

# 1 Port Street East Proposed Marina Environmental Assessment

Draft Report  
Summary Document



## TABLE OF CONTENTS

1.	INTRODUCTION.....	2
2.	PURPOSE OF THE UNDERTAKING .....	6
3.	DESCRIPTION OF THE ENVIRONMENT POTENTIALLY AFFECTED BY THE UNDERTAKING.....	7
4.	'ALTERNATIVES TO' THE UNDERTAKING .....	12
5.	DESCRIPTION, EVALUATION AND RATIONALE FOR 'ALTERNATIVE METHODS' OF CARRYING OUT THE UNDERTAKING .....	13
6.	DESCRIPTION OF THE PREFERRED ALTERNATIVE .....	15
7.	DETAILED ASSESSMENT OF THE PREFERRED ALTERNATIVE .....	19
8.	MONITORING AND ADAPTIVE MANAGEMENT .....	28
9.	CONSULTATION .....	31
10.	ENVIRONMENTAL ASSESSMENT AMMENDMENT PROCESS.....	33
11.	ADVANTAGES AND DISADVANTAGES .....	34

## TABLES IN TEXT

Table 6.1	Aquatic Habitat Areas Modified and Lost.....	17
Table 7.1:	Effects on the Physical Environment.....	20
Table 7.2:	Effects on the Atmospheric Environment .....	22
Table 7.3:	Effects on the Biological Environment .....	23
Table 7.4:	Effects on the Socio-economic Environment.....	25
Table 7.5:	Effects on the Cultural Environment (including effects on Indigenous Communities) 27	
Table 8.1:	Summary of Commitments Resulting from the 1PSEPM Project EA .....	28
Table 11.1:	Advantages and Disadvantages of the 1PSEPM Project .....	34

## FIGURES IN TEXT

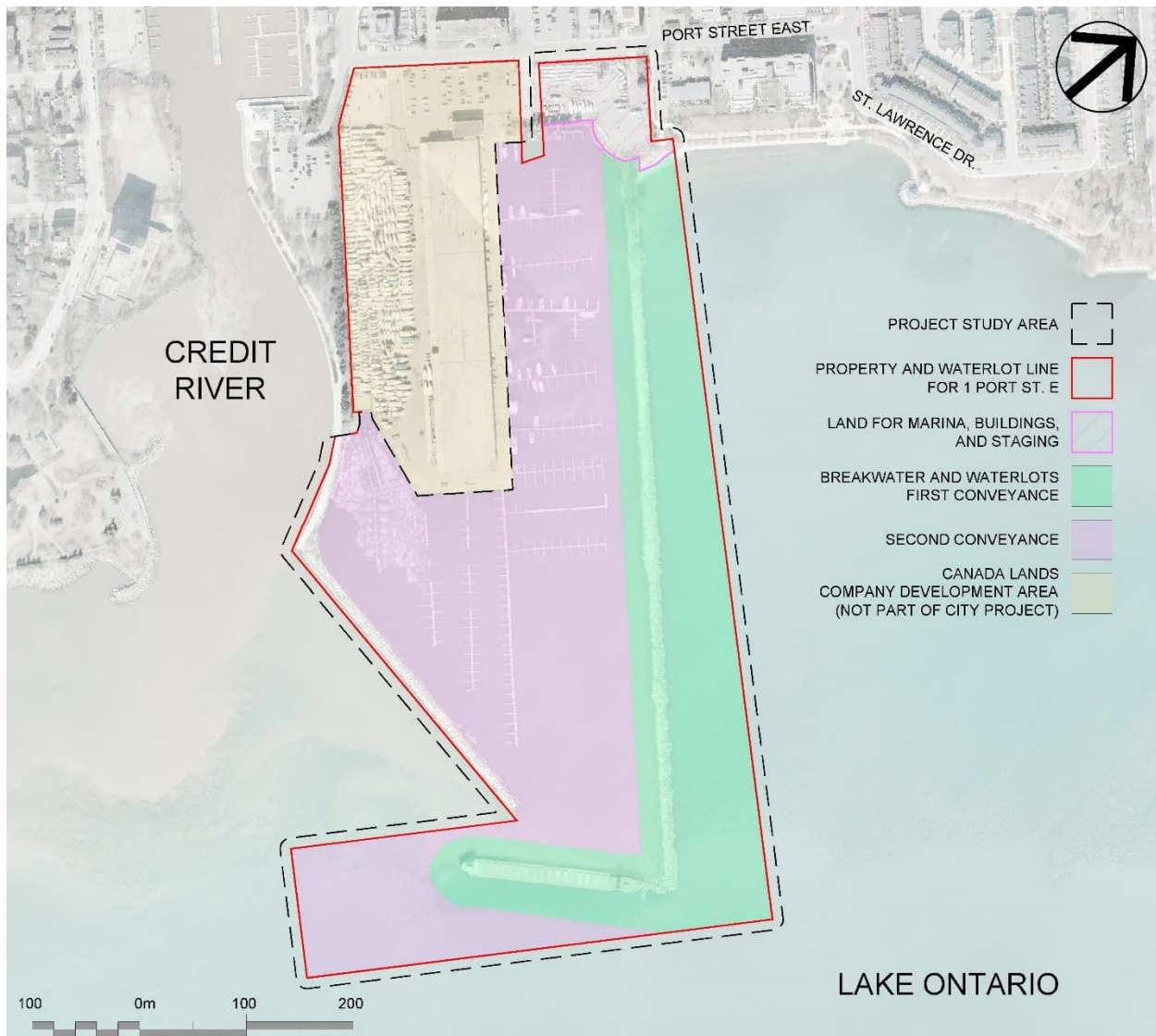
Figure 1.1:	Wharf, Lands and Water Lots and the 1PSEPM Project Study Area.....	3
Figure 6.1	1PSEPM Project Preferred Alternative.....	16

## 1. INTRODUCTION

The City of Mississauga (the City) has undertaken an Individual Environmental Assessment (EA) for the 1 Port Street East Proposed Marina Project (1PSEPM Project). An existing private marina, Port Credit Harbour Marina (PCHM), is currently located on the west portion of the site (the wharf) and is privately operated by Centre City Capital Limited. The wharf is owned by Canada Lands Company (Canada Lands or CLC). Centre City Capital Limited leases the space required for PCHM from Canada Lands. Canada Lands and Centre City Capital Limited have reached an agreement to extend the PCHM lease, which was set to expire in 2023. A future mixed-use neighbourhood is proposed to be developed on the wharf which will displace the existing private marina (i.e., the PCHM). The future mixed-use development proposed for the wharf is not a City-led initiative and is not part of this EA. The timing of the development of the wharf is dependent on the landowner (i.e., Canada Lands) and related required approvals.

The City is undertaking the 1PSEPM Project with the objective of expanding the land base around the eastern breakwater to provide continued marina function and services at this site, create public access to the waterfront, new parkland, and enhance the site's ecological functions. This part of the Mississauga waterfront has been the subject of many studies. The 1PSEPM Project was identified by the "Inspiration Port Credit" initiative as a key opportunity to "Keep the Port in Port Credit". Figure 1.1 provides a map showing the lands and water lots at 1 Port Street East and the 1PSEPM Project Study Area. Pending EA approval from the Province of Ontario, Council approval of the 1PSEPM Project, including funding from external sources, the City will develop and implement the 1PSEPM Project.

Figure 1.1: Wharf, Lands and Water Lots and the 1PSEPM Project Study Area



The 1PSEPM Project is subject to the requirements of the Ontario *Environmental Assessment Act* (EA Act) as an Individual EA. To meet the requirements of the *Ontario EA Act*, the 1PSEPM Project Individual EA was conducted in two stages. Stage one involved collecting public input and understanding concerns to develop the Terms of Reference (ToR). The submission and approval of the ToR completed stage one. The ToR was approved by the Minister of the Environment, Conservation and Parks (MECP) on September 16th, 2021. Stage two involves the preparation and submission for approval of the Individual EA in accordance with the approved ToR. The EA has been prepared in accordance with the requirements of the approved ToR and follows the “Code of Practice: Preparing and Reviewing Environmental Assessments in Ontario” (MECP, 2014. Revision 2).

Federal and provincial permits under the following legislation are anticipated to be required as part of the 1PSEPM Project. Municipal approvals may also be required.

#### Potential Federal Permits and Authorizations

- *The Federal Fisheries Act*
- *Navigation Protection Act*
- *Migratory Birds Convention Act (MBCA)*.
- *Species at Risk Act*.

#### Potential Provincial Permits and Authorizations

- *Lakes and Rivers Improvement Act*.
- *Conservation Authorities Act* and its regulations and recent amendments.
- *Clean Water Act*.
- *Endangered Species Act*.

This EA report is organized into 11 chapters that are summarized in this document:

#### Chapter 1 – Introduction

- Briefly describes the background, goal and objectives of the 1PSEPM Project; introduces the proponent; and provides a summary of the regulatory framework of the EA process and other approvals.

#### Chapter 2 – Purpose of the Undertaking

- Presents the Problem/Opportunity Assessment and describes the 1PSEPM Project Study Areas and timeline.

#### Chapter 3 – Description of the Potentially Affected Environment

- Describes baseline environmental and socio-economic conditions in the Regional, Local and Project Study Areas.

#### Chapter 4 – Evaluation and Rationale for ‘Alternatives To’ the Undertaking

- Describes the process through which functionally different ways of addressing the identified problem/opportunity (‘Alternatives to’) were developed and assessed.

#### Chapter 5 – Development, Evaluation, and Rationale for ‘Alternatives Methods’ of Carrying Out the Undertaking

- Describes the process through which alternative ways of carrying out the 1PSEPM Project (different sizes of lakefill) were identified and evaluated to choose a preferred alternative.

#### Chapter 6 – Description of the Preferred Alternative

- Provides a description of the conceptual design for the 1PSEPM Project, including its design, phasing and construction techniques.

#### Chapter 7 – Detailed Assessment of the Preferred Alternative

- Presents the criteria, indicators, and results of the detailed assessment of environmental effects, including an outline of mitigation measures, net effects, and a summary of effects.

#### Chapter 8 – Monitoring and Adaptive Management

- Outlines the framework, strategy and activities of the monitoring and adaptive environmental management that will be conducted throughout the 1PSEPM Project’s lifespan.

#### Chapter 9 – EA Amendment Process

- Provides a framework to deal with modifications to the 1PSEPM Project after the completion of the EA.

#### Chapter 10 – Consultation Record

- Describes the public, agency and Indigenous community consultation programs including input from various interested parties and the proponent's responses.

#### Chapter 11 – Advantages and Disadvantages

- Summarizes the advantages and disadvantages of the 1PSEPM Project from an environmental and socio-economic standpoint.



## 2. PURPOSE OF THE UNDERTAKING

There is a long history of planning, public engagement, scientific and economic studies with respect to the Port Credit waterfront, specifically the 1 Port Street East site. The key background documents and initiatives that determined the nature and purpose of the undertaking are:

- Inspiration Port Credit
- Port Credit Local Area Plan (2016);
- Mississauga Recreational Boating Demand and Capacity Study (2015);
- Mississauga Marina Business Case (2015);
- 1 Port Street East Comprehensive Master Plan (2016);
- 1 Port Street East Official Plan Amendment 65 (2017); and
- Waterfront Parks Strategy Refresh (2019).

In October 2017, City Council authorized staff to execute an agreement of purchase and sale with Canada Lands for the eastern portion of the property at 1 Port Street East, including the basin water lot; the eastern breakwater water lot; and 2 acres of land between Elizabeth Street and Helene Street south of Port Street. The initial conveyance was completed on January 24, 2018, transferring the breakwater and a portion of the water lot into City ownership. The second conveyance will take place once the City obtains approvals (including the EA and Council approval), engages a contractor to undertake the marina construction, and issues a "Ready to Commence Construction" notice to Canada Lands. City Council has also authorized staff to pursue external funding opportunities and undertake the Environmental Assessment.

In addition, several studies have been undertaken that describe issues, opportunities, goals and objectives along the Lake Ontario shoreline and nearshore areas for Mississauga, Toronto, and Lake Ontario, and are applicable to the 1PSEPM Project. These are:

- Credit River Estuary: Species at Risk Research Project
- Fish Community Objectives for Lake Ontario
- Credit Valley Conservation Authority's Integrated Watershed Monitoring Program
- Living by the Lake: 2019-2039 - An Action Plan to Restore the Mississauga Shoreline
- City of Mississauga's Climate Change Action Plan (2019)

Overall, the purpose of the 1PSEPM Project is to provide an expanded land base for additional waterfront parkland and marina alternatives at the 1 Port Street East site. The 1PSEPM Project is a key element of Inspiration Port Credit's 1 Port Street East Comprehensive Master Plan (2016). The 1PSEPM Project is intended to help fulfill the vision:

"to ensure that an iconic and vibrant mixed-use waterfront neighbourhood and destination with a full-service marina is developed at the 1 Port Street East Site"

### 3. DESCRIPTION OF THE ENVIRONMENT POTENTIALLY AFFECTED BY THE UNDERTAKING

The 1PSEPM Project EA considers three study areas (i.e., the Project Study Area, Local Study Area and Regional Study Area) and two Project phases:

- Construction Phase: The time during which the land base is being constructed, including lakefilling, on-site infrastructure development, habitat creation and site restoration.
- Establishment Phase: The time after the parkland and marina is constructed and officially open to the public for use and during which monitoring and adaptive management of the 1PSEPM Project would be undertaken.

The EA contains a description of the environment potential affected by the undertaking according to five major environmental components:

- Physical Environment: describes the shoreline characteristics; bathymetry; Lake Ontario water levels; wave conditions; ice and debris; littoral and sediment transport; Lake Ontario and Credit River water quality; soils and geology; and the influences of climate change on the physical environment. Key findings include:
  - Much of the shoreline within the 1PSEPM Project Regional and Local Study Areas has been protected with either formal or informal shoreline protection structures. Within the Project Study Area, 100% of the shoreline is man-made and can be characterized as artificial. The east breakwater consists of large armour stones with a stone core. The west shoreline of the marina basin is formed by a steel sheet pile wharf. The north shore is formed by a conglomerate of structures and informal structures. The land within the Project Study Area is all fill material.
  - Water levels on Lake Ontario fluctuate on short-term, seasonal, and long-term basis. Seasonal water levels on Lake Ontario generally peak in the summer (typically in June) with the lowest water levels generally occurring in the winter (typically in December). Short-term fluctuations last from less than an hour up to several days and are caused by local and regional meteorological conditions.
  - The area along the Lake Ontario shoreline is highly dynamic by the action of waves, and wind. Ice accumulation was greatest in protected areas (with complete coverage in the Credit River upstream of Lakeshore Road and in Lakefront Promenade Park embayment and marina) and areas of shallower depth (e.g., Rattray Marsh beach). Debris is typically made up of urban refuse such as plastic bags, water bottles, and take-out containers, as well as woody debris such as sticks and logs
  - The Credit River yields the greatest amount of sediment supply to Lake Ontario near the Project Study Area.



- The Credit River contributes 86% of the suspended solids, 66% of the nitrates, and 80% of the heavy metals entering Lake Ontario. Within the existing marina basin and immediately east of the eastern breakwater, surface water quality generally met Provincial Water Quality Objectives.
- The Local Study Area is underlain by shale bedrock. The 1PSEPM Project Study Area consists of asphalt overlying non-cohesive fill material comprised of varying amounts of silt, sand, clay, and gravel.
- Climate change is expected to impact both water levels and storm conditions. Storm frequency and intensity are both expected to increase, while mean water levels may fall. Climate change impacts on Lake Ontario water levels are expected to be less than on the other Great Lakes because its water levels are regulated.
- Atmospheric Environment: describes general climatic conditions; air quality; and noise. Key findings include:
  - The climate for the City of Mississauga is like that of the City of Toronto and the broader GTA.
  - Existing air contaminant levels for the majority of the contaminants are less than their relevant Ambient Air Quality Criteria (AAQC).
  - The study areas can be classified a "Class 1 area" where the background sound level is dominated by the activities of people, usually road traffic, often referred to as "urban hum". There are no noise receptors in the Project Study Area.
- Biological Environment: describes the fish and aquatic habitat; forests, vegetation, wetlands, and wildlife in the study areas. Field studies were undertaken to support the description of the aquatic habitat in the Project Study Area and vicinity. Key findings include:
  - Historically, the Lake Ontario shoreline in Mississauga was composed of a mix of natural habitats: deciduous and mixed forests, open savannahs and coastal wetlands. Aquatic habitats have undergone a substantial change from their historic conditions. Land use change, filling, dredging, and disturbance are the most notable historic and current threats to aquatic habitats along the shore of Lake Ontario. The Credit River and Lake Ontario are home to at least 65 cold, cool, and warm-water fish species.
  - Habitat alteration, periodic dredging and the presence of Carp in the Project Study Area have contributed to the absence of aquatic vegetation. Algae and Zebra Mussels were documented in places along the shoreline, the existing eastern breakwater, and hardpan area.
  - Substrates in the Project Study Area are generally finer sands and silts that have been carried as bedload by the river and deposited into the river mouth. No areas of critical habitat for potential aquatic Species at Risk were documented during the field investigation.

- The Project Study Area largely paved. Ornamental deciduous and coniferous trees and shrubs exist along most of the perimeter of the 1PSEPM Project Study Area with only 15 clusters of trees growing on the breakwater near the shoreline. There are no wetlands located within the Project Study Area.
- A total of 84 bird species were recorded in the vicinity of the Project Study Area. The proximity of the 1PSEPM Project Study Area to the shoreline and key migratory corridors allowed many species of birds to use Project Study Area as a stopover to rest and wait out inclement conditions. Given how much of Mississauga's shoreline is developed, there is not a lot of high-quality habitat for migrating birds to choose from, thus they will use what is available. Storms and severe weather also can force migrating birds to take new migration routes or settle down in place (even if it is not ideal habitat).
- There is no suitable breeding habitat for forest and wetland breeding amphibian in the Project Study Area.
- Few mammal species are known to use the Project Study Area for all or some of their life cycle. These species are typical of urban areas and include the Eastern Gray Squirrel, Eastern Chipmunk, Raccoon, and Muskrat.
- Socio-economic Environment: describes existing and future land uses; recreational, visual and aesthetic conditions, traffic and transportation; business activity and commercial fishing in the study areas. Key findings include:
  - Existing and future land uses in the study areas reflect Mississauga's Official Plan (2011) and the Port Credit Local Area Plan. Port Credit is generally a stable area with a distinct community identity, with a focus on the Lake Ontario waterfront, the harbour and its heritage. Future development of Port Credit is to make the community an "urban waterfront village", based on the principles of a mixture of land uses, a variety of densities, pedestrian and cycling friendly infrastructure, transit and supportive urban forms, a significant public realm, and public access to the waterfront.
  - The nearshore areas of Lake Ontario and the Credit River in the City of Mississauga are prime locations for recreational boating, canoeing, and kayaking. Currently there are three marinas along the waterfront in Mississauga – Lakefront Promenade Marina, Credit Village Marina, and the Port Credit Harbour Marina. Marine uses within and in the vicinity of the marinas include motor boating, boat launching, shoreline and boat-based fishing, canoeing, and kayaking.
  - Several waterfront parks are also located within the Local Study Area, with the nearest park to the 1PSEPM Project Study Area being St. Lawrence Park. There are no official recreational areas within the Project Study Area. The Waterfront Trail runs along the south side of Port Street adjacent to the 1PSEPM Project Study Area.

- The most prominent and direct views of the Project Study Area are from two multilevel hotels, and condominium residences along Port Street and St. Lawrence Drive. Direct and prominent views of the site exist from the east side to the wharf at the PCHM. Land-based “open lake views” (or vistas) from the Project Study Area to Lake Ontario are partially screening by perimeter vegetation. Direct and prominent views of the 1PSEPM Project Study Area also exist from Lake Ontario.
- Lakeshore Road is an east-west major arterial roadway that extends through the entirety of the City of Mississauga, Lakeshore Road East has signalized intersections at Stavebank Road, Elizabeth Street, Helene Street and Hurontario Street. Access to the 1PSEPM Project Study Area is via Port Street. Traffic conditions along the Lakeshore Road corridor can become congested during the weekday peak. Truck volumes range between 50 – 175 vehicles during peak hours.
- Port Credit is a unique hub for shopping, events, music and activities on the waterfront. It has a wide array of restaurants, retail stores, business offices all within walking distance from the Credit River or from Lake Ontario.
- The PCHM is one of the largest privately-operated full-service marinas on the GTA’s lakefront and includes marina-related businesses.
- Cultural Environment (including Interests of Indigenous Communities): describes the Indigenous Communities known to have an interest in the Project and Local Study Areas and the results of an Archeological In-Water Assessment undertaken for the Project. Key findings include:
  - The Project Study Area is located in the unceded territory of Lake Ontario which is currently under a Water Claim by the Mississaugas of the Credit First Nation (MCFN). The lands immediately adjacent to the study area are formerly the Reserve of the MCFN.
  - There are no current First Nation Reserve lands within the Regional, Local or Project Study Areas.
  - Several other Indigenous communities have an interest in the lands and waters in the Port Credit area, including the Six Nations of the Grand River, the Huron-Wendat Nation, and six nations that make up the Haudenosaunee Confederacy and represented by the Haudenosaunee Development Institute (HDI).

- The Mississaugas of the Credit First Nation (MCFN) have the most direct interest in the lands and waters in the Project and Local Study Areas, the lakebed and the waters of Lake Ontario. The Anishinaabe, sometimes known as the Objibwa and ancestors to all Mississaugas, occupied the lands north of Lake Superior and the area around Georgian Bay. They controlled and exercised stewardship over approximately 3.9 million acres of lands, waters, and resources in Southern Ontario. In 2016 the MCFN filed an Aboriginal Title Claim to Waters within the Traditional Lands of the Mississaugas of the Credit. The First Nation continues to revere water as a spiritual being that must be accorded respect and dignity. Water is vital to the survival of the MCFN and all other forms of life. The MCFN assert that they have unextinguished Aboriginal title to all water, beds of water, and floodplains contained in their treaty lands and territory.
- In the summer of 2019, a marine archaeological in-water assessment and background research were undertaken at the 1PSEPM Project Study Area. Background research indicated that the Project Study Area had been heavily modified via development, dredging, redevelopment and additional periodic dredging. Only one target was found during the marine archaeological survey. This target consisted of at least two very large metal frames immediately adjacent to the Ridgetown. No additional cultural targets were located, and the remaining area of the marine archaeological survey is considered clear of cultural/archaeological concerns.

#### 4. 'ALTERNATIVES TO' THE UNDERTAKING

The Ontario EA Act requires the identification and evaluation of 'Alternatives To' the undertaking, including the consideration of the "Do Nothing" alternative. The 'Alternatives To' that were subject to evaluation were:

1. Do nothing. This alternative will not create additional parkland or preserve a future public marina function at the site. The second conveyance of land and water lot from Canada Lands to the City would not take place, leaving the development of the entire property at the discretion of the Canada Lands.
2. Create a new land base. This alternative involves creating a new land base around the eastern breakwater that would allow for the establishment of a new marina and additional parkland in accordance with the City's approved 1 Port Street East Comprehensive Master Plan. To a large extent, the location and extent of filling will determine what can be created or constructed on this new land base.

These 'Alternatives To' were evaluated in a qualitative manner in terms of their environmental effects and their main advantages and disadvantages and concluded that the 'do nothing' alternative does not create a new land base that would allow for continued operation of a marina at this location. Therefore, this alternative does not meet the purpose of the 1PSEPM Project. There are no clear advantages to this alternative other than the avoidance of new construction costs and adverse environmental effects on various environmental components during construction.

New land can be created through lakefilling to allow for the establishment of a marina and supporting facilities and infrastructure; provide public access to the waterfront, improvements to the waterfront trail system and new parkland at the Project Study Area. The disadvantages of this alternative relate to its potential for adverse environmental effects on various environmental components during construction. Measures are available (e.g., traffic controls, dust management, noise abatement, spill management) to mitigate these adverse environmental impacts.

## 5. DESCRIPTION, EVALUATION AND RATIONALE FOR 'ALTERNATIVE METHODS' OF CARRYING OUT THE UNDERTAKING

This chapter describes the iterative steps that were used in developing alternative 1PSEPM Project configurations ('Alternative Methods'). For this Project, 'alternative methods' are different configurations of lakefill around the eastern breakwater. The evaluation considered three lakefill footprint alternatives (small, medium and large) and the "do nothing" alternative. Criteria and indicators were used to assess the alternatives for their potential negative and positive environmental effects and reflected all components of the environment.

The overall conclusions of evaluation of lakefill footprint alternatives, and their advantages and disadvantages are:

- The Do-Nothing alternative is most preferred for cost, and effects to the physical environment while least preferred for the biological and socio-economic environment as there is no potential to enhance aquatic and terrestrial ecology and no new marina nor parkland. Overall, the Do-Nothing alternative was the fourth ranked alternative.
- Alternative 1 - Small Lakefill Footprint provides the lowest number of slips and smallest area of new parkland. It has few opportunities to create terrestrial or aquatic habitat enhancements. However, construction and the nuisance effects from construction activities will be for the shortest duration. Nonetheless, construction associated nuisance effects are mitigable. Overall, the Small Lakefill Footprint alternative was the third ranked alternative.
- Alternative 2 - Medium Lakefill Footprint provides the lowest number of slips (equal to the Small Lakefill Footprint alternative) and moderate opportunity for the creation of new parkland. It also provides a moderate opportunity to create terrestrial and aquatic habitat enhancements. Nuisance effects from construction activities will be for a moderate duration and are mitigable. Overall, the Medium Lakefill Footprint alternative was the second ranked alternative.



- Alternative 3 - Large Lakefill Footprint provides the opportunity to create the largest area of parkland relative to the marina space required for parking, boat storage and marina facilities. It also protects and allows the use of the entire marina basin (greatest number of slips). With a larger footprint, perimeter, and location jetting into deeper waters in Lake Ontario this alternative has the greatest potential to enhance aquatic habitat, however, represents the largest area of existing aquatic habitat removed/altered and off-site compensation may be required. Baseline studies indicate that existing fish habitat that would be lost is not limiting in Lake Ontario, and new habitat created has the potential to be greater quality than what would be lost. With a large land base, this alternative offers the most potential to enhance terrestrial habitat over what exists now. Conversely, as the largest footprint alternative, it also has the highest cost and will take the longest to construct resulting in construction nuisance effects for the longest period. However, the effects from construction are short-term and mitigable while the lakefill area and its benefits will exist for the long-term. Overall, the Large Lakefill Footprint alternative was the first ranked alternative, and therefore the preferred alternative.

The evaluation and the selection of the large lakefill footprint as the 1PSEPM Project's preferred alternative was presented to the public and stakeholders at two Public Information Centers (PICs) to gain their feedback. Feedback received was generally supportive of this selection and focused largely on marina design and operational issues.

## 6. DESCRIPTION OF THE PREFERRED ALTERNATIVE

This chapter describes the conceptual design of the 1PSEPM Project preferred alternative, construction techniques to build the preferred alternative, and the proposed phasing plan for construction.

The 1PSEPM Project preferred alternative requires approximately 240,000 m<sup>3</sup> of fill material. The shoreline protection is an armour stone revetment. The south end includes an island breakwater structure, also protected with an armour stone revetment, which will shelter an aquatic habitat area. This habitat embayment includes approximately 2,400 sq. meter of high-quality aquatic habitat. Further discussion of the aquatic habitat improvements is provided in Section 7.0.

The island breakwater structure will have a lower crest elevation than the main breakwater and has the main function of reducing the effect of open lake waves on the aquatic habitat area. The island breakwater will be separated from the main lakefill structure over the full range of water levels and will not allow for public access.

Figure 6.1 1PSEPM Project Preferred Alternative



Armour stone revetments are a common type of shoreline protection structure on the Great Lakes. A revetment is a sloping structure consisting of outer layer(s) of primary armour stone protection and sub-layer(s) of secondary armour stone and/or rip rap. The slope of the revetment can vary but 2H:1V is the most common and is the proposed slope for most of the 1PSEPM Project preferred alternative, with the exception of certain areas on the south side of the structure where slopes are reduced to approximately 3H:1V. These slopes generally provide suitable stability for the underlying soil or fill material and can be partially built within the reach of shore-based equipment. Parts of the construction of the lakefill and protection structure and the delivery of material may be undertaken over water with the use of a barge.

The lake bottom elevation around the toe of the structure varies between approximately 75.0m near the interface with the mainland, and approximately 66.0 m at the lakeward most point of the structure. This means under design high water levels, the depth at the toe of the revetment will vary between approximately 1.0 and 10.0 m. Typical average summer water levels will vary between 75.1 m and 74.8 m.

The crest of the revetment on the breakwater will vary between approximately 78.0 m and 79.0 m. The cap stone crest is set approximately 0.5 m above the top of the fill and core material behind the protection structure. The structure was conceptually designed to minimize wave overtopping, though some overtopping will occur under 1:100 year design conditions.

The 1PSEPM Project preferred alternative will remove some existing aquatic habitat on the lake bottom and will provide enhanced fish habitat areas at the south part of the preferred alternative. The south end of the preferred alternative includes an embayment area protected with an island breakwater to provide improved semi-sheltered aquatic habitat. Table 6.1 below shows the areas of aquatic habitat modified and lost in the four depth zones affected by the preferred alternative. As noted above, the proposed habitat embayment includes approximately 2,400 sq. meter of high-quality aquatic habitat.

Table 6.1 Aquatic Habitat Areas Modified and Lost

Aquatic Habitat Depth Zone	Aquatic Habitat Modified	Aquatic Habitat Lost
0 m to 2 m	100 m <sup>2</sup>	4,100 m <sup>2</sup>
2 m to 5 m	1,000 m <sup>2</sup>	8,100 m <sup>2</sup>
5 m to 10 m	11,900 m <sup>2</sup>	16,900 m <sup>2</sup>
greater than 10 m	0 m <sup>2</sup>	0 m <sup>2</sup>
Total	13,000 m <sup>2</sup>	29,100 m <sup>2</sup>

The conceptual design illustrates the intended parkland and trails that are proposed to be built on top of the expanded breakwater. Approximately 18,000 m<sup>2</sup> (1.8 ha) of parkland will be created from this intended design.

A floating main dock is proposed to be installed on the marina side of the existing breakwater. This dock will run along the length of the breakwater and will have floating docks extending out perpendicular to the main dock which will provide access to approximately 450 proposed boat berthing slips.

Marina services and facilities will be located on the 1 Port Street East existing land base site. This portion of site is approximately 2 acres and currently a parking lot. The City will determine during detailed design the nature and size of the structure to occupy this existing space.

The landward part of the expanded breakwater is proposed to be designated as a summer parking area. This would include parking for marina and park users. The parking lot is proposed to have approximately 275 parking spaces. During the winter months, when the marina is not being used and there is less foot traffic in the park area, the parking lot will be used as a boat storage area an important aspect of marina business operations.

The site will be graded so that stormwater, as well as wave overtopping water and wave spray, will be directed towards the marina basin via overland flow. A bioswale will be constructed along the edge of the marina basin to remove debris and pollution before the surface runoff enters the basin.

Construction access to the site would be achieved by entering the marina area from Port Street East. This will also be the access point once construction is complete. Construction materials, specifically the stone material required to build out the breakwater and construct the shore protection, will have to be brought in from outside the City of Mississauga.

The construction of the 1PSEPM Project preferred alternative will occur in two distinct stages. Stage one is the land creation and protection by placing the breakwater fill material and armour stone revetment shoreline protection. Followed by Stage two, which includes the construction of site, the marina and park construction.

All in-water work will be completed during an appropriate in-water work timing window, as set out by Fisheries and Oceans Canada, to comply with fisheries regulations. The in-water work timing window will be established prior to construction during the approvals phase.

It is assumed that approximately 2,000 tonnes of clean fill material per day can be supplied by barge and that trucking will supply material at a rate of six trucks per hour for an eight-hour day. This rate of supply is expected to allow for controlled movement of trucks on the site, dumping and grading of the fill material in a controlled fashion. The elements of Stage one will be subject to further refinement during the detailed design phase.

Stage two of the 1PSEPM Project will include the construction of the parking lot, park features, trails, landscaping, signage, aquatic habitat features, etc. Construction of the new marina buildings and associated structures, as determined during detailed design, will also occur at this stage. The elements of Stage two will be subject to further refinement and approvals during detailed design.

Stage two construction, exclusive of servicing and landscaping is anticipated to take approximately 14 months of construction, depending on fill availability, approvals, weather, and in-water working periods. Erosion and sediment control measures (ESC) established in Stage one could either remain or be adjusted to accommodate the initial works of Stage two work.



In stage two construction, once hardscape and paving are completed, attention can move to soft landscape works. Vegetation to be planted will be native, non-invasive species resilient to the coastal conditions associated with the north shore of Lake Ontario. All staging areas would be incorporated into the construction works as required to achieve the full build-out of the project.

## 7. DETAILED ASSESSMENT OF THE PREFERRED ALTERNATIVE

This chapter examines how the 1PSEPM Project preferred alternative meets the purpose of the undertaking by identifying and assessing potential effects; describing the net environmental effects; and how the preferred alternative minimizes adverse effects and/or maximizes positive effects according to the following components, namely:

- Physical Environment;
- Atmospheric Environment;
- Biological Environment;
- Socio-economic Environment;
- Cultural Environment (including Interests of Indigenous Communities); and
- Costs.

Tables 7.1 to 7.5 summarize the detailed assessment. Costs are considered following these summary tables. Where net effects were predicted (i.e., effects remaining after mitigation is applied), they were classified as positive, negative, or negligible. Positive effects (e.g., improved habitat) are generally associated with establishment/post-establishment and were quantified where possible. Effects that were either negative or negligible tended to be associated with construction activities. Negligible effects are generally short-term, localized, do not occur frequently, and can be minimized to a large extent through mitigation; these are often typical of construction projects. Examples of these include air and noise emissions from construction equipment. Negative effects are those that mitigation could not minimize the effect to the extent that it became negligible, thus, the effect was considered a net negative effect of the 1PSEPM Project.



Table 7.1: Effects on the Physical Environment

Phase	Potential Effect	Mitigation	Net Effect
Construction	Increased turbidity and reduced water quality from runoff due to onshore earthworks and vehicle movements	<ul style="list-style-type: none"> <li>• Construction of the Project should aim to maintain the existing asphalt cover for as long as possible to maintain current drainage patterns and avoid exposing erosion susceptible soils.</li> <li>• Stockpiling of materials and staging equipment shall be undertaken in designated locations as far away from the lake as possible.</li> <li>• Soil movement and management activities are to be conducted in accordance with the Ontario Regulation 406/19 and the MECP's Rules for Soil Management and Excess Soil Quality Standards.</li> <li>• An "Erosion and Sediment Control Plan" will be developed during detailed design and applied for the duration of construction activities.</li> </ul>	<i>Negligible.</i>
Construction	Reduced soil, groundwater, and surface water quality from operation, refueling and routine maintenance of vehicles, vessels, and machinery	<ul style="list-style-type: none"> <li>• The City shall ensure that contractor(s) develop a construction phase "Spills Management Plan" to maintain spills response capability, contain and clean-up all spills immediately upon detection.</li> <li>• Vehicles, vessels, and machinery must be checked for leakage of lubricants or fuel and must be in good working order.</li> <li>• Keep floating oil booms on hand if oily residue sheens or floating debris are detected.</li> <li>• Store all POLs and chemicals in secure containers and preferably in a secure storage trailer.</li> <li>• All construction waste and debris will be disposed of in accordance with applicable provincial guidelines and regulations.</li> <li>• Where possible, refuel equipment on impermeable pads, liners or using drip pans at least 30 m from the lake.</li> <li>• Vehicles remaining stationary for more than 30 minutes shall use drip pans. Drip pans shall be emptied into oil absorbing sheets or waste POL containers for disposal. Every vehicle to carry a spill kit to control spills from that vehicle.</li> <li>• The construction site shall have a single, prominently marked location for the storage of POL and other hazardous or potentially contaminating materials (e.g. solvents). These storage areas shall not be located within thirty metres of Lake Ontario. An approved spill kit shall be available at all storage locations.</li> <li>• Any spill and the response taken should be reported to immediately to the City and the MECP Spills Action Centre.</li> </ul>	<i>Negligible</i>

Phase	Potential Effect	Mitigation	Net Effect
Establishment	The lakefill may result in changes in the water levels and circulation patterns along the Lake Ontario shoreline that may result in local flooding, changes to sediment movement and deposition patterns in Lake Ontario.	<ul style="list-style-type: none"> <li>No mitigation is warranted because the existing breakwater has already affected coastal processes along the Lake Ontario shoreline. The new lakefill adjacent to the breakwater will not change existing conditions in any notable way.</li> </ul>	<i>No Net Effect</i>
Establishment	Reduced surface water quality from stormwater discharges	<ul style="list-style-type: none"> <li>If required, consideration shall be given to the use of additional Low Impact Development (LID) practices during detailed design, incorporating (where feasible) permeable paving, bioretention and infiltration areas, oil/grit separators, retention ponds, sand filters, grassed swales, vegetated filter strips. The City will be guided by its Green Development Standards (2012) where relevant.</li> <li>The detailed design will designate snow storage areas on-site if required. The City will consider lower impact road salt alternatives for use in winter maintenance operations as per City practices.</li> <li>The City will consult with the MECP and CVC in developing its detailed design.</li> </ul>	<i>Negligible</i>

Table 7.2: Effects on the Atmospheric Environment

Phase	Potential Effect	Mitigation	Net Effect
Construction	Increased dust levels from, heavy equipment use/vehicle movement, soil/fill storage and fill placement.	<ul style="list-style-type: none"> <li>• Minimize vehicle movement on/over exposed soils.</li> <li>• Regularly clean city streets used by trucks or other vehicles entering / exiting the construction site (by sweeping or water application)</li> <li>• Apply dust suppression measures (water) should dust levels be a concern on-site or due to a public complaint.</li> </ul>	<i>Negligible.</i>
Construction	Increased ambient noise levels nearest construction activities and along haul roads. Increased underwater noise levels from vessel operations and fill placement.	<ul style="list-style-type: none"> <li>• All equipment used by contractors should be well maintained and fitted with engine mufflers.</li> <li>• Construction site hoarding will be installed around the worksite to provide shielding from noise generating activities.</li> <li>• Activities that could create excessive noise will be restricted to daylight hours and adhere to the intent of the Mississauga’s municipal noise control by-laws and polices.</li> <li>• No construction will be permitted on weekends or on statutory holidays, unless exemption from by-law is granted by the City.</li> <li>• Vehicles, vessels, and equipment to be in good repair, equipped with noise emission controls as applicable and operated within operating specifications.</li> <li>• To the extent possible, vessel engines and propellers will be shutdown if anchored to reduce unnecessary underwater noise during their operation</li> </ul>	<i>Negligible</i>

Table 7.3: Effects on the Biological Environment

Phase	Potential Effect	Mitigation	Net Effect
Construction	Approximately 1,700 m <sup>2</sup> of terrestrial habitat will be removed and/or disturbed by construction activities.	<ul style="list-style-type: none"> <li>Minimize the removal of existing trees to the extent possible, particularly along Port Street and adjacent to St Lawrence Park. Tree protection measures will be determined during detailed design by the City. Removals will be offset by compensatory planting as part of the proposed park (wildlife friendly native, non-invasive trees and shrubs within the landscaping plan). For example, consideration will be given to creating a naturalized habitat that is less actively used by the public to give migrating song birds important habitat during migration.</li> <li>Comply with measures of the Migratory Birds Convention Act: vegetation removal will occur outside of breeding bird period (typically April 15-August 31). Major construction, particularly vegetation removal, will be outside of the spring bird migration window (mid-March to early June).</li> </ul>	<i>Negligible</i>
Construction	Potential loss or disturbance of terrestrial Species at Risk (SAR) and Significant Wildlife Habitat (SWH)	<ul style="list-style-type: none"> <li>No mitigation warranted. No SAR habitat or SWH have been identified within the Project study area</li> </ul>	<i>No Net Effect</i>
Construction	Increased potential for the transport of nuisance and invasive plant species to the site via construction equipment	<ul style="list-style-type: none"> <li>Implement measures outlined in the City of Mississauga's "Invasive Species Management Plan &amp; Implementation Strategy" (City of Mississauga, 2021).</li> <li>Apply best management practices regarding cleaning of vehicles and equipment entering, exiting, and operating on-site. All contractors involved will follow the Ontario Invasive Plant Council's "Clean Equipment Protocol for Industry" (June 2016).</li> </ul>	<i>Negligible</i>
Construction	Potential loss or disturbance of aquatic Species at Risk (SAR) and/or habitat	<ul style="list-style-type: none"> <li>No mitigation warranted. No areas of critical habitat for potential SAR or aquatic SAR were documented during the field investigation.</li> </ul>	<i>No Net Effect</i>
Construction	Approximately 29,000 m <sup>2</sup> of aquatic habitat will be removed as lakefill construction occurs and approximately 13,000 m <sup>2</sup> will be altered. This includes the east side of the expanded lakefill and the underwater portion of the	<ul style="list-style-type: none"> <li>Create and enhance aquatic habitat at the southern (lakeward) terminus of the proposed lakefill. The proposed feature will create approximately 2,400 sq. m of semi-sheltered moderately shallow water area where substrate can be selected, and structural habitat provided at varying depths.</li> <li>Examine further opportunities to flatten the side slope and /or create a shallow underwater terrace along portions of the east wall to be sheltered by the island and create littoral areas to provide productive areas for forage fish reproduction and feeding.</li> </ul>	<i>Negligible with appropriate offsetting of remaining aquatic habitat losses (see below)</i>

Phase	Potential Effect	Mitigation	Net Effect
	aquatic habitat feature at the south end. This replaces the existing bottom strata.	<ul style="list-style-type: none"> <li>In water construction activities will occur within appropriate restriction timing windows for fish, where possible, to protect fish and fish habitat. As appropriate, areas will be cleared of fish prior to fill placement.</li> <li>The detailed design will ensure that breeding habitat for the Common Carp species shall not be promoted.</li> <li>Any fish entrapped in fill areas will be removed to the lake.</li> <li>All machinery, equipment, and vessels that will be used during construction shall follow regulations and best practices on clean equipment/vessel protocols to avoid spreading non-native invasive plants and animals (fish, mussels, crabs, etc.) on hauls and ballast tanks.</li> </ul>	
Establishment	Increased potential for the establishment of nuisance and invasive species at the site	<ul style="list-style-type: none"> <li>Best management practices regarding parkland design and nuisance species management will be applied (e.g., consider minimizing Canada Goose foods (turf grass) and maximizing native herbaceous plantings that block turf grass/paths from the water).</li> <li>With respect to Canada Geese, City staff monitor geese populations annually across waterfront areas, including parks and marina facilities. A Goose Management program that has proven to control the population of resident geese within waterfront areas of the city.</li> </ul>	<i>Negligible</i>
Establishment	On a portion of the 18,000 m <sup>2</sup> of parkland created, native species will be planted to create the potential for terrestrial habitat to compliment other Lake Ontario shoreline and inland migratory bird habitat and increased habitat connectivity	<ul style="list-style-type: none"> <li>Vegetation to be planted should be wildlife friendly native, non-invasive trees, shrubs and grasses. The City's plantings should be guided by its Green Development Standards (2012) where relevant.</li> </ul>	<i>Positive Net Effect</i>
Establishment	Potential creation of 2,400 m <sup>2</sup> of aquatic habitat associated with the lakefill and aquatic habitat features included in the design.	<ul style="list-style-type: none"> <li>Additional off-site compensation will be required to ensure a no net loss of aquatic habitat. Develop appropriate offsetting measures for remaining aquatic habitat losses in collaboration with regulators and Indigenous Communities</li> </ul>	<i>No Net Effect</i> with appropriate offsetting of remaining aquatic habitat losses

Table 7.4: Effects on the Socio-economic Environment

Phase	Potential Effect	Mitigation	Net Effect
Construction	Recreational users may be disrupted by construction noise, dust, and traffic.	<ul style="list-style-type: none"> <li>Implement mitigation measures for air quality, noise, etc.</li> <li>Adhere to selected haul route for delivery of lakefill materials, if mandated by City.</li> <li>Avoid the use of the existing parking lots and loss of street parking.</li> <li>Maintain safe public access to waterfront trail along Port Street and provide alternative routes (if necessary)</li> <li>The City will coordinate all activities at the marina and vessel activity in the harbour for the duration of construction so as to avoid unnecessary interference with area users.</li> <li>The City shall ensure that notice and details of the Project has been provided to PCHM to be distributed to users. In addition, construction information will be posted to the project website.</li> <li>Maintain watch for boat traffic and communicate with other vessels to maintain safe operations.</li> <li>Utilized the existing 311 system available to Mississauga residents and business operators for registering of public complaints and allow for their resolution in accordance with the City's policies.</li> </ul>	<i>Minor Adverse Effect</i>
Construction	Loss of a small beach to the east of the breakwater along St. Lawrence Park.	<ul style="list-style-type: none"> <li>No mitigation warranted. Reestablishment of a similar beach over time will likely result in a no net loss of beach area.</li> </ul>	<i>No Net Effect</i>
Construction	Disruption of business operations in vicinity of Project Study Area and along haul routes.	<ul style="list-style-type: none"> <li>Implement mitigation measures for air quality and noise. Comply with all municipal bylaws.</li> <li>No construction work on weekends and statutory holidays and between 7pm and 7am unless special permissions are obtained.</li> <li>Adhere to selected haul route(s) for delivery of lakefill materials, if designated by the City at the time of construction.</li> <li>Regularly inform local business operators in the Local Study Area of the 1PSEPM Project schedule and timing of construction activities</li> <li>Monitor and effectively respond to public complaints in a timely manner</li> </ul>	<i>Minor Adverse Effect</i>
Construction	Increased business activity	<ul style="list-style-type: none"> <li>Encourage purchasing of goods and services from local business operations.</li> </ul>	<i>Positive Net Effect</i>



Phase	Potential Effect	Mitigation	Net Effect
Establishment	Creation of 18,000 m <sup>2</sup> of parkland for community use and enjoyment	<ul style="list-style-type: none"> <li>None warranted. Detailed design will aim to optimize positive effects to community and visitors.</li> </ul>	<i>Positive Net Effect</i>
Establishment	Local residents living in dwellings facing Lake Ontario may experience a change to their use and enjoyment of their properties due to the visibility of the new lakefill and marina facilities, including parkland, parking areas and winter boat storage.	<ul style="list-style-type: none"> <li>City will ensure that parkland is continuously maintained and that all parking and winter boat storage meets City requirements.</li> <li>Develop, implement, and maintain vegetation to screen, where possible, the parking/boat storage area from local residences.</li> </ul>	<i>Minor Adverse Effect</i>
Establishment	There is potential for increased activity by park users by virtue of the larger park space thus, some community members may experience altered enjoyment of their private properties and community features as a result of this increased use.	<ul style="list-style-type: none"> <li>No mitigation warranted. Marina operations will comply with all municipal bylaws including, noise by-laws. Marina and park operations are similar to existing conditions.</li> </ul>	<i>No Net Effect</i>
Establishment	"Keeping the Port in Port Credit" and the establishment of additional waterfront parkland will enhance the unique character of Port Credit Village	<ul style="list-style-type: none"> <li>No mitigation warranted. The relocation of the marina within the Port Credit Harbour basin and the provision of additional parkland is consistent with the desire to "keep the Port in Port Credit" and enhances the unique character of Port Credit Village. The Project is consistent with the vision developed through the Inspiration Port Credit process and as outlined in the Port Credit Local Area Plan.</li> </ul>	<i>Positive Net Effect</i>

Phase	Potential Effect	Mitigation	Net Effect
Establishment	With the larger community space enabled by the lakefill, there is potential for increased activity that may increase noise, air emissions and traffic in the area. At the same time this will draw additional potential customers to local businesses.	<ul style="list-style-type: none"> <li>No mitigation warranted</li> </ul>	<i>Positive Net Effect</i>

Table 7.5: Effects on the Cultural Environment (including effects on Indigenous Communities)

Phase	Potential Effect	Mitigation	Net Effect
Construction	Potential displacement or disturbance of heritage resources within the footprint of the project	<ul style="list-style-type: none"> <li>No mitigation warranted. There are no built cultural heritage resources within the footprint of the project nor immediately adjacent to the 1PSEPM Project Study Area therefore, there will be no displacement nor disturbance of heritage resources</li> </ul>	<i>No Net Effect</i>
Construction	Potential displacement or disturbance of marine- and land-based archaeological resources	<ul style="list-style-type: none"> <li>No mitigation warranted. A marine archaeological study found no archaeological resources were found within the footprint of the project.</li> </ul>	<i>No Net Effect</i>
Construction and Establishment	Construction activities and establishment can potentially limit the ability for Indigenous communities to use the land and water for traditional uses.	<ul style="list-style-type: none"> <li>The City acknowledges the potential infringement of rights and interests with respect to the lands, waters, and resources claimed by Indigenous communities and is consulting with these Nations to determine if there are impacts and if further mitigation is required.</li> <li>The City will continue to engage and communicate with Indigenous communities regarding their inherent rights and interests in relation to the 1PSEPM Project</li> </ul>	<i>Subject of Ongoing Engagement</i>

## 8. MONITORING AND ADAPTIVE MANAGEMENT

The development of a monitoring plan is an important part of the EA. A monitoring program serves several functions throughout the life of the 1PSEPM Project:

- EA compliance monitoring will ensure compliance with EA commitments and ensure that the 1PSEPM Project is constructed according to the conceptual design requirements assessed in the EA and final design elements.
- Environmental performance monitoring will determine if the 1PSEPM Project functions as intended during the establishment and post establishment phases. Monitoring information will be used to determine if the aquatic habitat is functioning as anticipated or if modifications are required.

EA compliance monitoring for the 1PSEPM Project will address the following key issues related to the physical and biological effects and mitigation measures identified for the 1PSEPM Project by ensuring compliance with all commitments made in the EA including the implementation of mitigative measures as identified in the EA.

EA compliance monitoring will continue until final grading and the establishment phase is completed. Table 8.1 lists the commitments made during the EA. The City will adhere to these commitments if the project proceeds.

Table 8.1: Summary of Commitments Resulting from the 1PSEPM Project EA

Project Phase	Commitment	EA Report Section Title	EA Report Section
Detailed Design	The conceptual design detailed in Chapter 6 will be refined during detailed design. The park design will include a public engagement process.	Description of the Preferred Undertaking	6.0
	The City will ensure that an “Erosion and Sediment Control Plan” is developed that will apply for the duration of construction activities.	Physical Environment, Effects of Construction	7.1 7.1.1
	The City will ensure that contractor(s) develop a construction phase “Spills Management Plan”.	Physical Environment, Effects of Construction	7.1 7.1.1
	The City will develop a fish and fish habitat offset plan as part of the <i>Fisheries Act</i> Authorization.	Biological Environment, Effects of Construction	7.2 7.2.1
	Develop a “Stormwater Management Plan” for the established lakefill.	Physical Environment, Effects of Establishment	7.2 7.2.1
	The City will develop a monitoring plan consisting of EA compliance monitoring and environmental performance monitoring.	Monitoring	8 8.1

Project Phase	Commitment	EA Report Section Title	EA Report Section
Construction	All in-water work will be completed during an appropriate in-water work timing window, as set out by Fisheries and Oceans Canada, to comply with fisheries regulations.	Stage 1 Land Creation	6.5.1
	The City will implement the mitigation measures identified for effects of Construction on all environmental components	Detailed Assessment of the Preferred Alternative	7.0
	The City will ensure that construction follows best management practices in “Fill Quality Guide and Good Management Practices for Shore Infilling in Ontario”	Physical Environment, Effects of Construction	7.1 7.1.1
	The City will ensure that vegetation removals will be offset by compensatory planting as part of the proposed park (wildlife friendly native, non-invasive trees and shrubs within the landscaping plan)	Biological Environment, Effects of Construction	7.2 7.2.1
	The City will ensure that notice and details of the Project construction has been provided to PCHM to be distributed to users. In addition, construction information will be posted to the project website	Socio-economic Environment, Effects of Construction	7.4 7.4.1
Establishment	The City will undertake visual inspections of the breakwater revetments as detailed in Section 6.3.1.	Breakwaters	6.3.1
	The City will maintain the marina, park space, multi-use trails and parking lot in accordance with current maintenance practices.	Facilities	6.3.2
	The City will implement the mitigation measures identified for effects of Establishment on all environmental components.	Detailed Assessment of the Preferred Alternative	7.0
	The City will implement the existing Goose Management program on the 1PSEPM Project Study Area.	Biological Environment, Effects of Establishment	7.3 7.3.2
	Marina operations will comply with all municipal bylaws.	Biological Environment, Effects of Establishment	7.4 7.4.2

For the 1PSEPM Project, the purpose of environmental performance monitoring is to determine whether the Project design is achieving is desired outcomes during and after the establishment phase, in term of:

- Resiliency of the lakefill to changing lake levels and coastal processes; and
- Amount and quality aquatic habitat created or enhanced.

Results of Environmental Performance Monitoring may trigger adaptive management measures where necessary and/or form the refinement of the as-built features of the lakefill and/or requirements of additional aquatic habitat compensation. Monitoring would commence at the completion of the 1PSEPM Project construction, following final grading and cover stabilization and as-built documentation has been completed.

The specific details and measures to be included in the environmental performance monitoring program for the 1PSEPM Project will be developed through the detailed design and construction phases.

## 9. CONSULTATION

Targeted consultation was undertaken on an as required basis with key stakeholders including representatives from:

- The local and surrounding neighbourhoods (including the general public, representatives of resident associations, and organizations with recreational, environmental, cultural, heritage, business, and other interests); and
- The City of Mississauga, the Province of Ontario, and the Government of Canada.
- Agencies (Credit Valley Conservation)

Consultation with the agencies, interested parties, stakeholders and public were ongoing throughout the EA Stage of the 1PSEPM Project. Consultation began with the publication and distribution of the Notice of Commencement for the EA and updates to the City's 1PSEPM Project webpage. Notifications of virtual PICs were emailed to those on the project mailing list and mailed to surrounding area residents and businesses. Emails were also sent to regulatory agencies and Indigenous communities to provide notification and request meetings to continue to discuss the 1PSEPM Project and the EA Stage.

Virtual Public Information Centre (PIC) #1 took place online from February 17 to March 17, 2022 and a PIC #2 was held for a month starting on August 25, 2022. In each case a recorded presentation was provided on the Project website and available through YouTube to present the preferred lakefill alternative, the preliminary design of the parkland space and marina along with an overview of key environmental effects. The public provided feedback through an online surveys, including a survey focused on the 1PSEPM Project preferred alternative and the key features of the marina and parkland.

The City received 130 completed surveys and approximately 500 views of the online presentation. Topics of discussion and questions centered around the following:

- Amount of parking and the configuration of parkland and parking
- Impact of the Project on aquatic life, birds, and waterfowl
- Providing opportunities for recreation (e.g., a beach area for swimming and access for kayaks, canoes and paddle boards, a boat launch for personal watercraft)
- The resilience of the lakefill
- Noise from construction and noise from operation of the marina
- Construction duration
- Traffic impacts on Lakeshore Road
- Site visibility and landscaping

A 1PSEPM Project EA "Pop-up Event" took place on Saturday, August 27, 2022, at Credit Village Marina. Staff were onsite to answer questions and discuss the Environmental Assessment Public Information Centre #2 materials that were available at the event.

The 1PSEPM Project Team has been and continues to be engaged with Indigenous communities as per the Crown's Duty to Consult as delegated by MECP. Indigenous communities that have a documented history of occupying territory that includes the 1PSEPM Project or Regional Study Areas and have potential or established treaty rights in the area of the Project or its vicinity will continue to be sent the information for the Project as it progresses. This information includes regular updates and information with respect to potential environmental impacts. As well, an open invitation extended to Indigenous communities to meet with the Project Team to discuss the proposal in greater detail and discuss issues of interest. Letters and emails were sent prior to each PIC to inform the Indigenous communities of the PICs as well as to invite the communities to meet with the City. The following Indigenous communities were contacted during the EA process:

- Mississaugas of the Credit First Nation
- Six Nations of the Grand River
- The Haudenosaunee Confederacy Chiefs Council as represented by HDI; and
- Huron Wendat Nation

Because the City acknowledges the potential infringement of rights and interests with respect to the lands, waters, and resources claimed by Indigenous communities, the City continues to consult with the MCFN and others as necessary to determine if there are impacts and if further mitigation is required.

Following the approval of the Terms of Reference, the City maintained contact regulatory agencies throughout the EA Stage of the Project. Regular contact began with the publication of the Notice of Commencement for the EA and notifications of online and virtual PICs, due to Covid-19. This chapter of the EA summarizes correspondence, meetings and other events held with regulatory agencies.



## 10. ENVIRONMENTAL ASSESSMENT AMMENDMENT PROCESS

The 1PSEPM Project is estimated to take approximately 14 months of construction to complete, depending on fill availability, approvals, weather and in-water working periods, and will exist in perpetuity as part of the Mississauga waterfront. The dynamism inherent with construction Projects suggest that there might be a need for some Project modifications (i.e., adaptive measures) between the time of EA approval and the time that full establishment of the marina, parkland features, created terrestrial and aquatic habitat features are achieved.

This chapter of the EA outlines the existing regulatory tools through which post-approval EA modifications can be made and describes the Project specific approach that will be used for post approval review of modifications proposed for the 1PSEPM Project.

When Project modifications are identified, the City will prepare a technical memorandum to document the proposed modifications and their potential effects. The technical memo will draw upon the appropriate expertise to determine the effects of proposed modifications in relation to the predicted effects outlined in the EA.

Proposed Project modifications will be screened against a set of criteria to determine the magnitude (minor or major) of modifications on the environmental effects predicted in the EA.

## 11. ADVANTAGES AND DISADVANTAGES

In concluding the EA, the overall advantages and disadvantages of the 1PSEPM Project are assessed. Advantages are positive net effects to the natural and human environment, and disadvantages are negative net effects. Table 11.1 summarizes the key advantages and disadvantages of the 1PSEPM Project.

Table 11.1: Advantages and Disadvantages of the 1PSEPM Project

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• Creation of 2400 m<sup>2</sup> of higher quality aquatic habitat. Additional habitat will be create off-site to compensate for habitat loss</li> <li>• Planting of native vegetation within a park setting providing new rest area for migratory birds</li> <li>• Addition of 18,000 m<sup>2</sup> of parkland along the waterfront including the on-site trail would enhance tourism potential and local business activity</li> <li>• New views from the created landform to Lake Ontario and back towards Port Credit</li> <li>• Relocation rather than loss of marina operations and services, including approximately 450 boat slips, winter boat storage, and potential for a marina service building.</li> <li>• Consistent with several City of Mississauga Waterfront Parks Strategy goals including improving trail connections and providing more natural, sustainable ecological features;</li> <li>• Consistent with the Visioning for Inspiration Port Credit and Master Plan; and</li> <li>• Consistent with the Lake Ontario Integrated Shoreline Study priorities including the creation of fish habitat along existing shoreline erosion structures and incorporate fish habitat features in repair and replacement of structures.</li> </ul>	<ul style="list-style-type: none"> <li>• Lakefilling will result in the loss or alteration of 29,000 m<sup>2</sup> of common aquatic habitat</li> <li>• Minor vegetation removal along 1 Port Street site perimeter and on existing breakwater</li> <li>• Nuisance effects from construction (dust, noise, vehicle emissions) for approximately 14 months for local residents, businesses and recreational users</li> <li>• Increased truck and vehicle traffic from construction for approximately 14 months affecting residents, businesses, recreational users and road users along the haul / access route.</li> <li>• Some residents may experience a change in views from their residences</li> </ul>

The outcomes of the 1PSEPM Project are strongly beneficial for all aspects of the environment, resulting in a rejuvenated waterfront that will allow improved public access to the water's edge, keep the marina at a size similar to the existing, and be a destination for residents and visitors alike. The 1PSEPM Project will achieve the purpose of the project set out in the ToR and reaffirmed in the EA by providing an expanded land base for additional waterfront parkland and marina at the 1 Port Street East site.

The disadvantages of the 1PSEPM Project will primarily occur during construction. Temporary negative effects include minimal nuisance effects (i.e., air, noise and traffic) to residents, recreational users and businesses, all of which will be minimized by best management practices. The permanent loss or alteration of aquatic habitat will be offset by creation of a new higher quality aquatic habitat feature, the replacement of like for like habitat along the eastern edge of the new landform, and, where possible, the incorporation of structural aquatic habitat features along the toe of the revetment. Additional habitat will be created off-site in compensation for the habitat removal and alternation. In general, the new habitat features will result in higher quality and higher functioning habitat.

In conclusion, the negative net effects of the 1PSEPM Project, most of which occur during construction and are temporary or negligible, are more than offset by the much greater positive contributions of the 1PSEPM Project, particularly related to on-going marina operations and the provision of new parkland and access to the waterfront.

