

**Toronto Port Authority
Billy Bishop Toronto City Airport (BBTCA)**



***Proposed Noise Barriers and Engine Ground Run-Up Enclosure
Project Description***

Canada Port Authority Environmental Assessment Regulations
(CPA EA Regs)

March 28, 2011



Dillon Consulting Limited



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1 Background

1.1 Project Name and Nature of the Project

The name of the project is the **Billy Bishop Toronto City Airport Proposed Noise Barriers and Engine Run-Up Enclosure** (referred to as the Project). The Toronto Port Authority (TPA) is the Project proponent. The Project includes the construction of noise barriers and an engine ground run-up enclosure that would manage noise levels from aircraft ground level activity at the BBTCA.

The noise barriers would be acoustic walls built along certain lengths of the northern and eastern edges of the airport. The purpose of these barriers is to reduce noise levels to the mainland community from ground level airport operations (see **Figure 1**).

The engine ground run-up enclosure (GRE) would be a semi-circle/half-moon noise barrier facility to hold aircraft (size similar to Bombardier's Dash 8, Q400 series) while they complete engine run-up maintenance inspections. As part of the regular inspection and maintenance of aircraft, aircraft engines require testing at high power levels to ensure their proper operation and the safety of the travelling public. While necessary for safety, these engine run-up operations can be a disturbance to area residents. The proposed GRE would reduce these sound disturbances. **Figure 1** shows the proposed location of the GRE.

The locations and heights of the proposed noise barriers and GRE are subject to approval from NAV Canada. Figure 1 illustrates the current proposed locations which are being reviewed by NAV Canada.

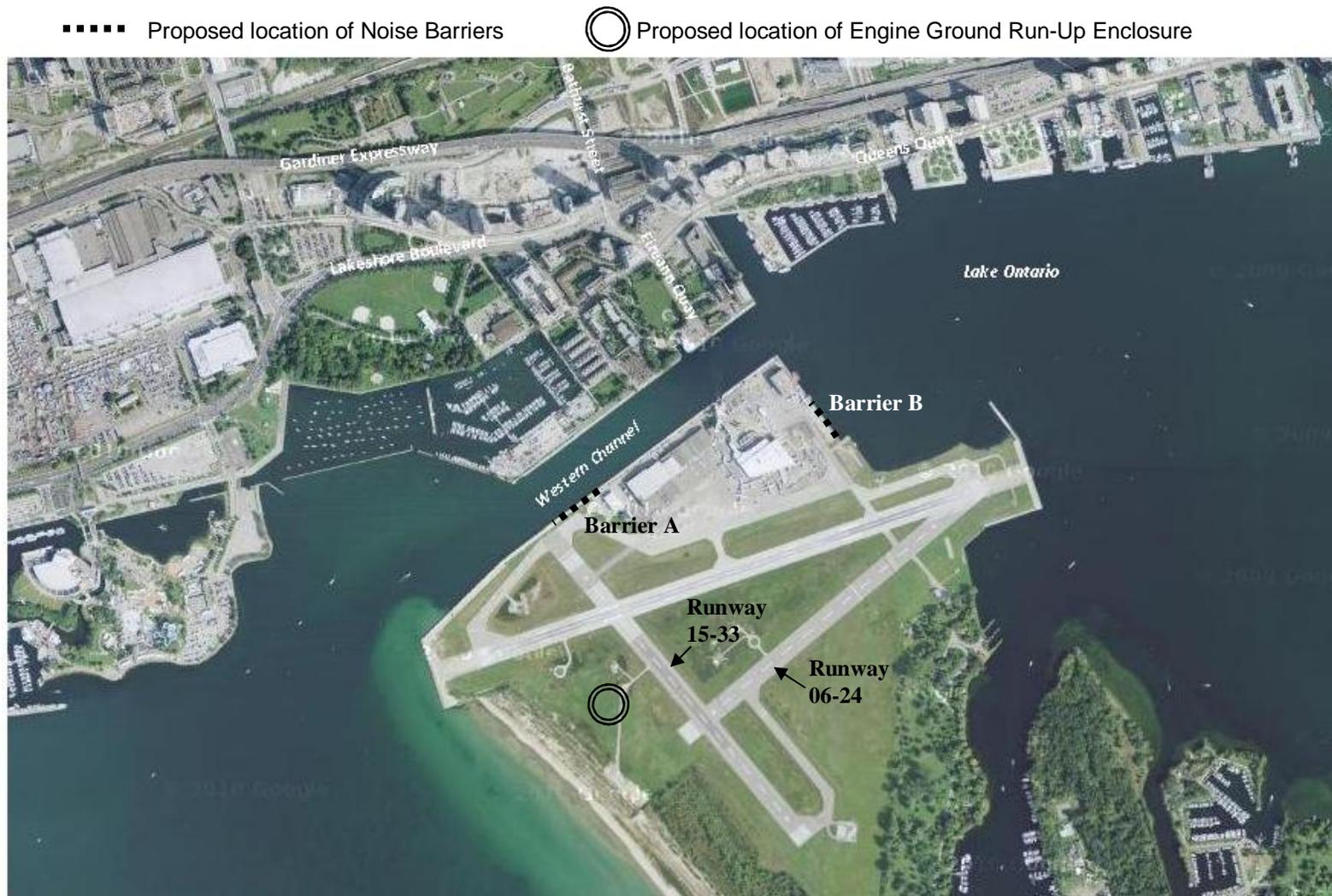
This screening is being completed under the *Canada Port Authority Environmental Assessment Regulations* (CPA EA Regs).

1.2 Project Location

The proposed noise barriers and the engine run-up enclosure would be located on the BBTCA lands, located along the Western Channel and the Toronto Harbour. **Figure 1** illustrates the proposed locations of the noise barriers and the engine run-up enclosure (which are under review with NAV Canada). The locations of the barriers have been determined based on initial reviews from NAV Canada. Longer barriers were initially proposed for the maximum reduction of ground level noise impacts to the main land communities. However, NAV Canada stated that the longer barriers would block certain site lines and needed to be shorter for safe navigations.



Figure 1 – Project Location





1.3 Distribution of Project Description

This Project Description (PD) will be distributed to the government agencies described below and made available for review and consideration to First Nations, non-government organizations, local residents, businesses, school, and community facilities, and the general public.

Government departments and agencies that the PD will be provided to include:

- Canadian Environmental Assessment Agency
- Environment Canada
- Department of Fisheries and Oceans Canada
- Transport Canada
- NAV Canada
- City of Toronto (Deputy City Manager/CAO, local councillors, Waterfront Secretariat)
- Toronto and Region Conservation Authority
- Waterfront Toronto

As indicated, the Project Description will be made available for public review and comment. The PD can be accessed on the TPA's website (www.torontoport.com), through email request to ea-comments@torontoport.com and in the EA screening report that will be prepared.

1.4 Related Environmental Assessment Requirements

Other than the federal environmental assessment (EA) screening being conducted under CPA EA Regulations, there are no other EA requirements applicable to the Project.

1.5 Federal Involvement and Approvals

The Project proponent is the TPA, and as such an environmental screening under the CPA EA Regulations is being completed. Although Transport Canada owns small portions of land on the airport at the east and west extremities, the location and length of the proposed barriers does not extend onto Transport Canada property.



It is not anticipated that any federal agencies will be required to sign-off on the screening. This will be confirmed with Transport Canada, DFO, Environment Canada and the Canadian Environmental Assessment Agency. In the event that there is any other federal approval required, the environmental screening being completed would be available to satisfy the obligations of any Responsible Authority.

In addition to this screening, but not as a requirement of the screening approval, a Land Use Proposal has been submitted to NAV Canada. This is required for proposals that involve construction proposals on an airport with Control Tower Services, Weather Services, Localizer or other navigational aids. NAV Canada's evaluation of land use proposals and construction proposals neither constitutes nor replaces any approvals or permits by Transport Canada.

2 Description of Project Components

2.1 Project Components

The Project would include the following components:

- Two acoustic barrier walls with a nominal height of 8.00 metres above grade.
 - The walls would consist of a series of steel columns with noise barrier panels in-between the columns/posts. The steel columns/posts would be spaced to accommodate the panel length and not exceed 25mm of the panel length.
 - The height of individual barrier segments would be randomized using a pseudo-random sequence to provide visual break of the crest line. The maximum variation shall be +0.5m and -0.25m.
 - Individual noise barrier elements would have surface patterns and some possible artistic reliefs providing an architectural façade, rather than a simple wall (this will require several design concepts for consideration).
 - Barriers would be a modular design that is resistant to water, moisture, vibration, moderate prop-wash and jet blast loadings, and are non-corrosive and non-conductive.
 - Tops of the barriers would be fitted with appropriate fittings to discourage bird nesting and alighting.



- Mounting of navigation/warning lights would be included as required by NAV Canada. Detailed locations will be determined in consultation with the regulatory authority.
- One Engine Ground Run-Up Enclosure (GRE)
 - Proposed location is at the west side of the airport lands (see Figure 1) to maximize distance from residential areas to the north and southeast.
 - Would include an area sufficiently large enough to accommodate a Q400 aircraft to taxi into the proper position to conduct required engine run-up activities.
 - A paved asphalt area would be constructed for aircraft to sit while undertaking engine run-ups, inside the GRE.
 - A taxi-lane extension from the west end of Runway 06-24 (see Figure 1) to the GRE would be constructed.

2.2 Project Activities

Table 1 contains a list of Project activities for the purpose of conducting the screening. Subject to completion of the screening, and other matters that the TPA would need to complete to proceed with the Project, construction initiation could be expected in June/July 2011, with completion anticipated within 2 months of that.

Table 1: Detailed Project Activities

Project Component	Project Component Description	Physical Works and Activities
Construction Activities for Noise Barriers		
Steel columns /posts	Steel columns/posts with footings, nominal height of 8.00 metres above grade, that would be securely anchored in the ground	<ul style="list-style-type: none"> ● Transport of steel columns/posts (pre-constructed) and construction equipment across the Western Channel to the BBTCA. ● Drilling/vibratory pile-driving of the columns securely into the ground with footings, spaced to accommodate the barrier panels.



Project Component	Project Component Description	Physical Works and Activities
Panels	Placement of panels with a nominal height of 8.00 metres in-between steel columns/posts. <i>(Exact design to be confirmed in screening)</i>	<ul style="list-style-type: none"> • Transport of panels (pre-constructed) and construction equipment across the Western Channel to the BBTCA. • Crane to place panels securely between the steel columns. • Surface and stormwater management system to mitigate panels impeding surface water run-off.
Electrical System	Electrical system for navigation / warning lights (as directed by NAV Canada)	<ul style="list-style-type: none"> • Placement of electrical connection for warning lights. • Mounting of warning lights.
Bird Management	Tops of the barriers would be fitted to discourage bird nesting and alighting	<ul style="list-style-type: none"> • Placement of fittings to discourage bird nesting
Construction Activities for Engine Ground Run-Up Enclosure (GRE)		
Paved area for aircrafts inside the GRE	Paved asphalt area for aircrafts to stand while completing engine run-ups	<ul style="list-style-type: none"> • Transport of materials and construction equipment across the Western Channel to the BBTCA. • Clearing, grading and paving of the area. • Surface and stormwater management system to mitigate surface water run-off.
Taxi-Lane from Runway 06-24	Paved area for aircrafts to taxi or be towed into the GRE	<ul style="list-style-type: none"> • Transport of materials and construction equipment across the Western Channel to the BBTCA. • Clearing, grading and paving of the area. • Surface and stormwater drainage system to mitigate surface water run-off.
Run-up Enclosure	The initial proposed design is a semi-circle/half-moon soil and concrete berm, H-pile design, with rippled concrete treatment on inside to reduce and deflect noise. Approximately 10 metres high from ground level.	<ul style="list-style-type: none"> • Transport of materials (soil) and construction equipment across the Western Channel to the BBTCA. • Construction of berm using pile driving. • Sprayed "Shot-crete" or alternative protective application onto inside of half-moon berm.
Stormwater/ Drainage Collection	A drainage system for the GRE	<ul style="list-style-type: none"> • Surface and stormwater management system to mitigate surface water run-off.



Project Component	Project Component Description	Physical Works and Activities
Operation Activities		
Surface water management	Drainage monitoring and management for GRE	<ul style="list-style-type: none"> Continued programs for monitoring sufficient drainage in the GRE.
Other than maintaining visual appeal (paint touch-ups) of noise barriers, no other operational activities are anticipated.		
Decommissioning Activities		
No decommissioning activities are planned, but at the appropriate time in the future, decommissioning would be expected to occur in compliance with airport policies and any applicable federal regulations.		

2.3 Resources/Material Requirements

General

The Project would reduce sound levels in the community that can be experienced as a result of aircraft ground activities at the BBTCA. Materials would be pre-constructed and brought to the site. It is anticipated that for the GRE, new paved areas would be constructed and soil would be required for the half-moon berm which would form the shape and size of the GRE.

Materials, including pre-constructed steel columns, acoustic panels, cement, and soil would be transported across the Western Channel over to the site by the BBTCA Ferry.

Soil

As indicated above, there may be impacted soils in the upper layers as a result of the steel columns and footings for the noise barriers; and the grading and paving of the extended taxi lane and the paved area for the GRE. A soils management program would be developed for construction, which would ensure compliance with applicable laws.

Surface Water

As indicated above, there may be impacted surface water as a result of the paved extended run-way and the paved area for the GRE. A surface water and drainage management program would be developed for construction and operation, which would ensure compliance with applicable laws.



3 Project Site Information

3.1 Environmental Features

There is little to no natural habitat in the area proposed for the noise barriers and engine run-up enclosure. Environmental features in the study area, including fish, birds, vegetation, soil, surface and groundwater, will be documented in the screening report. The screening will assess the potential for adverse effects on the bio-physical environment, in addition to other potential effects.

3.2 Land Use

The existing land use in the vicinity of the Project consists of green space and the BBTCA. There are no other uses on the site other than for airport operations and activities (terminals, warehouses, runways, etc).

3.3 Fish, Fish Habitat and Navigable Waters

There are no anticipated effects to fish, fish habitat or navigable waters.

4 Contacts

The Project proponent is the Toronto Port Authority (TPA). To obtain more information please contact:

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