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# 1. Introduction

## 1.1 Project Background

The Don Mouth Naturalization and Port Lands Flood Protection Project (DMNP) Environmental Assessment (EA) was completed by the Toronto and Region Conservation Authority (TRCA) on behalf of and in co-operation with Waterfront Toronto (legally known as the Toronto Waterfront Revitalization Corporation (TWRC) and the City of Toronto. The DMNP caps off an extensive planning process whose roots can be traced to a public meeting at the Ontario Science Centre in 1989, attended by more than 500 members of the public, government agencies and environmental specialists. The forum inspired the community and local councillors to become actively engaged in discussing the ailments of the Don River and implementing solutions, sparking the birth of the Task Force to Bring Back the Don.

From this initial groundswell of engagement, the Task Force proposed a vision of returning wetlands to the mouth of the Don as part of their report “Bringing Back the Don” (August, 1991). This vision for the mouth of the Don River was embraced and showcased in “Regeneration”, the final report of the Royal Commission on the Future of the Toronto Waterfront (December, 1991).

By 2001, the idea of transforming part of the Port Lands into a naturalized river mouth had become enshrined in the City of Toronto’s Central Waterfront Secondary Plan. Shortly thereafter, the DMNP was initiated by TRCA in co-operation with Waterfront Toronto and the City of Toronto in 2004.

In 2006, the Minister of the Environment approved TRCA’s Terms of Reference (ToR) for the DMNP, which set the framework for the DMNP to proceed in its effort to provide flood protection, naturalize the mouth of the river and facilitate the redevelopment and revitalization of the Lower Don Lands within Toronto.

## 1.2 Project Goals and Objectives

Currently 290 hectares of urban land east and south of the Don River are subject to risk of flooding. This project will ultimately transform the existing mouth of the Don River (“the Don Mouth”), including the Keating Channel, into a healthier, more naturalized river outlet to the Toronto Inner Harbour and Lake Ontario, while seeking to remove the risk of flooding on the lands. This project is a key component of Waterfront Toronto and the City of Toronto’s plans to renew and revitalize Toronto’s waterfront. It is a precedent-setting project which will allow development in the Lower Don Lands to occur in support of revitalizing Toronto’s waterfront area.

The seven project objectives of the DMNP are as follows:

- 1. Naturalization:**  
The naturalization of the Don Mouth will not only improve the aquatic and terrestrial habitat conditions at the mouth of the river, but will provide for the creation of a more natural form of river mouth.
- 2. Flood Protection:**  
The DMNP must address flooding issues in the Port Lands and not exacerbate flooding in other areas, while meeting the first objective.
- 3. Operational Management and Constructability:**  
The DMNP design must adequately manage sediment, debris and ice to ensure that the DMNP supports required navigation, natural function and existing or future flood protection works within the Lower Don River.

**4. Integration with Infrastructure:**

The DMNP must integrate with all existing and planned infrastructure that could not be reasonably moved or removed.

**5. Recreational and Cultural Opportunities:**

The DMNP should encourage and contribute to the development of compatible recreation, cultural and heritage opportunities as well as improve accessibility for the public and persons with disabilities to the Don Mouth.

**6. Co-ordination with Other Planning Initiatives:**

The DMNP must co-ordinate with other planning and development efforts, as well as between the three levels of government as recommended in the ***Our Toronto Waterfront: Gateway to the New Canada*** report (Fung Report) (Toronto Waterfront Revitalization Task Force, 2000), for the revitalization and sustainability of the waterfront and associated foreseeable infrastructure in order to ensure that the best outcome is achieved for all projects.

**7. Consistency with Waterfront Toronto's Sustainability Framework:**

The DMNP should be consistent with Waterfront Toronto's Sustainability Framework (TWRC, 2005c) which seeks to ensure that sustainability principles are integrated into all facets of waterfront revitalization management, operations and decision-making.

### 1.3 Proponent

TRCA, Waterfront Toronto, and the City of Toronto have been identified as co-proponents for this project as it relates to EA legislation. The co-proponents have worked collaboratively with the Provincial and Federal government through appropriate departments and agencies, their consultants and with local stakeholders to ensure this project has been co-ordinated with the various activities required to revitalize the waterfront.

### 1.4 The Ontario EA Act

In order to implement the preferred undertaking for the DMNP, provincial EA requirements must be met through the completion of an Individual EA, as defined in the Ontario EA Act.

As a result of the activities of Waterfront Toronto, the City of Toronto, and others, there are numerous EAs and planning documents that have been completed or are currently ongoing throughout the Port Lands. The DMNP has been co-ordinated with, and informed by, these other EAs. The list below identifies the completed EAs and planning documents:

- Keating Channel EA, including subsequent amendments (Acres, 1983);
- Central Waterfront Secondary Plan, including subsequent Amendment 388 (City of Toronto, 2003a);
- Wet Weather Flow Management Master Plan (City of Toronto, 2003b);
- Class EA for the Lower Don River West Remedial Flood Protection (TRCA, 2005);
- West Don Lands Class EA Master Plan, including subsequent amendments (TWRC, 2005b);
- West Don Lands Precinct Plan (TWRC, 2005c);
- FILMPORT Studios (Toronto Filmport Studios and City of Toronto Economic Development Corporation (TEDCO), 2005);
- East Bayfront Precinct Plan (TWRC, 2005d);

- East Bayfront Class EA Master Plan, including subsequent amendments (TWRC, 2006a, Waterfront Toronto, 2009a);
- Lake Ontario Park Master Plan (Waterfront Toronto, 2008a), Port Lands Business and Implementation Strategy (Waterfront Toronto, 2009b);
- Lower Don Lands Framework Plan (Waterfront Toronto, 2010a – endorsed by City Council);
- Lower Don Lands Infrastructure Master Plan and Keating Channel Precinct Environmental Study Report (Waterfront Toronto, City of Toronto and Toronto Transit Commission, 2010);
- Keating Channel Precinct Plan (Waterfront Toronto, City of Toronto, 2010b);
- Waterfront Sanitary Master Servicing Plan (City of Toronto, 2012);
- Don River and Central Waterfront Project Municipal Class EA Environmental Study Report (City of Toronto, 2012); and,
- Port Lands Acceleration Initiative (PLAI) (Waterfront Toronto, City of Toronto, 2012).

A number of studies were completed as part of the DMNP and include:

- Baseline Identification of Cultural Heritage Properties;
- Archaeological Assessment Existing Conditions;
- Navigation Risk Report;
- Hydraulic Modelling Technical Memorandum and Supplemental Technical Memorandum;
- Sediment Transport Modelling Memorandum and Supplemental Technical Memorandum;
- Preliminary Noise Assessment Technical Memorandum; and,
- Economic Effects Assessment Technical Memorandum.

In addition, the following plans prepared by the DMNP proponents were used to guide the preparation of the EA:

- Sustainability Framework (TWRC, 2005c);
- Erosion and Sediment Control Guidelines for Urban Construction (TRCA, December 2006);
- Environmental Management Plan for Project-Related Activities (Waterfront Toronto, November 2009);
- Soils Management Master Plan (Waterfront Toronto, February 2010); and,
- Groundwater Management Master Plan (Waterfront Toronto, March 2010).

## 1.5 Other Approvals

Other environmental authorizations and approvals that will likely need to be secured in support of the DMNP are summarized in **Table E-1**.

**Table E-1 Other Authorizations / Approvals Required for the DMNP**

Level of Government	Department / Ministry / Municipality	Authorizations / Approvals
Federal	Fisheries and Oceans Canada (DFO) (Aquatic Habitat Toronto (AHT) to co-ordinate)	• <i>Fisheries Act</i>
	Transport Canada (TC)	• <i>Navigation Protection Act</i> (formerly the <i>Navigable Waters Protection Act</i> )
	Toronto Port Authority (TPA)	• Port Authorities Operations • <i>Regulations to the Canada Marine Act</i>

**Table E-1 Other Authorizations / Approvals Required for the DMNP**

Level of Government	Department / Ministry / Municipality	Authorizations / Approvals
<b>Provincial</b>	Ministry of the Environment (MOE)	<ul style="list-style-type: none"> <li>• Environmental Compliance Approval under <i>Environmental Protection Act (EPA)</i></li> <li>• Permit to Take Water under the <i>Ontario Water Resources Act (OWRA)</i></li> <li>• Part V Approval under the <i>EPA Record of Site Condition Regulation</i>, Ontario Regulation (O.Reg.) 153/04 made under the <i>EPA</i></li> <li>• Sewage Works Approval under the <i>OWRA</i></li> </ul>
	Ministry of Natural Resources	<ul style="list-style-type: none"> <li>• <i>Lakes and Rivers Improvement Act<sup>a</sup></i></li> <li>• <i>Endangered Species Act</i></li> </ul>
	Toronto and Region Conservation Authority (TRCA)	<ul style="list-style-type: none"> <li>• Regulation Of Development</li> <li>• O.Reg. 166/06, Interference with Wetlands and Alterations To Shorelines and Watercourses Regulation</li> </ul>
	Ministry of Infrastructure	<ul style="list-style-type: none"> <li>• Class Environmental Assessment Process For the Ministry of Infrastructure for Realty Activities other than Electricity Projects (Category B Class EA for the disposition of land in the location of the future Sediment and Debris Management Area)</li> </ul>
<b>Municipal</b>	City of Toronto	<ul style="list-style-type: none"> <li>• Site Plan Approvals under the <i>Planning Act</i> for future Sediment and Debris Management Area (if required)</li> <li>• Zoning by-law amendment under the <i>Planning Act</i></li> <li>• Road Occupancy Permit (if required)</li> <li>• Road Cut Permit (if required)</li> <li>• Permit for Installation / Relocation of Public Utilities (if required)</li> <li>• Local Hydro Utility Building Permit (if required)</li> <li>• Building Permit (if required)</li> <li>• Toronto Sewer Use By-law</li> <li>• <i>City of Toronto Act</i></li> <li>• Tree-cutting permits</li> </ul>

Note: a. This Act is now managed by TRCA on behalf of MNR. While TRCA does not self-permit, plans led by TRCA must conform to this Act. This Act will only be required in the event of a dam removal or installation.

The Special Policy Area (SPA) designation for Spill Zone 1 and Spill Zone 2 will need to be amended prior to permitting new land uses in the area south of Eastern Avenue and revitalization in the Port Lands to proceed. The completion of the DMNP will mitigate flooding within the Project Study Area which will remove flood risk and allow future development approvals to proceed. The City of Toronto, in consultation with the TRCA, will continue to consult with the Ministry of Natural Resources (MNR) and the Ministry of Municipal Affairs and Housing (MMAH) on the amendment of the SPA, and appropriate mechanisms to ensure that flood protection measures are in place prior to redevelopment proceeding.

## 2. Purpose of the Undertaking

### 2.1 Problem / Opportunity Assessment

The configuration of the existing Don Mouth was engineered primarily for the purposes of achieving transportation efficiency and to create additional land for port and other urban uses. This has resulted in the current condition with lands that are vulnerable to flooding, a serious reduction in ecological function of the river mouth, and an area that is neither aesthetically pleasing, nor available for public use and enjoyment. Thus, the problems to be addressed by the DMNP are the lack of ecological function at the river mouth, vulnerability to flood risk and the derelict nature of this area of the Port Lands.

Opportunities lie in the naturalization of the river mouth, alleviation of flood risk and revitalization of the derelict Port Lands area. The naturalization of the river mouth is yet another step toward revitalizing and enhancing the quality and function of the Don River at its mouth. It represents an opportunity to naturalize the area of the Don River valley as it connects to Lake Ontario and upstream reaches, and create an area that is welcoming and aesthetically pleasing to the public while improving habitat conditions.

The DMNP is also an opportunity to alleviate the flood risk to over 290 hectares of land and more than 850 buildings south and east of the Don Mouth. The alleviation of flood risk will remove land use restrictions and provide unencumbered lands to meet waterfront revitalization objectives for development.

Waterfront Toronto, with the support of TRCA and the City of Toronto, launched an International Design Competition in 2007 recognizing the link between naturalization, flood protection, infrastructure and the land use potential of the area. The goals of the competition were to create an iconic identity for the Don River that accommodates crucial flood protection and habitat restoration requirements, and that integrates development, transportation infrastructure and the re-naturalized river mouth into a harmonious whole. In May 2007, Waterfront Toronto selected the Michael Van Valkenburgh Associates Inc. (MVVA) team as the winners of the Design Competition. The Design Competition created three key changes for the ongoing EA work. First, the Design Competition created the vision for integrating the naturalized Don Mouth with the surrounding community design. Second, this more evolved integration required that a larger study area be examined in order to ensure that the integration could occur effectively for all of the alternatives being considered. Third, it led to a re-examination and refinement of the previously developed alternatives in terms of the area available for naturalization, the composition and optimization of naturalized areas and the area available for development and parkland.

In September 2011, Toronto City Council unanimously approved a protocol known as the Port Lands Acceleration Initiative (PLAI) to develop a business and implementation plan with the objective of accelerating development opportunities in the Port Lands. The PLAI sought to examine whether the Lower Don Lands could be developed more affordably and sooner than previously anticipated. As part of the PLAI planning process, the DMNP was put on hold and a short list of 'Alternative Methods' that were identified during the initial DMNP process were re-examined within the context of the City Council direction.

The purpose of the PLAI was to integrate core principles from the DMNP such as flood protection and naturalization, evaluate options for phased development and integrate higher-value interim and permanent uses during phasing. The PLAI also explored ways that the private sector could help spur development within the area. The ultimate goal of the PLAI was to reduce the overall cost of development and to create a phased approach to development that would provide opportunities for redevelopment to fund required infrastructure, including flood protection measures.

The analysis undertaken during the PLAI confirmed the fundamental conclusions of the DMNP EA. Certain modifications to the preferred alternative, known as Alternative 4WS (2010) were proposed. The option emerging from the review involved a slight realignment of the river, the river mouth and the Greenway. The outcomes of the PLAI indicated that large scale revitalization could occur based on phased implementation of the required flood protection and infrastructure.

## 2.2 Study Areas

Two specific study areas have been defined for the DMNP. The Project Study Area is the area available for the development of naturalization and flood protection alternatives. The Impact Assessment Study Area is a broader area in which direct and indirect effects of the DMNP construction and establishment may be felt.

The Project Study Area (**Figure E-1**) consists of two parts: the Don Mouth and the Don Narrows. The Don Mouth is the area available for the development of naturalization and flood protection alternatives. Therefore, it is in this area that the majority of the direct effects will occur. Within the Don Narrows, only improvements within the river channel are to be considered.

The Impact Assessment Study Area (**Figure E-2**) is a broader area in which direct and indirect effects of the DMNP construction and establishment / post-establishment may be felt.



Legend

- Impact Assessment Study Area

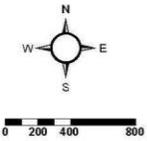


Figure E-2 Impact Assessment Study Area

### 3. Description of Potentially Affected Environment

This section describes different components of the baseline or existing environmental conditions. These environmental conditions include the river characteristics which will influence the development of alternatives; the natural environment including fish and fish habitat, terrestrial vegetation and wildlife; soils and groundwater contamination; and the socio-economic components including land use, air quality and noise, archaeology, Aboriginal interests and built heritage.

#### 3.1 River Characteristics

- The Don River from Riverdale Park downstream to the Keating Channel has been significantly altered as a result of adjacent land uses, is relatively straight through this portion and has a depth of one to two metres.
- South of Lake Shore Boulevard, the Don River enters into the Keating Channel, which extends approximately 0.7 kilometres in length, varies between 37 and 60 metres in width and has depths between two metres and five metres, depending upon lake levels and the degree of sediment accumulation in the channel.
- The urban nature of the watershed has led to a river system with no well-defined annual hydrograph (i.e., no well-defined spring freshet peak), but instead a series of peaky storm runoff events occurring virtually at any time throughout the year. As a consequence, flooding can occur in the Don River at any time during the year.
- In this area of the Province of Ontario, the rainfall from Hurricane Hazel which centred over the Don Watershed is used to define the limits of flooding, known as the Regulatory Flood.
- The Don River often exceeds the Provincial Water Quality Objectives (PWQOs) for many substances, especially during wet weather. The major sources of pollutants are runoff from roads and residential, industrial and commercial land uses through storm sewers, the effluent of the North Toronto Sewage Treatment Plant, combined sewer overflows along Taylor / Massey Creek and the Lower Don and spills from industrial and commercial lands.
- The Keating Channel acts as a sediment trap for a large proportion of the total sediment load that is delivered by the Don River. Only 10 to 15 percent of the total sediment load (consisting of fine silts and clays) continues into the Inner Harbour. Reports by Aquatic Habitat Toronto (AHT) (TRCA, 2007a) and previous Remedial Action Plan (RAP) reports have concluded that sediment quality in the Inner Harbour is degraded with concentrations of metals above Provincial Sediment Quality Guidelines (PSQG) Lowest Effects Levels (LEL) at most locations.
- An average of 30,600 cubic metres of dredged sediment is removed each year from the Keating Channel. The vast majority of this material is composed of silts and sand and is currently disposed of in containment cells at the Leslie Street Spit.

#### 3.2 Natural Environment

- Fish habitat features within the Lower Don River and Keating Channel are generally characterized as degraded, highly disturbed conditions that are uniform in nature and lack habitat diversity and complexity. The benthic community present within the Lower Don and Keating Channel exhibits a relatively low diversity.

- Between 1997 and 2007, 24 fish species have been captured along the Toronto waterfront, with the most common species being the Common Carp and Northern Pike.
- Within the Lower Don, the most common species captured during TRCA sampling of every year were White Sucker, Emerald Shiner and Gizzard Shad.
- The terrestrial environment in the Project Study Area is heavily influenced by human activities, is of little ecological value and there are no species of significance present. Similarly, only 0.7 percent of the vegetation in the Project Study Area is classified as wetland.

### 3.3 Soils and Groundwater Contamination

- The Port Lands were reclaimed during the 1800s and mid-1900s using numerous different sources of industrial fill, including dredge spoils, excavated native soils from borrow pits and construction sites, construction debris, residual stockpiled materials, etc.
- The Port Lands has a history of heavy industrial / commercial uses, which has led to widespread soil contamination within the area.
- Identified or anticipated contamination issues in groundwater and soils is represented by petroleum hydrocarbons, chlorinated and non-chlorinated organic compounds, heavy metals, polycyclic aromatic hydrocarbons, polycyclic biphenyls and general chemistry parameters.

### 3.4 Socio-economic Environment

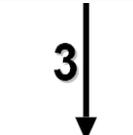
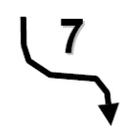
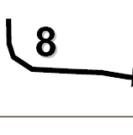
- Within the Project Study Area there are a variety of industrial uses such as cement distribution, food service, transportation service, entertainment, technology service, heavy machine rental, automobile and financial services and products and services related to the film industry.
- Property is predominantly owned by the City of Toronto and the Toronto Port Lands Company (TPLC) (formerly known as TEDCO), with some holdings held by the Provincial government, Toronto Port Authority (TPA) and some private property holdings as well.
- A number of land-based recreational uses occur within the area, including bike trails, multi-use trails, parks, beaches and the Toronto Islands.
- Marine use is limited to industrial cargo shipping. The Port Works Yard is located on the southern side of the Keating Channel and the dockwall, including Polson and Cousins Quays and the Ship Channel, offers docking facilities for cargo shipping boats.
- Thirty-one cultural heritage resources exist within the Project Study Area. There is little to no potential for the survival of significant pre-contact or early contact period Aboriginal archaeological resources.

## 4. Description, Evaluation and Rationale for ‘Alternatives To’ the Undertaking

The ‘Alternatives To’ the undertaking for the DMNP were defined around alternative discharge points for the river to Lake Ontario as reflected by the general area in which the Don Mouth may be relocated. The discharge points also represent functionally different ways to address the problem or opportunity in that they each provide a range of opportunities for naturalization of the river mouth, flood protection and revitalization of the waterfront. The alternatives were chosen and developed based on technical knowledge, past studies and public consultation.

The eight alternative discharge points are summarized in **Table E-2**.

**Table E-2 Alternative Discharge Points and Descriptions**

Alternative Number and Discharge Morphology	Title	Description	Results of Evaluation
	<b>Do nothing</b>	Continuation of discharge through the Keating Channel, continued dredging of sediment and removal of debris, no naturalization of river mouth. This alternative does not alleviate flood risk and thus no significant redevelopment of the Project Study Area could occur.	<i>Very low potential to meet key project objectives and should not be considered further in the EA. However, the EA Act requires the assessment of the 'Do Nothing' alternative throughout the EA for comparison purposes; therefore, this alternative was carried forward.</i>
	<b>Discharge to the Inner Harbour</b>	Creation of naturalized river mouth in the vicinity of 480 Lake Shore Boulevard and lands north of Villiers Street – this alternative assumes filling in the Keating Channel.	<i>Good potential to achieve all project objectives and was considered further in the EA.</i>
	<b>Discharge through the Port Lands to the Ship Channel</b>	This alternative assumes filling in the Keating Channel.	<i>Good potential to meet the project objectives and was considered further in the EA.</i>
	<b>Combination of Alternatives 2 and 3</b>	Combination of primary discharge to Inner Harbour with secondary discharge through the Port Lands to the Ship Channel or primary discharge through the Port Lands to the Ship Channel with secondary discharge to Inner Harbour. This alternative assumes filling in the Keating Channel.	<i>Good potential to meet the project objectives and was considered further in the EA.</i>
	<b>Combination of Alternatives 2 and 3 with a third discharge point midway between creating a wide delta with Alternative 3</b>	Consideration of a third discharge point somewhere within the Port Lands to create a delta function – assumes land between discharge points would be permanently wetted for naturalization purposes and therefore would not be developed as per waterfront revitalization planning.	<i>Low potential to meet the project objectives and was not considered further in the EA.</i>
	<b>Discharge through the Ship Channel and Lake Ontario Park to discharge to the Outer Harbour</b>	This alternative would require damming the western part of the Ship Channel to just east of Cherry Street to facilitate the flow of the river to the Outer Harbour, thereby removing access to the remainder of the Ship Channel.	<i>Low potential to meet the project objectives and was not considered further in the EA.</i>
	<b>Discharge through the Port Lands and the Ship Channel to the Outer Harbour through the eastern end of the Outer Harbour</b>	This alternative would require damming the western part of the Ship Channel to facilitate the flow of the river to the Outer Harbour thereby removing access to the remainder of the Ship Channel.	<i>Low potential to meet the key project objectives and was not considered further in the EA.</i>
	<b>Eastern Port Lands discharge point (Ashbridges Bay area)</b>	Movement of the river and river mouth towards a discharge point in the Ashbridges Bay area – this alternative assumes damming and filling in of eastern half of the Ship Channel and Turning Basin.	<i>Low potential to meet the key project objectives and was not considered further in the EA.</i>

## 5. Description, Evaluation and Rationale for ‘Alternative Methods’ of Carrying Out the Undertaking

For the purposes of the EA, different ‘Alternative Methods’ of carrying out the undertaking were identified by layering different forms and features required to create the functions of a natural river mouth for each of the discharge points. The identification of different alternative methods gave prime consideration to the characteristics of the river and the ability to fulfill the naturalization and flood protection objectives in the context of the river conditions. Other project objectives were addressed as subsequent refinements or layers applied to the alternative methods.

The identification and evaluation of the different ‘Alternative Methods’ was carried out in a five-step process illustrated and described in **Figure E-3**.

Additionally, the ‘Alternative Methods’ took into account the design elements from the winning Design Competition team. This led to a re-evaluation of the results of Steps 3 and 4. Key issues that were revised based on the Design Competition concepts include:

- Area available for naturalization;
- Composition and optimization of naturalized areas;
- Area available for development and parkland;
- Location of infrastructure; and,
- Location of flood protection features.

**Table E-3** lists the ‘Alternative Methods’ that were developed and the results of their evaluation.

The outcome of Step 4 was the identification and selection of a preferred alternative. The preferred alternative was deemed to be Alternative 4WS. It is most preferred for all of the objectives except operational management and constructability, as well as integration with infrastructure. The disadvantages of this alternative for these two objectives relate to the potential for secondary management of sediment and debris, the effect on Port operations including the removal of dockwall, and the need for a moderate amount of modifications to existing infrastructure. It should be noted that these disadvantages are relative to the other alternatives and in no way suggest that there are deficiencies with Alternative 4WS that cannot be addressed either through design refinement or mitigation.

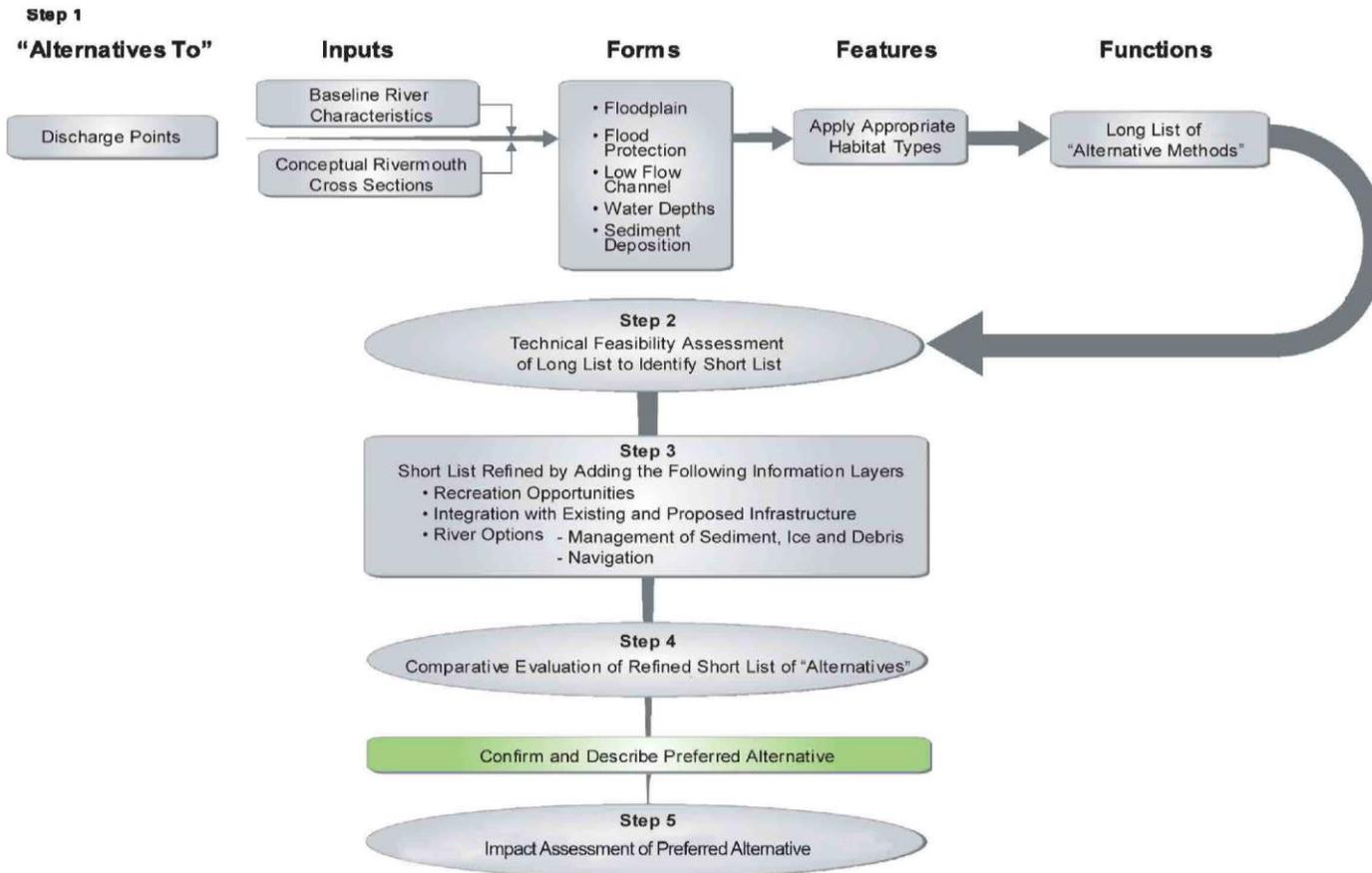


Figure E-3 The Identification and Evaluation of Alternative Methods

**Table E-3 Evaluation of Refined List of Alternatives**

Objective	Alternative  River with discharge to the Inner Harbour	Alternative  River with discharge through the Port Lands to the Ship Channel	Alternative  Combination of discharge points to the Inner Harbour and Ship Channel (Primary discharge to the Inner Harbour)	Alternative  Combination of discharge points to the Inner Harbour and Ship Channel (Primary discharge to the Ship Channel)	Alternative  River with discharge to the Inner Harbour and two overflow spillways
<b>Naturalization</b>	Least preferred	Least preferred	Moderately preferred	Moderately preferred	Most preferred
<b>Flood Protection</b>	Least preferred	Least preferred	Most preferred	Most preferred	Most preferred
<b>Operational Management and Constructability</b>	Most preferred	Most preferred	Moderately preferred	Least preferred	Least preferred
<b>Integration with Infrastructure</b>	Most preferred	Most preferred	Least preferred	Least preferred	Moderately preferred
<b>Recreational and Cultural Opportunities</b>	Most preferred	Moderately preferred	Moderately preferred	Least preferred	Most preferred
<b>Co-ordination with Other Planning Efforts</b>	Moderately preferred	Least preferred	Moderately preferred	Least preferred	Most preferred
<b>Consistency with Waterfront Toronto Sustainability Framework</b>	Moderately preferred	Most preferred	Least preferred	Most preferred	Most preferred
<b>Summary</b>	<i>Moderately preferred</i>	<i>Moderately preferred</i>	<i>Moderately preferred</i>	<i>Least preferred</i>	<i>Most preferred</i>

As mentioned in **Section 2.1**, the PLAI was undertaken in 2011 to examine whether the Lower Don Lands could be developed more affordably and sooner than previously anticipated. A number of the short-listed alternatives from the DMNP EA were re-examined with respect to flood protection, naturalization, cost, contribution to city building, and the ability to phase development. The effects of the project on existing land uses and industrial operations (e.g., 54 Polson Street (Lafarge Canada Inc.), Redpath Sugar and TPA operations) were considered so that the design of the new river valley system would accommodate existing shipping and port operations, where appropriate.

The results of the PLAI confirmed that the optimal design for flood protection was a refinement of the DMNP preferred alternative (Alternative 4WS). The refined design for Alternative 4WS (identified as Alternative 4WS Amended) achieves the objectives for flood protection and the revitalization of the Port Lands identified in the DMNP. Further comparison of Alternative 4WS and Alternative 4WS Amended identified that Alternative 4WS Amended is more preferred than Alternative 4WS overall. **Table E-4** below provides a summary of the evaluation of these two alternatives by objective.

**Table E-4 Summary of the Comparative Evaluation of Alternative 4WS and Alternative 4WS Amended by Objective**

Objective	Alternative 4WS	Alternative 4WS Amended
<b>1. Naturalization</b>	<b>Preferred</b>	<b>Not preferred</b>
<b>2. Flood Protection</b>	<b>Not preferred</b>	<b>Preferred</b>
<b>3. Operational Management and Constructability</b>	<b>Not preferred</b>	<b>Preferred</b>
<b>4. Integration with Infrastructure</b>	<b>Not preferred</b>	<b>Preferred</b>
<b>5. Recreational and Cultural Opportunities</b>	<b>Preferred</b>	<b>Not preferred</b>
<b>6. Co-ordination with Other Planning Efforts</b>	<b>Not preferred</b>	<b>Preferred</b>
<b>7. Consistency with Waterfront Toronto Sustainability Framework</b>	<b>Same</b>	<b>Same</b>
<b>Summary</b>	<b><i>Not preferred</i></b>	<b><i>Preferred</i></b>

Alternative 4W Amended is the preferred design for all of the EA objectives except naturalization (Objective 1) and recreational and cultural opportunities (Objective 5). When compared to the other short-listed alternatives, the differences between Alternative 4WS and Alternative 4WS Amended are minor. The refinements to the design of Alternative 4WS are consistent with the original design objectives for the DMNP, and the alternative was deemed the most appropriate to satisfy the project objectives. During Step 5, opportunities to minimize and mitigate the disadvantages of this alternative through the use of new technologies or the refinement of the design were investigated.

## 6. Description of the Preferred Undertaking

### 6.1 Overview of the Conceptual Design

The conceptual design for the DMNP includes a new river valley system developed through a combination of cut and fill and an associated low-flow river channel that flows south and then west into the Inner Harbour, with an approximate location halfway between the Ship Channel and the Keating Channel (refer to **Figure E-4**). The river valley system will be stabilized to prevent erosion and movement. The design includes an overflow Greenway to the south along the Don Roadway which discharges into the Ship Channel and a spillway in the existing Keating Channel.

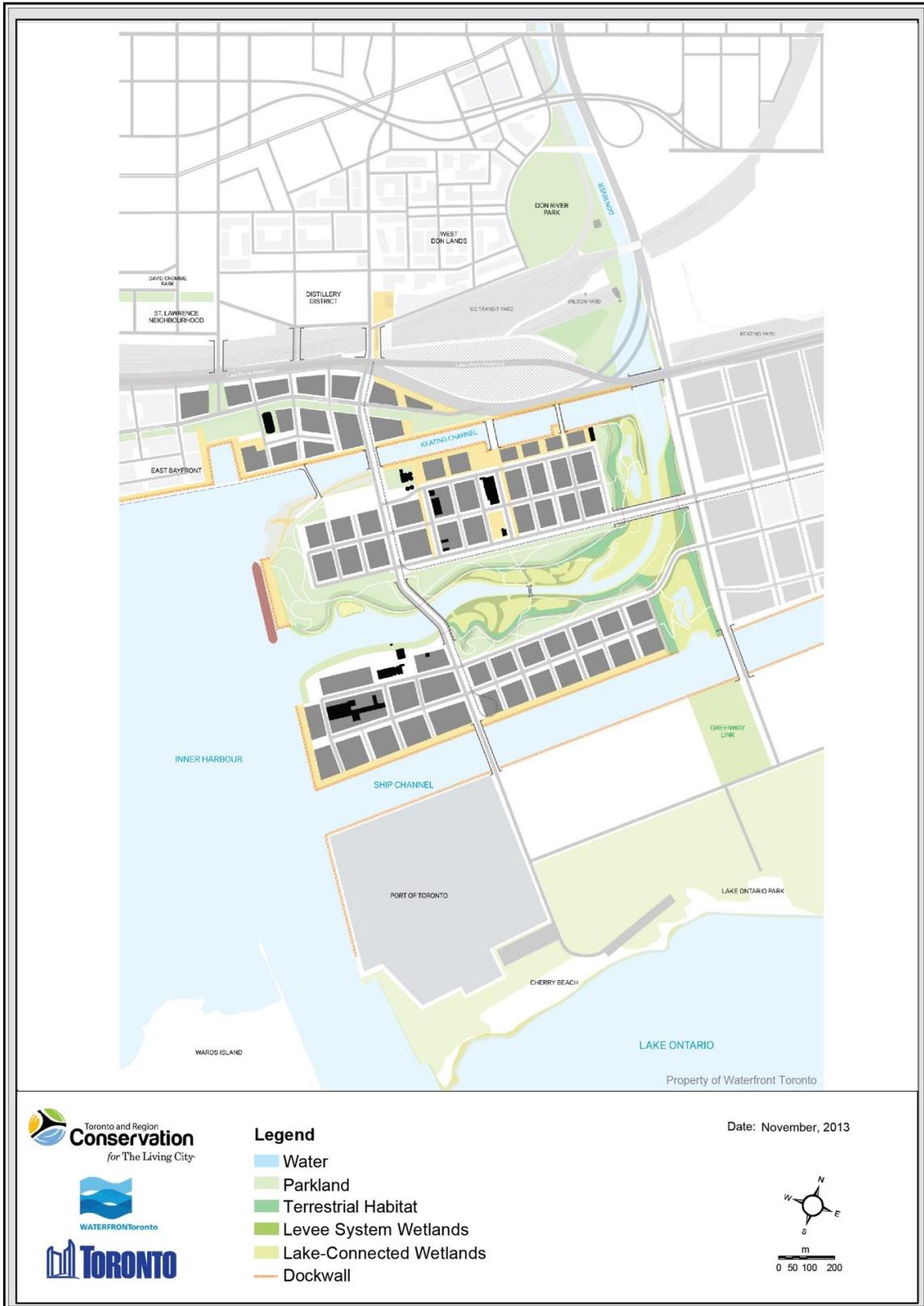


Figure E-4 Conceptual Design for the DMNP

Components of the conceptual design include:

### Flood Protection Features:

- River valley formation, including the Don Greenway to the Ship Channel, Keating Channel spillway, and low flow channel;
- East bank flood protection landform (FPL) north of Lake Shore Boulevard<sup>1</sup>;
- East bank valley wall feature (VWF) south of Lake Shore Boulevard<sup>2</sup>;
- Modifications to grades surrounding Eastern Avenue at the Kingston Subdivision grade separation (near the 11 Sunlight Park Road property);
- Keating Channel weirs; and,
- Grading and setbacks of adjacent development areas.

### Sediment, Debris and Ice Management:

- A sediment trap constructed south of the CN Rail bridge and maintained with a new sediment conveyance system. Sediment will be hydraulically dredged and piped to a hydrocyclone, where it will be dewatered and transported off-site;
- A Sediment and Debris Management Area next to the sediment trap, using debris management booms to capture debris within the channel; and
- Ice management in the stabilized transition between the Lake Shore Boulevard crossing and the Commissioners Street crossing providing a place for ice to collect and break up. It also provides an overflow spillway through the Keating Channel to reduce risk due to backwater effects in the event of an ice jam.

### Naturalization:

- Approximately 30 hectares of naturalized area consisting of:
  - Four hectares of terrestrial habitat, including valley slope transitions;
  - 13 hectares of wetland habitat, including levee systems and lake-connected wetlands; and
  - 13 hectares of permanent aquatic habitat.

### Integration with the Lower Don Lands Planning and Servicing:

- All new crossings constructed to carry vehicular traffic will be designed to span the floodplain and to pass the Regulatory Flood with a minimum of 0.5 metres freeboard (with the exception of the Lake Shore Boulevard and Harbour Lead crossing);
- Pre-installed, underground utility conduits will provide servicing across the floodplain without repeated disturbance to the naturalized river valley system; and,
- Over 12 hectares of parkland outside of the new river valley system is intended to accommodate passive and active recreational uses.

- 
1. The FPL is defined as an earthen structure which has been designed with geotechnically suitable material and has dimensions which minimize the three primary risks of failure associated with typical earthen dyke structures to negligible levels. The design specifications outlined in the DMNP are the minimum requirements that provide permanent flood risk removal. Consequently, to ensure the long term viability of the FPL to provide permanent flood risk removal, several restrictive operational constraints are required that have been outlined in the DMNP. These restrictions are administered by the Toronto and Region Conservation Authority and include, but may not be limited to, plantings, urban related servicing and land use.
  2. The VWF is a modification of the FPL that extends the dry side slopes and width of the crest to create fill dimensions well beyond that which exist within a typical FPL. By doing this, the risk of failure is minimized to as near zero as is feasible, thereby allowing the Conservation Authority to relax a number of the restrictions that exist within the FPL feature, specifically related to urban servicing and land use, and instead apply standard valley and stream corridor development guidelines.

The preferred undertaking will require ongoing maintenance activities associated with a number of the design components. These include maintenance of sediment, debris and ice management features, naturalized areas (including terrestrial, wetland and aquatic habitat) and flood protection features.

The DMNP proposes a multi-faceted solution to address long-standing concerns of flood protection and naturalization in the Port Lands. The project is anticipated to be constructed in phases over a prolonged period of time. Final ownership and operational restrictions of the various components for the Project will be determined following approval of the EA. However, it is anticipated that those portions of the project associated with conveying and containing the Regulatory Flood will be in TRCA ownership and / or protected through easements.

Operational and maintenance refinements to the DMNP will involve a wide range of agencies, requiring a co-ordinated approach to understanding and developing operational modifications and agreements following EA approval. The following summary of operations provides examples of works that may require consideration. The list should not be considered as comprehensive:

- a) Dredging and debris management operations may remain under the control of the TPA, or may be assigned to TRCA or the City of Toronto;
- b) Parks maintenance with the constructed river valley system may fall under the Parks Maintenance Agreement currently in effect between Toronto Parks and TRCA, or may fall under an alternative arrangement;
- c) Monitoring, maintenance and operations of all passive and active flood protection elements will be the responsibility of TRCA; and,
- d) All operational considerations including any design refinements of naturalization components will require discussion between the TRCA, Waterfront Toronto and the City of Toronto and may require further consultation with appropriate stakeholders, including the Director, Environmental Approvals Branch at the MOE for review.

Contaminated soils and groundwater that are encountered during construction will be managed generally according to Waterfront Toronto's Soils Management Master Plan and Groundwater Management Master Plan and more specifically through one or more Risk Assessment / Risk Management (RA/RM) strategies to be developed by Waterfront Toronto during detailed design of the DMNP.

Given the extended time period for construction of the DMNP, it will be phased in over a number of years. The proposed phasing plan for construction consists of four phases as identified below:

- Phase 1: Construction of the new Keating Channel Bridge and Removal of Existing Keating Channel Bridge and Abutments**
- Phase 2: Construction of the Greenway**
- Phase 3: Construction of the New River Valley Footprint**
- Phase 4: Naturalization of the Southern Dockwall of Polson Slip**

## 7. Step 5: Detailed Assessment of Preferred Alternative

Given the uniqueness of this project, long construction and implementation period and the large number of adjacent planning initiatives that influence and will be influenced by this project, the impact assessment has been developed to provide a certain degree of flexibility in project design and construction. This flexibility is required to address potential changes to the conceptual design, construction techniques and baseline conditions.

In general, the positive benefits of the DMNP in providing for long-term flood protection, creating a functional ecological system and allowing for the development of a sustainable mixed-use community are anticipated to greatly exceed any potential negative effects during construction. Establishment / post-establishment include a measurable improvement in ecological functioning over existing conditions.

**Table E-5** provides a summary of the mitigation measures required to address the negative effects associated primarily with construction activities.

**Table E-5 DMNP Mitigation Measures**

Effect	Project Objective(s)	Mitigation Measures
<p><b>Nuisance effects (to naturalized area, businesses, recreational users, residents)</b></p>	<p>1, 4, 5, 6, 7</p>	<p><i>Atmospheric Environment</i></p> <ul style="list-style-type: none"> <li>• Adhere to Waterfront Toronto’s EMP and BMPs for dust suppression (e.g., on-site watering, gravel aggregate on roads and limiting the speed of vehicles on roads) and noise reduction (e.g., alerting residents, project scheduling) and combustion emissions (e.g., use well-maintained equipment) as described in <b>Appendix G</b></li> <li>• Adhere to City of Toronto’s Noise By-Law (No. 111-2003)</li> <li>• Minimize the exposure time of contaminated soils prior to conversion to control odours and ensure ongoing odour management during construction activities</li> <li>• Use real-time monitoring systems to measure dust levels</li> </ul>
	<p>1</p>	<p><i>Aquatic Environment</i></p> <ul style="list-style-type: none"> <li>• During lake filling activities the following measures will be employed to minimize or eliminate effects to fish: <ul style="list-style-type: none"> <li>▪ Salvage fish once area has been enclosed</li> <li>▪ When possible, avoid lake filling activities during windy days to minimize dispersion of sediment</li> <li>▪ Limit in-channel construction and conform to fish timing window guidelines to avoid adverse flow conditions and avoid fish spawning and migration periods</li> <li>▪ Adhere to Waterfront Toronto’s Environmental Management Plan (EMP) and BMPs to reduce / minimize dust, sedimentation and noise as a result of construction activities as described in <b>Appendix G</b></li> </ul> </li> </ul>
	<p>4</p>	<p><i>Infrastructure and Utilities</i></p> <ul style="list-style-type: none"> <li>• Provide advanced notification to Toronto Fire Service prior to construction works associated with municipal water flow to any fire hydrants and / or buildings</li> <li>• Adhere to Waterfront Toronto’s EMP, HONI’s BMPs for construction, and other BMPs for dust suppression , noise reduction and combustion emissions as described in <b>Appendix G</b></li> <li>• Adhere to City of Toronto’s Noise By-Law (No. 111-2003)</li> </ul>
	<p>4,7</p>	<p><i>Existing Land Use</i></p> <ul style="list-style-type: none"> <li>• Use a traffic management plan and standard traffic control measures to safely co-ordinate traffic flow</li> <li>• Provide alternate access and re-routing signage to access rail yards as required and maintain emergency access to adjacent structures and buildings</li> <li>• Adhere to Waterfront Toronto’s EMP and BMPs for dust suppression, noise reduction and combustion emissions as described in <b>Appendix G</b></li> <li>• Adhere to City of Toronto’s Noise By-Law (No. 111-2003)</li> </ul>
	<p>4,7</p>	<p><i>Infrastructure and Utilities</i></p> <ul style="list-style-type: none"> <li>• Adhere to Waterfront Toronto’s EMP and BMPs for dust suppression, noise reduction and combustion emissions as described in <b>Appendix G</b></li> <li>• Adhere to City of Toronto’s Noise By-Law (No. 111-2003)</li> <li>• Use a traffic management plan and standard traffic control measures to safely co-ordinate traffic flow</li> <li>• Provide alternate access and re-routing signage to businesses as required and maintain emergency access to adjacent structures and buildings</li> <li>• Operate truck traffic for off-site disposal during off-peak hours when possible</li> <li>• Ensure long-term maintenance takes place to prevent degradation and replacement costs</li> <li>• Consult with emergency services (i.e., Toronto Fire Service, Emergency Medical Service (EMS) and police) in advance of any road closures so that alternative emergency dispatch protocols can be implemented if required</li> </ul>

**Table E-5 DMNP Mitigation Measures**

Effect	Project Objective(s)	Mitigation Measures
	5	<p><i>Land-Based and Marine Recreation</i></p> <ul style="list-style-type: none"> <li>Adhere to Waterfront Toronto's EMP and BMPs for dust suppression (e.g., on-site watering, gravel aggregate on roads and limiting the speed of vehicles on roads) and noise reduction (e.g., alerting residents, project scheduling) and combustion emissions (e.g., use well-maintained equipment) as described in <b>Appendix G</b></li> <li>Adhere to City of Toronto's Noise By-Law (No. 111-2003)</li> </ul>
	6	<p><i>Planned Land Use</i></p> <ul style="list-style-type: none"> <li>Use a traffic management plan and standard traffic control measures to safely co-ordinate traffic flow</li> <li>Provide alternate access and re-routing signage to businesses as required</li> <li>Adhere to Waterfront Toronto's EMP and BMPs for dust suppression, noise reduction and combustion emissions as described in <b>Appendix G</b></li> <li>Update the noise assessment during detailed design once the dewatering technology has been selected to confirm effects on receptors near Reach 3a</li> <li>Should the updated noise assessment identify effects on receptors, relocate dewatering operations to Reach 2a or other areas or enclose the hydrocyclone in Reach 3a to reduce noise levels, as required</li> <li>Adhere to City of Toronto's Noise By-Law (No. 111-2003)</li> </ul>
<b>Geology and Soils</b>	7	<ul style="list-style-type: none"> <li>Remove oil, cut and cap all uncovered abandoned pipelines</li> <li>Prepare and follow a spill response plan, including immediately reporting and managing any leakage or spillage</li> <li>Use a risk management approach to reduce quantities of soil requiring treatment or disposal</li> <li>Monitoring will be required to ensure the integrity of the barrier</li> </ul>
<b>Groundwater Quality</b>	7	<ul style="list-style-type: none"> <li>Where possible, conduct construction activities "in the dry" (i.e., physically separated from the lake and river during construction)</li> <li>Implement full-time groundwater control (which will involve dewatering), treatment and disposal</li> <li>Install sheet piles at approximately five metres below depth of excavation to prevent groundwater migration during earthworks or well point dewatering network to suppress water table during construction or combination of the two</li> <li>Treat groundwater on-site or at some off-site licensed receiver</li> <li>Remove all associated LNAPL and decommission active product control / recovery pumping system to facilitate Risk Assessment / Risk Management (RA/RM)</li> </ul>
<b>Hydrology and Surface Water</b>	2	<p><i>Flooding</i></p> <ul style="list-style-type: none"> <li>Include construction sites on TRCA flood warning system to prepare site in advance of possible flood events</li> <li>Use 2D, 3D and / or physical models (that are acceptable to the floodplain regulator) to develop detailed design to confirm conveyance of the Regulatory Flood plus desired freeboard without affecting areas beyond the new river valley system, including ensuring that channel configuration in the Sediment and Debris Management Area is such that any impacts to the adjacent areas are acceptable to the regulator (<b>Appendix N-1</b>)</li> <li>Use hydraulic modelling during detailed design to ensure that design of stabilization works will minimize adverse effects on overall system</li> <li>Monitor and maintain stabilization works and naturalized areas following flood events (as required)</li> </ul>

**Table E-5 DMNP Mitigation Measures**

Effect	Project Objective(s)	Mitigation Measures
	2, 3	<p><i>Stormwater Quality and Quantity</i></p> <ul style="list-style-type: none"> <li>Adhere to BMPs for managing construction runoff and erosion during less intensive and more frequent floods, such as isolating the excavation areas behind existing dockwalls during construction, as described in <b>Appendix G</b></li> <li>Adhere to BMPs for managing construction runoff and erosion (e.g., treatment of contaminated stormwater before discharge), as described in <b>Appendix G</b></li> </ul>
	3	<p><i>Lake / River Water Quality</i></p> <ul style="list-style-type: none"> <li>Use an excavator, a backhoe located on a barge, a bottom dump scow or end dumping with a truck place fill material on top of sediments within the containment berms during in-water works</li> <li>Should turbidity exceed acceptable limits during filling, construction will cease until acceptable limits are re-established</li> <li>Use appropriate isolation of excavated area at north end of Reach 1 during construction of Reach 1 to minimize impact to downstream water quality</li> <li>Limit in-channel construction and conform to fish timing window guidelines to avoid adverse flow conditions and avoid fish spawning and migration periods</li> <li>Adhere to BMPs to reduce likelihood of contaminated material entering the existing channel</li> <li>Prepare and follow a spill response plan, including immediately reporting and managing any leakage or spillage</li> <li>Minimize sediment loads to naturalized area by regular dredging of sediment trap and trap management</li> <li>Ensure long-term maintenance of connecting feeder channels to eliminate infilling with sediments and effectively maintain wetlands (see <b>Appendix N-2</b>)</li> </ul>
<b>Aquatic Environment</b>	1	<p><i>Sediment Quality and Quantity, Aquatic Biota, Aquatic Habitat</i></p> <ul style="list-style-type: none"> <li>Create new high quality habitat of a larger area and greater complexity to compensate for permanent loss of low quality habitat during construction</li> <li>Prepare and follow a spill response plan, including immediately reporting and managing any leakage or spillage</li> <li>Limit in-channel construction and conform to fish timing window guidelines to avoid adverse flow conditions and avoid fish spawning and migration periods</li> <li>Adhere to BMPs to reduce likelihood of contaminated material entering the existing channel as described in <b>Appendix G</b></li> <li>Minimize sediment loads to naturalized area by regular dredging of sediment trap and trap management</li> <li>Monitoring and Adaptive Environmental Management (AEM) to ensure that vegetation communities are not adversely affected by more frequent flood events and by sedimentation</li> <li>Ensure long-term maintenance of connecting feeder channels to eliminate infilling with sediments and effectively maintain wetlands</li> <li>Minimize sediment loads to naturalized areas by regular dredging of sediment trap and trap management</li> </ul>
<b>Naturalization Habitat</b>	1	<p><i>Vegetation Communities, Wildlife Habitat, Wildlife Biota, Wildlife Linkages / Connectivity</i></p> <ul style="list-style-type: none"> <li>Create new higher quality terrestrial and wetland habitat to compensate for loss of low quality habitat including ESA</li> <li>Salvage plants for replanting, where appropriate</li> <li>Use native plant species to maximize opportunities for breeding and forage</li> <li>Implement sustainable soil methods to maximize health and age of plantings</li> <li>Provide appropriate care / restoration techniques (e.g., watering) for upland plantings during initial establishment period</li> <li>Maintain vegetation structure through renewal of plantings over time</li> <li>Monitoring and AEM to ensure that the area of terrestrial habitat remains intact</li> </ul>

**Table E-5 DMNP Mitigation Measures**

Effect	Project Objective(s)	Mitigation Measures
	1	<p><i>Wetland Biota, Wetland Habitat</i></p> <ul style="list-style-type: none"> <li>• Create new high quality wetland habitat to compensate for loss of low quality habitat including the ESA</li> <li>• Salvage plants for replanting, where appropriate</li> <li>• Manage flooding as described in more detail in Objective 2 (Flood Protection) as described in <b>Section 7.3.2</b></li> <li>• Optimize design of lake-connected wetlands to minimize influence on vegetation from residual fines that are not captured in the sediment trap (see <b>Appendix N</b>)</li> <li>• Optimize wetland design to minimize shear stresses experienced in wetlands under more frequent flooding events</li> <li>• Monitoring and AEM, including monitoring of invasive species, effective saturation and / or flooding of wetland substrates, etc., to ensure wetland habitat remains intact</li> <li>• Monitoring and AEM to ensure that largest single wetland patch remains intact</li> <li>• Monitoring and AEM to ensure that habitat continues to support desired species</li> <li>• Monitoring and AEM to ensure that vegetation communities are not adversely affected by more frequent flood events and by sedimentation</li> <li>• Monitoring and AEM are discussed in detail in <b>Chapter 8</b></li> <li>• Where possible, design trails (especially those related to the Ship Channel wetland) to circumvent, rather than bisect, naturalized areas</li> <li>• Limit trail placement adjacent to other lake-connected wetlands</li> <li>• Control access to other less sensitive wetlands through use of boardwalks and other strategies</li> <li>• Monitor human effects on wetlands and close or modify trails as required</li> <li>• Do not light trails or use focused, direct lighting if required</li> <li>• Ensure long-term maintenance of connecting feeder channels to eliminate infilling with sediments and effectively maintain wetlands</li> <li>• Minimize sediment loads to naturalized areas by regular dredging of sediment trap and trap management</li> </ul>
<b>Socio-Economic</b>	3	<p><i>Economic Base</i></p> <ul style="list-style-type: none"> <li>• Arrangements will be made with TPA and other long-term leaseholders in the area for lost mooring revenue (i.e., negotiations regarding compensation)</li> <li>• Provide advance notice to TPA and other long-term leaseholders in the area in order to inform users of potential dockwall removal / modification</li> <li>• The phasing strategy allows for mooring within the Inner Harbour along the western edge of the naturalized area in Essroc Quay in Reach 2 as well as along southern section of Polson Quay until the completion of Phase 4 to avoid negative effects to mooring revenue and Lafarge’s existing operations</li> <li>• The feasibility of increasing mooring in other areas to address dockwall removal / modification will be investigated.</li> </ul>
	3, 6	<p><i>Existing Land Use</i></p> <ul style="list-style-type: none"> <li>• Enter into discussions with TPA to ensure that the new location for the works yard addresses their requirements and to determine operational responsibility for sediment and debris management in its new location</li> <li>• Enter into discussions with TPA and other long-term leaseholders in the area to understand available remaining dockwall and identify alternative mooring locations for vessels</li> <li>• Provide TPA and other long-term leaseholders (e.g., Lafarge) with advanced notification of anticipated high flow events via the TRCA Storm Advisory System</li> <li>• Provide TPA and other long-term leaseholders (e.g., Lafarge) with real-time access to TRCA’s Don River stream gauge information</li> </ul>

**Table E-5 DMNP Mitigation Measures**

Effect	Project Objective(s)	Mitigation Measures
		<ul style="list-style-type: none"> <li>• Discuss with TPA the need for:               <ul style="list-style-type: none"> <li>▪ Installation of aids to navigation, such as wayfinding signage for recreational users to encourage them to avoid areas used for commercial purposes; and,</li> <li>▪ Implementation of communication systems, such as a website or telephone service that provide recreational users with information on pending movements of commercial vessels</li> </ul> </li> <li>• Where property is under ownership by the City of Toronto or its agents (i.e., TPLC), lessees will be given proper notice and leases will be terminated or not renewed prior to commencement of construction activities as per the terms of the leases</li> <li>• Where property is privately held, is subject to longer-term leases or is owned by the TPA, arrangements will be made for loss of property and / or activity (i.e., negotiations for potential relocation and / or compensation)</li> <li>• Ensure long-term maintenance takes place to prevent degradation and replacement costs</li> <li>• Mitigate construction-related disturbance to the 11 Sunlight Park Road property through landscaped buffering, stabilization and maintenance of vehicular access as required</li> <li>• Explore opportunities at detailed design for partnerships / cost sharing arrangements with the various landowners associated with the creation of the VWF to address grade change issues related to geotechnical and soil contamination, as appropriate</li> </ul>
	4	<p><i>Infrastructure and Utilities</i></p> <ul style="list-style-type: none"> <li>• Install backflow prevention devices or reroute SSOs to convey stormwater away from the Don River</li> <li>• Continue to meet with utility providers, including HONI, to confirm that these utilities may be removed, retrofitted, relocated or extended, explore cost sharing opportunities and to develop an approach to maintain servicing during construction</li> <li>• An agreement has been reached with Toronto Hydro that they will be responsible for the relocation of their infrastructure over Lake Shore Boulevard during the implementation of the DMNP</li> <li>• Develop a strategy with HONI to ensure that impacts to underground circuits as a result of filling are adequately mitigated or compensation is provided for relocation</li> <li>• Co-ordinate with HONI to ensure vertical clearances are sufficient and that protective treatment to the base of the towers is applied to prevent corrosion and ensure the towers remain stable</li> <li>• Co-ordinate with HONI to ensure vertical clearances are sufficient and that protective treatment to the base of the towers is applied to prevent corrosion and ensure the towers remain stable</li> <li>• Develop a strategy with HONI to ensure that the circuits on the utility bridge can be relocated without disruption to service prior to the removal of the bridge</li> </ul>
	5	<p><i>Land-Based and Marine Recreation</i></p> <ul style="list-style-type: none"> <li>• Erect signage and / or barriers to discourage or prevent motorized watercraft from entering low flow channel and non-motorized watercraft from wetland areas</li> <li>• Areas of in-water works will be appropriately marked for navigation</li> <li>• Safe access will be maintained during construction activities and proper signage will signal where recreational marine users may go</li> <li>• Trail access will be maintained through temporary realignments</li> <li>• Advanced notification of changes to trail access will be provided</li> <li>• Where needed, construction signage and detours implemented</li> </ul>
	5	<p><i>Visual Effect</i></p> <ul style="list-style-type: none"> <li>• Use landscaping or other measures, such as screening walls or berms dressed with plantings, to screen views of equipment</li> </ul>

**Table E-5 DMNP Mitigation Measures**

Effect	Project Objective(s)	Mitigation Measures
<b>Physical and Cultural Heritage Resources</b>	5	<p><i>Built Heritage and Cultural Landscape Resources</i></p> <ul style="list-style-type: none"> <li>Recognize heritage value of displaced cultural heritage landscapes, including Port Lands Industrial District, Commissioners, Villiers and Cherry Streets (including Keating Channel bridge) and Polson dockwall through signage and / or plaques or other commemorative interpretive material or programs</li> <li>Prepare a cultural heritage evaluation report(s) or a municipal Heritage Impact Assessment for the Marine Terminal 35, Atlas Crane site and one storey brick warehouse at 242-292 Cherry Street in collaboration with the City's Heritage Preservation Services unit and other heritage stakeholders, which will assess the property's cultural heritage value, the impacts to the property and potential conservation and mitigation options which would include conserving, relocating, raising or commemorating the resource</li> <li>Relocate potentially displaced built heritage resources (i.e., structures) on- or off-site where possible or incorporate the resource into the design of the new river mouth; where relocation is not possible, recognize heritage value of displaced resources through signage and / or plaques or other commemorative interpretive material or programs</li> <li>Mitigate construction-related disturbance to built heritage resources and cultural heritage landscapes through landscaped buffering, stabilization and maintenance of vehicular access as required</li> </ul>
	5	<p><i>Archaeological Resources</i></p> <ul style="list-style-type: none"> <li>A professional archaeologist will be on-site at regular intervals to monitor excavation in areas of archaeological potential, including in the vicinity of LDP-1, 2, 3 and 4 and other areas cited in the Archaeological Conservation Management Strategy (ACMS) which form part of the study area</li> <li>If artifacts are found, the Ministry of Tourism, Culture and Sport will be notified and construction in the area of the find will cease until the significance of the resource can be evaluated by a professional licenced archaeologist</li> <li>If Aboriginal artifacts are encountered, the City of Toronto's protocol for engaging Aboriginal communities will be followed</li> <li>LDP-1, LDP-2, LDP-3 and LDP-4 will be documented by a professional archaeologist monitoring construction in the site areas as required by the ACMS. LDP-5 and LDP-8 will be recognized through signage or other interpretive material or programs as required by the ACMS</li> <li>All features cited in the ACMS are worthy of site commemoration and interpretation</li> </ul>
<b>Aboriginal Interests (Traditional Land and Resources Use, Cultural Heritage)</b>	5	<ul style="list-style-type: none"> <li>Incorporate heritage aspects into the design of the DMNP where feasible</li> <li>Through consultation with Aboriginal communities, opportunities were identified to incorporate heritage aspects, such as using specific vegetation communities (e.g., wild rice) and the need for carp controls to allow for the establishment of wild rice, into the design of the DMNP. Further consultation with the Aboriginal groups as requested, will occur during the final design and construction of the DMNP</li> </ul>

## 7.1 Consistency of DMNP with Project Objectives

With proper mitigations in place, the DMNP will address the seven objectives in the following ways shown in **Table E-6**.

**Table E-6 Consistency of DMNP with Project Objectives**

Project Objective	DMNP Consistency
<p><b>1. Naturalization</b></p>	<ul style="list-style-type: none"> <li>• Naturalization of the mouth of the Don River creates aquatic, wetland and terrestrial habitat and significantly improvements connections with other natural areas (Environmentally Significant Areas (ESA), Cherry Beach, Tommy Thompson Park).</li> <li>• Increase in migratory bird refuge function and bird biodiversity.</li> <li>• Creation of 13 hectares of permanent aquatic habitat, four hectares of terrestrial habitat, 13 hectares of wetlands.</li> <li>• Improved water quality within the lake-connected wetlands compared to the Keating Channel.</li> </ul>
<p><b>2. Flood Protection</b></p>	<ul style="list-style-type: none"> <li>• Removal of over 240 hectares of land and 850 buildings from flood risk, without exacerbating flood risk elsewhere. The removal of flood risk will allow the re-development of new communities as planned in the amended Central Waterfront Secondary Plan. It will also remove the potential for damages that are estimated to exceed \$305 million (in 2010 dollars) associated with existing development in the event of a Regulatory Flood.</li> <li>• Increased assessment values within the Lower Don Lands as a result of removal of flood risk and increase in amenity value created by new river channel, floodplain and park system. The value of these lands is estimated to increase 25-fold once construction is complete.</li> </ul>
<p><b>3. Operational Management and Constructability</b></p>	<ul style="list-style-type: none"> <li>• Capacity to adapt the DMNP with respect to naturalization and flood protection against the possible effects of climate change.</li> <li>• Greater flexibility in dredging operations due to changes in dredging technology.</li> </ul>
<p><b>4. Integration with Infrastructure</b></p>	<ul style="list-style-type: none"> <li>• Revitalization of a derelict section of the waterfront through an innovative method of community-planning: integrating the form and function of the river with the surrounding development and infrastructure, leading to communities that are built in harmony with natural processes.</li> </ul>
<p><b>5. Recreational and Cultural Opportunities</b></p>	<ul style="list-style-type: none"> <li>• Creation of an exciting destination along Toronto's waterfront for both residents and local and regional visitors. This new, revitalized destination in the heart of the City will introduce new generations of visitors to one of the rivers that marked the original boundaries of Toronto.</li> <li>• A new series of pedestrian and biking trails with connectivity to existing recreational trails and increased length of river for recreational boating.</li> </ul>
<p><b>6. Co-ordination with Other Planning Initiatives</b></p>	<ul style="list-style-type: none"> <li>• Planning for the naturalization of the new valley system and river mouth has been co-ordinated with relevant planning documents and policies throughout the EA process.</li> <li>• Planning is consistent with the intent of the Provincial Policy Statement, <i>Places to Grow Act</i> and the Growth Plan for the Greater Golden Horseshoe (Growth Plan).</li> <li>• Removal of flood risk permits planned mixed use redevelopment which will increase property assessment values and thus property taxes.</li> <li>• Infrastructure investment resulting in 3,900 full-time job years in direct employment and 4,900 full-time job years in indirect and induced employment.</li> </ul>
<p><b>7. Consistency with Waterfront Toronto Sustainability Framework</b></p>	<ul style="list-style-type: none"> <li>• Excavation and treatment / disposal of up to 2.3 million cubic metres of soil and isolation of contaminated groundwater from the new naturalized area.</li> </ul>

## 8. Monitoring and Adaptive Environmental Management

### 8.1 DMNP Monitoring Program

A comprehensive monitoring program is a critical element of the DMNP from the pre-design through to post-establishment. The monitoring program serves several functions throughout the life of the DMNP:

1. Baseline conditions monitoring during pre-design and detailed design will continue to provide data that will inform detailed design elements and identify changes to the existing environment that may affect project outcomes;
2. EA compliance monitoring will ensure compliance with EA commitments (as shown in **Table E-7**) and ensure that the DMNP is constructed according to the minimum design requirements and final design elements; and,
3. Environmental performance monitoring will measure if the DMNP functions as intended during establishment / post-establishment and facilitate Adaptive Environmental Management (AEM) of the new river valley system.

A standardized data collection protocol will be established for the monitoring program to ensure data consistency. The specific data that are collected will depend on the current phase of the DMNP so the type of data collected will evolve as the DMNP progresses.

### 8.2 Adaptive Environmental Management

A comprehensive AEM approach will be used to address long term environmental change, maintain flexibility in strategies to achieve desired outcomes, and to ensure that up-to-date information is available for detailed design. This will ensure that the DMNP continues to function as designed and project objectives continue to be achieved through positive feedback mechanisms.

The AEM framework is a cycle of monitoring, evaluation, adaptation and learning that will allow designers and project managers to maximize project benefits while minimizing negative effects. The details of the plan will be defined during the detailed design as project designs are finalized.

**Table E-7 DMNP EA Commitments**

Timing	EA Commitment	EA Report Reference
<b>Detailed Design</b>	<ul style="list-style-type: none"> <li>Obtain all required authorizations and approvals.</li> </ul>	Section 1.5
	<ul style="list-style-type: none"> <li>Prior to the start of works, ongoing discussions between Ministry of Natural Resources (MNR), Ministry of Municipal Affairs and Housing (MMAH), City of Toronto, TRCA and Waterfront Toronto will be required to determine the appropriate approach and timing for modification or removal of the Special Policy Area (SPA) designation for Spill Zone 1 and Spill Zone 2.</li> </ul>	Section 1.5
	<ul style="list-style-type: none"> <li>The Adaptive Management of Stream Corridors in Ontario Natural Hazards Technical Guides (MNR, 2002) will be consulted to ensure that all flood protection features are in accordance with the Ministry of Natural Resources' natural hazard policies as they relate to the Provincial Policy Statement (PPS).</li> </ul>	Section 6.1.1
	<ul style="list-style-type: none"> <li>The DMNP will involve a wide range of operational and maintenance refinements that likely will involve a wide range of different agencies (e.g., TPA and Toronto Parks), requiring a co-ordinated approach to understanding and developing operational modifications and agreements following EA approval.</li> </ul>	Section 6.4
	<ul style="list-style-type: none"> <li>Quantities of groundwater requiring management will be estimated during the development of a Risk Assessment/Risk Management (RA/RM) approach. At that time, the need for a Permit to Take Water will be confirmed.</li> </ul>	Section 6.5.6.1
	<ul style="list-style-type: none"> <li>Develop a project-specific Environmental Management Plan (EMP) in accordance with the Waterfront Toronto Environmental Management Plan for Project-Related Activities (Waterfront Toronto, 2009b) during detailed design to describe specific mitigation and management measures, including drainage and erosion / sediment management and spill response to avoid any effects on the environment during construction.</li> </ul>	Section 6.6
	<ul style="list-style-type: none"> <li>During each phase of construction, undertake a RA/RM approach for the management of soils that are excavated from the site.</li> </ul>	Section 6.6 and Section 7.3.7
	<ul style="list-style-type: none"> <li>Continue to meet with utility providers, including HONI, to confirm that these utilities may be removed, retrofitted, relocated or extended, explore cost sharing opportunities and to develop an approach to maintain servicing during construction.</li> </ul>	Section 6.6.2.5, Section 7.3.4 and Section 10.2.6
	<ul style="list-style-type: none"> <li>Confirm conveyance of the Regulatory Flood, plus required 0.5 metre freeboard, without affecting areas beyond the new river valley system, including ensuring that channel configuration in the trap area is such that any impacts to the adjacent areas are acceptable to the regulator.</li> </ul>	Section 7.3.2 Appendix N-1
	<ul style="list-style-type: none"> <li>The construction phasing strategy will provide continued dockwall and waterlot access for Lafarge at their current location until they no longer operate on the property.</li> </ul>	Section 7.3.3 and Section 7.3.6
	<ul style="list-style-type: none"> <li>Arrangements will be made with TPA and other long-term leaseholders in the area for lost mooring revenue (i.e., negotiations regarding compensation).</li> </ul>	Section 7.3.3 and Section 10.1.2.10
	<ul style="list-style-type: none"> <li>Enter into discussions with TPA to ensure that the new location for the works yard addresses their requirements and to determine operational responsibility for sediment and debris management in its new location.</li> </ul>	Section 7.3.3
	<ul style="list-style-type: none"> <li>Enter into discussions with TPA and other long-term leaseholders in the area to understand available remaining dockwall and identify alternative mooring locations for vessels.</li> </ul>	Section 7.3.3 and Section 10.1.2.10
	<ul style="list-style-type: none"> <li>Discuss with TPA the need for:                             <ul style="list-style-type: none"> <li>Installation of aids to navigation, such as wayfinding signage for recreational users to encourage them to avoid areas used for commercial purposes; and,</li> <li>Implementation of communication systems, such as a website or telephone service that provide recreational users with information on pending movements of commercial vessels.</li> </ul> </li> </ul>	Section 7.3.3

**Table E-7 DMNP EA Commitments**

Timing	EA Commitment	EA Report Reference
	<ul style="list-style-type: none"> <li>Prepare a cultural heritage evaluation report(s) or a municipal Heritage Impact Assessment for the Marine Terminal 35, Atlas Crane site and one storey brick warehouse at 242-292 Cherry Street in collaboration with the City's Heritage Preservation Services unit and other heritage stakeholders, which will assess the property's cultural heritage value, the impacts to the property and potential conservation and mitigation options which would include conserving, relocating, raising or commemorating the resource.</li> </ul>	Section 7.3.5
	<ul style="list-style-type: none"> <li>Incorporate heritage aspects into the design of the DMNP where feasible.</li> <li>Through consultation with Aboriginal communities, opportunities were identified to incorporate heritage aspects, such as using specific vegetation communities (e.g., wild rice) and the need for carp controls to allow for the establishment of wild rice, into the design of the DMNP. Further consultation with the Aboriginal groups, as requested, will occur during the final design and construction of the DMNP.</li> </ul>	Section 7.3.5
	<ul style="list-style-type: none"> <li>Continue to engage the Mississaugas of the New Credit First Nation, the Métis Nation of Ontario and other Aboriginal communities, as requested.</li> </ul>	Section 7.3.5
	<ul style="list-style-type: none"> <li>Update and provide to MOE for review the noise assessment related to Sediment and Debris Management Area once dewatering technology has been selected to confirm effects on receptors near Reach 3a.</li> </ul>	Section 7.3.6
	<ul style="list-style-type: none"> <li>Undertake baseline conditions monitoring and modelling work to ensure that the most up-to-date and relevant information is used to develop the detailed design for the DMNP.</li> </ul>	Section 8.1.1
	<ul style="list-style-type: none"> <li>Prepare and submit to MOE an annual report on the status of compliance with EA commitments and conditions of approval.</li> </ul>	Section 8.1.2
	<ul style="list-style-type: none"> <li>Develop a detailed compliance monitoring plan as part of the overall specific EMP to guide compliance monitoring during construction.</li> </ul>	Section 8.1.2
	<ul style="list-style-type: none"> <li>TRCA will work in consultation with Waterfront Toronto, the City of Toronto and other relevant stakeholders to develop monitoring objectives and performance indicators and measures during the detailed design process for the DMNP.</li> </ul>	Section 8.2.3
	<ul style="list-style-type: none"> <li>In the event that there are amendments to the design, prepare a technical memo to document the proposed modifications and their potential effects identified through the AEM process.</li> <li>The technical memo will be drafted by the TRCA in consultation with Waterfront Toronto and City of Toronto and will be circulated to appropriate stakeholders.</li> </ul>	Section 9.2
	<ul style="list-style-type: none"> <li>Establish an advisory committee of local stakeholders who will be involved during detailed design and construction, particularly as it relates to soils and groundwater management issues relating to public health and risk.</li> </ul>	Section 10.4
	<ul style="list-style-type: none"> <li>Host a Public Forum to review the detailed design of the DMNP and seek public input on any new information that is available to feed into the process, including similar engagement with other agencies and landowners.</li> </ul>	Section 10.4
	<ul style="list-style-type: none"> <li>DMNP newsletter updates to be provided summarizing progress on detailed design and construction-related work.</li> </ul>	Section 10.4
	<ul style="list-style-type: none"> <li>Post regular project updates to the project webpage co-ordinated between TRCA, Waterfront Toronto and City of Toronto.</li> </ul>	Section 10.4
<b>Construction</b>	<ul style="list-style-type: none"> <li>Ensure that all backfill material brought onto the DMNP lands from off-site sources has engineering characteristics suitable for its intended use and meets the soil quality standards, as provided in O.Reg. 153/04 and described in the Soils Management Master Plan.</li> </ul>	Section 6.5.4
	<ul style="list-style-type: none"> <li>Manage groundwater in accordance with the RA/RM and the requirements of Waterfront Toronto's draft Groundwater Management Master Plan.</li> </ul>	Section 6.5.6
	<ul style="list-style-type: none"> <li>Continue dredging of the Keating Channel to maintain its current hydraulic capacity until the new river valley is connected to the lake.</li> </ul>	Section 6.6
	<ul style="list-style-type: none"> <li>Manage soil in accordance with the RA/RM.</li> </ul>	Section 6.6

**Table E-7 DMNP EA Commitments**

Timing	EA Commitment	EA Report Reference
	<ul style="list-style-type: none"> <li>Apply the project-specific EMP to avoid any effects on the environment during construction.</li> </ul>	Section 6.6
	<ul style="list-style-type: none"> <li>Construction of the proposed floodplain will not worsen existing flooding conditions and will be timed to minimize flood risk wherever possible.</li> </ul>	Section 6.6
	<ul style="list-style-type: none"> <li>Phasing of the river valley will be co-ordinated to minimize impacts and to accommodate continued use by vehicles, cyclists and pedestrian movement, where appropriate and possible.</li> </ul>	Section 6.6
	<ul style="list-style-type: none"> <li>Construction related to removal of soils will occur “in the dry” (i.e., isolated from the lake and river) wherever feasible and infrastructure will be installed concurrently as excavation of the new river valley proceeds to minimize environmental implications during construction and maximize construction efficiencies.</li> </ul>	Section 6.6
	<ul style="list-style-type: none"> <li>Nuisance effects, including noise, dust and combustion emissions, will be minimized to the extent possible through the application of BMPs.</li> </ul>	Section 6.6
	<ul style="list-style-type: none"> <li>Provide advance notice to TPA and other long-term leaseholders in the area in order to inform users of potential dockwall removal / modification.</li> </ul>	Section 7.3.3
	<ul style="list-style-type: none"> <li>Provide TPA and other long-term leaseholders (e.g., Lafarge) with advanced notification of anticipated high flow events via the TRCA Storm Advisory System.</li> </ul>	Section 7.3.3
	<ul style="list-style-type: none"> <li>Provide TPA and other long-term leaseholders (e.g., Lafarge) with real-time access to TRCA’s Don River stream gauge information.</li> </ul>	Section 7.3.3
	<ul style="list-style-type: none"> <li>Consult with emergency services (i.e., Toronto Fire Service, Emergency Medical Service (EMS) and police) in advance of any road closures so that alternative emergency dispatch protocols can be implemented if required.</li> </ul>	Section 7.3.4
	<ul style="list-style-type: none"> <li>Provide advanced notification to Toronto Fire Service prior to construction works associated with municipal water flow to any fire hydrants and / or buildings.</li> </ul>	Section 7.3.4
	<ul style="list-style-type: none"> <li>Provide alternate access and re-routing signage to businesses as required and maintain emergency access to adjacent structures and buildings.</li> </ul>	Section 7.3.4
	<ul style="list-style-type: none"> <li>Ensure a professional archaeologist is on-site at regular intervals to monitor excavation in areas of archaeological potential, including in the vicinity of LDP-1, 2, 3 and 4 and other areas cited in Waterfront Toronto’s Archaeological Conservation Management Strategy (ACMS) (2008b) which form part of the study area.</li> <li>If artifacts are found, the Ministry of Tourism, Culture and Sport (MTCS) will be notified and construction in the area of the find will cease until the significance of the resource can be evaluated by a professional licenced archaeologist.</li> <li>If Aboriginal artifacts are encountered, the City of Toronto’s protocol for engaging Aboriginal communities will be followed.</li> <li>LDP-1, LDP-2, LDP-3 and LDP-4 will be documented by a professional archaeologist monitoring construction in the site areas as required by the ACMS. LDP-5 and LDP-8 will be recognized through signage or other interpretive material or programs as required by the ACMS.</li> <li>All features cited in the ACMS are worthy of site commemoration and interpretation.</li> </ul>	Section 7.3.5 and Section 10.1.3.5
	<ul style="list-style-type: none"> <li>Where property is under ownership by the City of Toronto or its agents (i.e., Toronto Port Lands Company), lessees will be given proper notice and leases will be terminated or not renewed prior to commencement of construction activities as per the terms of the leases.</li> </ul>	Section 7.3.6
	<ul style="list-style-type: none"> <li>Where property is privately held, is subject to longer-term leases or is owned by the TPA, arrangements will be made for loss of property and / or activity (i.e., negotiations for potential relocation and / or compensation).</li> </ul>	Section 7.3.6
	<ul style="list-style-type: none"> <li>Undertake baseline conditions monitoring during construction to determine whether significant changes in the existing environmental conditions have occurred that would influence the form and function of the DMNP.</li> </ul>	Section 8.1.1
	<ul style="list-style-type: none"> <li>Establish an advisory committee of local stakeholders who will be involved during detailed design and construction, particularly as it relates to soils and groundwater management issues relating to public health and risk.</li> </ul>	Section 10.4

**Table E-7 DMNP EA Commitments**

Timing	EA Commitment	EA Report Reference
	<ul style="list-style-type: none"> <li>Host a Public Forum to provide construction details and schedules when the information is available.</li> </ul>	Section 10.4
	<ul style="list-style-type: none"> <li>DMNP newsletter updates to be provided summarizing progress on detailed design and construction-related work.</li> </ul>	Section 10.4
	<ul style="list-style-type: none"> <li>Establish a mechanism to ensure the reporting and investigation of complaints arising from construction activities.</li> </ul>	Section 10.4
<b>Establishment / Post- Establishment</b>	<ul style="list-style-type: none"> <li>All operational considerations including any design refinements of naturalization components will require discussion between the appropriate parties following EA approval.</li> </ul>	Section 6.4
	<ul style="list-style-type: none"> <li>Ensure regular dredging of sediment trap and management of Sediment and Debris Management Area.</li> </ul>	Section 7.3.1, 7.3.3 and 7.3.5
	<ul style="list-style-type: none"> <li>Ensure long-term maintenance of connecting feeder channels to eliminate infilling with sediments and effectively maintain wetlands.</li> </ul>	Section 7.3.3 and Appendix N-2
	<ul style="list-style-type: none"> <li>Conduct regular maintenance of upstream and sideflow weirs to ensure proper operation during flood events.</li> </ul>	Section 7.3.3
	<ul style="list-style-type: none"> <li>Ensure regular inspection maintenance of slurry pipe along the Don Roadway to minimize clogging and maintain conveyance of sediment, if required.</li> </ul>	Section 7.3.4
	<ul style="list-style-type: none"> <li>Monitor environmental performance to measure desired outcomes related to naturalization, flood protection (including management of the impacts of more frequent flooding events) and sediment, debris and ice management; determine if they have been achieved; trigger adaptive measures where necessary; and inform the refinement of the as-built features.</li> </ul>	Section 8.2.3
<b>Commitments Affecting Other Projects</b>	<ul style="list-style-type: none"> <li>New development areas as defined within the PPS will be required to be set back from the top of valley slope of the new river valley by 10 metres horizontally.</li> </ul>	Section 6.1.1.2
	<ul style="list-style-type: none"> <li>All vehicular traffic / fixed bridges will be designed to meet flood conveyance requirements as well as the requirements for the continued navigation of small watercraft (e.g., canoes, zodiacs).</li> </ul>	Section 6.2.1
	<ul style="list-style-type: none"> <li>All crossings will be designed to span the floodplain and to pass the Regulatory Flood with 0.5 metre freeboard (with the exception of the Lake Shore Boulevard and Harbour lead crossings).</li> </ul>	Section 6.2.1
	<ul style="list-style-type: none"> <li>Co-ordinate with infrastructure construction to ensure utility conduits and bridge crossings proceed in conjunction with construction of new river valley.</li> </ul>	Sections 6.6.2.5 and 6.6.3.4

## 9. EA Amendment Process

The AEM strategy may trigger proposed modifications to the project design and / or construction scheduling if project objectives are not being achieved. A detailed method to identify the types of modifications that will trigger further environmental approval (EA amendments) was developed for this purpose.

TRCA is responsible for reviewing monitoring data and identifying opportunities to alter or improve the project management, design, construction phasing and operations. TRCA, Waterfront Toronto and the City of Toronto may also identify modifications to project design or construction scheduling based on other factors such as project funding status. When a need to modify the DMNP is identified, an internal effects assessment will be conducted to assess the impact of the modifications on environmental components (as predicted in the EA) and desired project outcomes. Wherever possible, any proposed modifications will minimize adverse environmental effects and / or maximize project benefits. This effects assessment will determine the need (or lack thereof) for further review by the appropriate regulatory body, such as the MOE.

If modifications to the DMNP do not worsen the predicted impacts / effects and do not represent a major perceived change from the perspective of the public and / or agencies, they can be implemented through the existing regulatory process.

## 10. Consultation Record

The consultation undertaken in support of the DMNP was guided by the consultation plan developed during the ToR for the DMNP EA. The consultation program for the DMNP followed the guidelines set out in TWRC's Development Plan & Business Strategy for the Revitalization of Toronto's Waterfront (2002), which required the co-proponents to consult with a wide range of interested members of the public, agencies and Aboriginal communities.

During the DMNP EA process, the co-proponents hosted six public events in total, including a site walk, boat cruise and five formal public forums. These forums were open to any member of the public or interested organization, and stakeholder lists were developed from previous projects related to the same area. A Community Liaison Committee and Land User Advisory Committee were also established, represented by citizen groups, Aboriginal groups and politicians. Other public consultation activities included newsletters / flyers, information on the TRCA's website and community workshops and events.

Given the complexity of the project, and the large number of agencies groups requiring consultation, the Study Team undertook a substantial agency consultation program throughout the EA. The consultation strategy included meetings and workshops with the following agencies / groups:

- Environmental Assessment Regulators (MOE, Canadian Environmental Assessment Agency (CEAA), DFO & Transport Canada);
- City of Toronto;
- Aquatic Habitat Toronto;
- TPA;
- Utilities;
- Railway owners and operators;
- Landowners; and,
- Related projects.

The DMNP is located within the area of the Toronto Purchase Specific Claim (settled in 2010), which is the territory of the Mississaugas of the New Credit First Nation. Since archaeological evidence indicates that many other Aboriginal communities have occupied the project area over the centuries, efforts were also made to contact the following organizations and communities to discuss the DMNP more fully:

- Mississaugas of the New Credit First Nation;
- Miziwe Biik;
- Alderville First Nation;
- Curve Lake First Nation;
- Anishnabek Nation;
- Chippewas of Mnjikaning First Nation (Rama First Nation);
- Chippewas of Georgina Island First Nation;
- Ogemawhj Nation;
- Association of Iroquois and Allied First Nations
- Kawartha Nishnawbe First Nation;
- Conseil de la Nation Huronne-Wendat (Huron Wendat First Nation);
- Hiawatha First Nation;
- Chiefs of Ontario;
- Mississaugas of Scugog Island First Nation;
- Chippewas of Beausoleil First Nation;
- Toronto and York Region Métis Council;
- Métis Nation of Ontario; and,
- Native Canadian Centre.

Meetings and workshops were held with representatives of the Mississaugas of the New Credit First Nation, Chippewas of Mnjikaning First Nation (a member First Nation of the Ogemawahj Tribal Council), Williams Treaty First Nations and the Métis Nation of Ontario.

## 11. Advantages and Disadvantages

The outcomes of the DMNP are strongly beneficial for all aspects of the environment, resulting in a redesigned river mouth that will properly convey floodwaters, act as a habitat for wildlife and be a destination for residents and visitors alike.

The DMNP is a ground-breaking project, using an innovative method of community planning that integrates the form and function of the river with the surrounding development and infrastructure. The DMNP will achieve the objectives set out in the ToR and reaffirmed in the EA by creating a functioning river mouth that will remove over 240 hectares of land and 850 buildings from flood risk in Spill Zones 1 and 2. This removal of flood risk will allow development within the Port Lands to occur as planned in the amended Central Waterfront Secondary Plan (CWSP). The value of these lands is estimated to increase from \$20 million presently to \$470 million (in 2010 dollars) once construction is complete.

Naturalization of the river mouth will create higher-quality aquatic, terrestrial and wetland habitat, which will lead to increased biodiversity and significantly-improved habitat connections, a more resilient river valley system and a number of new recreational opportunities. The mouth of the Don River will become a destination for residents and visitors both locally and regionally.

In addition, changes to existing dredging technology (hydraulic dredge, slurry pipe and hydrocyclone) are expected to provide for greater flexibility during operations, since the dredge can be easily moved to different locations and the hydrocyclone allows for the potential reuse of clean sediment for beneficial purposes.

Further, all components of the design have been developed to align with Waterfront Toronto's Sustainability Framework, where possible. The Sustainability Framework provides the overarching corporate policy for the integration of sustainability principles into all facets of decision making and project delivery.

The disadvantages of the DMNP will primarily occur during construction. Temporary negative effects include minimal nuisance effects (i.e., air, noise, combustion emissions and traffic) to recreational users, businesses and future residents and necessary relocation of current business uses on leased lands, all of which will be minimized by BMPs. The permanent loss of low-quality habitat will be offset by significant gains in higher-quality and higher-functioning habitat, as described above. The majority of heritage buildings are being avoided by the river the buildings that are not, will be relocated / commemorated in an appropriate manner. Where construction of the DMNP displaces or disrupts the use of property that is privately held, is subject to longer-term leases, or is owned by the Federal government, arrangements will be made for loss of property and / or activity (i.e., negotiations for potential relocation and / or compensation).

Conversely, construction of the DMNP will have the benefit of improving local economic conditions by creating a significant number of construction-related jobs. The costs of the DMNP (maintenance, loss of mooring revenue and removal of existing land uses) will be more than offset by the billions of dollars of investment in the Lower Don Lands and Port Lands that becomes possible after construction of the DMNP and the additional economic value and quality of life improvements that the DMNP will provide. Without the DMNP, development of the Lower Don Lands as envisioned by the City of Toronto, Waterfront Toronto and TRCA cannot proceed.

In conclusion, the negative net effects of the DMNP, most of which will occur during construction and are considered to be temporary or negligible, are more than offset by the much greater positive contributions of the DMNP, including flood protection, naturalization, revitalization, employment and recreational opportunities, broad economic benefits and improved operation of the river system. The DMNP will transform a degraded area with limited potential for use into a spectacular public greenspace in the heart of downtown Toronto, surrounded by a progressive and sustainable urban fabric. The DMNP epitomizes excellence in landscape and urban design and incorporates state-of-the-art technologies and science, combined with progressive ecological management principles. The final outcome of the DMNP is an environment far superior to existing conditions.