

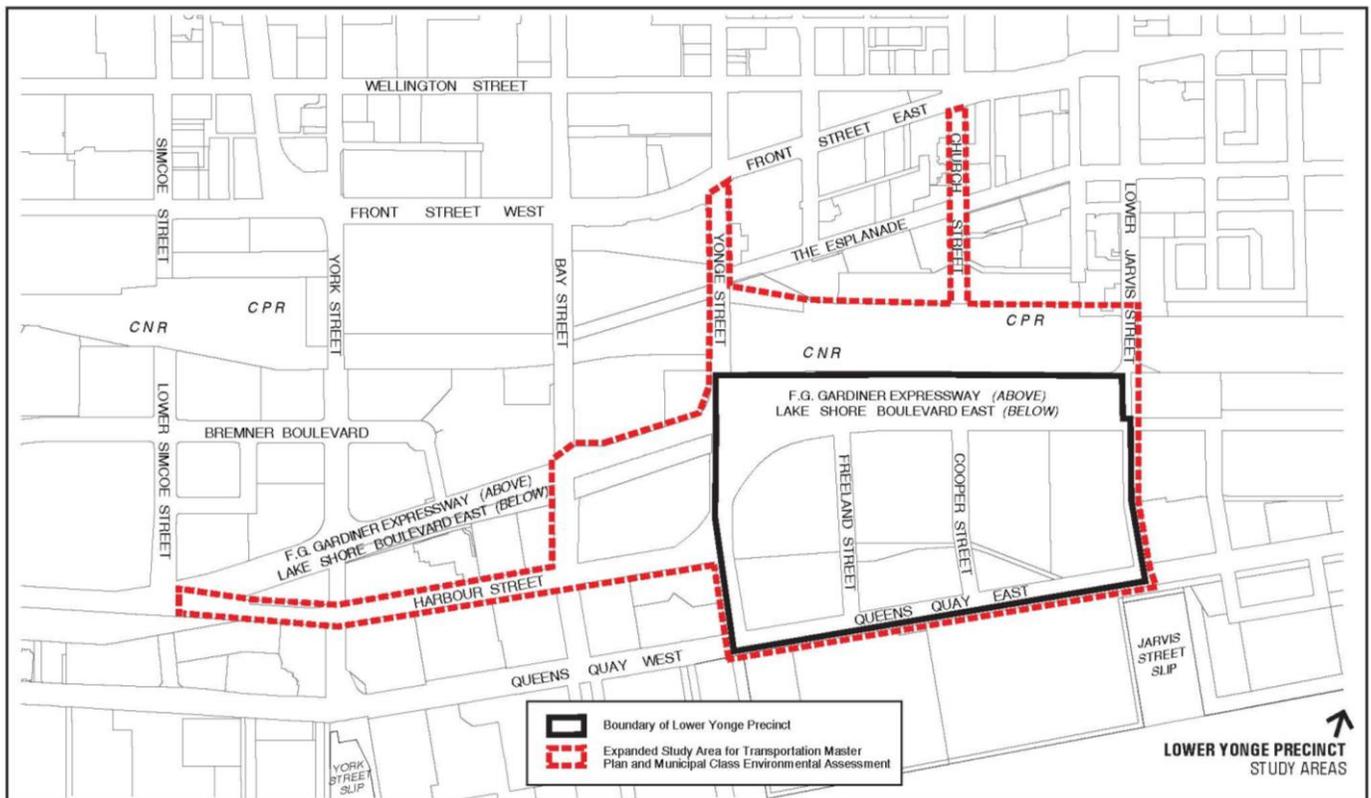
To: Lower Yonge Precinct TMP EA Project Team      Date: July 11, 2017

From: MMM Group Ecologist - Patricia Mohr      Job No.: 1615113-001-NE1

Subject: Lower Yonge Precinct TMP EA – Existing Natural Environment Conditions, Impact Assessment and Enhancement Opportunities (Final – Version 2)

The following memo is the natural environment component of the Environmental Study Report (ESR) for the Lower Yonge Precinct Transportation Master Plan (TMP). The ESR completes Phase 3 and 4 requirements under Schedule ‘C’ of the *Municipal Class Environmental Assessment* in the Province of Ontario.

Lower Yonge Precinct encompasses an area in Toronto, Ontario that is bounded by Queens Quay East to the south, Gardiner / Lake Shore Blvd corridor to the north, Yonge Street to the west and Lower Jarvis Street to the east (as shown in the black border below). It also includes the existing Harbour Street right-of-way from Lower Simcoe Street to Yonge Street and the section of Yonge Street from Queens Quay to Front Street. The Transportation Master Plan (TMP) study area is expanded, as shown by the red border in the map below.



This memo provides a description of natural environment existing conditions. It also identifies environmental constraints associated with the proposed plan for Lower Yonge Precinct and opportunities for enhancing the plan from a natural environment perspective. This memo is based on a review of background information and site visits conducted on March 7 and June 19, 2016. A desktop tree inventory is appended to this memo, as requested by the City of Toronto.

## **1.0 Background Information Review**

### Lower Yonge - Transportation Master Plan Environmental Assessment

The “Lower Yonge - Transportation Master Plan Environmental Assessment” (2014) prepared in August 2014 for Waterfront Toronto and the City of Toronto by ARUP was reviewed for information on natural environment in the study area. The 2014 EA describes the study area as an urban brownfield site containing extensive development and consisting primarily of paved surfaces. It states that there are limited natural features, little vegetation and no waterways running through the site. Just outside the study area south of Queens Quay East are the Yonge Street and Jarvis Street slips leading to Toronto’s inner harbour. Among the criteria used in evaluating EA alternatives are minimizing adverse effects on water quality and on aquatic, vegetation and wildlife communities. Meetings with the community indicated a public interest in greening pedestrian pathways with more trees and flowers; planting trees in appropriate tree beds to promote tree health; and ensuring bird-friendly buildings recognizing the importance of the area as a bird migration flyway.

### Agency Consultation and Data Search

Background information was also obtained through consultation with the Ministry of Natural Resources and Forestry (MNRF), Aurora District. MNRF responded on February 18, 2016 and identified one species at risk (SAR), peregrine falcon (*Falco peregrinus*), as a potential species in the study area. Peregrine falcon is designated Special Concern under the *Endangered Species Act, 2007* (ESA).

MNRF’s online database was searched for natural heritage features within one kilometre of the study area. The database contains a record for peregrine falcon observed most recently on June 19, 2008 at a property north of the study area. According to The Canadian Peregrine Foundation website, peregrine falcons have been nesting on a building ledge in the area of King and Yonge streets since 1995 and continued to use the ledge in 2015. There are records for 29 other species in the NHIC database. Fifteen of the species are extirpated and the most recent sighting is a spiny softshell turtle observed in 1982. Considering the historical nature of the observations and lack of habitat in the study area to support turtles, the 29 species are regarded as no longer present.

The Toronto and Region Conservation Authority (TRCA) was consulted for natural heritage information on the study area. They indicated they had no concerns with the proposed transportation infrastructure and no objection to the proposed EA.

### Migratory Birds in the City of Toronto Report

The City of Toronto is an annual stopover for thousands of migratory birds according to the document “Migratory Birds in the City of Toronto – A Literature Review and Data Assessment Final Report” prepared in 2009 by Dougan & Associates and North-South Environmental Inc. for the City of Toronto. This document states that a significant number of birds are injured or killed by hitting buildings during migration through Toronto. In an assessment of 15 years of data pertaining to downtown Toronto, over 41,300 dead or injured birds were recorded. Most species were found to be nocturnal landbirds and 15 species were SAR. Measures have been developed to mitigate these impacts. The 2009 Dougan report recommends that the Bird-friendly Guidelines adopted by the City of Toronto as part of their Migratory Bird Policies and their Green Development Standard program, be applied to redevelopment and retrofits of existing buildings. It notes that street trees in Toronto are used by birds during migration but that measures should be taken to increase migration habitat by encouraging naturalization along the waterfront. It also states that migrating birds prefer habitat dominated by native plant species.

## **2.0 Methodology**

Study area limits for natural environment investigations are the boundaries described above. Due to the scarcity of natural environment features, the primary source of information for this memo is the background information. Field investigations focused on confirming potential usage by wildlife and updating the background information. The first site visit took place on March 7, 2016 during overcast weather conditions with temperatures of 5°C. A second site visit conducted on June 19, 2016 to include the expanded study area occurred during sunny conditions with temperatures of 23°C. During the site visits, vegetation and wildlife were recorded and photographed, and vegetation and bridges were inspected for evidence of bird nests.

## **3.0 Existing Conditions**

Aerial imagery shows no apparent change in natural environment conditions in the study area since the 2014 EA study. Land cover is highly urbanized and vegetation is limited to very small patches. Beyond the study area, cover is similar except to the south where land ends and Lake Ontario begins. The Yonge Street and Jarvis Street slips are 25 m to 40 m from the study area, respectively, and the lake is 200 m away. The shoreline is unnatural and sealed in concrete. Observations recorded during the site visit are indicated below.

### **Vegetation**

Vegetation patches in the study area contain trees, shrubs and herbaceous plants. Along the rail corridor this vegetation developed naturally from adjacent seed dispersal but in most cases vegetation was planted. Some trees, shrubs and herbaceous plants occur together in raised beds along the sidewalk or in flat beds along buildings. Trees also occur as specimens planted between pavement along the sidewalks. There are a few parkettes in the study area containing planted trees, shrubs and lawn. Meadow is present but only along the rail corridor where the ground is not manicured.

Examples of tree species include basswood (*Tilia americana*), quaking aspen (*Populus tremuloides*), Siberian elm (*Ulmus pumila*), maple (*Acer* sp.), eastern hemlock (*Tsuga* sp.), mugo pine (*Pinus mugo*), oak (*Quercus* sp.), ash (*Fraxinus* sp.), Austrian pine (*Pinus nigra*), white spruce (*Picea glauca*) and ginkgo (*Ginkgo biloba*). Examples of shrub species include red-osier dogwood (*Cornus stolonifera*), euonymous (*Euonymus* sp.), staghorn sumac (*Rhus typhina*), northern white cedar (*Thuja occidentalis*), vibernum (*Vibernum* sp.), spiraea (*Spiraea* sp.), tartarian honeysuckle (*Lonicera tatarica*) and juniper (*Juniperus* sp.). Examples of herbaceous species include wild grape (*Vitis riparia*), smooth brome (*Bromus inermis*), goldenrod (*Solidago* sp.), common milkweed (*Asclepias syriaca*), ox-eye daisy (*Leucanthemum vulgare*), burdock (*Arctium* sp.), garlic mustard (*Alliaria petiolata*), hound's-tongue (*Cynoglossum officinale*), catnip (*Nepeta cataria*), climbing nightshade (*Solanum dulcamara*) and creeping thistle (*Cirsium arvense*).

Please see the appendix for the desktop tree inventory completed for this MCEA study.

### **Wildlife**

Three bird species were observed during the site visit. All are common to urban areas and tolerant of a high level of human disturbance. The ringed billed gull (*Larus delawarensis*) is a native species and the rock pigeon (*Columba livia*) and house sparrow (*Passer domesticus*) are exotic species. There were approximately six bird nests under the Gardiner Expressway ramp along

Harbour Street and under the Gardiner Expressway Bridge over Lower Jarvis Street. They likely belonged to rock pigeon. The federal *Migratory Birds Convention Act* protects nesting birds and their nests but it does not apply to exotic species such as rock pigeon. Native birds in large numbers migrate through Toronto each year and may use the study area at this time. Toronto is also on the migration route of some insect species. Mammal evidence observed during the site visits was limited to a den in the rail embankment adjacent to Lower Jarvis Street, presumably the burrow of a woodchuck (*Marmota monax*). This is a native species that is common and not protected by legislation.

### **Species at Risk**

No SAR were observed during the site visit. The buildings, bridges and small, isolated patches of vegetation are unsuitable habitat for most native species and particularly most species at risk, whose rarity can be attributed mainly to habitat loss. The peregrine falcon identified by MNRF is one of the few SAR that may inhabit high-density urban environments. In its natural habitat, this species nests on tall, steep, cliff ledges adjacent to large waterbodies that fulfill foraging requirements. Some peregrine falcons, such as those in Toronto, have adapted to nesting on ledges of tall buildings. Since the Toronto birds are accustomed to urban development, the works proposed for Lower Yonge Precinct are expected to have minor impact on their nesting and foraging activities. No other SAR are expected to inhabit the study area; however SAR birds and the SAR butterfly, Monarch (*Danaus plexippus*), may use the street trees and other natural environment features during their migration.

## **4.0 Design Constraints**

The Toronto Green Standard (TGS) developed by the City of Toronto contains measures to:

- Mitigate impacts on migrating species through the use of:
  - Bird friendly glazing (EC 4.1,2,4) and opaque materials (EC 4.5) on new buildings referenced in the City of Toronto's Bird-friendly Development Guidelines;
  - Canopies and awnings of opaque materials in outdoor waiting area to mitigate bird collisions (AQ 3.3); and,
  - Rooftop architectural illumination that can be turned off during migratory bird seasons (EC 5.3).
- Inform tree planting and soil volume by requiring:
  - Tree canopy cover distributed across the site area and the public boulevard at a minimum rate of one tree for every 66 m<sup>2</sup> of 40% of the site area (EC 2.1);
  - All trees planted with a minimum volume of 30 m<sup>3</sup> of high quality soil per tree (EC 2.2). The minimum soil volume can be 20 m<sup>3</sup> per tree where the soil volume is shared to accommodate an increased number of trees (not a reduction in soil volume); and,
  - Large growing shade trees planted at the equivalent of 8 to 10 m intervals along all street frontages, including along private streets and in the public boulevard (EC 2.3).

It is recommended that the above TGS measures be implemented to reduce impacts on migrating species and to support the long-term growth and increased canopy coverage of new trees.

It is also recommended that the City of Toronto (Urban Forestry) be consulted during the detailed design phase regarding the removal of existing trees to accommodate new road cross section and alignment.

## **5.0 Enhancement Opportunities**

- Include additional green areas planted with native species where possible to enhance benefits to migratory bird species and butterflies.
- Apply state-of-the-art techniques for maintaining the health of new and existing trees in the study area.
- Improve and increase available growing environments above ground to support long term tree growth and increased canopy coverage.
- Improve and increase available growing environments of healthy soil for trees below ground to support long term tree growth and canopy coverage. Increase biodiversity using appropriate tree, shrub and herbaceous plantings.
- Protect significant and healthy existing trees and their growing environments.

## **6.0 Conclusion**

This memo provides natural environment existing conditions for the Lower Yonge Precinct study area. No significant features or sensitivities were identified. Implementation of the recommendations and opportunities identified above will serve to minimize adverse effects on vegetation and wildlife communities that may arise from the transportation component of the project. It will also address public concerns regarding green pathways, tree health and bird-friendly buildings.

Sincerely,



**Patricia Mohr**  
Terrestrial Ecologist  
Ecology Department

# Appendix: Desktop Tree Inventory

Lower Yonge Precinct: Natural Environment Memo

## **Lower Yonge Precinct Area Municipal Class Environmental Assessment Study – Tree Inventory**

A desktop tree inventory was completed for the Lower Yonge Precinct study area at the request of the City of Toronto. The tree inventory was completed by reviewing Google streetview, the legal survey in conjunction with the notes taken during the site visits conducted on March 7 and June 19, 2016.

The inventory provided below was completed from accessible locations. Trees along the rail corridor or Gardiner Expressway ROW were not accessible, and are not included in the inventory below.

### Yonge St and rail corridor, southeast corner: North of Gardiner Expressway EB Ramp

- 2 – Linden (*Tilia* sp.)
- 4 – Quaking Aspen (*Populus tremuloides*)
- 1 – Eastern Cottonwood (*Populus deltoides*)
- 4 – Tulip Trees (*Liriodendron tulipifera*)
- 2 – Tree of Heaven (*Ailanthus altissima*)
- approximately 30 young Quaking Aspen

### Yonge St and rail corridor, southeast corner: South of Gardiner Expressway EB Ramp

- 12 – Hackberry (*Celtis occidentalis*)
- 8 – Eastern Cottonwood
- 1 – Siberian Elm (*Ulmus pumila*)
- 2 – Quaking Aspen
- 2 – Linden
- 2 – Honey Locust (*Gleditsia triacanthos*)

### Yonge St, east side: south of Gardiner Expressway / Lake Shore Blvd

- 6 – Honey Locust
- 8 – Linden

### Yonge St and Queens Quay: Northeast corner

- 5 – Sugar Maple (*Acer saccharum*)
- 9 – Honey Locust
- 2 – Freeman’s Maple (*Acer x freemanii*)

### Freeland St, east side (33 Freeland St)

- 7 – Honey Locust
- 2 – Amur Maple (*Acer ginnala*)

Lake Shore Blvd E, south side (55 Lake Shore Blvd E)

- 1 – Eastern Hemlock (*Tsuga canadensis*)
- several young, pruned Northern White Cedar (*Thuja occidentalis*) and Eastern Red Cedar (*Juniperus virginiana*)

Lake Shore Blvd E, south side: Parking Lot

- 3 – White Mulberry (*Morus alba*)
- 1 – Tree of Heaven
- 1 – Ornamental Pear (*Pyrus calleryana*)
- 1 – Manitoba Maple (*Acer negundo*)

Lower Jarvis St, west side: North of Rail Corridor

- 1 – Amur Maple
- 5 – Accolade Elm (*Ulmus x japonica x wilsoniana*)
- 1 – Ginkgo (*Ginkgo biloba*)
- 1 – London Plane (*Platanus x acerifolia*)

Lower Jarvis St, east side: The Esplanade southeast corner

- 14 Honey Locust
- 1 Manitoba Maple

Lower Jarvis St, east side: North of Rail Corridor

- 4 – Honey Locust
- 3 – Freeman's Maple
- 1 – Green Ash (*Fraxinus pennsylvanica*)

Lower Jarvis St, west side: South of Lake Shore Blvd

- 4 - English Oak (*Quercus robur 'fastigiata*)
- 1 – Manitoba Maple
- 2 – Green Ash
- 1 – Freeman's Maple
- 2 young Northern White Cedar

Queen's Quay E, north side: Parkette

- 10 – Green Ash
- 6 young Green Ash along fence

Queen's Quay E, north side: 2 Cooper's St

- 10 – Green Ash

Queen's Quay W: Yonge St northwest corner

- 5 – Siberian Elm

Yonge St, west side: Harbour St southwest corner

- 4 – Honey Locust
- 1 Linden
- 1 Accolade Elm
- 5 young Red Oak (*Quercus rubra*)

Harbour St, south side: West of Yonge St

- 3 – Linden
- 2 – Accolade Elm
- 2 – Freeman's Maple
- 11 – Honey Locust

Harbour St, south side: Courtyard

- 7 Honey Locust

Harbour St, south side: York St southeast corner

- young Siberian Elm and Norway Maple (*Acer platanoides*)

Harbour St, south side: York St parkette

- 1 – Crabapple (*Malus* sp.)
- 3 – Norway Maple
- 4 – Siberian Elm
- 4 – Accolade Elm
- 1 Freeman's Maple
- 1 – Northern Catalpa (*Catalpa speciosa*)

Harbour St, south side: west of York St

- 6 – Norway Maple

Harbour St, south side: Bay St southeast corner

- 4 – Ginkgo

Bay St, east side: North of Lake Shore Blvd

- 3 – Ginkgos

Bay St, east side: South embankment of Rail Corridor

- 4 – Ornamental Pear
- 9 – Manitoba Maple
- 2 – Eastern Cottonwood

Harbour St, north side: 60 Harbour St

- 1 – Crabapple
- 6 – Eastern Red Cedar

Harbour St, north side: East of Bay St

- 16 – Ginkgos
- 1 – Linden
- 2 – Accolade Elm
- 2 – Freeman’s Maple
- 4 young Colorado Spruce (*Picea pungens*)

Harbour St, north side: West of Yonge St

- 14 – Honey Locust
- 5 – Linden
- 1 – Ginkgo

Yonge St, west side: 18 Yonge St

- 10 – Ginkgo
- 2 – Amur Cork (*Phellodendron amurense*)

Yonge St, west side: south Rail embankment

- 1 – Accolade Elm
- 1 – Manitoba Maple
- several Siberian Elm

Yonge St, west side: Bus Station from Yonge St to Bay St

- approximately 12 Honey Locust
- approximately 30 English Oak

Church St, south of The Esplanade: West side

- 5 – Accolade Elm

Church St: South of The Esplanade: East side

- 1 – Accolade Elm

Church St: North of The Esplanade: West side

- 8 – Accolade Elm

Church St: North of The Esplanade: East side

- 2 – Honey Locust
- 6 – Accolade Elm

Church St, The Esplanade: Northwest corner

- 1 – London Plane