

Memorandum

Date: July 2, 2021

Project #: 1903701

To: Frank Merulla

From: Natalie Dunn, Manuela Vernaza, Dirk Janas (Palmer)

cc: Nick Dell (Harper Dell & Associates Inc.)

Re: Arborist Report and Tree Protection Plan for 2935 & 2955 Mississauga Road, City of Mississauga

1. Introduction

Palmer is pleased to provide this Arborist Report and Tree Protection Plan (TPP) for the proposed development of 2935 & 2955 Mississauga Road in the City of Mississauga, Ontario (The Subject Lands – **Figure 1**). The Subject Lands are approximately 2.13 hectares (ha) and are largely comprised of open meadow in the central area surrounded by naturalized treed areas to the east, south, and west. The northern limit of the Subject Lands is directly adjacent to the Credit River. The proposed development includes a high-rise building consisting of a six-storey podium and a 12-storey tower, a stacked townhouse complex, and three levels of underground parking.

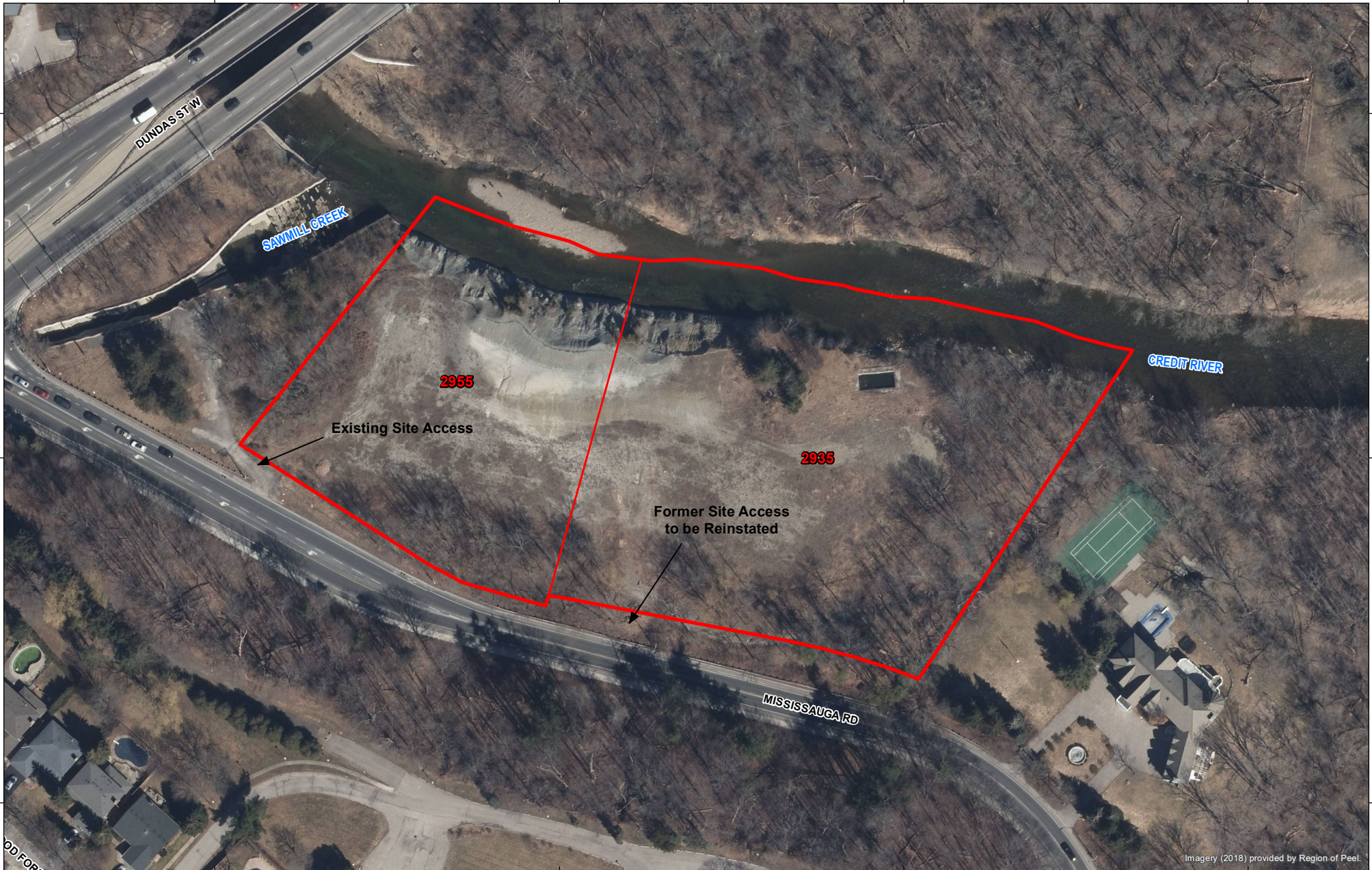
This report includes a review of relevant tree preservation policies, the tree inventory methods and results, a tree protection plan identifying trees proposed to be retained and recommended tree protection measures, as well as tree replacement recommendations for trees proposed to be removed. Recommendations for construction methods are also detailed, as they pertain to trees.

2. Relevant Policy

2.1 City of Mississauga

2.1.1 *Private Tree Protection By-law (0254-2012)*

The *Private Tree Protection By-law (0254-2012)* is intended to conserve and protect trees on private land within the City of Mississauga (City of Mississauga, 2012). This by-law applies to all trees have a Diameter at Breast Height (DBH) of 15 cm or more that are proposed to be injured or destroyed. Under section 7 of the by-law, a tree removal permit can be issued to the landowner with an arborist report including plans for tree preservation and replanting. This Arborist Report and TPP has been prepared in accordance with this policy in support of a building permit application.

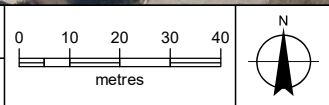


Imagery (2018) provided by Region of Peel.

CLIENT: Frank Merulla

PROJECT: 2935 & 2955 Mississauga Rd

PREPARED BY:



PROJECT NO.	1903701	REVISION:	1
DATE:	Jan 25, 2021	SCALE:	1:1500
DRAWN:	CV/BE	DATUM:	NAD 1983
CHECKED:	ND	PROJECTION:	UTM zone 17

LEGEND:

Subject Site



TITLE:

Site Location

Figure 1

2.1.2 Tree Preservation and Protection Standards (2017)

The City of Mississauga developed the *Tree Preservation and Protection Standards* to identify the procedures and standards required by the City to protect private and public trees through the development review process (City of Mississauga, 2017). This document provides direction on technical report contents required for staff to assess how a proposed development will impact existing trees and recommended preservation and compensation methods.

2.2 Migratory Birds Convention Act

The *Migratory Birds Convention Act* (MBCA), 1994 and *Migratory Birds Regulations* (MBR), 2014 protect most species of migratory birds and their nests and eggs anywhere they are found in Canada (Government of Canada, 1994). General prohibitions under the MBCA and MBR protect migratory birds, their nests, and eggs, and prohibit the deposition of harmful substances in waters/areas frequented by them. The MBR includes an additional prohibition against incidental take, which is the inadvertent harming or destruction of birds, nests, or eggs.

3. Methods

This Arborist Report was directed by an International Society of Arboriculture (ISA) Certified Arborist. A tree inventory was completed on June 23, 2021, for all trees with a DBH equal or greater than 6 cm, that are found adjacent to the development limit.

Information collected during the inventory included species name, tree tag number, geo-location, DBH, dripline, general health condition, and notes on tree trunk and canopy conditions. A Tree Protection Zone (TPZ), which is based on the DBH of a tree, was calculated for each tree based on the City's *Tree Preservation and Protection Standards* (City of Mississauga, 2017).

4. Results

4.1 Tree Inventory

The tree inventory included a total of 101 individual trees (**Figure 2**). The woodland edges were dominated by native species including Sugar Maple (*Acer saccharum*) (in fair to good condition) as well as White Ash (*Fraxinus americana*) in poor or dead condition (**Table 1**). Abundant Manitoba Maple (*Acer negundo*) was also recorded, a species with invasive traits that allow it to spread aggressively and outcompete other species in Ontario. There were no Species at Risk (SAR) tree observed during the 2021 field investigations. The full tree inventory is provided in **Appendix A**.



Imagery (2018) provided by Region of Peel.

CLIENT:	Frank Merulla	
PROJECT:	2935 & 2955 Mississauga Rd	
PREPARED BY:		

PROJECT NO.	1903701	REVISION:	1
DATE:	Jun 30, 2021	SCALE:	1:1000
DRAWN:	KG	DATUM:	NAD 1983
CHECKED:	MV	PROJECTION:	UTM zone 17

LEGEND:	
	Subject Site
	Variable Woodland Buffer
	Woodland Limit (delineated on-site by Palmer, Feb 2020)
	Development Limit
	Ephemeral Naturalized Drainage Swale

Inventoried Trees	
	Retain (w/ TPZ and Dashed Dripline)
	Potential Injury (w/ TPZ and Dashed Dripline)
	Remove (w/ TPZ and Dashed Dripline)

TITLE:

Tree Inventory and Tree Protection Plan

Figure 2

Table 1. Summary of Tree Inventory Results

Scientific Name	Common Name	Quantity
<i>Acer negundo</i>	Manitoba Maple	13
<i>Acer saccharinum</i>	Silver Maple	1
<i>Acer saccharum</i>	Sugar Maple	51
<i>Fraxinus americana</i>	White Ash	16
<i>Fraxinus</i> sp.	Dead Ash	10
<i>Juglans nigra</i>	Black Walnut	1
<i>Ostrya virginiana</i>	Ironwood	1
<i>Tilia americana</i>	Basswood	4
<i>Salix</i> sp.	Willow Species	4
Total Inventoried Trees		101

4.2 Trees to be Retained

A total of 92 trees are proposed to be retained (**Table 2**), most of which are in good to fair condition. With proper adherence to tree protection methods (Section 5), these trees are not expected to be impacted during the proposed construction works.

Table 2. Trees Proposed to be Retained

Scientific Name	Common Name	Good to Fair Health	Poor Health or Dead	Total Count
<i>Acer negundo</i>	Manitoba Maple	6	4	10
<i>Acer saccharum</i>	Sugar Maple	46	1	47
<i>Fraxinus americana</i>	White Ash	5	11	16
<i>Fraxinus</i> sp.	Dead ash sp.	0	10	10
<i>Juglans nigra</i>	Black Walnut	1	0	1
<i>Ostrya virginiana</i>	Ironwood	1	0	1
<i>Salix</i> sp.	Willow Species	2	1	3
<i>Tilia americana</i>	Basswood	4	0	4
Total Trees to be Retained		65	27	92

4.3 Trees Potentially Injured

Among the inventoried trees, three (3) trees have the potential to be injured (**Table 3**). With appropriate mitigation measures (Section 5), including tree protection fencing, these trees are not anticipated to experience significant tree decline, mortality, or loss of root stability, and are considered retainable.

Table 3. Trees Potentially Injured

Scientific Name	Common Name	Good to Fair Health	Poor Health or Dead	Total Count
<i>Acer negundo</i>	Manitoba Maple	1	0	1
<i>Acer saccharinum</i>	Sugar Maple	1	0	1
<i>Salix</i> sp.	Willow Species	1	0	1
Total Trees Potentially Injured		3	0	3

4.4 Trees to be Removed

A total of six (6) trees are proposed to be removed, most of which are in good to fair condition (**Table 4**). Most of these trees are within the proposed footprint of development or their Tree Protection Zone (TPZ) largely overlap with the grading limits. Therefore, removal is required to allow for the proposed development plan and associated construction works.

Table 4. Trees Proposed to be Removed

Scientific Name	Common Name	Good to Fair Health	Poor Health or Dead	Total Count
<i>Acer negundo</i>	Manitoba Maple	1	1	2
<i>Acer saccharum</i>	Sugar Maple	4	0	4
Total Trees to be Removed		5	1	6

5. Tree Protection Plan

The TPP is based on the results of the tree inventory (**Figure 2**). The TPP includes details pertaining to the tree protection zone and recommendations for tree protection fencing and pruning.

5.1 Tree Protection Zone

Most trees proposed to be retained will be primarily protected by tree protection fencing. Tree protection fencing is to be placed at or beyond their Tree Protection Zone (TPZ). No construction, grade changes, surface treatments or excavation of any kind are permitted within the TPZ. The required minimum TPZ for trees in open spaces and woodlands according to the *Tree Preservation and Protection Standards* are outlined in **Table 5** (City of Mississauga, 2017).

Table 5. TPZ for Trees in Open Spaces and Woodlands

TPZ for Trees in Open Spaces and Woodlands	Example
TPZ* = DBH** x 12 / 100	3.6 m = 30 cm x 12 / 100

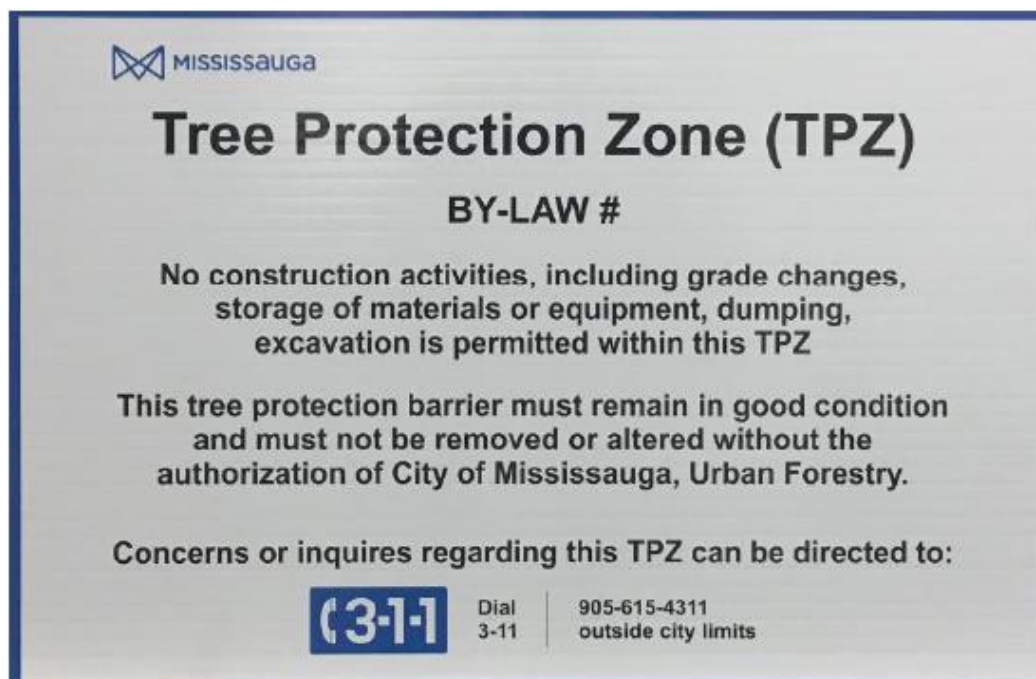
*TPZ distances are to be measured from the outside edge of the tree base

**DBH measurement of tree is taken at 1.4 metres above the ground

5.2 Tree Protection Fencing

Fencing provides protection from potential damage during construction activities. Tree protection fencing is to be installed as per the City’s Standard 02830-6 (**Appendix B**). Fencing should be installed at the outer limit of the minimum TPZ for each tree. Material for fencing should be plywood (for solid board framed hoarding) on a 1.2 m x 2.4 m framing or a plastic snow fence framed hoarding, braced outside the TPZ.

Tree protection zones demarcated by the fencing are to include signs (as per below) secured at regular intervals on the fencing. The signs are recommended to be 40.64 cm x 60.96 cm on a waterproof material.



5.3 Branch and Root Pruning

The proposed encroachment into the dripline and/or TPZ of trees directly adjacent to the development envelope are to be mitigated with branch and root pruning. This is especially important for the preservations of tree #93 and #98, identified as tree potentially injured (**Figure 2**).

Pruning should be conducted by a qualified arborist using good arboricultural practices. In general, pruning is to be done by hand making clean cuts. Rotary tools and torque motions should not be employed. All pruning cuts will be made to a growing point such as a bud, twig, or branch; no stubs should be left. Efforts should be made to keep exposed roots moist, and soils replaced as soon as feasible.

6. Management and Monitoring

6.1 Pre-construction Phase

To avoid a MBCA offence by the inadvertent injury or destruction of active nests and/or eggs during bird nesting periods, it is recommended that all vegetation (including tree) removal works are conducted

between September 1 and April 1 of any given year. Should tree removal during the bird nesting season be unavoidable, a qualified biologist should conduct a nesting survey immediately before any vegetation removal is conducted. No branches or brush from clearing is to be stored on the Subject Lands. Cutting, brush, and chipping cleanup are to be completed outside of the migratory bird nesting season.

Trees permitted for removal shall only be destroyed following issuance of a building permit. All trees to be removed are to be felled into the proposed development area as to avoid damage to the adjacent treed areas. The tree removal permit shall be posted in a conspicuous location visible from the street, for a period of one day prior to the commencement of the approved tree injury and remain in place until the approved tree removal/injury has been completed in accordance with the permit.

The tree protection fencing should be installed before the commencement of any earth works or construction. Appropriate preparatory tree pruning would also be completed at this point. Any pruning of tree roots and branches of tree necessary to accommodate construction work should be completed by a qualified arborist using best arboricultural practices.

6.2 Construction Phase

Contractors are responsible for all protection measures, to the satisfaction of a qualified arborist. Tree protection fencing should remain in place throughout the duration of construction and works should not allow traffic, vehicles, foot traffic or equipment to compact soil within the tree protection fencing area. Any pruning of tree roots and branches of trees necessary to accommodate the fencing or nearby construction work should be completed by a qualified arborist using best arboricultural practices.

6.3 Post-construction Phase

The removal of tree protection fencing, and additional tree care measures should only be completed when all construction activities have been completed and landscaping has been initiated. Planting of compensation trees should be initiated as part of landscaping and be completed by nursery professionals or a Certified Arborist. To promote successful establishment, plantings will occur solely during the spring or fall planting seasons; being April 15 – July 1, and September 15 – November 15, respectively.

Tree plantings should be monitoring for a minimum of one growing season post-planting, per the preliminary acceptance by the City. Monitoring efforts should assess the growth and establishment of the planted trees, ensuring that the conditions of any nursery guarantees are met.

7. Replacement Plantings

A compensation plan for the trees to be removed as part of the proposed development includes tree removal compensation ratios, tree species planting selection, and planting locations as outlined in the *Tree Preservation and Protection Standards* (City of Mississauga, 2017).

7.1 Tree Replacements

Tree replacement planting for healthy trees is required for coniferous species that are at least 1.8 m tall and for deciduous species that are at least 6 cm in DBH. The following compensation ratios are outlined in the City’s website “Removing Trees on Private Property” (City of Mississauga, 2021):

- 1:1 for trees < 50 cm DBH
- 2:1 for trees ≥ 50 cm DBH

Based on the above ratios, a total of 5 native trees are recommended to be planted in replacement of the trees proposed to be removed (**Table 6**). Native tree species selected for replacement planting must be native to the area and should reflect the natural composition of the adjacent woodland. Suggested species include Sugar Maple, Black Maple (*Acer nigrum*), Black Cherry (*Prunus serotina*), and Eastern Cottonwood (*Populus deltoides*).

Table 6. Tree Removal Compensation

Replacement per Tree Size Category and Health Condition	Poor Condition (no replacement)	<50 DBH (healthy) 1:1	≥ 50 cm DBH (healthy) 2:1	Total
Total Trees to be Removed	1	5	0	6
Total Compensation Trees Required	0	5	0	5

8. Conclusions

Of the 101 inventoried trees, 92 are proposed to be retained, three (3) are potentially injured, and six (6) are proposed to be removed. The TPP described in this report is intended to be implemented to ensure the protection for trees being retained and identified as potentially injured. Management and monitoring recommendations are provided as direction for the various phases of construction to ensure that impacts to trees are minimized to the greatest extent feasible. Based on the number of tree removals, a total of five (5) tree replacement plantings are required. The replacement trees are to be planted within the variable woodland buffer on the Subject Lands.

Memorandum

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Arborist Report and Tree Protection Plan for 2935 & 2955 Mississauga Road, City of Mississauga



Yours truly,



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Dirk Janas, B.Sc
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9. References

City of Mississauga. (2012). *Private Tree Protection By-law 254-12*. Retrieved from City of Mississauga:
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City of Mississauga. (2017). *Tree Preservation and Protection Standards*.

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