

Sediment and Debris Management Overview



1. Sediment/Debris Management Area
2. Slurry Hard Pipe
3. Ship Channel Dewatering Facility
4. Scow Transport to Leslie Street Spit
5. Ice Management Area

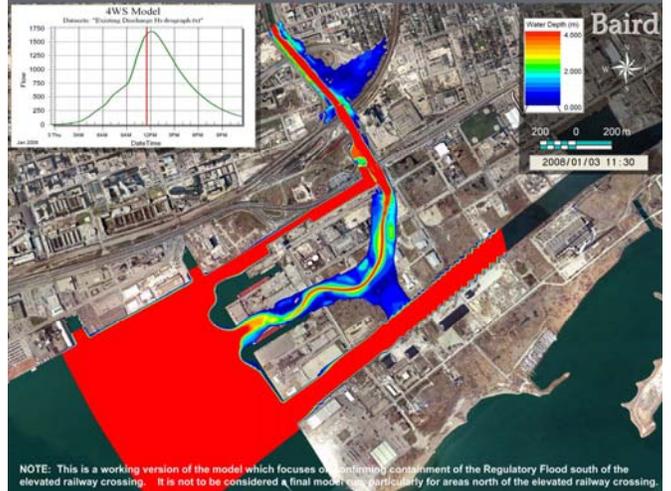


Note: the Ship Channel dewatering facility and hydraulic dredge located in area 1 will be transportable in the event of excessive sediment accumulation over time in the Keating Channel and/or new mouth of the Don.

Don Mouth Naturalization And Port Lands Flood Protection Project



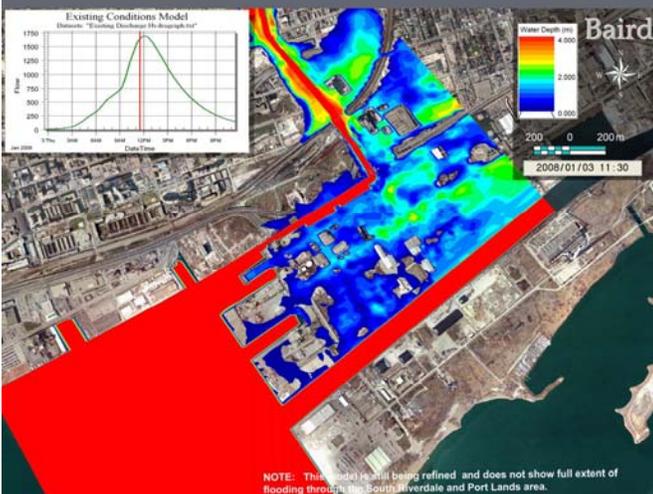
Regulatory Flood Model: Preferred Alternative



Don Mouth Naturalization And Port Lands Flood Protection Project



Regulatory Flood Model: Existing Conditions



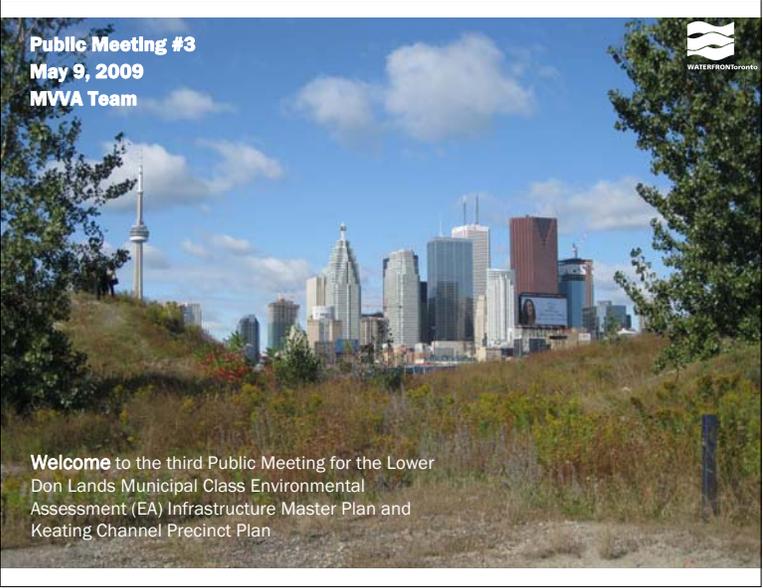
Landscape Communities

Don Mouth Naturalization And Port Lands Flood Protection Project



- Open Space
- Riparian Forest
- Thicket Swamp, Meadow Marsh
- Emergent Marsh, Submergent Marsh, Meadow Marsh
- Treed Swamp, Thicket Swamp, Meadow Marsh
- Aquatic





Purpose of Open House #3

The main purpose of this Open House is to present and seek input on the:

- Evaluation of transportation and infrastructure design alternatives in the Keating Channel Precinct; and
- The preferred plans for roads, transit, bridges, water, wastewater and stormwater facilities in Keating Channel Precinct.

Infrastructure proposed in this Class EA for flood vulnerable lands is based on the Preferred Alternative of the Don Mouth Naturalization Project (DMNP) EA and is dependent upon its approval.

Class EA Study Area and Process

Waterfront Toronto, the City of Toronto and the TTC are co-proponents for the Class EA Master Plan for Infrastructure.

Circulation: Crossings and Underpasses

Keating Channel Precinct Bridge Design Alternatives and Preferred Plan – Keating Crossings



The bridge design alternatives at Keating Channel were dealt with as one group.

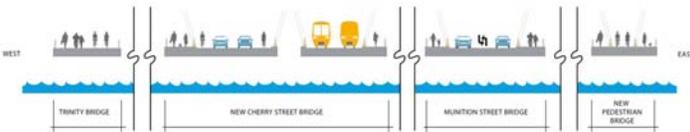
Design alternatives for the bridges at Keating Channel are “Movable” versus “Fixed” bridges. Movable bridges could include lift or swing bridges. Fixed bridges could include standard slab-on-girder bridges or arch bridges.

The main advantage of movable bridges is that they maximize navigational clearances. The disadvantages are that they create delay in traffic flow through the precinct and can delay emergency access to the area. Movable bridges are also considerably more costly to construct, operate and maintain than fixed bridges.

Navigability in the Keating Channel is impacted most significantly by the construction of a weir at the east end of the Keating Channel. Therefore, maximizing vertical clearances by providing movable bridges across Keating Channel does not really improve navigability in the area – as it is ultimately restricted at the east end of the channel. Furthermore, the Keating Channel Precinct and adjacent land uses are being designed to include public access to the waters edge and pedestrian and cyclist friendly activities. Future land uses do not require ship (or large vessel) access to the area.

Fixed bridges are preferred because they reduce travel delay through the Precinct, are more compatible with providing efficient transit service through the area, are pedestrian and bicycle friendly, and are at a scale that is appropriate for future land uses adjacent to the channel. Although navigational clearances will be reduced, the proposed fixed bridges will continue to provide access for recreational vessels, tour boats and water taxis in the Keating Channel.

KEATING CHANNEL CROSSINGS



*Details of evaluation are provided in hand out materials

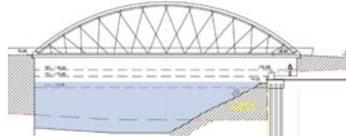
Keating Channel Precinct Bridge Design Alternatives and Preferred Plan – Keating Crossings



“Standard” versus “Arch” Bridges

Arch bridges are preferred, because they are more aesthetically pleasing, and have reduced deck thickness, allowing for increased boat clearance and flood conveyance in the channel as well as pedestrian circulation underneath the bridges.

The Preferred Design for the bridges over Keating Channel are arch type bridges that accommodate pedestrian and cyclist traffic at widths that are compatible with adjacent road, transit and trail networks.



Keating Channel Precinct Bridge Design Alternatives and Preferred Plan – Lake Shore Boulevard



The existing bridges on Lake Shore Boulevard and the Harbour Lead rail line at the Don River are in good condition. However hydraulic improvements are needed to provide improved flood protection and the roadway bridge needs geometric adjustments to accommodate the future profile and cross-section of the new Lake Shore Boulevard. The design alternatives for the bridges include either modifying and extending the existing bridges or reconstructing them. Because the bridges are in relatively good condition, and because its location (in plan and profile) is constrained by other structures in the immediate area (i.e., the Gardiner Expressway piers), the preferred plan is to modify and extend the existing bridges.

Design Alternatives for Lake Shore Boulevard Bridge and Harbour Lead Rail Bridge at Don River

Alternative 1	Alternative 2
Modify and extend existing bridges.	Reconstruct and extend existing bridges.
PREFERRED*	NOT PREFERRED*

The preferred design includes:

- Adding three new cells for improved hydraulic capacity, on the west end of the existing bridges;
- Making profile improvements to maximize hydraulic clearance and tie into the new Lake Shore Boulevard;
- Modifying the existing bridge deck cross-section to accommodate a bicycle path on the north side and a pedestrian sidewalk on the south side of the roadway;
- Removing several sections of the existing shoreline on the north side of the Keating Channel and the west side of the Don River; and
- Constructing steel sheet pile enclosures around the existing Gardiner Expressway pier bents.

*Details of evaluation are provided in hand out materials



Keating Channel Precinct Bridge Design Alternatives and Preferred Plan – Cherry St. at Rail Berm



The widening of Cherry Street and the addition of LRT services provide an important connection to neighbourhoods north of the Keating Channel Precinct, including West Don Lands and the Distillery District, and are critical to the redevelopment of the area. The existing bridge on Cherry Street at the railway berm is 80 years old and requires widening to accommodate a left-turn lane for southbound traffic, bicycle lanes, sidewalks and LRT.

Design Alternatives for Cherry Street Bridge at Rail Berm

Alternative 1	Alternative 2	Alternative 3
Replace existing bridge with a new structure accommodating both a widened road cross-section and new LRT span.	Keep the existing bridge and build a second underpass for the LRT (east of the existing bridge).	Replace existing bridge with a new structure accommodating a widened road cross-section and add a second underpass for the LRT.
PREFERRED*	NOT PREFERRED*	NOT PREFERRED*

Alternative 1 is the preferred alternative because it addresses the deficiencies of the existing bridge. Keeping Cherry Street and the LRT together through the rail berm facilitates improved connections and provides preferred alignment geometrics at the intersection of Cherry Street and Lake Shore Boulevard south of the rail berm while minimizing impacts in West Don Lands, to the north.



Keating Channel Precinct Bridge Design Alternatives and Preferred Plan – Trinity Street



Trinity Street currently ends north of the rail berm, at Mill Street in the Distillery District.

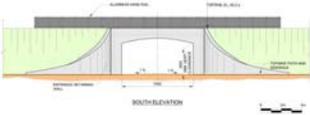
The proposed plan includes providing a new tunnel connection under the rail berm for pedestrians and cyclists to access Keating Channel Precinct. The new underpass is not for vehicular traffic.

The new underpass provides multimodal access between the Distillery District and East Bayfront, allowing for the greatest potential for a vibrant, mixed-use community. It also promotes access to the water and contributes to improvements to the public realm.

A new bridge is also proposed for the Trinity Street trail and bicycle path across the Keating Channel.

The new bridge will connect the Central Waterfront Boardwalk and the Martin Goodman Trail from the East Bayfront lands into the Keating Channel Precinct.

Trinity Street Underpass



Trinity Street Trail at Keating Channel



Stormwater



Keating Channel Precinct Stormwater Design Alternatives



**RECAP - Preferred Planning Alternative from PIC #2
Treatment Train Approach**

NEW - Design Alternatives for Keating Channel Precinct PIC #3

Alternative 1	Alternative 2	Alternative 3A	Alternative 3B	Alternative 4A	Alternative 4B
All land uses (development blocks, open spaces/parks and roads) have individual systems for treating stormwater including Total Suspended Solids (TSS) removal and disinfection.	All land uses have individual site systems for TSS removal but there is a common facility used for disinfection.	All land uses share a common facility for all stormwater treatment (i.e., TSS removal and disinfection), but the facilities are only designed to service Keating Channel Precinct. Facilities are optimized to meet the required water quality targets.	All land uses share a common facility for all stormwater treatment (i.e., TSS removal and disinfection), but the facilities are only designed to service Keating Channel Precinct. Facilities are sized based on available space.	All land uses share common TSS removal and disinfection systems and the facilities are designed to be integrated with facilities for adjacent neighbourhoods (i.e., EBR and WDL). Facilities are optimized to meet the required water quality targets.	All land uses share common TSS removal and disinfection systems and the facilities are designed to be integrated with facilities in adjacent neighbourhoods. The facilities are optimized to meet the required water quality targets. Facilities are sized based on available space.
NOT PREFERRED*	NOT PREFERRED*	NOT PREFERRED*	NOT PREFERRED*	NOT PREFERRED*	PREFERRED*

Alternative 4B is the Preferred Stormwater Design because it maximizes efficiencies with adjacent stormwater treatment facilities and land uses, is most compatible with the City of Toronto's goals for stormwater management in the waterfront area, it uses less land in each separate neighbourhood as integrated facilities are used.

The Preferred Stormwater Design includes:

- Tying into the proposed tank in East Bayfront EA to service lands west of Cherry Street;
- Locating UL tanks adjacent to the West Don Lands banks (at the rail berm north of Lake Shore Boulevard), to service lands east of Cherry Street (north of the Keating Channel), and sharing pumping and UV treatment facilities; and
- Using either a new tank (permanently) to service lands north of Villiers Street (south of Keating Channel) or servicing this part of Keating North Channel (temporarily) with oil/grit separators until designs are confirmed for lands south of Villiers Street, in the Lower Don Lands study area. The decision to build something permanent or temporary for lands on the north side of Villiers Street (in Keating Channel Precinct) will be made through discussions with the City prior to implementation.

* Details of evaluation are provided in hand out materials

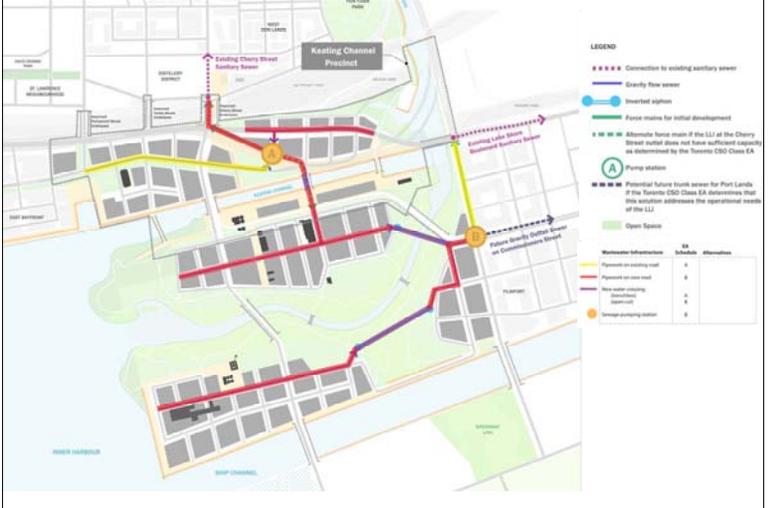
Keating Channel Precinct – Preferred Stormwater Design



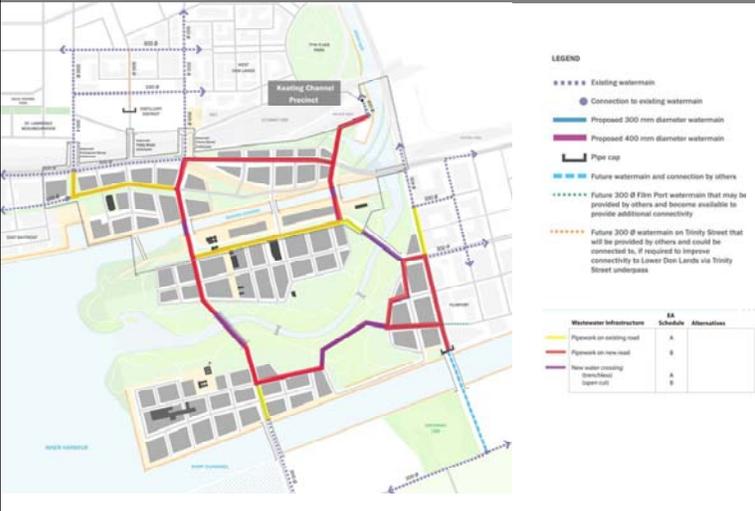
Infrastructure - Water and Wastewater



Preferred Design – Wastewater



Preferred Design – Water Supply



Keating Channel Precinct Summary of Environmental Impacts and Mitigation



Theme	Potential Environmental Impact	Proposed Environmental Mitigation	Net Impact
Natural Environment -Don Mouth Naturalization -New natural area (wetland)	Preferred designs in the Keating Channel Precinct are consistent with the goals of the Don Mouth Naturalization Study. Some vegetation will be removed where roads on new alignments (Cherry Street and Lake Shore Boulevard) are built. There is no significant vegetation in the study area.	Landscaping is proposed on all major arterials, as shown in the roadway cross-sections. In addition, the development of Keating Channel Precinct includes new vegetation, open space and park areas.	Overall net improvement
Social Environment -Vibrant, mixed use community -Access to water	Improvements to the social environment at the water's edge along Keating Channel is a key component of the redevelopment. The preferred designs for roads, transit, water, wastewater and stormwater support a vibrant mixed use community and improve access to the water's edge.	Access to the water's edge in the study area will be temporarily impacted during construction. Access to areas south of the study area (i.e., Cherry Beach etc.) will be maintained via Cherry Street during construction.	Overall net improvement
Economic Environment -Economically viable block sizes -Cost effective to build	The new infrastructure designs and layout will accommodate blocks that are viable for redevelopment. Cost effectiveness has been taken into consideration in the evaluation of design alternatives.	Changes in land use (from existing industrial to future residential/commercial) will reduce the need for ship access to the area.	Overall net improvement
Cultural Heritage -Traditional uses of land by Aboriginal people -Heritage structures -Archaeology	Some impacts may occur to heritage structures. There is also some potential for archaeological resources to be impacted during construction.	All approvals required by Toronto Port Authority will be obtained during detail design and prior to construction.	Overall net impact is minimal
Sustainability -WT's Sustainability Framework -City's sustainability standards -Impervious surfaces	The proposed works support WT's Sustainability Framework and the City's standards for sustainability while reducing impervious surfaces and enhancing water quality.	Erosion and sediment controls will be in place and monitored to ensure that construction activities do not impact surface water negatively during construction.	Overall net improvement

Keating Channel Precinct Summary of Environmental Impacts and Mitigation (continued)



Environmental Criteria	Potential Environmental Impact	Proposed Environmental Mitigation	Net Impact
Land Use and Property • New land uses • Public realm goals • Property	Land uses will change from industrial/vacant to mixed use, residential and commercial/employment communities that include large areas of open space, public realm features and a new school. Some private property will be impacted although most property is publicly owned. Property owners are generally supportive of redevelopment of areas.	Access to existing private properties will be maintained during construction.	Overall net improvement
Transportation Services • Walkability • Transit priority • Zero-growth traffic • Parking	The new transportation network and road designs include improved transit, pedestrian and bicycle facilities that promote non-auto modes and service compact and walkable neighborhoods. Some temporary (full or partial) road closures will be required during construction (i.e., on Cherry Street at the railbarn and on Lake Shore Boulevard at the Don River bridge). Pier berths on Gardiner Expressway will also be impacted by the Lake Shore Boulevard alignment.	Road closures required during construction will be signed and adjacent landowners, business, residents and emergency service providers will be notified in advance. Details of construction staging and traffic impacts during construction will be confirmed during detail design.	Overall net improvement
Municipal Services • Sustainable design technology • Utilities	New services support future land uses and densities using sustainable design technology. Impacts to existing services and utilities will occur.	Extent of impacts to existing utilities will be confirmed during detail design. Affected parties will be consulted with and agreement will be reached on utility relocations prior to construction.	Overall net improvement
Stormwater • Wet Weather Flow Master Plan • Toronto GREEN Development Standard • Improved flood protection • Natural processes for cleaning water • Potential changes in extreme precipitation and water flow	Proposed works are compatible with the goals of the City's Wet Weather Flow Master Plan, and provide improved flood protection and accommodate potential changes in extreme precipitation and water flow. New, natural processes (i.e., use of roof runoff for street trees) are introduced and the treatment train approach cleans stormwater before entering Lake Ontario.	Erosion and sediment control measures will be in place and monitored during construction. Appropriate actions will be taken in the event of an extreme storm during construction.	Overall net improvement

The overall net impacts of the proposed improvements to roads, transit, stormwater, water and wastewater, as identified in the Lower Don Lands Master Plan and Keating Channel Precinct Plan improve environmental conditions in the study area.

What's Next



After Public Meeting #3 the study team will finalize the preferred designs for road, transit, bridge, stormwater, wastewater and water supply systems, and finish Phases 3 and 4 of the Municipal Class EA process for Keating Channel Precinct, taking into account stakeholder input from this meeting.

The next step is to document the study in an Environmental Study Report (ESR) for Keating Channel Precinct. The ESR will be available for a formal public review period, currently scheduled for fall 2009.

You will be contacted again at that time.

Your Input is Important



Public participation is an important part of the study process.

Please provide your comments to:

Andrea Kelemen
 Communications and Marketing
 Waterfront Toronto
 20 Bay Street, Suite 1310
 Toronto, ON M5J 2N8
 Tel: (416) 214-1344 ext 248
 Email: lowerdon@waterfronttoronto.ca

www.waterfronttoronto.ca/lowerdonlands



Thank you for attending