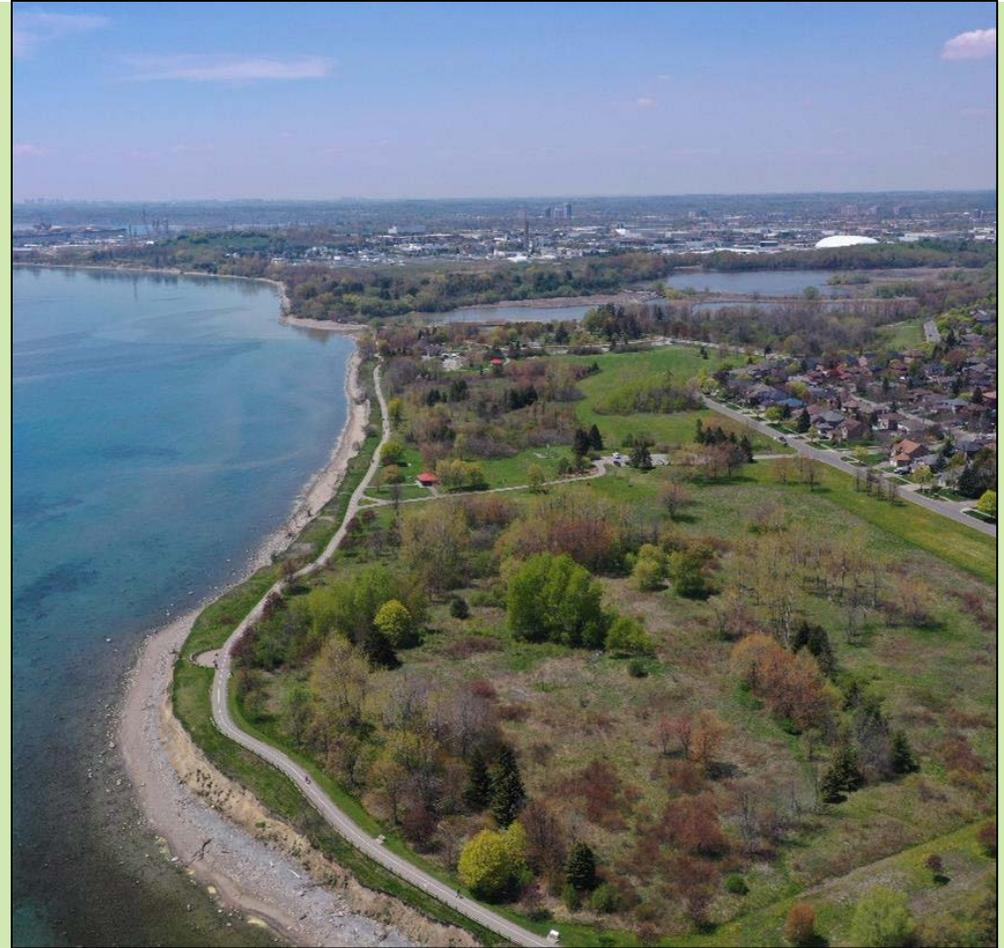
APPENDIX D: PIC 1

Presentation Slide Deck

Welcome to the Public Information Centre

Agenda

- Welcome and Introductions
- Project Background
- Conceptual Designs & Preliminary Evaluation
- Question & Answer Session
- Next Steps



Ajax Waterfront Erosion Mitigation Project Class Environmental Assessment

Public Information Centre #1

Thursday, May 25th, 2023





Land Acknowledgement

We respectfully acknowledge the lands we are situated on are Traditional Territories and Treaty Lands, in particular those of the Mississaugas of the Credit, as well as the Anishinaabeg of the Williams Treaty First Nations, the Huron-Wendat, the Haudenosaunee, and are now home to many diverse First Nations, Inuit and Métis peoples.

The Toronto and Region Conservation Authority appreciates and respects the history and diversity of the land and is grateful to have the opportunity to work and meet in this territory.

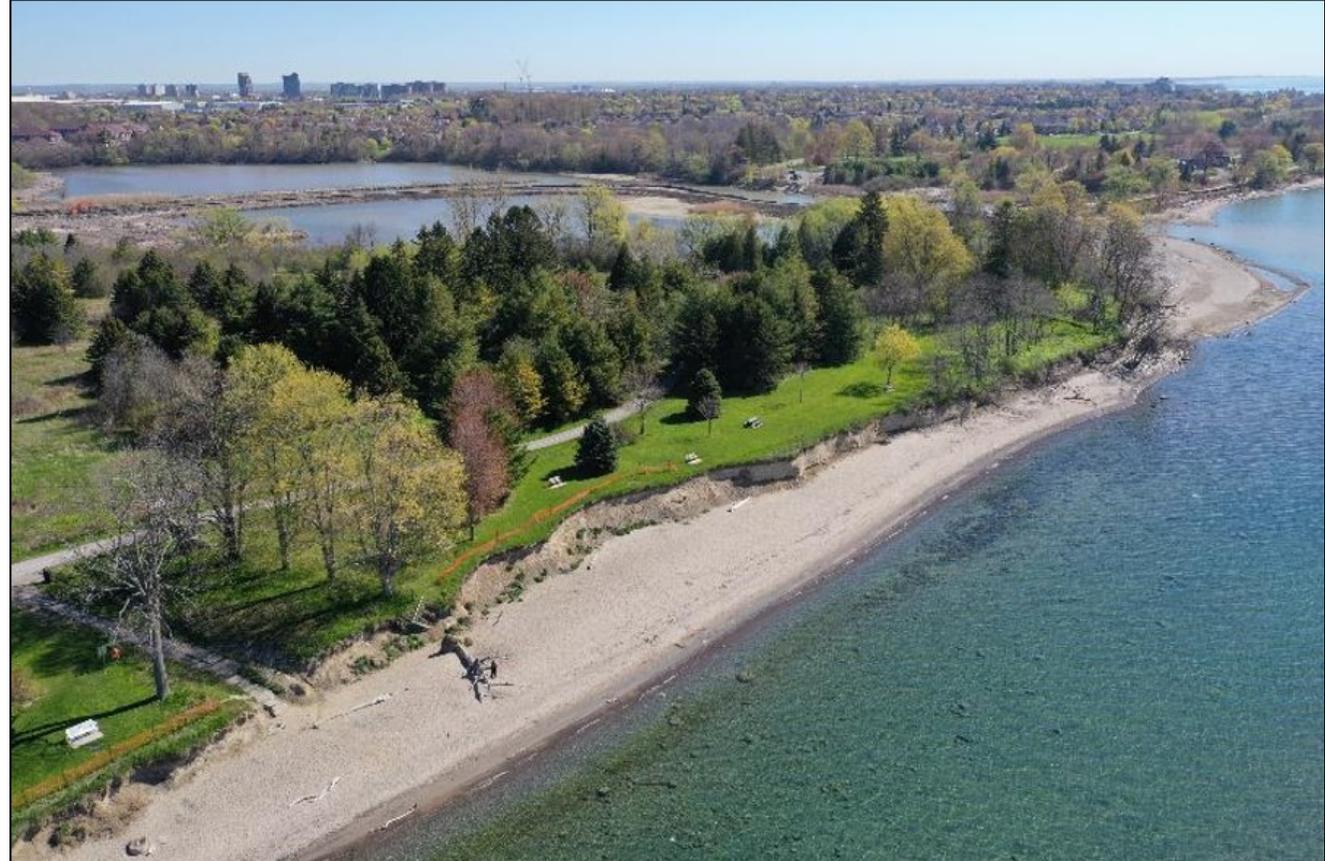
Community Opening Remarks

- Welcome to members of Council in attendance
- Opening remarks from Deputy Mayor Crawford



Housekeeping Items

- Emergency exits and washroom locations
- Personal Devices
- Presentation, Intermission, Q&A
- Refer to handouts for reference



Welcome & Introductions



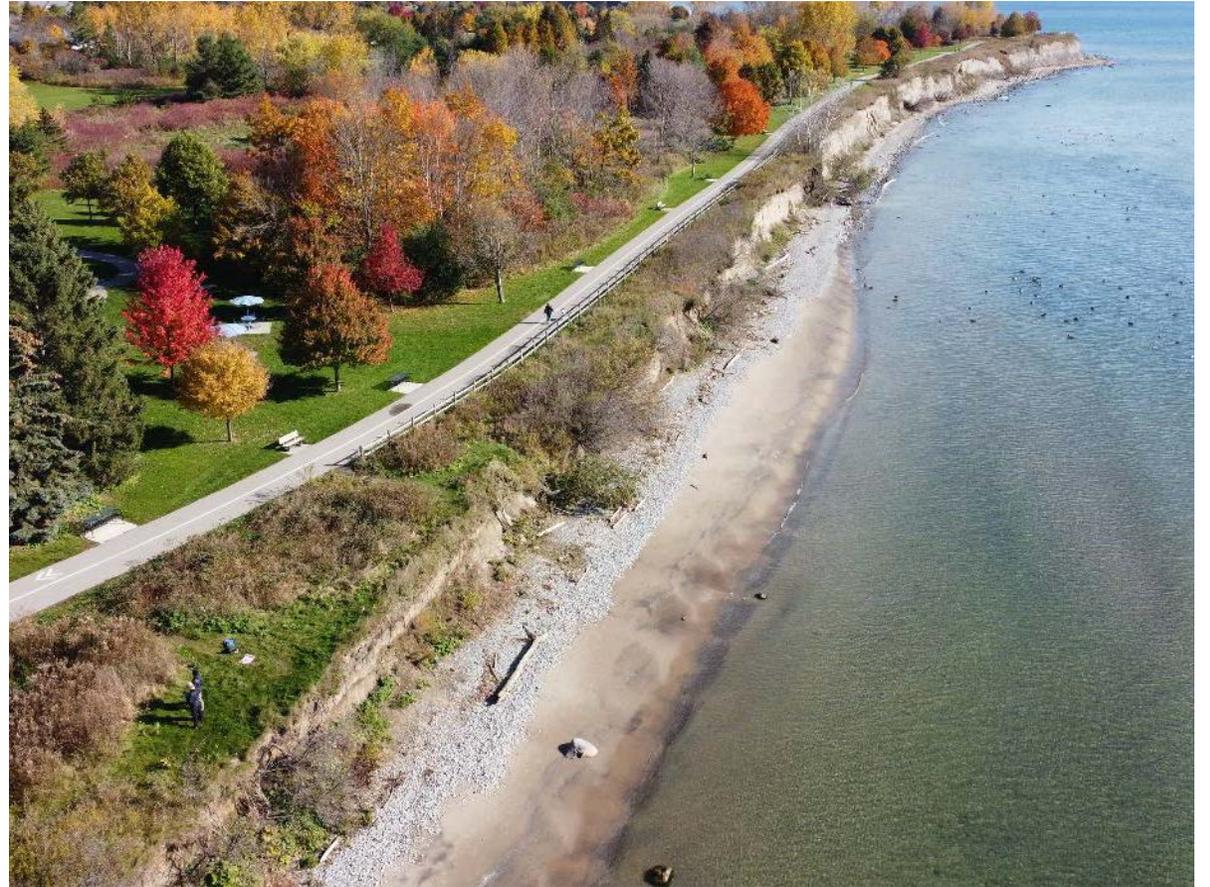
Agenda

- Project Background
- Conceptual Designs & Preliminary Evaluation
- Next Steps
- Question & Answer Session



Project Background

- Shoreline from Frisco Road to Ontoro Boulevard
- Open greenspace protected from development
- Shoreline amenities (Waterfront Trail, Rotary Park Pavilion)
- Mostly unprotected shoreline

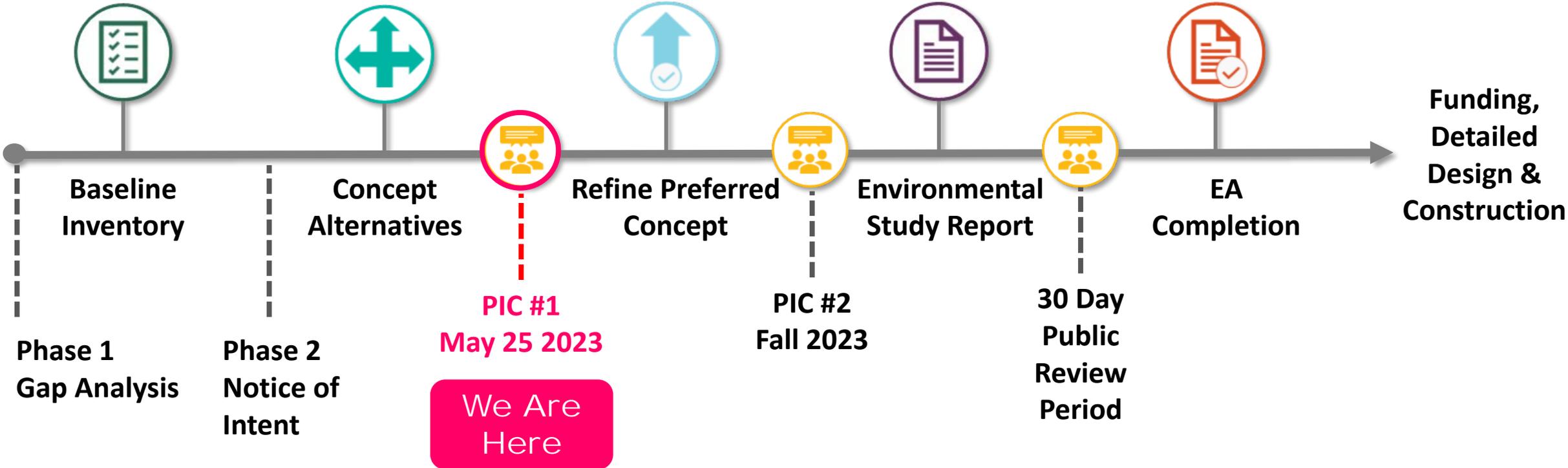


Phase 1 – Coastal and Gap Analysis

- Analysis of existing conditions
 - Identify areas of damage or potential hazards to the public
- Gap Analysis showed areas where more information or data was needed
- Shoreline Assessment and Gap Analysis used to establish existing conditions



What is a Class Environmental Assessment (EA)?



Existing Conditions



Erosion damage along park shoreline. Source: TRCA, 2021



Erosion exposing infrastructure along shoreline. Source: TRCA, 2023

Existing Conditions



Erosion damage along park shoreline. Source: TRCA, 2021



Bank Swallow colony nesting site along bluffs. Source: TRCA, 2023

Concept Design Options

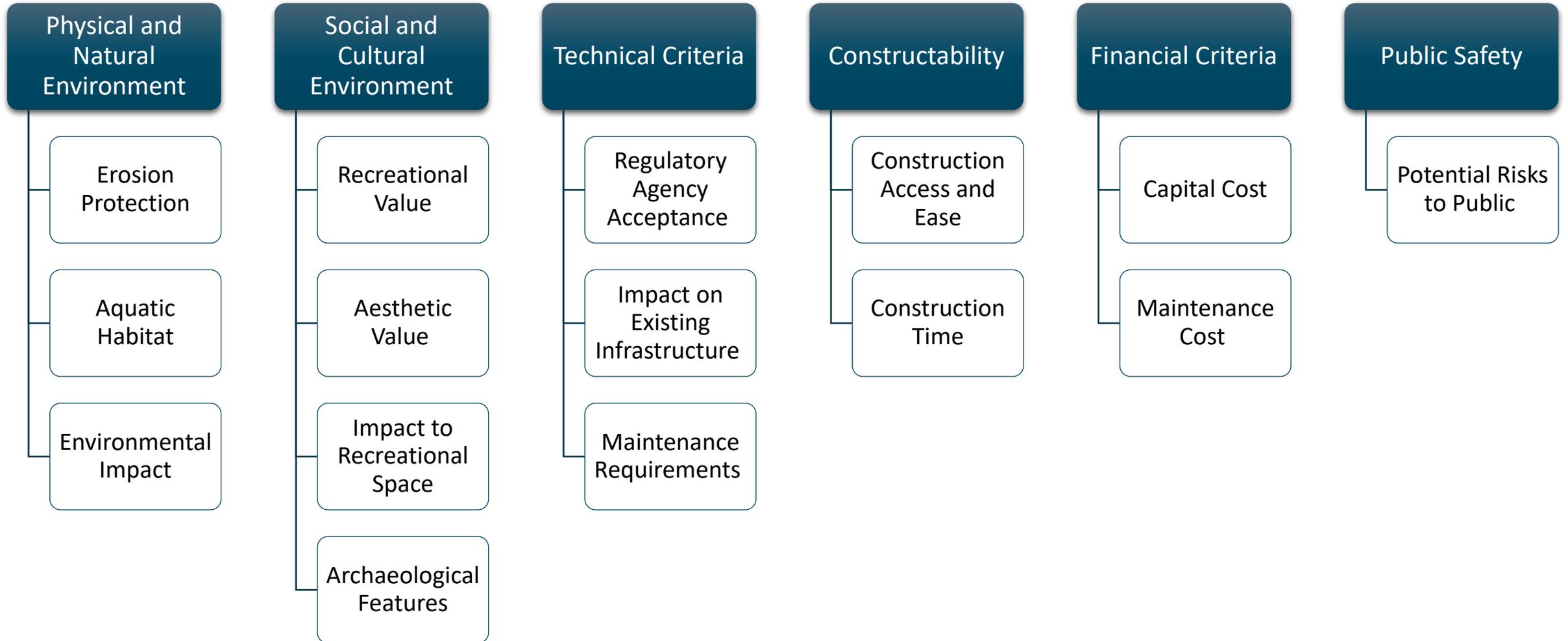


Introduction to Concept Designs

- Concepts shown today are preliminary
- Recommended vs Preferred Options
- Importance placed on preserving and continuing to nourish beaches where possible
- Options selected based on evaluation criteria



Concept Design Evaluation Criteria



Concept Design Option 1: Offshore Breakwater with Gaps

- Offshore emergent structures providing wave protection
- Increases circulation, allows for potential sediment movement
- High level of protection while still allowing for water movement and some natural sediment transfer

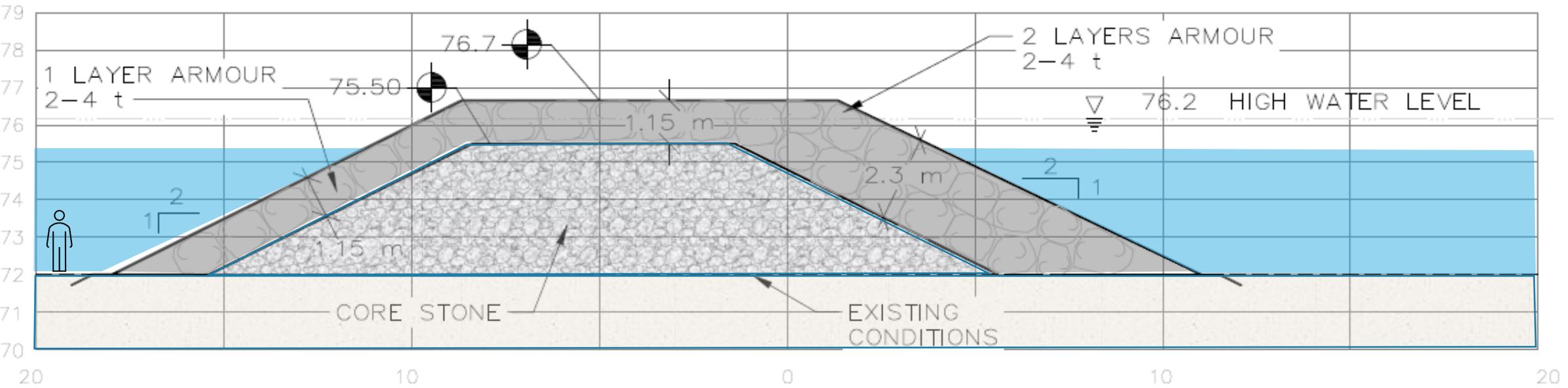
Advantages

- Provides protection without altering the shoreline
- Potential for aquatic habitat behind structure
- Promotes existing shoreline use
- Designs can be variable to reduce cost

Disadvantages

- Installation & maintenance complexity
- Visible from shoreline
- Source materials potentially more expensive due to size

Concept Design Option 1: Offshore Breakwater with Gaps



Offshore Breakwater Typical Cross-section. W.F. Baird, 2022

Concept Design Option 1: Offshore Breakwater with Gaps



Offshore breakwater from a former TRCA project. Source: TRCA, 2008

Concept Design Option 2: Nearshore Reefs

\$27,000 per metre

- Offshore submergent structure
- Simultaneously provide wave protection and aquatic habitat
- Varying width based on coastal conditions
- Uses quarried stone material

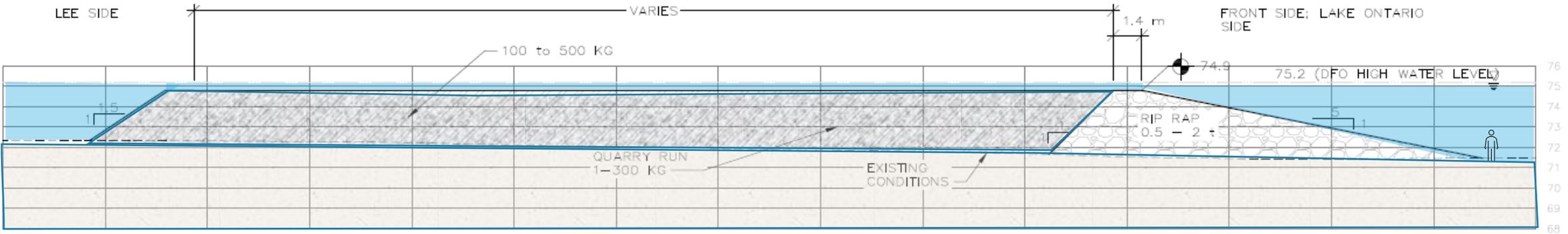
Advantages

- Provides protection without altering the shoreline
- Provides aquatic habitat
- Structure damage/failure gradual
- Source material potentially less expensive

Disadvantages

- Significant in water work; navigation concerns
- Large amount of material to be brought to site
- Less effective at high water levels

Concept Design Option 2: Nearshore Reefs



Nearshore Reef Cross-section. W.F. Baird, 2022

Concept Design Option 2: Nearshore Reefs



Nearshore Reef from a former TRCA project. Source: TRCA, 2008

Concept Design Option 3: Groynes with Beach Fill*

\$24,000 per metre

- Structure disrupts lateral movement of shoreline material, protects fill
- Stabilizes shoreline
- Beach material can be variable
- Groyne length and shape can be variable

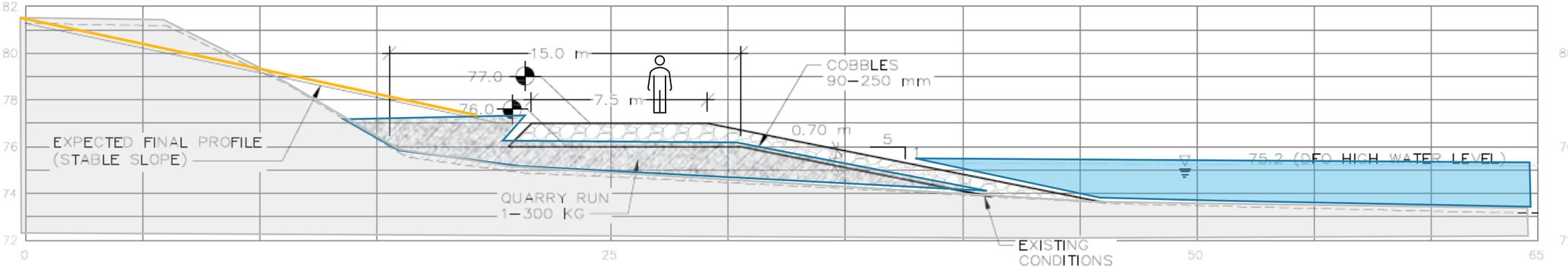
Advantages

- Could promote beach retention
- Gradual structure failure
- Availability of source material

Disadvantages

- Less protection during high lake levels
- Beach fill material may adjust between groynes

Concept Design Option 3: Groynes with Beach Fill



Beach Fill Cross-section. W.F. Baird, 2022

Concept Design Option 3: Groynes with Beach Fill



Groynes with Beach Fill from a former TRCA project. Source: TRCA, 2008

Concept Design Option 4: Cobble/Boulder Beach

- Similar to beach fill but with larger stone
- Thicker than beach profile
- Larger in-water footprint than other shoreline options

Advantages

- Consistent with natural conditions
- Does not change area aesthetic
- Damage and failure is gradual

Disadvantages

- Cost complications for size and natural boulder sourcing
- Limited design guidance

Concept Design Option 4: Cobble/Boulder Beach



Cobble Beach at Veteran's Point. Source: TRCA 2021

Concept Design Option 5: Conventional Revetment

- Long lasting erosion protection
- Will halt any further toe regression of bluffs
- Set far enough lakeward to allow for slope adjustment and maintenance access

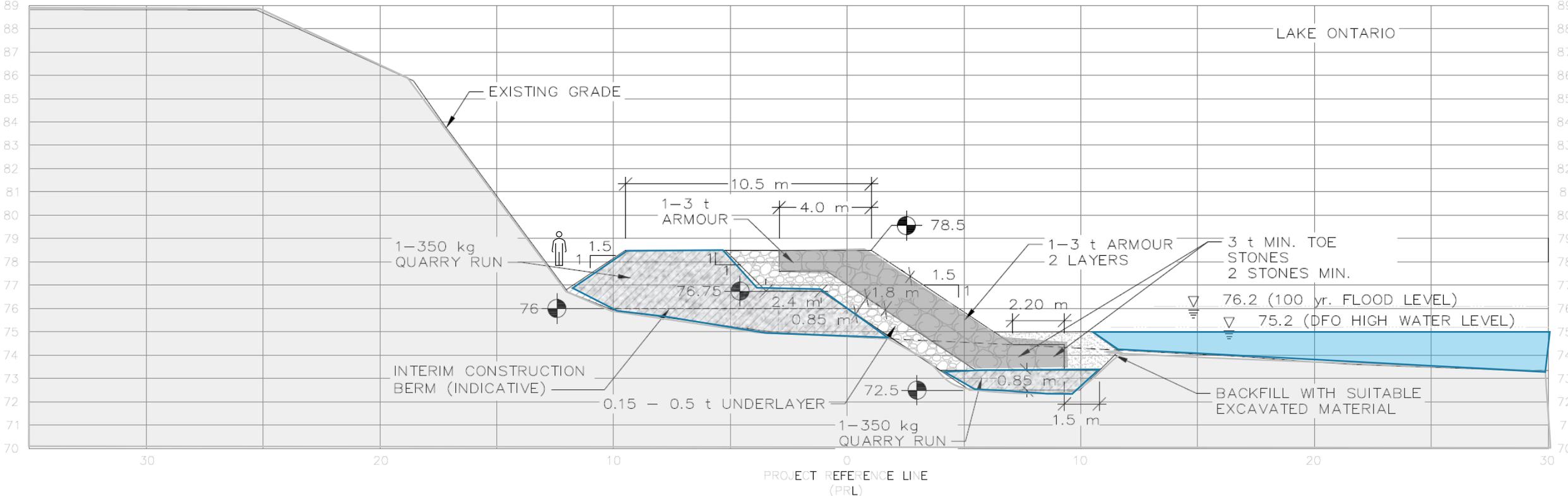
Advantages

- Proven design efficacy
- Easy material sourcing
- Limited in-water work

Disadvantages

- Will significantly change shoreline aesthetics
- Beach subject to erosion and loss of material
- Changes natural shoreline habitat

Concept Design Option 5: Conventional Revetment



Revetment Cross-section. W.F. Baird, 2022

Concept Design Option 5: Conventional Revetment



Revetment in Scarborough. Source: TRCA 2019

Concept Design Option 6: Monitoring Program/Do Nothing

- Evaluated for all Reaches to show long-term erosion risks
- Recommended for areas without particularly urgent near-term erosion concern
- Monitoring program can assess if/when erosion control becomes necessary

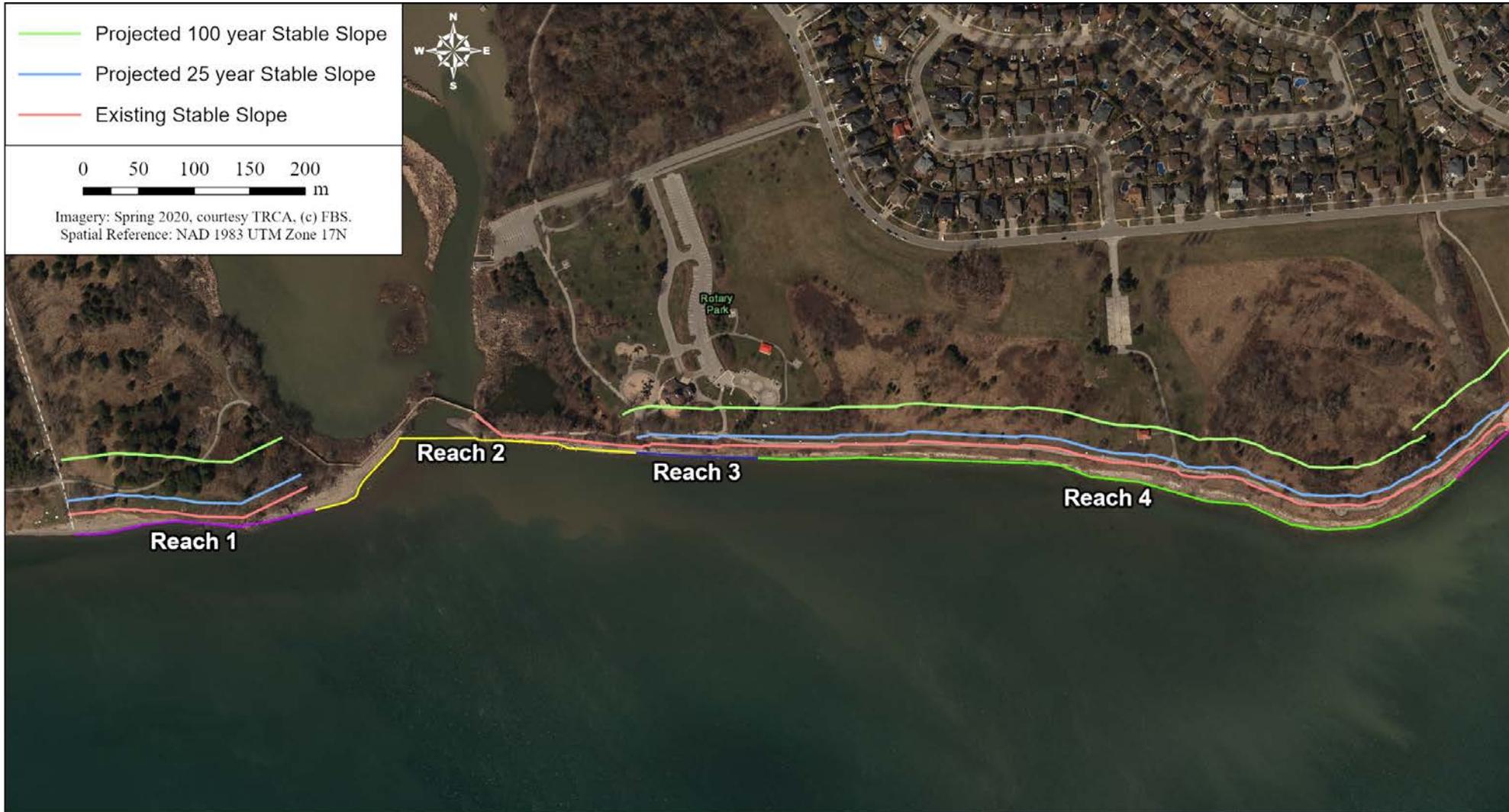
Advantages

- Low cost
- Maintains natural shoreline
- Maintains natural erosion processes

Disadvantages

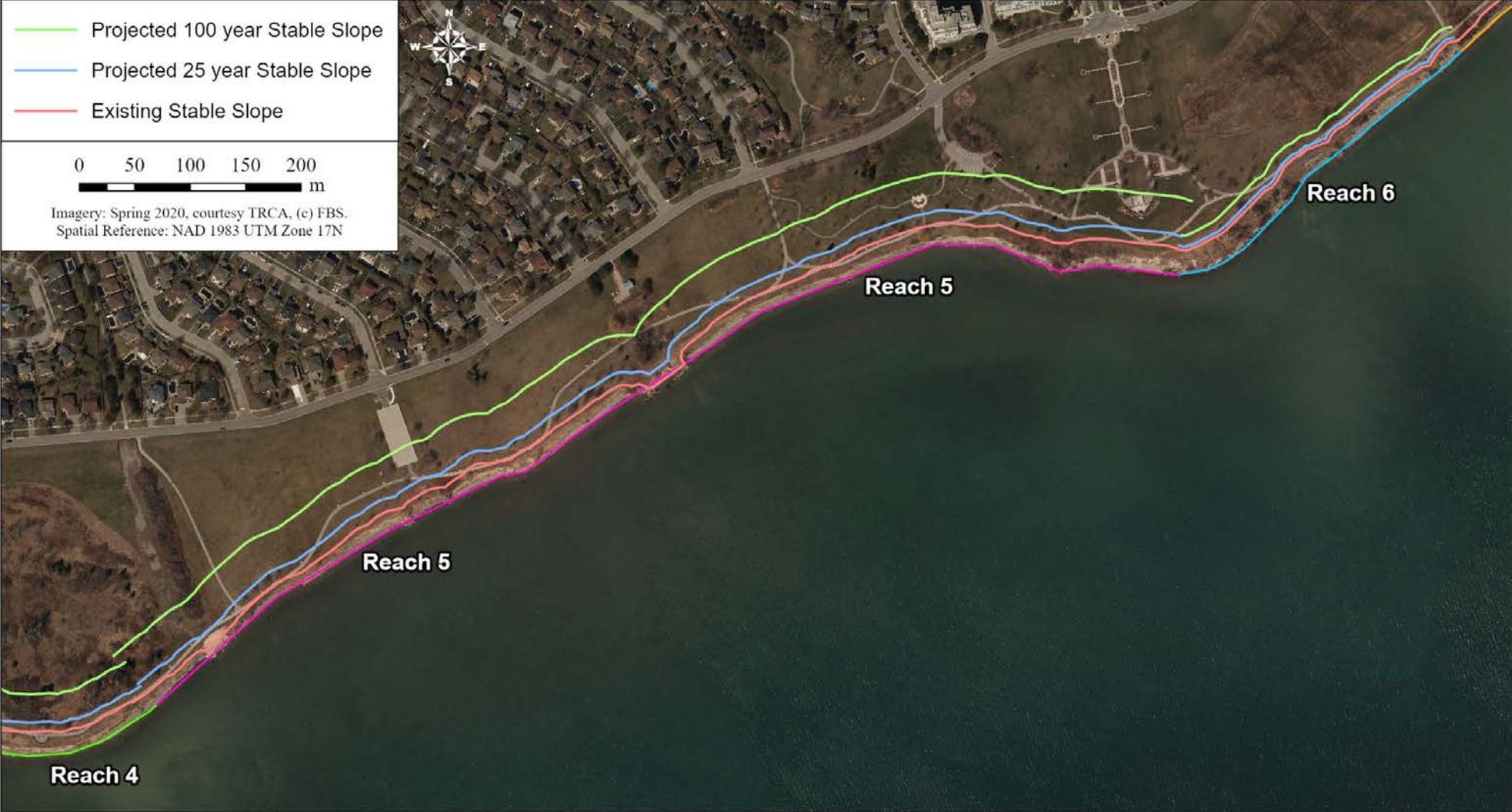
- Continued short-term and long-term erosion
- Higher costs of emergency or immediate restoration

Do Nothing – Reach 1 to Reach 4



“Do nothing” top of bank positions at Reach 1 to Reach 4. Baird, 2023.

Do Nothing – Reach 4 to Reach 6



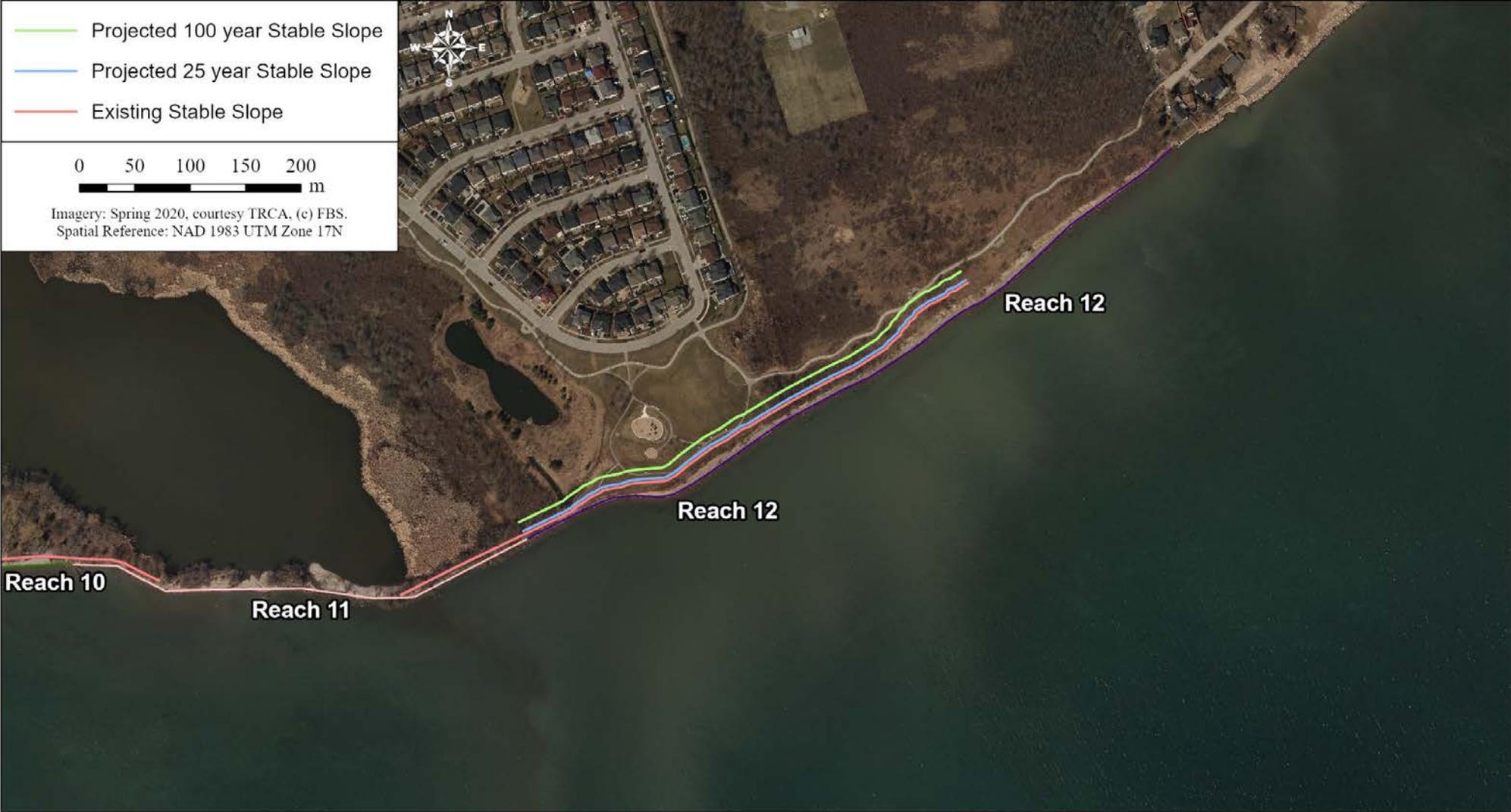
“Do nothing” top of bank positions at Reach 4 to Reach 6. Baird, 2023.

Do Nothing – Reach 6 to Reach 10



“Do nothing” top of bank positions at Reach 6 to Reach 10. Baird, 2023.

Do Nothing – Reach 10 to Reach 12



“Do nothing” top of bank positions at Reach 10 to Reach 12. Baird, 2023.

Study Area Breakdown

Ajax Shoreline Reaches

- 12 naturally separated areas along the shoreline called “reaches”
- Reaches were decided by:
 - Shoreline orientation
 - Bluff height
 - Erosion Rate
 - Risk to amenities
 - Public usage
- Concept designs tailored to provide most benefits for specific conditions
- Priority of high, medium, low, and none assigned to each Reach

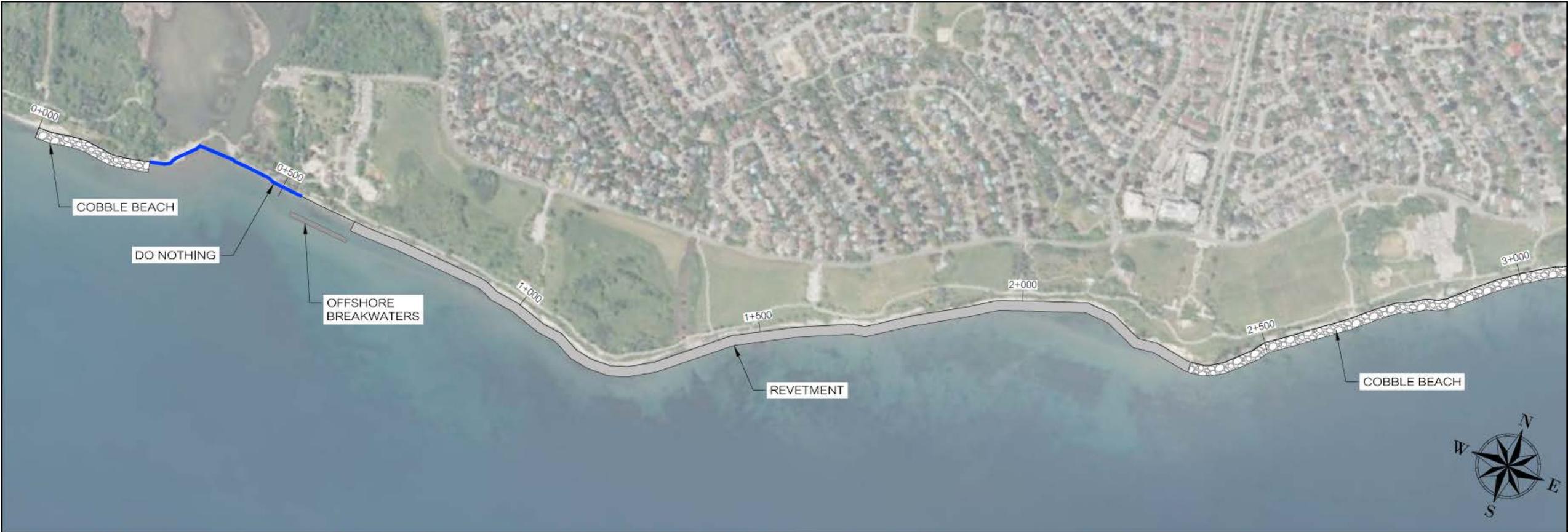


Aerial view of Ajax Waterfront Shoreline. Source: TRCA, 2021

Reach Location and Priority

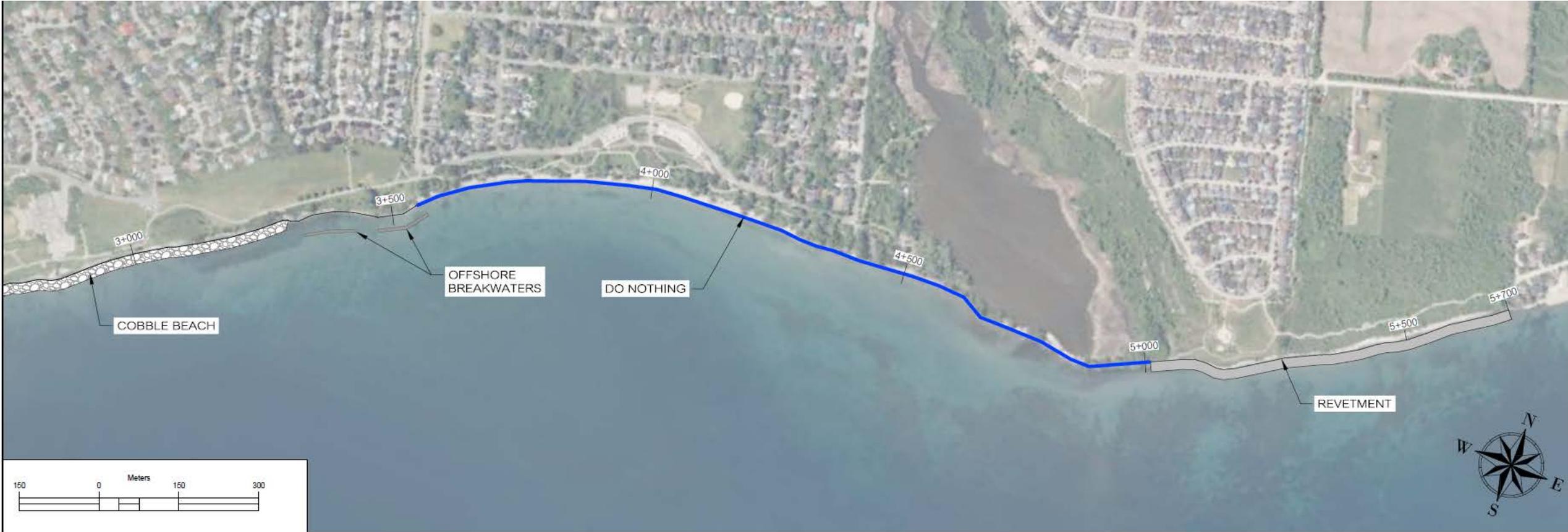


Long-Term Plan – Reach 1 - 6



Baird, 2022.

Long-Term Plan – Reach 7 - 12



Baird, 2022.

FRISCO ROAD TO ROTARY PARK

- Reach 1 – 220m
 - **Characteristics:** Rapid erosion, limited infrastructure, low bluffs
 - **Priority:** Low (long-term implementation)
 - **Recommended:** Cobble beach, Nearshore reef
 - **Preferred:** Cobble beach
- Reach 2 – 260m
 - **Characteristics:** Creek mouth and barrier beach, includes boardwalk
 - **Priority:** None
 - **Recommended:** Do Nothing
 - **Preferred:** Do Nothing



All Reach images taken from TRCA's 2021 drone imagery

FRISCO ROAD TO ROTARY PARK



Baird, 2022.

ROTARY PARK TO LION'S POINT

- Reach 3 – 110m
 - **Characteristics:** Rotary Park Pavilion and shoreline bluffs rapidly eroding
 - **Priority:** High (near-term implementation)
 - **Recommended:** Offshore breakwater, Revetment
 - **Preferred:** Offshore Breakwater
- Reach 4 – 650m
 - **Characteristics:** Slower erosion rates but higher bluffs; large greenspace between shoreline and residential area
 - **Priority:** Medium (mid-term implementation)
 - **Recommended:** Revetment, Cobble beach
 - **Preferred:** Revetment



All Reach images taken from TRCA's 2021 drone imagery

ROTARY PARK TO LION'S POINT



Baird, 2022.

LION'S POINT TO VETERAN'S POINT GARDENS

- Reach 5 – 1050m
 - **Characteristics:** Narrow greenspace between rapidly eroding bluff shoreline and Lake Driveway W
 - **Priority:** High (near-term implementation)
 - **Recommended:** Revetment, Cobble beach
 - **Preferred:** Revetment
- Reach 6 – 330m
 - **Characteristics:** Naturally occurring boulder shoreline around headland
 - **Priority:** Medium (mid-term implementation)
 - **Recommended:** Cobble beach, Revetment
 - **Preferred:** Cobble beach



All Reach images taken from TRCA's 2021 drone imagery

LION'S POINT TO VETERAN'S POINT GARDENS



Baird, 2022.

VETERAN'S POINT GARDENS TO PARADISE BEACH

- Reach 7 and Reach 8 – 620m
 - **Characteristics:** High bluff shoreline, water supply plant; some existing erosion control infrastructure
 - **Priority:** Medium (mid-term implementation)
 - **Recommended:** Cobble beach, Revetment
 - **Preferred:** Cobble beach
- Reach 9 – 220m
 - **Characteristics:** Low shoreline with some treed shoreline buffer leading to Paradise Beach
 - **Priority:** Medium (mid-term implementation)
 - **Recommended:** Offshore breakwater, Cobble beach
 - **Preferred:** Offshore breakwater



All Reach images taken from TRCA's 2021 drone imagery

VETERAN'S POINT GARDENS TO PARADISE BEACH



Baird, 2022.

PARADISE BEACH TO CARRUTHERS MARSH

- Reach 10 – 1060m
 - **Characteristics:** Paradise Beach; flooding at high water levels, no erosion observed
 - **Priority:** Low (long-term implementation)
 - **Recommended:** Do nothing, Nearshore reef
 - **Preferred:** Do Nothing

- Reach 11 – 520m
 - **Characteristics:** Carruthers Marsh mouth; no observed erosion
 - **Priority:** None
 - **Recommended:** Do Nothing
 - **Preferred:** Do Nothing

All Reach images taken from TRCA's 2021 drone imagery



PARADISE BEACH TO CARRUTHERS MARSH



Baird, 2022.

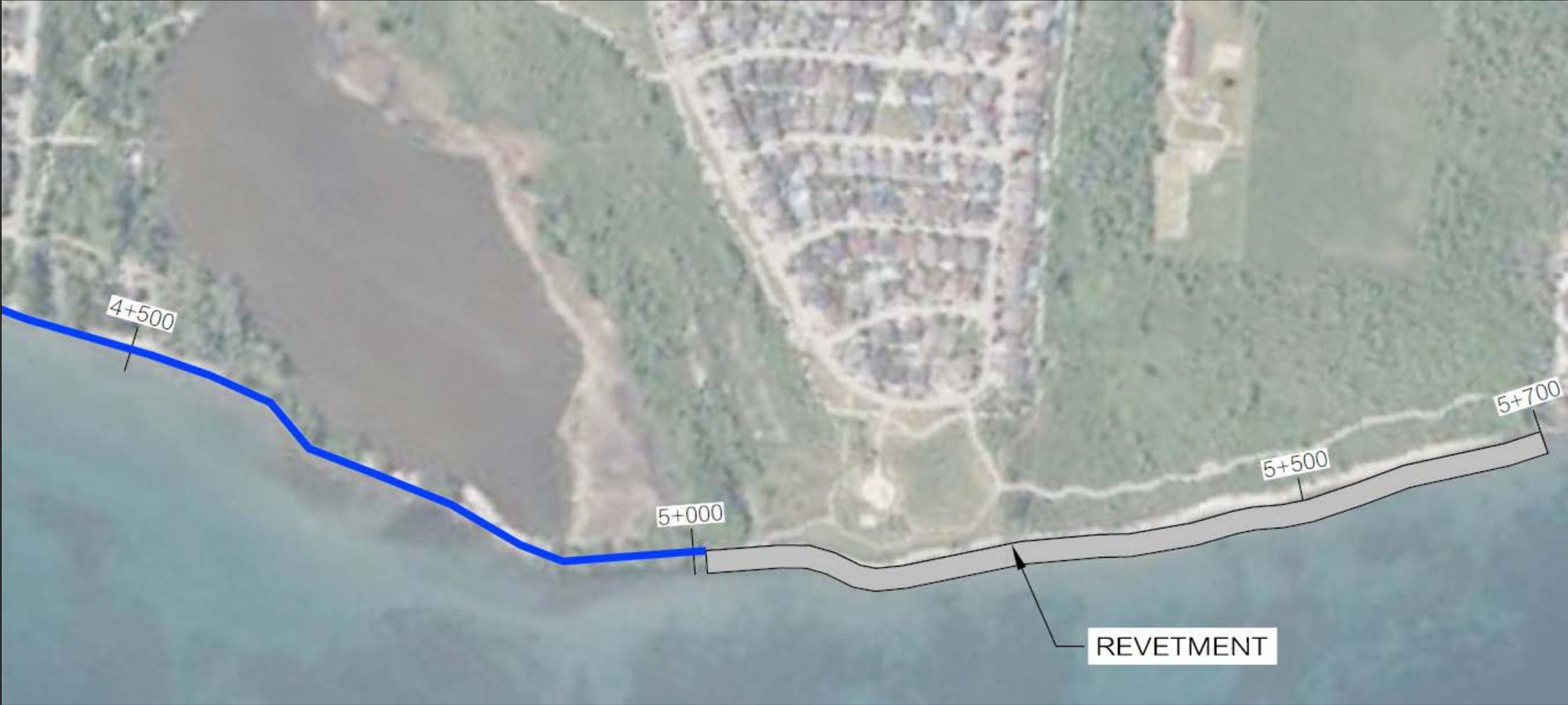
CARRUTHERS MARSH TO ONTORO BLVD

- Reach 12 – 600m
 - **Characteristics:** Sand beach & bluff shoreline bordered by woodland, green space and riparian marsh area; minimal concerning erosion
 - **Priority:** Low (long-term implementation)
 - **Recommended:** Revetment, Cobble beach
 - **Preferred:** Revetment



All Reach images taken from TRCA's 2021 drone imagery

CARRUTHERS MARSH TO ONTORO BLVD



Baird, 2022.

Question and Answer

Question & Answer Session

- Raise Hand
- Ask Question When Called Upon
- Refer to the FAQ handout

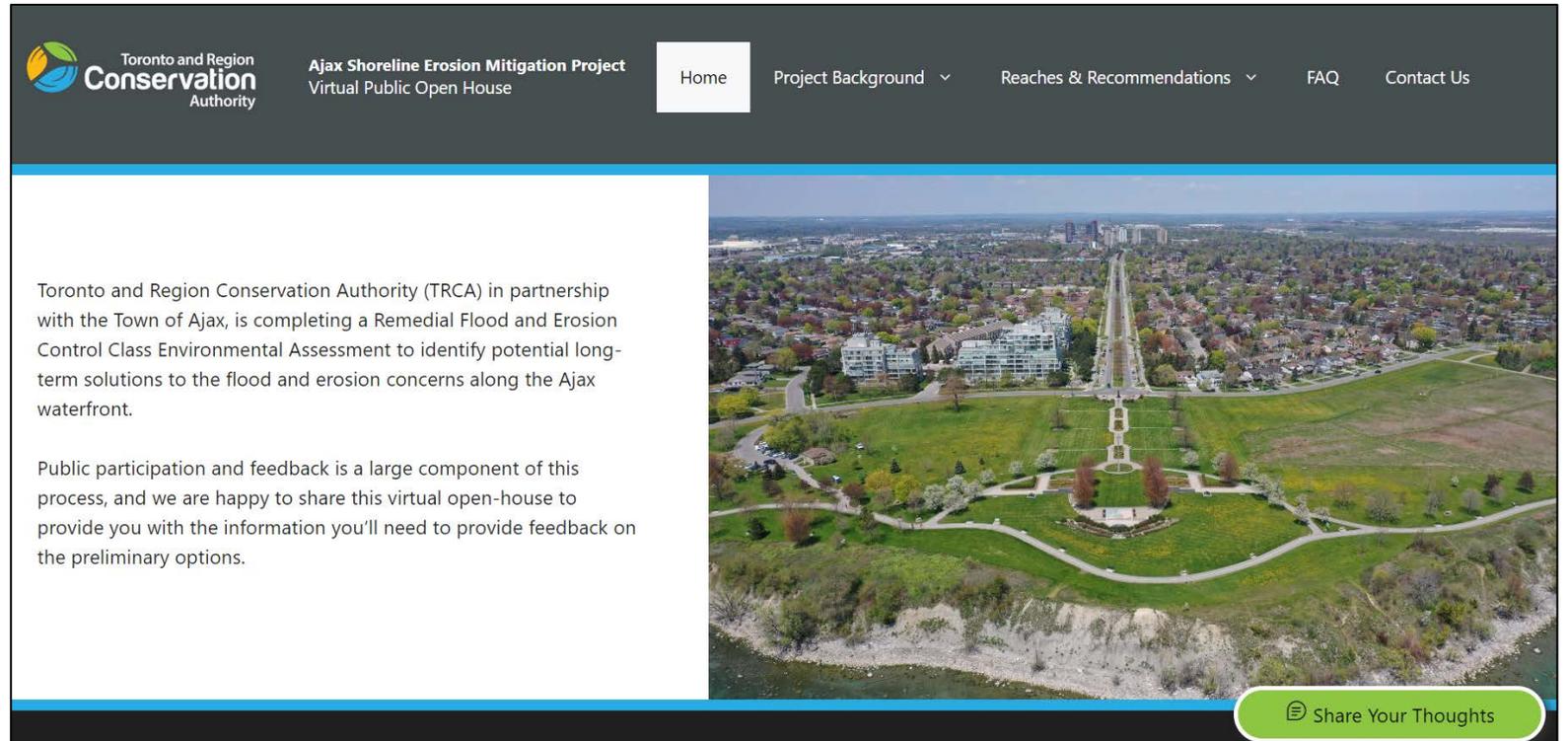
Virtual Public Open House:
getinvolvedtrca.ca/

Next Steps

Virtual Public Open House

getinvolvedtrca.ca/ajax-shoreline-ea

- Provide feedback through the survey forms
- Rank concepts from most to least preferred
- Open comment forms to share any additional details the project team should be aware of
- Feedback period open until **June 8th**



The screenshot shows the website's header with the Toronto and Region Conservation Authority logo and the project title "Ajax Shoreline Erosion Mitigation Project Virtual Public Open House". Navigation links include Home, Project Background, Reaches & Recommendations, FAQ, and Contact Us. The main content area features a large aerial photograph of a park area with a river in the foreground. Text on the left explains the project's purpose and the importance of public participation. A green button labeled "Share Your Thoughts" is located in the bottom right corner of the page.

Toronto and Region Conservation Authority

Ajax Shoreline Erosion Mitigation Project
Virtual Public Open House

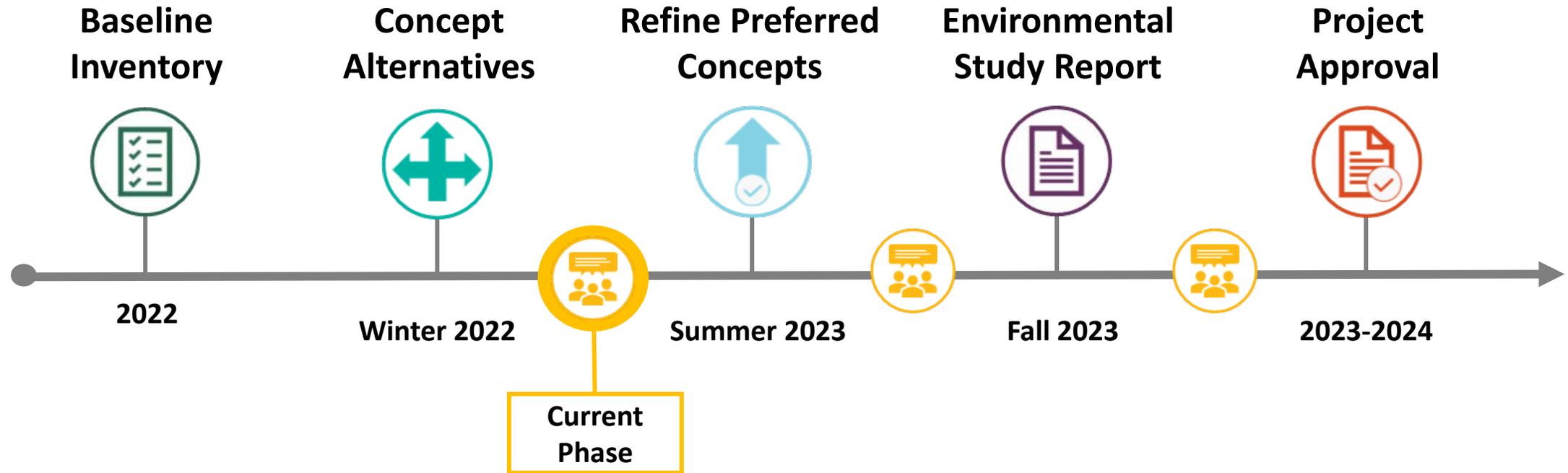
Home Project Background Reaches & Recommendations FAQ Contact Us

Toronto and Region Conservation Authority (TRCA) in partnership with the Town of Ajax, is completing a Remedial Flood and Erosion Control Class Environmental Assessment to identify potential long-term solutions to the flood and erosion concerns along the Ajax waterfront.

Public participation and feedback is a large component of this process, and we are happy to share this virtual open-house to provide you with the information you'll need to provide feedback on the preliminary options.

Share Your Thoughts

Next Steps and Timeline*



* Final timeline for approval may be delayed if additional round of consultation/revisions is required

* Detailed designs and permitting to proceed for priority sites following approval of Class EA

Thank you for attending!

Survey forms open for feedback until **June 8th, 2023:**

getinvolvedtrca.ca/ajax-shoreline-ea

Still have questions? Contact the project team directly at:

ajaxshoreline@trca.ca

www.trca.ca





APPENDIX D: PIC 1

Meeting Minutes

AJAX EROSION MITIGATION PROJECT: CLASS ENVIRONMENTAL ASSESSMENT

PUBLIC INFORMATION CENTRE MEETING #1

DATE: May 25, 2023 @ 6:00pm – 8:00pm

LOCATION: Duffin's Bay Public School (66 Pittmann Crescent, Ajax, ON)

HOSTED BY: Erosion Risk Management, Toronto and Region Conservation Authority (TRCA)

PANELISTS:

Natasha Gibson (NG), TRCA

Jet Taylor (JT), TRCA

Stephen Ruddy (SR), Town of Ajax

Mohammad Dibajnia (MD), W.F. Baird and Associates Coastal Engineers Limited

SPEAKERS:

Marilyn Crawford (MC), Deputy Mayor, Town of Ajax

ATTACHMENTS:

Attachment 1 – Review Material & Presentation

MEETING PURPOSE:

The purpose of this meeting was to receive feedback from the public for the Ajax Shoreline Erosion Mitigation Project (the "Project") as part of the Class Environmental Assessment (EA) process. The comments documented below will be considered and incorporated into the design package as part of the EA consultation process.

1. Public Information Centre Introduction

- NG reviewed location exits and washrooms with attendees, introduced the Project Team, Panelists, and extended a welcome to Councilor Henry and Deputy Mayor Crawford. Deputy Mayor Crawford welcomed attendees.

2. Project Background, Previous Studies & Environmental Assessment Introduction

- NG provided an overview of the Project area, Coastal and Gap Analysis, as well as the EA process, scope, design approach and evaluation criteria.

3. Concept Designs

- NG provided an overview of the proposed concept designs, including presentation of the key advantages and disadvantages of each.

4. Reach Overview

- NG introduced the 12 delineated Project area Reaches, including designation criteria, area priority level and proposed concepts for each.

5. Next Steps & Timelines

- NG reviewed the next steps for the Project, including further details on the Virtual Public Open House and EA timelines. Attendees were encouraged to review the Virtual Public Open House at: getinvolvedtrca.ca/ajax-shoreline-ea to review the information at their own pace and provide feedback. Survey forms are open for feedback until June 8, 2022. Direct questions can be sent to the project team at: AjaxShorelineEA@trca.ca

6. Question & Answer Session

Q1: Does storm direction impact erosion rates? Was this considered as part of previous studies?

A (MD): Historical data is reviewed to look at trends to compare where and when erosion occurring, ways sediment moves from east to west, where sediment settles, and diversions as sediment does not stay along shoreline.

Q2: Request to elaborate on the meaning of 'Do-nothing' option.

A (NG): Do-nothing assumes regular maintenance of existing structures for historical rates, explained where top of slope would be after time to settle and goes to natural angle.

Q3: Requested explanation of revetment and cobble beach specs. Width of revetment at 15m – concerns expressed with overall footprint of revetment option along shoreline.

A (NG): Clarifications on revetment provided at toe and variable to fit each site - provides the most robust protection, so has the largest visible footprint.

Q4: Has Central Lake Ontario Conservation Authority (CLOCA) completed studies as well as TRCA jurisdiction ends?

A (SR): Shoreline study completed, hazard mapping has been produced recently by CLOCA.

Q5: Noticed erosion protection that looks like Offshore Breakwaters/Groynes with Beach fill along the Toronto shoreline from the GO Train - how effective have they been? How do they compare to the Cobble Beach option?

A (JT): Off-shore Breakwaters and Groynes with Beach fill have been effective systems for areas that need permanent and robust protection due to their proximity to critical infrastructure (like GO-Train rail lines). The larger and more interlocking the stone, the less remaining natural shoreline or environmental benefit provided. The Cobble Beach option mimics the natural environment but doesn't provide as much protection.

Q6: Will the offshore breakwaters impact algae build up? In July, Reach 5 is full of algae – will this prevent the flow, increase/decrease the amount of algae?

A (SR): We have not evaluated the effect of concepts on algae control since solutions focused on erosion. There is potential for algae getting trapped in front of the breakwaters.

A (NG): This highlights the importance of gaps between breakwaters to maintain circulation and so water/vegetation does not get trapped.

A (JT): Additionally, water quality assessments are taken once preferred solutions are selected. Each preferred solution undergoes detailed assessments on their applicability to each reach.

Q7: Has this project been presented to Town Council yet?

A (MC): It has not yet formally come to Council.

A (Councilor Henry): Before the project is presented to Council, feedback is to be gathered through the Environmental Assessment process then the Town will see the report with all feedback and once Environmental Assessment is complete.

Q8: Has erosion from rainwater above and seeping through the bluffs been studied as a source of damage? It is notable after rain and causes damage to the slopes.

A (NG): Overland erosion and drainage solutions will be studied during detailed design phase, but stabilizing the toe of a slope prevents detrimental erosion all the way up so toe stabilization is key.

A (SR): The team has made sure it is something being considered in the detailed design process.

Q9: Will mitigation solutions allow vegetation to grow to further address erosion? Has vegetation been explored as a mitigative option?

A (SR): In general vegetation provides stability to a slope, but only once slope stabilizes over time. To address slope erosion you have to start at bottom to look after top of slope. The Project Team will consider drainage over green space as well the asphalt area in analysis. Another issue is the soil composition throughout Ajax (as mostly clay) which makes some planting hard. Trees can be planted but if the slope isn't stable they fall and take a large portion of slope with them. There are some opportunities to use natural vegetation to stabilize slope, example of coir matting, but again you need to take care of toe of slope as erosion will continue otherwise.

Q10: Is planting native aquatic vegetation a possible natural solution to erosion?

A (MD): This option is viable in sheltered or smaller bodies of water, but wave and tidal action in a body of water as large as Lake Ontario behaves more like an ocean and makes growth of nearshore aquatic vegetation without a protective structure nearly impossible.

A (SR): Would be interesting to explore a hybrid approach that incorporates multiple solution types.

Q11: This is a comment – Ajax Waterfront is a spot for innovative design due to buffer and lack major infrastructure in imminent danger near the shoreline. This shoreline is unique in the area and should not have a structure like a revetment. For example, South Marine Drive has seen zero improvements to shoreline since revetment installed. We have a great buffer to work with in Ajax as don't have critical infrastructure, suggestions of reducing erosion that acknowledges that there has been a century of damage done to the natural environment. Allow the shoreline time to recover naturally. For example, removal of stone along shoreline for decades and stone hooking. If we implemented beach strand and barren of rocks/wood you still have erosion, but it naturally recovers as seen when rocks and wood were placed along the shoreline west of Rotary Park during the flooding. Suggestion is to drop revetment in favour of onshore placement of materials. Refer to Frenchman's Bay in Pickering as an example of onshore placement of boulders where nearshore placement of material can be innovative and mimic natural systems and does not have an engineered element. Look at shoreline: you have large stone and woody material to slow down erosion which improves fish habitat, aesthetics for visitors. Look at significance of shoreline and do not rely on traditional solutions.

A (SR): Moving forward the Team will consider and incorporate ecological, cultural, and social impacts. I want to reassure everyone that we are at the erosion focused part of the project. We are aware of public concerns with beaches, but it is important to note a few areas where infrastructure is potentially going to be damaged to be considered for more formalized erosion control structures.

Q (contd): If done right, the shoreline will flourish; we have to acknowledge 100 years of abuse from past activities. As a community we need to decide what we can live with in terms of erosion and how can you maximize ecologically beneficial solutions.

Q12: The last 2 years you could walk the full length of waterfront, ducks migrating, even beavers. The ecology of the area is really important and I do not like the revetment and how it would hurt the ecology of the area.

A (JT): We have noted that there are advantages and disadvantages to each option - every reach where we recommended a revetment we also suggested cobble beaches. If we pursued a less environmentally dramatic option the tradeoff is more erosion. An advantage of a revetment is that it will last forever and is proven to reduce erosion. Additionally, it's important to note sourcing boulders is tricky but with a long enough lead time you could procure over the long-term.

Q13: How frequently are high priority areas monitored currently, and how will they be monitored moving forward?

A (SR): They are monitored sporadically and informally-- we do not currently have a major monitoring program. Part of monitoring moving forward would include where to potentially relocate the trail, this is why we are completing this study so we get an idea of what hazards could occur and make an informed decision. A previous example of this kind of monitoring is the work that resulted in the installation of the protective fence in areas along the shoreline.

Q14: Does Council have final decision in the Project?

A (SR): Yes, the final Environmental Sensitivity Report will be brought to Council. From there it still goes to budget, where spot treatments may be able to occur when needed and opportunities may arise to fund sourcing materials and boulders from developments locally.

A (SR): Also, important to note that December is when the study is done but in the mean time we will be working on getting funding and getting grants for implementation. A plan needs to be prepped and the towns next steps for what is needed in grant applications or if public appetite for what people can live with as well as being mindful of the unique waterfront Ajax has and that there needs to be a benefit overall for community that council will support.

Q15: Regarding water levels: there is extensive erosion when storm and lake levels fluctuate a lot, so what is a normal water level for this area? Is it controlled by IJC?

A (SR): We note the average range of water levels in designs, and yes it is controlled by that entity, but the Town is not invited to meetings so don't have more information.

Q16: At what point do we have the worst erosion due to storms? Is June a bad month for storms and water levels? Water levels have been noticeably high in recent years.

A (MD): In June you do not get storms, storms normally occur in late April, early May. We currently rarely get storms in June but you are right about fluctuations of water levels. Due to climate change we expect 30cm increase in upcoming years which will only further exacerbate erosion damage.

A (JT): Without the ice cover that traditionally protected the shoreline from winter storms, work to protect shorelines is expected to be more important and urgent in the coming years.

Prepared By: Ashley Brown

This confirms and records TRCA's interpretation of the discussions that occurred during this meeting. Comments made during the Public Information Centre will be incorporated into the Environmental Assessment Report.



APPENDIX D: PIC 1

Public Comment and Response Tracking Spreadsheet

Stakeholder Type	Comment / Question	Response
Community Member	I believe we cannot 'do nothing'. There is so much erosion in places that it is urgent to tackle those areas first. I suggested using the construction site boulders on shore years ago to help delay costs, as one solution. I love the breakwater idea.	"Do Nothing" may be viable in selected areas for many decades. But in the long term, most areas will require some action or too much local infrastructure (including houses etc.) will be lost. But we agree that do-nothing is high on the priority list for many reaches and over the coming decades hopefully.
Community Member	Erosion has such a negative tone in this review, yet it's the only reason people have sandy beaches to enjoy. If you armour this shoreline or disrupt the nearshore bathymetry and natural sediment transport processes, somebody (or something) is going to lose. If you armour even just sections of it, the cumulative effects will result in a steeper deeper shoreline with no beaches. This is not shore protection, this is shore and beach degradation. Erosion will continue at the base and sides of the revetment, exacerbating erosion on neighbouring properties. Overtopping and erosion behind the revetment will occur, requiring constant maintenance. Ecological communities adapted to a sandy coastline and nearshore will suffer. Without a beach your sandy beach will be hardly enjoyable for anyone. Groynes result in terminal groyne syndrome- the serve the few properties they are constructed on, anyone downdrift (private property, neighbouring municipality, provincial park, etc.) could hold you responsible for nourishing their section of the shoreline- you are essentially stealing sand from them. They also change the nearshore bathymetry which is an essential habitat for native fish species such as whitefish. Breakwaters are only effective during normal water levels. Scouring inbetween breakwater gaps creates pockets of deep water and rip currents. Overtopping is necessary to continue pseudo natural sediment transport processes. Water levels are rising and the frequency and intensity of high water levels is only getting worse. As water levels rise, breakwaters will quickly lose their efficiency. Preservation of your BEACHES with their gentle slopes, naturally designed to reduce wave energy and allowing the basin to expand are the ONLY sustainable defences you have to climate change. Your do nothing approach here is completely underrated. DO NOTHING? No no...this is something. It's better than nothing. It's conservation.	<ol style="list-style-type: none"> 1. With most areas downdrift (west) of Ajax already protected, loss of sediment supply due to selective protection in the Ajax area would be of limited practical consequence. 2. Erosion of the shoreline and downcutting in the nearshore waters will continue regardless of what option is implemented, unless the lakebed is protected far offshore to the limit of where erosion is occurring (very expensive). The suggested alternatives are intended to have minimal impacts on adjacent shorelines and there are ways this can be mitigated. Where some impact may occur, it should be quantified during subsequent design phases. 3. The use of beaches for shore protection has its challenges. If the beach is eroding today, it will continue to erode in the future unless larger material is used or some other form of protection is implemented (e.g. breakwaters/reefs). The solutions must also be viable over a wide range of water levels, meaning beaches would need to be higher and more expensive. 4. The commenter is correct that lower crested breakwaters lose their efficiency at higher water levels, which requires that they be wider or higher. 5. Do nothing can be considered conservation in some areas, but if we get to a position where nearshore parks have disappeared and houses are at risk, that is a tough
Community Member	To have long term mitigation (ie. More than 20-50 years), I suggest the team consult with the First Nations people to get their recommendations for solutions	This can be done. However, first nations groups historically did not have "permanent" infrastructure and did not implement shoreline erosion mitigation schemes. Their approach was more adaptive. Western civilization, with defined property boundaries and permanent structures, is faced with challenges that arguably first nations groups historically avoided. However, insights from a broad range of groups is certainly welcome.
Community Member	I recommend the shoreline remain as natural as possible. Hard structures like revetments and breakwalls erode the shore in front and adjacent. They also erode the lake bed in the vicinity of the structure. A living shoreline is made of mostly plants, trees, shrubs, sand or rock. It provides habitat and natural resilience, stabilizes the shore and reduces erosion. A living shore, sometimes called green, soft, or nature-based, is cost effective with low-maintenance. (http://www.fisheries.noaa.gov/understandinglivingshorelines)	Living shorelines are a popular approach to reducing erosion; however, they have their limitations along exposed linear shorelines without protection from ice and wave forces. They are more viable in less exposed areas and/or areas with less water level variation. A living shoreline may be quite expensive to implement in this setting, and may not be low maintenance.
	<p>Thank you for your presentation at the Ajax Waterfront Erosion Mitigation Project Open House on Thursday evening. Our feedback in support of the proposed project is as follows.</p> <ul style="list-style-type: none"> - The waterfront park area in Ajax is a beautiful asset. Work to limit erosion is important. It is also important that any work done respects the quiet natural beauty of the park and does not make the park a construction zone for years or generations to come. - We are concerned about the high price for the work for the preferred options. - It is important to also consider the impacts of recent changes to lake level control policies/processes on Lake Ontario. In recent years, there were changes made to the lake level management policies/processes to purposely allow the level of Lake Ontario to rise to allow replenishment of some adjacent wetland areas. (The policy is referred to as Plan 2014.) This plan was implemented in 2017 and aligned, timing-wise, with some of the most impactful years of rapid erosion on our waterfront and also had significant flood impacts in Toronto and other areas. An important way to reduce the erosion rate is to limit the rise in the level of Lake Ontario. Updating the international level control policies/processes to place a high importance on keeping the levels down to reduce erosion could significantly reduce the erosion in the Ajax waterfront area without significant funds being expended. It would 	We agree that high costs are a concern and looking for a more cost effective approach remains a high priority. Changes in lake level policy were considered in the water level analysis and while the 2014 scheme is not <u>intended</u> to have any impact on the very high water levels, it remains to be seen if (or how often) the 2014 scheme leads to a situation where the water level extremes go high than anticipated (such as during rapidly rising water levels). Two recent high water level years bring this into question. Influencing the overall regulation scheme and its lakewide impacts on the environment and erosion are, however, outside the scope of this study.

Community Member	<p>also support erosion control and flood prevention in Toronto and all the communities/areas around the lake. Some recent research using AI-type control mechanisms to predict and control lake levels should be further investigated and considered for further support/implementation if warranted.</p> <p>- We are very concerned about the potential impact on the waterfront park and the affect on adjacent residents of the construction activities in implementing the proposed preferred solutions. The work to implement the preferred options presented in the study will require significant quantities of material to be brought in. Building access roads for trucks of rock etc to be delivered through the park can be detrimental to the enjoyment of the park and negatively impactful for nearby residents. (We have lived through this with work done in recent years on reinforcing a storm drain outlet at the lake front. The access path and lay-down area was a real mess. It took a year to do the work and two years to restore the park.) It would be best to bring the material in via the water side. If that is not viable, building the access point far from the residential areas and away from the areas of the park near where people are should be considered to keep the negative impact as low as practicable.</p> <p>- Any permanent access road for maintenance of the proposed solutions should be via an area far from the residential areas and away from the areas of the park near where people are.</p> <p>- From a recreational value perspective, we do not feel that it is important to maintain a sandy beach on the waterfront in the subject area. It is not used by residents for "beach" type activities to any significant degree, so whatever is best to prevent erosion would be appropriate.</p> <p>- When assessing the project, it is important to consider not only the cost of the implementation of the project (construction, materials, etc), but also the cost of maintaining the work (revetments, etc) going forward. Getting funding for the initial capital cost will be difficult given the numbers involved, but there are also the significant costs to maintain the various structures going forward to ensure they maintain their functionality. This should be characterized/quantified in the study as well.</p> <p>Please accept our feedback for consideration as part of the Environmental Assessment underway in support of the proposed project.</p>	<p>Construction impacts are a concern and there are ways to mitigate this; however, these methods also have cost considerations and long access roads along the shoreline can have environmental impacts as well. We recognize that much of the shoreline is not used for "beach activities" compared to more established areas. The shoreline usage patterns is one of the many factors that is considered along with environmental concerns, cost, effectiveness, etc..</p>
Community Member	<p>Thank you for the opportunity to comment on the Ajax Waterfront Erosion Mitigation Project. I am glad to see TRCA investigating waterfront regeneration opportunities along this section of waterfront. The Ajax shoreline is unique and special, it is one of the only examples within the Great Lakes that has significant development setbacks that has allowed for the development of a significant greenway and shoreline management opportunities... This shoreline has comparatively low rates of erosion (especially when you consider we have had back to back historic high water levels), there is a lack of extensive infrastructure along the shoreline that requires protection and the nearshore and wave zone is a critical piece of shoreline aquatic habitat that is bracketed by two coastal marshes and two major watercourses. Based on this perspective I have the following comments and concerns about the proposed design concepts outlined for the Ajax Waterfront Erosion Mitigation Project. First and foremost This shoreline demands a thoughtful creative and innovative approach. I am concerned that the presented concept designs are prohibitively expensive (from a cost benefit perspective), over engineered, destructive to aquatic habitat, and represent a traditional (maybe outdated) way of protecting shorelines.... I saw no mention in the documents about the need and cost of fish habitat compensation. The footprint of lost habitat should be calculated for each concept design, the location, extent, type and costs of compensatory habitat should be considered for each design concept. This shoreline is highly altered from its historical condition. This shoreline was the focus of the stone honking trade that centered out of Frenchman's bay in Pickering. It was also the site of an aggregate removal operations that removed large volumes of sand and gravel from the mouth and shoreline at Duffins Creek in the 1940's and 50's. I strongly suggest that an additional design concept be developed that would mimic the form and function of this lost material.. This has been done in other locations (marksbury present) and at the barrier beach at Duffins Creek. From my perspective the design concepts have been developed from a singular perspective of eliminating erosion along this section of shoreline. Considering the lack of valuable infrastructure, design efforts should be directed at reducing and slowing the rate of erosion while improving aquatic habitat, maintaining and improving waters edge access, and developing shoreline concepts that are aesthetically appropriate for this section of shoreline. An additional concept design should be developed that showcase</p>	<ol style="list-style-type: none"> 1. Agree about the expense of the options; we are always interested in more economical approaches. 2. Fish habitat compensation would be required for some alternatives and would be assessed at a future stage of development. Determining the required level of compensation for different footprints and different habitat types was not within the scope of this phase. 3. The natural materials that may have been removed from much of this area would likely be cobbles/boulders etc., are are some of the materials considered for alternatives. To our knowledge, this area does not show evidence of the slabs of rock that were collected from the Port Credit region. 4. While we agree that some areas have moderate erosion rates, we do need to assess long term plans. Alternatives that are more aesthetic than protective can be considered but would have a limited lifetime before other options may need to be considered. 5. Living shoreline approaches and the use of boulders and woody debris is an option, although these methods have limitations. The boulders are more in-line with the some of the existing shorelines. The use of woody debris and planting on an open coast typically requires other structural approaches to shelter the site from wave/ice effects. 6. Agree that SAR impacts need to be assessed.

	<p>shoreline regeneration and highlights a multiplicity of benefits rather than just eliminating erosion. The additional design concept should focus on the strategic, thoughtful and innovative placement of boulders, aggregates and large woody debris in the back shore, wave zone and nearshore areas. This material could be positioned to provide the maximum amount of erosion reduction, provide extensive aquatic habitat, reduce the impact to existing fish habitat and significantly lower the cost of the overall project. There are many areas east of the GTA that could provide an example of what this shoreline could look like and there are few areas within the existing study area where residual shoreline boulders are providing this protection. A significant omission in the documentation is the presence of Species at Risk (SAR) Atlantic Salmon within the study area. The Atlantic salmon is found in the waters of Lake Ontario and Duffins Creek. Major efforts have been underway for many years to re-establish this fish in Duffins Creef and Lake Ontario. The shoreline design concepts would completely alter wave zone nearshore habitat, eliminate the function of the existing and potential habitat and be of no aquatic habitat value for Atlantic salmon. Atlantic salmon smolts utilize nearshore areas as a late juvenile habitat. An additional design concept could as outlined above provide extensive critical habitat for this SAR, be the guiding principle behind an innovative shoreline design concept, and have the ability to reduce or eliminate the need for costly compensatory fish habitat. Respectfully, I request that the project team develop an additional concept design that addresses my concerns and highlights shoreline regeneration opportunities.</p>	
Community Member	<p>We feel that it is important to work to mitigate the erosion of the Ajax Waterfront Park. Leaving things to be natural is always an attractive option, but in this case, it will not be viable given the continued erosion of the shoreline. The project will be expensive, but the Ajax Waterfront Park is an important asset that warrants protecting for the benefit of current and future residents. This project will be vital to ensuring the preservation of this important green space going forward.</p>	<p>Agree that leaving the park in a natural state is an attractive option, and also agree that as a long term plan this may be problematic.</p>
Community Member	<p>Thanks for coordinating the PIC regarding the Ajax Waterfront Erosion project on January 16, 2024.</p> <p>One point that I'd like to highlight is that many people enjoy accessing the waterfront beach and bluff areas which are at water level. I ask that the Town of Ajax and TRCA consider maintaining and enhancing existing beach/bluff access for visitors. One of our favorite things to do with our young family is to walk up and down the beach across most, if not all of the 'reaches' of the project.</p> <p>Another point I'd like to Town and TRCA to consider is to plant more deep.rooted vegetation at the edge of the terrestrial erosion line. The added root structure would help to further prevent erosion in between high water events.</p> <p>Please consider hosting additional Public consultation regarding detailed design phases.</p> <p>Thanks for the opportunity.</p>	<p>Access and restoration plantings will be considered in the detailed design phase of the work. While ineffective on their own in open-coast shorelines, vegetation will be one of the elements of the detailed design work throughout several reaches of the shoreline.</p> <p>Due to the spectrum nature of the cobble / boulder beach alternative, public information sessions will be scheduled during the detailed design phase for reaches using this design option. Any stakeholders or community members identified through the Environmental Assessment process will be invited to these sessions.</p>
Community Member	<p>I couldn't attend the presentation in person but really enjoy your online presentation which was very clear</p> <p>Question/suggestion regarding the Offshore breakwater.</p> <p>If possible to have pedestrian access even if not paved on top of the breakwater so one can go out towards the lake like going out on a pier.</p>	<p>An offshore breakwater is detached from the shoreline as part of its design and therefore would not have a formal access from the shoreline. Any access to the structure would not be recommended for safety reasons. Promoting access to the shoreline will continue to be considered during the detailed design phases of the work in future years.</p>



APPENDIX D: CLC 2

Meeting Agenda

**AJAX WATERFRONT EROSION MITIGATION PROJECT:
CLASS ENVIRONMENTAL ASSESSMENT FOR REMEDIAL FLOOD AND EROSION
CONTROL PROJECTS**

COMMUNITY LIAISON COMMITTEE MEETING #2

DATE: November 14th, 2023 @ 6:00pm – 8:00pm

LOCATION: Teams Meeting

HOSTED BY: Erosion Risk Management, Toronto and Region Conservation Authority (TRCA)

INVITEES:

Natasha Gibson (NG), TRCA

Jet Taylor (JT), TRCA

Whitney Brennan (WB), TRCA

Ashley Brown (AB), TRCA

Emily Thomas (ET), TRCA

Derek Williamson (DW), W.F. Baird and

Associates Coastal Engineers Limited (Baird)

Ajax Town Council

Stephen Ruddy (SR), Town of Ajax

Shaun Walker (SW), Town of Ajax

Samuel Twumasi (ST), Town of Ajax

Devon Jarvis (DJ), Town of Ajax

Adam McDermott (AD), Town of Ajax

Derek Lee (DL), Durham Region Cycling Coalition

Environmental Action Now Ajax Pickering

Pickering Naturalists Club

Durham Outdoors Club

Durham Environmental Advisory Committee

AGENDA

1. Land Acknowledgement
2. Administrative Items
3. Welcome and Introductions
4. Project Overview and Updates
5. Concept Design Updates

- 6.** Evaluation Criteria Overview
- 7.** Reach Designation and Recommendations Overview
- 8.** Discussion Period
- 9.** Next Steps



APPENDIX D: CLC 2

Presentation Slide Deck

Ajax Waterfront Erosion Mitigation Project

Community Liaison Committee Meeting

Presented by:

Natasha Gibson, Senior Project Manager, Erosion Risk Management

November 14th, 2023

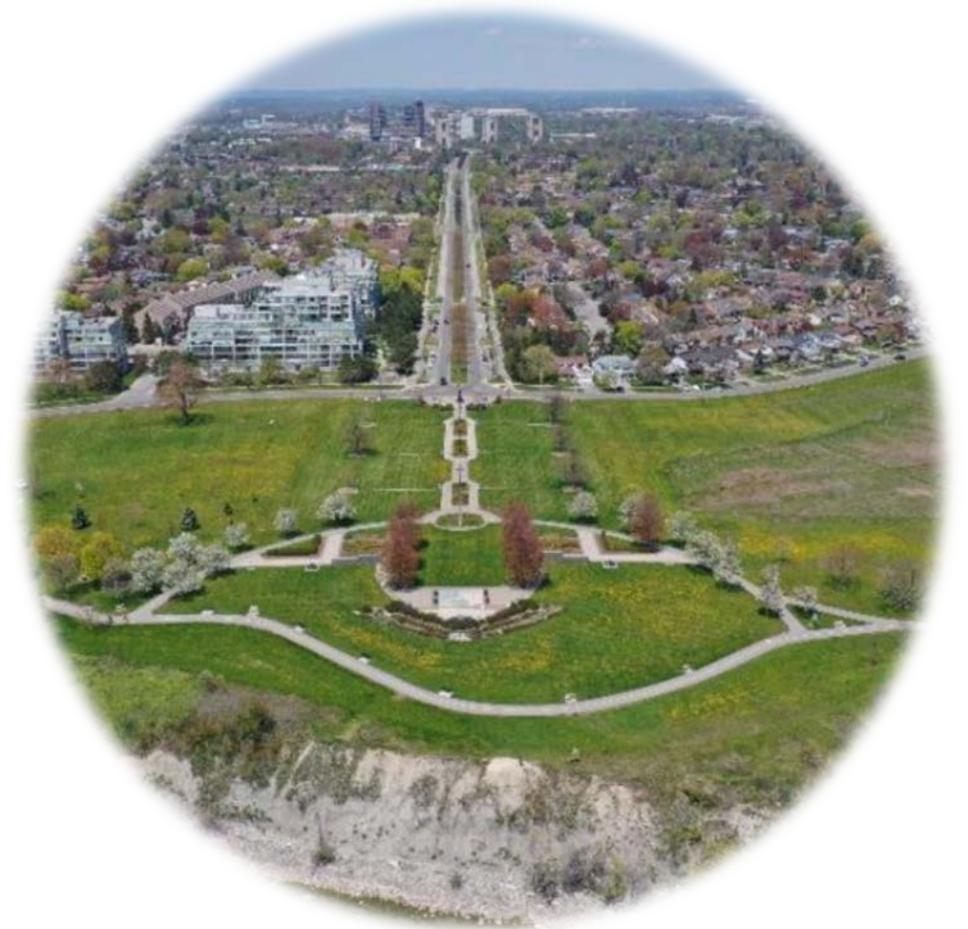


Agenda

- Administrative Items
- Team Introductions and Background
- Summary of Initial Concepts
- Updated Recommendations and Evaluation
- Next Steps

Administrative Items

- Meeting Structure and Participation
 - Please use the 'raise hand' function for questions or comments
 - Reference slide number in chat messages
- Other
 - Slide deck available
 - Post-Meeting Feedback: natasha.gibson@trca.ca



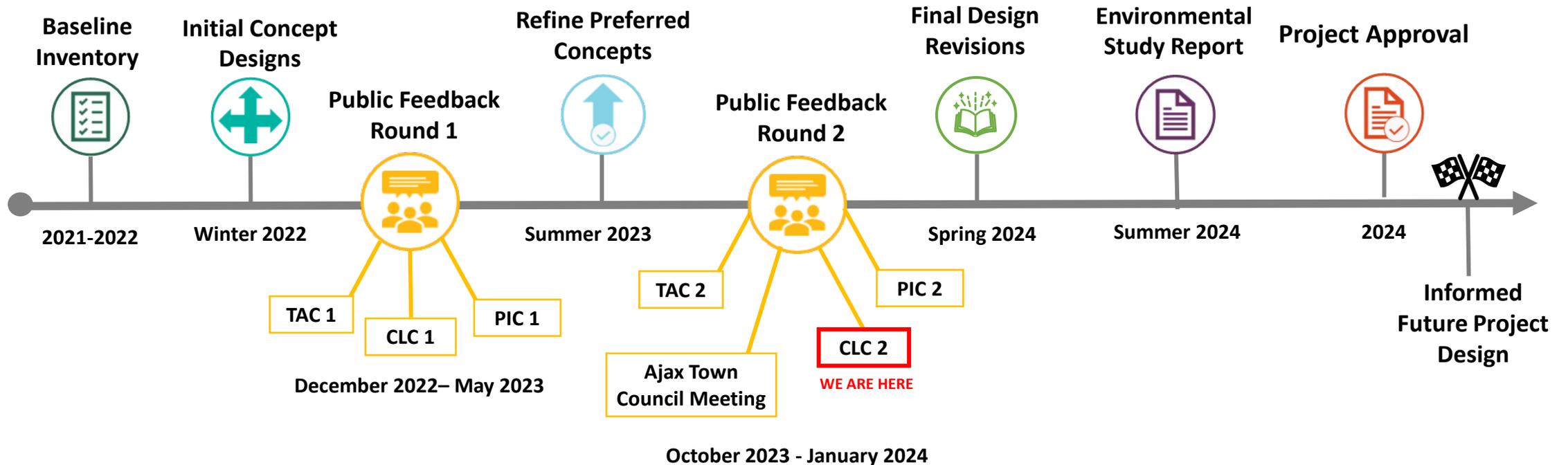
Aerial Photo of Ajax Waterfront Park. Source: TRCA, 2021

Meeting Purpose

1. To inform the Community Liaison Committee of the changes made to concept designs following the first round of public engagement
2. To collect feedback on the current recommendations prior to the Public Information Centre in January



Environmental Assessment Process



Project Team Organization Chart



Client

Town Representative

- *Stephen Ruddy*, Manager of Development Engineering



Delivering Study

Project Management Team

- *Jet Taylor*, Senior Manager
- *Natasha Gibson*, Senior Project Manager
- *Ashley Brown*, Environmental Technician
- *Ian Warburton*, Environmental Technician



Consulting Team

- *Derek Williamson*, Principal
- *Mohammad Dibajnia*, Associate Principal
- *Grounded Engineering*

Public Engagement Groups

Technical Advisory Committee (TAC)

- Interdivisional subject matter experts with technical expertise
- Purely technical stake, civil service

Community Liaison Committee (CLC)

- Stakeholder advisory group
- User groups, relevant community organizations, other stakeholder groups

Public Information Centre

- Open to comments from general public



Ajax Shoreline Erosion Mitigation Project Review

- Phase 1 – Shoreline Assessment and Gap Analysis
- Phase 2 – Conservation Ontario Remedial Flood and Erosion Control Class Environmental Assessment

Round 1 Consultation Review

Original Proposed Designs:

- Cobble Boulder Beach
- Armourstone Revetment
- Nearshore Reef
- Offshore Breakwater
- Groyne with Beach Fill
- Do Nothing / Monitoring

Summary of Public Feedback:

- Softer shoreline protection
- Aquatic habitat and sediment supply
- Maintain natural shoreline
- Total Cost of Work



Concept Updates Overview



- Revetment option removed
- Cobble/Boulder Beach refined
- Do Nothing refined
- Reassessed Shoreline Recommendations



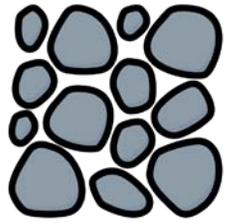
Erosion damage along park shoreline. Source: TRCA, 2021



Refined Concept 1: Offshore Breakwater with Gaps



Offshore breakwater visual example. Source: TRCA, 2008



Refined Concept 2: Cobble / Boulder Beach



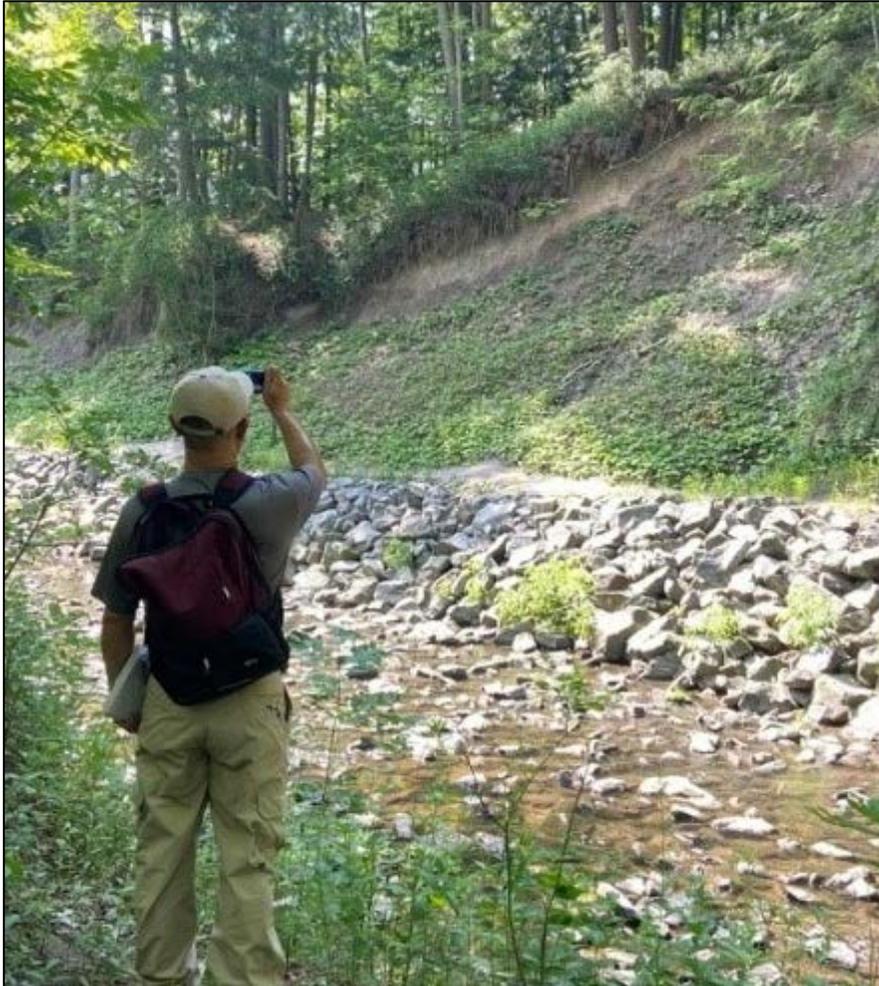
Boulder / Cobble Beach at Veteran's Point. Source: TRCA 2021



Cobble Beach at Sylvan Park. Source: TRCA 2019



Refined Concept 3: Shoreline Erosion Monitoring



Erosion monitoring staff. Source: TRCA 2021



Cobble Beach at Sylvan Park. Source: TRCA 2019

Reach by Reach Concept Designs

Priority Designation Overview

0-10 Years	10-40 Years	40+ Years
High Priority	Medium Priority	Low Priority / No Concern
Rapid Erosion	Moderate Erosion	Low or No Erosion
Close to critical infrastructure	Longer term impacts to infrastructure	No or manageable impacts to infrastructure
Erosion poses a potential hazard to public	Erosion not an imminent hazard	Erosion may be future long-term hazard; not imminent



Reaches Determined By:

1. Bluff height
2. Erosion Rate
3. Proximity to natural landmarks
4. Surrounding infrastructure
5. Sediment availability

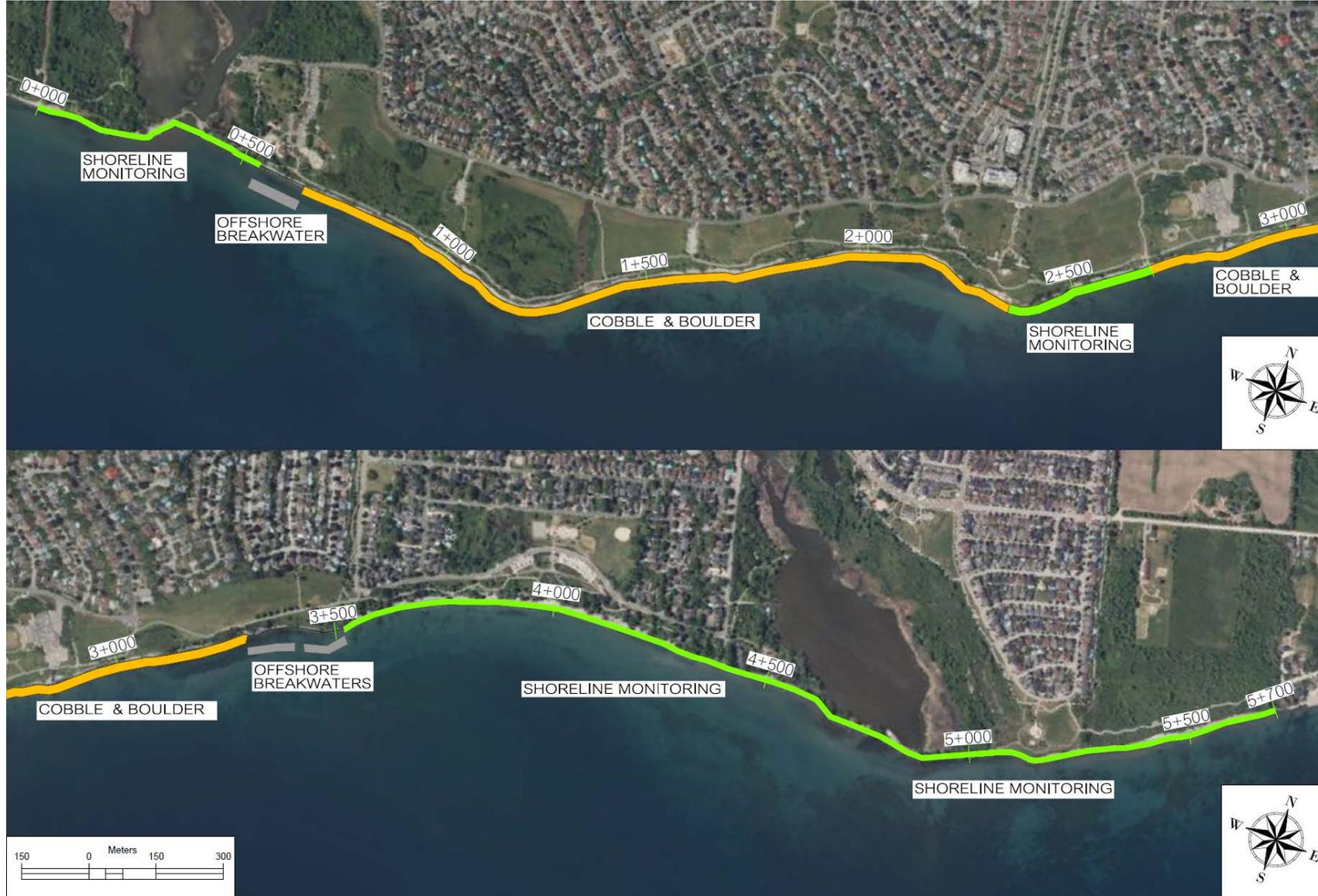
Reach Location Breakdown



Evaluation Criteria Overview

 Environmental	 Physical	 Cultural	 Cost	 Technical
<ul style="list-style-type: none"> • Aquatic habitat improvements • Terrestrial habitat improvements • Species of Concern 	<ul style="list-style-type: none"> • Unique physical elements • Soil and Water Quality • Sediment input 	<ul style="list-style-type: none"> • Community impacts • Tourism and Recreation • Aesthetic 	<ul style="list-style-type: none"> • Initial construction cost • Ongoing maintenance costs 	<ul style="list-style-type: none"> • Impacts on erosion rates • Slope stability impacts • Hazard sites

Updated Recommendations by Reach



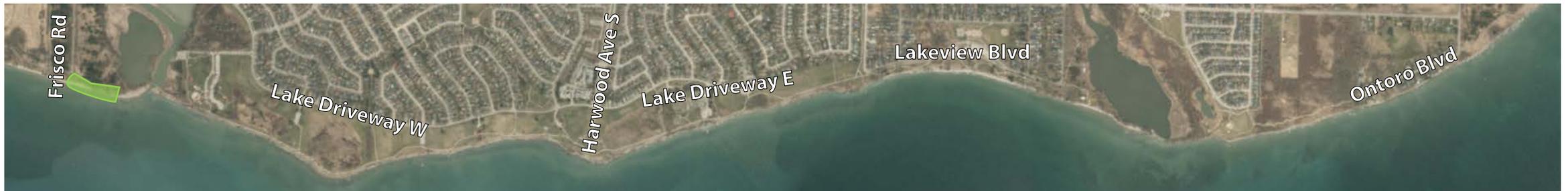
Reach 1 – West of Duffins Creek



Shoreline Erosion
Monitoring

40+ Years

220m



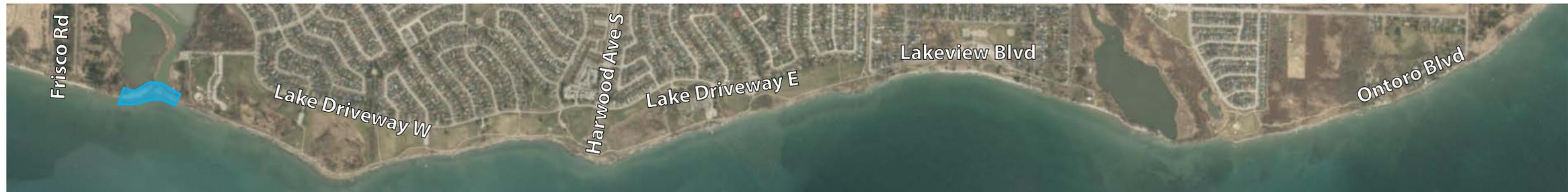
Reach 2 – Duffins Creek Mouth



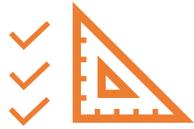
Shoreline Erosion Monitoring

40+ Years

260m



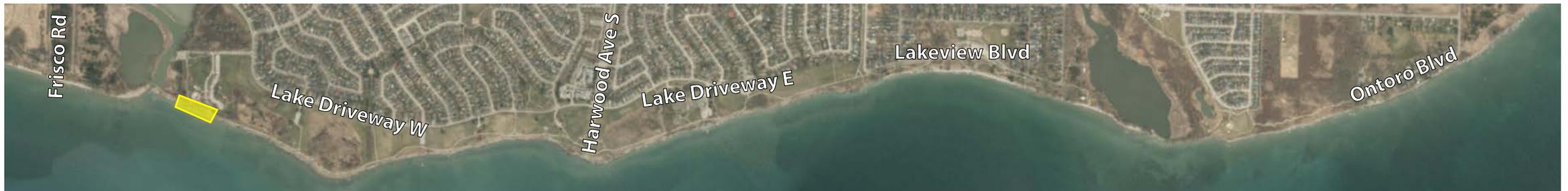
Reach 3 – Rotary Park Pavilion



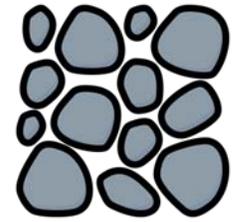
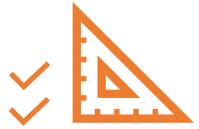
Offshore
Breakwater

0-10 Years

110m



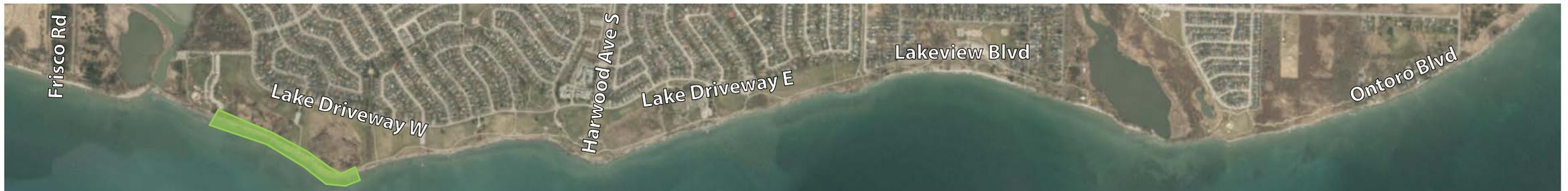
Reach 4 – Lake Driveway West



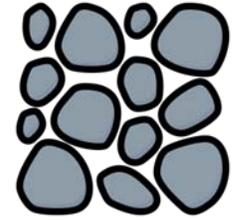
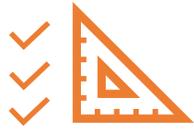
Cobble Boulder Beach

10-40 Years

650m



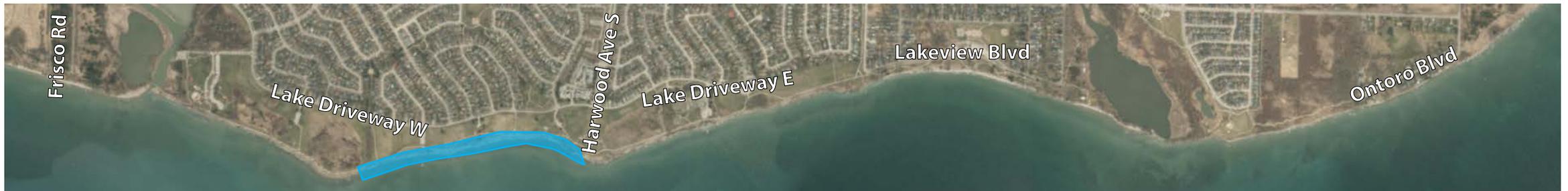
Reach 5 – West of Lion's Point



Cobble Boulder Beach

0-10 Years

1050m



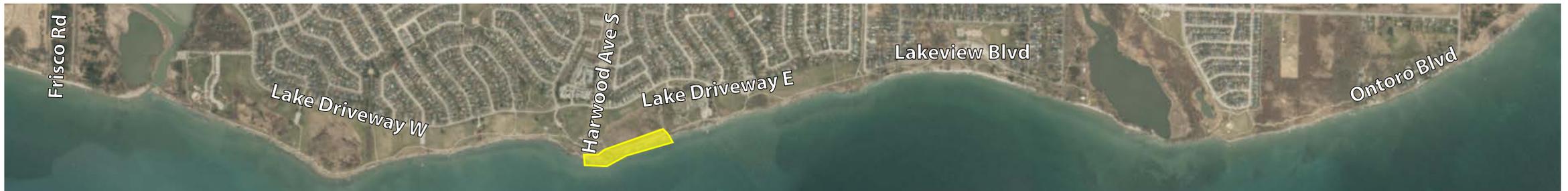
Reach 6 – Veteran's Point Gardens



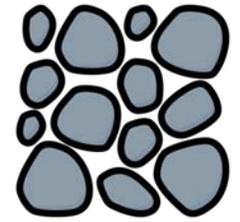
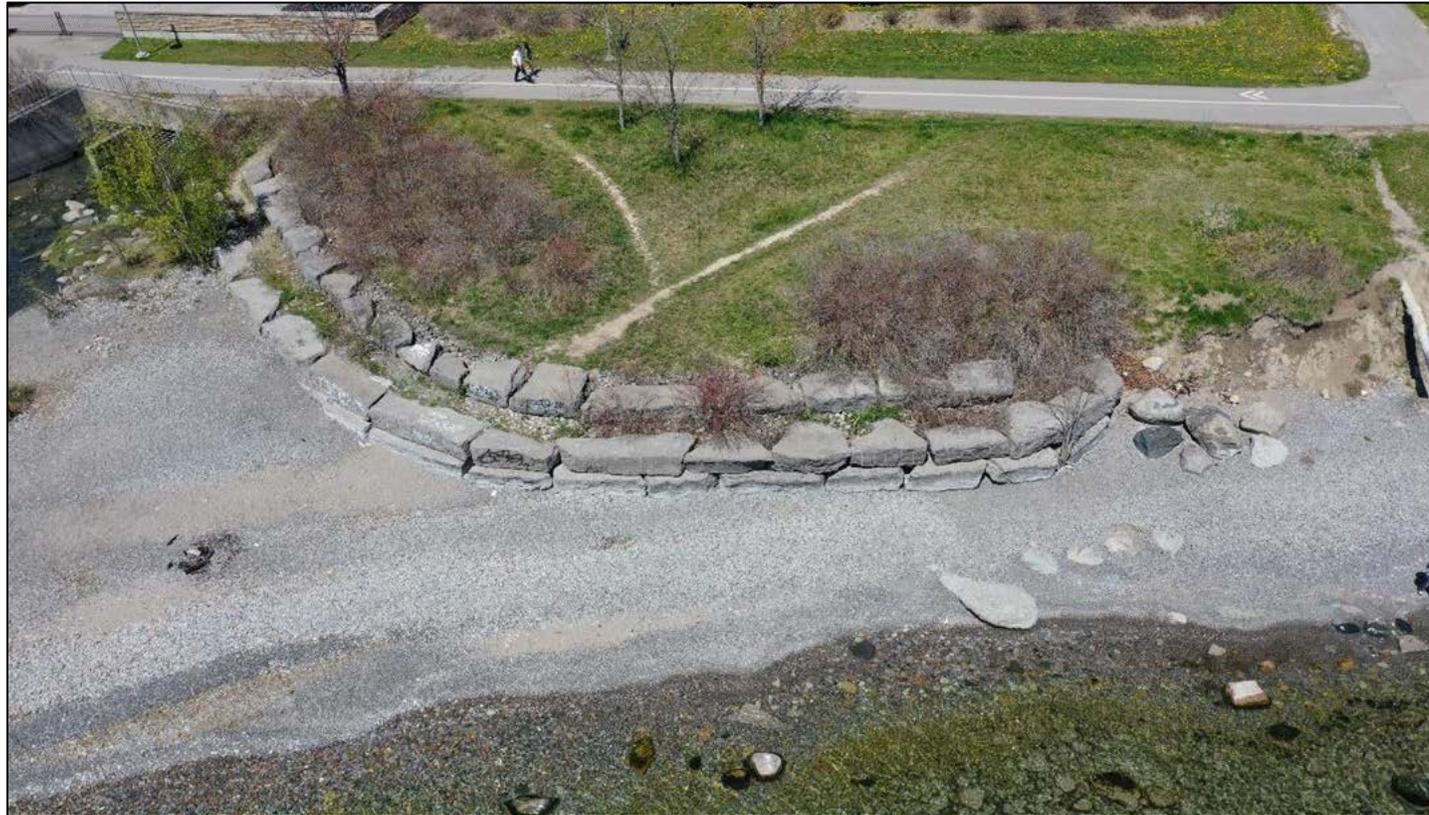
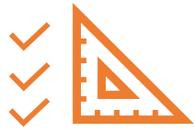
Shoreline Erosion
Monitoring

10-40 Years

330m



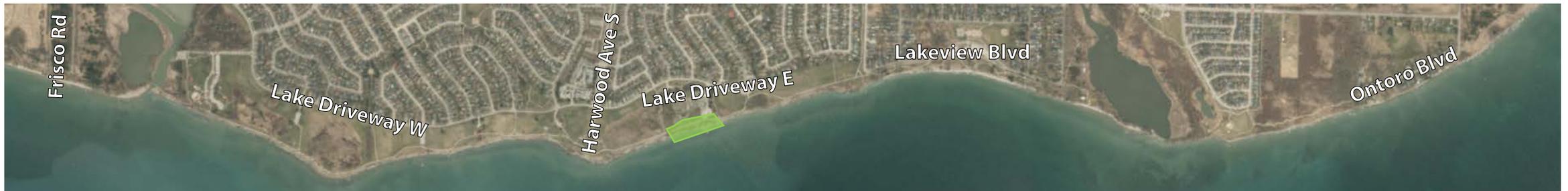
Reach 7 – Filtration Plant Road



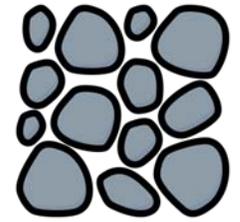
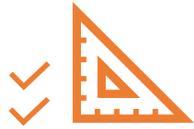
Cobble Boulder Beach

10-40 Years

220m



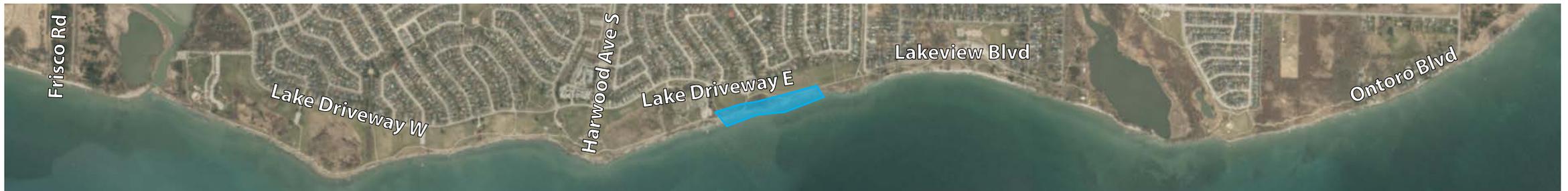
Reach 8 – Lake Driveway East



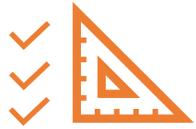
Cobble Boulder Beach

10-40 Years

400m



Reach 9 – West of Paradise Beach



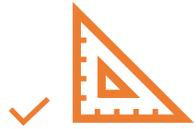
Offshore
Breakwater

10-40 Years

220m



Reach 10 – Paradise Beach



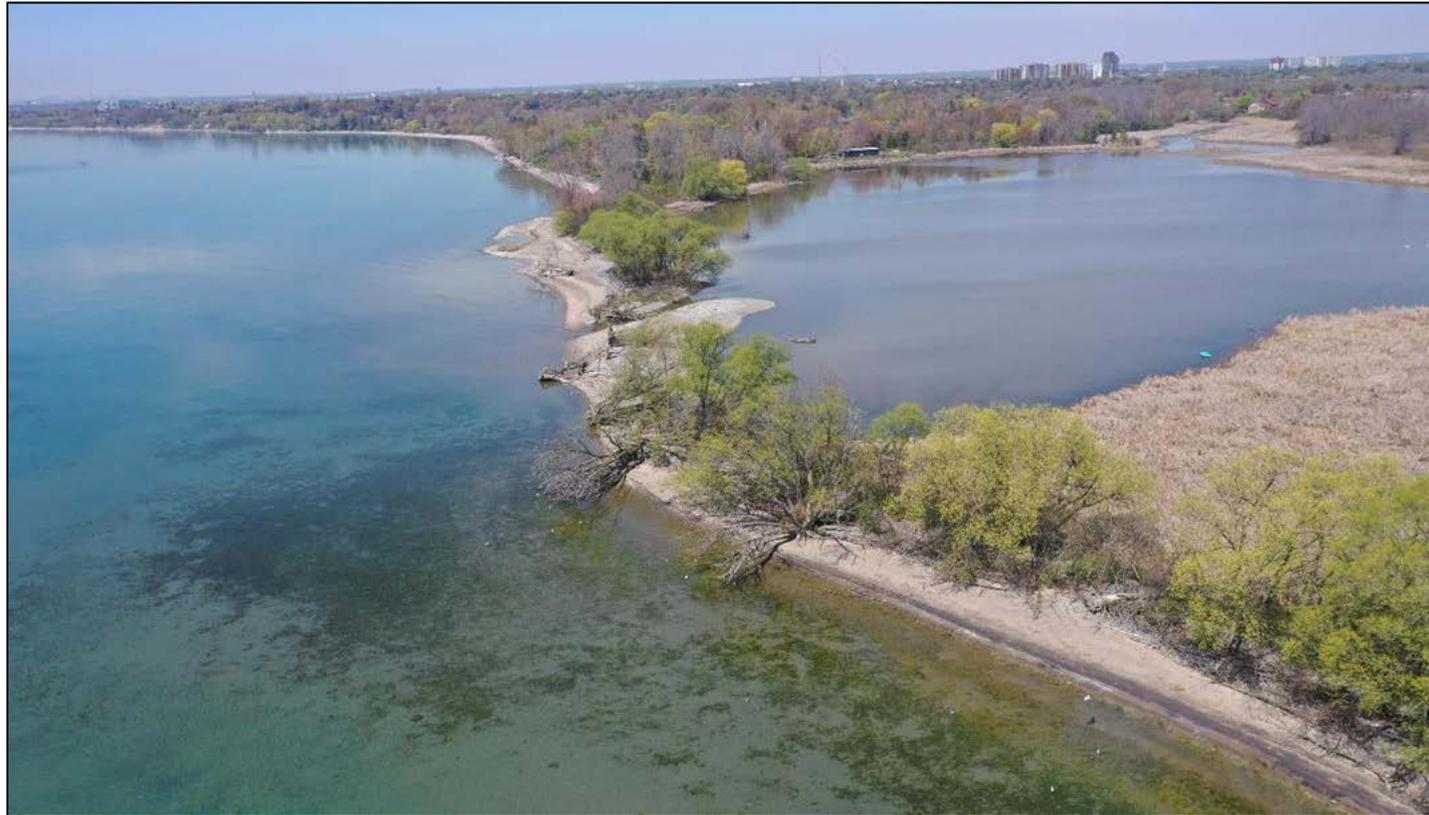
Shoreline Erosion
Monitoring

40+ Years

1060m



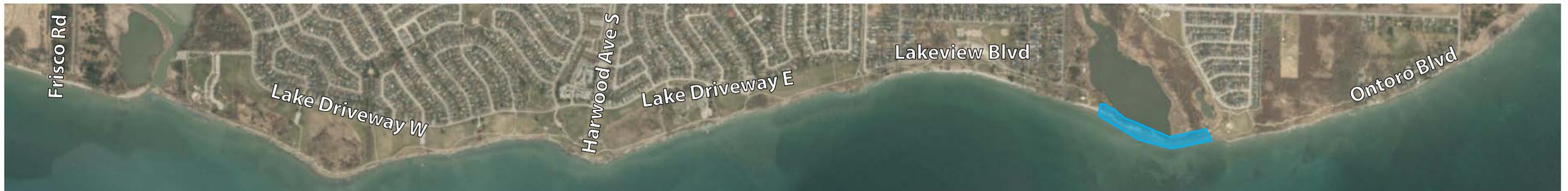
Reach 11 – Carruthers Marsh



Shoreline Erosion
Monitoring

40+ Years

520m



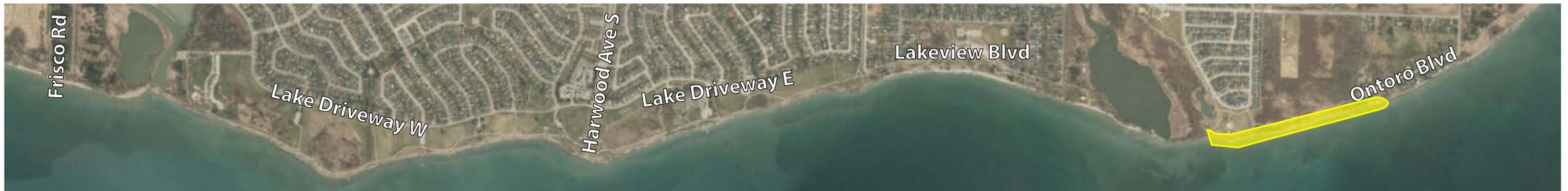
Reach 12 – East of Carruthers Marsh



Shoreline Erosion
Monitoring

40+ Years

600m

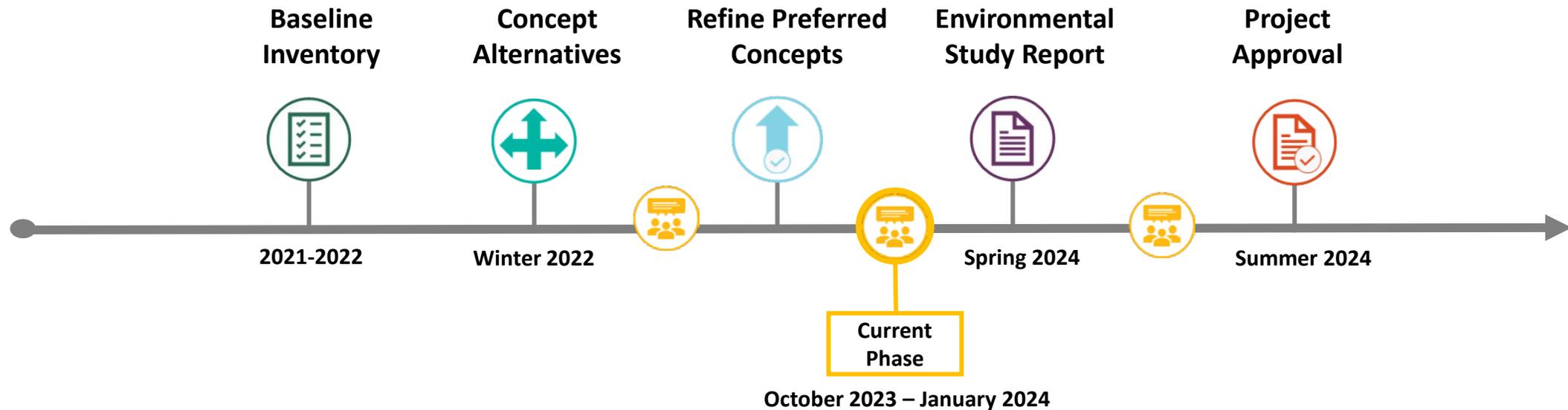


Summary

Reach	Priority	Recommended Concept					
1	Low (40+ Years)	 Shoreline Erosion Monitoring	✓	✓	✓✓	✓✓	
2	N/A (40+ Years)	 Shoreline Erosion Monitoring	✓✓✓	✓✓	✓✓	✓✓✓	
3	High (0-10 Years)	 Offshore Breakwater	✓		✓✓✓		✓✓✓
4	Medium (10-40 Years)	 Cobble Boulder Beach			✓✓		✓✓
5	High (0-10 Years)	 Cobble Boulder Beach	✓		✓✓✓		✓✓✓
6	Medium (10-40 Years)	 Shoreline Erosion Monitoring		✓✓	✓✓	✓✓✓	✓
7	Medium (10-40 Years)	 Cobble Boulder Beach	✓	✓✓	✓✓		✓✓✓
8	Medium (10-40 Years)	 Cobble Boulder Beach	✓		✓✓		✓✓
9	Medium (10-40 Years)	 Offshore Breakwater	✓✓		✓✓		✓✓✓
10	N/A (40+ Years)	 Shoreline Erosion Monitoring			✓✓✓	✓✓✓	✓
11	N/A (40+ Years)	 Shoreline Erosion Monitoring	✓✓✓	✓✓✓	✓✓	✓✓✓	
12	Low (40+ Years)	 Shoreline Erosion Monitoring	✓✓	✓✓	✓	✓✓✓	

Next Steps

Next Steps and Timeline*



** Final timeline for approval may be delayed if additional round of consultation/revisions is required*

** Detailed designs and permitting to proceed for priority sites following approval of Class EA*

Thank you for participating!

Please email natasha.gibson@trca.ca if you have not received a copy of the slide deck or evaluation tables.

If you have any questions or would like to provide additional comments, please do so by email on or before Friday, November 24th.

Icons made by [Freepik](#), [Uniconlabs](#), and [HAJICON](#) from www.flaticon.com

www.trca.ca





APPENDIX D: CLC 2

Meeting Minutes

**AJAX SHORELINE EROSION MITIGATION PROJECT:
CLASS ENVIRONMENTAL ASSESSMENT FOR REMEDIAL FLOOD AND EROSION
CONTROL PROJECTS**

COMMUNITY LIAISON COMMITTEE MEETING #2

DATE: November 14, 2023 @ 6:00pm – 8:00pm

LOCATION: Virtual (Microsoft Teams Meeting)

HOSTED BY: Erosion Risk Management, Toronto and Region Conservation Authority (TRCA)

ATTENDEES:

Ashley Anne Brown (AAB), TRCA
Natasha Gibson (NG), TRCA
Jet Taylor (JT), TRCA
Ian Warburton (IW), TRCA

Derek Williamson (DW), Baird
Stephen Ruddy (SR), Town of Ajax
Devon Jarvis (DJ), Town of Ajax
Derek Lee (DL), Durham Region Cycling Coalition
Amanda Bathe (AB), Region of Durham

REGRETS:

Dan Shire, Pickering Naturalists
Johanna Kyte, TRCA
Matthew Colenbrander, TRCA
Ajax Town Council

ATTACHMENTS:

https://torontoregion-my.sharepoint.com/:f/g/personal/ashley_brown_trca_ca/EpzlCYz4onJCsQ-zY4gAwAsBE-EIXJDrCj2Z0D0vzTAyJw?e=ZLiLWp

MEETING PURPOSE

The purpose of this meeting was to update and receive feedback from the Community Liaison Committee (CLC) that has been formed for the Ajax Shoreline Erosion Mitigation Project (the "Project") as part of the Class Environmental Assessment (EA) process. Material was circulated before and after the meeting for committee review to facilitate the discussion period. The goal of the meeting was to collect committee input on revised conceptual designs and comments from the first round of public engagement. The comments documented below will be considered and incorporated into the design package before it is presented to external stakeholders and the public as part of the EA consultation process.

1. Community Liaison Committee Introductions

2. Project Updates

- NG provided an overview of first round consultation results
 - Emphasis by public on moving away from shoreline hardening and formal erosion control structures where possible
 - Emphasis by public on maintaining a "walkable beach" and access to blue space
 - Support for addressing erosion in areas identified as high priority and shifting focus from structure implementation to incorporating monitoring programs along lower priority reaches to avert high implementation costs across the entire project footprint.

3. Updated Concept Designs

3.1 Concept 1: Offshore Breakwater with Gaps

- NG Highlights:
 - Offshore Breakwater offers calmer nearshore conditions, potential habitat and increased beach usability
 - Noted no changes to this approach from the first round of engagement

3.2 Concept 2: Cobble/Boulder Beach (CBB)

- NG Highlights:
 - New gradient approach allows for focused, more engineered implementation in areas that need a higher degree of hardening most while allowing some measure of erosion to continue elsewhere, maintaining as much natural shoreline as possible
 - Allows continued sediment deposition in areas to limit disruption of deposition rates

3.3 Concept 3: Shoreline Erosion Monitoring (SEM)

- NG Highlights:
 - SEM is recommended across the entire footprint, but in lieu of an implemented shoreline protection structure will provide guidance to the Town on if and when to explore more formal erosion mitigation

4. Evaluation Criteria Overview

- NG gave a brief summary of the evaluation criteria used to assess concept designs in the context of each reach. Criteria were: Environmental, Physical, Technical, Cultural, and Cost.

5. Reaches Breakdown

- NG provided an outline of updated concept designs and the results of evaluation for reaches 1-12

6. Discussion Period

AB: From a Durham-wide perspective, was there thought given to consistency across the waterfront—are there things going on within adjacent CA jurisdictions (ie. CLOCA) that mimic this work?

NG: Designs were guided by Lake Ontario Shoreline Management Plan (LOSMP), referenced the sediment input continuing along the shoreline and elements necessary to be consistent along the Lake Ontario shoreline. Shoreline Erosion Monitoring is recommended across all shorelines to align with LOSMP.

DL: We are protecting the beaches, not the bluffs. Isn't the point we have to protect the shoreline and not just allow them to slough off into the lake?

JT: We are using the gradient approach which allows localized looks at each section and use how much erosion protection is required at each section to maintain natural shoreline wherever possible. A little bit of erosion is acceptable in some areas and may not need work in the near term.

DL: Boulders or cobbles protect the bottom of the beach, but leave the bluffs exposed to further erosion. Would like a further understanding of this rationale.

JT: Cobble Boulder beaches are built out from the shoreline and will help dissipate wave energy further offshore, therefore protecting the toe of the bluffs.

DW: Bluffs are only affected during very high-water levels like 2018-2019, cobble boulder beaches are good because they move the wave action further offshore. Through CBB we are addressing the vast majority of bluff habitat erosion that will happen

JT: We don't want to starve the sediment transport in adjacent areas by hardening this shoreline

AB: are there established thresholds within the shoreline monitoring program that would trigger having to implement? During extreme weather events, etc.

JT: A lot of those decisions will come down to multiple stakeholders and the Town of Ajax. We have inputs and data that can inform that decision, but the ultimate decision will be a result of those inputs in addition to Town priorities and funding.

SR: Proximity to infrastructure that is the most important factor to the Town, however there is a lot of green space to work with which can deal with some degree erosion, however permanent infrastructure like headwalls are things we can't afford to lose and are considered a trigger.

AB: Is there a sub-prioritization within the medium priority group? Are there reaches that are closer to high priority versus lower medium?

NG: The categories are determined by what we have identified from an erosion perspective, but implementation is contingent on funding and materials.

DW: There is different scoring for each Reach within these categories however the results will evolve with time as conditions change.

JT: Ajax shoreline is very unique in the GTA, there are only two areas (Reach 3 and Reach 5) that are at immediate risk. Other Reaches we have more time to plan, more flexibility.

7. Next Steps & Action Items

- CLC members were advised that any further questions or comments were to be sent to NG via email (natasha.gibson@trca.ca) by end of day 24th, but that the date could be flexible.

Prepared By: Ashley Brown

Date Issued: 11/24/2023

This confirms and records TRCA's interpretation of the discussions that occurred during this meeting. Unless notified in writing within ten (10) business days, these minutes will be considered final.



APPENDIX D: PIC 2

Introductory Slide Deck

Ajax Waterfront Erosion Mitigation Project

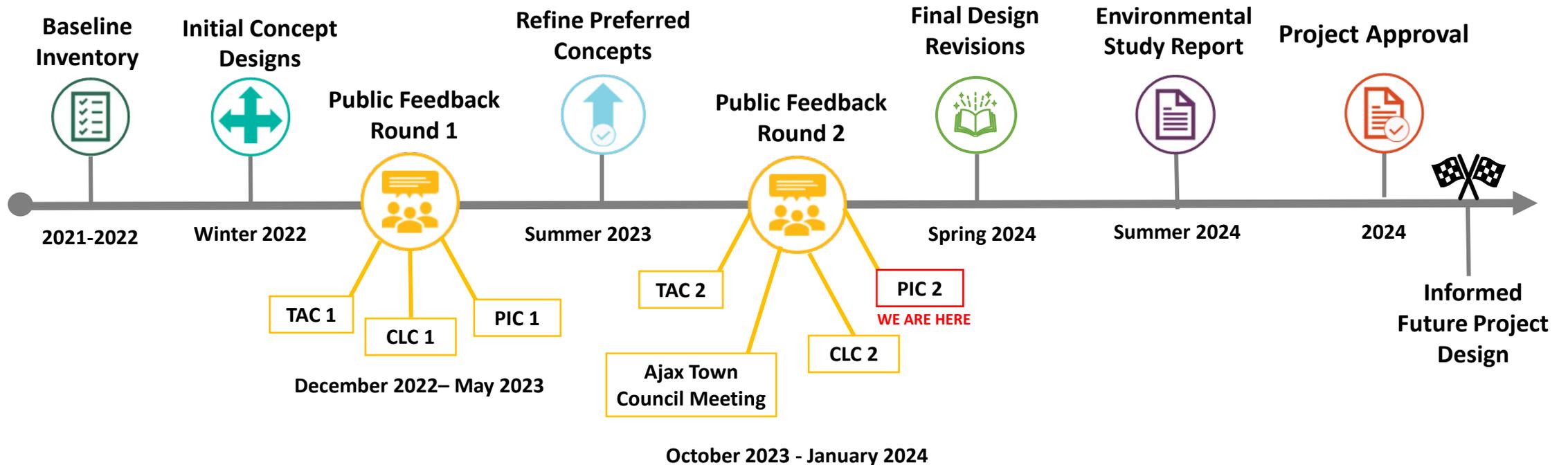
Public Information Centre – Drop In Session

Welcome!

Please sign in at the front desk, then walk around to review the proposed recommendations and meet the Project Team!

January 16, 2024

Environmental Assessment Process

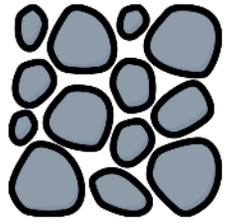




Refined Concept 1: Offshore Breakwater with Gaps



Offshore breakwater visual example. Source: TRCA, 2008



Refined Concept 2: Cobble / Boulder Beach



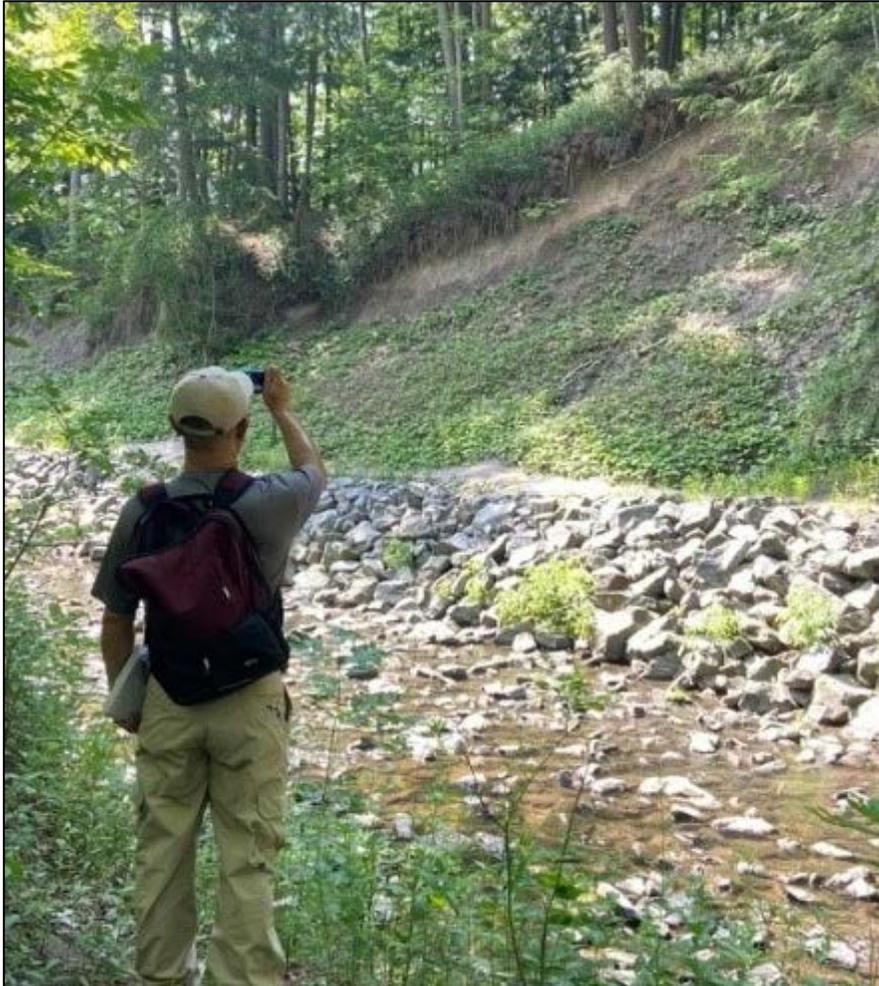
Cobble Beach at Veteran's Point. Source: TRCA 2021



Cobble Beach at Sylvan Park. Source: TRCA 2019



Refined Concept 3: Shoreline Erosion Monitoring



Erosion monitoring staff. Source: TRCA 2021



Cobble Beach at Sylvan Park. Source: TRCA 2019



Reaches Determined By:

1. Bluff height
2. Erosion Rate
3. Proximity to natural landmarks
4. Surrounding infrastructure
5. Sediment availability

Priority Designation Overview

0-10 Years	10-40 Years	40+ Years
High Priority	Medium Priority	Low Priority / No Concern
Rapid Erosion	Moderate Erosion	Low or No Erosion
Close to critical infrastructure	Longer term impacts to infrastructure	No or manageable impacts to infrastructure
Erosion poses a potential hazard to public	Erosion not an imminent hazard	Erosion may be future long-term hazard; not imminent

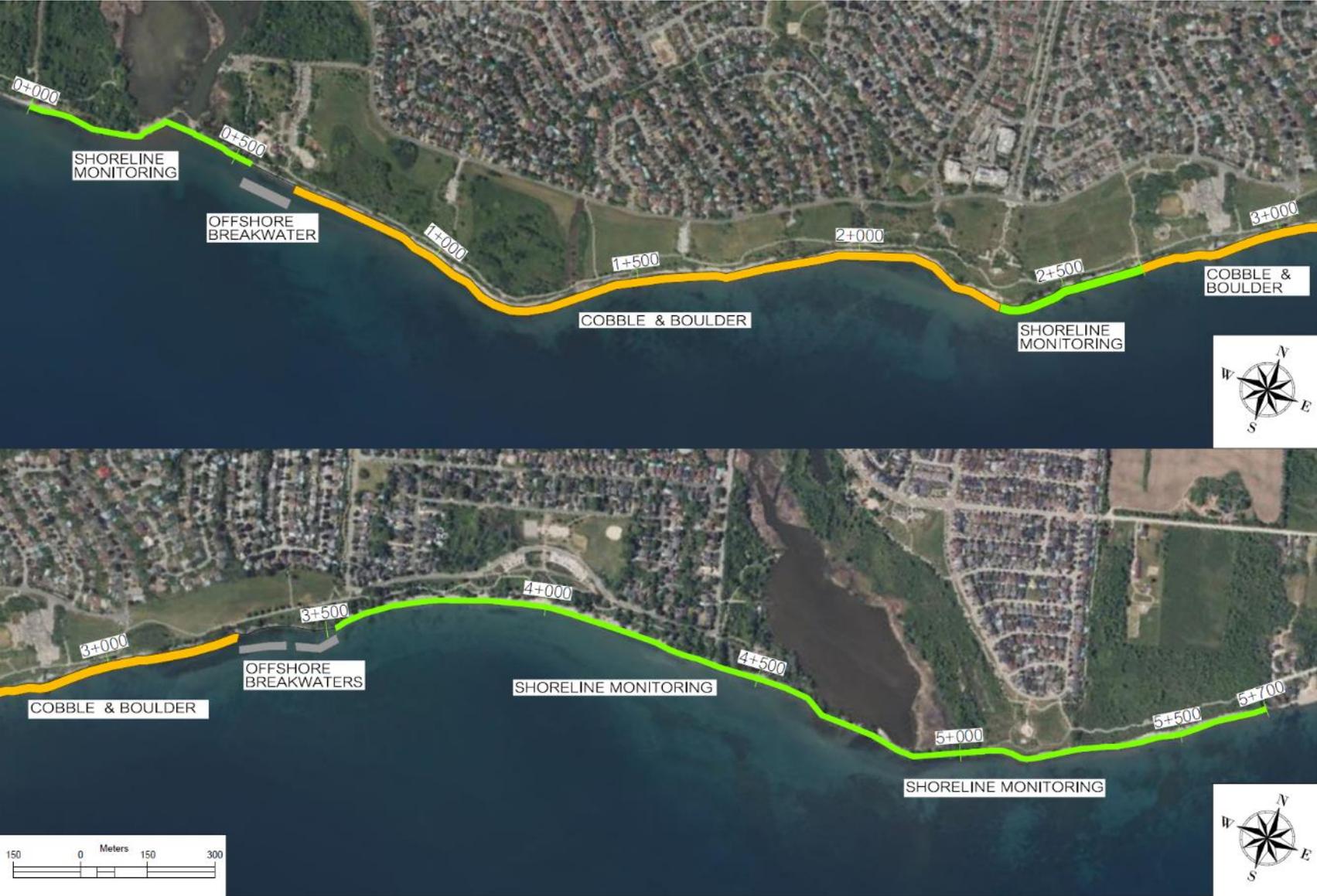
Reach Location Breakdown



Evaluation Criteria Overview

 Environmental	 Physical	 Cultural	 Cost	 Technical
<ul style="list-style-type: none"> • Aquatic habitat • Terrestrial habitat • Species of Concern 	<ul style="list-style-type: none"> • Landforms • Unique physical elements • Soil and Water Quality • Sediment input 	<ul style="list-style-type: none"> • Local and indigenous community • Tourism and Recreation • Aesthetic 	<ul style="list-style-type: none"> • Initial construction cost • Ongoing maintenance costs 	<ul style="list-style-type: none"> • Erosion rates • Slope stability • Hazard sites

Updated Recommendations by Reach



Summary

Reach	Priority	Recommended Concept					
1	Low (40+ Years)	 Shoreline Erosion Monitoring	✓	✓		✓✓	
2	N/A (40+ Years)	 Shoreline Erosion Monitoring	✓✓✓	✓✓		✓✓✓	
3	High (0-10 Years)	 Offshore Breakwater	✓		✓✓✓		✓✓✓
4	Medium (10-40 Years)	 Cobble Boulder Beach	✓		✓✓		✓✓
5	High (0-10 Years)	 Cobble Boulder Beach	✓		✓✓✓		✓✓✓
6	Medium (10-40 Years)	 Shoreline Erosion Monitoring	✓✓	✓✓		✓✓✓	✓
7	Medium (10-40 Years)	 Cobble Boulder Beach	✓	✓✓	✓		✓✓✓
8	Medium (10-40 Years)	 Cobble Boulder Beach	✓		✓✓		✓✓
9	Medium (10-40 Years)	 Offshore Breakwater	✓✓		✓✓		✓✓✓
10	N/A (40+ Years)	 Shoreline Erosion Monitoring			✓✓✓	✓✓✓	✓
11	N/A (40+ Years)	 Shoreline Erosion Monitoring	✓✓✓	✓✓✓	✓✓	✓✓✓	
12	Low (40+ Years)	 Shoreline Erosion Monitoring	✓✓	✓✓	✓	✓✓✓	

Thank you for participating!

Please email natasha.gibson@trca.ca with any questions or comments prior to January 31st for inclusion in the Environmental Study Report.

Please also visit our website at trca.ca/ajax-waterfront for more information.

Icons made by [Freepik](#), [Uniconlabs](#), and [HAJICON](#) from www.flaticon.com

www.trca.ca





APPENDIX D: PIC 2

Meeting Handout

AJAX WATERFRONT EROSION MITIGATION PROJECT

DROP-IN SESSION HANDOUT

Toronto and Region Conservation Authority (TRCA), in partnership with the Town of Ajax, is conducting a Class Environmental Assessment (Class EA) of the Ajax Waterfront shoreline.

The goal of the Project is to develop appropriate solutions that looks at a range of impacts based on public feedback to reduce erosion and allow for ongoing public use.

Looking for more information?
Check out our website at trca.ca/ajax-waterfront or scan this QR code for timelines, photos, videos, previous studies and more!



AT A GLANCE

- Comments due January 31 2024
- 12 distinct areas (or Reaches)
- 3 Updated Design Concepts
- 2 High Priority Areas
- No structures for 50% of Reaches
- Class EA Approval planned for 2024

DESIGN CONCEPTS



Offshore Breakwater



Cobble Boulder Beach



Shoreline Erosion Monitoring

PRIORITY CRITERIA

High Priority	0-10 Years, Rapid Erosion Close to critical infrastructure
Medium Priority	10-40 Years, Moderate Erosion Long-term impacts
Low Priority/ No Concern	40+ Years, Low/No Erosion No imminent concerning impacts

EVALUATION CRITERIA

Environmental	Physical	Cultural	Cost	Technical
<ul style="list-style-type: none"> • Aquatic habitat • Terrestrial habitat • Species of Concern • Sediment input 	<ul style="list-style-type: none"> • Landforms • Unique physical elements • Soil and Water Quality 	<ul style="list-style-type: none"> • Community impacts • Tourism and Recreation • Aesthetic 	<ul style="list-style-type: none"> • Initial construction cost • Ongoing maintenance costs 	<ul style="list-style-type: none"> • Erosion rates • Slope stability • Hazard sites
Level of positive impact for recommended alternative:				
None		✓ Mild	✓✓ Moderate	✓✓✓ Significant

REACH MAPPING





APPENDIX D: PIC 2

Presentation Panels



Reach 1: Duffins Creek West



Shoreline Erosion Monitoring

- Proximity to Duffins Creek mouth
- Low erosion rate

Priority: Low



Reach 2: Duffins Creek Mouth



Shoreline Erosion Monitoring

- Sensitive environmental area
- No documented long-term erosion

Priority: Low



Reach 3: Rotary Park Pavilion



Offshore Breakwater

- Rapid erosion rate
- Proximity to Rotary Park Pavilion

Priority: High





Reach 4: Lake Driveway West

Reach 5: East of Lion's Point

Reach 6: Veteran's Point Gardens

Cobble Boulder Beach

Cobble Boulder Beach

Shoreline Erosion Monitoring

- High, near vertical bluffs
- Protection of Waterfront Trail

- Rapid erosion with high, vertical bluffs
- Impact to Waterfront Trail

- Maintain existing natural beach
- Monitor for future conditions

Priority: Medium

Priority: High

Priority: Medium





Reach 7: Filtration Plant Road

Reach 8: Lake Driveway East

Reach 9: West of Paradise Beach

Cobble Boulder Beach

Cobble Boulder Beach

Offshore Breakwater

- Protect water filtration plant
- Create mixed-substrate habitat

- Rapid erosion, low bluffs
- Protect public greenspace and trail

- Close to Paradise Beach
- Maintains walkable shoreline

Priority: Medium

Priority: Medium

Priority: Medium





Reach 10: Paradise Beach



Shoreline Erosion Monitoring

- Recreational beach
- No documented long-term erosion

 **Priority: Low**



Reach 11: Carruthers Marsh



Shoreline Erosion Monitoring

- Sensitive environmental area
- No documented long-term erosion

 **Priority: Low**



Reach 12: East of Carruthers Marsh

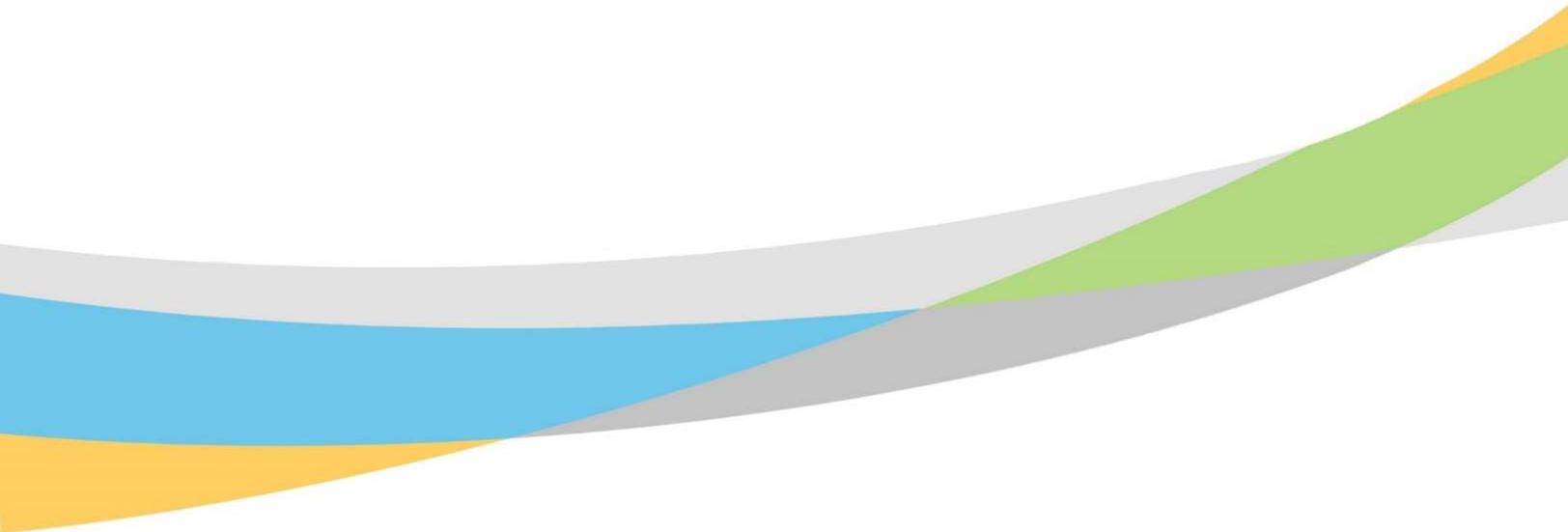


Shoreline Erosion Monitoring

- Low erosion rate, high bluffs
- Close to Carruthers Marsh and TRCA limits

 **Priority: Low**





www.trca.ca

