

# Toronto Water: Building Resilience

**Presented at:** 2023 Joint NHP-CMRR-ICLR Multi-Hazard Risk and Resilience Workshop

**Date:** Oct. 31, 2023

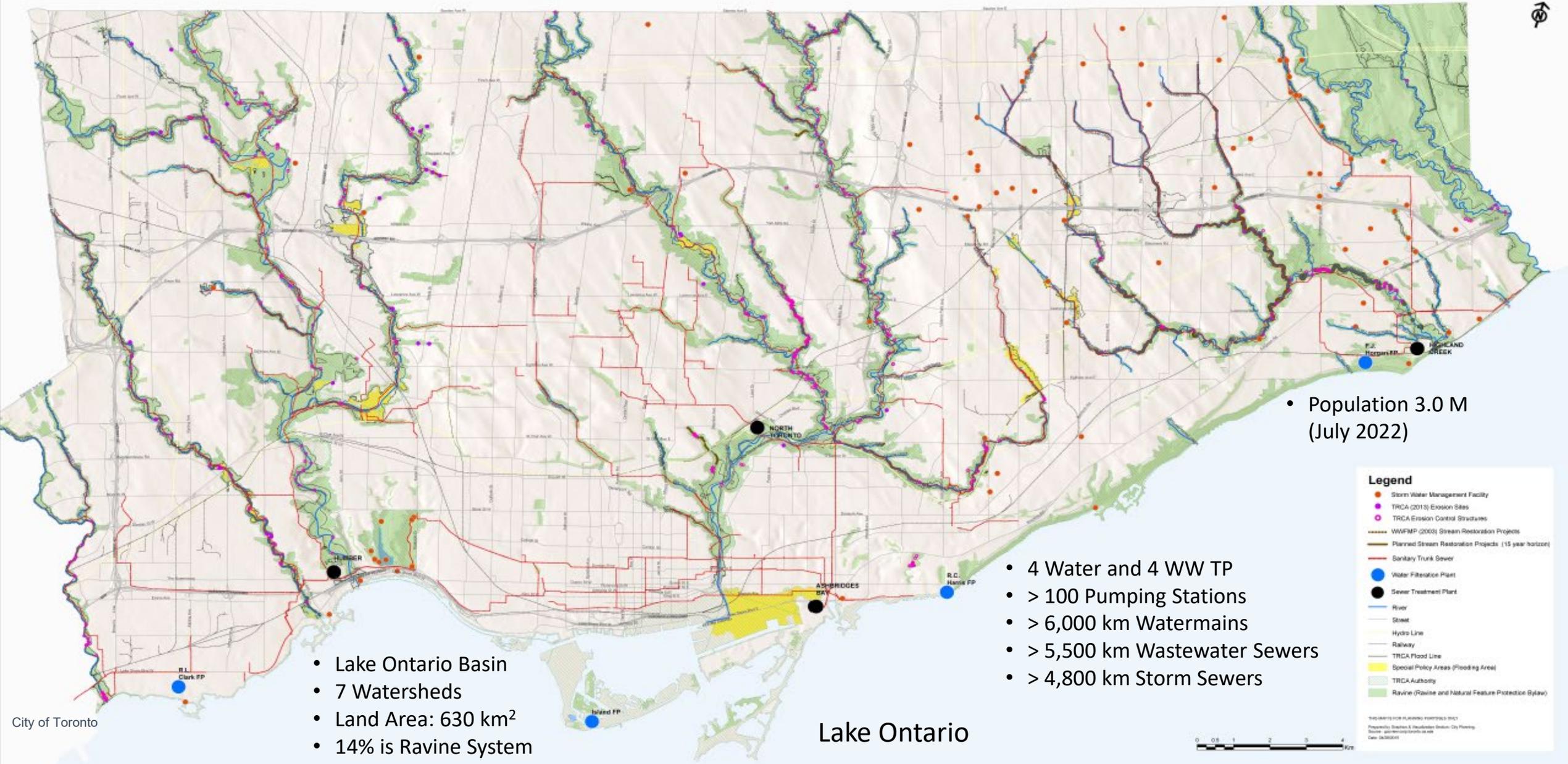
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# Overview

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2. Toronto Water's Resilience Journey
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Marcus Oleniuk/Toronto Star  
Western Beaches Tunnel



• Population 3.0 M (July 2022)

- Lake Ontario Basin
- 7 Watersheds
- Land Area: 630 km<sup>2</sup>
- 14% is Ravine System

- 4 Water and 4 WW TP
- > 100 Pumping Stations
- > 6,000 km Watermains
- > 5,500 km Wastewater Sewers
- > 4,800 km Storm Sewers

City of Toronto

Lake Ontario

# Toronto Water's Resilience Journey



Along Humber River in Etobicoke

Hurricane Hazel  
285mm in 48 hrs

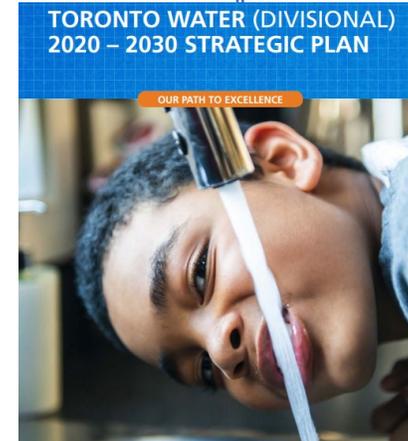
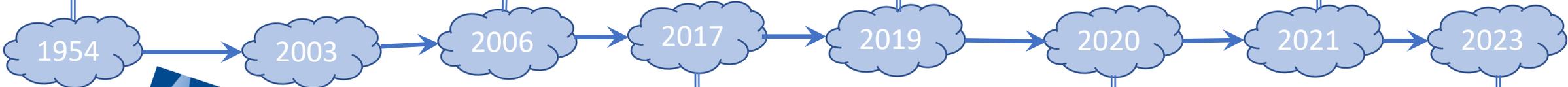
## Basement Flooding Protection Program



## Summary of the Flood Resilient Toronto Project

March 2019

Initiate stormwater management review as it relates to climate change



Review of Best Practices: Stormwater Management Modelling and Climate Change

# Corporate and Divisional Strategic Plans

## Strategic Planning Framework



- **Tackle climate change and build resilience**

We are committed to fighting climate change and preparing our city government, our economy, our ecosystems, and our communities, especially the most vulnerable communities, for a changing climate.



## TW Strategic Plan

**Focus Area:** Environmental Stewardship & Climate Change

**Goals include:**

1. Develop a strategy for the optimization of collection systems storage.
2. Continue to implement related initiatives identified in the WWFMP.
3. Evaluate climate change impact & risks to identify mitigation and adaption strategies.
4. Support corporate & cross-divisional initiatives that promote stormwater management and green infrastructure.

# Policies and Programs

## Wet Weather Flow Management Policy & Guidelines

### Basement Flooding Protection Program

- multi-year program that is helping to reduce the risk of flooding by making improvements to the sewer system (HGL) and overland drainage routes for 100 yr. storm.

### Green Roof Bylaw

### Green & Cool Roof Grants

**PollinateTO Grant** – includes rain gardens

### Mandatory Downspout Disconnect

- Financial Assistance Program

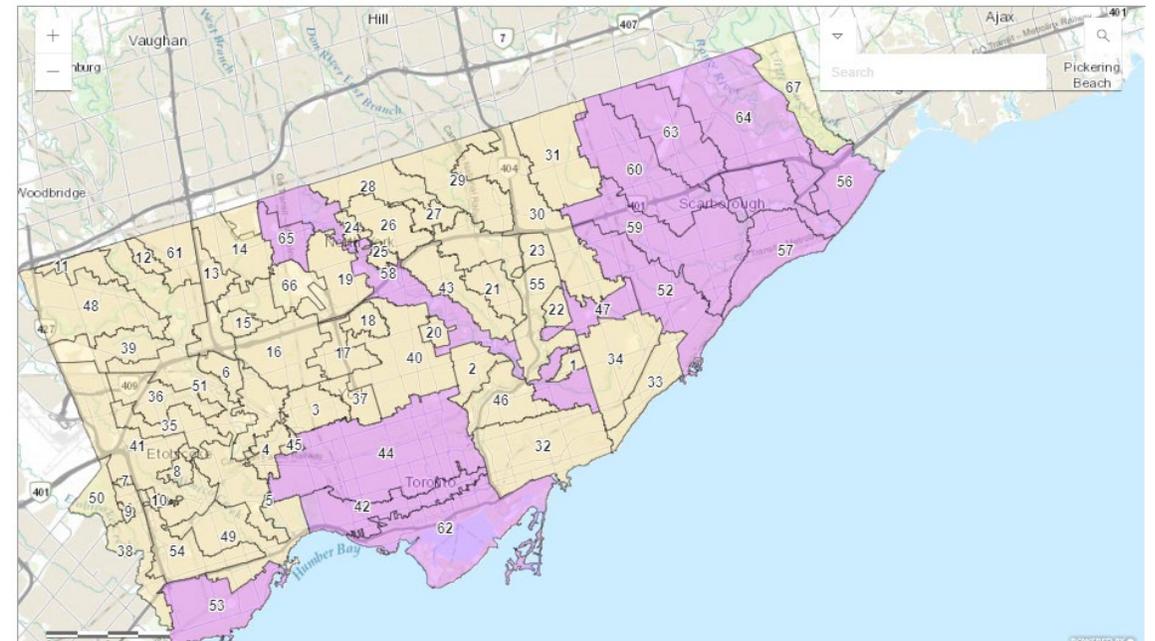
### Basement Flooding Protection Subsidy Program

- Backwater valves, sump pump and foundation drain pipe severance and capping from sewer system.

#### Map Legend

- Basement Flooding Study Completed
- Basement Flooding Study in Progress (started before 2019)
- Basement Flooding Study in Progress (started in 2019)

For more information enter an address in the search bar and/or click on the shaded area in the map



# Working with Western

**Purpose:** Identify global best practices and modelling to achieve the necessary capacity for future storm events as a result of climate change.

**Phase 1 :** Review of Toronto's current practices and performance criteria for stormwater management and urban flooding mitigation. Included review of applicable regulations, policies, programs, guidelines and design criteria.

**Phase 2:** Global jurisdictional scan. Cities included: Berlin, Copenhagen, London, Melbourne, Boston, Minneapolis, New York City, Philadelphia, San Francisco and Ottawa.

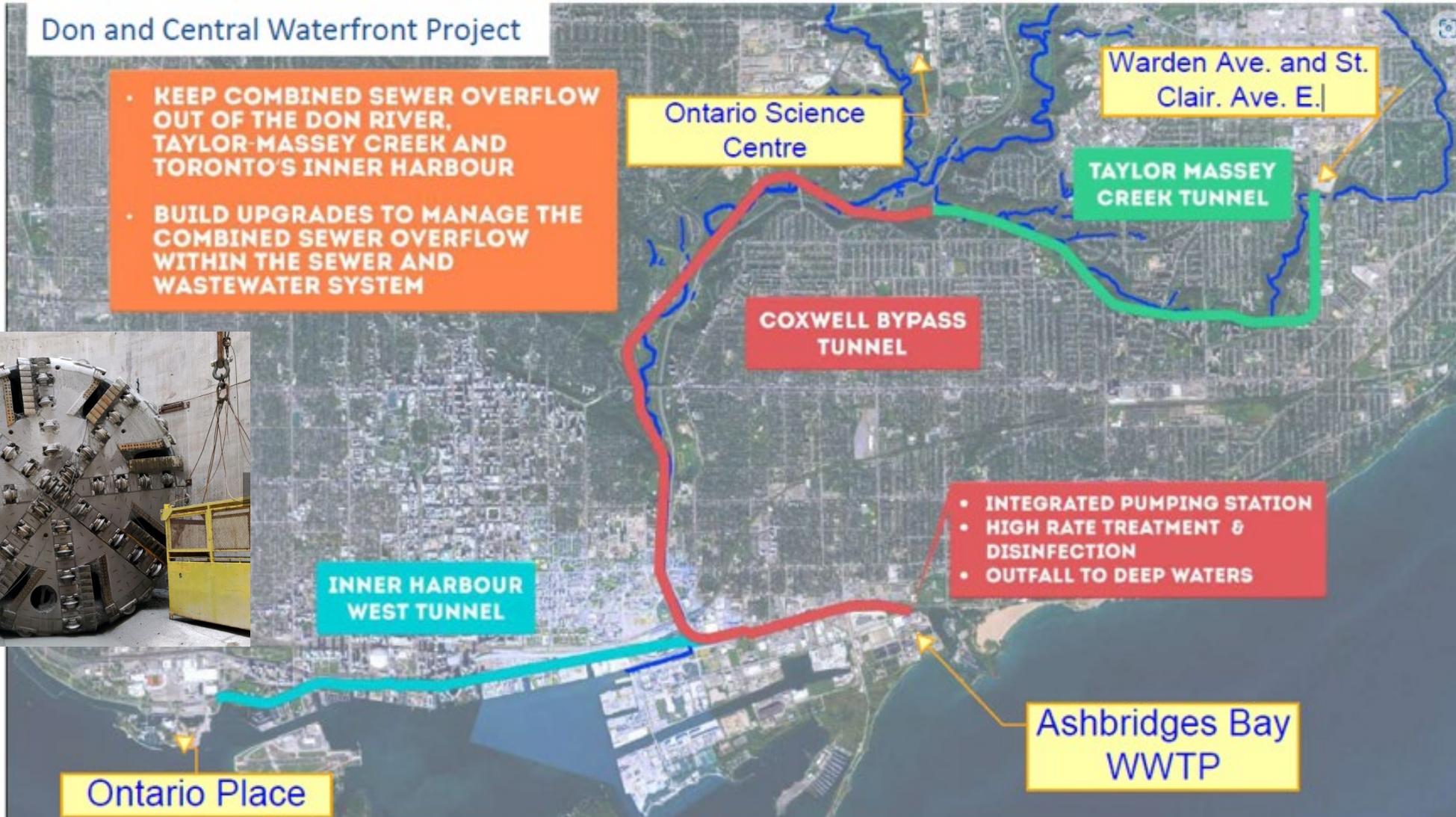
**Phase 3:** Comparison of Toronto to jurisdictional scan.

**Phase 4:** Recommendations and Implementation Roadmap  
Expected completion November 2023.

# Project Examples

## Don and Central Waterfront Project

- KEEP COMBINED SEWER OVERFLOW OUT OF THE DON RIVER, TAYLOR-MASSEY CREEK AND TORONTO'S INNER HARBOUR
- BUILD UPGRADES TO MANAGE THE COMBINED SEWER OVERFLOW WITHIN THE SEWER AND WASTEWATER SYSTEM



# Project Examples

## Basement Flooding Protection Program



Reducing the risk of flooding to private and public property caused by extreme storm events.

As of 2022, approximately 65 kilometres of storm sewer upgrades and 21 kilometers of sanitary sewer upgrades have been constructed.

# Project Examples

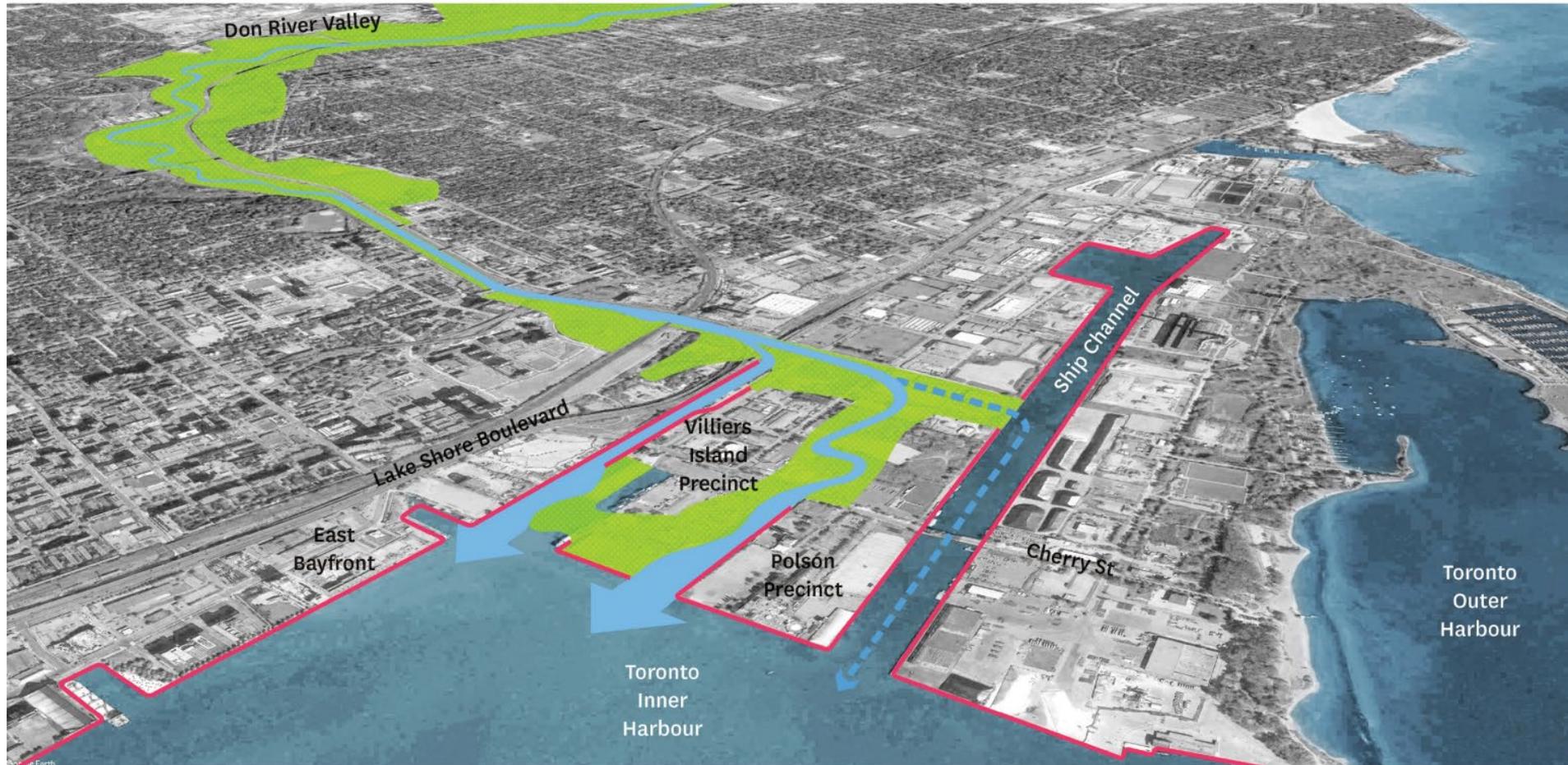
## Watercourse Management



Mimico Creek Sanitary Sewer Protection, before and after.

# Project Examples

## Port Lands Flood Protection and Enabling Infrastructure Project



Flood protection for 240 ha (595 acres) for Regional Flood Event.

Portlandsto.ca

Thank you for your  
attention.

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