



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

**Proposed
Pedestrian/Services Tunnel Project**

**Canadian Environmental Assessment Act
(CEAA)**

Project Description



Dillon Consulting Limited
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1. BACKGROUND

1.1 General Information

Project Name and Nature of the Project

The name of the project is the *Billy Bishop Toronto City Airport Proposed Pedestrian/Services Tunnel* (BBTCA Tunnel, or the Project). The Toronto Port Authority (TPA) is the Project proponent. The Project would improve access to the BBTCA. The Project would provide underground access through the bedrock between the land side and airport side. The Project would also allow for improved access to services for the BBTCA and a perimeter road to improve security access to airport lands. Ferry service would continue for other access, such as the movement of goods, materials and vehicles, as well as a backup to the BBTCA Tunnel.

Project Location

Refer to *Figure 1, Project Location Plan*. The site of the BBTCA Tunnel is Toronto, Ontario at the foot of Eireann Quay (formerly called Bathurst Street). The BBTCA would go through the bedrock that joins the land side and airport side under the approximately 120 m wide Western Gap.

Distribution of Project Description

This Project Description (PD) will be distributed to the government agencies described below. The PD will also be available for review and consideration by others, including other government agencies, First Nations, non-government organizations, local residents and the general public. The PD can be accessed on the TPA's website, at public consultation events and in the EA screening report that will be prepared.

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
- City of Toronto (CAO, local councillors, Waterfront Secretariat)
- Toronto and Region Conservation Authority
- Waterfront Toronto

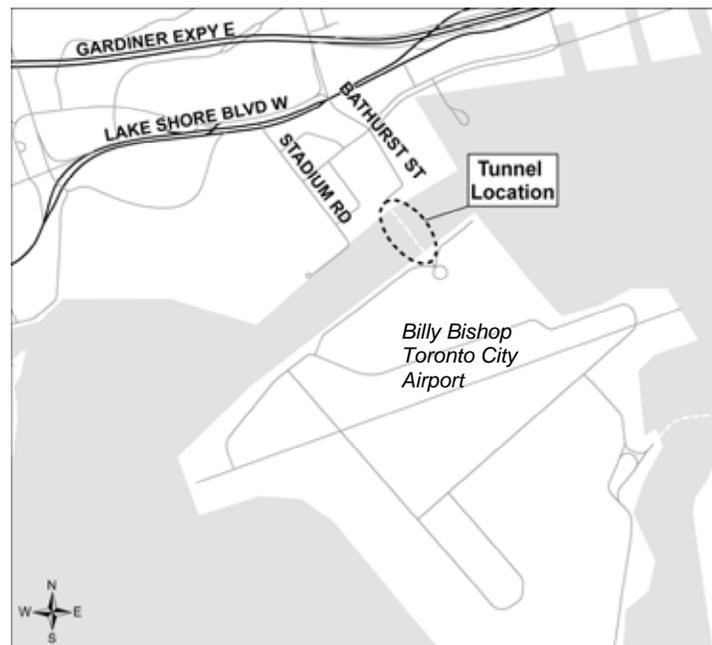
As indicated, the Project Description will be made available for public review and comment as part of the consultation process that the TPA is conducting.



Related Environmental Assessments

Other than the federal environmental assessment (EA) screening being conducted, there is no other EA requirement applicable to the Project. Two other federal EAs were completed with respect to improving access to the BBTCA; one for the proposed Fixed Link (i.e., passenger and vehicle bridge to the BBTCA, which did not proceed) and one for the Passenger Transfer Facility project (which was constructed in 2006).

Figure 1: Project Location Plan



1.2 Contacts

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

Project Proponent: Ken Lundy
Director, Billy Bishop Toronto City Airport
Toronto Port Authority
60 Harbour Street, Second Floor
Toronto, ON
M5J 1B7
416-203-6942 ext. 14
KLundy@torontoport.com



Project Contact: Paul MacLeod
Project Manager
Dillon Consulting Limited
235 Yorkland Blvd, Suite 800
Toronto, ON
M2J 4Y8
416-229-4647 extension 2317
pmacleod@dillon.ca

1.3 Federal Involvement

The Project proponent is the TPA, and as such an EA under the Canada Port Authority Environmental Assessment Regulations (CPA EA Reg) is being completed. The lands involved for the Project are not "federal lands", and no federal approvals are anticipated to be required for the Project. This will be reviewed and confirmed with DFO, Transport Canada and the Canadian Environmental Assessment Agency. In the event there is any federal approval required, the EA being completed would be available to satisfy the obligations of any Responsible Authority.

1.4 Approvals

A provincial permit to take water (under the Ontario Water Resources Act) may need to be obtained (to address ground water that may seep into the Project's excavation during construction).



2. DESCRIPTION OF PROJECT COMPONENTS

2.1 *Project Components*

The Project would include the following components:

- Pedestrian/services tunnel access through the bedrock under the Western Gap of the Toronto Harbour, including moving sidewalks;
- Elevator/escalator/stairwell facilities at either end of the BBTCA Tunnel to transition between the tunnel access elevation and ground level;
- Connecting structures between the elevator/escalator/stairwell facilities and the existing ferry Passenger Transfer Facility buildings on the land and airport sides; and
- Potentially minor reconfiguration of the existing access, circulation and parking areas on the land and airport sides, and the construction of an airport perimeter road using material excavated from the tunnel access.

The total length of the BBTCA Tunnel would be approximately 130 - 180 m with a width of approximately 8 - 10 m and height of approximately 5 - 8 m. The approximate depth of the tunnel access would be 25 - 40 m.

2.2 *Project Activities*

Table 1 contains a list of Project activities for the purpose of conducting the EA. Subject to completion of the EA, and other matters that the TPA would need to complete to proceed with the Project, construction initiation could be expected in January 2011, with completion anticipated within 18 months of that.



Table 1: Detailed Project Activities

	Project Component Description	Physical Works and Activities
Construction Activities		
Tunnel Access	Construction of tunnel access approximately 8-10 m wide and approximately 5-8 m high, approximately 25-40 m below the existing land grade.	Typically for tunnels of this size, the tunnel access would be excavated by an incremental method referred to as the Sequential Excavation Method (SEM) or New Austrian Tunnelling Method (NATM). This would require that the tunnel access cross section be divided into smaller sections which are incrementally excavated and supported. The openings are finally combined to form the final desired cross section. This method would ensure that the tunnel access can be excavated safely without uncontrolled collapses in the shale below the Western Gap. Water ingress into the tunnel access during the excavation is expected to be minimal (if any, would be associated with faulting in the bedrock). The actual tunnel excavation method will be determined by the contractor. It is expected that the tunnel access would be advanced from the airport side, which would result in the excavated materials being used on the airport property for an airport perimeter road that is proposed as part of the Project, or disposed of by the contractor. For the purpose of the EA (i.e., to consider potential impacts), we are assuming that the materials removed to construct the tunnel would be used to construct the road bed for the new perimeter road on airport property.



	Project Component Description	Physical Works and Activities
Vertical Shafts	Construction of two vertical shafts at the south and north end of the tunnel access.	Excavation of the two shafts would be carried out by mechanical methods involving excavation machinery with support of the deep excavation sides using sheet piles or other methods. Excavated materials would be placed in trucks for removal. Control of groundwater during construction may involve the pumping of water from the excavation and/or the installation of pumped well points to limit groundwater infiltration into the excavation. The water handling and control methodology would be developed by the contractor.
Sidewalks and Elevators/ Escalators	Construction and installation of sidewalk and elevator/stair/escalator facilities into the tunnel access and vertical shafts.	This would require the delivery and installation of tunnel and shaft heating and ventilation equipment, moving sidewalk facilities, elevators, stairwells, escalators and other finishing elements such as lighting, signage, wall treatments, etc.
Building Elements	Building construction	This would include construction of structures to connect the elevator/stair/escalator areas with the existing buildings on both sides.
Road, Access and Parking Areas	Minor work on the road, access and parking areas that may be disturbed by the new structures. Construction of a new perimeter road that would be built, in part, with materials removed from the tunnelling operation.	Work would include site preparation, road base construction, granular and drainage, dust and noise control, possible lane closures, paving, sidewalks, curb and gutter, illumination, pavement markings, signage and landscaping plantings.
Operation Activities		
Stormwater Runoff	Stormwater would be conveyed to the storm system, which would be designed through the facility detailed design process.	Construction of an appropriate storm drainage system.
Vehicle Access	Public transit and private automobiles accessing the Project would generate traffic.	No change in roadways in the area is expected as a result of the proposed works. Some changes to the facility access/vehicle entranceway may be required.
Decommissioning Activities		
No decommissioning activities are planned, but at the appropriate time in the future, decommissioning would be expected to occur in compliance with law.		



2.3 Resources/Material Requirements

General

The Project would improve the access to the BBTCA, which currently involves the use of ferry service. The ferry service would continue to transport vehicles and materials to the BBTCA, and would be available as a back up service. It is expected that ferry service would decrease if the tunnel were in place. Electricity and water requirements would come from the existing services. It is likely that hydro upgrading would be required to power the elevators, escalators and moving sidewalks.

It is anticipated that minor modifications may be required to the parking, access and road circulation areas adjacent to the existing Passenger Transfer Facilities and the construction of a BBTCA perimeter road.

Excavation Requirements

It is anticipated that approximately 8,000 – 15,000 m³ of material would need to be excavated to construct the Project. The actual number would depend on the final dimensions of the tunnel access, the size of the vertical shafts and construction methodology. There is the potential that certain of the excavated materials may be impacted by contaminants, such as in the shallower layers areas of previously placed fill. This material would be properly handled in accordance with applicable laws. The majority of the Project would involve construction through the limestone/shale formation.

2.4 Waste Disposal

Soil

As indicated above, there may be impacted soils in the upper layers as a result of the fill used in this area. Soil testing would be conducted to characterize the soil for proper and lawful handling. A soils management program would be developed for construction, which would ensure compliance with applicable laws.

Groundwater

Groundwater may be intercepted during the construction of the Project, and potentially during operations, as water may seep into the Project's excavation area. For construction, a pre-approved water management/dewatering plan would be implemented for the handling of water encountered. The design of the tunnel and vertical shaft structures would address any long term water infiltration. A provincial permit to take water may need to be obtained under the Ontario Water Resources Act for dewatering.



3. PROJECT SITE INFORMATION

3.1 Project Location

Refer to *Figure 1, Project Location Plan*. The existing land side site is located at the foot of Bathurst Street (now called Eireann Quay) on approximately 5000 m² of land that is owned by the TPA. The land side site contains an existing passenger transfer facility, connection facilities to the ferry slip to the west, access and circulation road and parking and other access-related uses (such as the finger lot which includes a queue for taxi service). There are similar access facilities on the island side. It is anticipated that new works would include the construction of a perimeter road, which would be built, in part, with materials removed from the tunnelling operation.

3.2 Environmental Features

There is little to no natural habitat in the Project area. Although it is not expected that the BBTCA Tunnel would impact the Western Gap, given its location, nature and the results of the prior assessments that have been completed, potential impacts will be assessed as part of the EA process. The fish presence in the Western Gap, albeit limited, will be documented in the EA. The EA will assess the potential for adverse effects on the bio-physical environment, in addition to other potential effects.

3.3 Land Use

The existing land use in the vicinity of the Project consists of green space to the north and west (i.e., Little Norway Park) and mid-rise residential condo buildings, many of which contain small ancillary retail uses at ground level. Other land uses in the vicinity include the Waterfront School and Community Center at the intersection of Eireann Quay and Queens Quay. The City of Toronto Official Plan designates the portion of the area west of Bathurst Street as “Apartment Neighbourhood”, with “Parkland” along the Western Gap. The area east of Eireann Quay is designated as a “Mixed Use Area” with “Parkland” south of Queens Quay.

4. FISH, FISH HABITAT AND NAVIGABLE WATERS

No fish or fish habitat or navigable waters would be affected by the Project. This will be discussed and confirmed with the applicable federal agencies, as previously noted. If there is any such requirement, the EA screening being completed would be sufficient to address any EA obligations on a responsible authority.