Don Mouth Naturalization & Port Lands Flood Protection Project Environmental Assessment

Public Forum #3
Meeting Notes

December 5, 2006

PUBLIC FORUM #3

Don Mouth Naturalization and Port Lands Flood Protection Project

Tuesday, December 5, 2006

Room 308/309, Metro Hall
55 John Street, Toronto

6:00 – 9:30 p.m.

SUMMARY NOTES

The purpose of the meeting was to share information and seek feedback on key aspects of the project, including:

- The long list of alternatives considered for redesigning the Don Mouth, and the 14 alternatives that passed the first technical screen;
- The criteria that will be used to reduce the list of 14 alternatives to a list of approximately 5 for more detailed study; and
- The progress being made on adjacent and related projects, including the Lower Don River West Remedial Flood Protection Project, the Don River Railway Bridge Extension and Bala Underpass, the Don River Park, and an international design competition that is being planned by the TWRC for Toronto's Lower Don Lands.

126 people signed in at the meeting, and the following points summarize the feedback received:

- Participants had a number of questions for members of the project team during the Open House. They focused a range of topics, from the original location of the Don River mouth, to the amount of debris coming down the river, and future bridges that may be required. People expressed amazement at the volume of water flowing down the Don River during a regulatory flood, particularly when compared to the regular flow.
- In response to the 14 alternatives that passed the first technical screen of the EA process, few questions or objections were expressed. There were two people who wanted to see the list of alternatives expanded, and others looking for more information on how the sediment will be managed.
- Feedback on the technical screening process and evaluation criteria was generally positive. A few refinements were suggested (this feedback was received in written comments).
- Feedback on TWRC's design competition for the Lower Don Lands was well received, with a request to ensure the public has an opportunity to contribute their ideas to the competition as well.

Please refer to the remainder of this report for more detailed notes.

1.0 Public Open House

The **Open House** portion of this event opened at 6:00 p.m. Members of the public were invited to sign in and to view display boards showing different aspects of the Don Mouth Naturalization and Port Lands Flood Protection Project. Toronto and Region Conservation (TRCA), members of the consulting team, volunteers with specialized knowledge of the area, and the leads of a number of other projects that will influence and be influenced by this Project were on hand to answer questions during the Open House. All participants received the following information as they signed in:

- Meeting agenda and participant guide;
- Map of the Open House displays; and
- Copy of the presentation and key questions sheet.
- A list of comparative evaluation criteria with accompanying comment columns was also made available during the open house.

The following information was also available to participants.

- Don Mouth Naturalization & Port Lands Flood Protection Project Newsletter, Volume #4 November 2006
- Don Mouth Naturalization & Port Lands Flood Protection Project Newsletter, Volume #3 August 2006
- Moving Toward the Living City Strategic Plan Summary (TRCA)

All of the meeting materials listed above are available on the TRCA website at: http://www.trca.on.ca/water_protection/don_mouth/default.asp?load=whats_new

The open house display boards were distributed in three rooms. In Room 302, there were displays describing the study, as follows:

- Cross-sections and habitat types that are being considered;
- Technical screening of alternatives;
- Proposed evaluation criteria;
- Next steps, including proposed evaluation criteria for comparing the short list of alternatives.

Also in this room were displays on:

- Water quality;
- Benefits of the Wet Weather Flow Master Plan (City of Toronto).

In Room 303, displays were set up describing:

- Keating Channel operations (Toronto Port Authority);
- Industrial history of the Port Lands (York University);
- Filmport Studios (Toronto Economic Development Corporation (TEDCO));
- Fish and wildlife (TRCA);
- Soils and groundwater (Toronto Waterfront Joint Venture); and
- Roads and infrastructure (Toronto Waterfront Joint Venture).

In Room 308 of Metro Hall, there were displays boards describing

- The Lower Don River West Remedial Flood Protection Project (TRCA),
- Projects by the Toronto Waterfront Revitalization Corporation (TWRC).

A copy of the poster boards is found in **Appendix A** to these notes. **Appendix B** to these notes contains a synopsis of the questions that were asked during the open house portion of the meeting, as reflected by project team specialists.

126 participants signed in at this event.

2.0 Welcome and Opening Remarks

Nicole Swerhun opened the presentation portion of the meeting at 7:10 p.m. She outlined the materials that were available at the sign-in desk, and invited people to fill out the Participant Guide with their comments on the project. Nicole introduced those who would be speaking at the meeting, including:

- Ken Dion, TRCA – Lower Don River West Remedial Flood Protection Project
- Adele Freeman, TRCA – Introduction to the Don Mouth Naturalization and Port Lands Flood Protection Project
- Paul Murray and Dale Leadbeater, Gartner Lee – Starting to Make Decisions About the Don Mouth Design

A copy of these presentations can be found in **Appendices C and D** to these notes. The following section provides an overview of the presentations that were given. A complete list of project team members present at the meeting can be found in **Appendix E** to these notes.

3.0 Presentations

Ken Dion (Project Manager, TRCA) provided an update on the Lower Don River West Remedial Flood Protection Project (LDRW Project) – see enclosed presentation in **Appendix C**. A Class Environmental Assessment (EA) process was conducted to determine how to best provide flood protection to the Lower Don River West area. The Class EA resulted in the selection of an option with 5 key components:

- a landform along the west side of the Don River, preventing the westward flow of floodwaters into the downtown area (site preparation is currently underway and being led by Ontario Realty Corporation (ORC));
- westward extension of the Railway Bridge over the Don River Bridge in order to provide sufficient capacity under the bridge for the additional floodwaters that will be pushed back into the Don River following the construction of the landform upstream (construction is currently underway and being led by TRCA and CN);
- minor changes to a utility bridge upstream to improve local hydraulic conditions at Old Eastern Avenue (currently not a priority to proceed);

- a low-lying floodwall and dyke on the east side of the river, south of the railway crossing over the Don to accommodate the slight increase in water levels (~7 to 8 cm) that would occur south of the tracks as a result of the landform and railway bridge extension upstream (currently not a priority to proceed);
- continued dredging in the Keating Channel as per the conditions outlined in an earlier EA conducted in 1983 by TRCA.

In addition to the flood protection works associated with the LDRW Project, the TWRC assigned TRCA with the responsibility of constructing a pedestrian/cyclist underpass under the tracks (Bala Subdivision) that veers north along the west side of the Don River, in order to provide a connection between the existing Don Watershed Trail and the future West Don Lands Community and Don River Park (which will be constructed on top of the landform).

Ken provided a series of timelines and photos of construction progress for the two key flood protection components (Flood Protection Landform and Don River Railway Bridge Extension) that are proceeding as well as the Bala Pedestrian Underpass.

For the Flood Protection Landform (construction being led by ORC) and associated Don River Park (design and construction will be led by TWRC):

- All existing structures will be demolished in the WDL by December 22, 2006 in preparation for the landform.
- Municipal infrastructure that cannot be removed will be protected between February and May 2007.
- Compression of loose peaty soils will begin in February or March 2007 and will continue until May or June 2007.
- Construction of the Landform will proceed throughout Summer 2007 until Spring 2008.
- Construction of Don River Park will begin in areas where the Landform construction has been completed. Anticipate that the Don River Park will be built by Fall 2008.

For the Don River Railway Bridge Extension and Bala Underpass (led by TRCA and CN):

- Construction of the northern half of the Bridge was completed at the beginning of October 2006.
- Construction of the western half of the Bala Underpass was completed December 1, 2006.
- Construction of the southern half of the Bridge should be completed at the end of March 2007.
- The new river channel will be excavated between March and May 2007.
- Bala Underpass construction will begin approximately April 2007 and should be completed by June 2007. NOTE – Bala Underpass will not be opened until Don River Park has been completed in Fall 2008.
- Final landscaping likely to occur throughout June and July 2007 with irrigation activities to continue throughout the summer.
- Don Watershed Trail targeted to open in July 2007.

Adele Freeman (Director, Watershed Management Division, TRCA) welcomed everyone to the meeting and thanked participants for attending. She explained that the Terms of Reference for the Don Mouth Naturalization and Port Lands Flood Protection Project was approved by the Minister of Environment in August 2006. The Environmental Assessment is now underway. The TRCA is undertaking this project on behalf of the TWRC and the three levels of government. Adele introduced Paul Murray, Gartner Lee, to provide an overview of the project.

Paul Murray, Gartner Lee Ltd., introduced key members of the consulting team, described their area of expertise and invited people to direct their feedback to these specialists.

Paul's presentation provided a review of the Terms of Reference; the outcomes of Step 1 (development of a long list of alternatives); the outcomes of Step 2 (identification of a short list); and the process for undertaking Step 3 of this study. Paul highlighted the following information during his presentation.

Paul described the study area, which includes the Don Narrows and the Don River. The Goal of the project is: *"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."* Seven objectives have been established to support this goal. A visualization of the area at risk to flooding east and south of the Don was also depicted.

In Step 1 of the process, a long list of alternatives was developed based on discharge points, river characteristics, channel shapes, and habitat types. Four alternative discharge points were considered:

- Discharge 1 is the Do Nothing Option that is required in all EAs;
- Discharge 2 has a single channel discharging into the Inner Harbour;
- Discharge 3 has a single channel discharging into the Ship Channel;
- Discharge 4W has a primary channel discharging into the Inner Harbour with a secondary spillway that directs flood flows into the Ship Channel;
- Discharge 4S has a primary channel discharging into the Ship Channel with a secondary spillway that directs flood flows into the Inner Harbour.

A graphic was shown depicting the difference in discharge between the full spectrum of anticipated flood events ranging from the typical base flow conditions (1-4 m^3/s), the 2 year storm (~200m^3/s), the 100 year storm (~500m^3/s), and the Regulatory Flood (~1800m^3/s) that the preferred alternative will need to be able to accommodate to meet the flood protection and naturalization goals for the project. The current turbidity levels hinder plant growth and over 40,000 tons of sediment is trapped annually in the Keating Channel.

Dale Leadbeater, Gartner Lee Ltd., was introduced and discussed the habitat aspects of the project. The project team looked at all of the possible types of vegetation that could be sustained in the study area. They looked to the north shores of Lake Ontario

for examples. It is recognized that this is a unique process, as the location of the mouth and its associated soils and fish communities have all changed from the period of the Ashbridges Bay marsh.

The types of cross-sections for the river channel that are being considered are:
- Lacustrine environment (wide and shallow, similar to a lake in cross-section)
- Created wetland
- Natural river channel (one narrow channel with sloping valley sides)

Combinations of these cross-sections are also being considered:
- Lacustrine/natural river
- Lacustrine/created wetland

(See **Appendix D** for diagrams illustrating each of these cross-sections)

The kinds of habitats that are being considered are:
- Submergent marsh – requires permanent flooding to survive; maximum depth of 0.5 metres for submergent plants to survive because the waters are too murky below this point; provides little resistance to water flow.
- Emergent marsh – requires semi-permanent flooding and protection from disturbance; provides little resistance to water flow.
- Meadow marsh – requires seasonal flooding for more than 45% of the growing season; provides little resistance to water flow.
- Thicket swamp – requires seasonal flooding for less than 45% of the growing season; provides moderate to high resistance to water flow.
- Treed swamp – requires seasonal flooding for less than 45% of the growing season and protection from disturbance to survive; provides moderate to high resistance to water flow.
- Upland forest – limited tolerance for flooding; provides moderate to high resistance to water flow.

In Step 1 of the process, each discharge point, cross section, and habitat type (vegetation community) have been considered in combination as possible alternatives for the Don Mouth.

In Step 2 all of the alternatives were considered and screened for: the ability of the vegetation communities to survive (naturalization) and the ability of the channel to convey water during a flooding event (flood protection).

During the screening, it was determined that the lacustrine environment would not work for any of the habitats due to not being able to meet the objective of naturalization, flood protection or both. It was also determined that for the single-channel alternative discharge points (#2 and #3) the natural river channel cross-section would not meet the naturalization or flood protection objective, depending on the type of habitat. For the two-discharge point alternatives (4W and 4S), it is assumed that there will be a primary channel that contains water in some form all of the time, and a secondary channel that will only likely convey river water during flood events with a return period of at least 10

years or more. In the two discharge alternatives, there is a greater range of opportunities for creating more diverse and more robust natural habitats while still meeting the flood protection objective. Fourteen alternatives met both the flood protection and naturalization criteria and will be carried forward for further development and evaluation.

Paul Murray described the next steps in the EA process. There are 14 alternatives that will be carried forward between discharge points 2, 3, 4W and 4S. Option 1, do nothing, must also be carried forward, resulting in 15 alternatives being carried forward.

Step 3 of the process includes describing the 14 alternatives in more detail. Step 4 will focus on reducing the list of alternatives. In Step 4, a set of criteria will be applied to allow an evaluation of the various options. This evaluation will speak to the issues and trade-offs between alternatives. This will result in a list of approximately 5 options for consideration.

Paul described the evaluation criteria. The framework for the evaluation includes a series of objectives, and related components, criteria, indicators, and rationale. A proposed criteria chart was distributed and feedback invited. Once the criteria are identified, a matrix is developed to compare each of the discharge points, the associated cross sections and habitat types relative to each other. The project team will also be listing the trade-offs for each alternative. In Step 5, one of the alternatives will be selected. Step 6 involves assessing this alternative and then a functional design will be developed for it.

Paul outlined the project timelines, including the various points of formal public contact. The project is now at the end of Step 2. After incorporating public feedback on the criteria and proceeding with the analyses, the team expects the next public meeting to be held at the end of Step 4. This is anticipated to be spring 2007.

The intent is to submit the Environmental Assessment in the spring of 2008.

4.0 Feedback on the Presentation

Nicole Swerhun invited general questions of clarification. Questions are noted below in italics, followed by the response from the project team.

Q1. Please clarify the relationship between this project and the Commissioners Park project. Is there any overlap between the two? Has the Commissioners Park project resulted in the removal of the "two channel" options from consideration in this project?

The project team is using the Terms of Reference that was approved by the Ministry of Environment as a road map for this Environmental Assessment. The study area is

described in the Terms of Reference. There is a portion of the park overlaid by the study area while the remainder of Commissioners Park lies south of the study area. One of the objectives of the project is to make the project work with the rest of the revitalization of the Port Lands, and the project team is working with others to ensure coordination of efforts.

Q2. Mayor Miller has expressed his support for water quality and this project. In order to undertake ecological restoration, the project team needs to understand the historical conditions. The circulating channel should be added as a discharge point. An excerpt from "The Town in 1810" was submitted, along with an article from the Toronto Star.

These submissions can be found in **Appendix F** to these notes.

Q3. The process of evaluation might work because trade-offs are being considered, in addition to the matrix. A problem with this type of process is that not enough alternatives are considered in the long list. In this project, the project team made the assumption a split channel was not going to be considered. People think that option 4 involves a split channel. You need to put the split channel back in to the initial long list.

The project hydrologists say that the amount of water available is relatively small and is not sufficient to have a constant flow of water through two channels. This position was framed within the Terms of Reference

Q4. My question is about the flow of the river. Currently, there are some interceptors proposed upstream as part of the Wet Weather Flow Master Plan that will affect the quality and quantity of the flows received downstream. Have they been factored in?

From a quantity side, yes, they have been factored in. For the purpose of this EA, we presume that the quality improvements will take place.

Q5. Can you explain how the new alignment of the Keating Channel will address the debris and sedimentation? (discharge 2 option)

We haven't yet established the location of the channel nor have we presumed that we would utilize the existing Channel. It may be filled in, for example. In the next steps, we need to determine how to trap debris along with the best alignment for the Channel.

Q6. Does Discharge Point 3 include a series of bridges over the Don?

We will inform and be informed by other projects in the area. In the event that either Discharge Point 3 or 4S is selected, some form of bridge will be required. However, it still needs to be determined whether the bridge simply crosses over the regularly wetted channel, or whether the bridge would extend over the entire created floodplain.

Q7. How will you control sediment to prevent negative impact on the wetlands? Cattails will grow in many environments. If we want diversity, how will you lubricate the wetlands, especially if they have to be in an elevated state?

Members of our project team, Baird and Aquafor Beech, will be describing where and how sediment will be managed. We think heavy sediments will likely be managed at the point of the CN bridge. The lighter sediments will continue south into the new wetlands which will require species selection and channel topography conditions that will allow vegetation to survive. We are trying to provide as much variability in the various cross sections so that as we go through the next steps, we can determine which robust plants match best with each cross section.

5.0 TWRC Presentation

Nicole introduced Chris Glaisek, Toronto Waterfront Revitalization Corporation (TWRC), VP Planning and Design. Chris described the Don Mouth project as a monumental effort to revitalize the river. This is one of the biggest initiatives that TWRC will undertake, yet it is relatively unknown by the broader public.

Chris outlined the various projects that are currently be undertaken by TWRC (Don River EA; the Don River Borderlands (area east of Parliament); Queens Quay road alignment; Transit EAs; Commissioners Park). The TWRC is trying to define a process for looking at all of these projects holistically. An international design competition is going to be introduced in the coming months. A firm will be given the various project terms of reference and asked to develop a concept that will inform all of the studies. This will be "a common ground" that currently doesn't exist. The goals for this competition are:

1. Naturalize the mouth of the Don River
2. Develop a continuous riverfront park system
3. Provide for harmonious development
4. Connect waterfront neighbourhoods
5. Prioritize public transit
6. Expand opportunities for interaction with water
7. Promote sustainability

This will be a two-stage juried international design competition, with a request for qualifications release on December 14, 2006 and jury recommendation of concept(s) on April 11, 2007. We are trying to accomplish this within the same timeframe as the Don EA. (**Editor's note: more information is available on the TWRC website at:** http://www.towaterfront.ca).

Q8. Can the public be invited as observers to the Request for Qualifications process openings and question periods? Can you extend this to Coatsworth Cut, as

there seems to be a conflict between what the City is doing and what is being done on Lake Ontario Park.

We are planning to have a Citizen Liaison Committee to assist with the mid-term reviews. Further public involvement will be considered.

Q9. A group of citizens went to the board of the TRCA to talk about integrating the various aspects of all of the projects (i.e. roads, rivers, habitat, buildings). To set up a new process and exclude the public is not appropriate. We want to see ideas that the public has discussed reflected in the designs. How will the public be involved in the real process?

This is not a separate process. We will be working within the framework of the current EAs and we will be involving the public. We are open to all ideas being considered. A Citizen Liaison Committee will be a part of this process.

Q10. This project should consider the green infrastructure first, the habitat, and then design the roads/infrastructure/buildings after that. Habitat has to be the prime objective.

Agreed. This is reflected in the seven objectives that were outlined.

Comment. This is an excellent idea. There are a number of EAs going on right now, and it is critical to have an overall coordinating vision.

Comment. The potential to create linkages between the projects is exciting. There seems to be too much development in the plans for the Port Lands.

Comment. You need to fit the urban context into the river domain.

6.0 Closing Remarks

Adele Freeman thanked all those who attended and provided comments at the meeting. Participants were invited to spend some time with the project team members at the open house displays to offer their comments. Additional comments should be sent in before December 21.

The presentation portion of the meeting was adjourned at 8:45 p.m. The Open House portion resumed and continued until 9:30 p.m.

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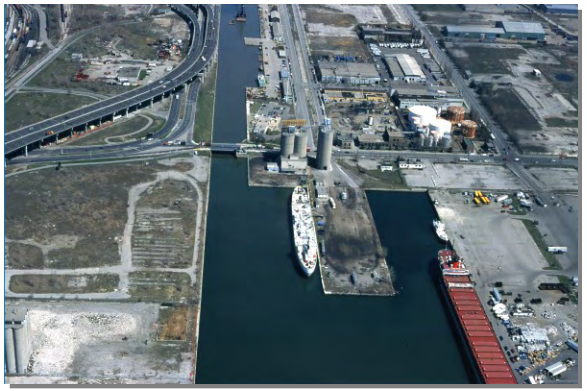
Don Mouth Naturalization & Port Lands Flood Protection Project

Public Forum #3

Appendix A
Poster Boards

December 5, 2006

Don Mouth Naturalization And
Port Lands Flood Protection Project


Welcome to the Public Forum!

Outcomes of Steps 1 & 2 and
Next Steps of the Environmental Assessment

December 5, 2006

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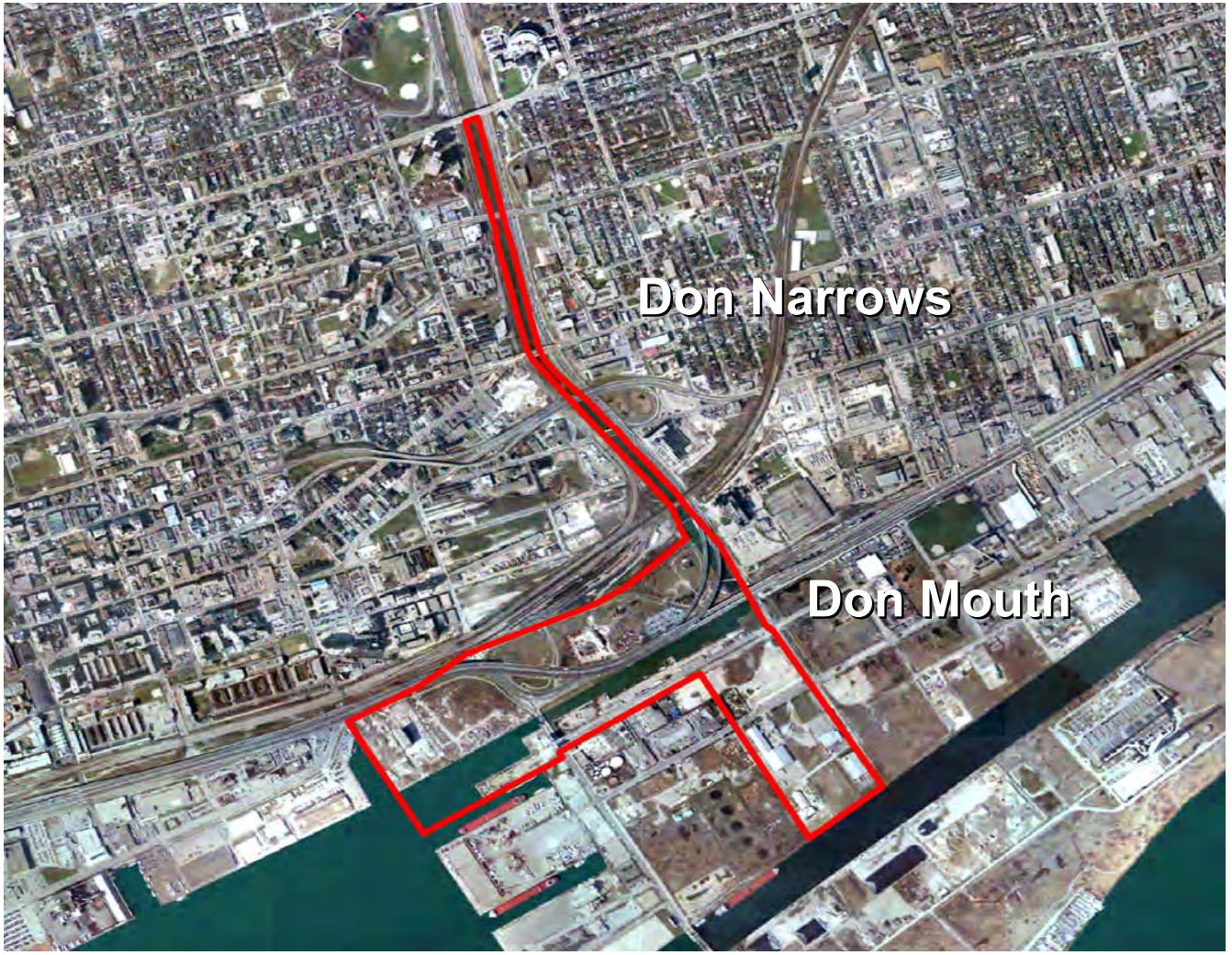
Don Mouth Naturalization And
Port Lands Flood Protection Project

Study Area

The Project Study Area consists of two parts: the Don Mouth from the railway bridge to the harbour/lake and lands adjacent to the Lower Don River, and the Don Narrows from the railway bridge north to Riverdale Park. Within the Don Narrows, only improvements within the river channel are to be considered.

The lands east of Parliament Street and south of Lakeshore Blvd., and the small quay at the entrance to the Keating Channel have been included to ensure that there is sufficient area to look at options for the Don Mouth. A 300 metre wide corridor immediately west of and parallel to the Don Roadway, which includes the area for the proposed Don Greenway, connects the Keating Channel to the Ship Channel to address previously identified alignments for the Don River.



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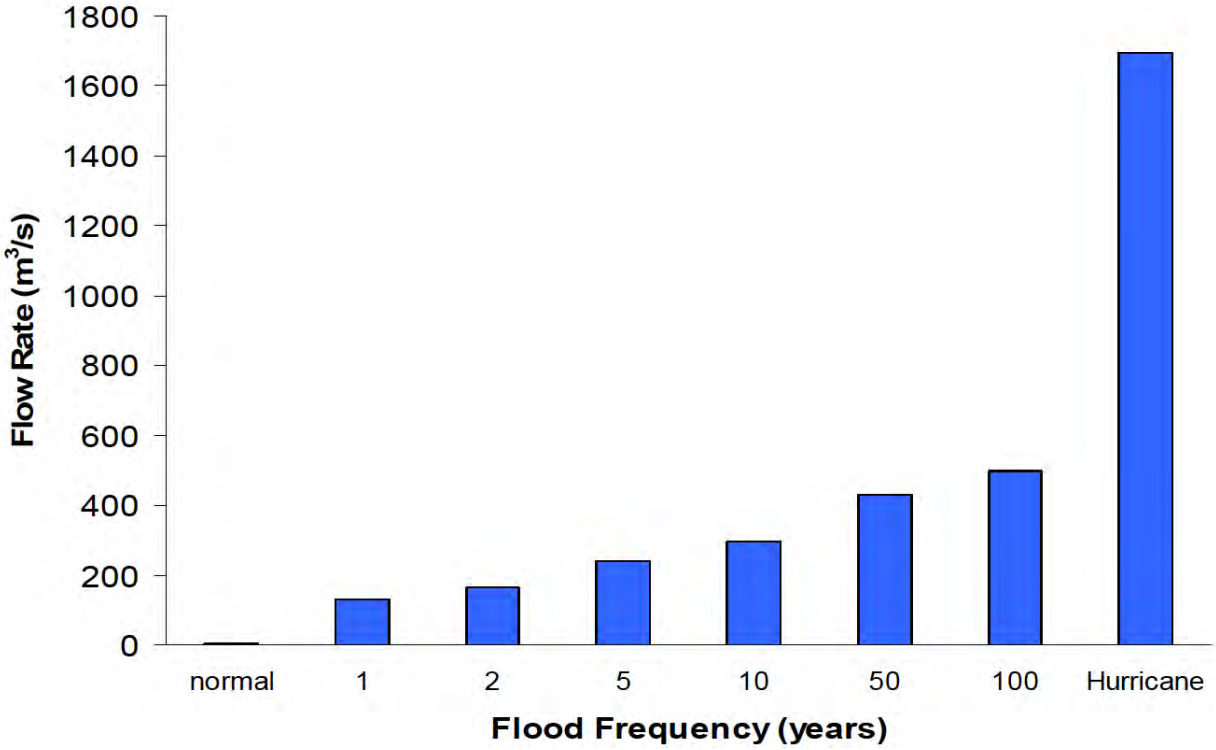
River Characteristics

Flow Rates During Flood Events

Precipitation events of variable intensities alter the flow rates in the Don River.

The Don River must accommodate changing flow rates that range from normal conditions (4 –5 cubic metres per second) to those experienced during high intensity hurricane events (nearly 1,700 cubic metres per second).



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River Characteristics

Turbidity, Sediment, and Water Quality

Light availability, which is often measured as turbidity, can affect the survival of aquatic vegetation. Light availability is dependent on the amount of sediment and other debris in the water, water colour, and water depth. Current turbidity levels at the mouth of the Don River prevent light from penetrating more than 0.3 metres deep.

The Keating Channel traps 40,000 tons of sediment annually, which represents approximately 80-85% of the total sediment in the Lower Don River. To effectively convey the regulatory flood, sediment in the rehabilitated Don Mouth must be managed upstream of the Keating Channel.

Water quality improvements through the watershed will be dependent on upstream initiatives, such as the Wet Weather Flow Master Plan.

DVP and Lakeshore
November 27, 2006

Keating Channel
November 27, 2006

Headwaters in Maple
November 27, 2006

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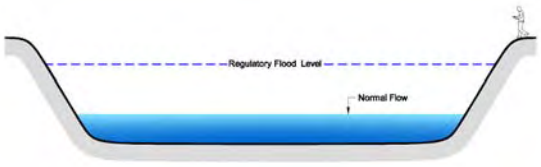
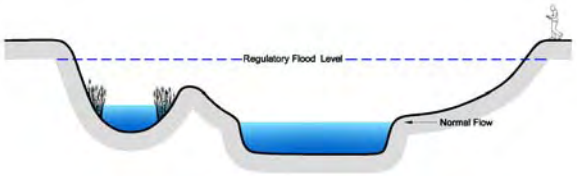
Step 1
Generic Cross-sections for Primary Channel

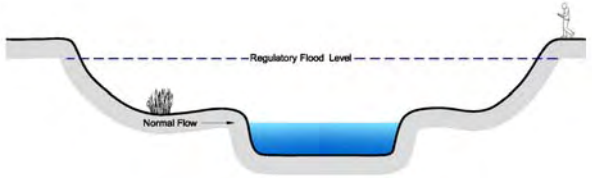


Lacustrine Environment (L)

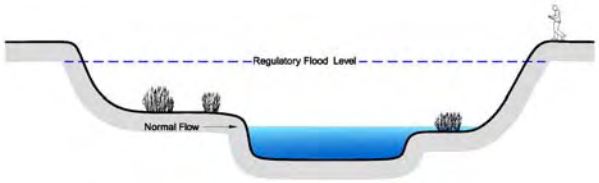
"Like a lake" in its shape



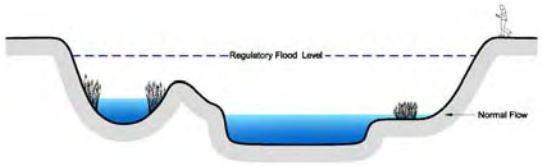
Created Wetland (CW)



Natural River Channel (R)



Lacustrine / Natural River (LR)



Lacustrine / Created Wetland (LCW)

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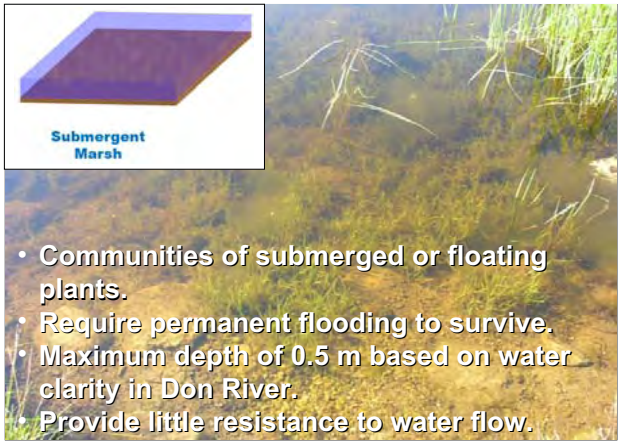
Step 1
Habitats (vegetation communities)



- Communities of submerged or floating plants.
- Require permanent flooding to survive.
- Maximum depth of 0.5 m based on water clarity in Don River.
- Provide little resistance to water flow.

- Communities typified by robust grasses and reeds.
- Require semi-permanent flooding and protection from disturbance to survive.
- Maximum depth of 0.5 m based on water clarity in Don River.
- Provide little resistance to water flow.

- High diversity communities of grasses, reeds and herbs.
- Require seasonal flooding for more than 45% of the growing season (not permanently flooded).
- Provide little resistance to water flow.

- Communities of tall woody vegetation (> 2 m)
- Limited tolerance for flooding.
- Provide moderate to high resistance to water flow.

- Communities of tall woody vegetation (> 2 m)
- Require seasonal flooding for less than 45% of the growing season and protection from disturbance to survive
- Provide moderate to high resistance to water flow.

- Communities of short woody vegetation (< 2 m)
- Require seasonal flooding for less than 45% of the growing season to survive.
- Provide low to moderate resistance to water flow.

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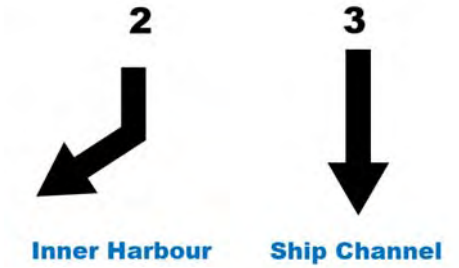
Step 2
Screening Summary



	L	LR	R	CW	LCW
Submergent Marsh	Average water level is too deep to support plant growth	✓	Floodplain floods too infrequently to support wetland habitat	✓	✓
Emergent Marsh		✓		✓	✓
Meadow Marsh	Flooded too frequently to support plant growth	✓		✓	✓
Thicket Swamp		✓		✓	✓
Treed Swamp	Trees provide too much resistance to convey Regulatory Flood				
Upland Forest					

✓ means: Cross-section conveys Regulatory flood
Vegetation communities do not impede water flow
Average water level is shallow enough to promote plant growth
Vegetation communities are not susceptible to siltation

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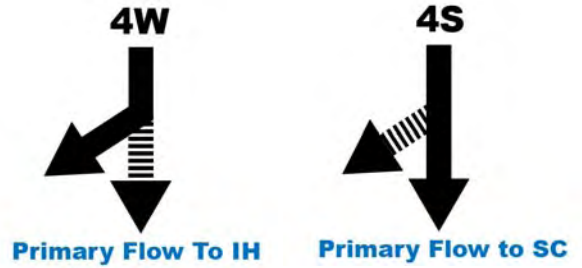
Step 2
Screening Summary



	L	LR	R	CW	LCW
Submergent Marsh	Will not survive amount of siltation	✓	✓	✓	✓
Emergent Marsh	Water level is too deep to promote plant growth	✓	✓	✓	✓
Meadow Marsh		✓	✓	✓	✓
Thicket Swamp	Flooded too frequently to support plant growth	✓	✓	✓	✓
Treed Swamp		✓	✓	✓	✓
Upland Forest		✓	✓	✓	✓

✓ means: Cross-section conveys Regulatory flood
Vegetation communities do not impede water flow
Average water level is shallow enough to promote plant growth
Vegetation communities are not susceptible to siltation

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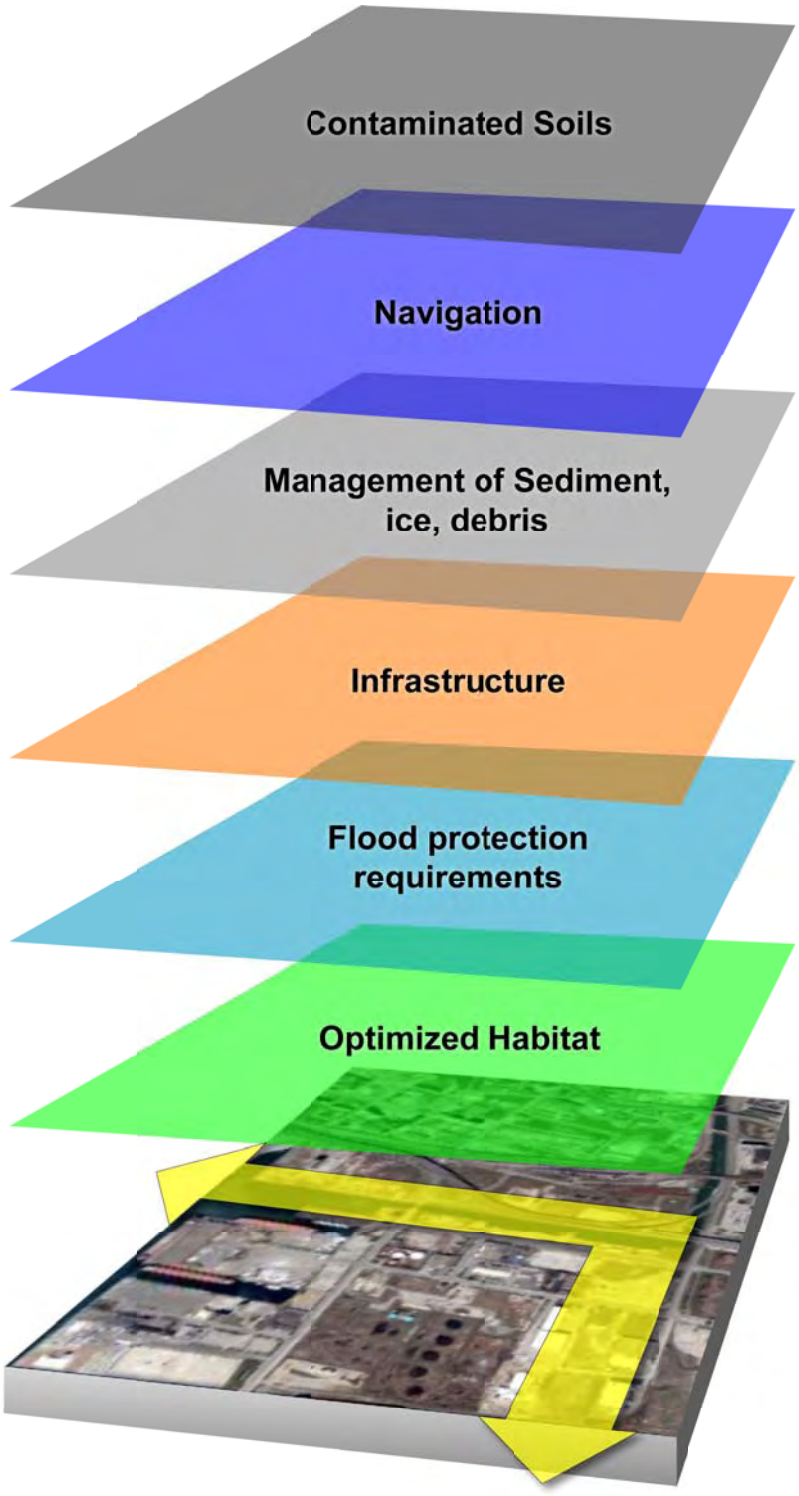
Don Mouth Naturalization And Port Lands Flood Protection Project

Step 3

Describe the Alternatives



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Don Mouth Naturalization And
Port Lands Flood Protection Project

Step 4

Evaluation Criteria

Objective	Component	Criteria
1. Naturalization	*1.1 Sediment*	1.1.1 Potential for sedimentation to influence diversity (resilience) of sustainable vegetation communities
	1.2 Hydraulics and Hydrology	1.2.1 Potential for hydraulics and hydrology to affect sustainability of vegetation communities
	1.3 Geomorphology	1.3.1 Potential for diversity of geomorphological forms
	1.4 Water Quality	1.4.1 Potential for light penetration to affect naturalization opportunities for aquatic vegetation
	1.5 Aquatic Species and Habitat (lake and river)	1.5.1 Potential for negative and/or beneficial effect on aquatic species of federal, provincial and local concern, and on their critical habitat
		1.5.2 Potential for loss and/or improvement to aquatic habitat function
		1.5.3 Potential to maintain passage for migratory aquatic species
	1.6 Terrestrial Species and Habitat	1.6.1 Potential for negative and/or beneficial effect on terrestrial species/communities of federal, provincial and local concern and on their critical habitat
		1.6.2 Potential for loss and/or improvement to terrestrial wildlife habitat function
		1.6.3 Potential to maximize landscape connectivity for terrestrial species
2. Flood protection	*2.1 Hydraulics and Hydrology*	2.1.1 Potential to impact flooding conditions elsewhere
	2.2 Socio-economics	2.2.1 Potential for adverse effect/improvement on the existing local community due to change in flood risk
		2.2.2 Potential for loss of developable land as a result of flood protection works
		2.2.3 Potential for adverse effect/improvement on planned and proposed land uses
	2.3 Rail, Road and Utilities Infrastructure	2.3.1 Potential for adverse effect/improvement on the local infrastructure due to change in flood risk
		2.3.2 Potential for intermittent flooding of infrastructure
		2.3.3 Potential for adverse effect/improvement on planned and proposed infrastructure due to change in flood risk
	2.4 Sustainability	2.4.2 Ability to accommodate potential changes in extreme precipitation and water flows resulting from climate change
	2.5 Cost	2.5.1 Cost to implement the flood protection alternatives
		2.5.2 Annual operations and maintenance costs
3. Operational Management	*3.1 Sediment*	3.1.1 Potential to manage sediment without impact on naturalized area
	3.2 Debris	3.2.1 Potential for adverse effect of debris management on naturalization
	3.3 Ice	3.3.1 Potential for adverse effect of ice management on naturalization
	3.4 Socio-economics	3.4.1 Potential for adverse effects/improvement to existing and proposed recreational opportunities as a result of operational management activities
	3.5 Rail, Road and Utilities Infrastructure	3.5.1 Potential for navigation of river mouth
		3.5.2 Potential for adverse effects/ improvements to Port operations

Don Mouth Naturalization And
Port Lands Flood Protection Project

Step 4

Evaluation Criteria

Objective	Component	Criteria
4. Integration with Infrastructure	*4.1 Socio-economics*	4.1.1 Potential for nuisance effects (noise, dust, accessibility) on local community due to infrastructure modification/ relocation
		4.1.2 Potential for adverse effects/improvements to recreational opportunities as a result of infrastructure modification/relocation
	4.2 Rail, Road and Utilities Infrastructure	4.2.1 Potential for changes to existing, planned and proposed roads
		4.2.2 Potential for changes to existing rail lines or yards
		4.2.3 Potential for changes to existing, planned and proposed underground utilities
		4.2.4 Potential for changes to existing above ground utilities
	4.3 Cost	4.3.1 Potential costs due to infrastructure modification/ relocation
5. Recreational and Cultural Opportunities	*5.1 Hydraulics and Hydrology*	5.1.1 Potential for flooding of recreational amenities
	5.2 Aquatic and Terrestrial Habitat	5.2.1 Potential for changes to use of river mouth for boating
	5.3 Air Quality	5.3.1 Potential for air emissions (dust) to affect recreational users
	5.4 Noise and Vibration	5.4.1 Potential for noise effects
	5.5 Public Health	5.5.1 Effects of aquatic habitat on West Nile Virus transmission
		5.5.2 Potential impacts on public safety due to proximity to traffic
	5.6 Socio-economics	5.6.1 Potential for change in landscape or views
		5.6.2 Opportunity to enhance/degrade existing and proposed pedestrian/cycling linkages
		5.6.3 Potential for marine based recreation opportunities
		5.6.4 Potential to create recreational linkages with adjacent / nearby parks and open spaces
	5.7 Rail, Road and Utilities Infrastructure	5.7.1 Potential for infrastructure modification/relocation to enhance/impact recreational and cultural opportunities
	5.8 Cultural Heritage and Archaeology	5.8.1 Potential to create cultural opportunities around archaeological resources
		5.8.2 Potential to create cultural opportunities around built heritage resources
		5.8.3 Potential for effect from construction of naturalized area on traditional uses of lands by Aboriginal peoples
		5.8.4 Potential for effect from construction of naturalized area on archaeological resources
		5.8.5 Potential for effect from construction of naturalized area on built heritage resources
6. Coordination with Other Planning Efforts	*6.1 Socio-economics*	6.1.1 Potential to facilitate and integrate with planned and proposed land use change
		6.1.2 Potential for removal of, or changes to, existing land use
		6.1.3 Potential for disruption effects on the planned and proposed surrounding community
		6.1.4 Opportunity for visual integration with future development plans for the area
7. Consistency with TWRC Sustainability Framework	*7.1 Groundwater and Soil Contamination*	7.1.1 Potential for disturbance of contaminated soils
		7.1.2 Ability to manage contaminated soils and groundwater
		7.1.3 Constraints imposed by existing soil and groundwater contamination
		7.1.4 Consistency with applicable provincial legislation
		7.1.5 Cost of management of groundwater and soil contamination
	7.2 Socio-economics	7.2.1 Potential to create bike paths and pedestrian linkages with and between waterfront areas and the rest of the city

Don Mouth Naturalization & Port Lands Flood Protection Project

Public Forum #3

Appendix B
Synopsis of Open House Questions

December 5, 2006

Feedback and Frequently Asked Questions during Open House

Station 1: Industrial history of Port Lands, Michael Moir, York University
Questions were asked mainly about the original course of the mouth of the Don and the evolution of the contour of the area.

Station 2: Keating Channel Operations, Ken Lundy, Toronto Port Authority
Most people viewed the visuals to get a feel for how much material needs to be managed, rather than asking questions. There was more interest in "floating material" than in sediment.

Station 3: Filmport, Hon Lu, TEDCO
Questions were mainly on the future of the Don Roadway, Commissioners Street and the bridge over the Ship Channel. Interactions with the Don Greenway were also a topic of interest.

Station 4: Water Quality, Dale Leadbeater, Gartner Lee
One comment that was noted was that there was not enough land to make effective habitat of the mouth of the Don.

Station 5: Fish and Wildlife, Deb Martin-Downs, TRCA
There were few questions, but some focused on Tommy Thompson Park and some on the cormorants. General questions on handling of invasive species were also noted.

Station 6: Flooding and Flood Protection, Sameer Dhalla, TRCA
Questions tended to be very general. People expressed amazement at the volume of flow during the regulatory flood.

Station 7: Soils and Groundwater, David Dubois, CH2M Hill
Participants asked about the percentage of development being planned for the area. Also, questions before the presentation focused on whether the final decision on the river route was made.

Station 8: Roads and Infrastructure, Jim Gough, Toronto Waterfront Joint Venture
There were few questions asked. People felt positively about the relocation of Lakeshore Road. One interesting suggestion was that if the Keating Channel were filled in, this area could then be the location of Lakeshore Road.

Station 9: Outcomes of Steps 1 & 2 and Next Steps of the Environmental Assessment, Paul Murray, Gartner Lee Ltd
There were no questions of note for this station.

Station 10: Benefits of Wet Weather Flow Master Plan for Don Watershed, Bill Snodgrass, City of Toronto

Noteworthy questions were:

- How much will water quality improve? (Graphs were shown)
- What influence does this water quality improvement have on wetland design (Response: none)
- What are the Wet Weather Flow Management Master Plan projects which are moving forward? (These were explained)

Station 11: Adjacent Projects, Pina Mallozzi, Tanya Bevington and Brenda Webster, Toronto Waterfront Revitalization Corp.

There were no questions of note for this station.

Station 12: Lower Don River West Remedial Flood Protection Project, Ken Dion, TRCA

There was one concern related to consultation related to the Toronto Humane Society as part of the Class EA process that was undertaken in 2003 and 2004.

Two individuals were curious about the planning process that was taken during the Class EA as they were new to the process. Very keen to see work progressing.

Remaining questions pertained to timelines for construction completion, whether members of the public could arrange site visits, and whether the photos could be distributed for their memberships. Overall, there was a very strong positive reaction towards the project.

Don Mouth Naturalization & Port Lands Flood Protection Project

Public Forum #3

Appendix C
Presentation
Ken Dion, TRCA – Lower Don River West Remedial Flood Protection Project

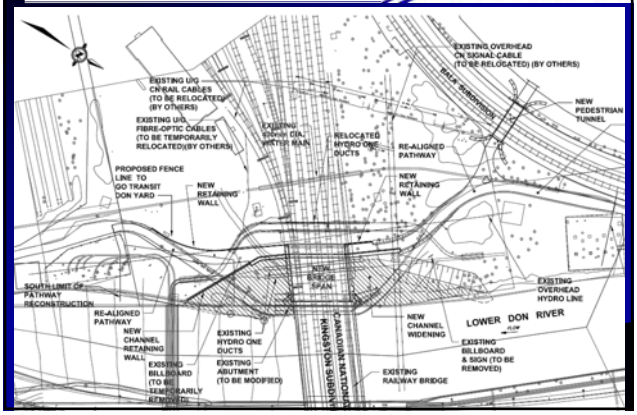
December 5, 2006

FPL & Don River Park Design

Lower Don River West
Remedial Flood Protection Project

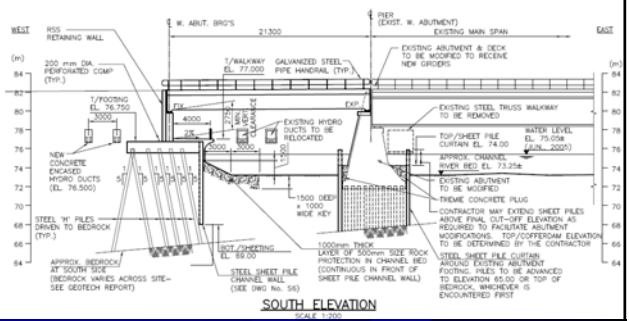
Location of Don River Bridge Extension & Bala Underpass

Lower Don River West
Remedial Flood Protection Project



Don River Bridge Extension Detailed Design

Lower Don River West
Remedial Flood Protection Project



Don River Bridge Extension Project Progress

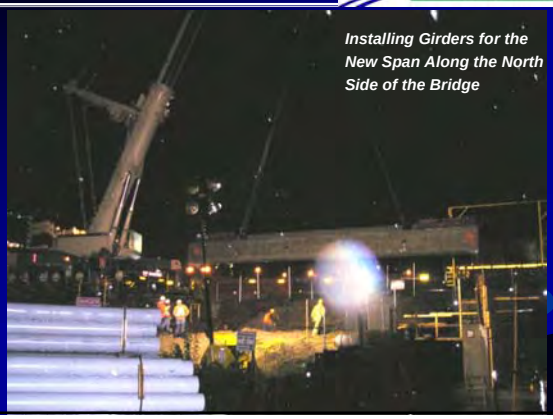
Lower Don River West
Remedial Flood Protection Project

Building Abutment Foundation

Pouring Concrete for the New Abutment on the North Side of the Tracks

Don River Bridge Extension
Project Progress

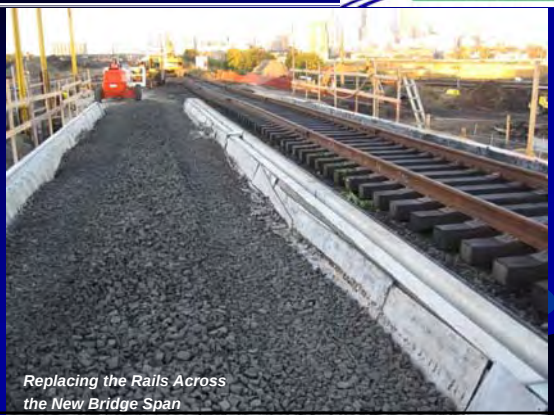
Lower Don River West
Remedial Flood Protection Project



Installing Girders for the New Span Along the North Side of the Bridge

Don River Bridge Extension
Project Progress

Lower Don River West
Remedial Flood Protection Project



Replacing the Rails Across the New Bridge Span

Don River Bridge Extension
Project Progress

Lower Don River West
Remedial Flood Protection Project

Bridge completed for 2 Northernmost Tracks

New Underground Hydro Ducts Being Constructed to the West of the New Abutment, North Side of Railway Tracks

Don River Bridge Extension
Project Progress

Lower Don River West
Remedial Flood Protection Project

Excavation and Shoring Works Progressing on South Side of Railway Bridge

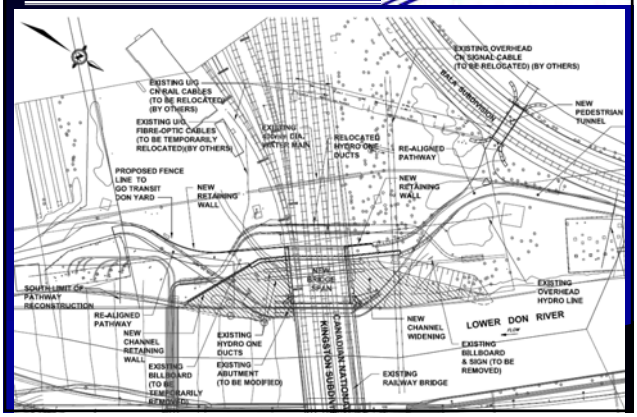
Don River Bridge Extension Project Progress

Lower Don River West
Remedial Flood Protection Project

Installation of New Underground Hydro Ducts, South Side of Railway Bridge

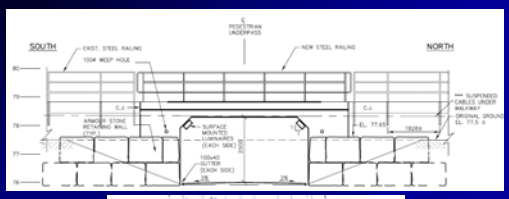
Location of Bala Underpass

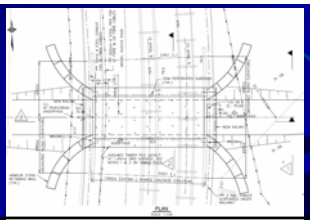
Lower Don River West
Remedial Flood Protection Project



Bala Pedestrian/Cyclist Underpass Detailed Designs

Lower Don River West
Remedial Flood Protection Project





Bala Pedestrian/Cyclist Underpass

Lower Don River West
Remedial Flood Protection Project

Initiate Shoring for Bala Underpass

Begin Excavation of Elevated Rail Bed in Preparation for the Bala Underpass

Bala Pedestrian/Cyclist Underpass

Lower Don River West
Remedial Flood Protection Project

Western Wall of Elevated Track Demolished and Excavated to Prepare for Construction of Bala Underpass

Original Wooden Piles Supporting Elevated Tracks are Exposed and Prepared for Reuse to Support New Underpass

Bala Pedestrian/Cyclist Underpass

Lower Don River West
Remedial Flood Protection Project

Near Completed Underpass, West Side of Bala Subdivision

Bala Pedestrian/Cyclist Underpass

Lower Don River West
Remedial Flood Protection Project

Preparing to Reinstate Tracks Along Bala Subdivision

Project Schedules

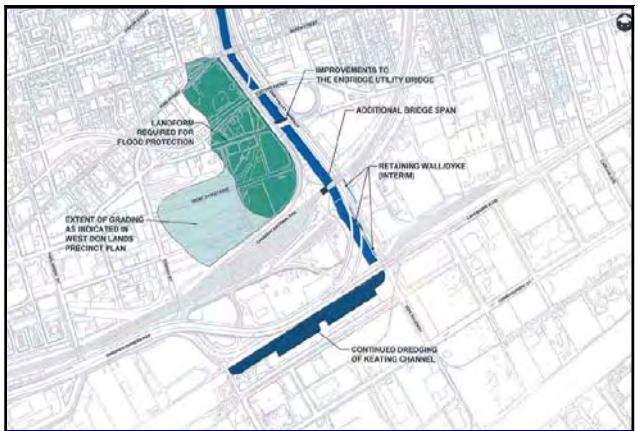
Lower Don River West
Remedial Flood Protection Project

Works	Completion
New span constructed for the northern 2 tracks of the Don River Rail Bridge	October 2006
Western half of Bala Underpass completed	By November 30, 2006
Demolition of structures in West Don Lands completed	By December 22, 2006
Underground high voltage cables relocated west of new bridge abutment	By January 31, 2007
New span constructed for the 3 southern tracks of the Don River Rail Bridge	By April 2007
Complete protection of existing infrastructure in West Don Lands	By May 2007
Complete excavation of river channel and habitat works under new bridge span	By May 2007
Compaction of soils in West Don Lands completed in preparation for construction of Flood Protection Landform	By June 2007
Complete Bala Underpass	By end of June 2007
Complete landscaping for Bala Underpass and Don River Bridge Areas	By September 2007
Flood Protection Landform completed	Spring 2008
Don River Park completed, Bala Underpass and Don River Park Opened	Fall 2008

Project Need

Lower Don River West
Remedial Flood Protection Project

To remove the risk of flooding to 210 hectares of land associated with Spill Zone 3 – Project underwent Provincial Class EA to determine best means to provide flood protection.



Five Key Components of the Flood Protection Solution for the LDRW Project – Class EA Received Approval Fall 2005

Lower Don River West
Remedial Flood Protection Project

Components of the Flood Protection Solution That Are Currently Underway

- *Flood Protection Landform (FPL)*
  - *Don River Park (associated with FPL)*
- *Extension of the Don River Rail Bridge*
  - *Bala Pedestrian/Cyclist Underpass (associated with Don River Rail Bridge and Don River Park Project Components)*

Don Mouth Naturalization & Port Lands Flood Protection Project

Public Forum #3

Appendix D
Presentation
Paul Murray and Dale Leadbeater, Gartner Lee – Starting to Make Decisions About the Don Mouth Design

December 5, 2006

Don Mouth Naturalization And Port Lands Flood Protection Project

Outcomes of Steps 1 & 2 and Next Steps of the Environmental Assessment

Public Forum
December 5, 2006

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Don Mouth Naturalization And Port Lands Flood Protection Project

Presentation Overview

1. Background from Terms of Reference
2. Outcomes of Step 1 (Develop long list of alternatives)
3. Outcomes of Step 2 (Identification of short list)
4. Process for Steps 3 (Describe short list) and 4 (Reduce short list)

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Don Mouth Naturalization And Port Lands Flood Protection Project

Background from Terms of Reference

- Terms of Reference (ToR) provides framework for Environmental Assessment (EA)
- Approved in August 2006
- Defines various elements to be addressed during EA

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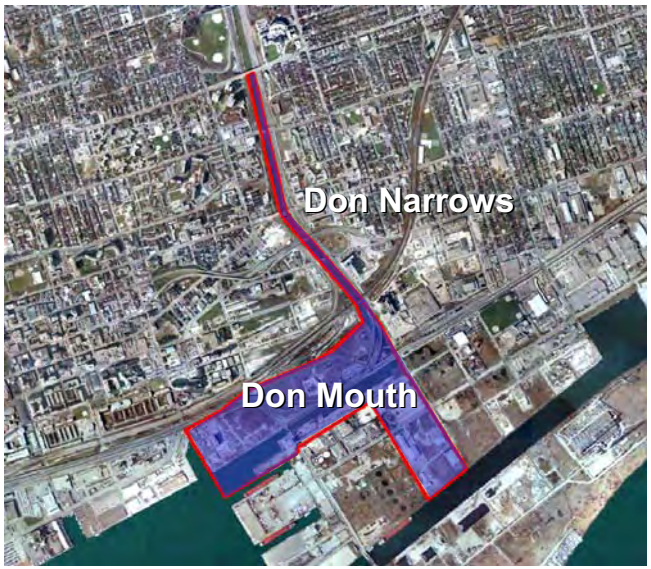
Study Area



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Don Mouth Naturalization And Port Lands Flood Protection Project

Goal of the Project

- 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.

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Don Mouth Naturalization And Port Lands Flood Protection Project

Project Objectives

1. **Naturalize and rehabilitate** the mouth of the Don River utilizing an ecosystem based approach
2. **Provide flood protection** for Spill Zones 1 and 2
3. **Maintain** the provision for **navigation** and **existing flood protection** through sediment, debris and ice management
4. **Integrate existing infrastructure functions** that could not be reasonably moved or removed
5. **Encourage** additional compatible **recreation, cultural heritage opportunities** and public/handicap **accessibility**
6. **Contribute** to the **revitalization** and **sustainability** of the waterfront and **coordinate** with and inform other planning and development efforts and associated certain and foreseeable infrastructure
7. Design and implement this project in a manner **consistent with TWRC's Sustainability Framework** and applicable provincial legislation

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Don Mouth Naturalization And Port Lands Flood Protection Project

Spill Zones

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Don Mouth Naturalization And Port Lands Flood Protection Project

Description of Step 1

- Develop long list of alternatives based on:
  - Discharge points
  - River characteristics
  - Channel shape (cross-section)
  - Habitat types (what grows in the channel)

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Step 1
Discharge Point 2

Inner Harbour

Step 1
Discharge Point 3

Ship Channel

Step 1
Discharge Point 4W

Primary flow to Inner Harbour

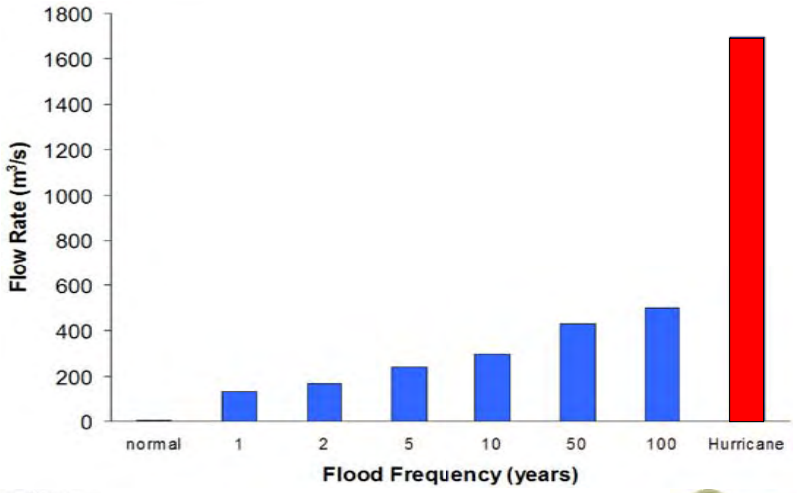
Step 1
Discharge Point 4S

Primary flow to Ship Channel

Don Mouth Naturalization And Port Lands Flood Protection Project

Step 1

River Characteristics (Flow Rate)



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Step 1

River Characteristics (Sediment and Turbidity)

- Current turbidity levels hinder plant growth
- Over 40,000 tons of sediment trapped annually in the Keating Channel

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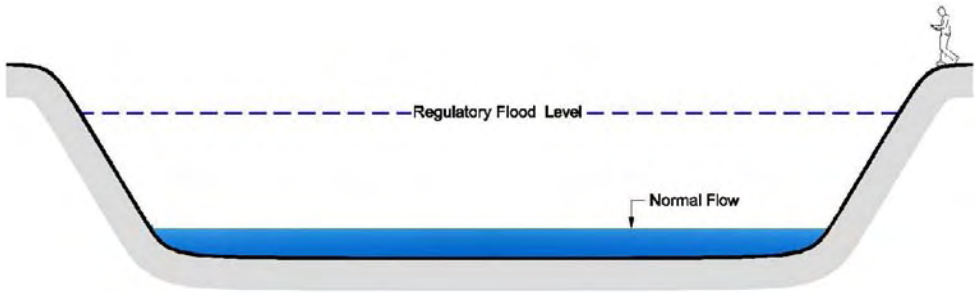
Don Mouth Naturalization And Port Lands Flood Protection Project

Step 1

Cross-sections for Primary Channel



Lacustrine Environment (L)

"Like a lake" in its shape

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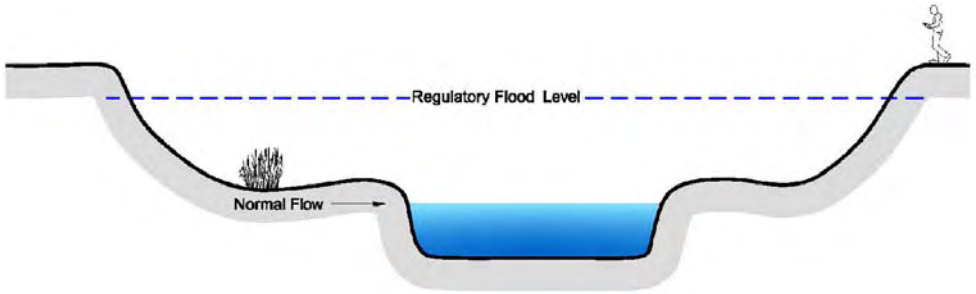
Don Mouth Naturalization And Port Lands Flood Protection Project

Step 1

Cross-sections for Primary Channel



Natural River Channel (R)

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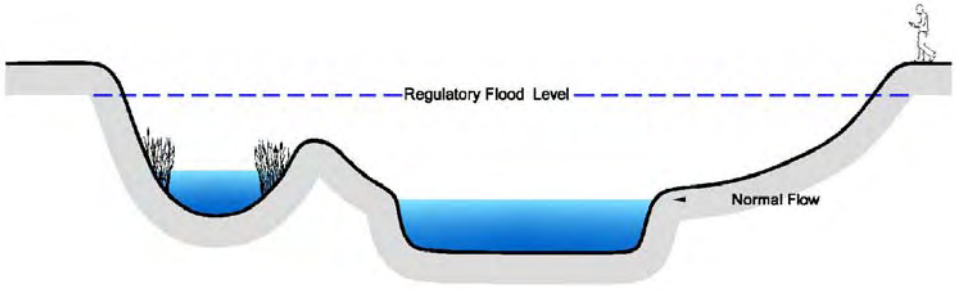
Don Mouth Naturalization And Port Lands Flood Protection Project

Step 1
Cross-sections for Primary Channel



Created Wetland (CW)

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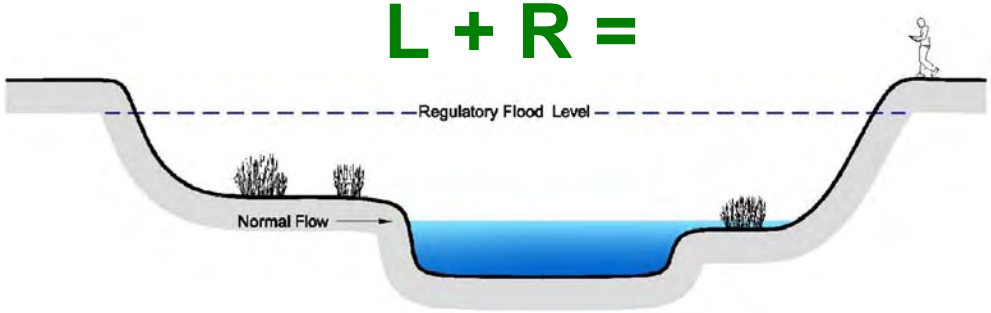
Don Mouth Naturalization And Port Lands Flood Protection Project

Step 1
New Cross-sections

L + R =



Lacustrine / Natural River (LR)

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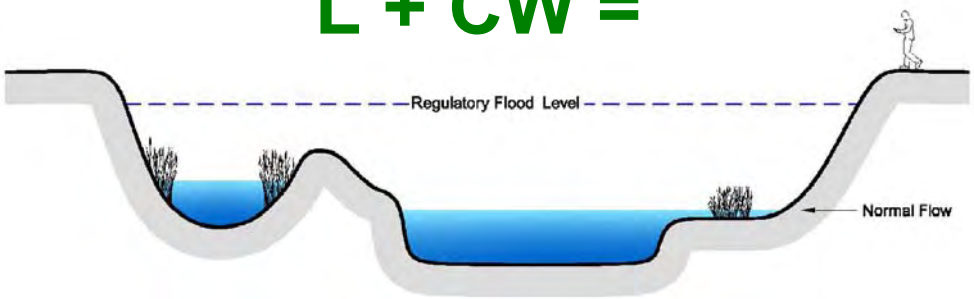
Don Mouth Naturalization And Port Lands Flood Protection Project

Step 1
New Cross-sections

L + CW =



Lacustrine / Created Wetland (LCW)

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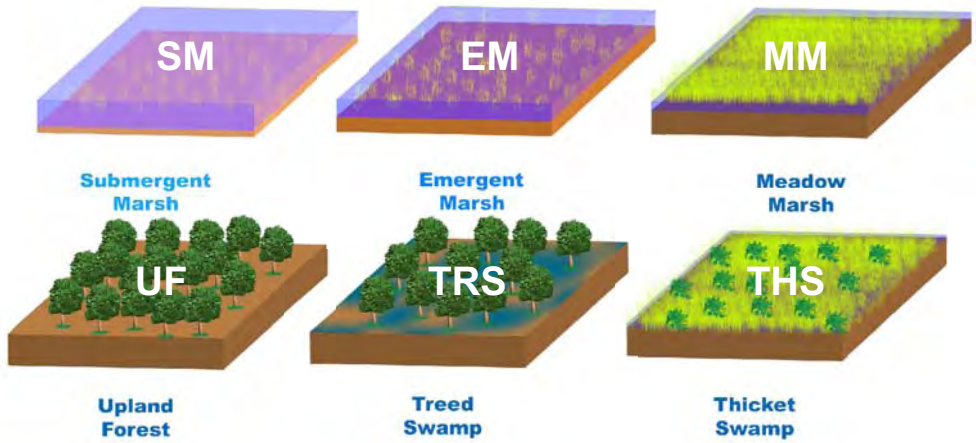
Don Mouth Naturalization And Port Lands Flood Protection Project

Step 1
Habitats (vegetation communities)



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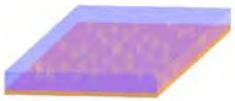

Step 1
Submergent Marsh

- Require permanent flooding to survive.
- Maximum depth of 0.5 m based on water clarity in Don River.
- Provide little resistance to water flow.

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Don Mouth Naturalization And Port Lands Flood Protection Project

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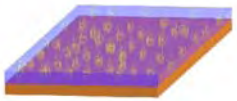

Step 1
Emergent Marsh

- Require semi-permanent flooding and protection from disturbance to survive.
- Maximum depth of 0.5 m based on water clarity in Don River.
- Provide little resistance to water flow.

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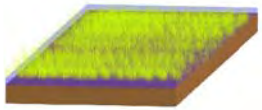
Don Mouth Naturalization And Port Lands Flood Protection Project

MM



Step 1
Meadow Marsh

- Require seasonal flooding for more than 45% of the growing season (not permanently flooded).
- Provide little resistance to water flow.

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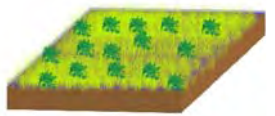
Don Mouth Naturalization And Port Lands Flood Protection Project

THS



Step 1
Thicket Swamp

- Require seasonal flooding for less than 45% of the growing season to survive.
- Provide low to moderate resistance to water flow.

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TRS

Step 1
Treed Swamp

- Require seasonal flooding for less than 45% of the growing season and protection from disturbance to survive
- Provide moderate to high resistance to water flow.

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UF

Step 1
Upland Forest

- Limited tolerance for flooding.
- Provide moderate to high resistance to water flow.

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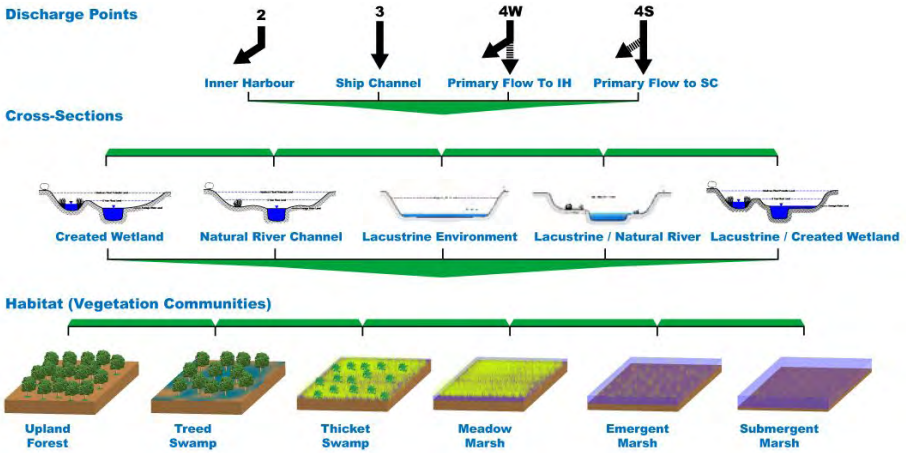
Step 1
Long List of Alternative Methods



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Description of Step 2

- Ensure that alternatives work based on constraints / thresholds that limit:
  - The ability of channel to convey water
  - The ability for vegetation communities to thrive

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Step 2
What are screening criteria?

- Thresholds to eliminate conceptual designs that are not technically feasible

1. **Flood Protection**
   - Do cross-sections contain water volumes associated with Regulatory flood?
2. **Naturalization**
   - Do cross-sections meet requirements for plant growth?

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Step 2
Flood Protection

- Cross-section conveys Regulatory flood
- Vegetation communities do not impede water flow

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Step 2
Naturalization (plant growth)

- Water depth under average conditions is shallow enough to promote plant growth
- Vegetation communities are not susceptible to siltation

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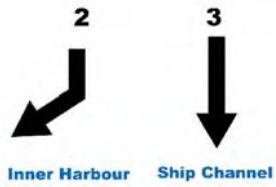
Step 2
Screening



Lacustrine Environment

- Water level is too deep to support submergent and emergent marshes
- Flooded too frequently to support meadow marsh and thicket swamp

Natural River Channel

- Floods too infrequently to support most wet vegetation communities
- Promotes growth of trees

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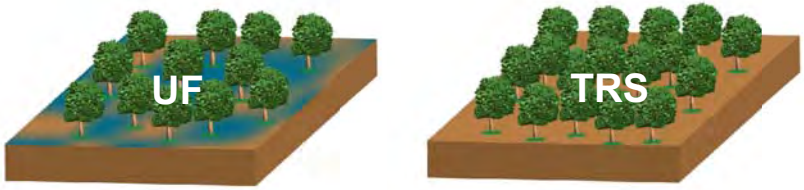
Don Mouth Naturalization And Port Lands Flood Protection Project

Step 2
Screening

2 — Inner Harbour; 3 — Ship Channel

- Trees provide too much resistance to water flow



Treed Swamp

Upland Forest

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Don Mouth Naturalization And Port Lands Flood Protection Project

Step 2
Screening Summary

2 — Inner Harbour; 3 — Ship Channel

	L	LR	R	CW	LCW
SM	⊗	✓	⊗	✓	✓
EM	⊗	✓	⊗	✓	✓
MM	⊗	✓	⊗	✓	✓
THS	⊗	✓	⊗	✓	✓
TRS	⊗ ☒	☒	☒	☒	☒
UF	⊗ ☒	☒	☒	☒	☒

☒ Does not meet flood protection criteria
⊗ Does not meet naturalization criteria
✓ Meets all screening criteria

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Don Mouth Naturalization And Port Lands Flood Protection Project

Step 2
Screening – Primary Channel

4W — Primary Flow To IH; 4S — Primary Flow to SC

Lacustrine Environment

Submergent Marsh

- Water level is too deep / flooded too frequently to support vegetation communities except submergent marsh
- Will not survive in lacustrine environment because of too much silt

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Don Mouth Naturalization And Port Lands Flood Protection Project

Step 2
Screening Summary – Primary Channel

4W — Primary Flow To IH; 4S — Primary Flow to SC

	L	LR	R	CW	LCW
SM	⊗	✓	✓	✓	✓
EM	⊗	✓	✓	✓	✓
MM	⊗	✓	✓	✓	✓
THS	⊗	✓	✓	✓	✓
TRS	⊗	✓	✓	✓	✓
UF	⊗	✓	✓	✓	✓

☒ Does not meet flood protection criteria
⊗ Does not meet naturalization criteria
✓ Meets all screening criteria

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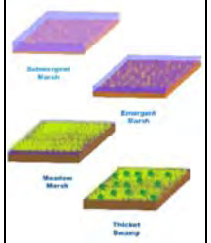
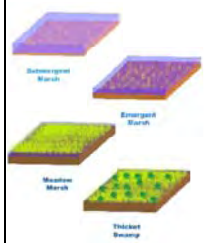
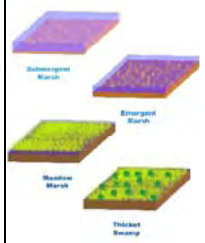
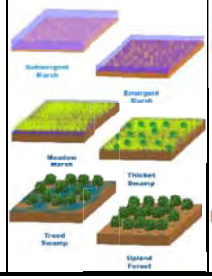
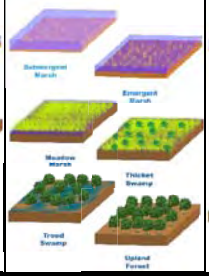
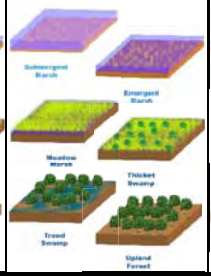
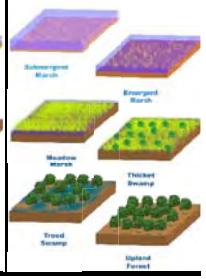
Step 2
Summary - Primary Channel

	L	LR	R	CW	LCW
2 / 3	×		×		
4W / 4S	×				

Step 2
Summary - Primary Channel

	L	LR	R	CW	LCW
2	×	✓	×	✓	✓
3	×	✓	×	✓	✓
4W	×	✓	✓	✓	✓
4S	×	✓	✓	✓	✓

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4W Primary Flow To IH

4S Primary Flow to SC

Step 2
Description of Overflow Spillway

- 300 m wide spillway designed to convey minimum of 10-year flood
- May include a variety of upland habitat types and other compatible uses

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Next Steps

- Step 3
  - Describe short list of alternatives
- Step 4
  - Reduce the short list of alternatives
- Step 5
  - Select preferred alternative

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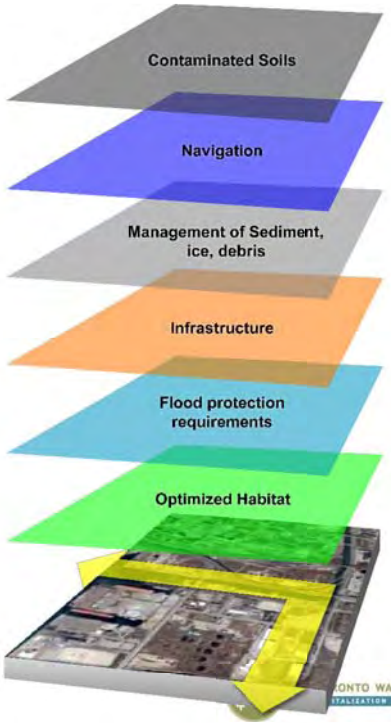
Step 3
Describe the Alternatives

- Layer information on each combination of discharge point and cross-section



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Step 4
Reduce the Short List of Alternatives

- ✓Determine how well alternatives achieve objectives based on evaluation criteria
- ✓Describe issues and trade-offs with alternatives
- ✓Identify approximately 5 refined short list alternatives

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Don Mouth Naturalization And Port Lands Flood Protection Project

Evaluation Criteria Table

Objective	Component	Criteria	Indicator	Rationale
What is the project trying to achieve?	What elements of the project influence how the alternatives achieve the objective?	What do we need to research about each component to determine whether each objective is met?	How do we measure the criteria?	Why are the criteria and indicators important in evaluating the alternatives?

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Step 4
Overview of Evaluation Criteria

Objective	Component
Naturalization	•*Sediment* •*Hydraulics and Hydrology* •*Geomorphology* •*Water Quality* •*Aquatic Species and Habitat (lake and river)* •*Terrestrial Species and Habitat*
Flood protection	•*Hydraulics and Hydrology* •*Socio-economics* •*Rail, Road and Utilities Infrastructure* •*Sustainability* •*Cost*
Operational management	•*Sediment / Debris / Ice* •*Socio-economics* •*Rail, Road and Utilities Infrastructure*

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Step 4
Overview of Evaluation Criteria

Objective	Component
Integration with infrastructure	•*Socio-economics* •*Rail, Road and Utilities Infrastructure* •*Cost*
Recreational and cultural opportunities	•*Hydraulics and Hydrology* •*Aquatic and Terrestrial Habitat* •*Air Quality* •*Noise and Vibration* •*Public Health* •*Socio-economics* •*Rail, Road and Utilities Infrastructure* •*Cultural Heritage and Archaeology*
Coordination with other planning efforts	*Socio-economics*
Consistency with TWRC Sustainability Framework	•*Groundwater and Soil Contamination* •*Socio-economics*

Don Mouth Naturalization And Port Lands Flood Protection Project

Step 4
Sample Evaluation

Objective	Short List of Alternatives													
	LR	CW	LCW	LR	CW	LCW	LR	R	CW	LCW	LR	R	CW	LCW
Naturalization														
Flood protection														
Operational management														
Integration with infrastructure														
Recreational and cultural opportunities														
Coordination with other planning efforts														
Consistency with TWRC Sustainability Framework														
DESCRIPTION OF TRADE OFFS														

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Don Mouth Naturalization And Port Lands Flood Protection Project

Timeline

Step	2006	2007	2008	2009	2010
Step 1 - Develop Long List					
Step 2 - Assess Technical Feasibility					
Step 3 - Refine Short List					
Step 4 - Reduce Short List					
Step 5 - Select Preferred Alternative					
Step 6 - Assess Preferred Alternative					
Step 7 - Develop Functional Design					
Implementation					

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Questions?

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Don Mouth Naturalization & Port Lands Flood Protection Project

Public Forum #3

Appendix E
List of Project Team Members

December 5, 2006

List of Project Team Members and Presenters

Cassandra Bach, TRCA
Tanya Bevington, TWRC, presenter
Sameer Dhalla, TRCA, presenter
Ken Dion, TRCA, presenter
David Dubois, CH2M Hill, presenter
Tracey Ehl, Ehl Harrison Consulting
Adele Freeman, TRCA, presenter
Chris Glaisek, TWRC, presenter
Jim Gough, TWJV, presenter
Anneliese Grieve, SENES
Steve Heuchert, TRCA
Dale Leadbeater, Gartner Lee, presenter
Hon Lu, TEDCO, presenter
Ken Lundy, Toronto Port Authority, presenter
Deb Martin-Downs, TRCA, presenter
Michael Moir, York University, presenter
Pina Mallozzi, TWRC, presenter
Paul Murray, Gartner Lee, presenter
Marc Rose, Gartner Lee
Bill Snodgrass, City of Toronto, presenter
Nicole Swerhun, Facilitator
Michelle Vanderwel, TRCA
Brenda Webster, TWRC, presenter
Steve Willis, TWJV

Don Mouth Naturalization & Port Lands Flood Protection Project

Public Forum #3

Appendix F
Public Submissions

December 5, 2006

Summary of Feedback Received for DMNP Public Forum #3, December 5, 2006

Responses received: 7

1. **Do you have any comments on the technical screening process and/or the results of the technical screening?**

- I think that the "secondary" channel to the river mouth should have a flow more frequently than once every ten years, so that it contains more of the 6 vegetation communities
- Overall the methodology for technical screening is robust. The details of screening criteria need public review and that is happening as a result of this meeting.
- Excellent presentation and helpful clarifying of issues. Impressive work. I'm always impressed by how carefully you listen to public concerns and how well you communicate your findings. It is great to be able to participate all along the process.
- The lacustrine "L" cross-section dismissed too quickly because it was "boring". However this is a typical section at natural river mouths, usually known as "estuary". Since it is essentially contained in LR and LCW it is not a major issue, as the degree of "L" or "R" or "CW" remains to be determined. Error noted in presentation "the thicket swamp offers a much greater degree of resistance than the treed swamp", the former would rate "high resistance", the latter "moderate resistance". Therefore the thicket swamp should be screened out and replaced by treed swamp.
- Success of the undertaking is entirely contingent on relocation of infrastructure (roads, etc.). If infrastructure is a priority and natural habitats are left to fill in the remaining spaces the project will not fulfill any of its promise or stated purposes/benefits. It will be nothing more that a semi-natural public park with low diversity and severe compromises in its natural habitats that will make them non-functional.

2. **Review the criteria proposed for the next round of evaluation. These criteria will be used to narrow down the 14 alternatives that made it through the technical screening, to a short list of approximately 5 alternatives.**

   (i) Do the criteria reflect the issues that are important to you?
   Why or why not?

- Yes, they are reasonable
- Yes – I believe that you are the people best equipped to weigh these issues. All seem important to me but I'll email if I think of other points.
- Criteria might want to include examination of the health aspects of marshes and "standing water". A mosquito factory comes to mind. (Participant then commented that they had found this after all, under "Recreational/Cultural".)
- Yes. I do have a question as to whether and the extent to which high marks for naturalization and flood protection (the stated goals of this project) may be offset by low marks for issues like recreation – or vice versa. Naturalization and flood protection should still be considered the overriding goals.
- The primary criteria must be flood protection, as this is a city, not a nature park. Whatever physical or natural biological features are compatible are fine, but should not control.

(ii) Are any criteria missing? If so, list any additional criteria you suggest be considered.

- No
- I think West Nile goes beyond that. Mosquitoes travel, and even if the immediate area is not frequented by humans, the area will affect the health of the whole city's inhabitants.
- Historical/cultural features. Let's not try to erase man's use of the Don River but capitalize on it.

Do you have any other advice or comments for the project team?

- I think that all options should be considered through the lens of public use of the area. A naturalized mouth is a tremendous goal, but it won't have much meaning if people don't appreciate it or go there. The favoured alternatives will give people access to the water for a variety of uses – paddling, fishing, etc. – and provide for both natural and paved trails throughout.
- The TWRC and City should look closely at burying Lakeshore Boulevard through this area (i.e. about Parliament to Saulter) to prevent flooding on Lakeshore and – most importantly – opening more area for naturalization.
- Naturalization, to me, also means the "shape" and "topography" of the river. A natural river is not uniformly wide or uniformly deep. The sides are not of uniform height. I hope as the "engineering" of the naturalization progresses, there is a means to "create" a natural river mouth.
- There is not enough space to create functional coastal wetlands here. They will be an improvement over the present situation (concrete) but far less than they could be if enough land were allocated. The areas to the west and south need to be added to provide more space.
- Look at means to remove sediment and/or debris before it reaches the study area, thereby reducing the sunlight/turbidity constraint. Unquestionably, the lacustrine or estuarine cross-section provides the greatest potential for flood protection conveyance and this should be focused on. Preserve/restore navigability of the lower Don River.
- I want to confirm that the Don Mouth planning will include the provision for small water craft access into the Don River from the harbour. The thought that the Don could be revitalized, and not include access by canoe/kayak etc., would be incredibly stupid and totally unexplainable to the majority of citizens. No one would understand, or condone, the expenditure of millions that would still leave the river inaccessible for recreation.

The following document was submitted by a participant at the meeting, and is reproduced here in its entirety.

from Dalton C. Shipway
1100 Yonge St
2 Dec '06

"original"

To those concerned; Putting Ecosystem Criteria First;
the E.A. Act says: must consider legitimate alternatives.

It is not true that the historical mouth of the Don River was at the present Keating Channel. AKA 480 Lakeshore Blvd.

First, there was a constantly changing process in the lacustrine (lake influence) marsh that was called Ashbridge's Marsh. ie no one Mouth of the Don
there were locations where water entered Toronto Bay and Lake Ontario.
the discharge point for Toronto Bay was approximately where the present Ship Channel opens to the Tor Bay. *
The discharge point to Lake Ontario was to the South East: approximately where the present Circulating Channel for the Old Hearn incinerator is. ⊗
A map from Toronto Archives (Phillpott 1793/4 M.T. 00(71) clearly shows the sand spit extending from the Taddle Creek Mouth to the southerly Tor Bay discharge.
Several references (Hounsom & Bringing Back the Don") tell how this was "opened up for tactical purposes during the war of 1812."
the desire to locate the 2008 Olympics & Expo 2015 was behind the current design to move the River over, through 480 Lakeshore. Also dredging will be necessary for either option (the Southern option & the 480 Lakeshore option).

* see "Toronto in 1810" by Eric Wilfred Hounsom, pg. 7.
Preface by John C. Parkin Ryerson Press
⊗ see "Bringing Back the Don" August 1991, pg. 25.
Scource for the History of the Don Delta-Williams, T.H. 1982
J. Great Lakes Research 8(3) pg. 573, Table 1. NB: "A note at the lake entrance reads 'cut about 6 feet deep occassionally fills up'"

Mennonites, who were not disloyal but simply neutral. The chauvinism of some in Toronto irritated them, and they usually voted in provincial elections for any candidate not popular in Toronto. The bond of mutual aid was also setting them apart from the people of Toronto. Their own mode of life, particularly with young settlers, seemed genuine; that of Toronto with its social climbing and class distinction, artificial. Very few of these settlers were Anglican, yet they could not be married by the church of their own persuasion.

So we can say there was a far greater difference, than today, between the life and outlook of those in Toronto in 1810 and those in rural areas, who were changing the forests of Ontario into farmland.

CHAPTER 1

The Harbour

The following description of the harbour and the "Island" will be based upon its condition in 1810. It should be noted that the harbour area changed considerably from the time of Simcoe's first visit in 1793 to that year. In 1803-4, Lord Selkirk noted that the lake had fallen three and one-half feet since work on the town had begun, and he mentioned hearing the Indians say that Lake Ontario rose continuously for seven years and fell for seven. In 1815 many writers described the lake level as "unusually high." This may surprise some readers who assume that man alone has changed the levels of the Great Lakes.

Several miles west of the town was the historic St. John's (Humber), River. The Humber had a two-hundred-year history before 1810, beginning with Etienne Brûlé, in 1610, the first white man to visit it. East of this river was a large pond, with a steep bank on the west side and sloping land on the east. It is now called Grenadier Pond, for tradition has it that in 1813, a party of British soldiers attempted to cross it on the thin ice of early spring, and were drowned. This pond is now in Toronto's largest park and is beautifully landscaped. In 1810, however, it was surrounded with swamp and rushes.

Six miles east of this river was another, which Simcoe had named the

Don, and both of these rivers still find their course into Lake Ontario. Between these two rivers were six creeks, large and small, which have long since been funnelled into sewers, and have had their ravines filled in. These minor streams are still increasing the cost of downtown buildings by being "discovered" during construction. One of these, we have called the sixth creek, flowed through the grounds of the old Normal School (1852-1963), and caused an "extra" in the building of the present Ryerson Institute on the same site. At the formal opening of the Normal School in 1852, the *Toronto Globe* mentioned that the deep creek at the southeast corner of the grounds had not yet been filled; but this was done within the year.

Some of these creek beds and their ravines (for the shore was twelve to twenty feet above the lake in 1810), were filled in so long ago that no record of their exact course remains, and the fill is now equal to virgin land. In other locations, however, springs have rendered the soil too porous for the structural engineer's calculated loads, where modern high rise buildings are constructed.

Starting at the west side of the town, but east of the Humber river as previously mentioned, was Garrison Creek. This stream was eighteen feet wide at its mouth, which was immediately east of the present "Old Fort York." The ravine of this creek, near the lake was 240 feet wide, and the curve of the present Niagara Street followed the contour of this ravine. Many readers will remember this as a tiny stream flowing through Willowdale Park, at Bloor Street, about the time of World War One.

The second on our list was a small creek which entered the Bay at the foot of the present John Street. The third was called Russell's Creek. It was about one and one-half miles long, and entered the Bay west of the present Simcoe Street. The fourth was nearly as long, and flowed in a southeasterly direction to enter the Bay just east of the present Bay Street. Another creek, originating north of King Street, entered the Bay west of the present Jarvis Street. The sixth creek, which flowed through the grounds of the old Normal School, had its source in the vicinity of the present Bloor Street, near Yonge Street. It flowed southeast to below King and Parliament Streets, and then made an abrupt turn west to enter the Bay at the foot of the present Berkeley Street.

The Don River did not enter the Bay directly, but flowed parallel to the east side of the Bay for about two thousand feet, and then made an abrupt turn west to enter. Where it entered the Bay, the Don was about sixty feet wide, and was crossed on a floating bridge constructed in 1806. The public was warned not to draw sand or loaded carts over this bridge, for it was only strong enough for horseback riders and pedestrians. There was also a similar floating bridge located in the inlet between the Don

outlet and the town, and in 1812 both floating bridges were removed and a channel was dug connecting the inlet with the river, and an earthwork defence was thrown up on the town side of this new channel. This insignificant cut later became, by natural process, another Don outlet, also about sixty feet wide. The townspeople called it the "Little" or the "Lesser" Don. New bridges over these two Don outlets were not constructed until 1822. Visitors to the peninsula were forced to reach it by boat, or from the mainland, three miles east of the two Don outlets.

The length of the peninsula, at this time, was five and three-quarter miles, from the western tip where the gun platform was located at Gibraltar Point to the present Woodbine Avenue. From Gibraltar Point, across the water to the Garrison on the mainland, was a little less than seven-eighths of a mile. From the mainland to the peninsula, north to south, was one and three-eighths miles. The Bay at this time was much larger than today. As the peninsula appeared to be an island, it was called such from the inception of the town. It actually became one, however, in 1830 when a minor breach occurred which under favourable conditions allowed small vessels to enter the harbour. In 1858 a great storm broke a one-hundred-and-fifty-foot channel, three feet deep, through the hard sand. This was deepened to become the present "Eastern Gap." This channel was used in preference to the wide entrance at the western end of the Bay because of more favourable winds.

To the east of the Don outlet was Ashbridge's Bay, named after an American immigrant whose farm touched the shore. Although this river was a swift tumbling stream in its many branches, with minor waterfalls, the accumulated silt at the mouth slowed it down. The whole of this bay was a shallow marsh of black water with myriads of waterfowl, croaking frogs, and the conical tops of muskrat houses amid the wild rice and rushes. The water flowed lazily around in an ever-changing circuit, depending upon rainfall and the elevation of the lake.

From the inception of the town the "Island" was a place for sport and recreation, and no attempt was made to erect houses or buildings for industry. It was a kind of no-man's-land for fishermen to dry their nets, Indians to recuperate from illness, sportsmen to shoot birds and for horseback riding. Even when the town was incorporated in 1834, the Island was mentioned in the act as belonging to the "Liberties," or suburbs of the community. The city had some jurisdiction over it, but the ownership rested in the Crown.

The lagoons on the Island were shallow, from two to four feet in depth, and they were bordered everywhere with rushes and wild rice which provided food for thousands of fowl, including loons, wild swans and geese, during their migration, in addition to the thousands of birds of

all kinds which made it their home. The Island was stocked with goats, which were the offspring of those Governor Simcoe had established at Gibraltar Point. He had seen these animals at Goat Island, adjoining the Falls of Niagara, and this probably gave him the idea.

The trees included willow, pine, and poplar. They were not dense and there was little underbush. Here and there were patches of hard sand, coarse grass and wild strawberry plants. The cool breezes from the lake, over this terrain, made a morning horseback ride exhilarating. There was a favourite run for horses on the Island, and this was on the narrow neck of land between Ashbridge's Bay and York Bay. This run, from the Don to the lakeshore, was nearly three thousand feet, with a width between bay and marsh of about three hundred and fifty feet. Here the trees were spaced far enough apart to permit up to a dozen riders to ride abreast in view of spectators. The grass here was long, which made heavy going for the horses. Its use as a racecourse indicates there was nothing better in the vicinity of the town. Even the streets, which might have provided a better run, were undulating, sloping down to the creek beds, which were spanned with narrow bridges at water level. On the lake side of the Island, a short distance west of this racecourse run, was the "portage" across the Island, where the North-West Fur Company's bateaux were lifted from lake to bay for their journey up the Don River to the long portage on Yonge Street to the Holland River.

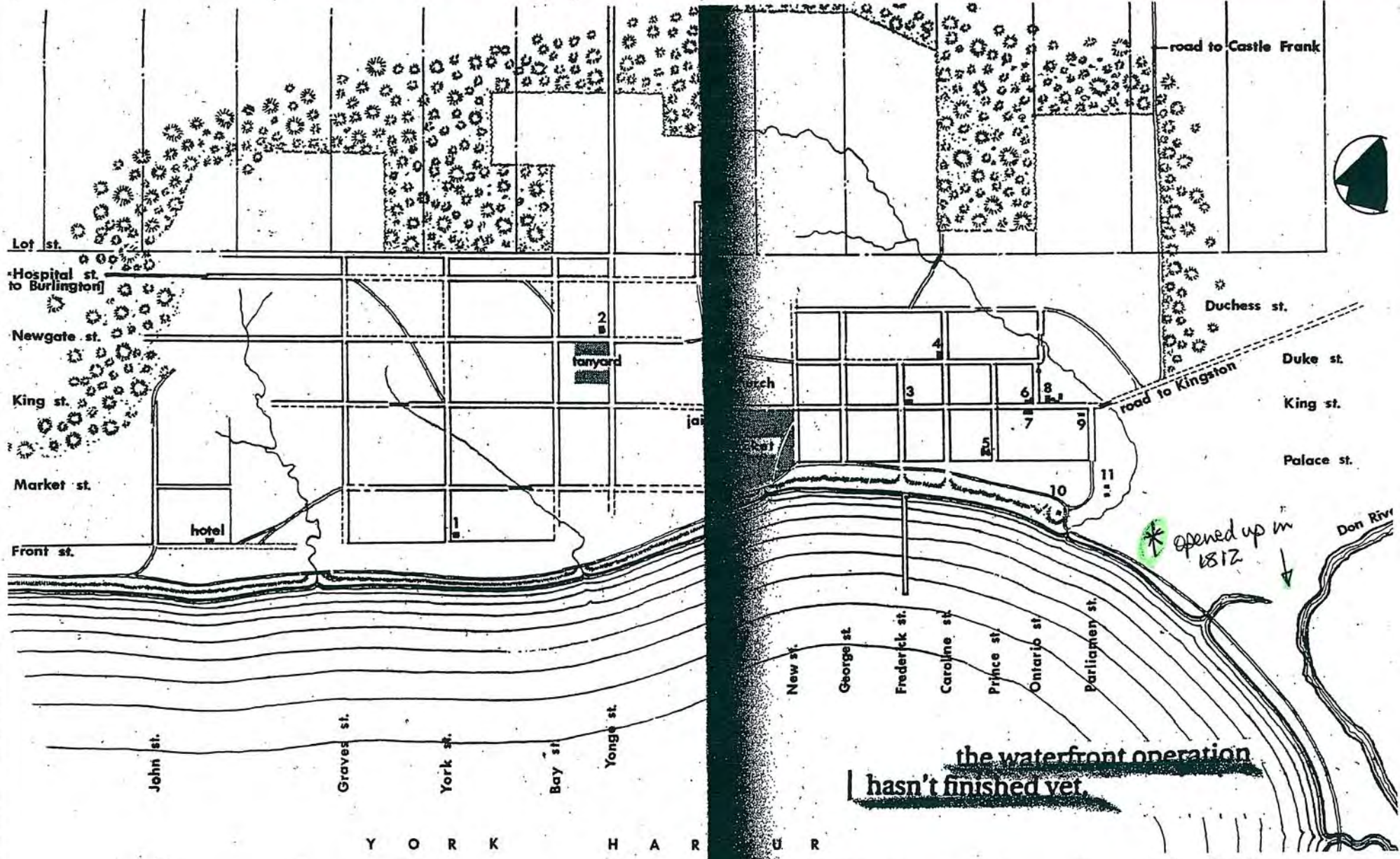
Toronto in 1810

Eric Wilfrid Hounsom

Illustrated by the author

With a Preface by John C. Parkin

THE RYERSON PRESS TORONTO / WINNIPEG / VANCOUVER



Map of Toronto in 1810 with the original street names, some of which have changed through the years. Lot Street became Queen, Hospital Street Richmond, Newgate Adelaide and Market Street became Wellington; and at the east end of the town Palace was renamed Front Street. From west to east, Graves was changed to Simcoe, New Street to Jarvis, Caroline to Sherbourne, and the Parliament Street shown was changed to Berkeley Street when another named Parliament was opened to the east.

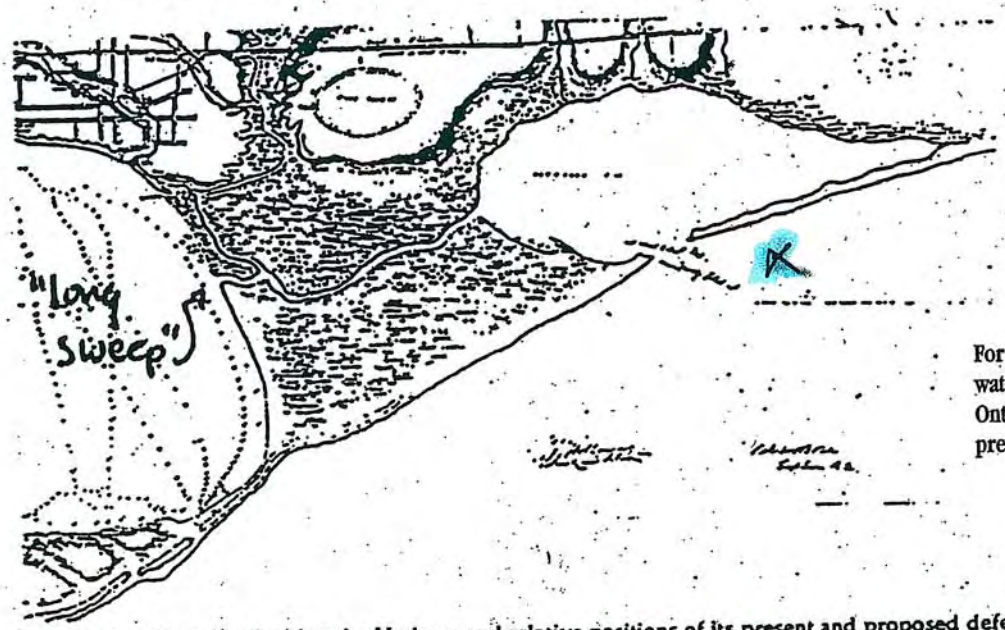
The buildings shown by number are:

1. *Powell house*
2. *Jesse Ketchum house*
3. *Quetton St. George store and residence*
4. *Jarvis house*
5. *Russell Abbey*
6. *Boarding house*
7. *Jordon's Hotel*
8. *Maryville Lodge*
9. *Berkeley House*
10. *Don blockhouse*
11. *Parliament Buildings*

The History of the Don Delta

Before the Toronto harbour was developed as a port, the Don River deposited a delta between the mainland and the sand spit formed by the littoral drift of eroded materials from the Scarborough bluffs. The western edge of the delta was smoothly maintained by winds and waves in the inner harbour. In 1795, the delta area and Ashbridges Marsh contained over six square kilometres of levees, channels and ponds.[6]

6 Whillans, T.H. 1982 Changes in marsh area along the Canadian shore of Lake Ontario. J. Great Lakes Research 8 (3), pg. 573, Table 1.



For centuries, the post-glacial river valley collected water from a vast watershed and entered Lake Ontario by way of the marshes which covered the present Port Industrial district. Mapped in 1688.

A sketch of Toronto showing the Harbour and relative positions of its present and proposed defenses in 1846 by Holloway and Boxer, is roughly drawn but purports to show conditions within the marsh. "Ashbridge Bay" is named for the first time. A note at the lake entrance reads "cut about 6 feet deep occasionally filled up. The Don has two outlets, that in the northeast corner of the harbour being shown for the first time although it was said to have been opened for tactical purposes during the war of 1812.

A copy of part of the "Toronto Harbour Commissioners plan of 1912 sbased on its recent survey not only gives soundings throughout the area but differentiates between water and marsh. Cottage settlements on the peninsula and the sand spit are shown as are early industrial enterprises in the vicinity. The north outlet of the Don has been closed and the river diverted south to the line of Keating's channel. Work on the channel has straightened the irregular edge of the mainland and landfilling has already consolidated the marsh to the north and west of the river/channel intersection. Coatsworth Cut into Asbridge's Bay, and the Eastern Channel into Toronto Harbour have both been regularized with stone jettys.

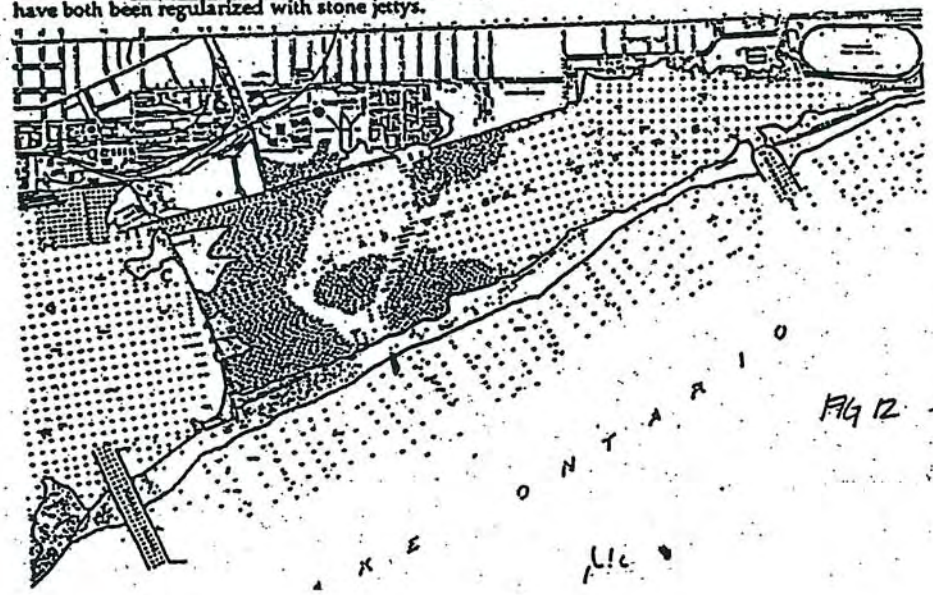


FIG 12 - ASHBRIDGES MARSH/HARBOUR EVOLUTION 1846-1912

North Toronto STP (Leaside)

THE GLOBE AND MAIL
WEDNESDAY, NOVEMBER 29, 2006 T

Wave of raw sewage

Billions of litres dumped into Great Lak...

close the North Toronto Sewage Plant (Leaside)

Mayor Miller's commitment to Water Quality

...r sewage control

...ntreated sewage ...terways," the re-

...eport was com-..., Sault Ste. Marie ... still offered only ...y treatment for ...ir sewage. All ...ides, Sierra Legal

...s, the main prob-...n systems that al-...get into storm wa-...pecially during ...he filthy water ...a the system and ...vater. Storms also ...unoff from lawns ...o the lakes.

It is estimated that the 20 cities — home to about one-third ... the 35 million residents of t... Great Lakes basin — dump mo... than 90 billion litres of untrea... ed sewage into the lakes eac... year, the report says.

Since only about 1 per cent ... the Great Lakes water change... each year — when flows comin... in are combined with the ou... flow through the St. Lawrenc... River — the pollution tends t... remain.

Most of the information for th... report is at least two years old... Toronto is trying to improve it... system, including installation o... huge tanks along the waterfron... that hold contaminated storm

'C' for sewage control undermines waterfront

Re *Toronto gets 'C' for sewage control*
Nov. 29.

The fact that Toronto would only get a C shows the poor condition Toronto's waterfront really is in and what a poor job the treatment plants have been doing to fix it. It is ridiculous that in this day and age raw sewage is still being pumped into Lake Ontario. The government should make it mandatory that all sewage be treated and it should update the treatment plants to above minimum standards. Just think what a clean waterfront — where people could go swimming — would do for this city! There is no excuse for Toronto being any less than an A+.

Richard Waxman, Toronto

Torstar 3 Dec 06 A16

WORTH REPEATING

★ TORONTO STAR ★ MONDAY,

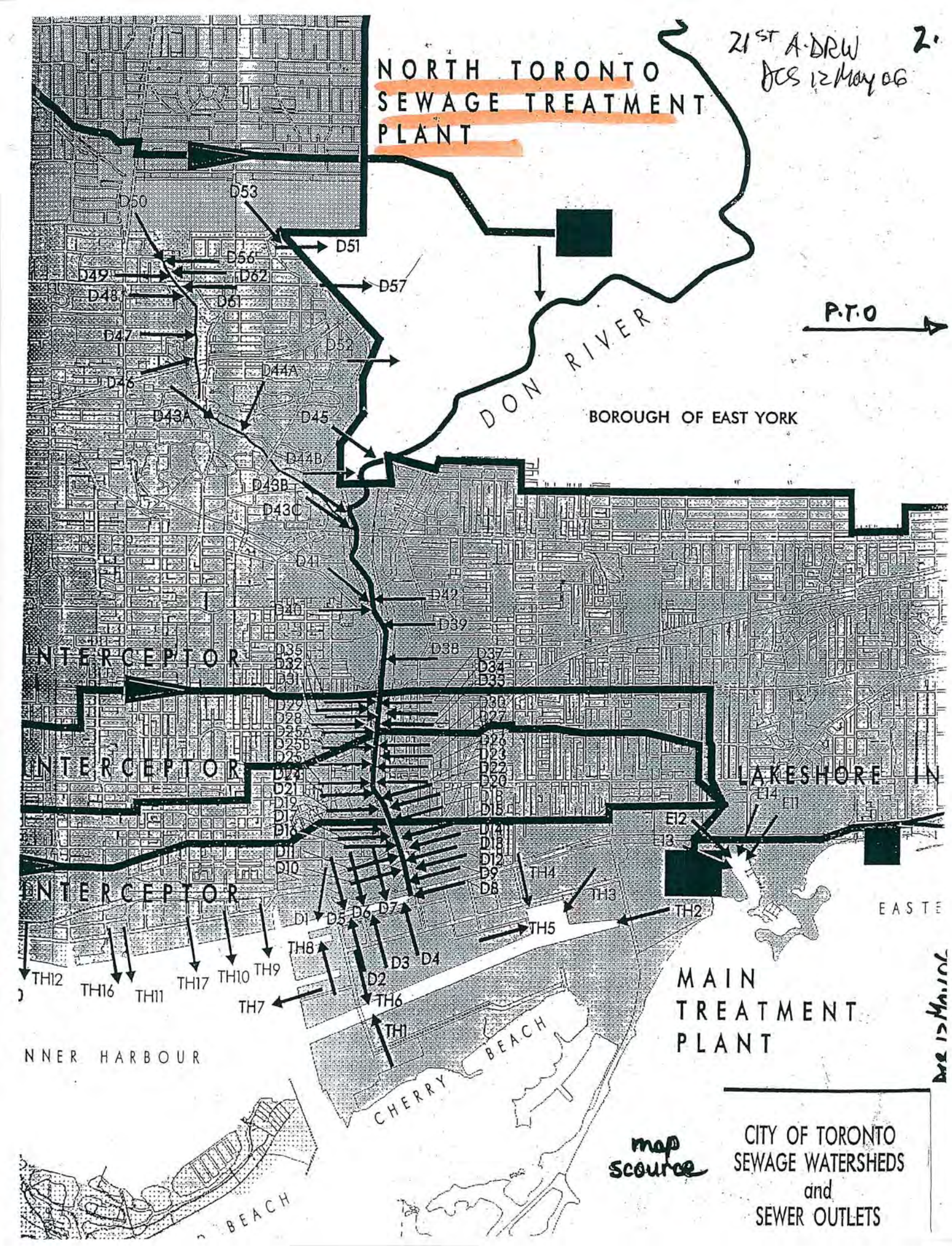
No way to treat our Great...

How stupid are we? Stupid enough to ...of effluent that flow through ...

Close the North Toronto

4:20

...enwood said wildlife is ...o Detroit's waterfront ...ing strides in its efforts ...abatement.


21ST A·DRW
DCS 12 May 06
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NORTH TORONTO SEWAGE TREATMENT PLANT
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INTERCEPTOR
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INTERCEPTOR
LAKESHORE
MAIN TREATMENT PLANT
CHERRY BEACH
NNER HARBOUR
BEACH
EASTE
map source
CITY OF TORONTO
SEWAGE WATERSHEDS
and
SEWER OUTLETS