

CITY OF TORONTO (TORONTO AND EAST YORK COMMUNITY COUNCIL AREA)

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To construct, reconstruct, erect or place a building or structure, site grade and temporarily or permanently place, dump or remove any material, originating on the site or elsewhere on, (21 Redway Road near Millwood Road), in the City of Toronto (Toronto and East York Community Council Area), Don River Watershed as located on the property owned by City of Toronto. The purpose is to implement the first stage of the Don River and Central Waterfront project which involves the construction of a twenty one (21.4) m diameter stormwater shaft near the North Toronto Treatment Plant just off Redway Road, in the City of Toronto. This shaft is one of five shafts proposed as part of a comprehensive program to greatly reduce combined sewer overflows (CSOs) flowing into the Don River. This shaft will be located adjacent to the Don River, just north of the treatment plant complex. The shaft will be constructed from the ground surface to connect to the 6.3m diameter Lower Don/Coxwell tunnel approximately fifty (50.4) meters below ground surface. The warm water construction timing window of July 1 to March 31 will apply to this proposal.

MAP LOCATION: 21 Redway Road, Toronto



The permit will be issued for the period of November 9, 2018 to November 8, 2020 in accordance with the following documents and plans which form part of this permit:

- **Letter of Undertaking to provide outstanding information to the satisfaction of TRCA staff; dated October 18, 2018 prepared by Caroline Kaars Sijpesteijn to Renee Afoom-Boateng, on behalf of the City of Toronto, received by TRCA on October 18, 2018.**

RATIONALE

The application was reviewed by staff on the basis of the following information:

Proposal:

The City of Toronto is embarking on a comprehensive program to construct a new wet weather flow system to greatly reduce combined sewer overflows (CSOs) currently flowing into the Don River which will eventually help improve the water quality of the Don River and Inner Harbor.

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The intent of the program is to provide an optimized solution that ultimately delist the Don River and Inner Harbor as an Area of Concern under the Canada-United States Great Lakes Water Quality Agreement as well as improve the dry weather flow (DWF) sewer system's efficiency and security.

The City completed an Environmental Assessment (EA) in 2012 to identify solutions for improvements that were built upon the results of the [City's 2003 Wet Weather Flow Master Plan \(WWFMP\)](#). TRCA was involved in the EA review and provided technical comments on the preferred solutions which included the Lower Don Tunnel/Coxwell Tunnel; Taylor Massey Creek Tunnel, Inner Harbor Tunnel, several underground storage tanks; upgrades to North Toronto Treatment Plant, a new treatment facility south of the existing Ashbridges Bay Treatment Plant and a new pumping station at Ashbridges Grove Park. Due to funding allocations, the City is proposing to implement the preferred solution in five stages, and over a 25-year time frame; and this proposal is part of the first phase of project implementation. The first phase of project implementation include approximately 10.4 kilometer long tunnel which will be approximately 6.3m diameter wide within the bedrock; starting from Shaft IHES 2 (b) south of the Lake Shore Boulevard East, to the Coxwell Shaft CX 1 (a) located at the Coxwell Ravine Park. A tail tunnel connection will be built from Shaft IHES 2 (b) to the new pumping station (IPS) at the Ashbridges Bay Treatment Plant and another connection from CX 1(a) to the existing Coxwell Sanitary Trunk Sewer shaft at the Coxwell Ravine Park.

The NTTP-1 shaft, is one of five shafts associated with the Lower Don/Coxwell Tunnel, which will be located adjacent to the North Toronto Treatment Plant located off Redway Road. NTTP-1 shaft will be approximately twenty-one (21.4) meter wide and constructed from the existing ground surface to approximately fifty-one (51.4) meters below existing grades - within the bedrock. The shaft will be constructed with secant pile walls through the over burden and Bedrock Surface Fracture Zone (BSFZ) into the more competent bedrock below the BSFZ. Inflows into the secant pile walls of the shaft are expected to be negligible, any minor groundwater inflows into the shaft is expected to occur from the section of the open rock below the secant pile wall in the bedrock below BSFZ. These minor inflows can be addressed during construction by pumping from sumps at the base of the shaft excavations. Once the secant piles are in place, the cranes will be installed onto the crane pads, and excavation will begin in lifts with installation of temporary rock support deeper into the shaft past the bottom of the secant pile support to the tunnel below.

The site is currently a cultural meadow bounded by two paths, approximately 0.68ha in size. The City anticipates to remove approximately 4 trees and shrubs to accommodate the staging area, construction equipment, dewatering discharge equipment, construction materials, crane, storage area and trailers and other construction equipment, trailers and parking areas for the crew. As part of the site set up, the staging area will be overlaid by geotextile and 450mm granular top surface and limestone. The entire staging area will be secured by a site hoarding fence with access and egress points nine (9) meter wide access gates. Once construction is complete, the staging area will be restored including removal of the granular base and regrade to the existing conditions. Approximately 637 trees and shrubs will be planted as part of the landscaping and site restoration signifying an ecological net gain. Construction is proposed to commence in 2018 for sixty (60) months (till 2022).

This project is related to TRCA Permit No. C180724/CITY OF TORONTO (CFN 54144), and TRCA Permit No. C180843/CITY OF TORONTO (CFN 54141) that was approved by the TRCA Executive Board on July 6. and September 7, 2018 respectively to allow for the construction of similar shafts at the Keating Rail Yard and the Bloor Viaduct area in Toronto

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Control of Flooding:

Although the project site is located within the Don River flood plain, the proposed works are not anticipated to impact flooding, flood storage or conveyance of flood waters. As a precautionary measure and upon TRCA request, the City construction contractor will implement a flood contingency plan during the construction period to ensure the protection of life and property as well as to allow for flood water conveyance. Once construction is complete, all construction equipment and staging materials will be removed from the site, then the construction site grades will be restored to its original condition or better.

Pollution:

Erosion and sediment control measures including, rock check dams, sedimentation traps (2) , mud mats, sedimentation ditches, silt fences, catch basin protection will be installed prior to construction and maintained for the entire duration of construction. These measures will be implemented to prevent the release of construction generated sediments into the Don River. Erosion and sediment control measures have been provided in accordance with the Greater Golden Horseshoe Area Conservation Authorities Erosion and Sediment Control Guidelines for Urban Construction (2006).

Dynamic Beaches:

The proposal will not have any implications to dynamic beaches.

Erosion:

There are no impacts identified to slope stability or erosion as a result of these works.

Conservation of Land:

The warm water construction timing window of July 1 to March 31 will apply to this proposal

Plantings

The City of Toronto Tree Protection Policy and Specifications for Construction near trees will be adhered to during the construction period. Approximately 4 trees and some shrubbery will be removed to prepare the site for construction. These trees will be replaced in line with the City of Toronto Tree removals ratio of 3:1. Approximately 637 trees and shrubs will be replanted on site following the construction completion signifying an ecological net gain.

Policy Guidelines:

This proposal complies with Section 8.9, Infrastructure Policies of the Living City Policies for Planning and Development in the Watersheds of the Toronto and Region Conservation Authority.

CFN: 54145 - Application #: 0617/15/TOR

Report Prepared by: Renee Afoom-Boateng 5714 rafoom-boateng@trca.on.ca

For information contact: Renee Afoom-Boateng 5714 rafoom-boateng@trca.on.ca

Date: October 26, 2018