

Table of Contents

	page
Executive Summary	ES-1
1. Introduction	1-1
1.1 Project Background.....	1-1
1.2 Project Goals and Objectives	1-3
1.3 Proponent	1-6
1.4 EA Framework	1-6
1.4.1 The Ontario EA Act.....	1-7
1.4.2 The CEAA.....	1-9
1.4.3 Coordinated EA Process	1-10
1.4.4 Lower Don Lands Framework Plan	1-11
1.4.5 Lower Don Lands Infrastructure Municipal Class EA	1-13
1.5 Other Approvals.....	1-13
1.6 Overview of EA Report	1-14
2. Purpose of the Undertaking	2-1
2.1 Problem Assessment.....	2-1
2.1.1 Ecologically Dysfunctional River Mouth.....	2-1
2.1.2 Flood Risk Vulnerability	2-2
2.1.3 Derelict Waterfront	2-4
2.2 Opportunity Assessment.....	2-4
2.2.1 A Naturalized River Mouth.....	2-4
2.2.2 Flood Protection.....	2-5
2.2.3 Revitalized Waterfront	2-5
2.2.3.1 Waterfront Toronto's Sustainability Framework	2-5
2.2.3.2 International Design Competition	2-6
2.3 Study Areas	2-8
2.3.1 Project Study Area.....	2-8
2.3.2 Impact Assessment Study Area.....	2-11
2.4 Temporal Boundaries.....	2-13
3. Description of the Potentially Affected Environment	3-1
3.1 River Characteristics in the Project and Impact Assessment Study Areas	3-1
3.1.1 Channel Origins	3-6
3.1.1.1 Geology of the Project and Impact Assessment Study Areas.....	3-6
3.1.1.2 Soils of the Project and Impact Assessment Study Areas	3-6
3.1.1.3 Geomorphology of the Project and Impact Assessment Study Areas	3-7
3.1.2 Hydrology.....	3-7
3.1.3 Flooding	3-9
3.1.4 Water Quality	3-12
3.1.4.1 Impact Assessment Study Area	3-13
3.1.4.2 Project Study Area.....	3-13
3.1.5 Sediment Quality and Quantity	3-16
3.1.5.1 Sedimentation Modelling	3-16
3.1.5.2 Sediment Characterization	3-17

3.1.5.3	Sediment Quality	3-17
3.1.6	Sediment Quantity and Sediment Management.....	3-18
3.1.7	Debris Management	3-19
3.1.8	Ice Management	3-19
3.2	Natural Environment	3-19
3.2.1	Designated Natural Areas.....	3-20
3.2.1.1	Wetlands.....	3-22
3.2.1.2	Areas of Natural and Scientific Interest (ANSI)	3-22
3.2.1.3	Environmentally Sensitive Areas (ESAs)	3-23
3.2.2	Vegetation.....	3-24
3.2.2.1	Vegetation Communities	3-24
3.2.2.2	Flora.....	3-26
3.2.3	Terrestrial Wildlife	3-29
3.2.3.1	Impact Assessment Study Area	3-29
3.2.3.2	Project Study Area.....	3-32
3.2.4	Fisheries and Aquatic Habitat.....	3-32
3.2.4.1	Impact Assessment Study Area	3-32
3.2.4.2	Project Study Area.....	3-33
3.2.5	Landscape Connectivity and Cover	3-38
3.2.5.1	Impact Assessment Study Area	3-38
3.2.5.2	Project Study Area.....	3-38
3.3	Soil and Groundwater Contamination.....	3-39
3.3.1	Overburden Conditions.....	3-40
3.3.2	Groundwater Conditions	3-40
3.3.3	Overburden Quality.....	3-40
3.3.4	Groundwater Quality	3-41
3.4	Socio-economic Environment	3-41
3.4.1	Population and Demographics.....	3-43
3.4.2	Economic Activities	3-44
3.4.2.1	Impact Assessment Study Area	3-44
3.4.2.2	Project Study Area.....	3-44
3.4.3	Existing Land Use.....	3-44
3.4.3.1	Impact Assessment Study Area	3-44
3.4.3.2	Project Study Area.....	3-46
3.4.4	Recreation Uses	3-50
3.4.4.1	Project and Impact Assessment Study Areas	3-50
3.4.5	Existing Marine Uses	3-53
3.4.5.1	Impact Assessment Study Area	3-53
3.4.5.2	Project Study Area.....	3-56
3.4.6	Land Use Planning	3-56
3.4.6.1	Impact Assessment Study Area	3-56
3.4.6.2	Project Study Area.....	3-61
3.4.7	Cultural Resources	3-62
3.4.7.1	Project Study Area.....	3-62
3.4.8	First Nation/Aboriginal Peoples' Interests.....	3-69
3.4.9	Infrastructure.....	3-70
3.4.9.1	Roadways	3-71
3.4.9.2	Rail.....	3-77
3.4.9.3	Bicycles, Pedestrians and Public Transit	3-81
3.4.9.4	Utilities	3-83

4.	Description, Evaluation and Rationale for ‘Alternatives To’ the Undertaking.....	4-1
4.1	Identification of Potential ‘Alternatives To’	4-1
4.2	Evaluation of ‘Alternatives To’	4-4
5.	Description, Evaluation and Rationale for ‘Alternative Methods’ of Carrying Out the Undertaking	5-1
5.1	Step 1: Develop Long List of Alternatives.....	5-5
5.1.1	What are the Characteristics of the River Mouth?	5-5
5.1.1.1	Flow Rate.....	5-6
5.1.1.2	Water Quality	5-7
5.1.2	What Generic Cross-sections (Forms) and Vegetation Communities (Features) are Appropriate for the DMNP?	5-8
5.1.2.1	Description of Generic Cross-Sections	5-8
5.1.2.2	Description of Habitat (Vegetation Communities)	5-12
5.1.3	What are the Conditions for Survival of the Vegetation Communities?.....	5-14
5.1.4	What ‘Alternative Methods’ are Possible?	5-16
5.1.4.1	Identifying Alternative Methods	5-16
5.1.4.2	Modeling the Alternative Methods	5-18
5.1.4.3	Summary of Long List of Alternatives.....	5-19
5.2	Step 2: Technical Feasibility Assessment of Long List.....	5-19
5.2.1	What are the Screening Criteria?	5-20
5.2.2	What Alternative Methods are Technically Feasible?.....	5-20
5.2.2.1	Discharge Points 2 and 3	5-20
5.2.2.2	Discharge Points 4W and 4S.....	5-22
5.2.2.3	Dealing with Sedimentation	5-25
5.2.2.4	Summary of Short List of Alternative Methods	5-25
5.3	Step 3: Refinement of Short List.....	5-27
5.3.1	Step 3 Refinement Attributes	5-27
5.3.1.1	Optimize Habitat	5-27
5.3.1.2	Identify Flood Protection Features	5-31
5.3.1.3	Provide for Sediment, Ice and Debris Management.....	5-31
5.3.1.4	Address Existing and Planned Infrastructure	5-31
5.3.1.5	Provide Recreational Features	5-32
5.3.1.6	Identify Opportunities to Enhance Cultural and Heritage Resources.....	5-32
5.3.2	Re-evaluation Based on International Design Competition Results.....	5-32
5.3.2.1	Re-evaluation of Steps 1 and 2	5-33
5.3.2.2	A New Alternative and Refinement of Step 3.....	5-33
5.3.3	Description of the Refined Short List of Alternatives	5-35
5.3.3.1	Alternative 2: River with discharge to the Inner Harbour.....	5-35
5.3.3.2	Alternative 3: River with discharge through the Port Lands to the Ship Channel	5-37
5.3.3.3	Alternative 4W: Combination of discharge points to the Inner Harbour and Ship Channel (Primary discharge to the Inner Harbour).....	5-39
5.3.3.4	Alternative 4S: Combination of discharge points to the Inner Harbour and Ship Channel (Primary discharge to the Ship Channel).....	5-41
5.3.3.5	Alternative 4WS: River with discharge to the Inner Harbour and two overflow spillways	5-43
5.4	Step 4: Evaluation of Short List Alternatives.....	5-45
5.4.1	Assumptions	5-46

5.4.2	Evaluation Methodology	5-46
5.4.2.1	Criteria and Indicators	5-46
5.4.2.2	Effects Assessment	5-47
5.4.2.3	Comparative Evaluation	5-47
5.4.3	Results of Comparative Evaluation.....	5-48
5.4.3.1	Naturalization.....	5-48
5.4.3.2	Flood Protection	5-51
5.4.3.3	Operational Management and Constructability	5-53
5.4.3.4	Integration with Infrastructure	5-57
5.4.3.5	Recreation and Cultural Opportunities	5-60
5.4.3.6	Co-ordination with Other Planning Efforts	5-62
5.4.3.7	Consistency with WT Sustainability Framework.....	5-65
5.4.3.8	Summary of Step 4 Comparative Evaluation of Alternatives	5-70
5.4.4	Description of the Preliminary Preferred Alternative and Confirmatory Studies.....	5-72
6.	Description of the Preferred Alternative	6-1
6.1	Overview of the Conceptual Design	6-1
6.1.1	Flood Protection Features	6-3
6.1.1.1	River Valley Formation	6-3
6.1.1.2	Don River Reach 2 and Keating Channel (Reach 2a)	6-7
6.1.1.3	Don River Reach 3 and Ship Channel Wetland (Reach 3a)	6-9
6.1.1.4	Don River Reach 4	6-10
6.1.1.5	Operation of Keating Channel Weirs.....	6-12
6.1.1.6	Grading and Setbacks of Development Areas	6-13
6.1.2	Sediment, Debris, and Ice Management	6-15
6.1.2.1	Sediment Trap	6-15
6.1.2.2	Sediment Conveyance System	6-17
6.1.2.3	Sediment Disposal and Re-Use	6-18
6.1.2.4	Sediment / Debris Management Area	6-18
6.1.2.5	Ice Management.....	6-19
6.1.3	Naturalization	6-19
6.1.3.1	Terrestrial Habitat – Open Space Habitat	6-20
6.1.3.2	Terrestrial Habitat – Valley Slope Transition	6-22
6.1.3.3	Wetland Habitat – Levee System	6-22
6.1.3.4	Wetland Habitat – Lake-Connected Wetlands	6-24
6.1.3.5	Aquatic Habitat	6-26
6.1.3.5.1	Don Mouth.....	6-26
6.1.3.5.2	Don Narrows	6-29
6.2	Integration with the Lower Don Lands	6-29
6.2.1	Vehicle, Pedestrian and Rail Crossings	6-30
6.2.1.1	Utilities	6-32
6.2.1.2	Stormwater	6-32
6.2.1.3	Public Realm and Open Space for Recreational Uses	6-33
6.3	Summary by Reach	6-35
6.4	Maintenance Associated with the Preferred Alternative.....	6-37
6.5	Phasing Plan and Construction Techniques.....	6-38
6.5.1	Management of Contaminated Soil	6-39
6.5.1.1	Characterization of Contaminated Soils	6-40
6.5.1.2	Excavation and Removal of Contaminated Soil	6-41

6.5.1.3	Treatment, Disposal and Handling of Contaminated Soil	6-42
6.5.1.3.1	Treatment at a Soil Recycling Facility	6-42
6.5.1.3.2	Disposal Off-site	6-43
6.5.1.4	Backfill Material brought onto the DMNP Lands.....	6-43
6.5.1.5	Soil Management Practices.....	6-43
6.5.2	Management of Groundwater / Surface Water	6-44
6.5.2.1	Characterization of Groundwater	6-45
6.5.2.2	Light Non-Aqueous Phase Liquids (LNAPL) / Dense Non-Aqueous Phase Liquid (DNAPL)	6-45
6.5.2.3	Groundwater Management Practices	6-45
6.5.2.4	Surface Water Management Practices.....	6-46
6.6	Description of Construction Steps	6-46
6.6.1	Step 1 – Creation of a Promontory North of the New River Mouth	6-46
6.6.2	Step 2 – Creation of the Ship Channel Wetland (Reach 3a).....	6-48
6.6.3	Step 3 – Creation of the River Mouth and Southern Promontory (Reach 4).....	6-52
6.6.3.1	Lakefilling of the Southern Promontory	6-52
6.6.3.2	Excavation and Rough Grading of the River Mouth	6-54
6.6.3.3	Lakefilling of the Remainder of the River Mouth	6-54
6.6.3.4	Fine Grading of the River Mouth	6-54
6.6.4	Step 4 – Construction of the Remainder of the Valley System (Reaches 2 and 3).....	6-56
6.6.5	Step 5 – Construction of a Sediment and Debris Management Area and Establishment of Flood Protection Features.....	6-62
6.6.5.1	Construction of the Sediment and Debris Management Area.....	6-64
6.6.5.2	Installation of Additional Flood Protection Features	6-64
6.6.6	Step 6 – Keating Channel (Reach 2a).....	6-67
6.6.7	Step 7 – Final Grading of Promontories and Areas Adjacent to the Valley System.....	6-67
7.	Step 5: Detailed Assessment of the Preferred Alternative	7-1
7.1	Approach to Step 5 Detailed Assessment	7-1
7.2	Identification of Likely Interactions	7-2
7.3	Assessment Criteria and Indicators	7-4
7.3.1	Identifying Net Effects	7-4
7.4	Effects Assessment by Component.....	7-4
7.4.1	Atmospheric Environment.....	7-6
7.4.1.1	Air Quality	7-6
7.4.1.2	Noise.....	7-10
7.4.2	Geology and Soils.....	7-14
7.4.3	Groundwater Quality.....	7-18
7.4.4	Hydrology and Surface Water.....	7-21
7.4.4.1	Stormwater Quality and Quantity.....	7-21
7.4.4.2	Lake / River Water Quality.....	7-23
7.4.4.3	Flooding.....	7-27
7.4.5	Wetland Environment (Wetland Biota, Wetland Habitat).....	7-30
7.4.6	Aquatic Environment (Sediment Quality and Quantity, Aquatic Biota, Aquatic Habitat)	7-34
7.4.7	Terrestrial Environment (Vegetation Communities, Wildlife Habitat, Wildlife Biota, Wildlife Linkages/Connectivity)	7-38
7.4.8	Socio-Economic	7-41
7.4.8.1	Existing Land Use.....	7-41
7.4.8.2	Planned Land Use	7-50

7.4.8.3	Economic Base.....	7-54
7.4.8.4	Land-Based and Marine Recreation.....	7-58
7.4.8.5	Visual Effect.....	7-63
7.4.8.6	Traffic, Road Infrastructure and Emergency Services	7-65
7.4.9	Physical and Cultural Heritage Resources	7-69
7.4.9.1	Built Heritage and Cultural Landscape Resources.....	7-69
7.4.9.2	Archaeological Resources.....	7-72
7.4.9.3	Aboriginal Interests (Traditional Land and Resource Use, Culture and Heritage).....	7-74
7.5	Summary of Effects by Objective.....	7-76
7.5.1	Objective 1: Naturalization.....	7-78
7.5.2	Objective 2: Flood Protection.....	7-79
7.5.3	Objective 3: Operational Management and Constructability	7-79
7.5.4	Objective 4: Integration with Infrastructure	7-81
7.5.5	Objective 5: Recreational and Cultural Opportunities.....	7-82
7.5.6	Objective 6: Co-ordination with Other Planning Initiatives.....	7-83
7.5.7	Objective 7: Consistency with the WT Sustainability Framework.....	7-84
7.6	Summary of Mitigation Measures	7-85
8.	Monitoring and Adaptive Environmental Management	8-1
8.1	DMNP Monitoring Program.....	8-3
8.1.1	Baseline Conditions Monitoring	8-3
8.1.2	EA Compliance Monitoring	8-4
8.1.3	Environmental Performance Monitoring	8-8
8.2	Adaptive Environmental Management.....	8-8
8.2.1	What is Adaptive Environmental Management?.....	8-8
8.2.2	AEM Strategy for the DMNP	8-9
8.2.2.1	Monitoring and Evaluation within the DMNP AEM Process.....	8-10
8.2.2.2	Adjustments, Refinements, Modifications within the DMNP AEM Process ...	8-12
8.2.2.3	Learning within the DMNP AEM Process.....	8-13
8.2.3	Operationalizing the AEM Strategy.....	8-13
9.	EA Amendment Process.....	9-1
9.1	Regulatory Provisions for Post EA Modifications	9-1
9.1.1	The Ontario EA Act.....	9-1
9.1.2	The CEAA.....	9-1
9.2	DMNP Approach to Post EA Modifications.....	9-1
9.2.1	Screening Criteria for Post EA Modification	9-3
10.	Consultation Record	10-1
10.1	Public Consultation Activities and Results.....	10-2
10.1.1	Notices	10-2
10.1.2	Mailing Lists	10-3
10.1.3	Public Forums	10-3
10.1.4	Community Liaison Committee.....	10-7
10.1.5	Newsletters and Flyers	10-10
10.1.6	Web Based Information	10-10

10.1.7	Community Workshops and Events.....	10-11
10.1.8	Lower Don Lands Planning Process Public Consultation.....	10-12
10.1.9	Other Public Feedback	10-14
10.1.10	Summary of Public Issues and Responses	10-15
10.2	Agency / Landowner Consultation Activities and Results.....	10-18
10.2.1	Technical Advisory Committee	10-18
10.2.2	EA Regulators.....	10-20
10.2.3	City of Toronto	10-22
10.2.4	Aquatic Habitat Toronto	10-26
10.2.5	Toronto Port Authority.....	10-28
10.2.6	Utilities	10-30
10.2.7	Railway Owners and Operators.....	10-31
10.2.8	Property Owners.....	10-32
10.2.9	Consultation for Related Projects	10-35
10.2.10	Summary of Agency / Property Owner Issues and Responses	10-35
10.3	Aboriginal Consultation Activities and Results	10-37
10.3.1	Mississaugas of the New Credit First Nation.....	10-38
10.3.2	Consultation with Five Other Mississauga First Nations and the Ogemawahj Tribal Council	10-39
10.3.3	Consultation with the Conseil de la Huronne-Wendat.....	10-42
10.3.4	Consultation with Miziwe Biik.....	10-43
10.3.5	Consultation with other First Nation Associations and Alliances.....	10-43
10.3.6	Summary of Aboriginal Issues and Responses.....	10-45
10.4	Review of Draft EA Report.....	10-46
10.4.1	Comments Received from Review Agencies	10-46
10.4.2	Comments Received from Public and Other Stakeholders	10-54
10.4.3	Comments Received from Aboriginal Communities and Associations.....	10-58
10.5	Post-Approval Consultation	10-58

11. Advantages and Disadvantages 11-1

References

List of Figures

Figure E-1.	Project Study Area.....	ES-6
Figure E-2.	Impact Assessment Study Area	ES-7
Figure E-3.	The Identification and Evaluation of Alternative Methods	ES-13
Figure 1-1	Project Location.....	1-2
Figure 1-2	Keating Channel Precinct and Future Precinct(s).....	1-12
Figure 2-1	Regulatory Flood Spill Zones for the Lower Don River	2-3
Figure 2-2	Project Study Area.....	2-10
Figure 2-3	Impact Assessment Study Area	2-12
Figure 3-1	Don River Watershed	3-2
Figure 3-2	Surficial Geology of the Don River Watershed.....	3-3
Figure 3-3	Historical Detail from J.O. Browne and J. Ellis, <i>Map of the Township of York in the County of York, Upper Canada, 1851</i> , Toronto Public Library 912.71354 B68, courtesy of Derek Hayes (Bonnell, 2010)	3-4
Figure 3-4	Annual Timing of Flows in the Don River at Todmorden (1994-2004).....	3-8
Figure 3-5	Daily Toronto Harbour Water Surface Elevation (WSE), Probability of a WSE at or Above an Elevation as a Function of Julian Date (Limnotech, 2008).....	3-9
Figure 3-6	Impediments to Flood Conveyance.....	3-11
Figure 3-7	Keating Channel Dissolved Oxygen, July 2003	3-14
Figure 3-8	Keating Channel Turbidity (TRCA, 2008).....	3-15
Figure 3-9	Natural Areas in the Impact Assessment Study Area	3-21
Figure 3-10	Natural Features of Interest in the Project Study Area.....	3-28
Figure 3-11	Fauna Species of Concern.....	3-31
Figure 3-12	City of Toronto Wards in the Impact Assessment Study Area	3-42
Figure 3-13	Land Use in the Impact Assessment Study Area.....	3-45
Figure 3-14	Land Use in the Project Study Area	3-47
Figure 3-15	Property Ownership in the Project Study Area.....	3-49
Figure 3-16	Recreational Areas in the DMNP Project and Impact Assessment Study Areas.....	3-52
Figure 3-17	Locations of the Precinct Plans	3-58
Figure 3-18	Cultural Heritage Landscapes and Built Heritage Resources in the Project Study Area (City of Toronto’s Inventory of Heritage Properties)	3-63
Figure 3-19	Archaeological Inventory of the Project Study Area.....	3-66
Figure 3-20	Roadways within the Project Study Area	3-75
Figure 3-21	Railway Tracks within the Project Study Area.....	3-80
Figure 3-22	Transit Services within the Impact Assessment Study Area	3-82
Figure 3-23	Existing Utilities within the Project Study Area	3-85
Figure 4–1	Alternative Discharge Points	4-2
Figure 4–2	Alternative 2 from the MOE-Approved ToR.....	4-9
Figure 4–3	Alternative 3 from the MOE-Approved ToR.....	4-11
Figure 4–4	Alternative 4 from the MOE-Approved ToR.....	4-13
Figure 4–5.	Alternative 5 from the MOE-Approved ToR.....	4-15
Figure 4–6	Alternative 6 from the MOE-Approved ToR.....	4-17

Figure 4–7	Alternative 7 from the MOE-Approved ToR.....	4-19
Figure 4–8	Alternative 8 from the MOE-Approved ToR.....	4-21
Figure 5-1	The Identification and Evaluation of Alternative Methods	5-2
Figure 5-2	Flow Rates during Flood Events	5-6
Figure 5-3	Location of CN Rail Bridge in the Project Study Area	5-7
Figure 5-4	Venn Diagram showing Combinations of Cross-sections	5-11
Figure 5-5	Framework for Developing Long List of Alternative Methods.....	5-17
Figure 5-6	Screening of Cross-sections and Habitats for Discharge Points 2 and 3	5-22
Figure 5-7	Screening of Cross-sections and Habitats for Discharge Points 4W and 4S (Primary Channel)	5-24
Figure 5-8.	Screening of Cross-sections and Habitats for Discharge Points 4W and 4S (Overflow Spillway)	5-24
Figure 5-9	Summary of Alternative Methods for Primary Channel that Pass the Screening Criteria	5-26
Figure 5-10	Alternative 2.....	5-36
Figure 5-11	Alternative 3.....	5-38
Figure 5-12	Alternative 4W	5-40
Figure 5-13	Alternative 4S	5-42
Figure 5-14	Alternative 4WS.....	5-44
Figure 6-1	Don River Reaches	6-4
Figure 6-2	Reach 1	6-6
Figure 6-3	Reach 2	6-7
Figure 6-4	Reach 2a	6-8
Figure 6-5	Existing Dockwall and Proposed Stone Revetment.....	6-9
Figure 6-6	Reach 3 and 3a	6-10
Figure 6-7	Reach 4	6-11
Figure 6-8	Manoeuvring Circles Associated with Promontories.....	6-12
Figure 6-9	Regulatory Event Level and Setbacks from Floodplain	6-14
Figure 6-10	Sediment/Debris Management Layout	6-15
Figure 6-11	Example of a Hydraulic Dredge.....	6-16
Figure 6-12	Proposed Location of Sediment Dewatering Facilities.....	6-17
Figure 6-13	Example of a Hydrocyclone.....	6-18
Figure 6-14	Terrestrial Habitat.....	6-21
Figure 6-15	Wetland Habitat	6-23
Figure 6-16	Long Profile of Proposed Feeder Channels.....	6-25
Figure 6-17	Ship Channel Outlet	6-26
Figure 6-18	Permanent Aquatic Habitat	6-27
Figure 6-19	Proposed Bridge Crossings.....	6-31
Figure 6-20.	Proposed Trail System	6-34
Figure 6-21	Construction of Base for Northern Promontory (Reach 4)	6-47
Figure 6-22	Excavation of Ship Channel Wetland (Reach 3a).....	6-49
Figure 6-23	Establishment of Ship Channel Wetland and Construction of Causeway Footings (Reach 3a).....	6-51
Figure 6-24	Lakefilling and Excavation of Reach 4	6-53
Figure 6-25	Construction of the Low Flow Channel and Naturalization within Reach 4.....	6-55

Figure 6-26	Excavation of Valley System within Reach 3	6-57
Figure 6-27	Construction of the Low Flow Channel and Naturalization within Reach 3 / Excavation in Reach 2	6-59
Figure 6-28	Connection of the New River Mouth to the Lake (Reaches 2, 3 and 4).....	6-61
Figure 6-29	Construction of the Sediment / Debris Management Area and Flood Protection Features (Reaches 1, 2 and 3).....	6-63
Figure 6-30	Narrowing of the Keating Channel	6-66
Figure 7-1	Displaced and Disrupted Land Uses.....	7-47
Figure 8-1	Relationship between Monitoring Phases and Project Implementation	8-3
Figure 8-2	Relationship between Project Design and AEM.....	8-10
Figure 8-3	Monitoring and Evaluation within the AEM Cycle.....	8-11
Figure 9-1	Approval Process for Proposed Modifications to the DMNP.....	9-3

List of Tables

Table E-1.	Other Authorizations/Approvals Required for the DMNP	3
Table E-2.	Alternative Discharge Points and Descriptions	11
Table E-3	Evaluation of Refined List of Alternatives.....	14
Table E-4	DMNP Mitigation Measures.....	18
Table E-5	Consistency of DMNP with Project Objectives.....	22
Table E-6	DMNP EA Commitments.....	24
Table 1-1	Approved Terms of Reference Commitments.....	1-7
Table 1-2	Other Authorizations/Approvals Required for the DMNP	1-13
Table 3-1	Peak Flow (m ³ /s) Associated with Storm Events at the Mouth of the Don River	3-7
Table 3-2	Delft3D Modelling of Hydraulic Conditions and Flood Flows under Existing Conditions	3-12
Table 3-3	Median Concentrations and the Percent of Samples that Meet Guidelines at the Pottery Road Monitoring Station (January 2002 – July 2005)	3-13
Table 3-4	Federal Dissolved Oxygen Guidelines (TRCA, 2004b).....	3-14
Table 3-5	Keating Channel Dredging Volumes, 2002 to 2008	3-18
Table 3-6	Keating Channel Debris Tonnage and Removal Costs, 2005 to 2007	3-19
Table 3-7	Aquatic Plant Species Found in 2007 Survey of Toronto Harbour	3-24
Table 3-8	Ecological Communities in the Vicinity of the DMNP Project Study Area.....	3-25
Table 3-9	Regionally Significant Plant Species in the DMNP Project Study Area	3-26
Table 3-10	Mammals, Birds and Herpetofauna Reported from the Lower Don River (TRCA 2004)	3-29
Table 3-11	Regionally Significant Animal Species in the DNMP Project Study Area	3-32
Table 3-12	Species Present in the Lower Don River Electrofishing Database from 1989 to 2005 (Dietrich, 2006)	3-35
Table 3-13	Fish Species Assemblage in the Lower Don, 1991-2005	3-36
Table 3-14	Fish Species Assemblage in the Keating Channel, 1989-2005	3-38
Table 3-15	Population of Toronto and the Study Areas in 2006	3-43
Table 3-16	Transportation in Toronto and the Impact Assessment Study Area in 2006.....	3-43
Table 3-17	Recreation Uses in the DMNP Project and Impact Assessment Study Areas.....	3-50
Table 3-18	Recreational Boating Clubs, Marinas and Organizations in the Impact Assessment Study Area	3-54
Table 3-19	Registered Archaeological Sites within ~2 km of the Project Study Area.....	3-64
Table 3-20	Archaeological Inventory: Summary of Features and Significance Evaluations.....	3-68
Table 3-21	Roadways within the Impact Assessment Study Area	3-71
Table 3-22	Roadways within the Project Study Area	3-72
Table 3-23	Existing (2010) AM and PM Peak Hour Traffic Operations.....	3-76
Table 3-24	Existing Railway Tracks within the Project Study Area	3-79
Table 3-25	Detail of Utilities along the Project Study Area.....	3-83
Table 4–1	Rationale for Alternative Discharge Points.....	4-3
Table 4–2	Alternative Discharge Points and Descriptions	4-3
Table 4–3	Criteria for Assessment of Alternative Discharge Points.....	4-5
Table 4–4	Criteria Based Assessment	4-7

Table 4-5	Summary Evaluation of Alternative Discharge Points or 'Alternatives To' Against Project Objectives.....	4-22
Table 5-1	Generic Cross-Sections.....	5-9
Table 5-2	Vegetation Communities	5-12
Table 5-3	Summary Table of Survival Conditions for Vegetation Communities	5-16
Table 5-4	Hydraulic Modelling Results for the Discharge Points	5-19
Table 5-5	Screening Criteria.....	5-20
Table 5-6	Objectives for Habitation Optimization	5-28
Table 5-7	Association between Vegetation Communities and Habitat Types.....	5-29
Table 5-8	Ability of Cross-sections to Achieve Naturalization Objectives	5-30
Table 5-9	Key Issues Revised During Step 3 in Response to the Design Competition	5-34
Table 5-10	Step 4 Comparative Evaluation Table – Naturalization.....	5-49
Table 5-11	Summary of Criteria Ratings for the Naturalization Objective.....	5-51
Table 5-12	Step 4 Comparative Evaluation Table – Flood Protection	5-52
Table 5-13	Summary of Criteria Ratings for the Flood Protection Objective	5-53
Table 5-14	Step 4 Comparative Evaluation Table – Operational Management and Constructability	5-54
Table 5-15	Summary of Criteria Ratings for the Operational Management and Constructability Objective	5-56
Table 5-16	Step 4 Comparative Evaluation Table – Integration with Infrastructure.....	5-58
Table 5-17	Summary of Criteria Ratings for the Integration with Infrastructure Objective	5-60
Table 5-18	Step 4 Comparative Evaluation Table – Recreation and Cultural Opportunities	5-61
Table 5-19	Summary of Criteria Ratings for the Recreation and Cultural Opportunities Objective	5-62
Table 5-20	Step 4 Comparative Evaluation Table – Co-ordination with Other Planning Efforts.....	5-63
Table 5-21	Summary of Criteria Ratings for the Co-ordination with Other Planning Efforts Objective	5-65
Table 5-22	Step 4 Comparative Evaluation Table – Consistency with WT Sustainability Framework	5-66
Table 5-23	Summary of Criteria Ratings for the Consistency with WT Sustainability Framework Objective.....	5-70
Table 5-24	Summary of Step 4 Evaluation by Objective.....	5-71
Table 6-1	How Sustainability is Addressed in the Design	6-1
Table 6-2	Description of Major Fish Habitat Features.....	6-28
Table 6-3	Potential Species Attracted to New Habitat Features	6-28
Table 6-4	Summary of Design Components by Reach	6-35
Table 7-1	Interactions Matrix (Components vs. Project Works and Activities).....	7-3
Table 7-2	Predicted Interactions between Project Objectives and Environmental Components (Construction).....	7-5
Table 7-3	Predicted Interactions between Project Objectives and Environmental Components (Establishment/Post-Establishment)	7-5
Table 7-4	Construction Effects – Air Quality.....	7-7
Table 7-5	Establishment / Post-Establishment Effects – Air Quality	7-8
Table 7-6	Overall Project Effects on Air Quality	7-10
Table 7-7	Construction Effects – Noise	7-11
Table 7-8	Establishment / Post-Establishment Effects – Noise	7-12
Table 7-9	Overall Project Effects on Noise.....	7-14
Table 7-10	Construction Effects – Geology and Soils.....	7-15

Table 7-11	Establishment / Post-Establishment Effects – Geology and Soils	7-16
Table 7-12	Overall Project Effects on Geology and Soils.....	7-18
Table 7-13	Construction Effects – Groundwater Quality	7-19
Table 7-14	Establishment / Post-Establishment Effects – Groundwater Quality	7-19
Table 7-15	Overall Project Effects on Groundwater Quality.....	7-20
Table 7-16	Construction Effects – Stormwater Quality and Quantity	7-22
Table 7-17	Establishment / Post-Establishment Effects - Stormwater Quality and Quantity	7-22
Table 7-18	Overall Project Effects on Stormwater Quality and Quantity.....	7-23
Table 7-19	Construction Effects – Lake / River Water Quality	7-24
Table 7-20	Establishment / Post-Establishment Effects - Lake / River Water Quality	7-25
Table 7-21	Overall Project Effects on Lake / River Water Quality.....	7-27
Table 7-22	Construction Effects – Flooding	7-28
Table 7-23	Establishment / Post-Establishment Effects – Flooding.....	7-28
Table 7-24	Overall Project Effects on Flooding	7-29
Table 7-25	Construction Effects – Wetland Environment.....	7-31
Table 7-26	Establishment / Post-Establishment Effects – Wetland Environment	7-31
Table 7-27	Overall Project Effects on Wetland Environment	7-34
Table 7-28	Construction Effects – Aquatic Environment.....	7-35
Table 7-29	Establishment / Post-Establishment Effects – Aquatic Environment	7-36
Table 7-30	Overall Project Effects on Aquatic Environment	7-38
Table 7-31	Construction Effects – Terrestrial Environment.....	7-39
Table 7-32	Establishment / Post-Establishment Effects – Terrestrial Environment	7-39
Table 7-33	Overall Project Effects on Terrestrial Environment	7-41
Table 7-34	Construction Effects – Existing Land Use	7-42
Table 7-35	Establishment / Post-Establishment Effects – Existing Land Use	7-44
Table 7-36	Overall Project Effects on Existing Land Use.....	7-50
Table 7-37	Construction Effects – Planned Land Use.....	7-51
Table 7-38	Establishment / Post-Establishment Effects – Planned Land Use.....	7-51
Table 7-39	Overall Project Effects on Planned Land Use	7-54
Table 7-40	Construction Effects – Economic Base	7-55
Table 7-41	Establishment / Post-Establishment Effects – Economic Base.....	7-56
Table 7-42	Overall Project Effects on Economic Base.....	7-58
Table 7-43	Construction Effects – Land-Based and Marine Recreation	7-59
Table 7-44	Establishment / Post-Establishment Effects – Land-Based and Marine Recreation	7-60
Table 7-45	Overall Project Effects on Land-Based and Marine Recreation.....	7-63
Table 7-46	Construction Effects – Visual Effect	7-64
Table 7-47	Establishment/ Post-Establishment Effects – Visual Effect.....	7-64
Table 7-48	Overall Project Effects on Visual Effect.....	7-65
Table 7-49	Construction Effects – Traffic, Road Infrastructure and Emergency Services	7-66
Table 7-50	Establishment/ Post-Establishment Effects - Traffic, Road Infrastructure and Emergency Services.....	7-67
Table 7-51	Overall Project Effects on Traffic, Road Infrastructure and Emergency Services.....	7-69

Table 7-52	Construction Effects – Built Heritage and Cultural Landscape Resources.....	7-70
Table 7-53	Establishment/ Post-Establishment Effects – Built Heritage and Cultural Landscape Resources	7-70
Table 7-54	Overall Project Effects on Built Heritage and Cultural Landscape Resources.....	7-72
Table 7-55	Construction Effects – Archaeological Resources	7-73
Table 7-56	Establishment / Post-Establishment Effects – Archaeological Resources.....	7-73
Table 7-57	Overall Project Effects on Archaeological Resources.....	7-74
Table 7-58	Construction Effects – Aboriginal Interests	7-75
Table 7-59	Establishment / Post-Establishment Effects – Aboriginal Interests.....	7-75
Table 7-60	Overall Project Effects on Aboriginal Interests.....	7-76
Table 7-61	Summary of Project Effects by Component and Objective	7-77
Table 7-62	Summary of Mitigation Measures by Environmental Component	7-85
Table 8-1	Minimum Design Requirements for the DMNP	8-2
Table 8-2	DMNP EA Commitments.....	8-6
Table 8-3	General Environmental Performance Monitoring Requirements for Biophysical Components of the DMNP.....	8-8
Table 8-4	Potential AEM Triggers and Adaptive Measures for Project Components	8-12
Table 9-1	Proposed Screening Criteria	9-4
Table 9-2	Examples of Minor vs. Major Project Modifications.....	9-4
Table 10-1	Summary of Notices	10-2
Table 10-2	Public Forums.....	10-4
Table 10-3	Community Liaison Committee Meetings.....	10-8
Table 10-4	Information Presented at Community Workshops and Events	10-11
Table 10-5	Lower Don Lands Public Forums Summary of Comments	10-13
Table 10-6	Summary of Key Discussions with Members of the Public	10-14
Table 10-7	Summary of Public Comments Received and Responses Provided	10-15
Table 10-8	TAC Member Organizations.....	10-18
Table 10-9	Consultation with Technical Advisory Committee	10-19
Table 10-10	Consultation with EA Regulators.....	10-20
Table 10-11	Consultation with the City of Toronto	10-23
Table 10-12	Consultation with Aquatic Habitat Toronto.....	10-27
Table 10-13	Consultation with the Toronto Port Authority.....	10-29
Table 10-14	Consultation with Utilities	10-30
Table 10-15	Consultation with Railway Owners and Operators.....	10-31
Table 10-16	Consultation with Property Owners.....	10-33
Table 10-17	Summary of Agency / Property Owner Issues and Responses	10-35
Table 10-18	Consultation with the Mississaugas of the New Credit First Nation.....	10-38
Table 10-19	Consultation with the 1923 Williams Treaty Mississauga First Nations, the Ogemawahj Tribal Council and the Kawartha Nishnawbe First Nations	10-40
Table 10-20	Consultation with the Conseil de la Huronne-Wendat	10-42
Table 10-21	Consultation with Miziwe Biik	10-43
Table 10-22	Summary of Consultation with other First Nation Associations and Alliances.....	10-44
Table 10-23	Summary of Aboriginal Comments Received and Response Provided.....	10-45

Table 10-24	Disposition of Comments Received from Review Agencies on the Draft EA Report.....	10-46
Table 10-25	Disposition of Comments Received from the Public / Stakeholders on the Draft EA Report	10-54
Table 10-26	Disposition of Comments Received from the Public / Stakeholders on the Draft EA Report	10-58
Table 11-1	Advantages and Disadvantages of the DMNP	11-1

Appendices

- Appendix A. Terms of Reference and Conditions Letter**
- Appendix B. Cultural Heritage Properties**
- Appendix C. Archaeological Assessment Existing Conditions**
- Appendix D. Data for Criteria Assessment from Terms of Reference and Comparison of ‘Alternatives To’ to Design Elements**
 - Appendix D-1 Data for Criteria Assessment
 - Appendix D-2 Data (Infrastructure)
 - Appendix D-3 Comparison of Alternatives to Design Elements
- Appendix E. Step 4 Assumptions, Comparative Evaluation, Criteria and Indicators**
 - Appendix E-1 Step 4 Assumptions
 - Appendix E-2 Comparative Evaluation Criteria for Step 4 of the Don Mouth Naturalization Project
 - Appendix E-3 Summary of Effects Assessment Methods by Criterion
 - Appendix E-4 Indicators Screened from Step 4 Evaluation
 - Appendix E-5 Step 4 Criteria and Indicators Deferred to Step 5 Evaluation
- Appendix F. Navigation Risk Report**
- Appendix G. Bridge Lengthening and Weirs at Lake Shore Boulevard**
- Appendix H. Grading Plan**
- Appendix I. Summary of Habitat Features**
- Appendix J. Don Narrows**
- Appendix K. Standard Construction Techniques and Mitigation Measures**
- Appendix L. Project Works Associated with Phasing**
- Appendix M. Criteria, Measures and Indicators for Effects Assessment**
- Appendix N. Hydrodynamic Modelling Technical Memorandum**
- Appendix O. Sediment Transport Modelling Technical Memorandum**
- Appendix P. Economic Effects Assessment Technical Memorandum**
- Appendix Q. Consultation Materials**
 - Appendix Q-1 Notices, Public Forums and Workshops and Meeting Materials
 - Appendix Q-2 Community Liaison Committee (CLC) Terms of Reference
 - Appendix Q-3 Newsletters
 - Appendix Q-4 Technical Advisory Committee (TAC) Meeting Minutes and Agency Correspondence
 - Appendix Q-5 History of the Mississaugas of the New Credit First Nation, Toronto Purchase Specific Claim & Globe Article
 - Appendix Q-6 Summaries of Meetings with Aboriginal Groups

Acronyms

ABTP.....	Ashbridges Bay Treatment Plant
AEM	Adaptive Environmental Management
AHT	Aquatic Habitat Toronto
ANSI.....	Area of Natural and Significant Interest
ASI	Archaeological Services Inc.
AWI	Area-Wide Initiative
BA	British-American Oil Company Limited
BMW	Bayerische Motoren Werke (Bavarian Motor Works)
BOD	Biological oxygen demand
BTEX.....	Benzene, Toluene, Ethylbenzene, Xylene
CCME.....	Canadian Council of Ministers of the Environment
CDF.....	Confined Disposal Facility
CEAA	Canadian Environmental Assessment Act
CHS.....	Canadian Hydrographic Service
CLC	Community Liaison Committee
CN.....	Canadian National
CN/CNR	Canadian National/Canadian National Railway
COSEWIC.....	Committee on the Status of Endangered Wildlife in Canada
COSSARO	Committee on the Status of Species at Risk in Ontario
CP	Canadian Pacific
CPR.....	Canadian Pacific Railway
CSO	Combined Sewer Overflow
CW	Created Wetland
DFO.....	Fisheries and Oceans Canada
DMNP.....	Don Mouth Naturalization and Port Lands Flood Protection Project
DNAPL	Dense Non-aqueous Phase Liquid
DO.....	Dissolved Oxygen
DTAH	Du Toit Allsopp Hillier / Du Toit Architects Limited
DVP.....	Don Valley Parkway
DWA.....	Designated Waterfront Area
EA	Environmental Assessment
EC	Environment Canada
EC	Electrical Conductivity
ELC	Ecological Land Classification
EMS	Emergency Medical Services
ESA	Environmentally Sensitive Area
ESA.....	Environmental Site Assessment
ESSROC	Essroc Italcementi Group
FEAC.....	Federal Environmental Assessment Coordinator
FO (D/C/M).....	Upland Forest

FPL..... Flood Protection Landform
GIS Geographic Information System
GLL Gartner Lee Limited
GMMP Groundwater Management Master Plan
GO..... Greater Toronto Transit Authority
GTA..... Greater Toronto Area
HAAT..... Habitat Alteration Assessment Tool
HASP Health and Safety Plan
HEC-RAS..... Hydrologic Engineering Centres River Analysis System
HHI Historic Horizon Inc.
HONI Hydro One Networks Inc.
HR&A HR&A Advisors Inc.
HRL Heritage Research Limited
IBA Important Bird Area
IEA Individual Environmental Assessment
L Lacustrine Environment
LDL..... Lower Don Lands
LDRW..... Lower Don River West
LEL..... Lowest Effects level
LNAPL..... Light Non-aqueous Phase Liquid
LOA Length Overall
LOS Level of Service
MAM..... Meadow Marsh
MAS Emergent Marsh
MBCA..... Migratory Birds Convention Act
MBR Migratory Bird Regulations
MCTS Marine Communication and Traffic Services
MMAH Ministry of Municipal Affairs and Housing
MNR Ministry of Natural Resources
MOE Ministry of the Environment
MP..... Member of Parliament
MPP Member of Provincial Parliament
MTRCA Metropolitan Toronto and Region Conservation Authority
MVVA Michael Van Valkenburgh Associates Inc.
NAPL..... Non-aqueous Phase Liquids
NHIC Natural Heritage Information Centre
NOTMAR..... Notices to Mariners
NOTSHIP Notices to Shipping
NTU..... Nephelometric Turbidity Units
NRI NRI Industries Inc.
NWPA Navigable Waters Protection Act
NWPP Navigable Waters Protection Program

OASD Ontario Archaeological Sites Database
 OMB Ontario Municipal Board
 OMNR Ontario Ministry of Natural Resources
 OPA..... Official Plan Amendment
 OPSS Ontario Provincial Standards Specifications
 ORC Ontario Realty Corporation
 ORM..... Oak Ridges Moraine – only used once, should be removed
 PAH..... Polycyclic Aromatic Hydrocarbon
 PCB..... Polychlorinated Biphenyl
 PF..... Public Forum
 PHC..... Petroleum Hydrocarbons
 PLAC..... Port Lands Action Committee
 PPS Provincial Policy Statement
 PSQG..... Provincial Sediment Quality Guidelines
 PSS Property Specific Standards
 PTTW Permit to Take Water
 PWQO..... Provincial Water Quality Objective
 QEW..... Queen Elizabeth Way
 R..... Natural River Channel
 RA Responsible Authority
 RA/RM..... Risk Assessment/Risk Management
 RAP..... Remedial Action Plan
 RFP Request for Proposal
 ROW Right-of-Way
 SAR..... Sodium Adsorption Ratio
 SAS Submergent Marsh
 SCS..... Site Condition Standard
 SEDERI..... South East Downtown Economic Redevelopment Initiative
 SEL Severe Effect Level
 SLR SLR Consulting Limited
 SMF..... Soil Management Facility
 SMMP Soils Management Master Plan
 SPA..... Special Policy Area
 SRBA South Riverdale Business Association
 SSC..... Suspended Sediment Concentration
 SSO..... Storm Sewer Outfall
 SSP..... Steel Sheet Piling
 SW (D/C/M)..... Treed Swamp
 SWT Thicket Swamp
 TAC Technical Advisory Committee
 TBS Treasury Board of Canada Secretariat
 TC Transport Canada

TEDCO..... Toronto Economic Development Corporation
THC..... Toronto Harbour Commission
TMC Turning Movement Count
ToR Terms of Reference
TPA Toronto Port Authority
TPLC..... Toronto Port Lands Company
TRCA Toronto and Region Conservation Authority
TRU..... TRU is the company name, and does not have an associated acronym.
TSP Total Suspended Particulate
TSS Total Suspended Solids
TTC Toronto Transit Commission
TTR Toronto Terminals Railway
TWRC Toronto Waterfront Revitalization Corporation
U.K. United Kingdom
U.S. United States of America
VIA VIA Rail Canada
VOC Volatile Organic Compound
WSE..... Water Surface Elevation
WT..... Waterfront Toronto

Units

\$	Canadian Dollars
%	Per cent
cm	Centimetre
ha	Hectare
km	Kilometre
km/hr	Kilometres per hour
km ²	Square kilometres
m	Metre
m ²	Square metre
m ³	Cubic metre
m/s	Metres per second
m ³ /s	Cubic metres per second
mASL	Metres above sea level
mbgs	Metres below ground surface
µg/L	Microgram per litre
mg/L	Milligrams per litre
mL	Millilitres
mm	Millimetre
NTU	Nephelometric turbidity units
s	Second
tons/yr	Tons per year

Glossary of Terms

Abutment	The end support of a bridge superstructure, i.e., the part of the structure that supports the arch.
Active recreational space	An area designated for active recreational, e.g., organized sports or individual exercise.
Adaptive management/ Adaptive environmental management (AEM)	The implementation of new or modified mitigation measures over the life of a project to address unanticipated environmental effects.
Adverse environmental effect	An effect leading to one or more of: <ul style="list-style-type: none">• impairment of the quality of the natural environment for any use that can be made of it• injury or damage to property or to plant or animal life• harm, material discomfort, an adverse effect on health, or impairment of the safety of any person• rendering any property or plant or animal life unfit for human use• loss of enjoyment of normal use of property• interference with the normal conduct of business
Aerobic	A situation or process requiring oxygen.
Ambient air monitoring program	A systematic, long-term assessment of pollutant levels in the air by measuring the quantity and types of certain pollutants in the outdoor air.
Amenity value	A feature that increases attractiveness or value, especially of a piece of real estate or a geographic location.
Aliquot	A portion of a sample.
Anaerobic	A situation or process not requiring oxygen.
Archaeological resource	Any material remains of past human life or activity which are of archaeological interest.
Area of Natural and Scientific Interest (ANSI)	An area of land and water that represents significant geological and biological features.
Backfill	The material that has been used to refill an excavation.
Baffled settling tank	An enclosure that regulates the flow of water and allows particulates to settle to the bottom, thereby separating the particulates from the water.
Barrier beach	A somewhat linear landform within or extending into a body of water, typically composed of sand, silt or small pebbles.
Bathymetry	The study of underwater depth of lake or ocean floors.
Bedload	Particles in a flowing fluid (usually water) that are transported along a stream bed (bottom).
Benthic	Associated with the bottom of a water body such as a sea or a lake.
Berm	A level space, shelf, or raised barrier separating two areas.
Biennial plant	A flowering plant that takes two years to complete its biological lifecycle.
Biodegradable	A material that can be broken down easily by the environment.

Bio-engineered	Living plants, or a combination of living and non-living materials, that are used to stabilize slopes and drainage ways.
Biological diversity/Biodiversity	The diversity of plant and animal life in a particular area (e.g., habitat, city, world).
Biomass	The mass of living biological organisms in a given area or ecosystem at a given time.
Biomass export	A measure of the amount of organic matter that is expelled from a system.
Biophysical component	The parts of the environment that are not socio-economic (e.g., recreation, traffic, economic cost). These include the natural environment (flora, fauna) and the physical environment (air, soil, water, etc.)
Biophysical interaction	A process by which one component of the environment comes into contact with one of the biophysical components.
Bioswale	Landscape elements designed to remove silt and pollution from surface runoff water.
Biotreatment	The processing of waste or hazardous substance using living organisms such as bacteria, fungi or protozoa.
Boom	A barrier placed in a river, designed to collect and/or contain floating debris.
Borehole	A hole drilled to construct a well.
Bridge footing	The supporting base or groundwork of a bridge.
Brownfield	Former industrial lands, now vacant or underused, but with potential for redevelopment.
Built heritage feature	A site with one or more significant buildings, structures, monuments, installations or remains associated with architectural, cultural, social, political, economic or military history and identified as being important to a community.
Cantilever	A projecting structure, such as a beam, that is supported at one end and carries a load at the other end or along its length.
Channel invert	The bottom of a river channel.
Climate change	A change in the statistical distribution of weather over periods of time that range from decades to millions of years.
Coffer dam	An enclosure within a water environment constructed to allow water to be displaced by air for the purpose of creating a dry work environment.
Combined sewer overflow (CSO)	An event where stormwater exceeds the capacity of a combined sewer and stormwater/sewage are released to an adjacent water body.
Conceptual design	A product of the design process that meets the stated objectives of the DMNP.
Confirmatory studies	Studies undertaken to confirm a project-related hypothesis.
Contiguous wetland habitat	Wetland habitat that is spatially connected without any interruptions by other habitat types or constructed areas.
Controlled wetland	A wetland area where hydrologic inputs are managed by outside controls (e.g., weir releases into the wetland area)
Constructability	The feasibility of constructing a given project component.
Convey/Conveyance	The ability of the valley form to direct flood water through the project area.

Core contiguous area	An area of wetland habitat within the DMNP approximately 10 ha in area.
Core wetland area	A primary constructed wetland within the DMNP.
Crashwall	A physical barrier used to intercept wave action offshore creating an area of calmer water near shore.
Created wetland	A wetland area that has been constructed as opposed to naturally occurring.
Critical constraint	A restriction that a system places on the design of a project which must be addressed if project objectives are to be met.
Critical habitat	An area essential to the conservation of a listed species.
Cumulative environmental effect	The sum of the net effects from a project (i.e., effects minus mitigation measures) with other past, present and reasonably foreseeable future environmental net effects from other actions.
Cutterhead	A rotating head, which itself forms a cutter, or a rotating stock to which cutters may be attached.
Dataset	A collection of data.
Debris management	An active process of removing non-sediment material from the Don River to maintain desired hydrologic function.
Decommissioning	A formal process to remove something from active status.
Delft3D	A 2D/3D modeling system to investigate hydrodynamics, sediment transport and morphology and water quality for fluvial, estuarine and coastal environments.
Delta	A landform composed of deposited sediment that is created at the mouth of a river where it flows into another water body.
Dendritic drainage	Drainage system with irregular stream branching, with tributaries joining the main stream at all angles.
Dense non-aqueous phase liquid (DNAPL)	A liquid that is denser than water and does not dissolve in water.
Downcutting	A geologic process that deepens the channel of a stream or valley by removing material from the stream bed or valley floor.
Drainage basin	The area from which all precipitation flows to a single stream or set of streams.
Dredge spoil	The material removed from the river bed through dredging activity.
Dredging	Removal of sand, silt, rock or other underwater sea bottom material.
Drowned rivermouth	A funnel-shaped estuary formed by the submergence of the lower portion of the river valley.
Early/mid successional	Vegetation in the early/middle stages of development.
Ecosystem-based approach	A strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use.
Edge effect	The effect of the juxtaposition of contrasting environments on an ecosystem.
Electro-fishing	A common scientific survey method used to sample fish populations, which uses electricity to stun fish before they are caught.
Embayment	A bay or bay-like formation.

Emergent Marsh	A wetland that is permanently flooded and dominated by grasses and broadleaved flowering plants with less than 25% woody species.
Environment	As defined in the <i>Canadian EA Act</i> , “environment” means the components of the Earth, and includes: <ul style="list-style-type: none">• land, water and air, including all layers of the atmosphere,• all organic and inorganic matter and living organisms, and• the interacting natural systems that include [the components listed above].
Environmental Assessment	A process for identifying project and environment interactions, predicting environmental effects, identifying mitigation measures, evaluating significance, reporting and following-up to verify accuracy and effectiveness.
Environmentally sensitive area (ESA)	An area with values which are identified to be of local interest and is designated and managed by a municipality.
Erosion	A condition in which the Earth's surface is worn away by the action of water and wind.
Estuary	A partly enclosed coastal body of water with one or more rivers or streams flowing into it, and with a free connection to the open sea.
Exotic (invasive) species	A species that has been introduced from another geographic region to an area outside of its natural range.
Extirpated	A species or subspecies that has been eliminated from a particular area, but not from its entire range.
Fauna	Animal life.
Feeder channel	A stream or river connected to a larger river.
Floating skimmer	Equipment used to remove free and floating oil.
Flood protection	Measures taken to prevent the flooding of an area (e.g., embankments, wetlands, etc.).
Flow rate	The volume of fluid which passes through a given surface per unit time.
Forage fish	Also called prey fish, are small fish which are preyed on by larger predators for food.
Fossiliferous	Bearing or containing fossils.
Foundry	A factory that produces metal castings.
Freeboard	The distance between normal water level and the top of a river bank.
French drain	A ditch covered with gravel or rock that redirects surface and groundwater away from an area.
Geoenvironmental	Related to the part of the lithosphere (crust of the Earth) which is affected by humans.
Geographic Information System (GIS)	A computerized system that captures, stores, analyzes, manages, and presents data that are linked to location.
Geomembrane	An impermeable membrane (layer) used widely as cut-offs and liners, usually in canals and ponds.
Geomorphology	The scientific study of landforms and the processes that shape them.

Geotextile	A permeable fabric which, when used in association with soil, has the ability to separate, filter, reinforce, protect, or drain.
Grab sampling	A research technique by which all of the test material is collected at one time.
Grading	Ensuring a level (or possibly sloped to specific degree) base for a construction work.
HAAT model	The Habitat Alteration and Assessment Tool (HAAT) model, which is used for assessing productivity of fish habitat based on substrate and other criteria.
Habitat suitability indices	Numerical indices that represents the capacity of a given habitat to support a selected species. Results represent the interactions of the habitat characteristics and how each habitat relates to a given species.
Hardpiped utility	A utility transferred or connected through inflexible piping.
Headwater	The place from which the water in a river or stream originates.
Herbaceous	Describes a plant that has leaves and stems that die down at the end of the growing season to the soil level, with no persistent woody stem above ground.
Hydraulic	Applied science term relating to fluids in motion.
Hydrocyclone	A machine used to separate solid particles in a liquid suspension (e.g., sediment contained in water) based on the densities of the particles.
Hydrograph	A graph showing changes in the discharge (amount of water) of a river over a period of time.
Hydrology	The study of the movement, distribution, and quality of water.
Hydroperiod	The length of time, frequency, and depth that a particular area remains flooded.
Ice management	Measures used to ensure that ice does not block river flow.
“In the dry”	Construction activities completed in generally dry conditions.
“In the wet”	Construction activities completed in generally wet conditions (e.g., completely or partially under water).
Indicator	Measurement used to assess the effect of a project an environmental component.
Indigenous species (plant or animal)	A species that is native to a given region or ecosystem as a result of only natural processes, with no human intervention.
Inert	Materials that are uncontaminated and/or do not move about easily in the environment.
Inorganic	Compounds considered to be of a mineral, not biological, origin.
Interbeds	Alternating layers of different materials in a section of bedded rocks.
Interior habitat	The forest area located greater than 300 feet from the forest edge.
Intermixed gravel	Various forms of rock that are between 2 mm and 64 mm mixed together with one another.
Interpolate	To introduce (something additional or extraneous) between other things or parts.
Inundate	To flood with water.
Isostatic	Changes in elevation created by the weight of one material on another.

Lake level fluctuation	Changes in the level of a lake due to various factors, including climatic fluctuations and variations in inputs and outputs to the lake.
Lacustrine	Pertaining to lakes.
Leachate	A liquid formed by water percolating through soil or waste in a landfill.
Levee	A natural or artificial slope or wall to regulate water levels that is often parallel to the course of a river.
Life-cycle assessment	Methodology used to assess a product's full environmental cost, from the harvesting of raw material to final disposal.
Light non-aqueous phase liquid	A liquid that is less dense than water and does not dissolve in water (e.g., oil and gasoline).
Listed wildlife species	Animals with some conservation status, either provincially or federally.
Low-flow channel	The channel of the new river mouth where water will flow under normal (non-flooding) conditions.
Low-level interceptor	A sewer designed to convey dry weather flow (and a minor component of wet weather flow) from the combined sewer system to the treatment plant. When wet weather flows exceed the capacity of the interceptor sewer, the excess flows are discharged to the environment as combined sewer overflow (CSO).
Lower Don Lands (LDL)	The area of land generally bordered by Lake Shore Boulevard/Gardiner Expressway to the north, the Inner Harbour to the west, the Ship Channel to the south, and the Don Roadway to the east.
Macrophyte	An aquatic plant that grows in or near water and is either emergent (coming out of the water), submergent (fully underwater), or floating.
Meadow marsh	A wetland that is seasonally flooded and dominated by grasses and broadleaved flowering plants with less than 25% woody species.
Microtopography	Very small scale variations in the height and roughness of the ground surface.
Mitigation	An attempt to offset potential adverse effects of human activity on the environment.
Mitigative measure	Action or program intended to offset known impacts to an existing natural resource such as a stream, wetland, or endangered species.
Morphologic/Morphology	Relating to the shapes of river channels and how they change over time.
Non-aqueous phase liquid (NAPL)	A liquid that does not dissolve in water.
Nuisance effect	An effect of a project that is considered to be inconvenient or annoying (e.g., noise, traffic).
Oligochaetes	A subclass in the biological phylum Annelida and includes various earthworms.
Orthophoto	An aerial photograph geometrically corrected ("orthorectified") such that the scale is uniform and the photo has the same lack of distortion as a map.
Overbank area	The area that is covered by water as a river floods over its banks.
Overflow channel	The channel of the new river mouth where water will flow under flooding conditions, once there is too much water to be contained in the low-flow channel.
Overflow spillway	See "Overflow channel".

Oxidation	A process where minerals in the soil combine with some of the oxygen dissolved in the soil moisture.
Palaeontological	Relating to the study of prehistoric life, including organisms' evolution and interactions with each other and their environments.
Permeability/Permeable	The ability of a substance or layer (e.g., rocks, ground covering) to allow certain substances (e.g., water, dust) to pass through it.
Petroleum hydrocarbons	A group of organic compounds containing hydrogen and carbon. Most are derived from crude oil and geological sources such as coal.
Phreatic surface	The level of groundwater where hydrostatic pressure is equal to that of the atmosphere, and usually coincides with the water table.
Piscivore	A carnivorous animal whose diet consists primarily of fish.
Polycyclic aromatic hydrocarbons (PAH)	A group of approximately 10,000 compounds, most of which arise from the incomplete burning of carbon-containing materials such as oil, garbage, coal or wood.
Precinct Plan	A plan that provides guidance for future changes to an area. It is published after extensive public consultation and usually acts as a preceptor to Secondary Plan and Zoning By-law amendments.
Promontory	A prominent mass of land which overlooks lower lying land or a body of water.
Provincially Significant Wetland (PSW)	A wetland that is protected by the Province of Ontario under the Provincial Policy Statement (PPS). The Ontario Ministry of Natural Resources uses an evaluation system to classify wetlands in Ontario as either Provincially Significant or Locally Significant.
Refugia	A location of an isolated or relict population of a once widespread animal or plant species.
Recharge (groundwater)	A process where water moves downward from surface water to groundwater.
Remedial Action Plan (RAP)	A document prepared and implemented through cooperation between federal, provincial, and municipal governments, with the goal of reducing pollution in Areas of Concern identified under the Canada-United States Great Lakes Water Quality Agreement.
Revetment	A sloping structure placed on banks or cliffs in such a way as to absorb the energy of incoming water.
Riffle	A part of a stream characterized by shallow, fast-moving water broken by the presence of rocks and boulders.
Riparian vegetation/Riparian zone	Plant communities along river margins (edges).
Riprap	Rock or other material used to armour (protect) shorelines, streambeds, bridge abutments, pilings and other shoreline structures against scour, water or ice erosion.
Riverine habitat	Habitat offered by a river.
Riverine wetland	Riverine wetlands are found within river and stream channels and are strongly influenced by seasonal runoff patterns. When inundated, riverine wetlands provide habitat for water-tolerant plants such as willows, and aquatic animals such as tadpoles and immature fish.
Rivulet	A type of stream (a flowing body of water with a current, confined within a bed and stream banks).

Roughness coefficient	Part of an empirical formula for river water flow, which affects the speed of water in the river.
Ruderal plant	Plants robust enough to grow on bare ground or contaminated land.
Ruderal plant community	A group of plants that is first to colonize disturbed lands. The disturbance may be natural (e.g., wildfires or avalanches), or due to human influence - constructional (e.g., road construction, building construction or mining), or agricultural (e.g., abandoned farming fields or abandoned irrigation ditches).
Sand horizon	A specific layer of sand which is parallel to the soil surface and possesses physical characteristics which differ from the layers above and beneath.
Scalable map	A map which has been defined as the ratio of a distance on the map to the corresponding distance on the ground.
Scouring and deposition	The wearing away of a material due to the movement of water and the associated settling of the material elsewhere.
Seawaymax	Vessels which are the maximum size that can fit through the canal locks of the St. Lawrence Seaway (225.6 m in length, 23.8 m wide, and with a draft of 7.92 m).
Secchi depth	The depth in water at which the pattern on a Secchi disk is no longer visible; this is a measure of the transparency of the water and is related to water turbidity.
Seiches	Periodic oscillations of water level set in motion by some atmospheric disturbance.
Seepage wetland	A wetland that is located where a gently sloping land surface intersects the water table, and receives water from subterranean aquifers (groundwater).
Shear stresses	Stresses which are applied parallel to the face of a material, as opposed to normal stresses which are applied perpendicularly.
Sinuosity	A measure of deviation of a path length from the shortest possible path.
Slurry	A thick suspension of solids in a liquid
Spill Zone	An area of land predicted to flood during the Regulatory Flood.
Stratum	A layer of rock or soil with internally consistent characteristics that distinguish it from contiguous layers.
Thalweg	A line drawn to join the lowest points along the entire length of a stream bed or valley in its downward slope, defining its deepest channel. It thus marks the natural direction (the profile) of a watercourse, and is almost always the line of fastest flow in any river.
Trophic	Relating to the position that an organism occupies on the food chain (a succession of organisms that eat another organism and are, in turn, eaten themselves). Primary producers (plants) are level 1, herbivores (plant eaters) are level 2, and so on.
Utilidor	A corridor built underground or aboveground to carry utility lines such as electricity, water and sewers.
Volatile organic compounds (VOCs)	Compounds with a high vapour pressure which can easily be released as gases at normal temperatures.
Walkability	A measure of how friendly an area or community is to walking.
Weir	A small overflow-type dam commonly used to raise the level of a river or stream.
Wharfage	The charge assessed against cargo or merchandise, vessel's stores, fuel and supplies for passage on, over, under or through a wharf.