

# WHAT WE HEARD DURING THE TERMS OF REFERENCE PHASE

Over 2,000 comments received. Your input during the Terms of Reference (ToR) Phase has helped to shape the Vision, Objectives, Alternatives and Evaluation Criteria presented here today.

WHAT WE HEARD	WHAT WE'RE DOING
Protect the environment and sensitive shoreline	Protecting natural areas is a key goal. We have developed some options that avoid changing the shoreline and limit lakefill, such as islands, tableland routes, and elevated boardwalks.
Protect the Silver Birch off-leash dog area	All options preserve the existing off-leash dog area use.
Improve access, connections, and active transportation	We're exploring safer, more connected ways to move along the waterfront while protecting the environment and public safety.
Better access to the water	Gathering spaces are proposed at key access points to allow people to reach the water safely.
Traffic, parking, noise, and neighbourhood impacts	Main access points are placed in close proximity to public parking and public transportation hubs to reduce impacts on nearby neighbourhoods.
Protect RC Harris Water Treatment Plant and heritage features	No buildings or the iconic seawall will change. Options may include a trail connection through the site following existing desire lines.
Shoreline and slope erosion	Options include shoreline protection and erosion control measures where needed to allow for safe access outside of erosion hazard areas.
Why not "do nothing"?	We're studying multiple options for each area, <b>including doing nothing</b> . Each area will be assessed on its own, and preferred options will be combined.

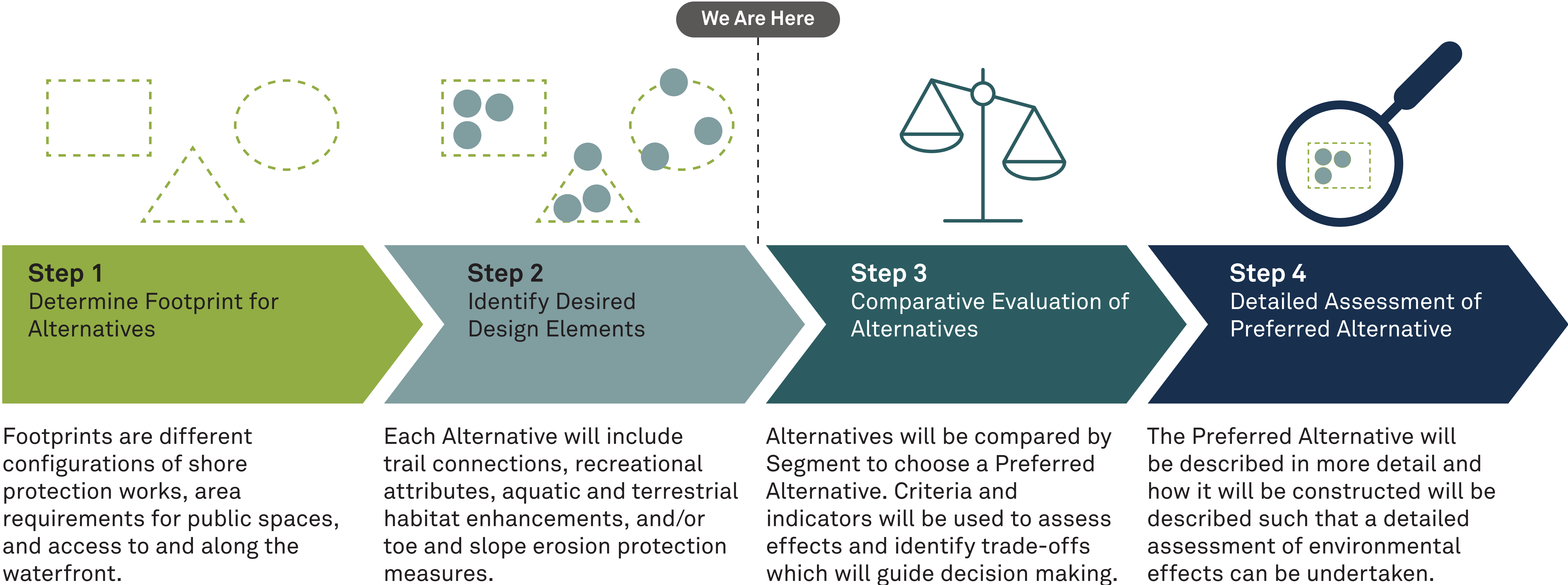


You can find our ToR Consultation Summaries at:

[www.toronto.ca/ScarboroughBluffsWest](http://www.toronto.ca/ScarboroughBluffsWest)

# ALTERNATIVES DEVELOPMENT PROCESS

Alternative Methods have been identified by Segment based on the following steps:



# ALTERNATIVES DEVELOPMENT

## STEP 1: DETERMINE FOOTPRINT FOR ALTERNATIVES

**Footprints have been established for each Alternative.**

Determining footprints was based on two key inputs:

- **Risk Lines** – The long term stable slope risk lines at the toe of the bluffs and at the top of the bluffs are based on the Ministry of Natural Resources' Technical Guidance including appropriate Factors of Safety. See Alternatives Display Panels for locations of Risk Lines. Risk Lines are preliminary for initial planning purposes.
- **Shoreline Protection** – options have been developed.
  - Shore protection will be located to provide trail access that is outside the Risk Lines and considers the 100 Year Flood Level, noted as Design High Water Level (DWHL) on the proposed Alternative cross-sections, with a wave uprush allowance.
  - These options will help the shoreline to be resilient to climate change and allow for loose material (talus) accumulation at the base of the slope.
  - Options being considered include revetments (where existing revetments are present), groynes (various types), islands, bridges, elevated trails, and the “do nothing” approach.

## SHORELINE TREATMENT EXAMPLES

Armourstone Revetments



Headlands/T-Groynes



Groynes



Islands



Bridges/Elevated Boardwalk



# EROSION OF THE BLUFFS & ESTABLISHING RISK LINES



- The Scarborough Bluffs were formed over thousands of years and are a unique natural feature in Toronto.
- The Bluffs have been actively eroding (wearing away) for centuries, resulting in the variety of slope shapes we see today.
- Throughout the study, reference will be made to existing erosion management structures (i.e. “toe protection”) that have been in place for decades to help manage shoreline erosion along the Scarborough Bluffs West study area.
- TRCA is responsible for the installation, monitoring and maintenance of many of these shoreline protection structures.
- These existing protection structures are functional and provide a high level of protection during periods of average and low water levels.
- Improvements or enhanced protection measures are being considered as part of this study to provide safe public access that is also resilient to climate change.

## What causes the Bluffs to change?

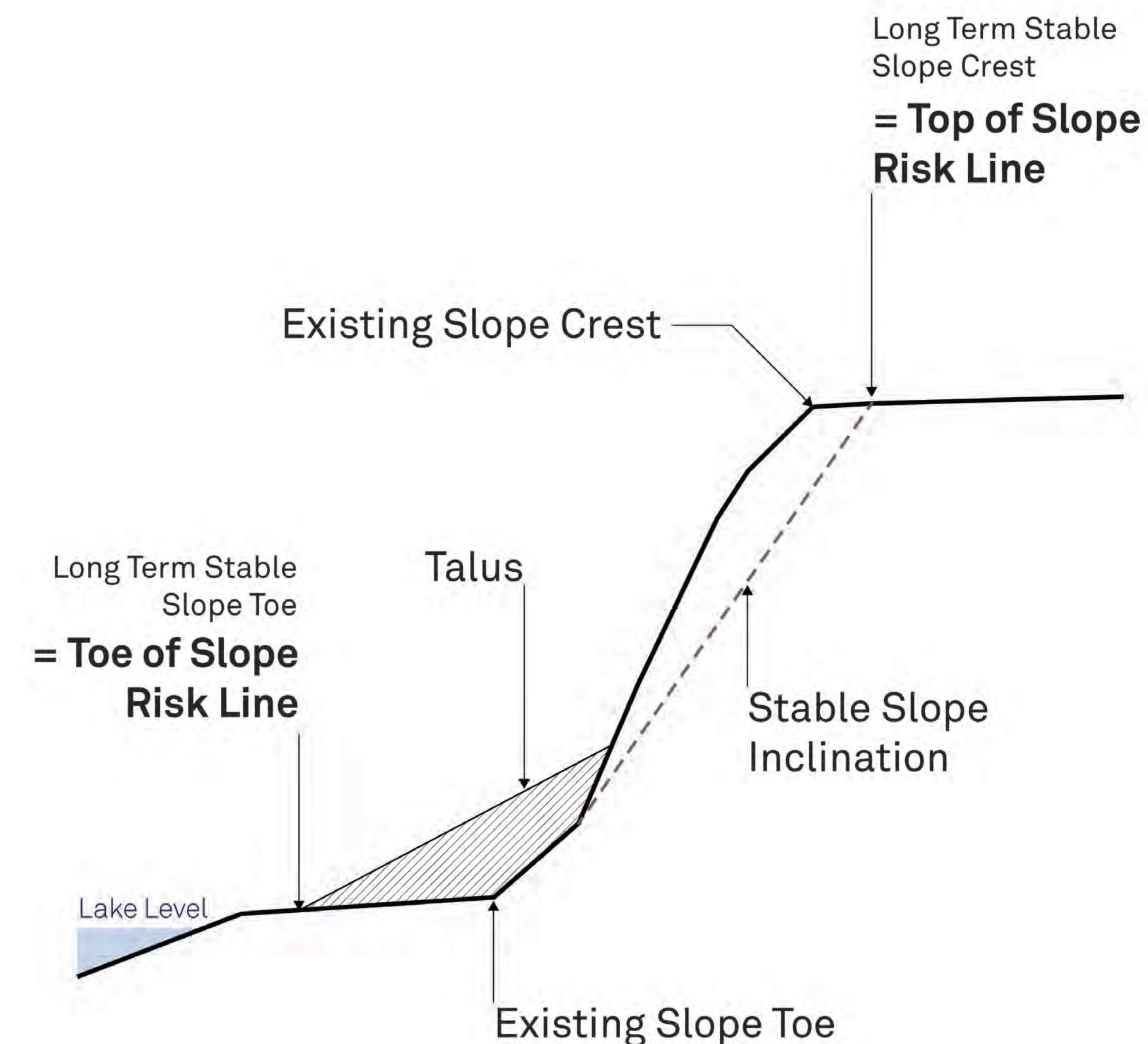
- There are two main ways soil moves:
  - **Erosion:** Soil is slowly worn away by wind, rainwater, and surface runoff.
  - **Slope instability:** Parts of the slope can suddenly collapse when the ground becomes too steep or weak.
- Many factors contribute to this, including groundwater, rainwater flow, freezing and thawing, and waves eroding the bottom of the slope.

## What are ‘Risk Lines’?

- Risk Lines show areas where erosion or slope movement could happen over time, helping us identify **safe locations for public infrastructure, like trails.**
- There are two types of ‘Risk Lines’:
  1. **Top of slope:** Shows how far back erosion could reach at the top of the bluff, helping protect public infrastructure.
  2. **Toe of slope:** Shows where material from the slope may run out and collect at the bottom.

## How were these ‘Risk Lines’ developed?

- A preliminary assessment was completed to estimate erosion and slope stability.
- For early planning, it was generally assumed that shoreline protection (toe protection) is in place, given that the existing shoreline is protected, apart from the Needles area.
- At the Needles, a **25-year erosion hazard** limit was used to help plan potential trail locations where no shoreline protection exists or is currently proposed.



DEPICTION OF LONG-TERM STABLE SLOPE CREST AND TOE ‘RISK LINES’ ASSUMING TOE PROTECTION IS IN PLACE

## Important to know

- The Risk Lines presented are preliminary and will be refined with more detailed analysis at later stages of the project.

# ALTERNATIVES DEVELOPMENT

## STEP 2: IDENTIFY DESIRED DESIGN ELEMENTS

### Alternatives have been developed based on the following principles:

- The Project is primarily about exploring opportunities for improving access to and along the waterfront.
- Proposed trails, bikeways, and sidewalks will meet the City's applicable guidelines and standards.
- Where trail connections are proposed, habitat enhancements and/or erosion protection opportunities will be explored.
- Where shoreline connections are not proposed, the existing landscape will remain as is (i.e. informal access will remain as is).
- The Official Plan has a vision for a continuous waterfront trail that increases and improves public access to lands along the water's edge and between parts of the waterfront, but not all options will be at the edge of the shoreline.
- All proposed trail areas will be outside the bluff erosion risk lines.

## HABITAT ENHANCEMENT EXAMPLES

All Alternatives provide for a range of habitat enhancements. Below are some examples of habitat enhancements that will be explored for this project. Enhancements may not be exactly as shown.

Nesting Habitat Example



Shoreline Regeneration Example



Reptile/Amphibian Habitat Example



Fish Habitat Example



Invasive Species Removal Example

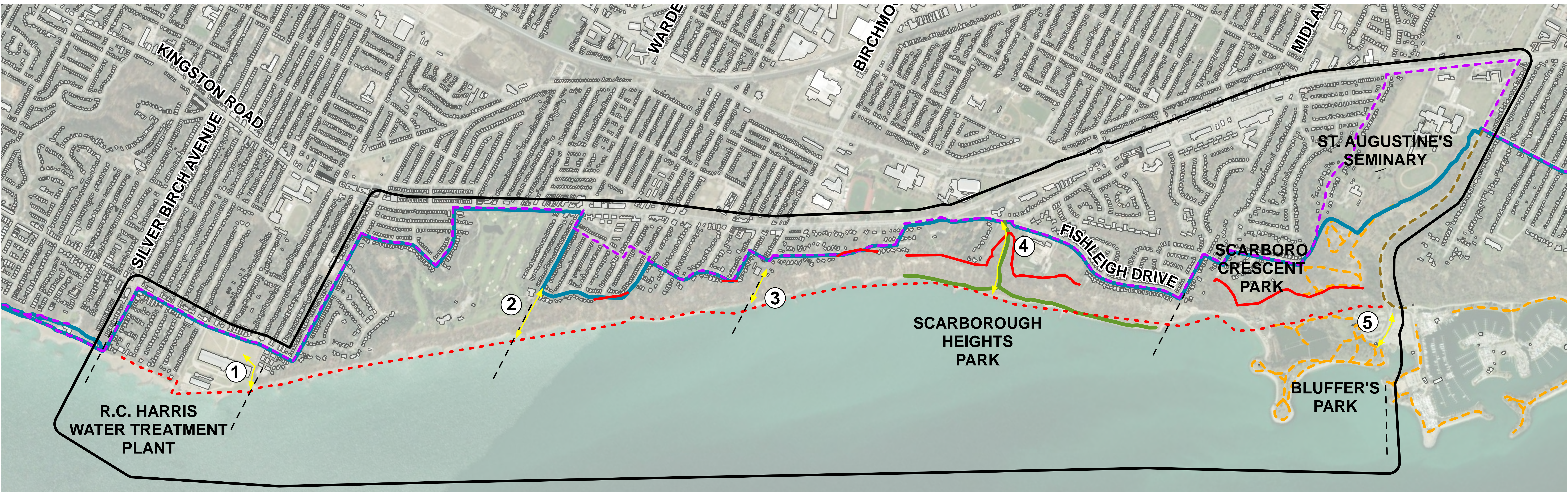


# ALTERNATIVES DEVELOPMENT

## Step 2 Identify Desired Design Elements

### Principles Used to Develop Access Alternatives

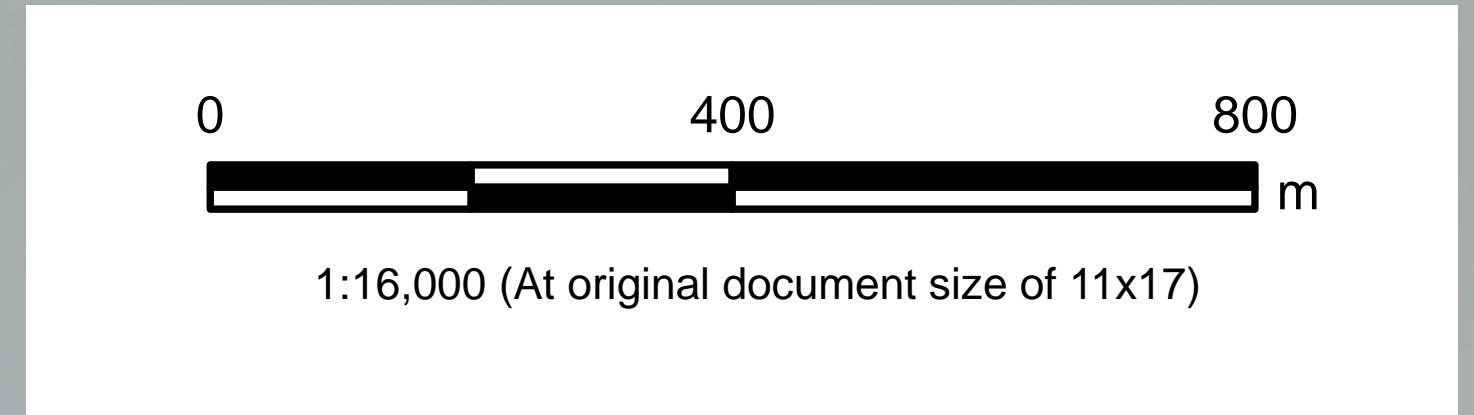
- Access points are common to all Alternatives
- Meet City of Toronto's Multi-Use Trail Guidelines and On-Street Bikeway Design Guidelines
- Locate primary shoreline accesses where parking / facilities are available, where there is public land, and where a higher level of accessibility may be provided:
  - Birchmount Road
  - Fishleigh Informal Access
- Provide access to the water / gathering spaces at the foot of the primary accesses
- Terrestrial and aquatic habitat enhancements, where feasible, included in all Alternatives (except "Do Nothing")



## SHORELINE ACCESS ALTERNATIVES

- Segment Limits
- Shore Risk Line
- Top of Slope Risk Line
- Bikeway (Existing)
- Fishleigh Informal Access
- Waterfront Trail (Existing)
- Trail (Existing)
- Proposed Brimley Road Trail
- Shoreline Access Alternative
- Study Area

- ① R.C. Harris
  - ② Warden Avenue
  - ③ Birchmount Road\*
  - ④ Fishleigh Informal Access\*
  - ⑤ Bluffer's Park
- \*Primary Shoreline Access



# HOW THE SEGMENTS CONNECT

The Study will consider a range of shoreline and tableland alternatives. Each Segment will be evaluated separately.

The preferred alternatives for each Segment will be linked together, with shoreline access points creating the ability to mix-and-match potential shoreline and tableland solutions.

