

Lower Don Lands

May 9th, 2009




















WATERFRONToronto + TRCA + MVVA Team

Lower Don Lands Context



Neighbourhoods

LEGEND

-  Wooded Prospect
-  Passive Use Lawn
-  Multiuse Recreation
-  Esplanade
-  Playground
-  Public Garden
-  Event Space
-  Water Access
-  Heritage Structure
-  Retail
-  LRT Stop
-  Bicycle Trail
-  School/Community Centre
-  Day Care
-  Environmental/Cultural Uses
-  Library
-  Special Commercial
-  Boat Launch
-  Small Boating (canoes, kayaks)



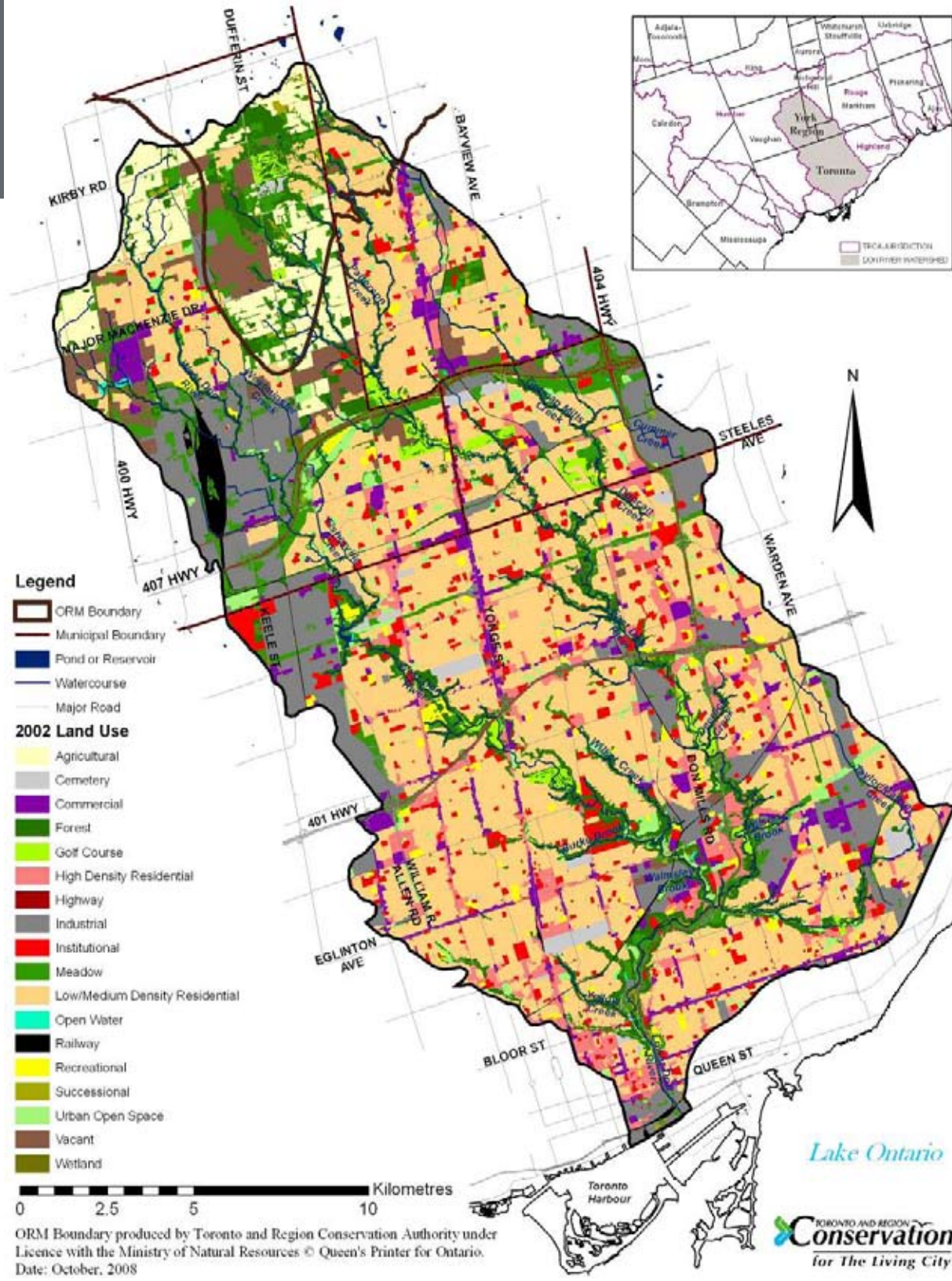
Coordination of Current Projects



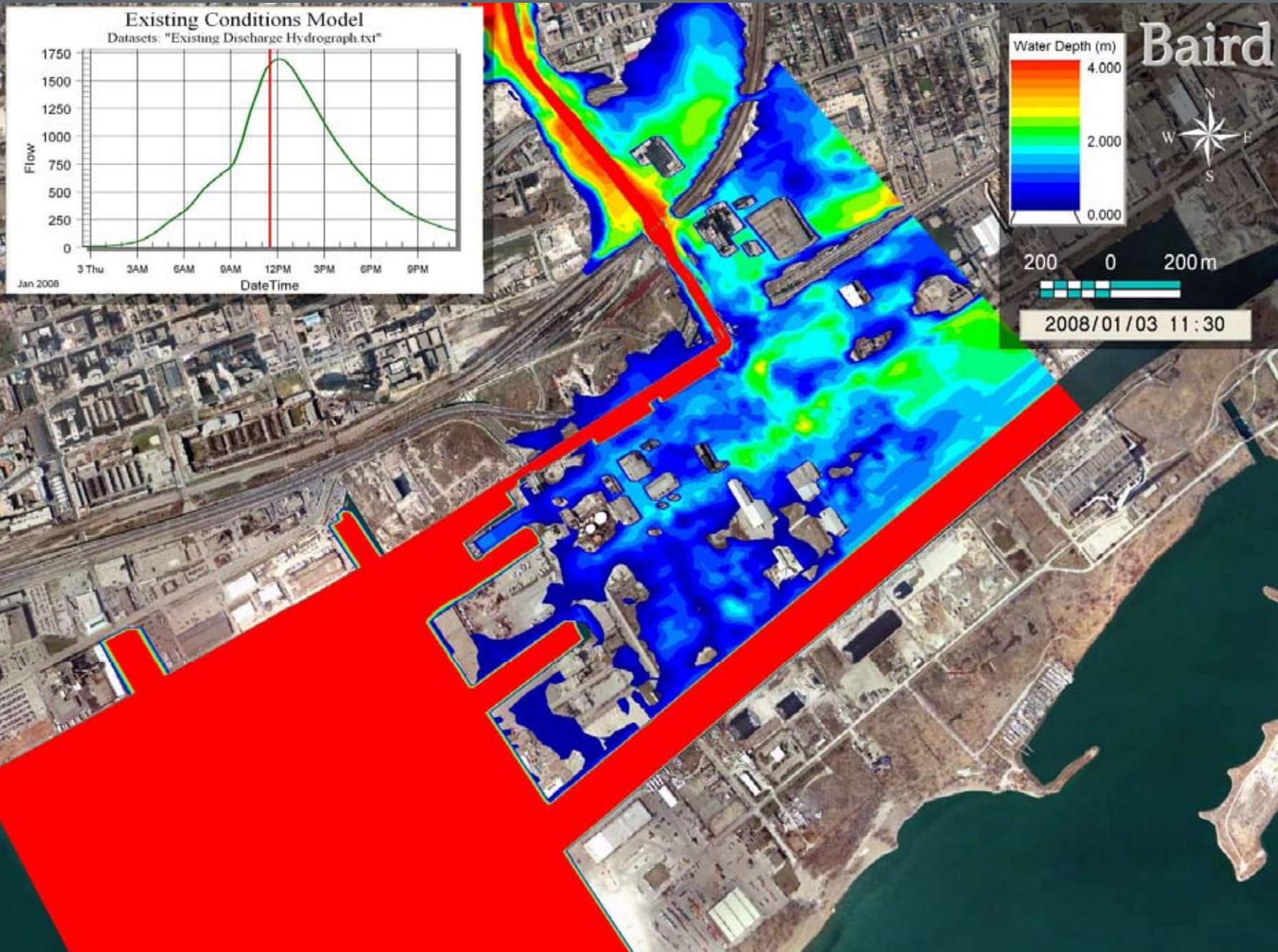
Don Mouth Naturalization and Port Lands Flood Protection Project EA

Project Goal

To establish and sustain the **form, features, and functions** of a natural river mouth within the context of a revitalized City environment while providing flood protection up to the Regulatory Flood.

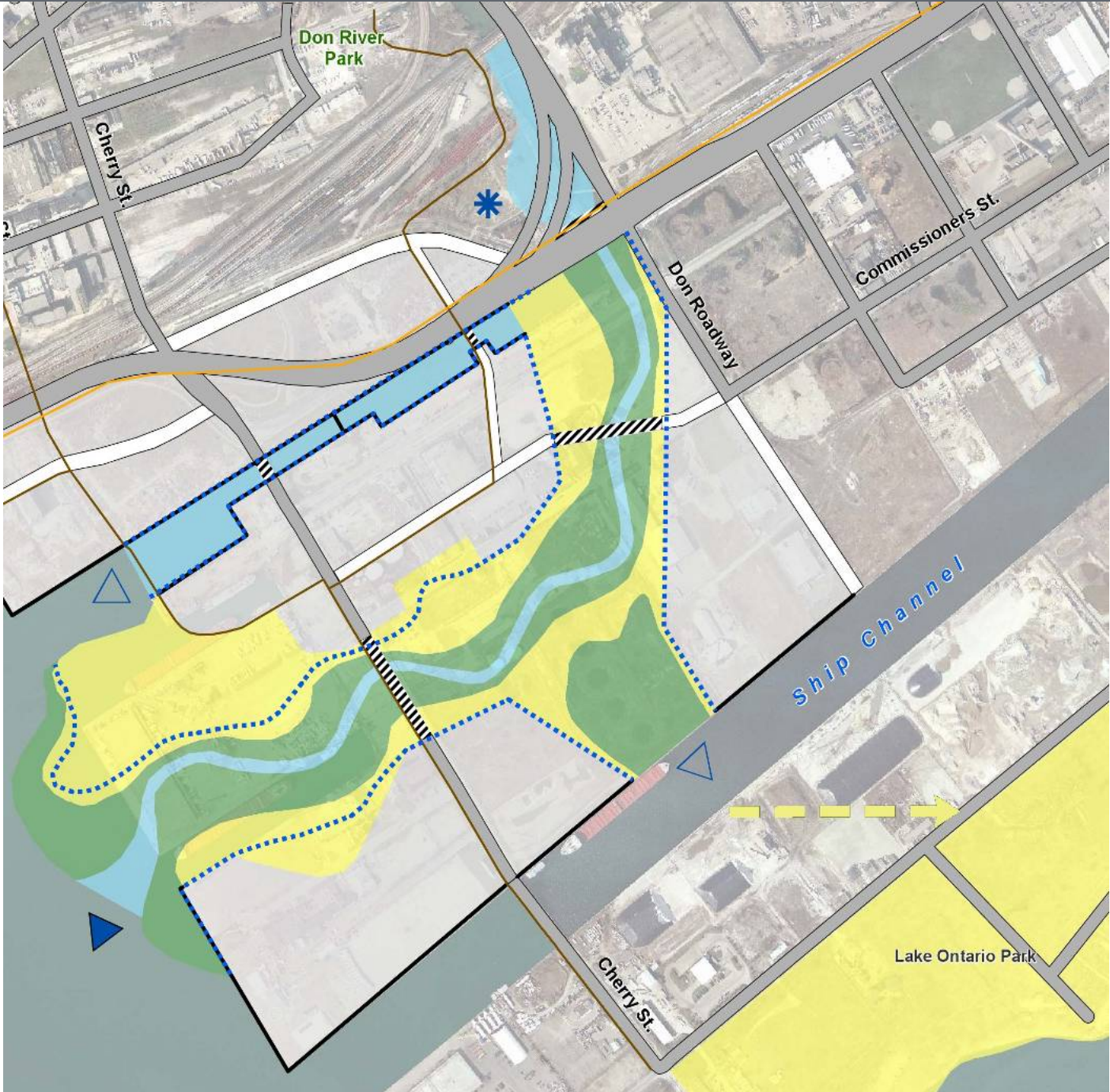


Modeled Flood Depths – Existing Conditions

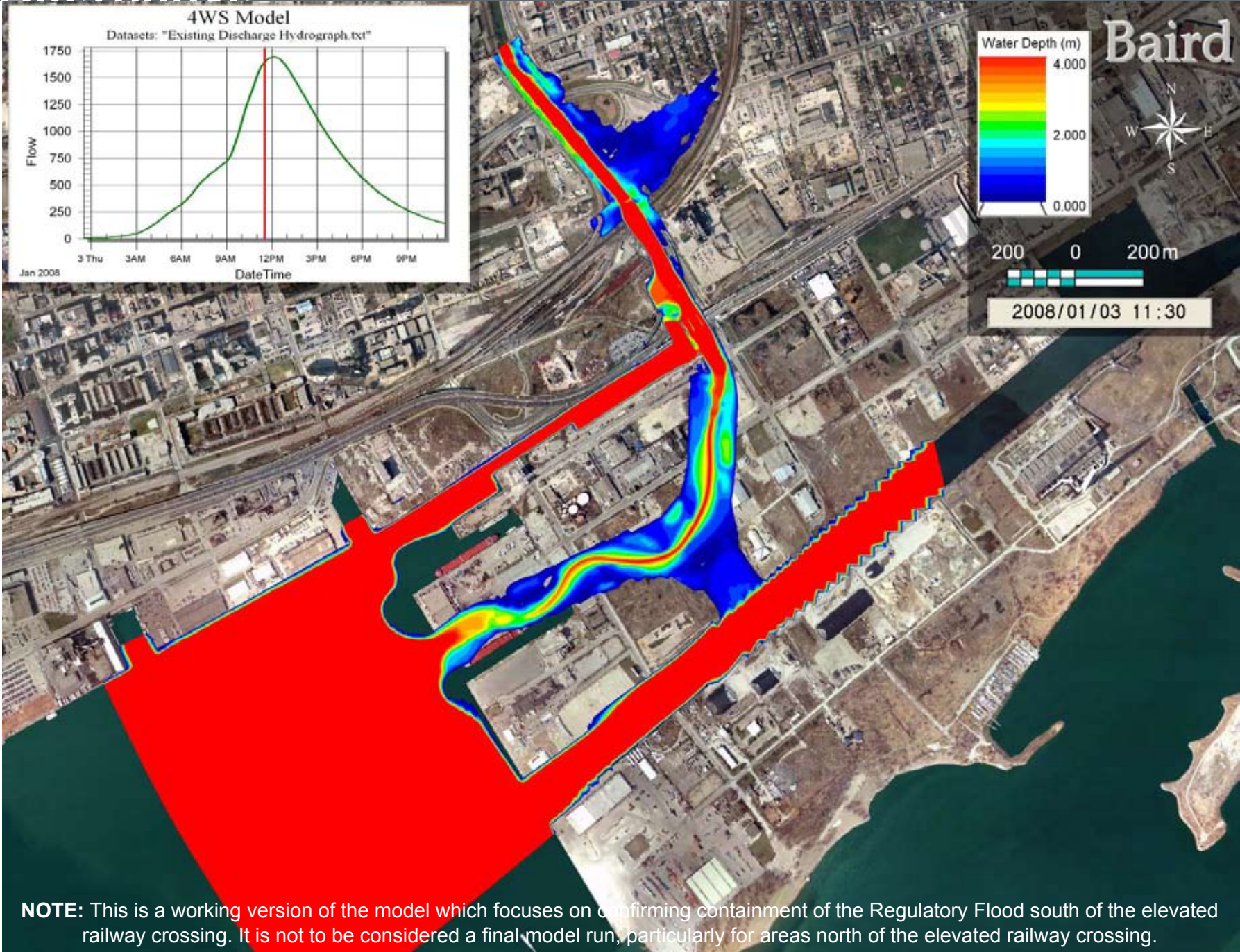


NOTE: This model is still being refined and does not show full extent of flooding through the South Riverdale and Port Lands area.

Preferred Alternative



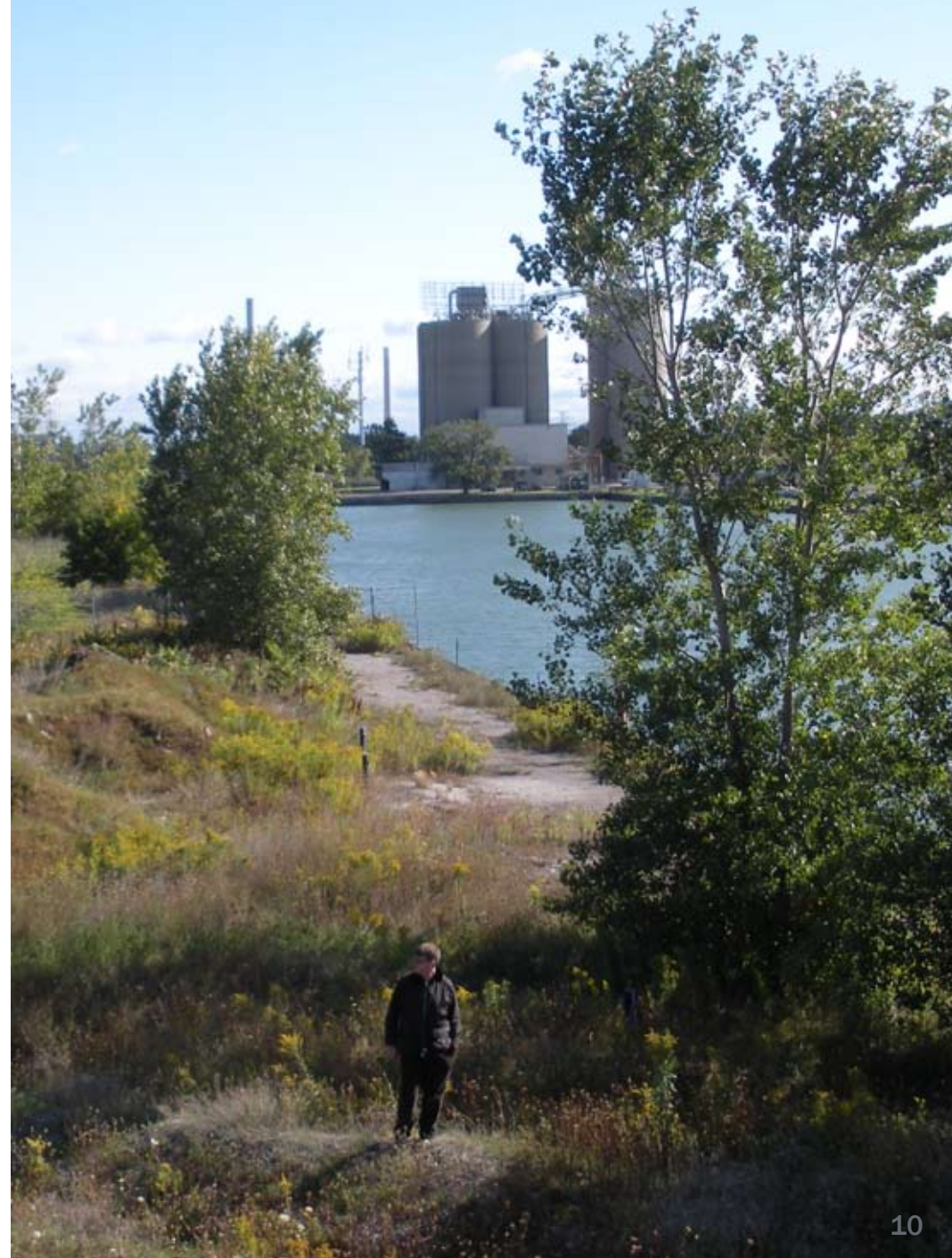
Modeled Flood Depths – Preferred Alternative



NOTE: This is a working version of the model which focuses on confirming containment of the Regulatory Flood south of the elevated railway crossing. It is not to be considered a final model run, particularly for areas north of the elevated railway crossing.

The Purpose of the Presentation

1. Project Integration
2. Lower Don Lands Municipal Class EA (phases 3 and 4)
3. Don Mouth Naturalization and Port Lands Flood Protection EA
4. Coordination and Implementation



Planning must meet multiple purposes and incorporate the human relationship into the built environment, representing an integrated neighbourhood-wide sustainability strategy:

- Achieving urban design excellence
- Creating a strong sense of community
- Ensuring community participation
- Supporting development that fosters diversity
- Increasing economic opportunity
- Minimizing energy and resource consumption and waste production
- Encouraging innovation through conservation and green building technologies
- Creating high-density and mixed-use neighbourhoods, connected by sustainable transportation modes (transit, cycling, walking opportunities)

Waterfront Toronto is developing a Soil and Groundwater Management Master Plan, which is based upon the core values of the following Waterfront Toronto documents:

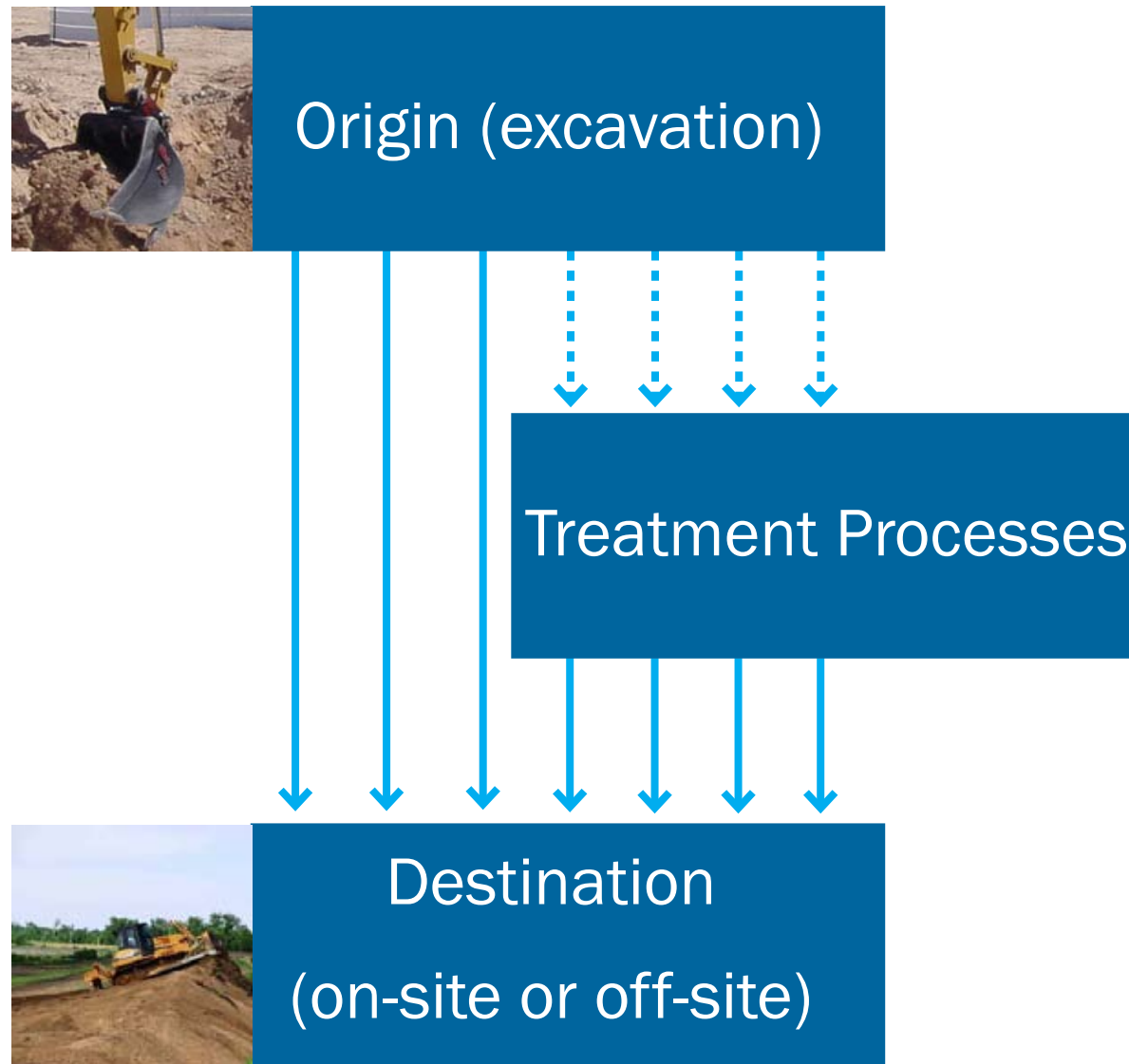
- Sustainability Framework
- Environmental Management Plan

The **Soil and Groundwater Management Master Plan** consists of four key elements:

- Soil Management Alternatives
- Groundwater Management Alternatives
- Soil Management Facility
- Soil Data Management

Remediation Strategy

The basic approach to remediation:

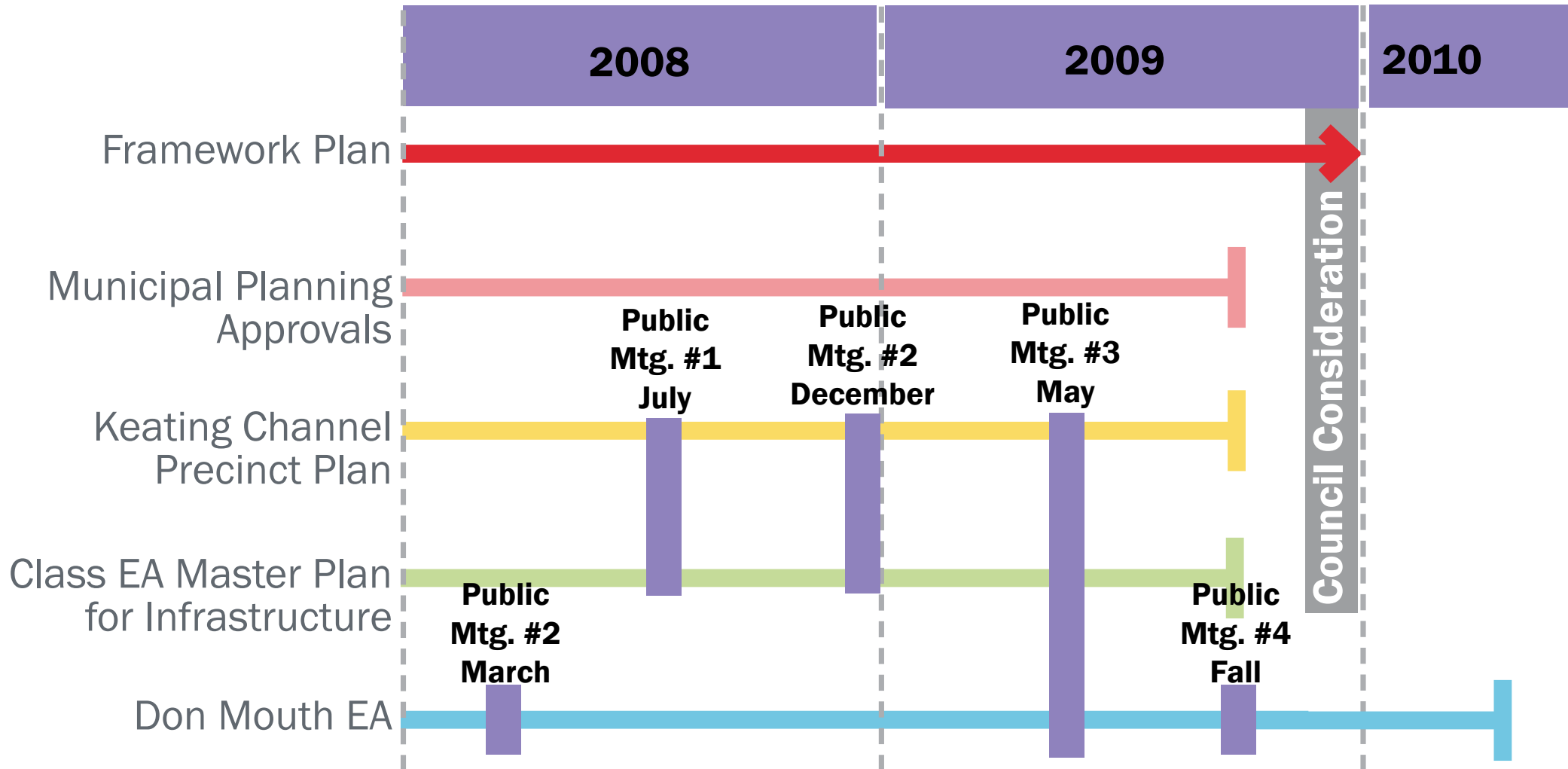


Sustainability

The urban landscape is richer, more elegant and most efficient when it takes advantage of overlapping systems



Planning Process Recap/Update



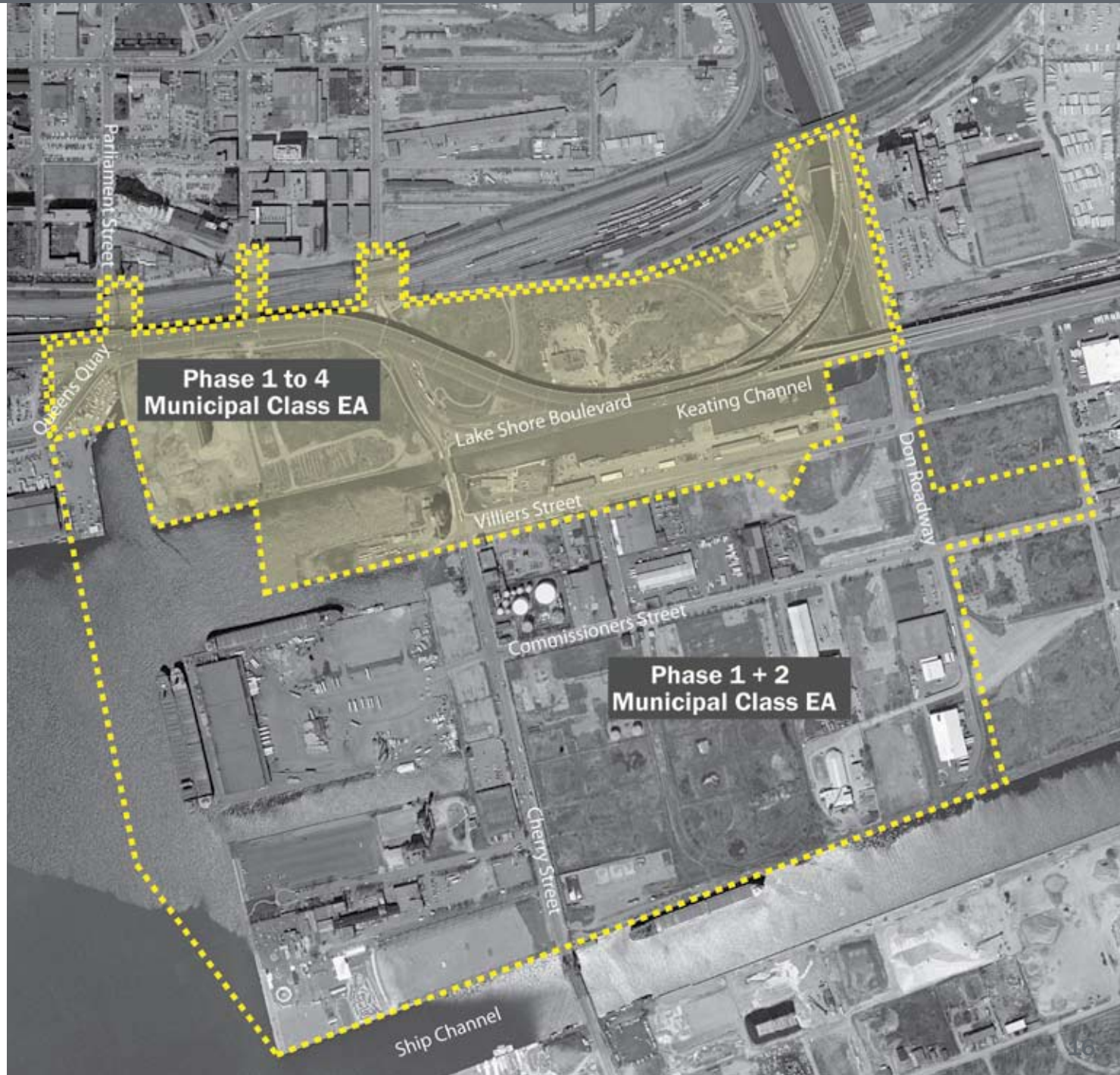
Coordinated EA Planning

Scope of Class EA Master Plan for Infrastructure:

- Road and transit network, including crossings
- Water, wastewater, and stormwater infrastructure

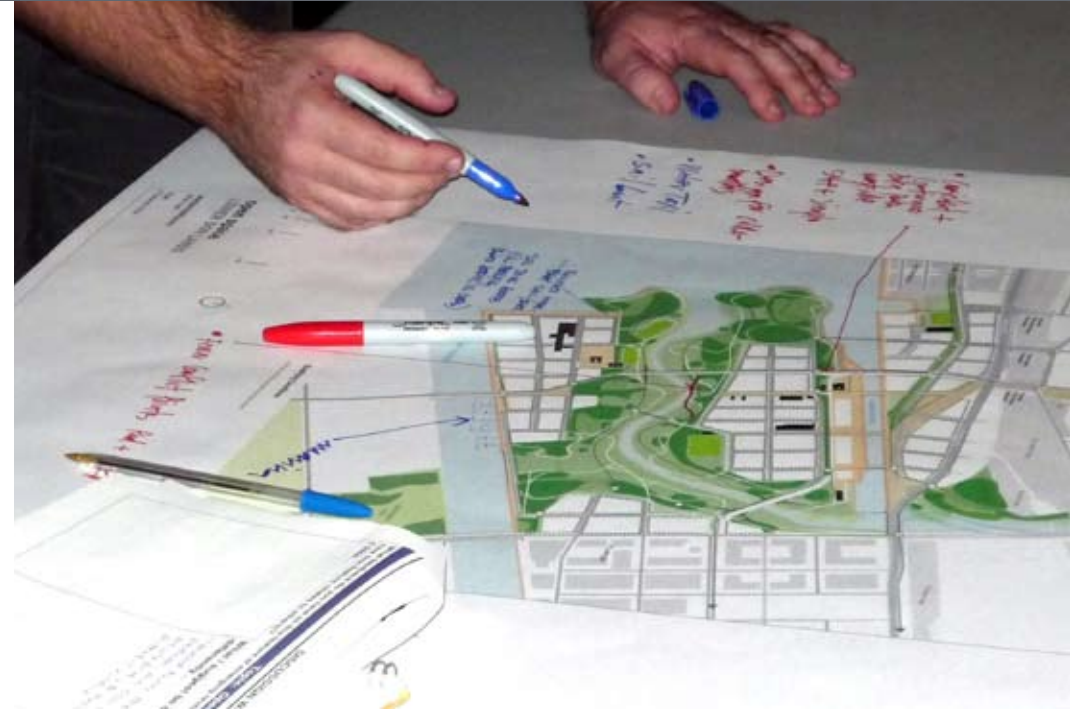
Scope of DMNP EA:

- Naturalization of the Don Mouth and Lower Don River
- Flood protection features
- Sediment and debris management

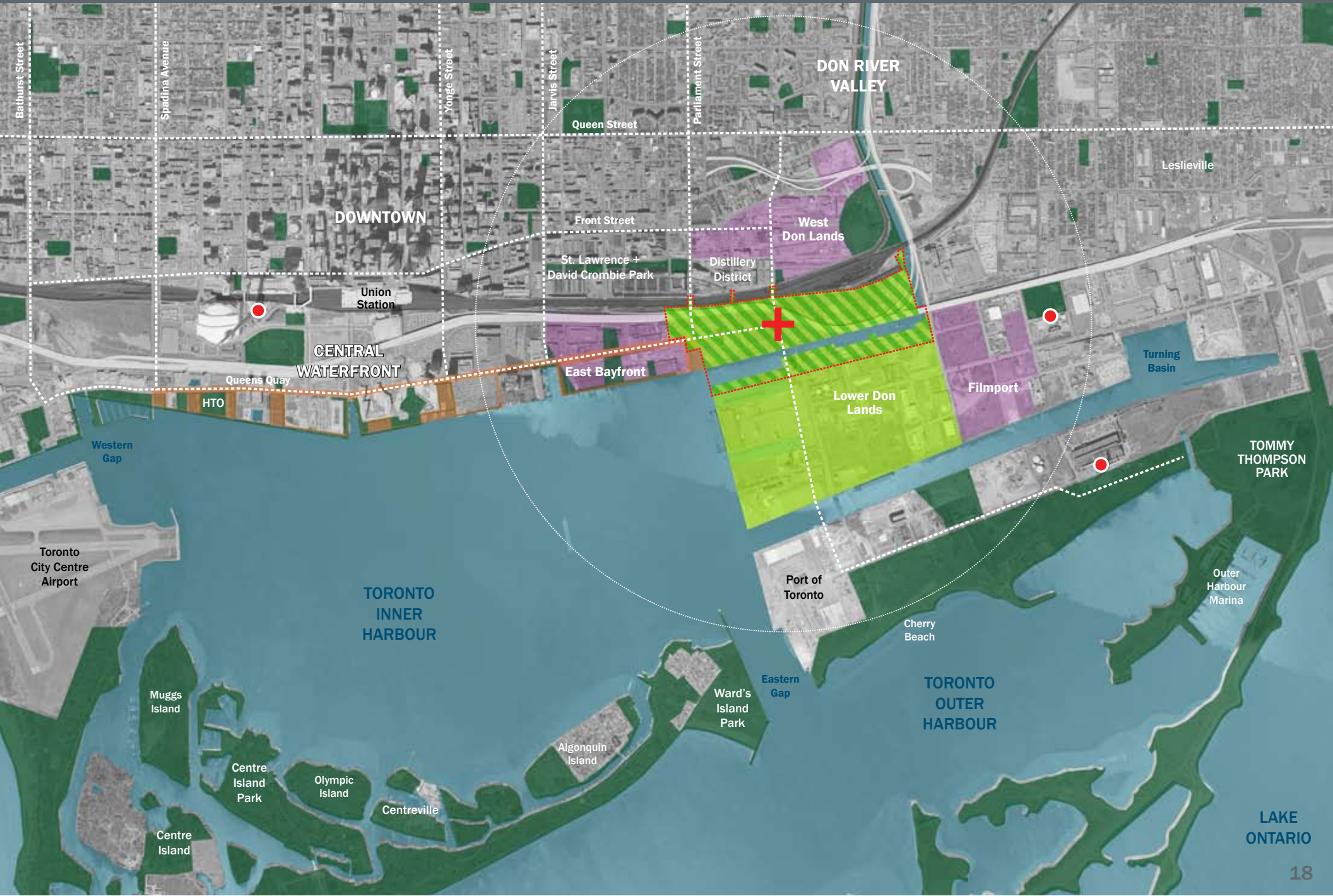


What We Heard Last Time

- General support for the balance between open and built space
- Public access to the water is essential
- Open spaces should be active and have a comfortable microclimate year-round
- Support for the enhanced connectivity between the Lower Don Lands and surrounding neighbourhoods
- A large variety of recreational uses, including marine uses, need to be accommodated
- Transit connectivity is essential
- Support for sustainable approach to stormwater management

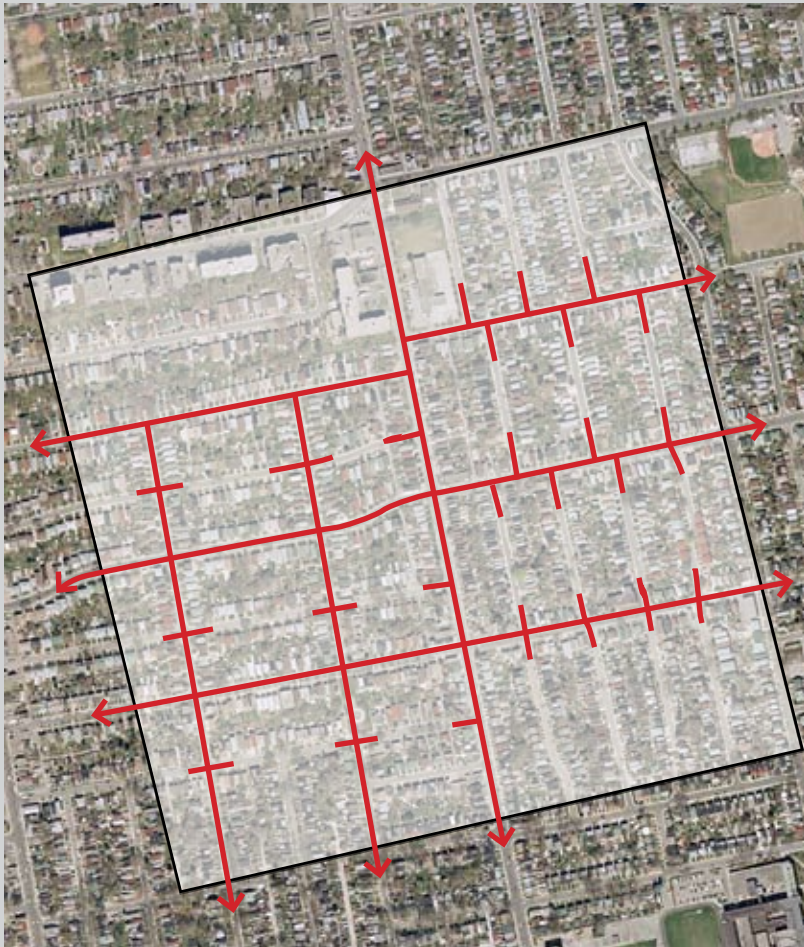


Lower Don Lands Context



Planning in a Unique Riverine Context

The River mouth creates different priorities for infrastructure development



Urban Grid
125 ha (309 ac)

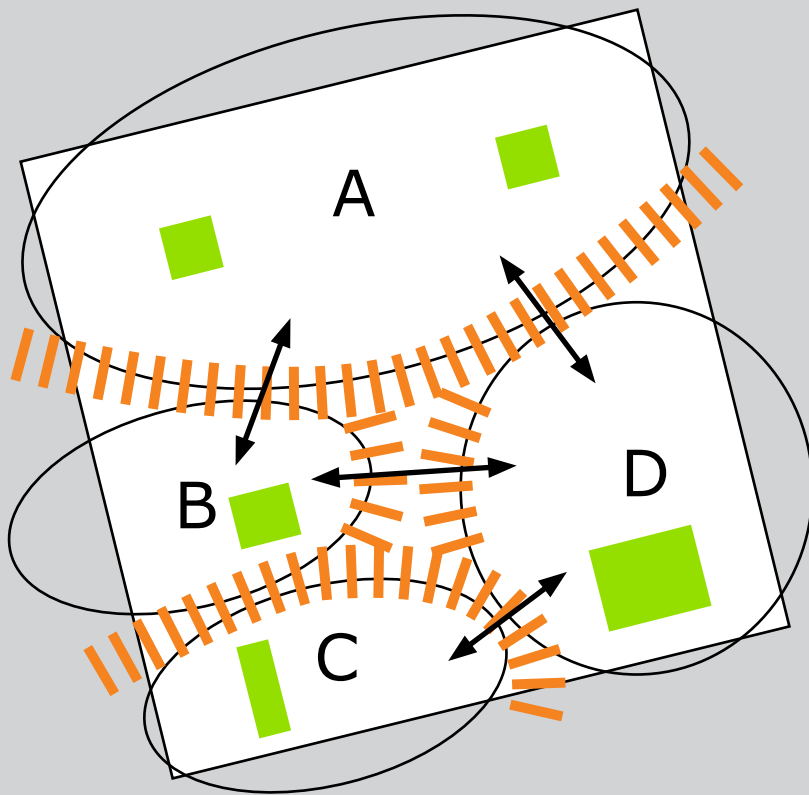
vs.



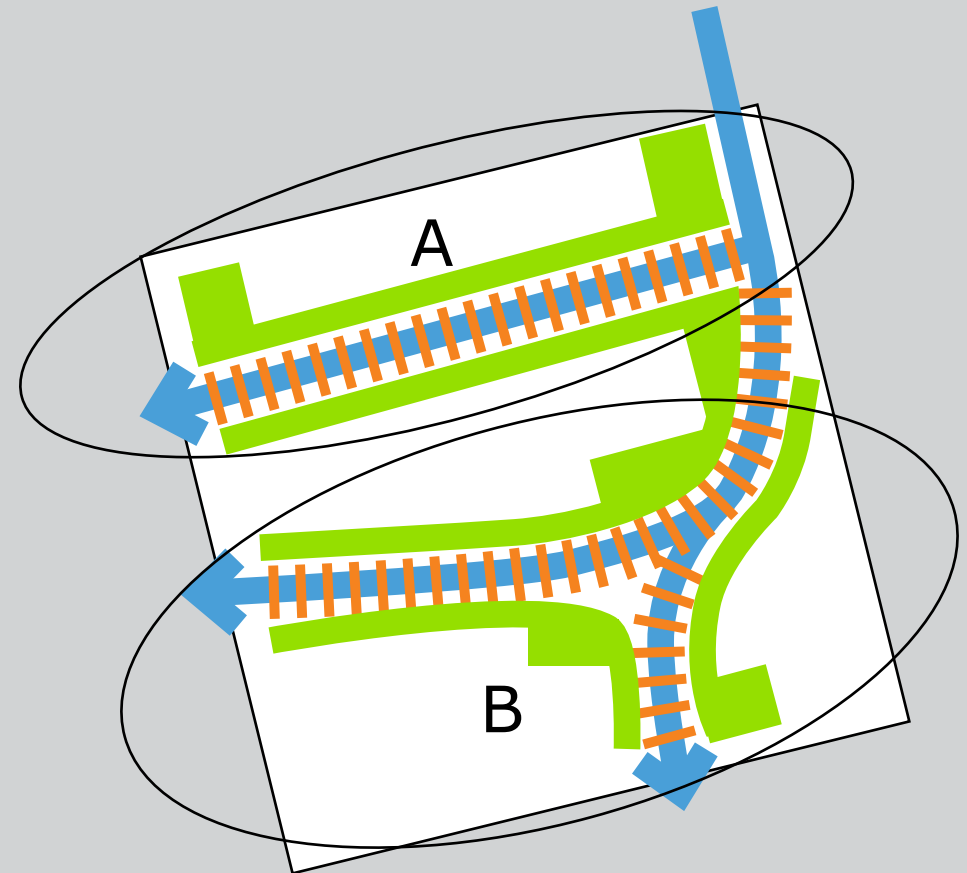
Riverine
125 ha (309 ac)

Planning in a Unique Riverine Context

Community formation around the River and Keating Channel



Community edges form and reform over time with development



The waterway becomes the centre of the community by collecting infrastructure connections back to the city

Two Precincts of the Lower Don Lands

Each organized by a core public open space

- The **Keating Channel Precinct** Planning process is currently underway and is being presented today
- The **River Precinct** Plan will be developed at a later stage of the project



Public Realm and Open Space






















LEGEND

- Esplanade
- Woodland
- Passive Use Lawn
- Multiuse Recreation
- Pedestrian Path
- Bicycle Path
- Open Space

Neighbourhoods

LEGEND

-  Wooded Prospect
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-  Small Boating (canoes, kayaks)






Draft Preferred Transit Network

Queens Quay







LEGEND

-  LRT Stop
-  Transit Line
-  Retail

Connections and Circulation



LEGEND

-  Keating Channel Bridges
-  River Bridges
-  Underpass
-  Flood Conveyance Crossings

Connections: Gardiner Down Flexibility

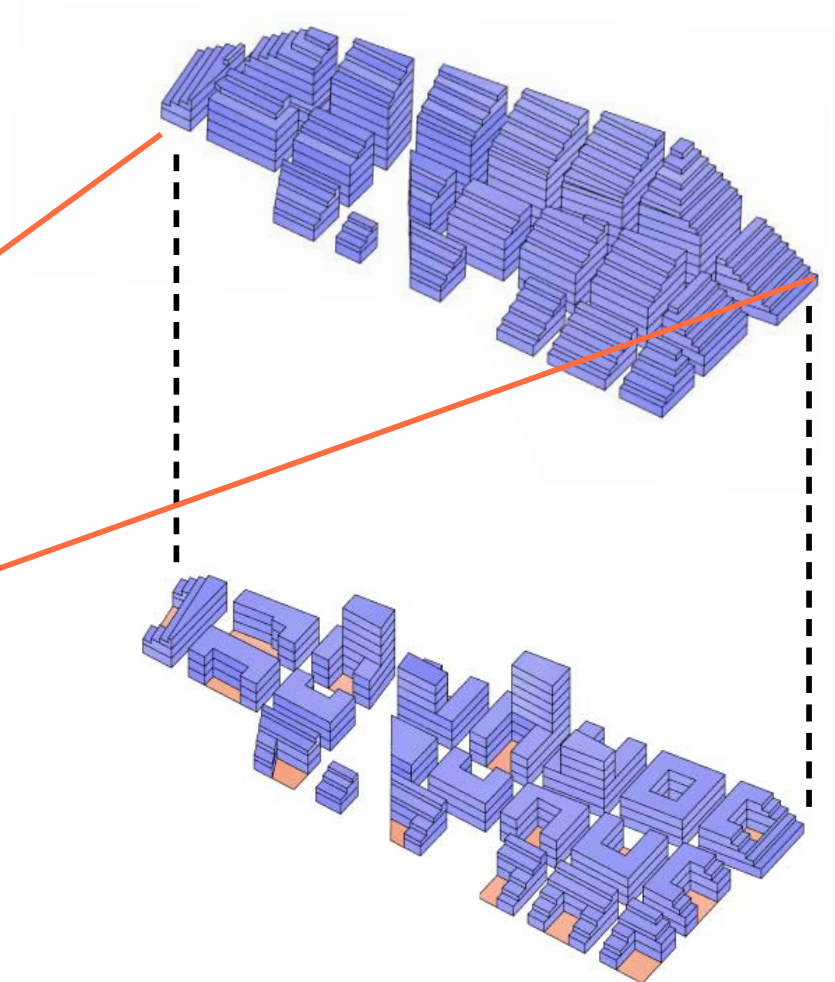
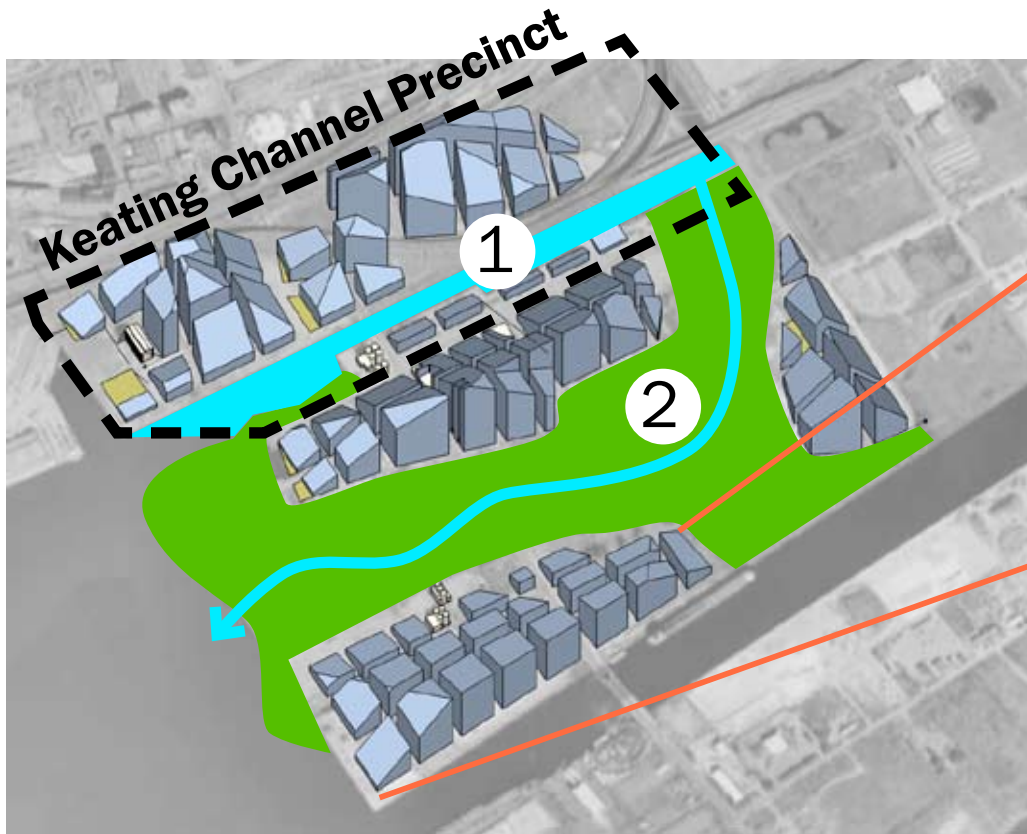


This sketch generally shows that the Lower Don Lands Plan is flexible enough to accommodate the outcome of the Gardiner EA, it does not represent an official EA alternative

Daylight in Major Open Spaces

Conceptual Solar Exposure Planes, constraining building massing, were considered for the entire Lower Don Lands site.

1. The Keating Channel and Esplanade (8 ha/20 ac)
2. The Don River Park System (40 ha/99 ac)



Built Form



Overview



Victory
Soya Mills
Silos

Queens
Quay

East
Bayfront

Keating
Channel

Promontory
Park

River Mouth



The Keating Channel Precinct

The Channel Defines the Precinct

Reshaping the Channel for New Urban Purposes



Building the Channel

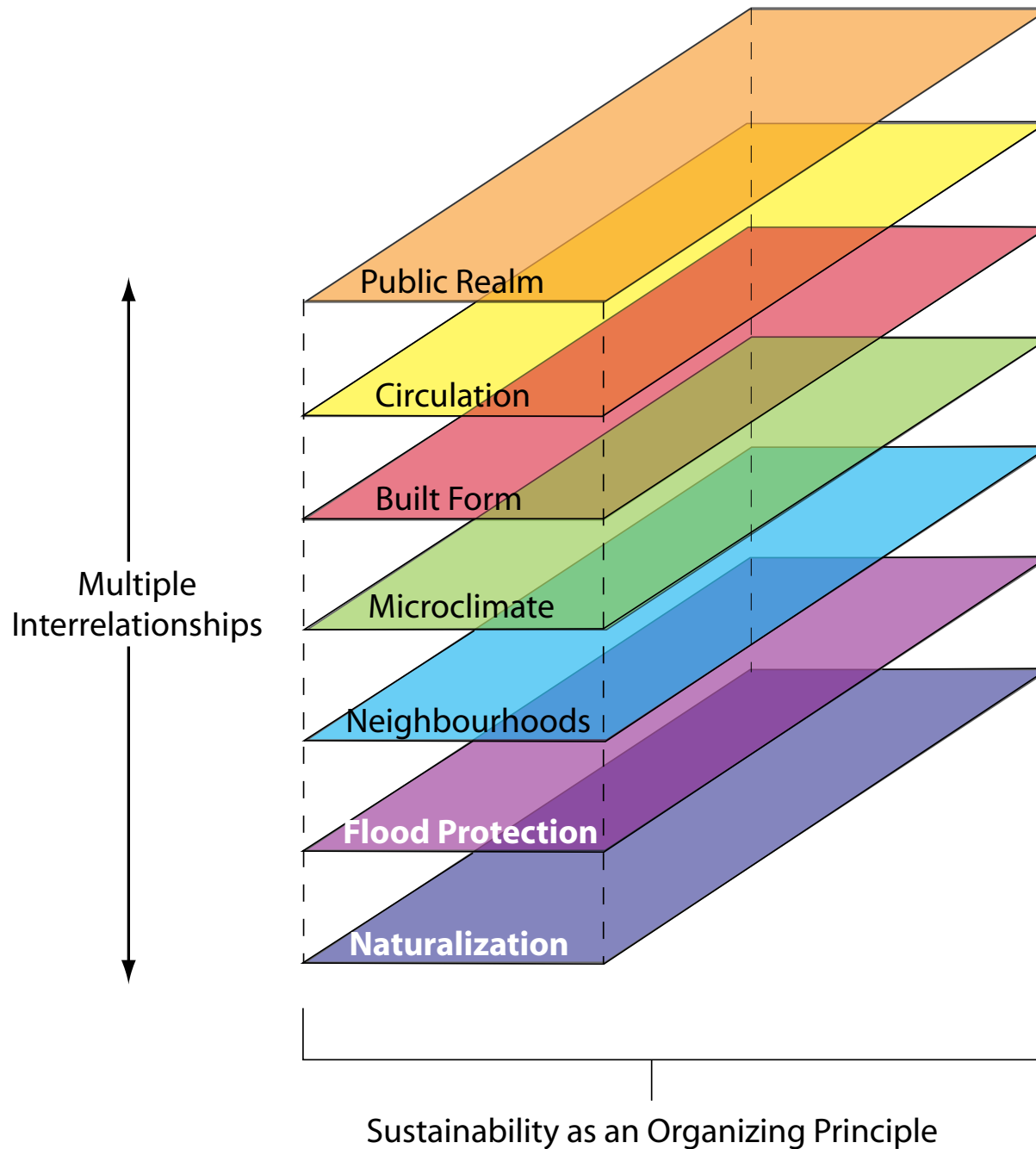


Lachine Canal, Montreal

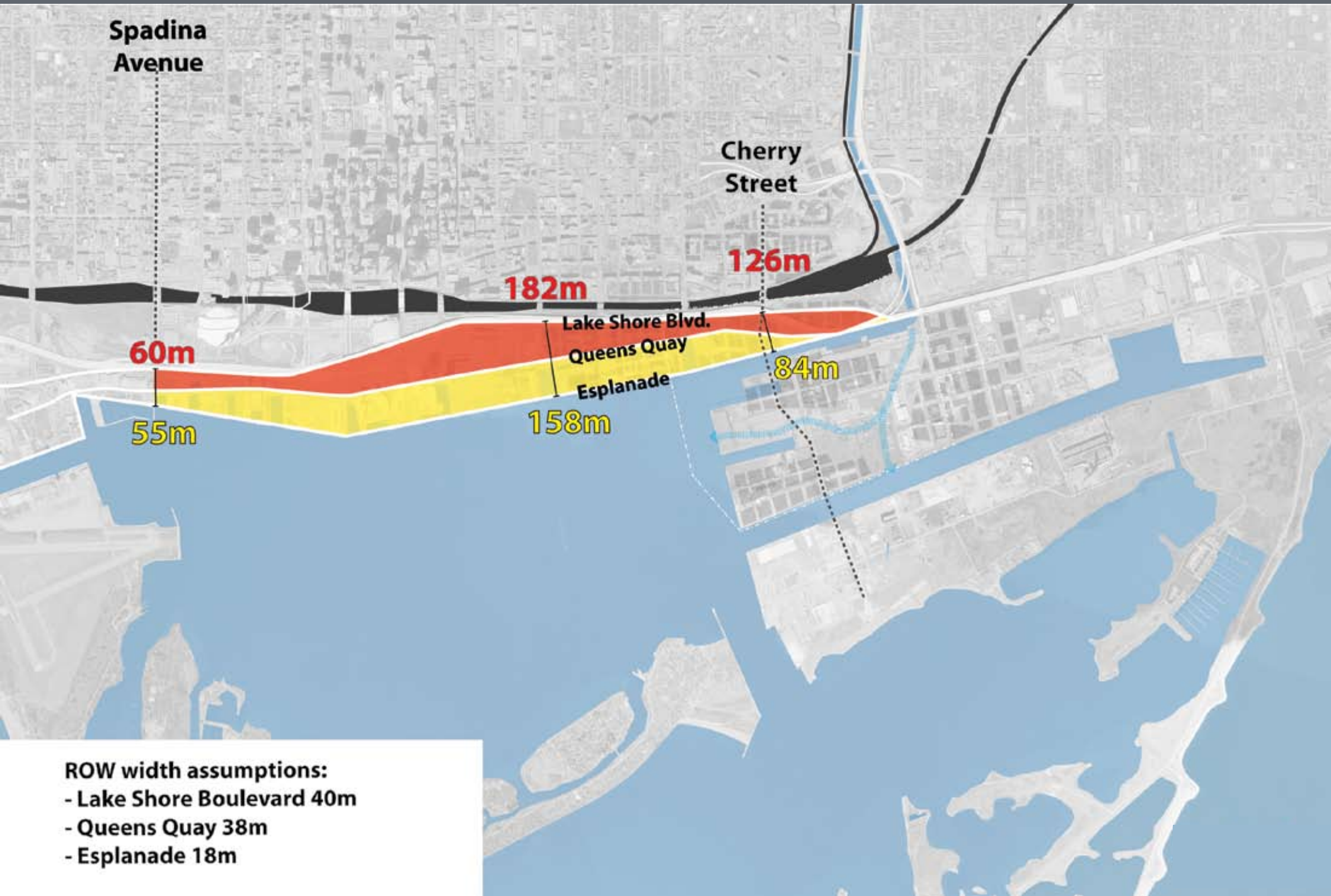


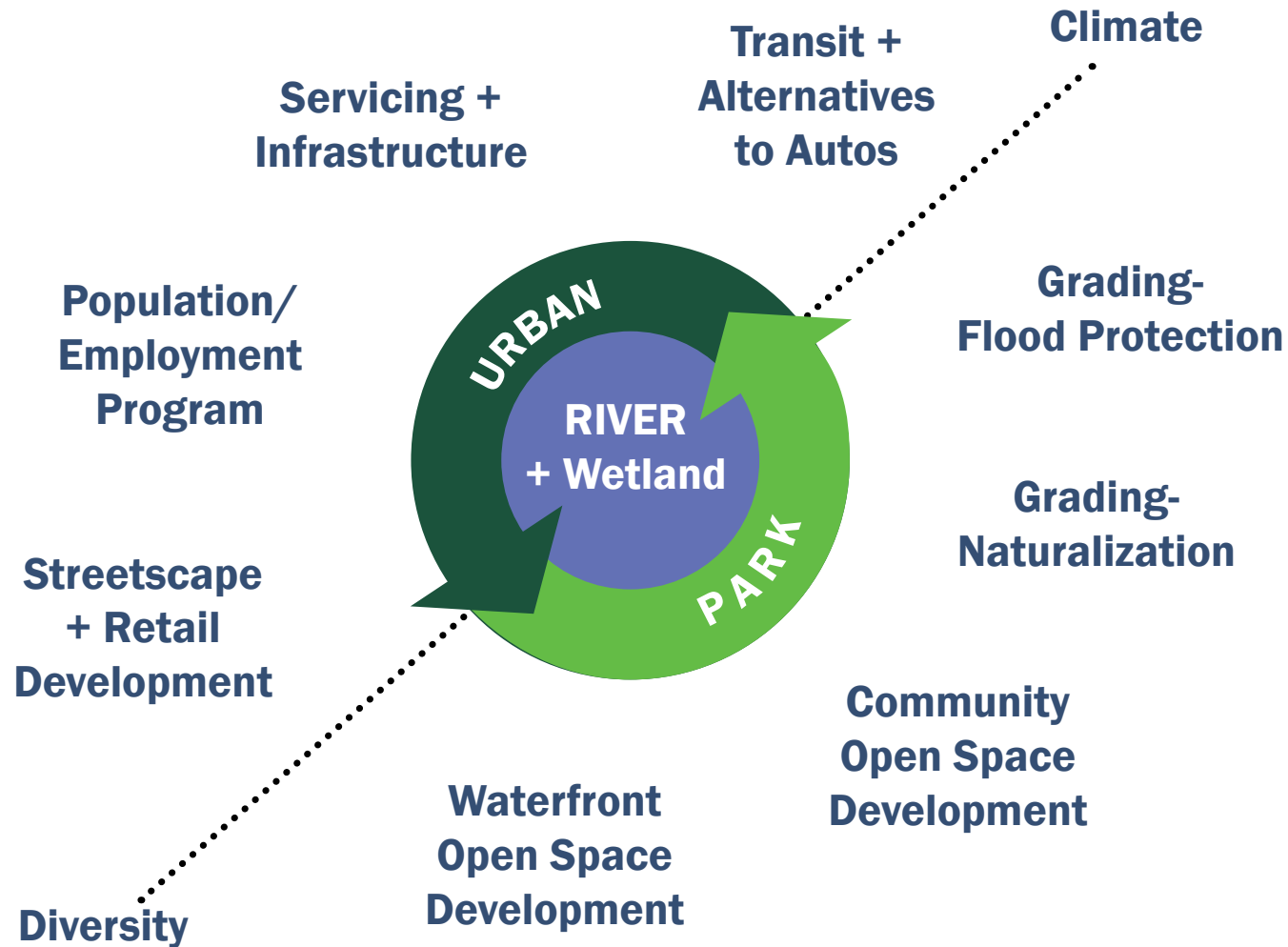
Rideau Canal, Ottawa

Keating Channel Precinct Planning



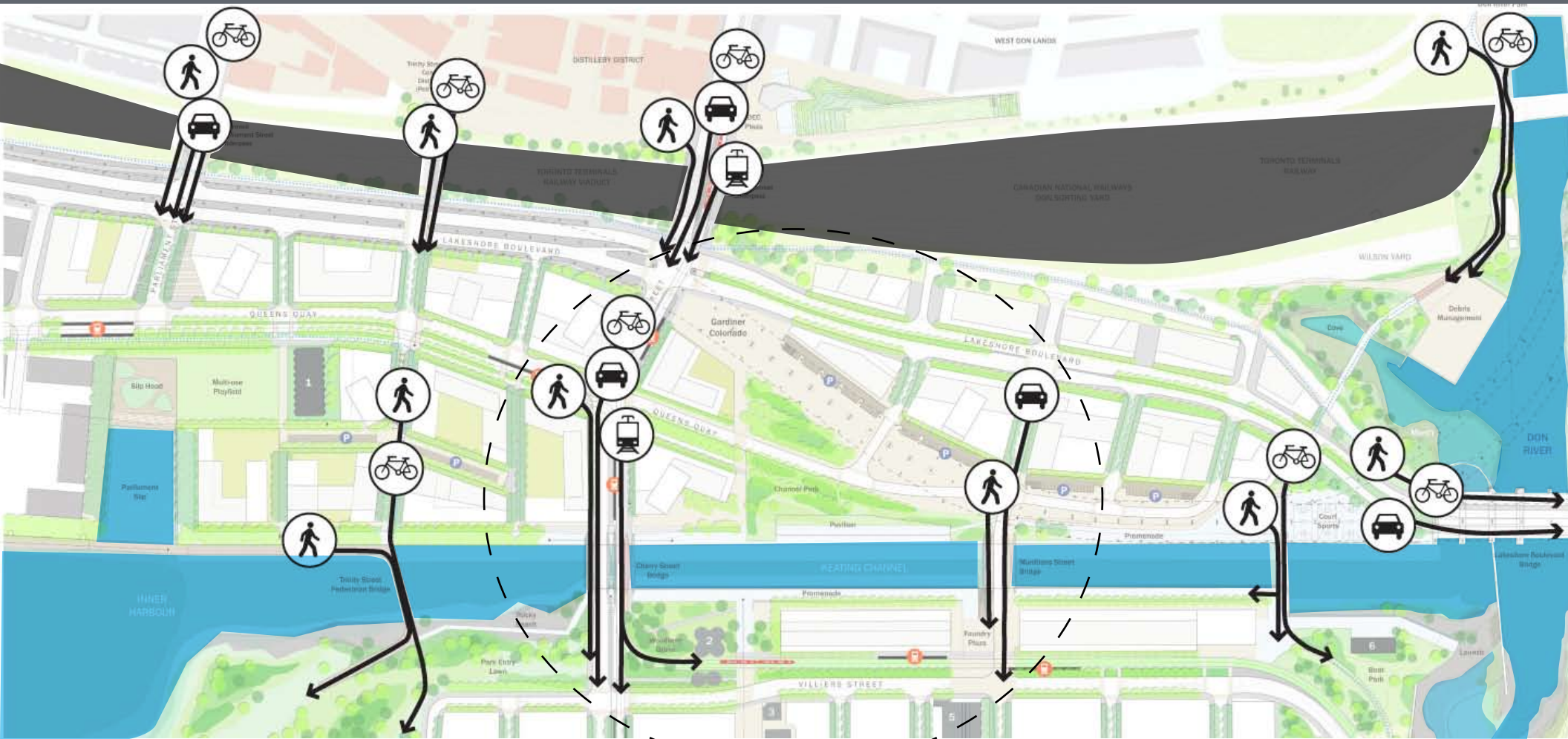
Dimensional Constraints





- Transitions involving critical waterfront infrastructure
- Gateway for future development of Lower Don Lands and the entire Port Lands
- Functional + recreational channel

Circulation: Crossings and Underpasses

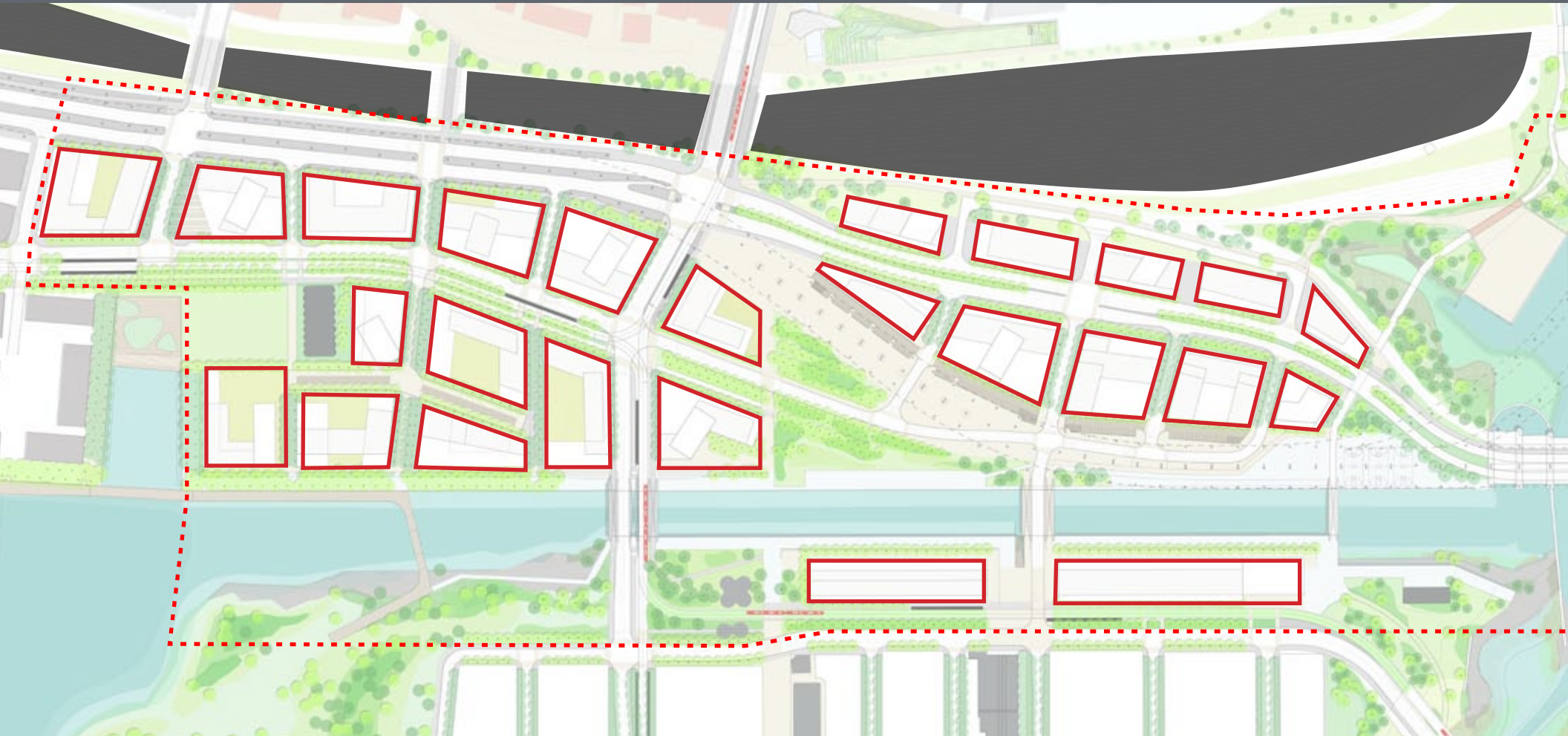


Connection to Promontory Park

Critical New Transportation Crossings

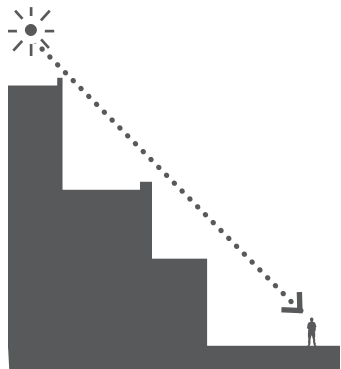
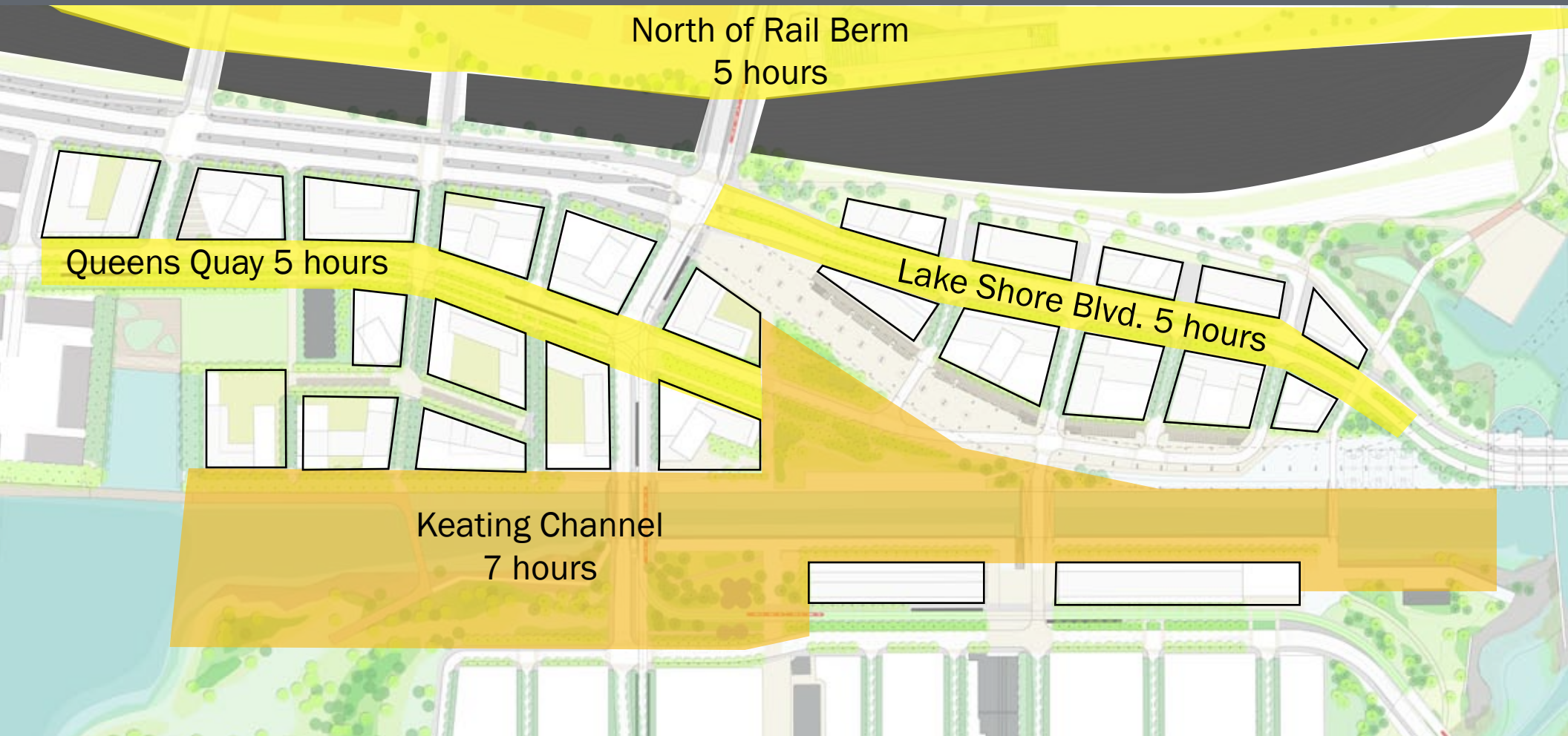
Connection to Riverine Park + Wetlands

Block Pattern



Typical Development Blocks are Each Roughly 1 Acre / 0.4 Hectares
21.2 Acres / 8.6 Hectares of Development Total
20 Acres / 8 Hectares of Public Open Space Total

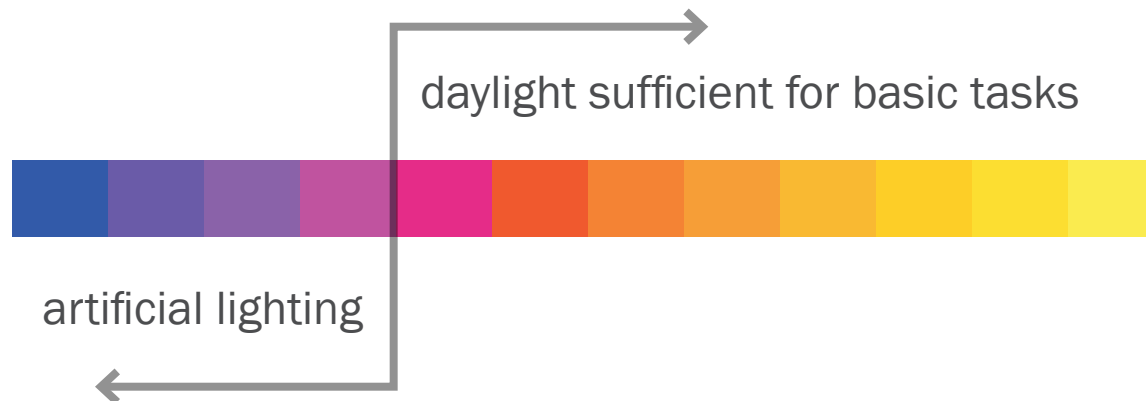
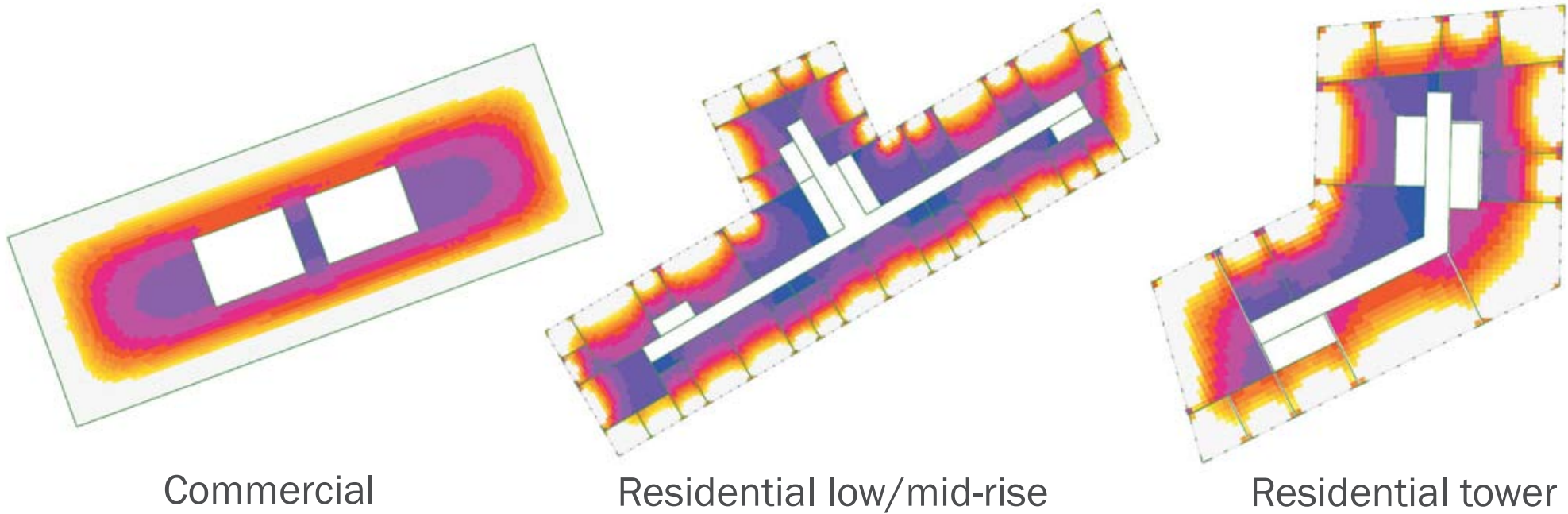
Daylight in the Public Realm



- Bosselman Criteria (Toronto/Berkeley, 1994) establishes pedestrian comfort through solar exposure planes
- Daily hours of sun measured on March 21st, Spring Equinox

Daylight in the Private Realm

Building Design that Maximizes Daylight and Minimizes Artificial Lighting Needs



Solar Energy Harvesting

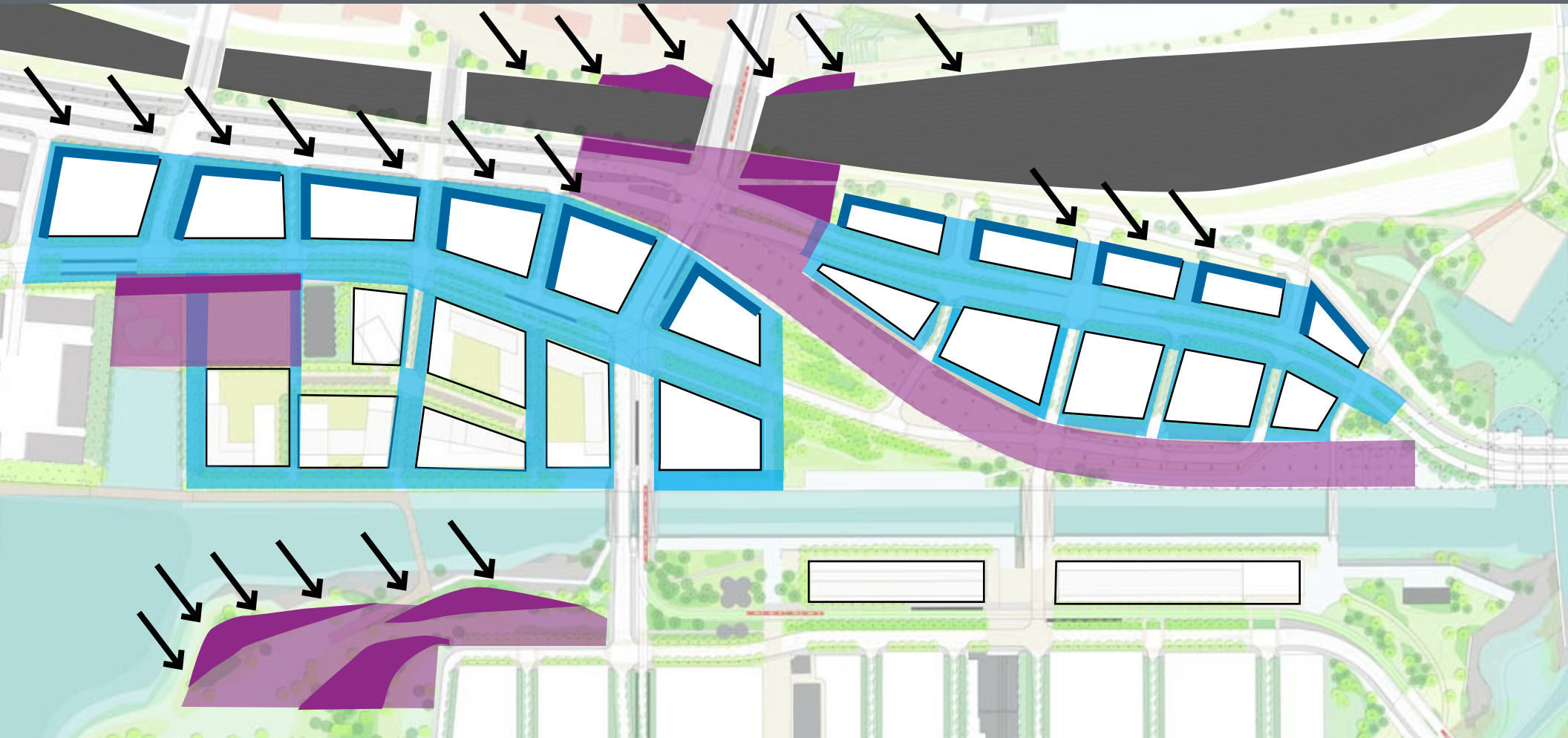
Solar electric and solar thermal




Wind on the Waterfront



Wind Mitigation and Massing




Wind Mitigation Measures
Through **Landscape**
e.g. wind row

 Areas Benefiting from
Mitigation Measures



Wind Mitigation Measures
Through **Built Form**
e.g. setback guidelines

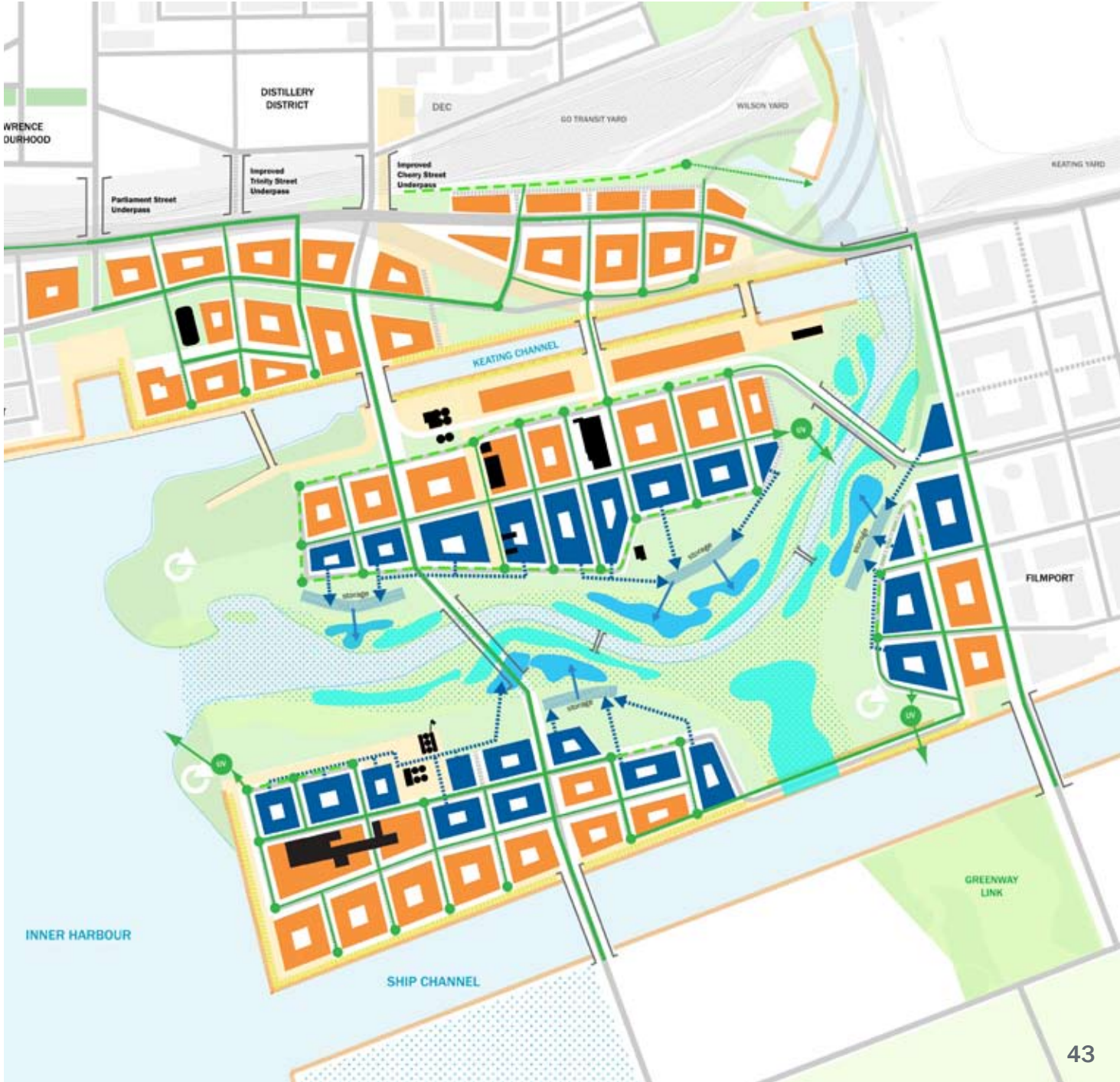
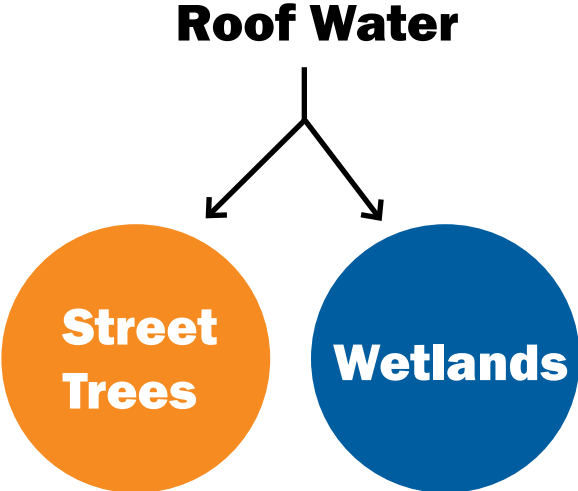
 Areas Benefiting from
Mitigation Measures

Wind Energy Harvesting

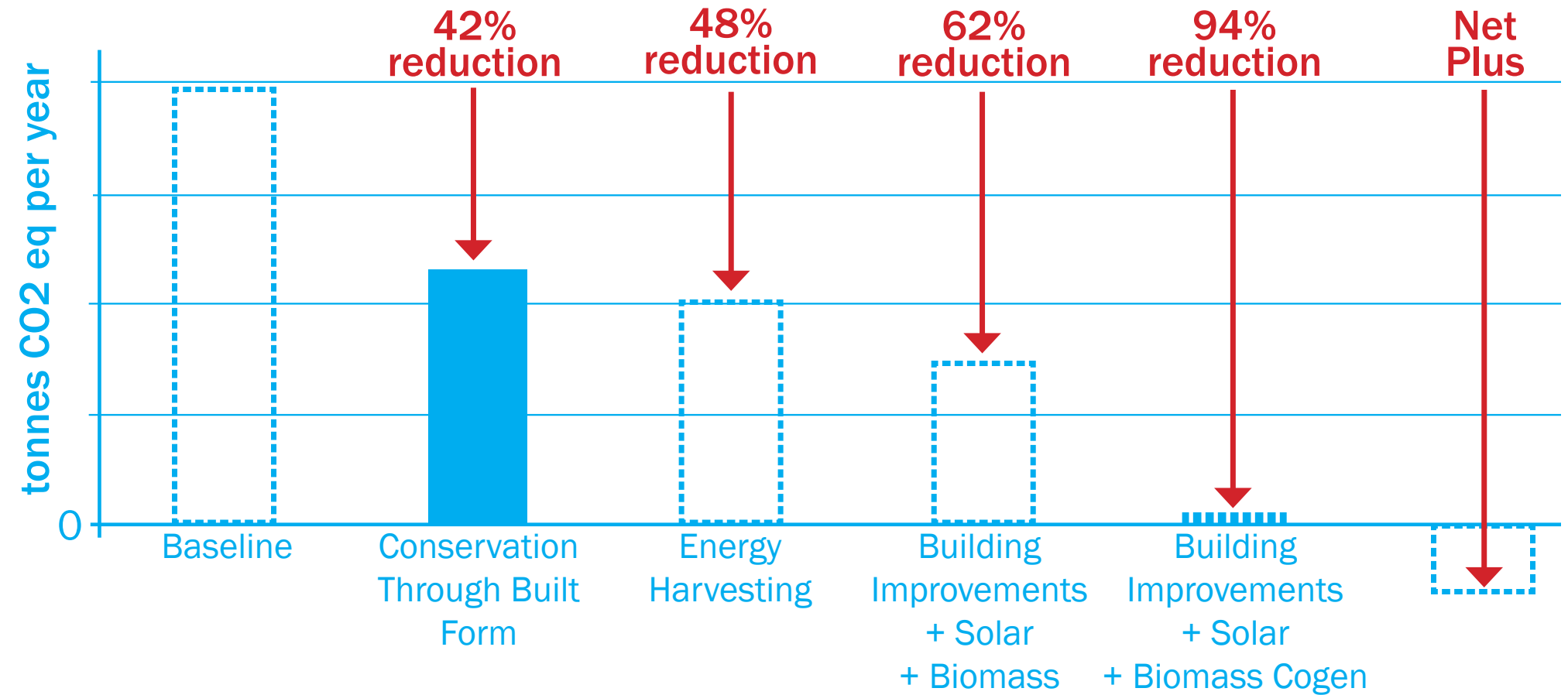
Ventilation and electrical generation



Stormwater Harvesting



Sustainability Goals for Energy



- **Conservation** takes the largest step towards a carbon neutral development
- Approaching a **carbon neutral development** is one of the main goals for the Lower Don Lands
- Work closely with Waterfront Toronto for a potential **Net Plus scenario** - exporting net energy benefits to the City and the region

Mixed Use Neighbourhoods: Sustainable Land Use



- Real city fabric can evolve organically and respond flexibly to market forces and new ideas
- Range of scales and types
- Reflect Toronto's population mix
- Balance and integrate jobs, residents, retail, services, culture, recreation
- At transit supportive densities
- Aim for Toronto balance on the waterfront (0.55 jobs/person)



Living

- Range of living environments for diverse population
- Integrate affordable housing
- Allow for 'Aging in Place'



Working

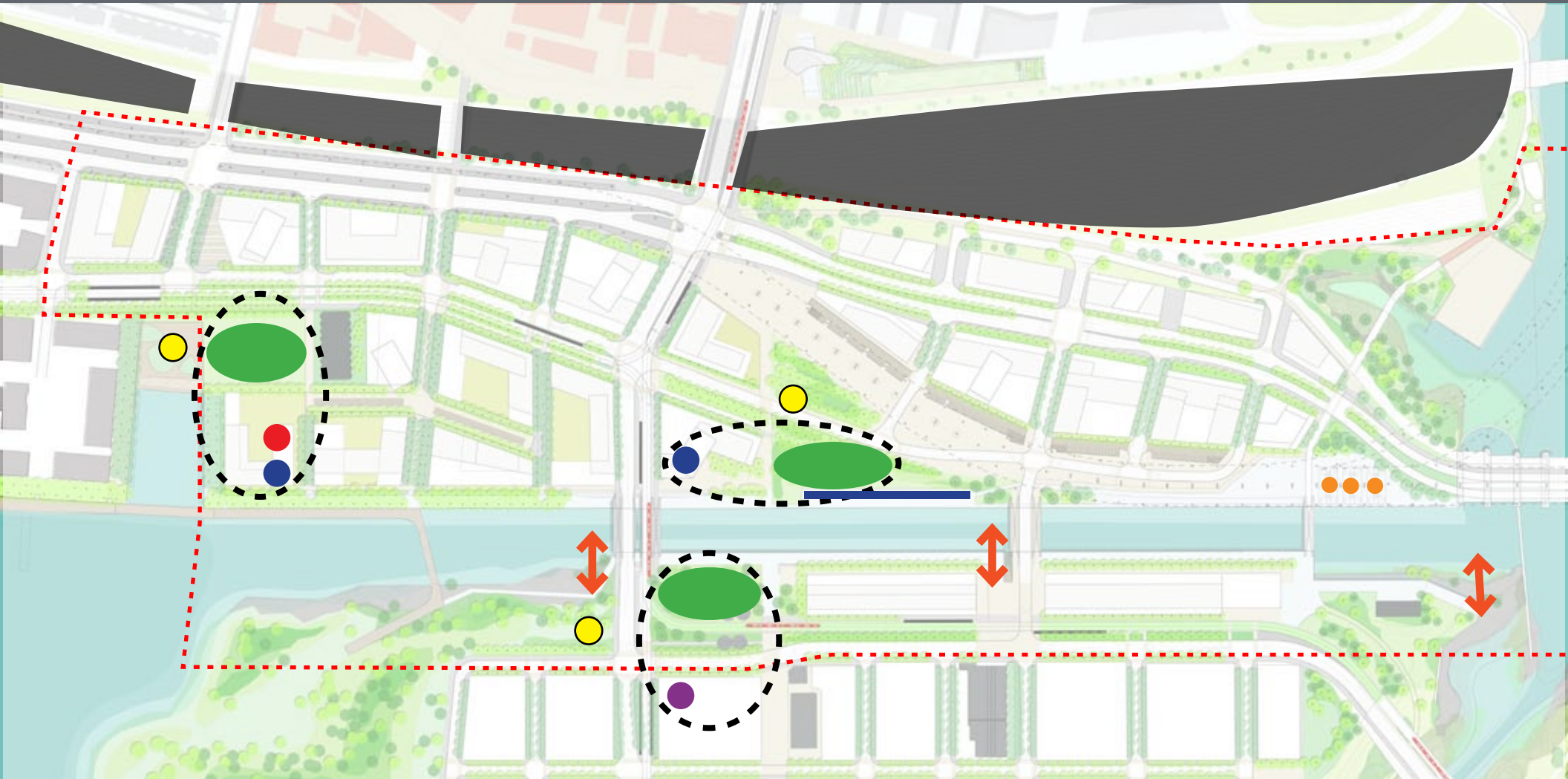
- Range of employment environments for diverse economy
- From large scale office, research, media to small businesses and live/work
- Integrate in mixed-use settings
- Relate to transit, public spaces



Shopping

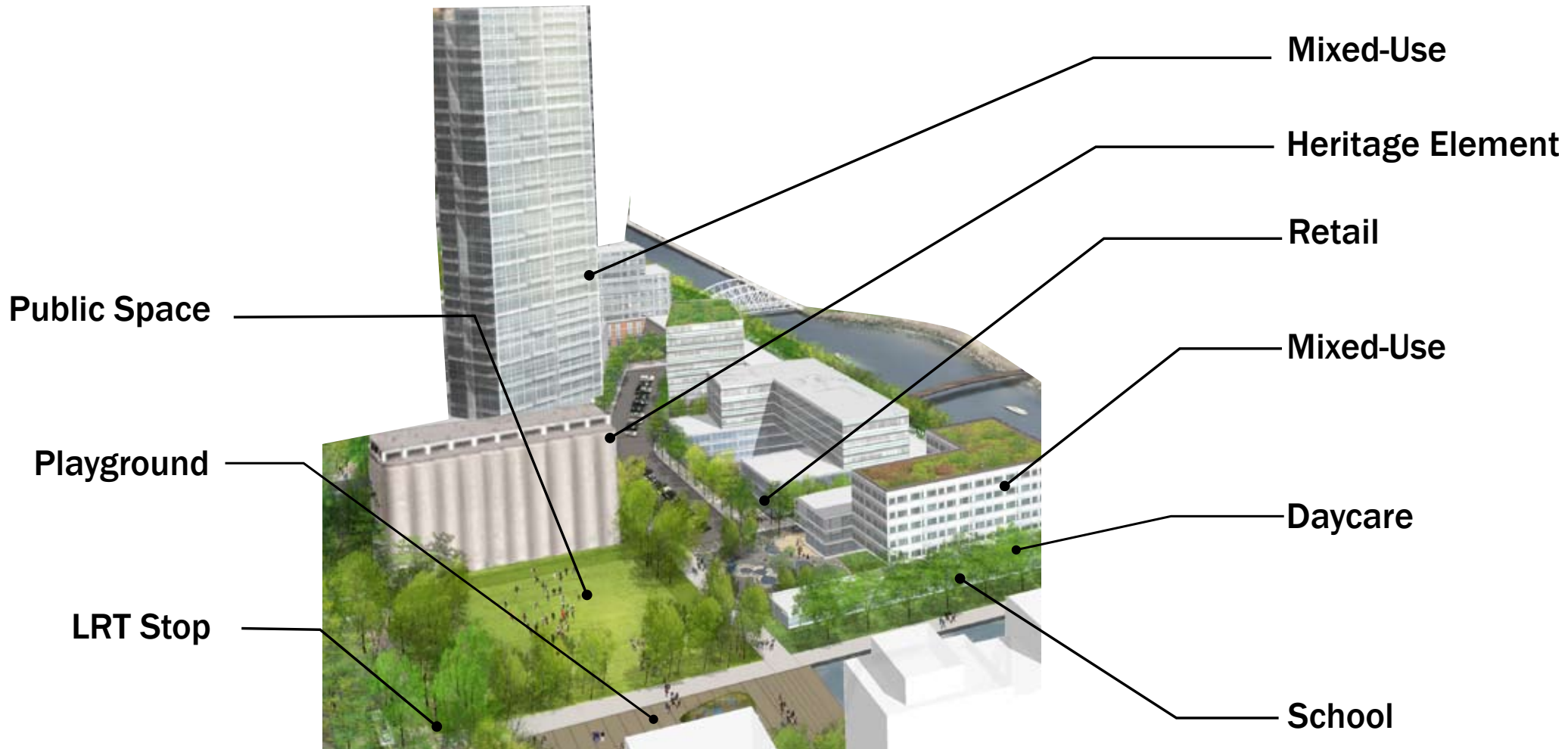
- Range of retail environments to serve residents, workers and visitors
- Main Streets
- Large format in mixed-use blocks

Community Services and Amenities



- School
- Day Care
- Library
- Associated Open Space
- ↔ Small Boat Launch
- Potential Playground
- Court Sports
- Multi-Use Park Pavilion

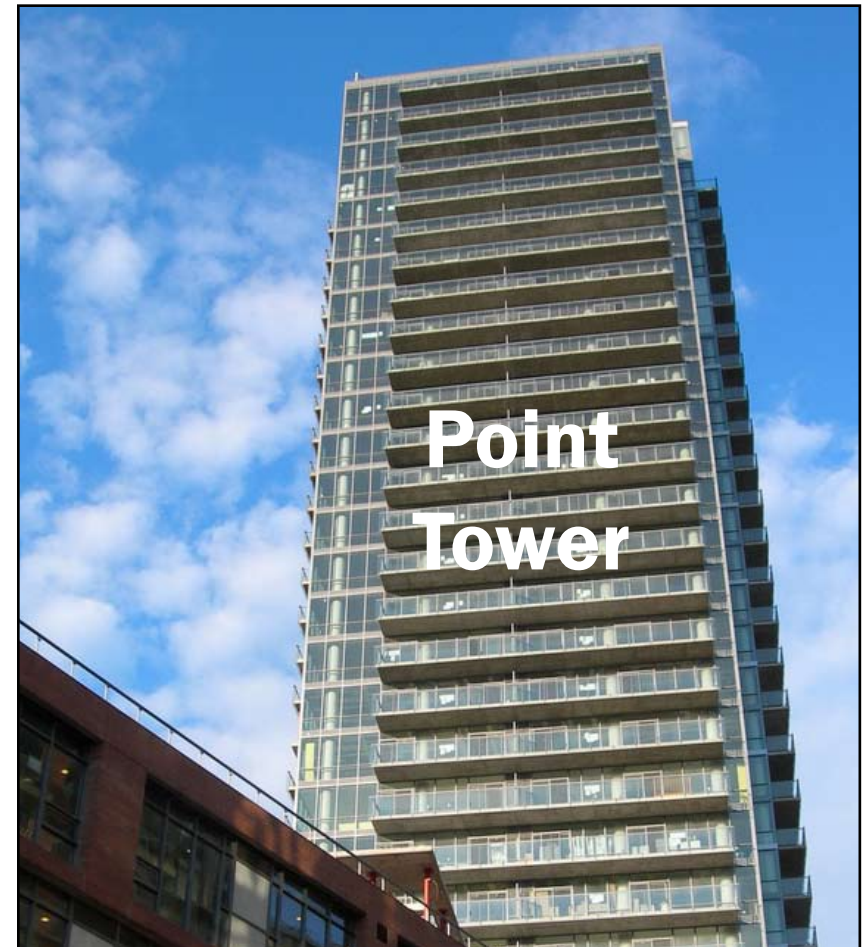
Community Services and Amenities











Built Form: Hybrid of Two Toronto Typologies

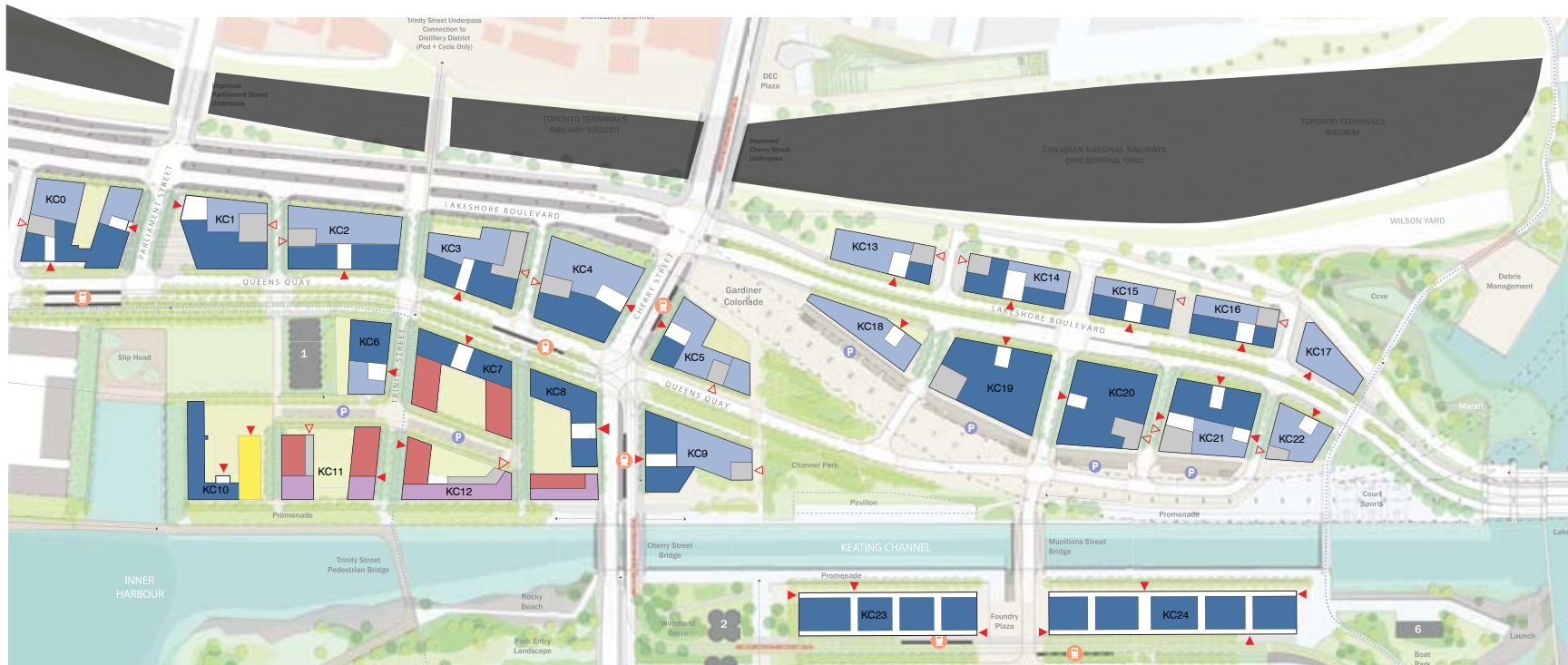


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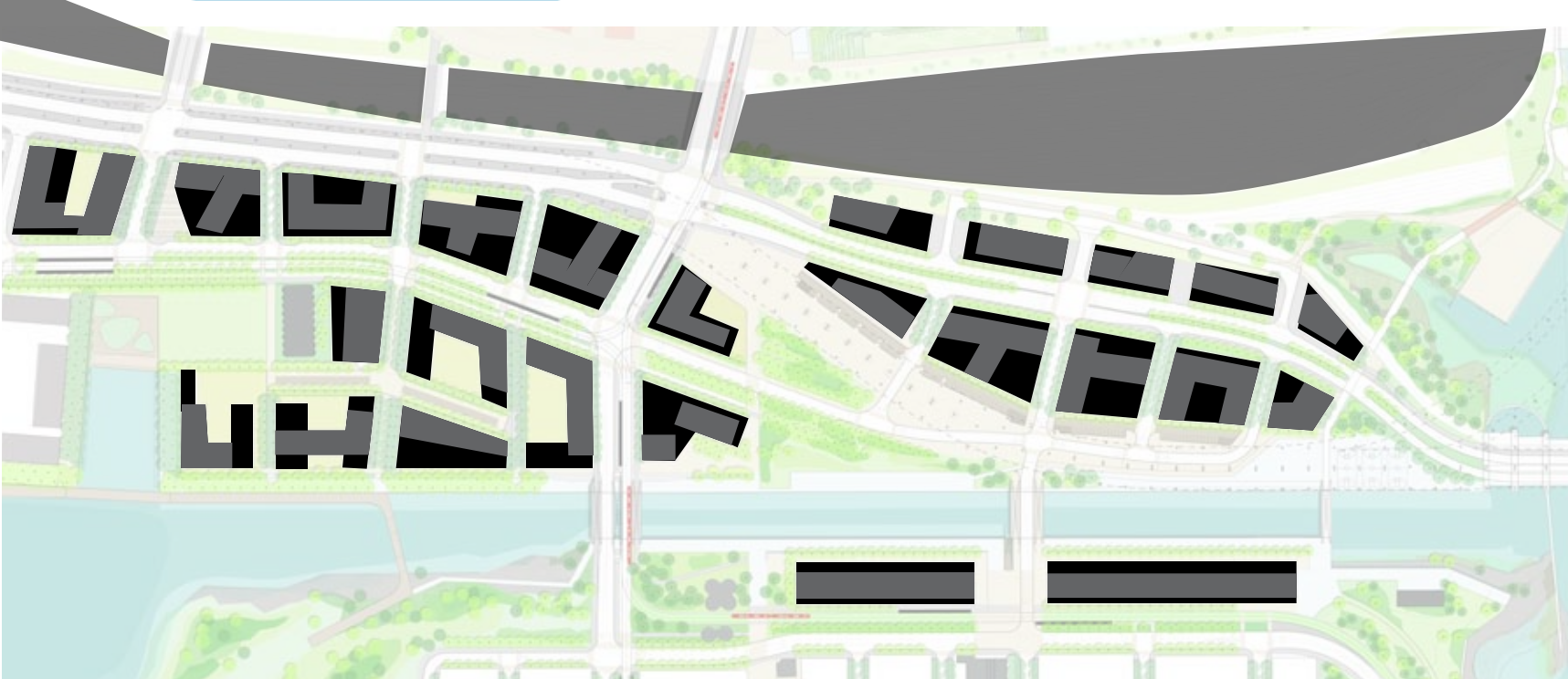


Built Form: Ground Floor Plan

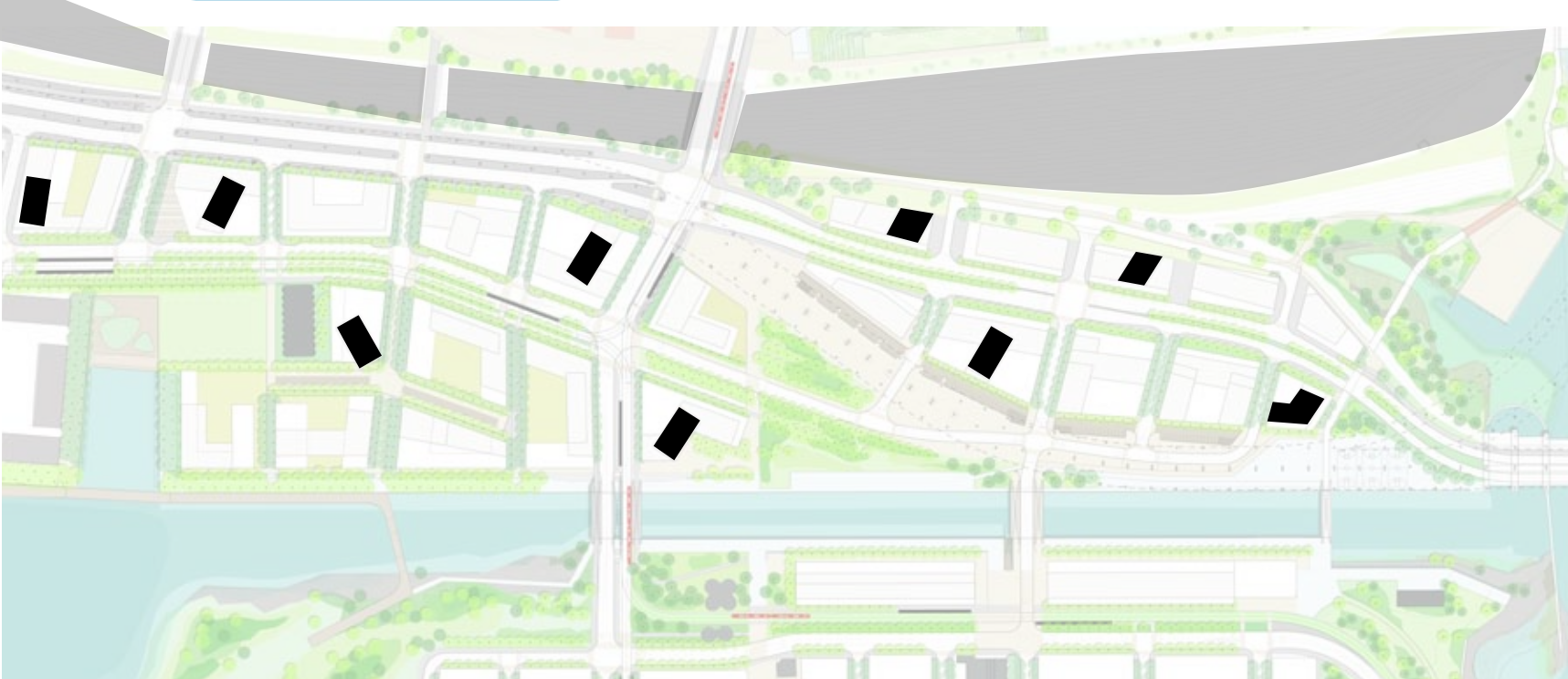
	Retail		Pedestrian Entry
	Commercial		Parking / Service Entry
	Residential		
	Animation		
	School		
	Parking		



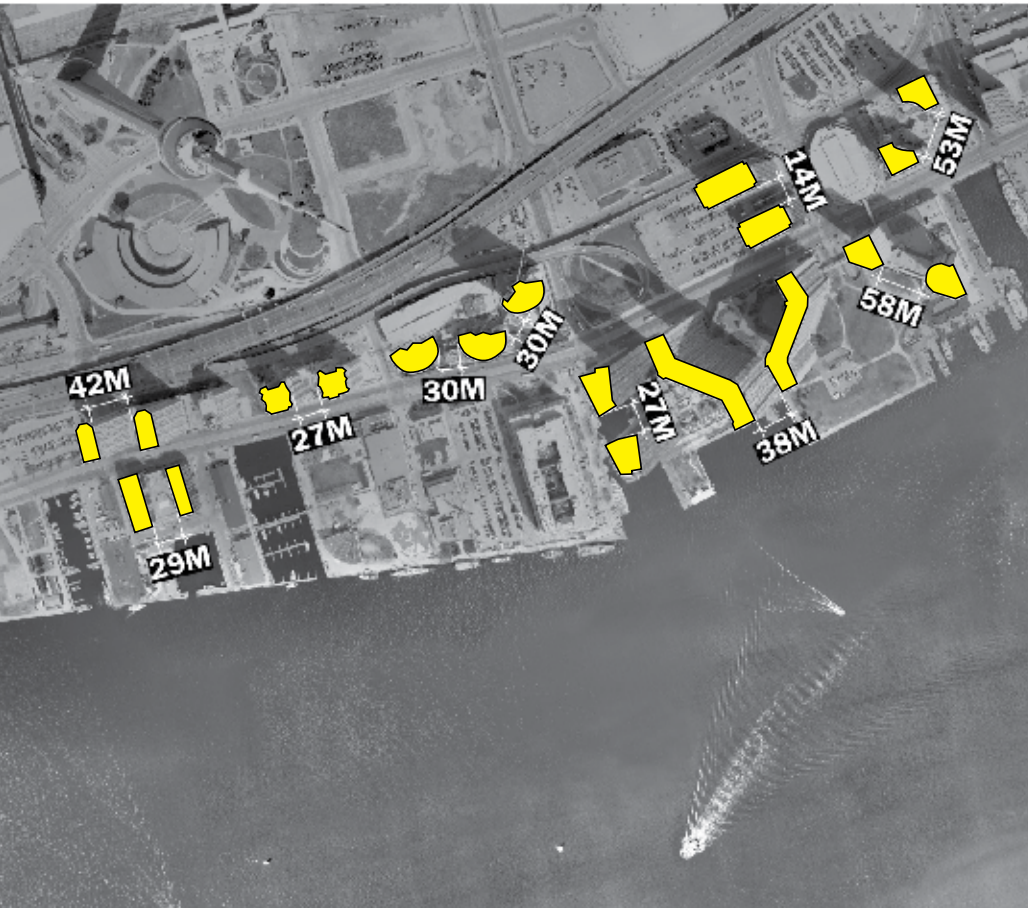
Built Form: Midrise



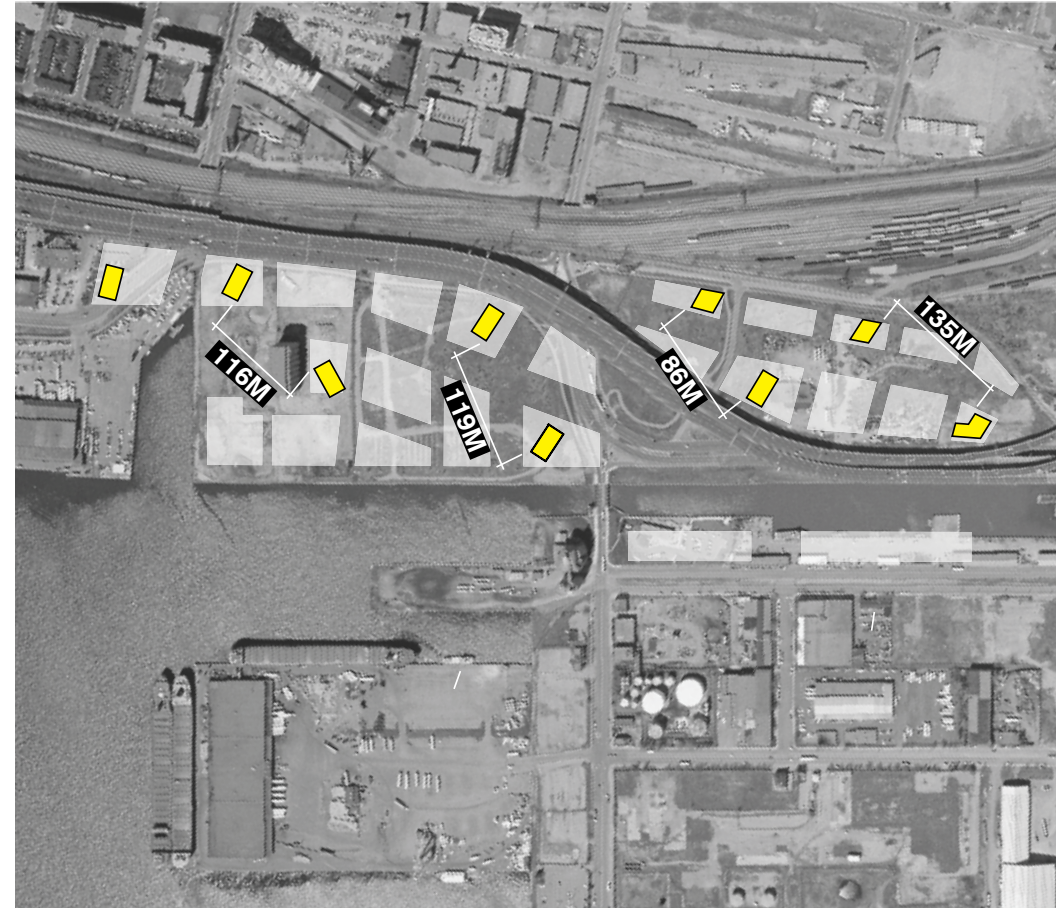
Built Form: Point Towers



Built Form: Tower Spacing

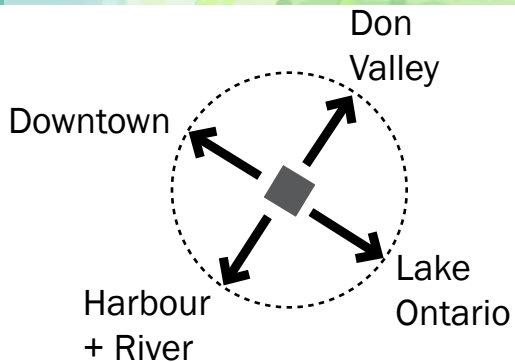
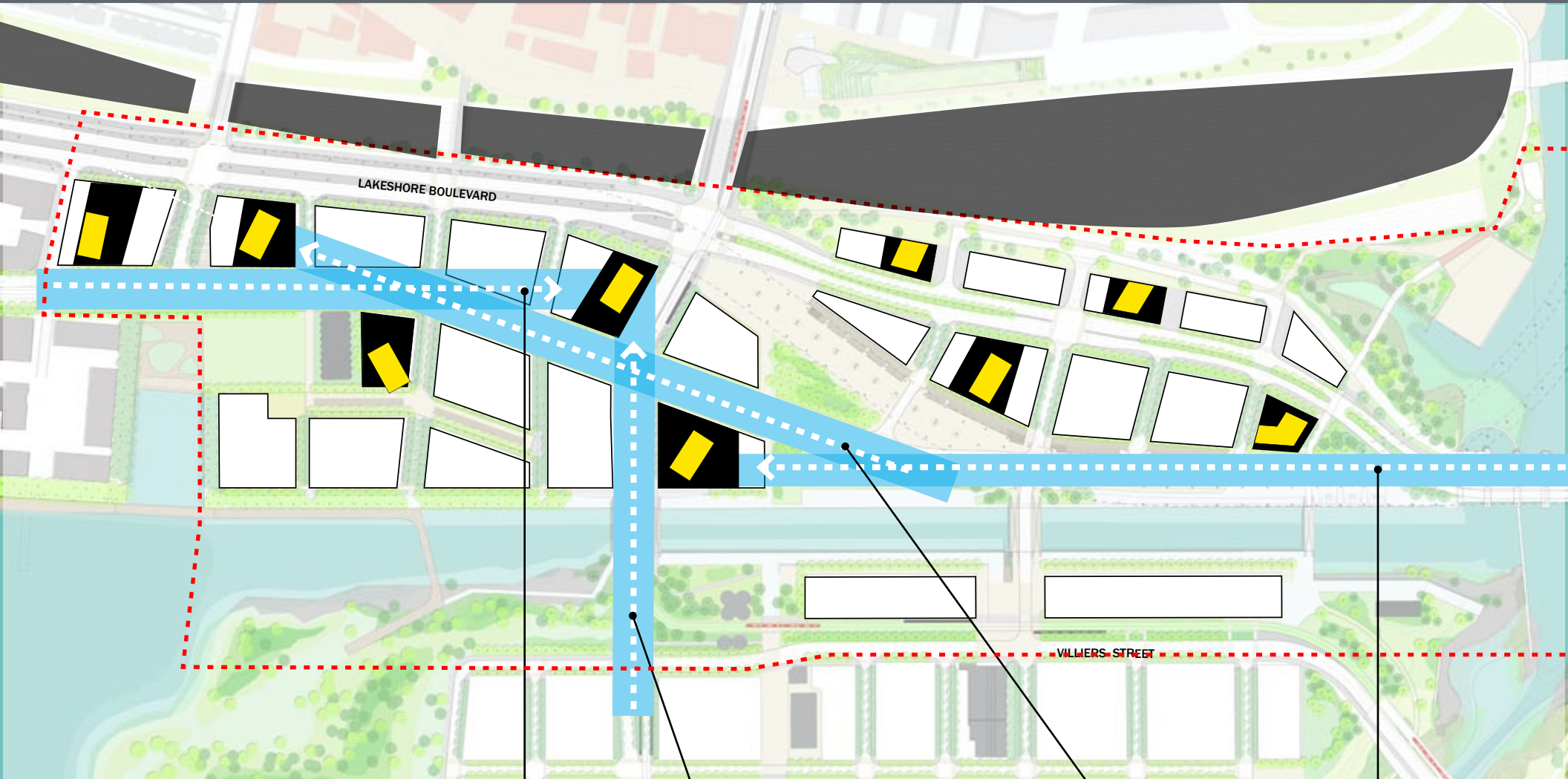


Central Waterfront Tower Distribution



Keating Channel Precinct Tower Distribution

Built Form: Tower Spacing



Queens Quay
view corridor

Cherry Street
view corridor

Queens Quay
Bend view
corridor

Westbound
Gardiner/
Lakeshore
view corridor



Zoning Bylaw

- Block by block limit to GFA
- Tower locations are carefully set and restricted to maximum floor area
- Minimum and maximum heights for bases are set by district
- Angled plane at Keating Channel (north and south) and south side of Lakeshore

Urban Design Guidelines focus direction on localized microclimate improvements (accomplished through reflectance, setbacks, etc...)



Zoning Bylaw

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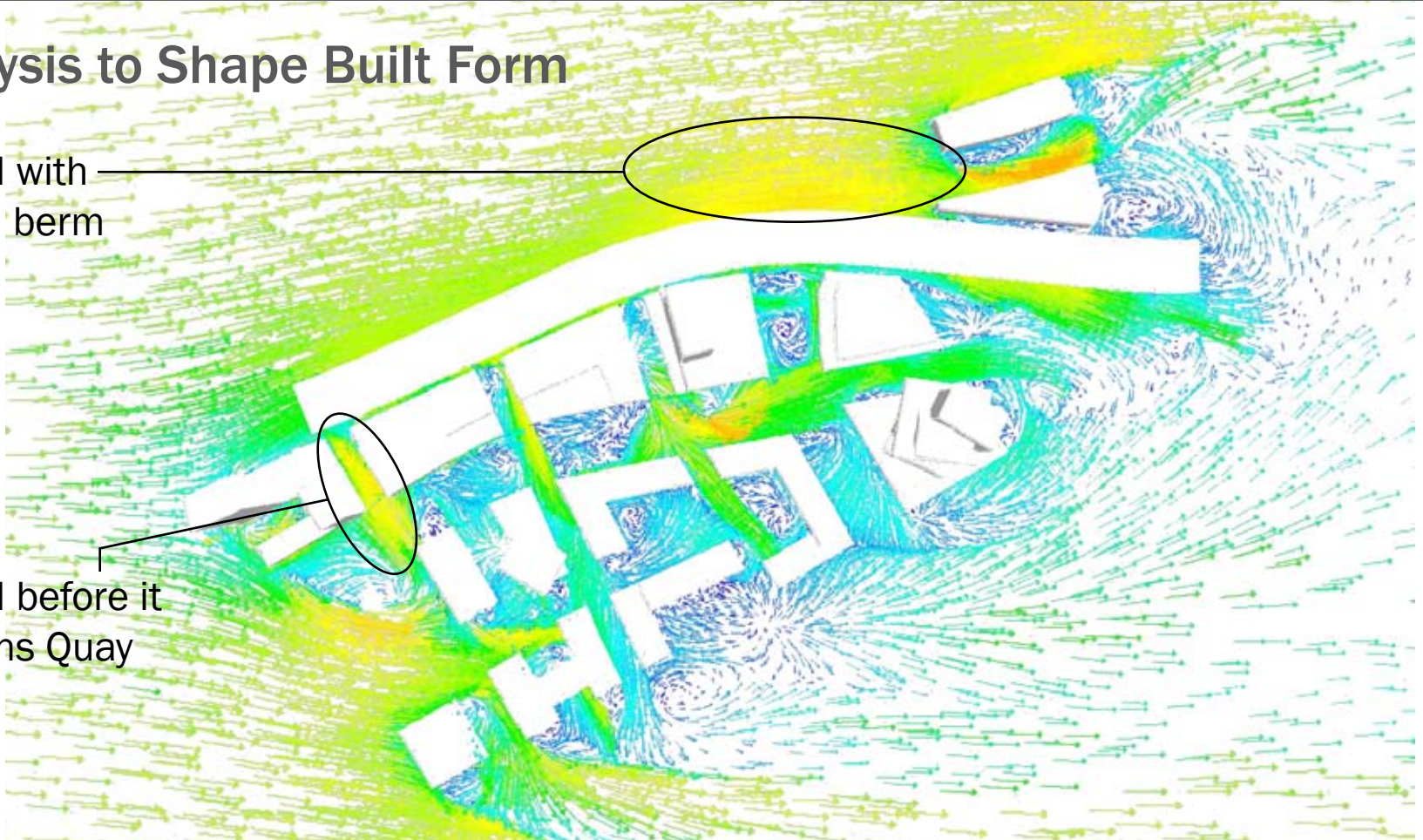
Urban Design Guidelines focus direction on localized microclimate improvements (accomplished through reflectance, setbacks, etc...)

Setting Ground Rules

Wind Analysis to Shape Built Form

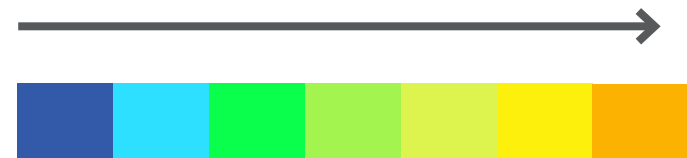
Dissipate wind with
planting at rail berm

Dissipate wind before it
reaches Queens Quay



- Critical wind issues along the northern edge of the precinct addressed partially in the Zoning Bylaw
- Urban Design Guidelines will ask for wind tunnel testing for each development
- Some public space design must take on a role in wind mitigation

increasing wind velocity



Framing the Channel: Precedents



Port of Montreal, Quebec, Canada



Hammarby Sjoestad, Stockholm, Sweden



Puerto Madero. Buenos Aires, Argentina



Canal St. Martin, Paris, France

Creating the Public Landscape



Keating Channel Public Realm: Marine Use

- Develop uses in and along the channel for year round activity
- The Channel offers a unique structure for the core public space of a community

Inner Harbour



Sailboats, ferries, scows, yachts,
large powerboats, lakers

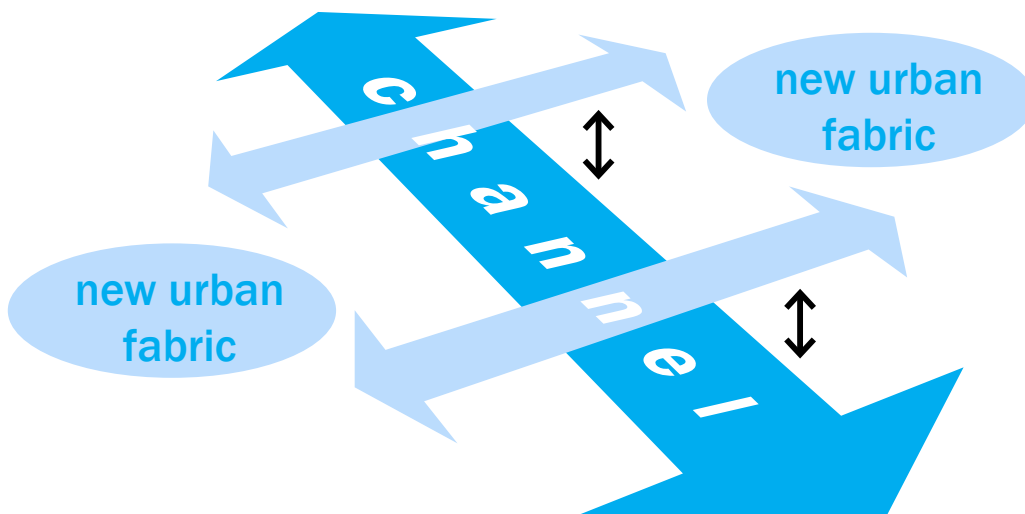
Keating Channel



Canoes, kayaks, low barges, small
powerboats, water taxis

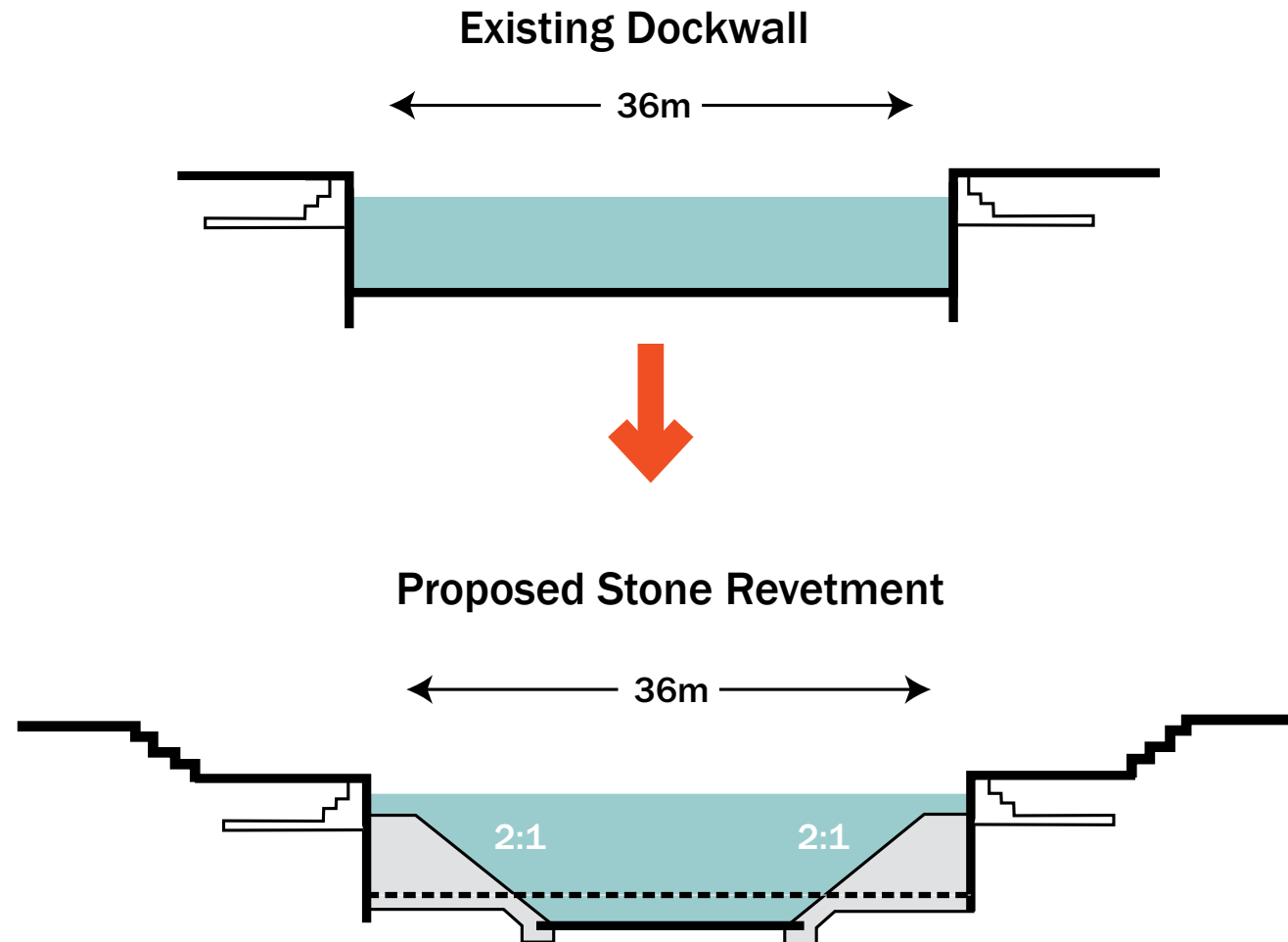
Keating Channel Design + Programming

- Clearance for marine uses
- Juxtaposition of new construction and industrial archaeology of the site
- 10m horizontal and 0.5 vertical offset from regulatory flood elevation

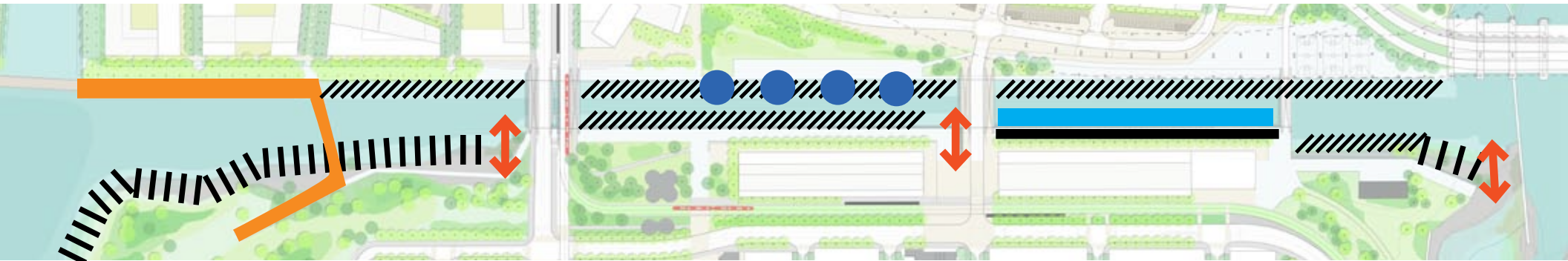


Keating Channel Dock Wall Preservation Strategy

- Stabilize the existing dock walls with stone revetments
- Match level of investment with marine uses
- Maintain flow conveyance of channel by lowering bottom elevation
- Create valuable fish habitat in the channel
- Create safer environment



Keating Channel Marine Programming



Existing Wall with Revetment Slope - Docking for Small Boats

New Wall

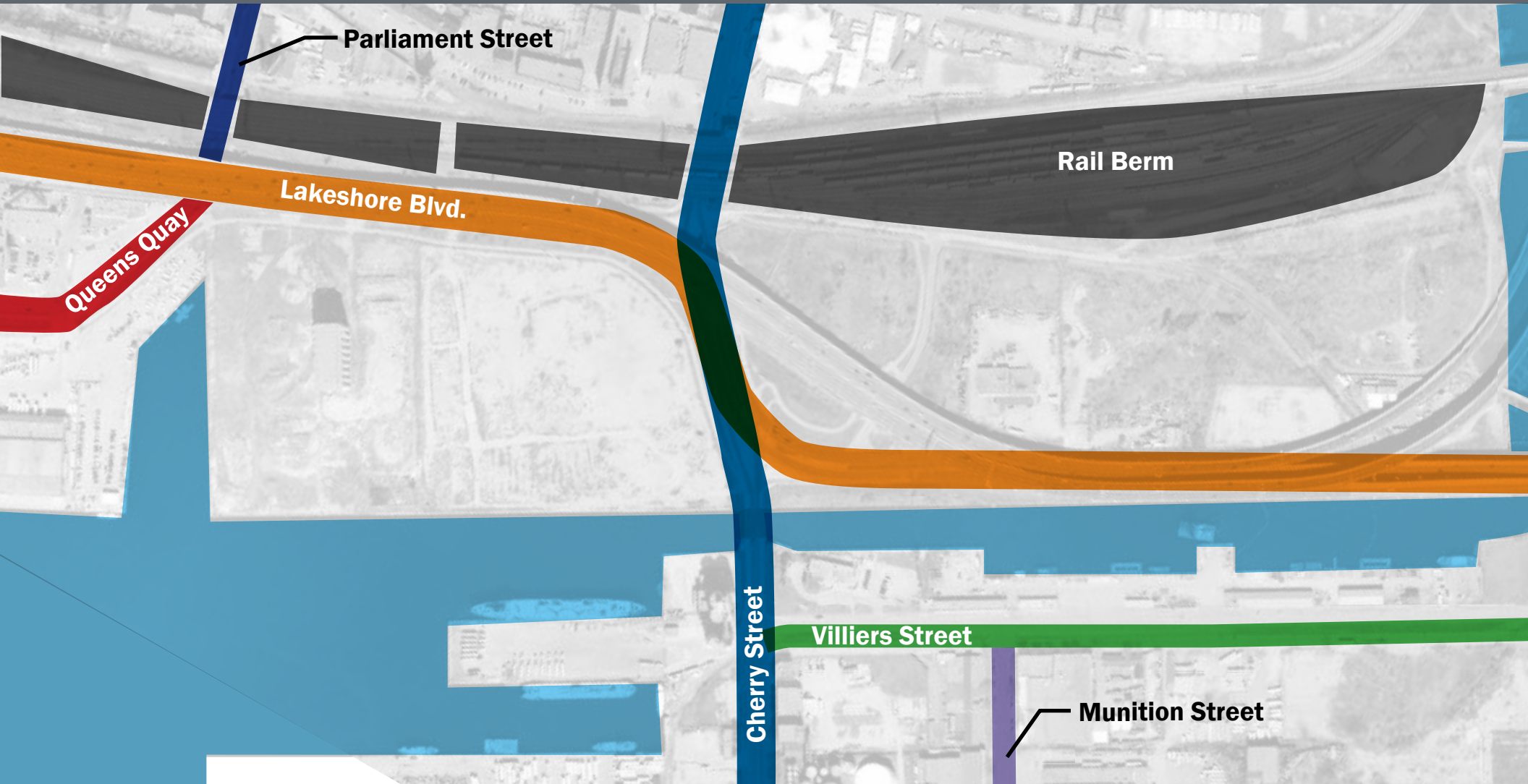
Docking for Larger Boats (3m maximum clearance)

Boardwalk

Small Boat Launch

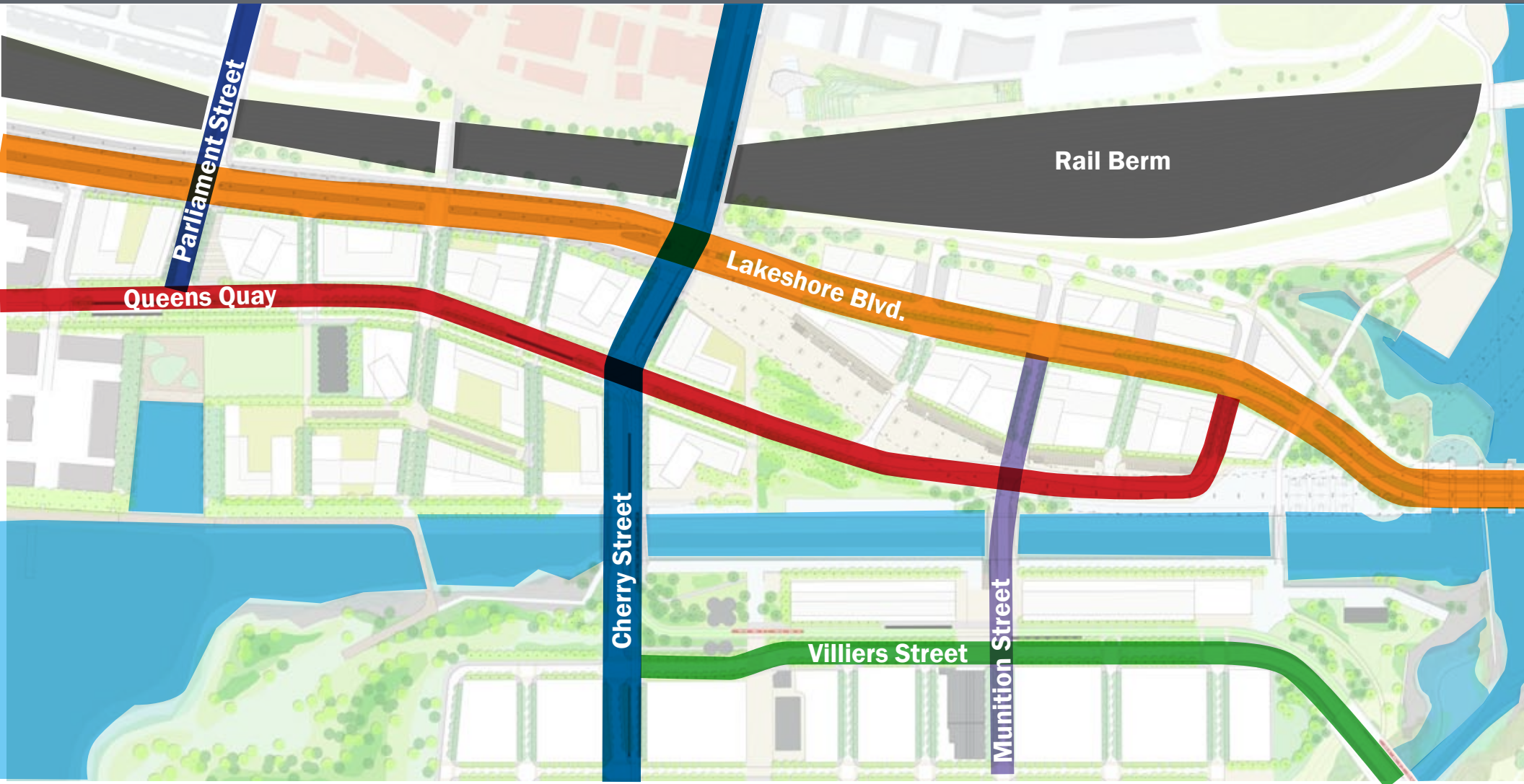
Gradual Rocky Edge

Existing Street Network



- Privilege vehicular thru-traffic
- Minimal pedestrian amenity

Draft Preferred Street Network



- Maximize the effectiveness of the road network
- Open up public space potential

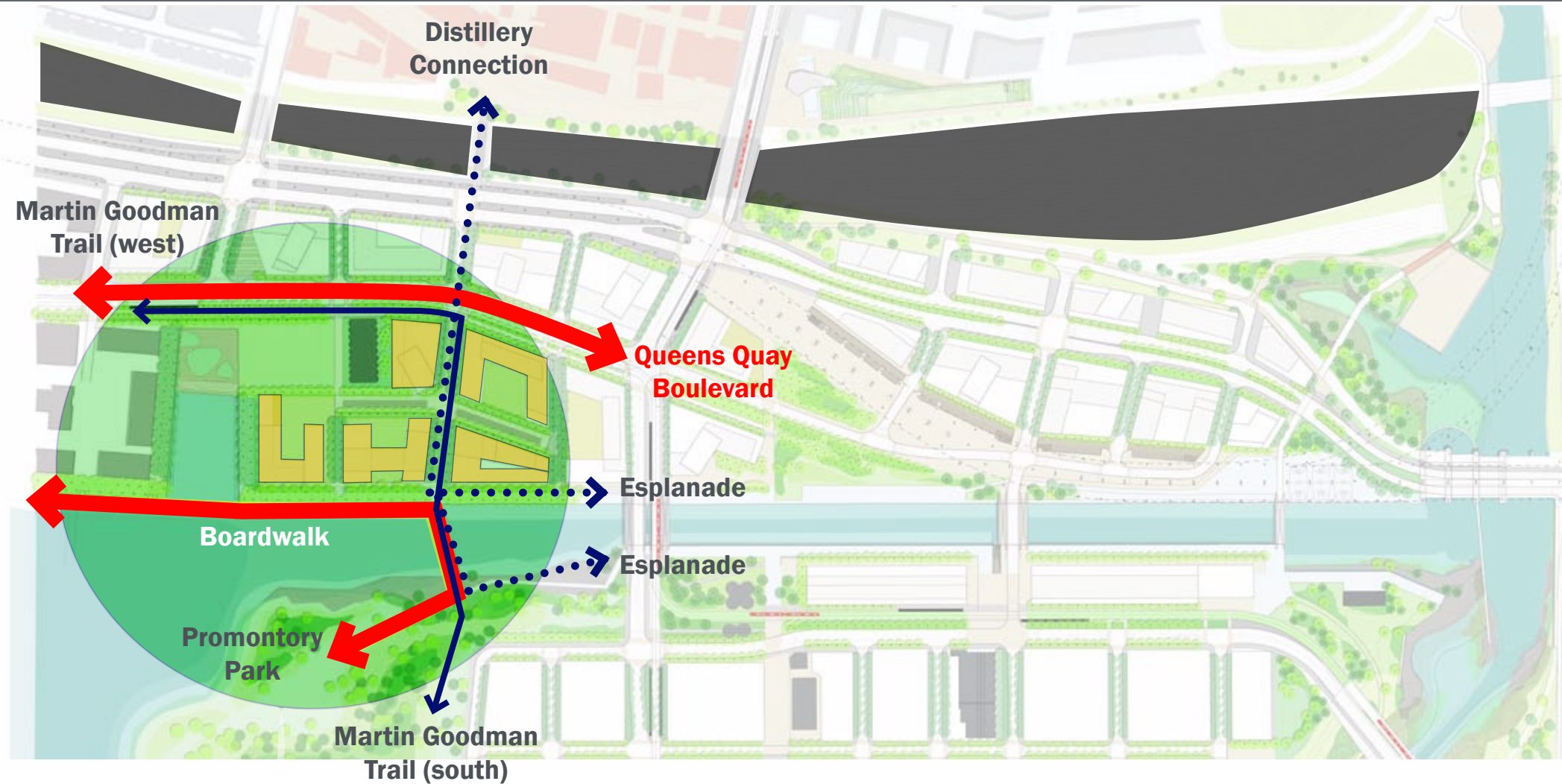
Network is still subject to finalizing transportation analysis

Three Core Open Spaces

A choreography of experiences around the channel

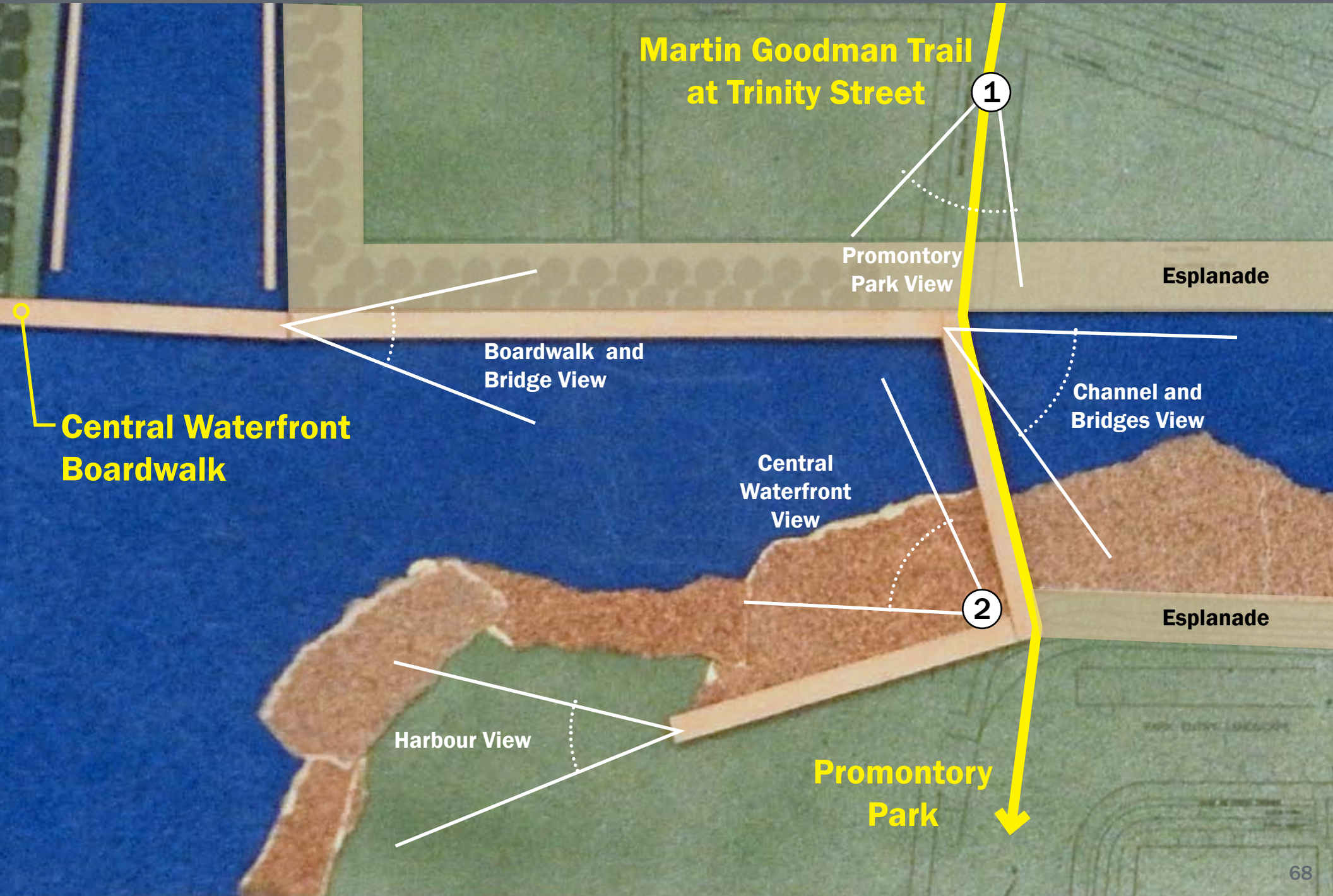


Core Open Spaces: Channel Mouth



- Extend Queens Quay and Lake Shore Boulevard
- Turn water's edge promenade around the corner of the harbour

Channel Mouth: Trinity Street Bridge



Channel Mouth: Trinity Street

1



Central
Waterfront
Boardwalk

Promontory
Park

Trinity Street
Bridge

Martin
Goodman Trail

Channel Mouth: Trinity Street Bridge

2



Promontory
Park

Walkway
to Harbour

Rocky Beach

Overlook Areas

Martin Goodman
Trail

The Promontory and its Water Edge

Prospects



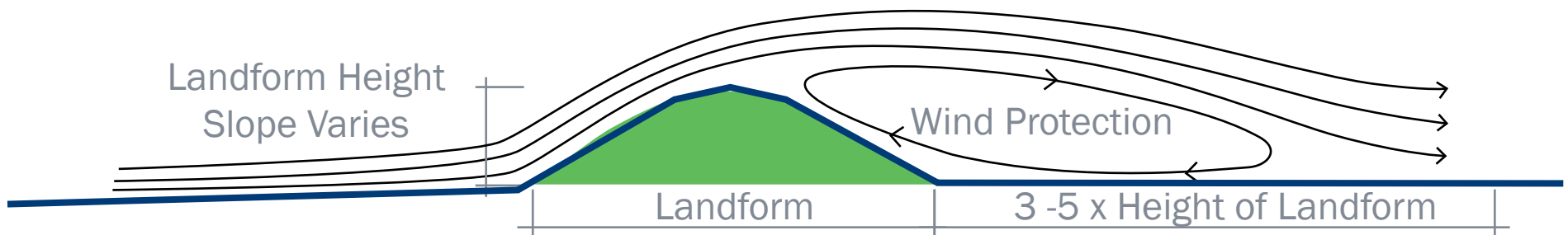
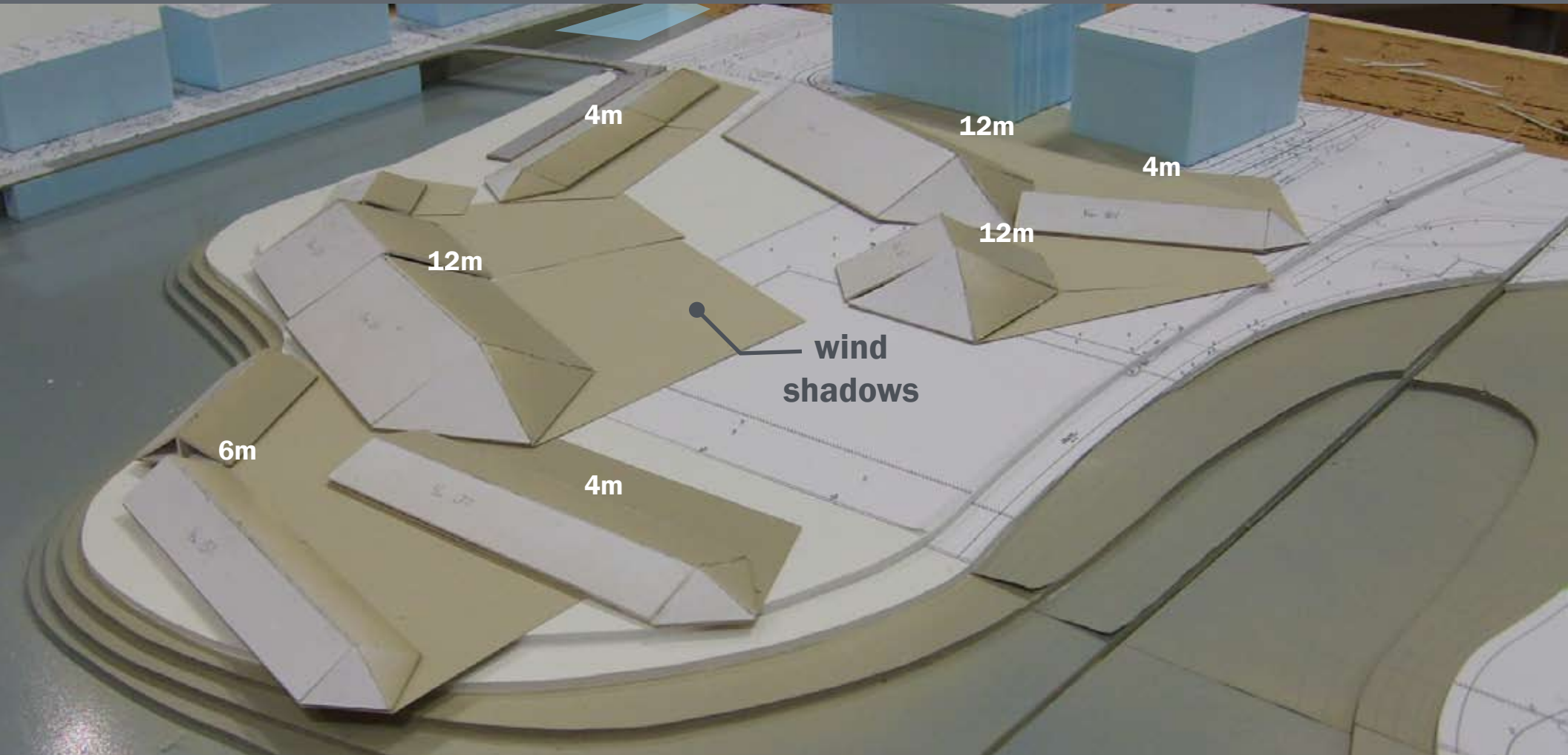
Wind Exposure



*Promontory Point
Chicago, IL
Alfred Caldwell*

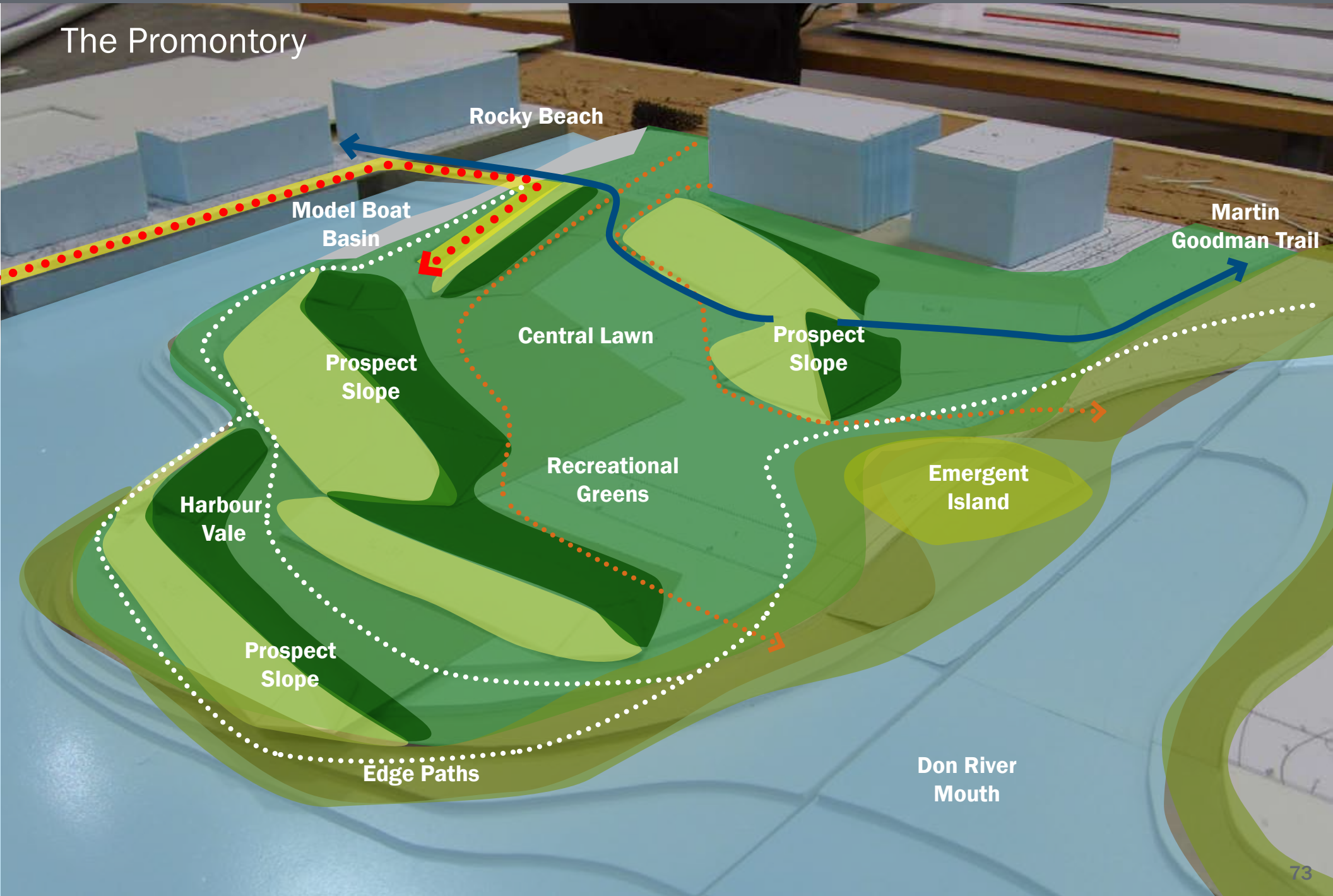


Channel Mouth: Promontory

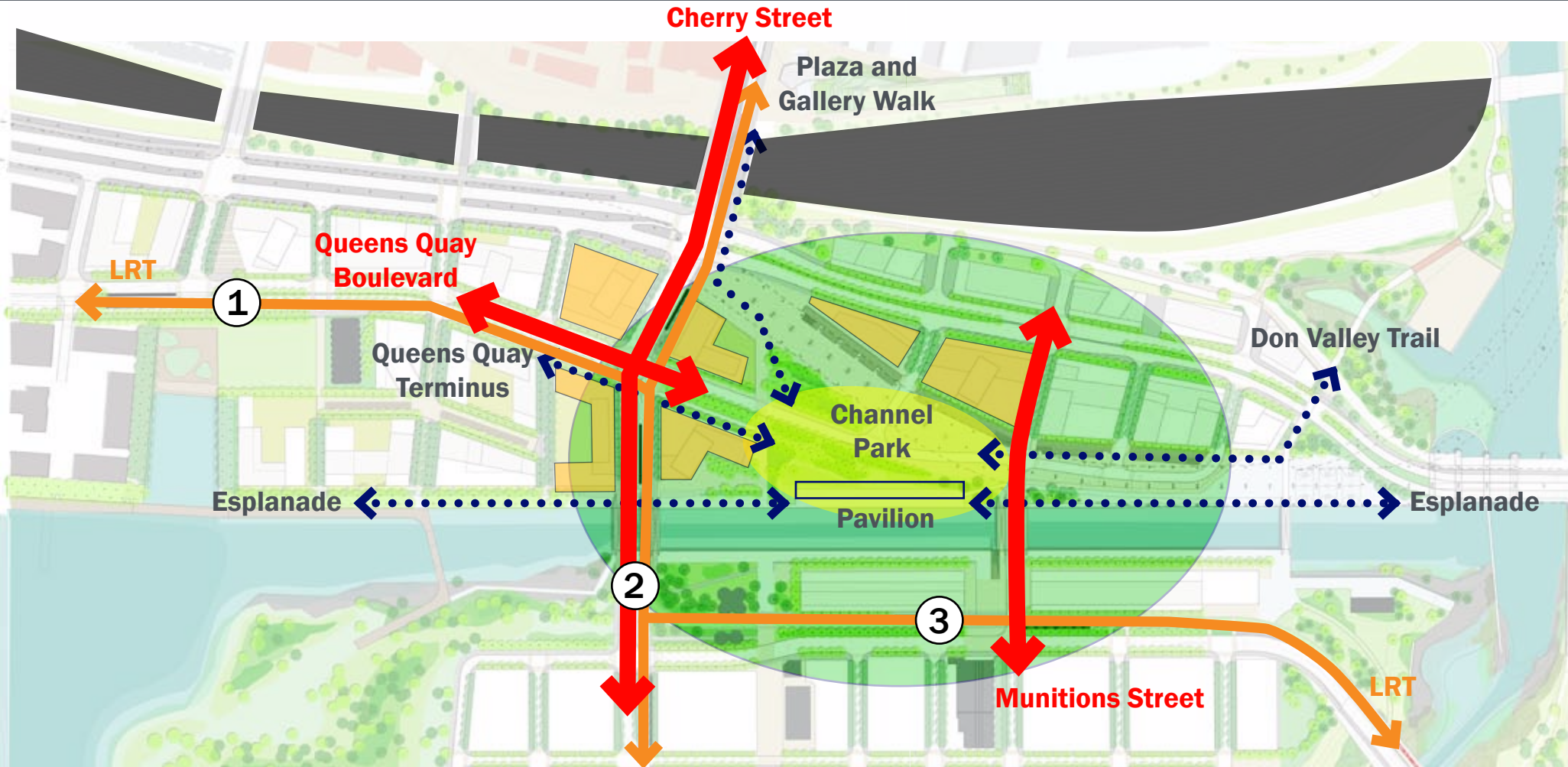


Channel Mouth: Promontory

The Promontory



Core Open Spaces: Channel Narrows



- Establish critical transit/vehicular link
- Activate pedestrian/bike collector point at channel edge
- Create park at centre of channel and terminus of Queens Quay

Queens Quay East: View at Silos

1



Martin
Goodman
Trail

Victory Soya
Silos

Multi-Use
Field

Cherry Street: View South Across Channel

2



Essroc
Silos

Keating Channel

Cherry
Street

Stair from LRT
Platform

Villiers Street: View West

3



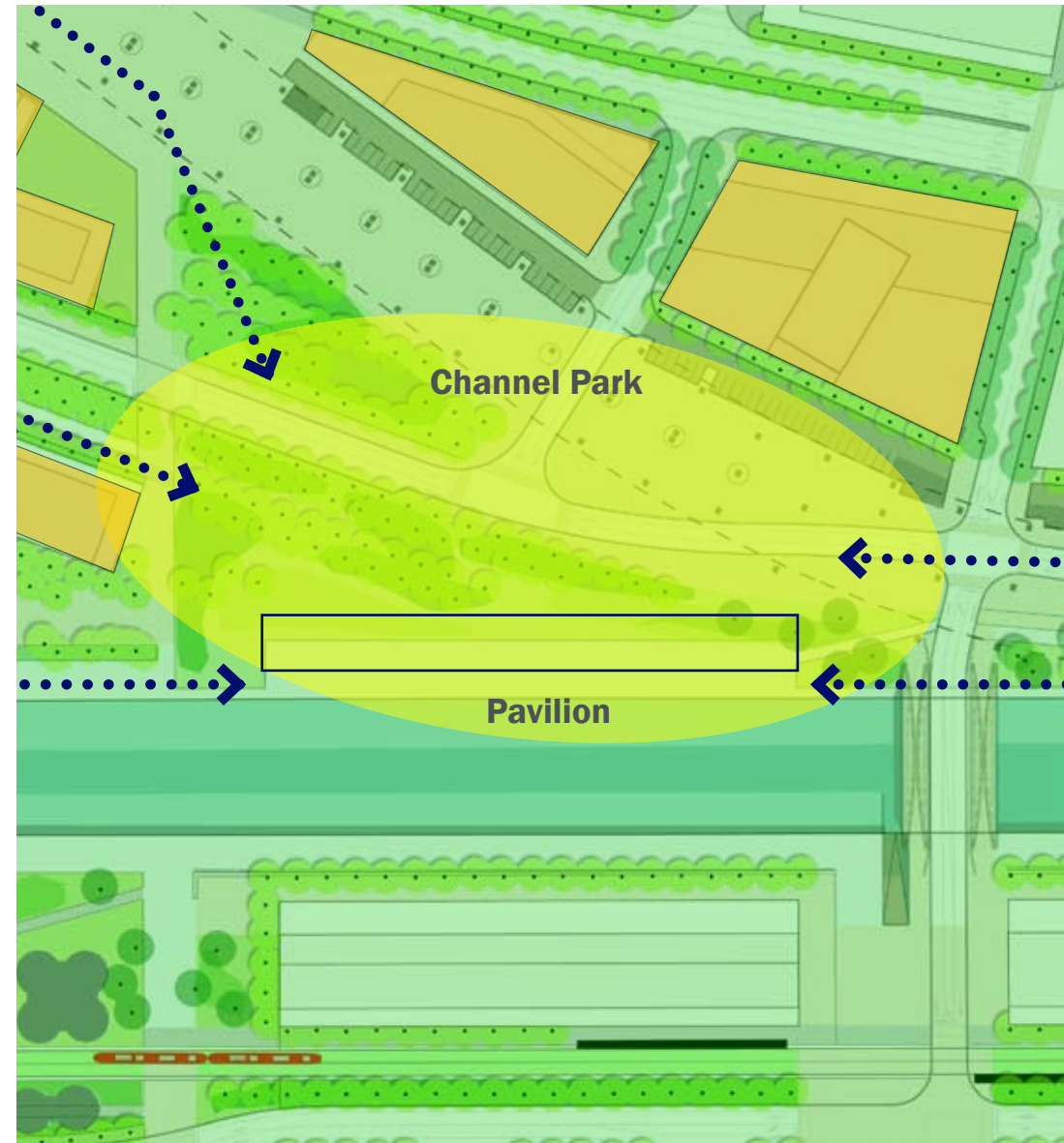
Linear Parkway →

Essroc Silos

Former Rail Right of Way

Channel Narrows Waterfront Program

- Concentrate activity at the channel edge
- Collect pedestrian “tributaries” from the esplanade, Queens Quay, Cherry Street, bike routes
- Multi-Use Pavilion:
 - shade pavilion
 - picnicking
 - informal gatherings
 - use by group organizations
 - event stage
 - periodic market

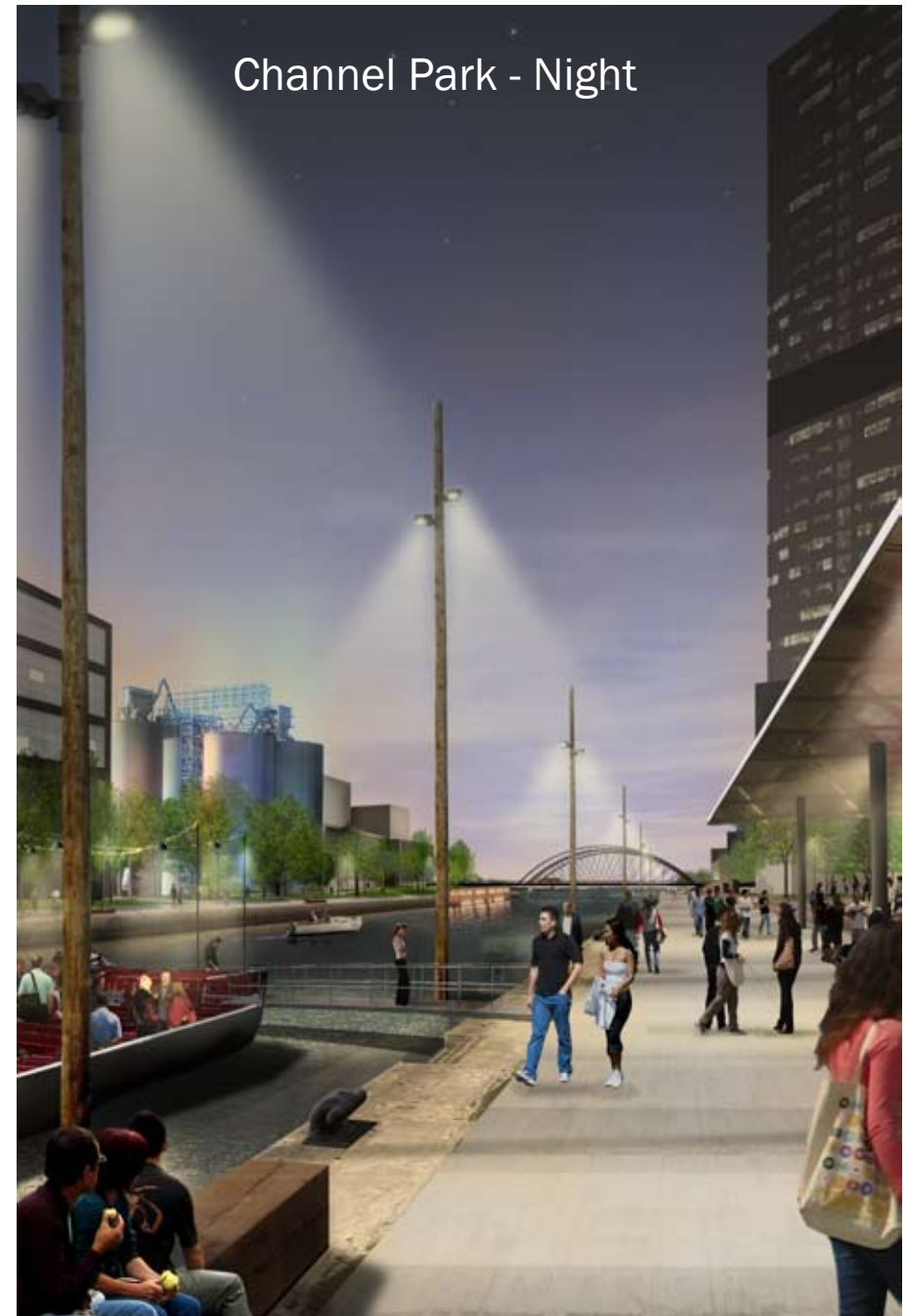


Channel Narrows Waterfront Program

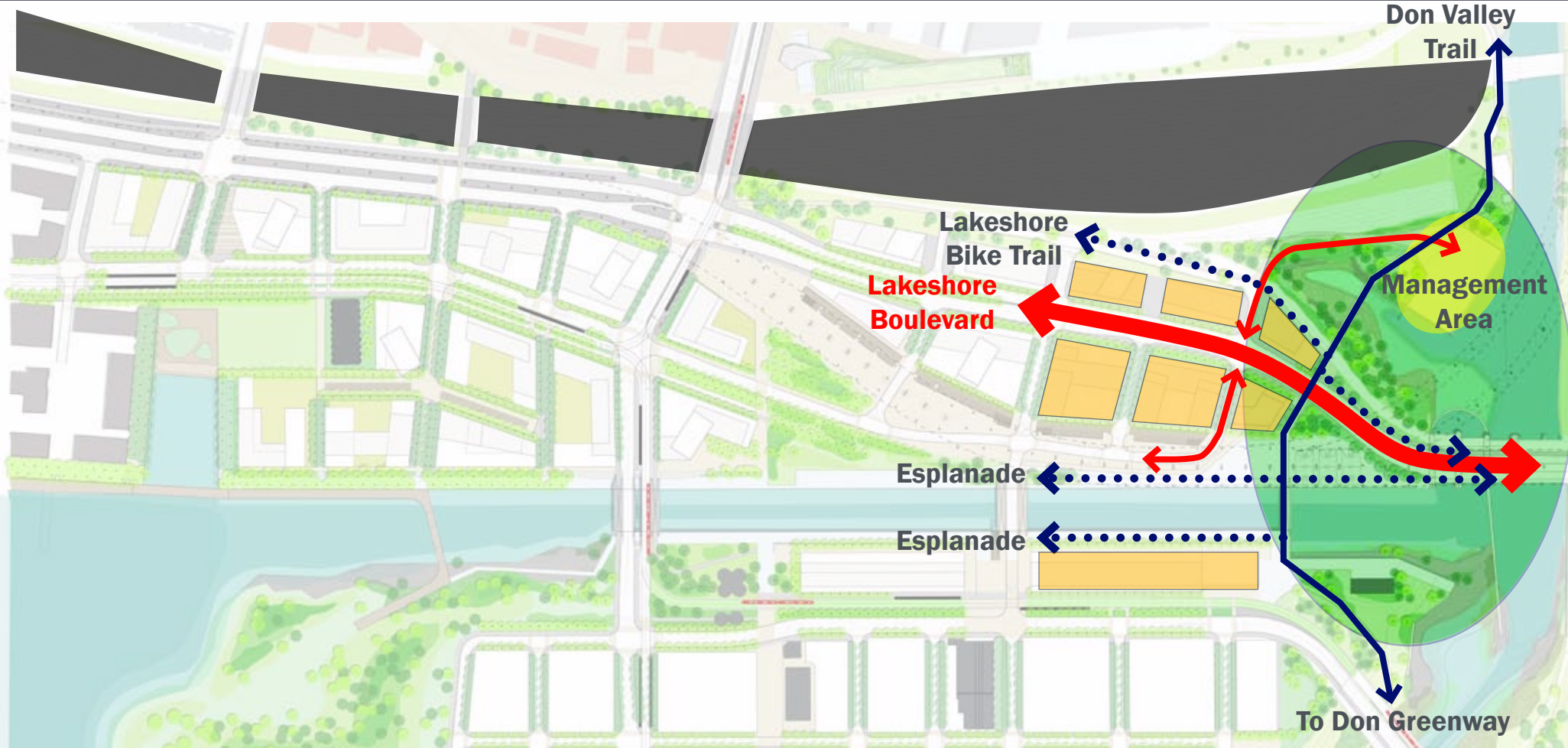
South Esplanade of Channel
(Competition Image)



Channel Narrows Waterfront Program



Core Open Spaces: Head of Channel



- Configure Lakeshore Boulevard as a 2-sided street
- Extend the relationship of the Don Valley Trail with the River
- Accommodate management area as required by the Don Mouth EA

Lakeshore Blvd.: View East



Commercial
Destinations

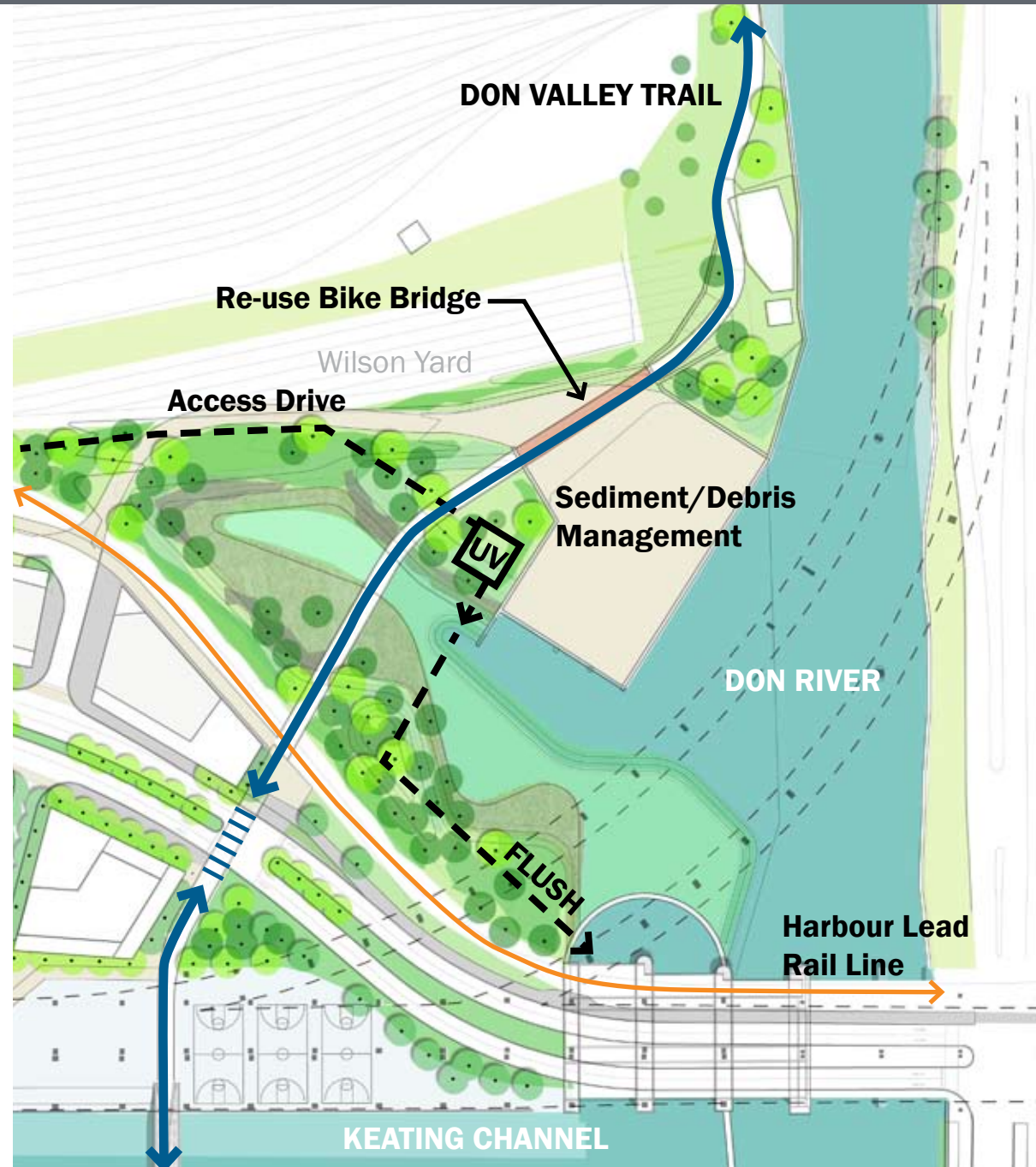
Median
Planting

Off-Peak
Parking

Continuous
Soil Trenches

Head of Channel: Grade-Separated Bike Trail

- No interruption to management operations for debris, sediment, and potentially stormwater quality control, Keating Channel flushing controls
- Preserves the Don Valley Trail connection over riverine wetlands
- Re-uses existing bike bridge
- At-grade landscape is highly adaptable to future potential infrastructure works (Deep storm water interceptor, Gardiner-related structures, LDL phasing)



Don Valley Trail: View Towards Don Narrows



Management
Area

Bike Bridge

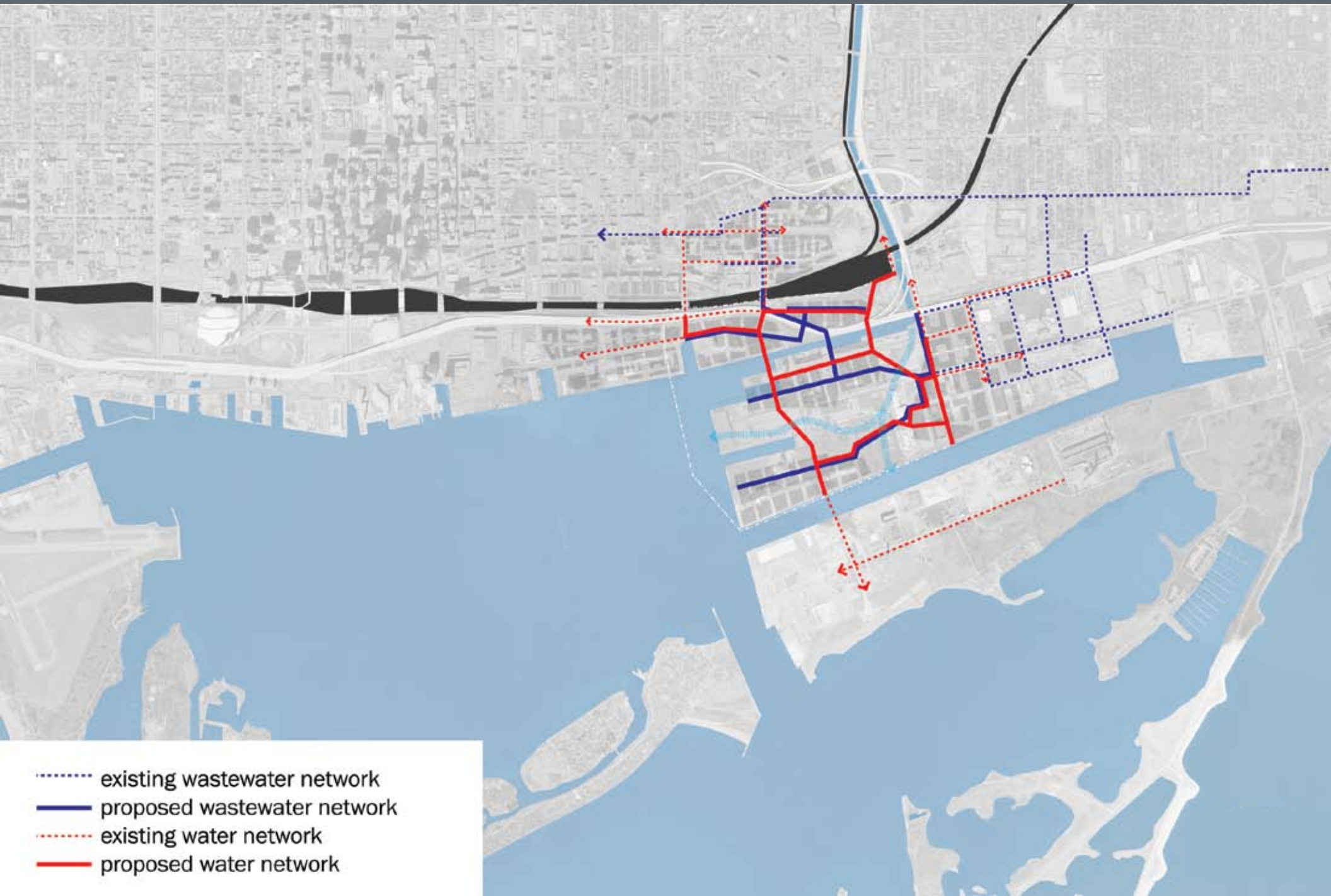
Riverine
Wetland

Don Valley Trail
Elevated Bikeway

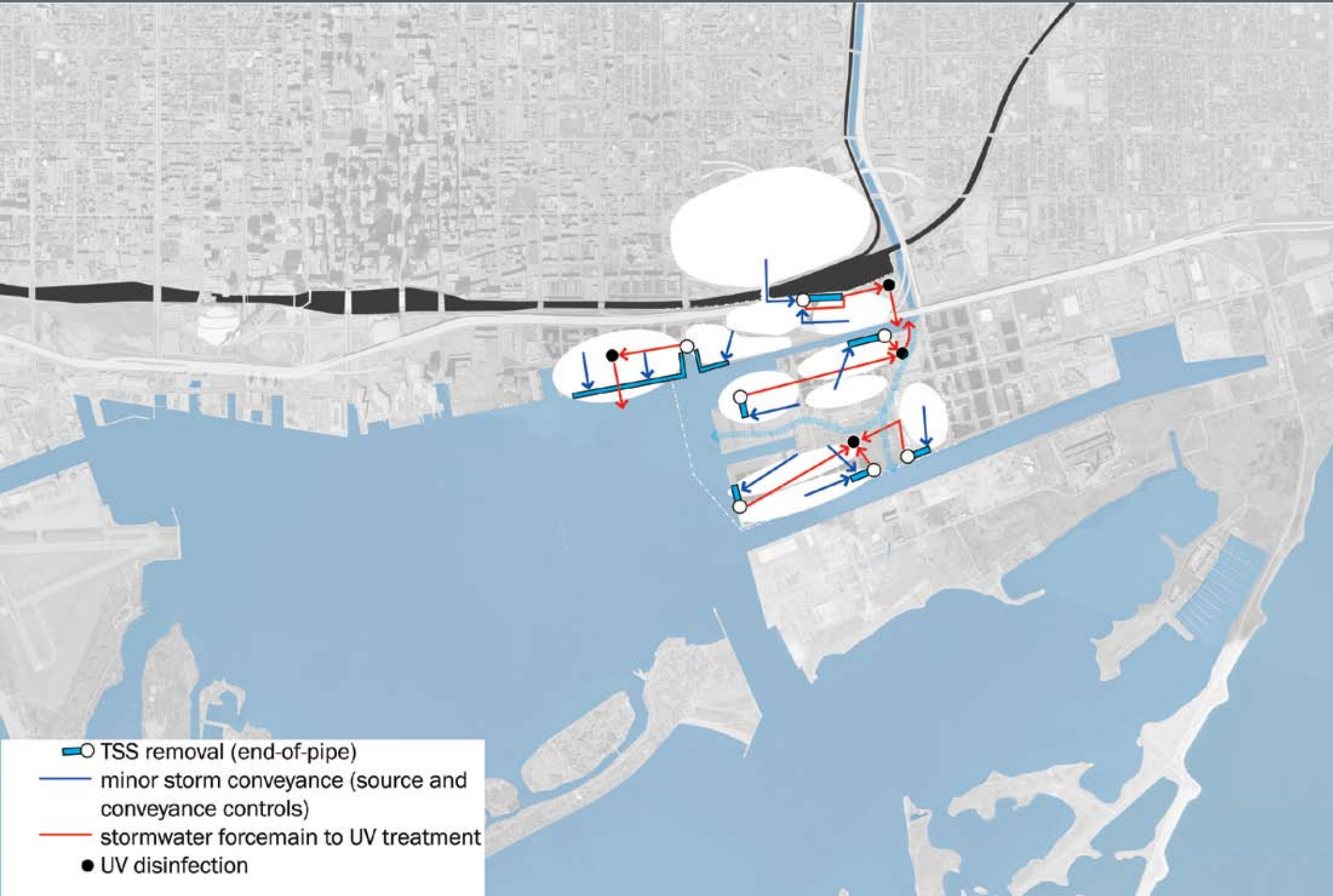
Interconnect a Diverse Open Space Network







Consolidate Servicing Corridors

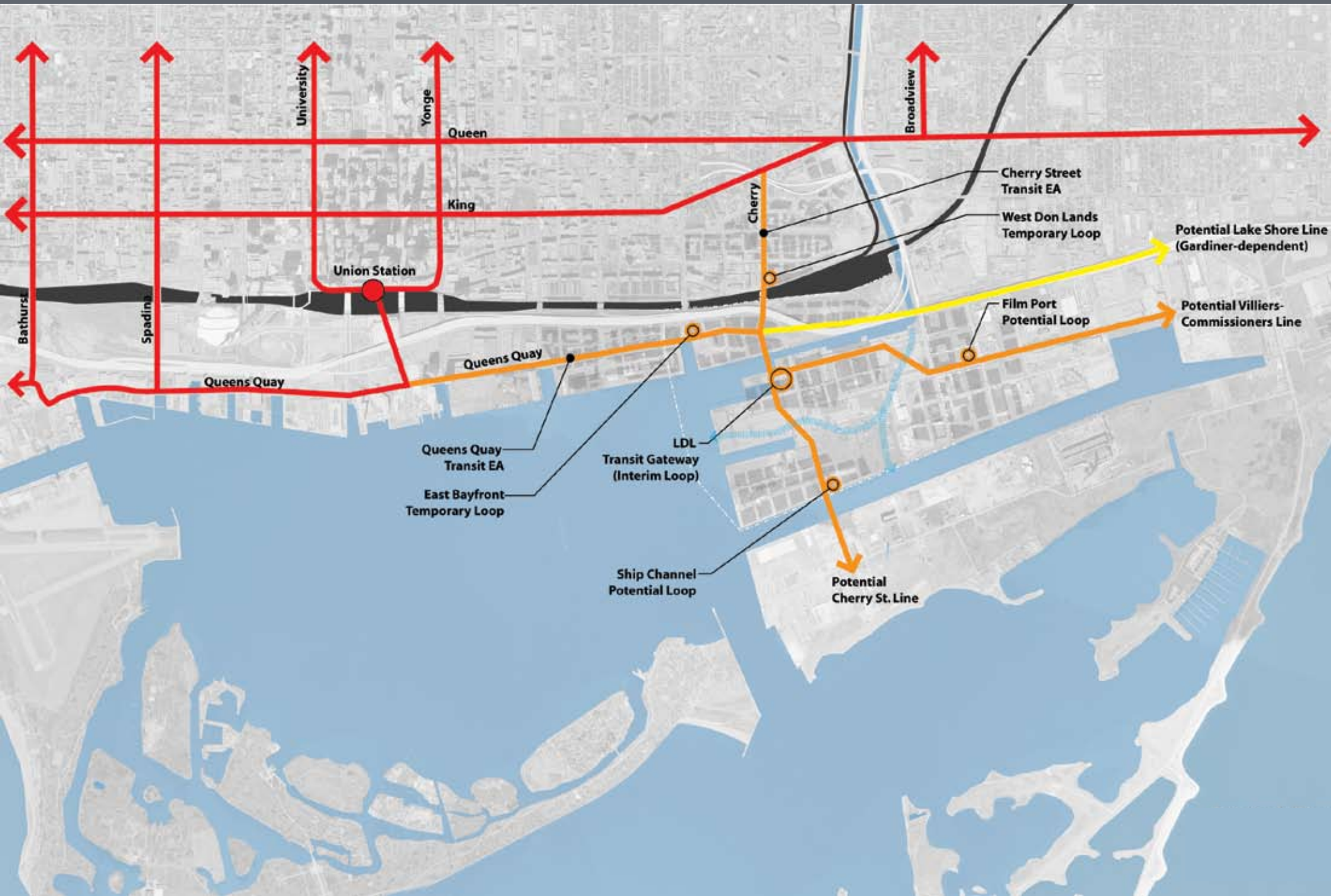


Integrate Stormwater Minor Flow Systems

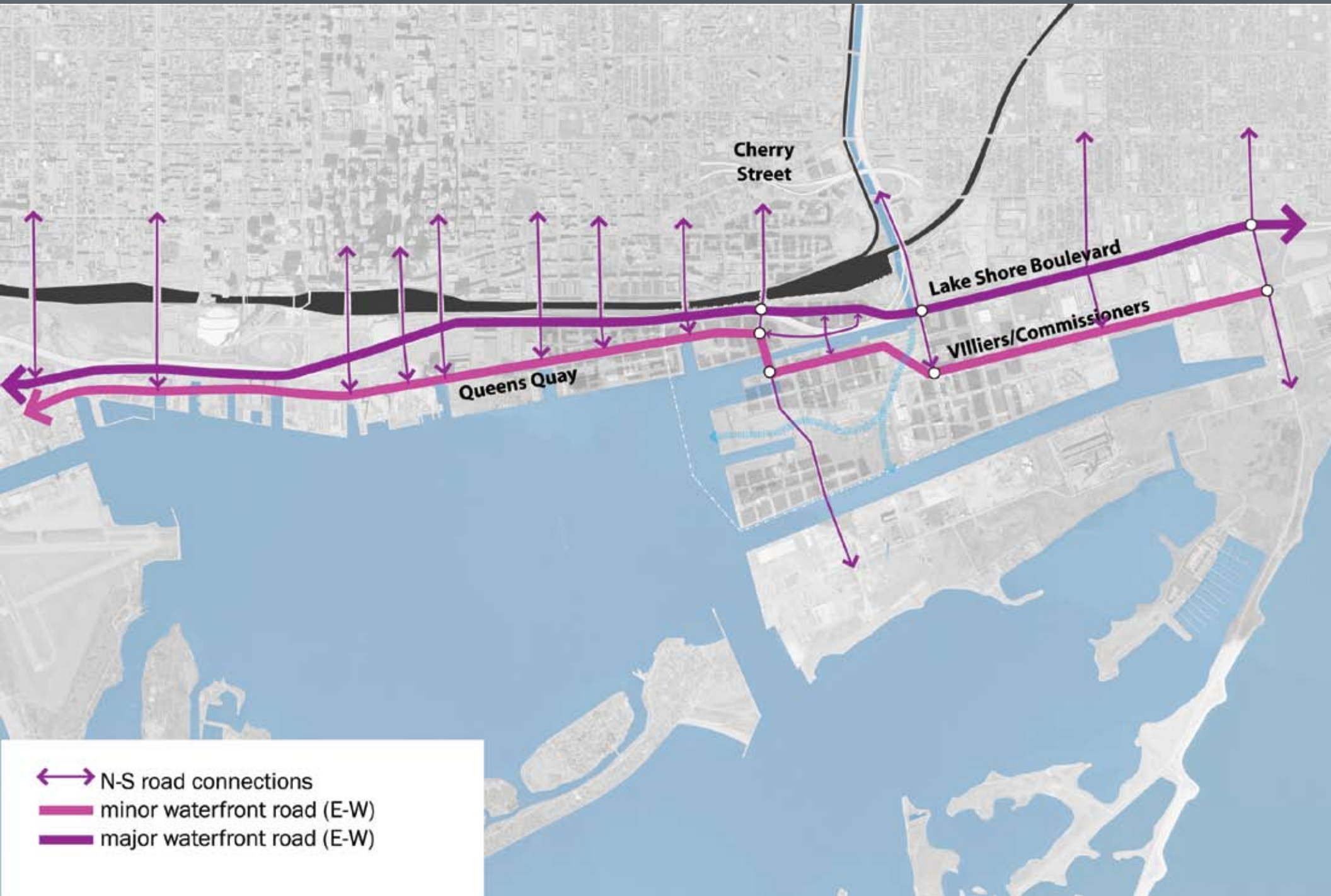


-  TSS removal (end-of-pipe)
-  minor storm conveyance (source and conveyance controls)
-  stormwater forcemain to UV treatment
-  UV disinfection

Open the Port Lands with Transit

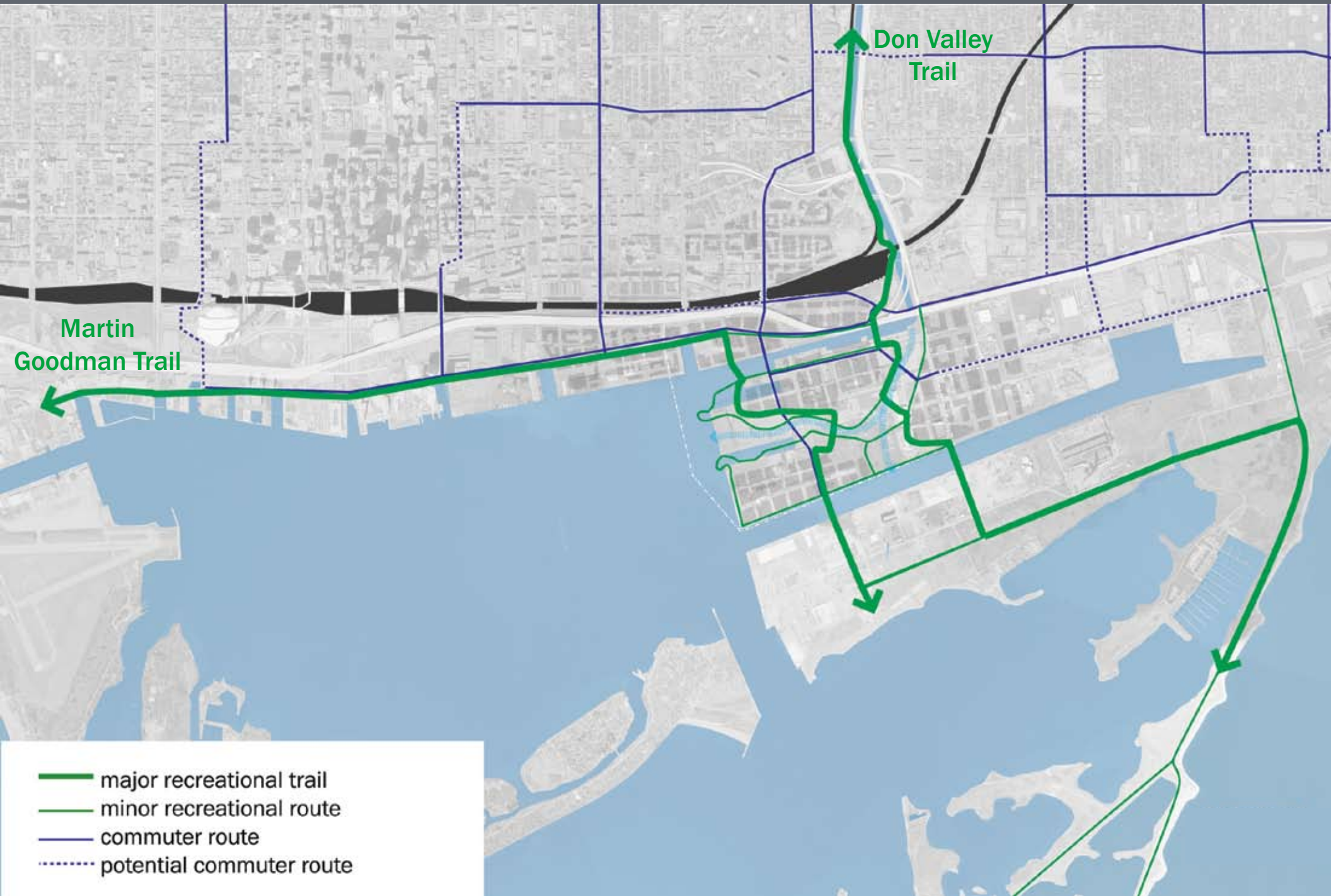


Balance E-W and N-S Roadway Connections



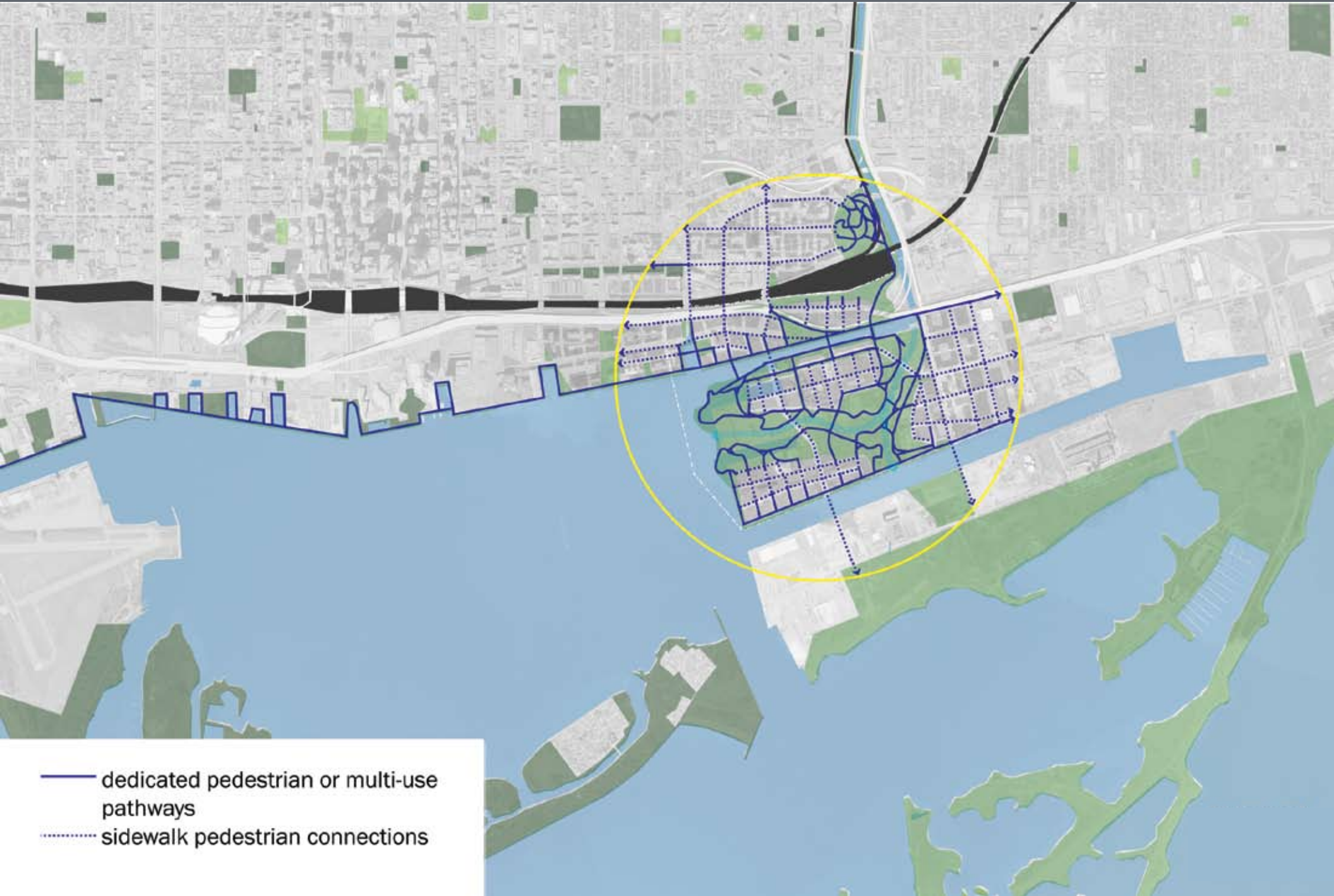
- ↔ N-S road connections
- minor waterfront road (E-W)
- major waterfront road (E-W)

Create a Bikeway Nexus



- major recreational trail
- minor recreational route
- commuter route
- potential commuter route

Enable an Extensive Pedestrian Network



- dedicated pedestrian or multi-use pathways
- sidewalk pedestrian connections

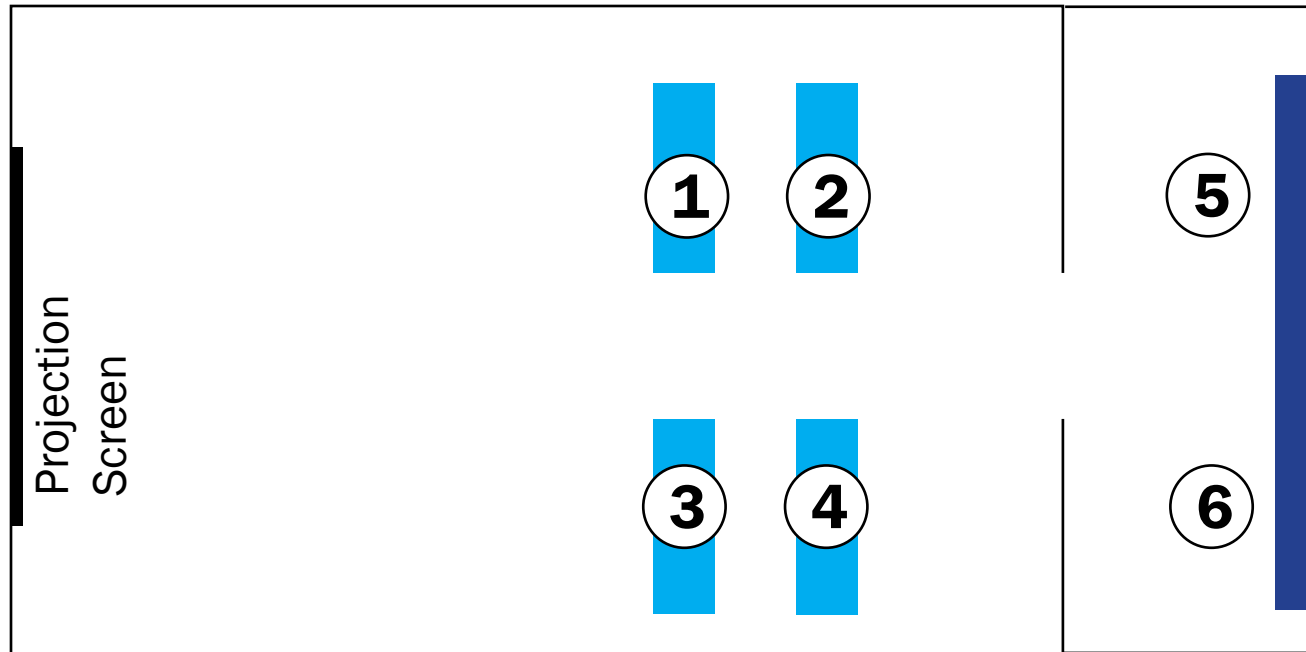
Today

- Public Meeting to present recommended Precinct Plan elements (including massing and zoning proposals) and the recommended road and transit layout and infrastructure designs for Keating Channel Precinct only (Class EA Masterplan Phases 3 and 4)

Summer to Fall 2009

- Prepare recommended plan for submission to Toronto City Council, taking into account input from stakeholders
- Statutory Public Meeting for the proposed implementing bylaws (e.g. Zoning)
- Council considers Precinct Plan, Infrastructure Class EA Master Plan and Zoning Bylaw





Discussion Tables:

1. Hydrology, Flood Protection and Sedimentation
2. Naturalization
3. Public Realm and Circulation
4. Built Form, Microclimate and Neighbourhoods

Class EA Master Plan (phase 3 and 4)

Display Boards:

5. Transportation
6. Servicing