TORONTO ZOO

ACCESSIBLE PATHS – AREA 2 FOREST
ARBORIST REPORT

SEPTEMBER 21, 2022

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PROJECT NO.: 20M-00631-00
DATE: SEPTEMBER 21, 2022

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1 INTRODUCTION

WSP Canada Inc. (WSP) was retained by the Toronto Zoo to undertake a detailed design for updating several visitor paths to adhere to the Accessibility for Ontarians with Disability Act (AODA). The focus of this report is for Area 2 – Forest, where resting area platforms are also proposed.

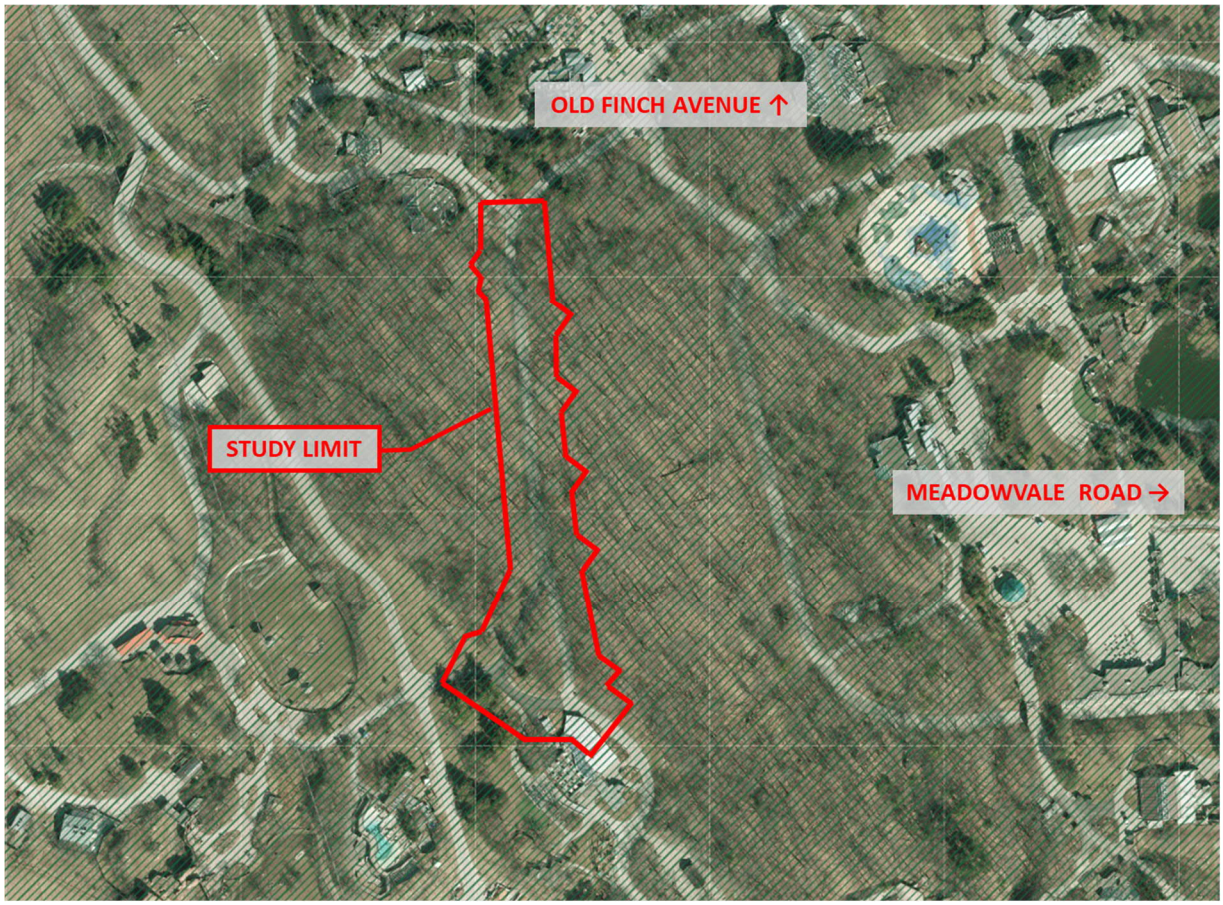
WSP Landscape Architecture has completed a vegetation inventory within the study area of Area 2 Forest. The purpose of the inventory was to assess vegetation for health and location and potential impacts related to the proposed design. Tree Preservation Plans have been prepared in association with this report.

1.1 STUDY AREA

- The study area consists of a paved path through a forested area in the Toronto Zoo. The path is approximately 430m south of Old Finch Avenue and 620m west of Meadowvale Road in Scarborough;
- Trees greater than 10cm DBH were inventoried within the study limits while trees less than 10cm DBH were recorded for quantity and species.

The approximate limits of the study area are shown below.

Figure 1: Study Area



The Study Limit is outlined in red. Ravine and Natural Feature Protection (RNFP) By-law limits are shown in a green line hatch and covers the entire study area. Image taken from the City of Toronto's Interactive Map tool (last accessed May 2022).

1.2 REPORT FRAMEWORK

This report details the results of the tree inventory; provides an overview of the relevant policy and legislation in relation to the proposed works; and makes recommendations for tree protection, injury, removals and mitigative measures based on the proposed works.

1.2.1 BY-LAWS

- The limits of work are located within the limits of two (2) City of Toronto Urban Forestry By-laws: trees situated on private property, and within the RNFP limits;
    - The Private Trees By-law applies to trees greater than 30 cm diameter at breast height (DBH) that are situated on private properties and within 6 m of the disturbance area. The Zoo is considered 'Private', however since the entire property is within the RNFP By-law limit, the RNFP By-law takes precedence.
    - The RNFP By-law applies to trees of any size within the RNFP By-law Limits that are within 12m of the disturbance area.

1.2.2 APPENDIX A: TREE PRESERVATION TABLES

- The Tree Preservation Tables (Appendix A) prepared by WSP include tree tag numbers, DBH, dripline, TPZs, tree condition, proposed status, and applicable by-laws:
- A total of **±1417 trees** are detailed:
    - 385 individual trees >10cm DBH were tagged with aluminum tags (tree numbers 101 to 485);
    - ±1032 trees in 5 tree groupings of trees <10cm DBH (tree numbers: TG-6 to TG-9).
- Trees were primarily naturally occurring as an established Sugar Maple stand.

1.2.3 ADDITIONAL DOCUMENTS TO REVIEW IN CONJUCTION WITH REPORT

This report is to be read in conjunction with:

- Appendix A: Tree Preservation Tables;
- Appendix B: RNFP Application
- Appendix C: Site Photos
- Tree Preservation Plans (TP-1 to TP-6).

2 EXISTING CONDITIONS

2.1 BUILT FORM

The study limits are located within the Toronto Zoo and consist of a pedestrian walking path with a curb along the east side and existing resting areas with retaining walls. On the south end, there is a restaurant (Africa Restaurant) and an outdoor eating area with picnic tables. Outside of the study limits to the northwest there are animal enclosures / exhibits (Americas Pavilion).

2.2 VEGETATION

Vegetation is primarily a Sugar Maple (*Acer saccharum*) with a few other deciduous native and non-native species. There are some planted trees within and across from the outdoor picnic area. Trees are a mixture of young, semi-mature, and mature trees ranging in size from <10 to ±105 cm DBH.

Vegetation composition and tree sizes are detailed below by location.

2.2.1 EAST SIDE OF PATHWAY

- Trees were almost entirely naturalized and typical of a Sugar Maple stand. Most species were native with invasive Buckthorn and Spindle Trees found throughout the understory. All trees were deciduous:
    - Abundant: Sugar Maple (*Acer saccharum*);
    - Frequent: Ash species (*Fraxinus sp.*), White Ash (*Fraxinus americana*), Alternate-leaved Dogwood (*Cornus alternifolia*), American Beech (*Fagus grandifolia*), Common Buckthorn (*Rhamnus cathartica*), Ironwood (*Ostrya virginiana*), Black Cherry (*Prunus serotina*);
    - Occasional: Basswood (*Tilia americana*), Spindle Tree sp. (*Euonymus sp.),* Red Oak (*Quercus rubra*), Elm species (*Ulmus sp.),* Paper Birch (*Betula papyrifera*), Staghorn Sumac (*Rhus typhina*), Norway Maple (*Acer platanoides*), Common Hackberry (*Celtis occidentalis*), Bitternut Hickory (*Carya cordiformis*), American Elm (*Ulmus americana*).
- Trees range in size from <10 to ±105cm DBH.

2.2.2 BETWEEN PATHWAY FORK AND PICNIC AREA

- Trees were a mix of planted and naturalized, both deciduous and coniferous. Vegetation consists of native and non-native species including:
    - Abundant: Common Buckthorn (*Rhamnus cathartica*), Sugar Maple (*Acer saccharum*);
    - Frequent: Common Lilac (*Syringa vulgaris*), Ash species (*Fraxinus sp.*), Black Cherry (*Prunus serotina*), Scots Pine (*Pinus sylvestris*);
    - Occasional: Staghorn Sumac (*Rhus typhina*), Alternate-leaved Dogwood (*Cornus alternifolia*), Basswood (*Tilia americana*), White Cedar (*Thuja occidentalis*), White Pine (*Pinus strobus*), White Spruce (*Picea glauca*), Willow species (*Salix sp.*), Honeysuckle species (*Lonicera sp.*).
- Trees range in size from <10 to ±95cm DBH.

2.2.3 WEST SIDE OF PATHWAY

- Trees were almost entirely naturalized and typical of a Sugar Maple stand. Most species were native with invasive Buckthorn and Spindle Trees found throughout the understory. All trees were deciduous:
  - Abundant: Sugar Maple (*Acer saccharum*), Spindle Tree sp. (*Euonymus sp.)*;
  - Frequent: Alternate-leaved Dogwood (*Cornus alternifolia*), Ash species (*Fraxinus sp.*), Common Buckthorn (*Rhamnus cathartica*), Black Cherry (*Prunus serotina*), American Beech (*Fagus grandifolia*);
  - Occasional: Staghorn Sumac (*Rhus typhina*), Paper Birch (*Betula papyrifera*), Elm species (*Ulmus sp.),* Basswood (*Tilia americana*), Northern Catalpa (*Catalpa speciosa*), Red Oak (*Quercus rubra*), Common Lilac (*Syringa vulgaris*), Ohio Buckeye (*Aesculus glabra*), Ironwood (*Ostrya virginiana*), American Elm (*Ulmus americana*), Honeysuckle species (*Lonicera sp*.).
- Trees range in size from <10 to ±95cm DBH.

2.3 CONDITION

Tree health ranges between good and poor; the majority observed to be in good condition. Refer to Appendix A for a condition assessment for each tree. Condition is summarized below:

- Trunk wounds cavities / wounds;
- Exposed / girdling roots;
- Poor branch attachment with included bark;
- Galls on trunk;
- Lean;
- Unbalanced canopies leaning towards the path;
- Dieback / dead branches;
- Broken / dead leaders;
- Epicormic shoots / water sprouts from trunk;
- Main leader topped;
- Supressed canopy;
- Conflicting with other trees;
- Vine within canopy;
- Disease / Pests (i.e. Beech Bark Disease, Emerald Ash Borer).

POLICY CONTEXT

This section summarizes the various municipal, regional, provincial and federal planning policies and regulations related to the tree inventory and apply to the project. Thus, they provide the policy context for this Arborist Report.

2.4 TREES ON CITY STREETS BY-LAW

The City of Toronto's Trees on City Streets By-law (Municipal Code, Chapter 813, Article II – Trees on City Streets) applies to the planting, care, maintenance, protection, preservation and removal of all trees of any size located on any City street. A permit is required to injure or remove any tree on a City street of any size.

Applicability to Project

- There are no City streets within the study area; therefore, this By-law is **not** applicable.

2.5 PRIVATE TREE BY-LAW

The City of Toronto's Private Tree By-law (Municipal Code, Chapter 813, Article III) establishes the criteria and conditions required for the injury, destruction or removal of any tree, including a multi-stemmed tree having at least one stem that has a diameter measurement of 30cm or more, measured at 1.4m above ground in the study area and within 6m of the study area. A permit is required to injure or remove any tree on private property that is greater than 30cm diameter at breast height (DBH).

Applicability to Project

- Applies to trees within 6m of the property line;
- All trees are within the private property of the Toronto Zoo, however since the study area is considered 'naturalized' and meets the definition of 'Ravine' as detailed in by-law Municipal Code, Chapter 658, the RNFP By-law will take precedence over the Private Tree By-law. Therefore, all tree impacts have been addressed through the RNFP By-law
- This by-law is **not-applicable**.

2.6 RAVINE AND NATURAL FEATURE PROTECTION BY-LAW

The City of Toronto's Ravine and Natural Feature Protection (RNFP) By-law applies to trees of any size within areas designated as 'Ravine'. This By-Law (Municipal Code, Chapter 658) applies to the injury, removal or destruction of trees located on protected ravine land and the restriction of dumping fill, refuse of altering the grade of protected ravine land. Where the limit of work will occur within RNFP limits, trees will be inventoried, 12m from this limit.

Applicability to Project

- The entire study area is within RNFP By-law Limits; therefore, this by-law is **applicable**.

2.7 PARKS BY-LAW

The City of Toronto Parks By-law (Municipal Code, Chapter 608 Parks) applies to trees of any size and prohibits the removal, injury or destruction of trees located within City parkland. Approval is required from the City of Toronto Parks Department prior to the removal of any tree.

Applicability to Project

- The subject site does not include City parkland; therefore, this by-law is **not** applicable.

2.8 TREE INJURY

The City of Toronto's Tree injury policy is defined as: The minimum TPZ not being protected.

Applicability to Project

- Tree injury is detailed in Section 4.

2.9 CITY OF TORONTO TREE CATEGORIES

Categories as per City of Toronto Arborist Report for Development Applications Form (Refer to Appendix A: Tree Inventory and Preservation Tables).

Table 0.1 – City of Toronto Identifying Tree Location

CATEGORY	DESCRIPTION
1	Trees with diameters of 30cm or more situated on private property on the subject site.
2	Trees with diameters of 30cm or more situated on private property, within 6m of the subject site.
3	Trees of all diameters situated on City owned parkland within 6m of the subject site.
4	Trees of all diameters situated within lands designated under City of Toronto Municipal code, Chapter 658, Ravine and Natural Feature Protection, trees of all diameters situated within 12m of any construction activity.
5	Trees of all diameters situated within the City road allowance adjacent to the subject site.

2.10 CANADA FOOD AND INSPECTION AGENCY

Canada Food and Inspection Agency (CFIA) Directive D-03-08: Phytosanitary Requirements to Prevent the Introduction into and Spread within Canada of the Emerald Ash Borer (EAB), *Agrilus planipennis* (Fairmaire) applies to Ash (*Fraxinus* sp.) species observed on properties that are located within the EAB Regulated Areas of Canada, prepared by the CFIA and dated: June 2019. This area covers all south and central Ontario and western Quebec. Ash trees that require removal are subject to this directive.

Applicability to Project

- The CFIA restricts the movement of all Ash material including wood, bark, chips or bark chips from being transported outside of the Regulated Area. A Movement Certificate is required by the CFIA for any Ash material leaving the Regulated Area.
- Ash are permitted to be chipped on site and/or removed or cut down and removed from site. Chipped Ash material that is to remain on site must be ground or chipped to a size of less than 2.5 cm in any two dimensions. All Ash material chipped or whole that is to be removed from site must be disposed of within the Regulated Areas of Canada.
- Refer to the CFIA website for a current map of the '*Emerald Ash Borer Regulated Areas of Canada*'
- One White Ash tree over 10cm DBH was found within the study area with signs of EAB damage. It has been recommended for removal and therefore is subject to the above CFIA guidelines. There were several other Ash trees within the study area less than 10cm DBH.

2.11 TORONTO AND REGION CONSERVATION AUTHORITY GUIDELINES

The Toronto and Region Conservation Authority (TRCA), as mandated under O. Reg. 166/06 TRCA Regulation of Development, Interference with Wetlands and Alteration to Shorelines and Watercourses, regulates and may prohibit work that may take place within a regulated area ("an area that represents the greatest physical extent of the combined hazards, plus a prescribed allowance, as set out in the Conservation Authorities Act"). This includes valley and stream corridors, wetlands and associated areas of interference and the Lake Ontario waterfront.

Applicability to Project

- The study area is outside of the TRCA Regulated Areas; therefore, the proposed works are **not** subject to TRCA Guidelines.

2.12 ENDANGERED SPECIES ACT, 2007

Species designated as Threatened or Endangered by the Committee on the Status of Species at Risk in Ontario (COSSARO), otherwise known as Species at Risk in Ontario (SARO), and their habitats (i.e., areas essential for breeding, rearing, feeding, hibernation and migration) are automatically afforded legal protection under the Endangered Species Act, 2007 (ESA) (Government of Ontario 2007). The ESA (Subsection 9 (1)) states that:

- "No person shall,
  - a) kill, harm, harass, capture or take a living member of a species that is listed on the SARO List as an extirpated, endangered or threatened species;
  - b) possess, transport, collect, buy, sell, lease, trade or offer to buy, sell, lease or trade;
    - (i) a living or dead member of a species that is listed on the Species at Risk in Ontario List as an extirpated, endangered or threatened species;
    - (ii) any part of a living or dead member of a species referred to in subclause (i);
    - (iii) anything derived from a living or dead member of a species referred to in subclause (i); or
  - c) sell, lease, trade or offer to sell, lease or trade anything that the person represents to be a thing described in subclause (b) (i), (ii) or (iii)".
- Clause 10(1) (a) of the ESA states that:
- "No person shall damage or destroy the habitat of a species that is listed on the SARO list as an endangered or threatened species".

Applicability to Project

- No woody species at risk were observed within the study area.

2.13 MIGRATORY BIRDS CONVENTION ACT, 1994

The Migratory Birds Convention Act, MBCA (1994) and Migratory Birds Regulations, MBR (2014) protect most species of migratory birds anywhere they are found in Canada, including surrounding ocean waters, regardless of ownership. General prohibitions under the MBCA and MBR protect migratory birds, their nests and eggs and prohibit the deposit of harmful substances in waters / areas frequented by them.

- The MBR includes an additional prohibition against incidental take, defined by Environmental Canada as:

  "*The inadvertent harming, killing, disturbance or destruction of migratory birds, nests and eggs.*"

- Environment Canada implements policies and guidelines to protect migratory birds, their eggs and their nests. There is guidance on the Environment Canada website to minimize the risk of incidental take effects on migratory birds, achieve compliance with the law and maintain sustainable populations of migratory birds.
- Compliance with the MBCA and MBR is best achieved through a due diligence approach, which identifies potential risk, based on a site-specific analysis in consideration of the Avoidance Guidelines and Best Management Practices information on the Environment Canada website.

Applicability to Project

- The MBCA and its regulations are applicable to the project. Migratory bird species subject to the MBCA may be present within the study area and may use various habitats on the subject property (e.g. trees, grass and other herbaceous material, buildings). Recommended measures to reduce the possibility of contravention to the MBCA and its regulations are provided in Section 5.6;
- Tree removals are to be coordinated outside of the Migratory Bird Nesting Season (**April 1 to August 31**) and the active period for bats (e.g. up to the end of September). Overall clearing of trees would be permitted between **October 1 to March 31**.

3 FIELD SURVEYS

3.1 TREE INVENTORY METHODOLOGY

The field survey was conducted on April 19 and 20, 2022 within the study limits.

Trees were inventoried as per the following criteria:

- Trees were assessed for species, quantity, DBH, dripline radius and general health condition;
- Tree location identified using a handheld GPS unit (Garmin etrex 20x);
- Representative photographs were taken, which are on file at WSP;
- Trees greater than or equal to 10cm DBH were tagged using metal tags numbered from '101' to '481';
- Trees less than 10cm DBH were recorded for quantity and species within tree groupings;
- Trees were assessed in accordance with City of Toronto By-laws.

3.2 TREE INVENTORY RESULTS

A total of **±1417** trees were assessed for this report:

- 385 individual trees with metal tags (101 to 485);
- ±1032 untagged trees <10cm DBH in 5 tree groupings (TG-1 to TG-5).

Please refer to the following table for a breakdown of trees within the study limits. Refer to Appendix A for details on the inventory of each tree.

Table 3.1 – Tree Location

LOCATION	TREE NUMBERS	TOTAL
East Side of Pathway	101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, TG-1 (218 trees), TG-2 (194 trees)	604
In-between Fork and Picnic Area	293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, TG-3 (±123), TG-4 (5 trees)	±165

West Side of Pathway	330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, TG-5 (±492 trees)	±648
Total		**±1417**

4 DISCUSSION

This section is a discussion of the retention, preservation and / or impacts to trees within proximity of proposed works. Vegetation recommendations, impacts and preservation are detailed in the following sections. Determinations made with respect to tree injury, preservation and removal are based on the degree of impact that will occur within the TPZ. These determinations are based on assumptions listed in Section 4.2.

4.1 PROPOSED WORKS

The anticipated proposed works for the accessible pathway include but are not limited to:

- Removal of existing pathway including asphalt
- Removal of granular base in sections where the proposed boardwalk deviates from the existing pathway
- Installation of boardwalk on helical piles;
- Four lookout resting platforms;
- Restoration including topsoil and plantings in areas where asphalt and granular base were removed.

4.2 TREE RECOMMENDATIONS / ASSUMPTIONS

The design, infrastructure installation and replacement works have been proposed as part of detailed design drawings prepared by WSP Canada Inc. The site plan elements, including the excavation limits have been illustrated on the Tree Preservation Plans.

The following recommendations / assumptions apply to trees that are to be removed, injured, preserved, retained and / or transplanted.

4.2.1 TREE REMOVAL

- Tree removal is based on the degree of excavation / disturbance within the TPZ, considering tree species, size, condition and the amount of critical roots that would be impacted that are vital to sustaining the trees overall health and stability;
- Where an encroachment into the root zone is equal to or greater than 3 times the DBH, trees will be removed (e.g. 30cm DBH tree x 3 = 90cm). Any encroachment that exceeds this limit is considered too severe an impact to the root zone;
- When the amount of impact is likely to cause a significant and irreversible decline in health of the tree;
- This designation may also be applied to trees that are dead; in poor condition or trees that could pose future safety concerns; and trees dying because of a disease or insect infestation.

4.2.2 TREE INJURY

- Tree injury is based on encroachments into the TPZ;
- Tree injury:
    - <u>Will occur where a TPZ will be reduced and construction activity will impact roots and/or branches. Pruning of branches that exceeds 25% of the canopy will also result in tree injury;</u>
    - <u>Where the existing asphalt and granular base will be removed;</u>

- Where the existing curb will be removed on the east side of the pathway.
- Installation of helical piles in areas outside of the pathway limit. Impact will be limited to the width of the helical pile.

- No Injury:
  - Encroachments into the TPZ that are within the paved portion of the pathway (where there is a curb and or sidewalk), 'no injury' will be assumed due to the assumption there are no roots under the curb and road;
  - Where the existing asphalt will be removed, however the granular base will remain intact as there will be no disturbance to the roots under or within the granular base. This will occur in areas where the boardwalk follows the existing pathway.;
- On streets or pathways that do not have a curb, gutter or sidewalk separating the pavement from the softscape boulevard, it will be assumed that there are roots under the road and that encroachments into the TPZ within the road or boulevard will result in 'injury';
- Mitigative measures may be recommended to minimize the damage to existing roots.

4.2.3 TREE PRESERVATION

- Preservation of trees is considered where an encroachment, excavation or disturbance into the TPZ is expected to be minor or nil and that tree health and stability will not be adversely impacted;
- The implementation of mitigation measures will reduce potential impacts to the tree therefore allowing for the tree to be preserved e.g. air-spade excavation and / or horizontal root protection.
- Applies to trees within the *Area of Consideration*. Refer to Section 4.2.6.

4.2.4 TREE RETENTION

- Proposed works will occur beyond the TPZ and the dripline with no impacts to the tree. Trees can be retained and do not require tree protection hoarding.

4.2.5 CITY OF TORONTO BY-LAWS

- Existing trees may be protected or subject to removal requirements under the Urban Forestry By-laws of the City of Toronto. Trees per by-law are listed below in the following table.

Table 4.1 – Tree By-Law Table

BY-LAW	TREE NUMBERS	TOTAL

RNFP	101, 103, 104, 106, 107, 108, 109, 110, 111, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 140, 141, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 168, 169, 174, 175, 176, 177, 178, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 204, 206, 208, 209, 210, 211, 212, 213, 214, 215, 216, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 243, 244, 245, 246, 247, 248, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 277, 282, 283, 284, 285, 286, 287, 288, 290, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 332, 333, 334, 335, 340, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 359, 366, 368, 369, 370, 371, 372, 373, 374, 375, 377, 378, 379, 380, 382, 383, 384, 385, 386, 387, 388, 389, 390, 403, 404, 405, 406, 407, 408, 409, 410, 419, 420, 421, 422, 423, 425, 426, 427, 428, 438, 440, 441, 446, 447, 448, 449, 450, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 479, 480, 481, 482, 483, 484, 485, TG-1, TG-2, TG-3, TG-4, TG-5, TG-6, TG-7, TG-7a, TG-8, TG-8a	±1418
Total		**±1418**

4.2.6 CITY OF TORONTO AREA OF CONSIDERATION

As per the City of Toronto's Tree Protection Policy and Specifications for Construction Near Trees the 'Area of Consideration' applies to trees on City property, private property and within the Ravine and Natural Feature Protection limit (RNFP). This area is defined as:

- The entire area of site disturbance, including construction, related traffic, and material storage. This area extends up to 6m beyond the limit of site disturbance for trees on City and Private property and 12m for trees within the RNFP limits.

4.3 TREE REMOVALS

Where the impact to the root zone and branch removal will be significant and is likely to cause a significant and irreversible decline in health of the tree from the removal or damage of structural and critical roots, or the encroachment into the root zone will be greater than 3 times the trunk diameter, tree removal is recommended.

- Impacts to trees will occur where trees are located within the limits of work and excavation;
- Trees also require removal to allow for grading, storage, and use of equipment and machinery;
- The following tables provide details of trees to be removed.

Table 4.2 – Tree Removal Table – Summary per By-law

By-law	Tree Numbers	Size	Subtotal	Exemption from By-law (refer to Section 6.2)	Total (included in tree removal permits)
RNFP	229	≥10cm DBH	1	0	1
	TG-1, TG-2, TG-3, TG-4	<10cm DBH	19	10	9
Totals			**20**	**10**	**10**

Table 4.3 – Tree Removal Table – Construction Activities

Tree Numbers	Tree Category	Impact / Reason for Removal	Total
229	4	Tree is underneath the proposed boardwalk.	1
TG-1	4	Trees are beneath the proposed boardwalk.	10

TG-2	4	See above note.	3
TG-3	4	See above note.	3
TG-4	4	See above note.	3
Total			**20**

- Removal of trees within the RNFP By-law are addressed through the '*Ravine and Natural Feature Permit Application*' located in Appendix B;
- Refer to Section 6 for removal and compensation requirements.

4.4 TREE INJURY

- Proposed works in this assignment will result in tree injury. Tree injury will be related to:
  - Installation of helical piles. Potential root damage limited to width of helical pile;
  - Removal of granular base in areas where the proposed boardwalk deviates from the existing pathway.
  - Removal of concrete curb on east side as it is anticipated that roots have likely grown along the edge of the curb and into the granular base underneath the curb.
- In the locations noted above, the work will encroach into and require a reduction of TPZs. This work will also have the potential to damage roots and/or branches through excavation and mobilization of equipment.
- Injury to roots and tree health will be mitigated through the recommendations in Table 5.4;
- Any roots and branches encountered are to be pruned in accordance with the recommendations in Sections 5.4 and 5.5;
- Refer to Table 5.4 which details the severity of injuries, likelihood of survival and mitigation measures and Table 5.5 which identifies the quantities and tag numbers. Refer to Sections 6 for mitigative measures.

Table 4.4 – Tree Injury and Mitigation Table

TREE #	SPECIES	DBH (cm)	INJURY	MITIGATION & SURVIVAL
106	Ironwood	14	Removal of concrete curb on east side, removal of granular base (select locations) and installation of helical piles (in locations that are outside of the existing pathway).	During excavation any roots exposed are to be pruned at the limit of disturbance using accepted pruning techniques (see Sections 5.4). This measure will enable pruned root ends to sprout new roots once construction has been completed and site has been restored and ensure that structural stability and health will remain unchanged.
111	Sugar Maple	75	See above note.	Root pruning. See note for tree #106.
116	Ironwood	10	See above note.	Root pruning. See note for tree #106.
117	Ironwood	12	See above note.	Root pruning. See note for tree #106.
118	Sugar Maple	15	See above note.	Root pruning. See note for tree #106.

TREE #	SPECIES	DBH (cm)	INJURY	MITIGATION & SURVIVAL
119	Sugar Maple	55	See above note.	Root pruning. See note for tree #106.
123	Ironwood	21	See above note.	Root pruning. See note for tree #106.
124	Sugar Maple	43, 14	See above note.	Root pruning. See note for tree #106.
125	Paper Birch	27	See above note.	Root pruning. See note for tree #106.
133	Sugar Maple	52	See above note.	Root pruning. See note for tree #106.
134	Sugar Maple	11	See above note.	Root pruning. See note for tree #106.
148	Sugar Maple	12	See above note.	Root pruning. See note for tree #106.
150	Ironwood	43	See above note.	Root pruning. See note for tree #106.
153	Sugar Maple	80, 18	See above note.	Root pruning. See note for tree #106.
156	Sugar Maple	30	See above note.	Root pruning. See note for tree #106.
175	Sugar Maple	86	See above note.	Root pruning. See note for tree #106.
177	Sugar Maple	70, 12	See above note.	Root pruning. See note for tree #106.
178	Sugar Maple	52	See above note.	Root pruning. See note for tree #106.
191	Sugar Maple	52	See above note.	Root pruning. See note for tree #106.
192	Sugar Maple	27	See above note.	Root pruning. See note for tree #106.
195	Sugar Maple	33	See above note.	Root pruning. See note for tree #106.
199	Red Oak	85	See above note.	Root pruning. See note for tree #106.
200	Red Oak	75	See above note.	Root pruning. See note for tree #106.
211	Sugar Maple	13	See above note.	Root pruning. See note for tree #106.
212	American Beech	34	See above note.	Root pruning. See note for tree #106.
226	Red Oak	100	See above note.	Root pruning. See note for tree #106.
227	Sugar Maple	27	See above note.	Root pruning. See note for tree #106.
228	Sugar Maple	10	See above note.	Root pruning. See note for tree #106.
230	Sugar Maple	34	See above note.	Root pruning. See note for tree #106.
232	Sugar Maple	10	See above note.	Root pruning. See note for tree #106.
233	Ash sp.	11	See above note.	Root pruning. See note for tree #106.

TREE #	SPECIES	DBH (cm)	INJURY	MITIGATION & SURVIVAL
234	Basswood	21	See above note.	Root pruning. See note for tree #106.
235	American Elm	13	See above note.	Root pruning. See note for tree #106.
236	Red Oak	28	See above note.	Root pruning. See note for tree #106.
237	Basswood	35	See above note.	Root pruning. See note for tree #106.
238	Basswood	33, 11	See above note.	Root pruning. See note for tree #106.
243	Basswood	35	See above note.	Root pruning. See note for tree #106.
244	Basswood	21	See above note.	Root pruning. See note for tree #106.
245	Black Cherry	13	See above note.	Root pruning. See note for tree #106.
246	American Elm	25, 26	See above note.	Root pruning. See note for tree #106.
253	Sugar Maple	20	See above note.	Root pruning. See note for tree #106.
254	Staghorn Sumac	14	See above note.	Root pruning. See note for tree #106.
271	American Beech	13	See above note.	Root pruning. See note for tree #106.
292	Sugar Maple	11	See above note.	Root pruning. See note for tree #106.
297	Scots Pine	30	See above note.	Root pruning. See note for tree #106.
304	Sugar Maple	21	See above note.	Root pruning. See note for tree #106.
305	Sugar Maple	14	See above note.	Root pruning. See note for tree #106.
306	Sugar Maple	11	See above note.	Root pruning. See note for tree #106.
307	Sugar Maple	22, 32	See above note.	Root pruning. See note for tree #106.
308	Sugar Maple	16	See above note.	Root pruning. See note for tree #106.
314	Sugar Maple	28	See above note.	Root pruning. See note for tree #106.
315	Scots Pine	28	See above note.	Root pruning. See note for tree #106.
317	Sugar Maple	25	See above note.	Root pruning. See note for tree #106.
318	Sugar Maple	20	See above note.	Root pruning. See note for tree #106.
319	Sugar Maple	27	See above note.	Root pruning. See note for tree #106.
320	Basswood	31	See above note.	Root pruning. See note for tree #106.
330	Northern Catalpa	48	See above note.	Root pruning. See note for tree #106.

TREE #	SPECIES	DBH (cm)	INJURY	MITIGATION & SURVIVAL
332	Northern Catalpa	60	See above note.	Root pruning. See note for tree #106.
335	Staghorn Sumac	14	See above note.	Root pruning. See note for tree #106.
340	Staghorn Sumac	11	See above note.	Root pruning. See note for tree #106.
343	Sugar Maple	88	See above note.	Root pruning. See note for tree #106.
350	Basswood	14	See above note.	Root pruning. See note for tree #106.
351	Sugar Maple	30	See above note.	Root pruning. See note for tree #106.
352	Sugar Maple	38	See above note.	Root pruning. See note for tree #106.
359	Sugar Maple	22	See above note.	Root pruning. See note for tree #106.
368	Basswood	12	See above note.	Root pruning. See note for tree #106.
369	Elm sp.	13	See above note.	Root pruning. See note for tree #106.
370	American Beech	43	See above note.	Root pruning. See note for tree #106.
372	Sugar Maple	±95	See above note.	Root pruning. See note for tree #106.
377	Sugar Maple	22	See above note.	Root pruning. See note for tree #106.
378	Red Oak	52, 60	See above note.	Root pruning. See note for tree #106.
385	Sugar Maple	18	See above note.	Root pruning. See note for tree #106.
386	American Elm	11	See above note.	Root pruning. See note for tree #106.
406	Sugar Maple	65	See above note.	Root pruning. See note for tree #106.
409	Sugar Maple	31	See above note.	Root pruning. See note for tree #106.
410	Sugar Maple	16	See above note.	Root pruning. See note for tree #106.
421	Sugar Maple	20	See above note.	Root pruning. See note for tree #106.
422	Sugar Maple	25	See above note.	Root pruning. See note for tree #106.
423	Sugar Maple	14	See above note.	Root pruning. See note for tree #106.
427	Sugar Maple	46	See above note.	Root pruning. See note for tree #106.
446	Sugar Maple	39	See above note.	Root pruning. See note for tree #106.
454	Sugar Maple	12	See above note.	Root pruning. See note for tree #106.

TREE #	SPECIES	DBH (cm)	INJURY	MITIGATION & SURVIVAL
457	Sugar Maple	41	See above note.	Root pruning. See note for tree #106.
460	Sugar Maple	52	See above note.	Root pruning. See note for tree #106.
462	Sugar Maple	11	See above note.	Root pruning. See note for tree #106.
481	Ohio Buckeye	17, 11	See above note.	Root pruning. See note for tree #106.

Table 4.5 – Tree Injury Location Table

BY-LAW	CATEGORY	TREE NUMBERS	QUANTITY
RNFP	4	106, 111, 116, 117, 118, 119, 123, 124, 125, 133, 134, 148, 150, 153, 156, 175, 177, 178, 191, 192, 195, 199, 200, 211, 212, 226, 227, 228, 230, 232, 233, 234, 235, 236, 237, 238, 243, 244, 245, 246, 253, 254, 271, 292, 297, 304, 305, 306, 307, 308, 314, 315, 317, 318, 319, 320, 330, 332, 335, 340, 343, 350, 351, 352, 359, 368, 369, 370, 372, 377, 378, 385, 386, 406, 409, 410, 421, 422, 423, 427, 446, 454, 457, 460, 462, 481	86
Total			**86**

4.5 TREE PROTECTION ZONE ENCROACHMENT (NO INJURY)

- Reductions of the tree protection hoarding will be required for trees within the gravel area on the west side of the existing pathway. As part of the proposed works, the gravel and fabric underneath will be removed, but no excavation will be required. Therefore tress with TPZs within this area will have no injury.
- Refer to the table below which details trees with TPZ reductions (no injury).

Table 4.6 – TPZ Encroachment – No Injury Table

By-law	Category	Tree Numbers	Size	TPZ	Total
RNFP	4	390	44	6	1
		440	16	3.6	1
		455	20	3.6	1
		456	40	4.8	1
Totals					**4**

4.6 TREE PRUNING

To facilitate the proposed works, some selective pruning will be necessary, specifically where work will affect low hanging branches that overhang the work area or road. Trees identified for pruning have branches at a height that would interfere with construction equipment and machinery during construction. Much of this work will be determined through a site walk with Urban Forestry. This includes trees identified as 'injured' (Sections 5.4). Pruning is to be undertaken by a Certified Arborist following proper arboricultural techniques and in conjunction with the guidelines in this report prior to the start of construction.

Pruning will be dependant on the location of the existing tree, canopy size and the equipment used during construction. It is to be noted that the contractor is to adjust the size of the equipment / excavators where feasible to accommodate low hanging trees or congested areas.

- Based on the criteria above, pruning is not recommended for any trees. The canopies of overhanging trees are high enough to allow clearance for most construction equipment, or trees have been recommended for removal.
- There may be some selective pruning needed for the boardwalk installation. This will be determined and confirmed with the contractor prior to construction.

4.7 SIGNIFICANT TREES (>65CM DBH)

- Criteria or characteristics of Significant trees are size, form, rarity of species, age, condition and contribution to the site e.g. shade, water balance, pollution control, aesthetics etc. For the purposes of this report trees greater than 65cm DBH are considered significant trees. This is based on the general age / maturity of all species.
- Throughout the study area there are **28 significant trees**. Of these trees, **10 trees** will be injured and require root pruning. There are no significant trees recommended for removal.

Table 4.7 – Significant Tree Table

BY-LAW	CATEGORY	TREE #	RECOMMENDATION	QUANTITY
RNFP	4	168, 250, 321, 322, 419	Preserve	5
		TG7a, TG8a	Retain	13
		111, 153, 175, 177, 199, 200, 226, 343, 372, 406	Minimum TPZ Reduction / Injury	10
Total				**28**

4.8 MEMORIAL TREES

- Memorial trees are trees that have been planted in memorial to someone and typically identified with a plaque at the base of the tree, identifying the person the tree was dedicated for;
- Impacts to and removal of memorial trees is to be avoided where possible;
- No memorial trees were found within the study limits.

4.9 TREE PRESERVATION

Trees that are well beyond construction limits / Area of Consideration, with no encroachment into the TPZ can be retained. These trees will not require tree protection hoarding. Trees within the Area of Consideration / limit of work or up to 6m beyond the this limit where construction limits will either encroach into the TPZ will be within close proximity of the TPZ and / or dripline, will require tree protection hoarding. Refer to Appendix A for the minimum

TPZ distance per tree. Table 4.8 details the minimum required TPZs. Table 4.9 below details trees by category (hoarding, no-hoarding or reduced).

Table 4.8 – Minimum Tree Protection Zone Determination

TRUNK DIAMETER	MINIMUM PROTECTION DISTANCES REQUIRED (CITY OWNED & PRIVATE TREES)	MIMIMUM PROTECTION DISTANCES REQUIRED. TREES IN AREAS PROTECTED BY THE RAVINE AND NATURAL FEATURE PROTECTION BY-LAW
		Whichever of the two is greater
<10cm	1.2m	The dripline or 1.2m
10 to 29cm	1.8m	The dripline or 3.6m
30 to 40cm	2.4m	The dripline or 4.8m
41 to 50cm	3.0m	The dripline or 6.0m
51 to 60cm	3.6m	The dripline or 7.2m
61 to 70cm	4.2m	The dripline or 8.4m
71 to 80cm	4.8m	The dripline or 9.6m
81 to 90cm	5.4m	The dripline or 10.8m
91 to 100cm	6.0m	The dripline or 12.0m
>100cm	6 cm protection for each 1cm of diameter	12cm protection for each 1cm of diameter or the dripline

*City of Toronto (July 2016). *Tree Protection Policy and Specifications for Construction Near Trees*. Toronto Parks, Forestry and Recreation, Urban Forestry.

Table 4.9 – Tree Preservation Table

CATEGORY	BY-LAW	TREE NUMBERS	MIN. TPZ	QUANTITY
Retain	RNFP	TG7a, 321, 322, 323, 324, 325, 326, 327, 328, 329, TG-6, TG8a	N/A	142
Total				**142**
Preserve	RNFP	TG-5, TG-7, TG-8	1.2	1009

		104, 106, 107, 108, 109, 110, 114, 115, 116, 117, 118, 120, 121, 122, 123, 125, 126, 127, 129, 130, 131, 132, 134, 135, 136, 137, 141, 148, 149, 151, 152, 154, 155, 157, 158, 159, 160, 161, 169, 174, 176, 192, 193, 194, 196, 197, 198, 201, 202, 204, 208, 210, 211, 213, 214, 215, 216, 225, 227, 228, 231, 232, 233, 234, 235, 236, 244, 245, 246, 248, 251, 252, 253, 254, 255, 256, 257, 258, 259, 265, 266, 267, 268, 269, 270, 271, 272, 275, 282, 284, 285, 286, 287, 288, 290, 292, 296, 298, 299, 300, 301, 302, 303, 304, 305, 306, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 334, 335, 340, 344, 345, 346, 347, 348, 349, 350, 353, 354, 355, 356, 359, 366, 368, 369, 371, 373, 374, 375, 377, 379, 380, 382, 383, 384, 385, 386, 387, 388, 404, 405, 408, 410, 420, 421, 422, 423, 425, 426, 438, 440, 441, 448, 449, 450, 453, 454, 455, 458, 459, 461, 462, 463, 464, 465, 467, 479, 481, 482, 483, 484, 485	3.6	183
		101, 103, 140, 156, 195, 209, 212, 230, 237, 238, 243, 273, 274, 283, 293, 297, 307, 320, 333, 351, 352, 403, 407, 409, 446, 447, 456, 480	4.8	28
		124, 150, 247, 277, 330, 370, 389, 390, 427, 457, 466	6	11
		119, 128, 133, 178, 191, 206, 294, 332, 378, 428, 460	7.2	11
		168, 177, 250, 295, 406	8.4	5
		111, 200, 419	9.6	3
		153, 175, 199, 343	10.8	4
		226, 372	12.0	2
Total				**±1256**

Tree Protection Notes:

There are **±1256 trees** detailed in Table 5.8 to be preserved in the study area. To protect these trees, the following fence type will be used: a silt fence will be installed along the path at the limit of disturbance with the following details:

- 1.8m high chain link fence, by Fast Fence with filter fabric up to 600mm height along fence.

Tree protective hoarding is to be:

- Installed prior to construction;
- Installed per the minimum TPZ distances detailed on Appendix A: Tree Preservation Tables and as shown on the Tree Preservation Plans;
- Installed as shown on plan TP-6 and per manufacturers recommendations.

Hoarding requirements for each By-law are detailed below. If trees fall under multiple By-law limits, the hoarding that offers greater protection is required.

City

- Continuous plastic snow fence, 1.22m (4') height wood frames on a 38 x 89mm (2" x 4") wood frame for all trees installed at the extent of TPZs. Hoarding to be secured to the ground and installed with screws.

RNFP / Private

- Continuous and solid plywood on 1.22m (4') height wood frames on a 38 x 89mm (2" x 4") wood frame for all trees installed at the extent of TPZs. Hoarding to be secured to the ground and installed with screws; or

- 1.8m high, Construction Fence, by Fast Fence Inc.

5 MITIGATION MEASURES

The survival rates for trees, which are in proximity to construction, are dependent on the resultant changes to a variety of environmental and anthropogenic factors. These construction activities bring about changes to a variety of environmental features such as the existing microclimate that includes winds, air temperature, soil moisture, amount of available sunlight, soil quality, and the level of the water table. Increased human activities may also damage the structure and/or physiological activities of the trees. The full effects of any damage that occurs may not appear until several years after its occurrence. Thus, it is essential that both vegetative clearing and preservation methods follow the guidelines below and those generally accepted as keeping with good horticultural and construction practices. The guidelines are subject to adjustments deemed reasonable and appropriate considering the proximity and number of trees involved and the site-specific servicing requirements.

5.1 GENERAL MITIGATION MEASURES

- Where mitigative measures are not feasible and cannot be implemented and excavation must be done mechanically, root and tree damage is to be minimized through light duty machinery i.e. bobcat, that can or excavate soil the same direction of the roots and not across and under the supervision of a qualified Arborist. Any roots exposed are too be pruned neatly and cleanly.
- Areas where excavation, grading and construction have compacted soil within a reduced TPZ, at the completion of construction, scarify soil to a depth of 100mm. Restore disturbed areas and apply the following methods below:
    - Water trees periodically during construction;
    - After construction apply a 75mm deep layer of mulch in a 2m radius around the tree trunks.
- The tree protection fencing will be maintained until all construction is completed, soils are stabilized, and all the equipment has been removed from the site.
- Prior to the commencement of tree removals, all limits of the locations of the tree preservation fencing must be clearly staked in the field, installed per approved plans, and approved by the contract administrator. All trees within the TPZ must be left standing. The tree removals must be coordinated in accordance and compliance with the Migratory Bird Convention Act (MBCA).
- All removals must be felled into the work area to ensure that damage does not occur to the trees within the TPZ.
- Upon completion of the tree removals, all felled trees are to be removed from the site, and all should be brush chipped. All brush, roots and wood debris must be shredded into pieces that are smaller than 25 mm in size to ensure that any insect pests that could be present within the wood are destroyed.
- The Canadian Food and Inspection Agency (CFIA) has issued a prohibition of movement where the Emerald Ash Borer (EAB) has been confirmed. EAB has been found within the City of Toronto and it is within the EAB Regulated Area. This directive pertains to the movement of regulated materials (including but not limited to ash wood or bark and ash wood chips or bark chips) from a Regulated Area. EAB regulated materials moving out of a Regulated Area must be accompanied by a Movement Certificate issued by the CFIA. Refer to the EAB Regulated Areas of Canada found on the CFIA website.
- Tree protection fencing must be constructed and installed as per the details on the approved Tree Preservation Plan. Upon installation of the fencing, the contractor will contact the contract administrator to review and approve the fencing and its location prior to commencement of any grading work.
- Areas within the TPZ are not to be used for any type of storage (e.g. storage of debris, construction material, surplus soils, and construction equipment). No trenching or tunneling for underground services shall be located within the TPZ or dripline of trees designated for preservation within or adjacent to the construction zone.
- No grade changes shall occur within TPZ unless approved as part of this report. If any grade changes may occur, either as a cut or fill situation, the consulting arborist must be notified prior to such work occurring to

ensure that all precautions to preserve the tree are made.

- Trees shall not have any rigging cables or hardware of any sort attached or wrapped around them, nor shall any contaminants be dumped within the protective areas. Further, no contaminants shall be dumped or flushed where they may meet the feeder roots of the trees.
- If it is necessary to remove additional limbs or portions of trees after construction has commenced to accommodate the construction, the consulting arborist is to be informed and under their direction the removal is to be executed carefully and in full accordance with arboricultural techniques by a Certified Arborist.

5.2 HYDRO-VACUUM EXCAVATION

Where excavation will occur within the softscape boulevard and TPZs will be reduced, air-spade excavation is recommended to minimize the damage to roots within a TPZ.

There are **no** locations where this measure is feasible or recommended to be applied. In the event that this becomes a necessary measure the following methods / steps are to be implemented prior to construction:

- At the limit of the TPZ and proposed grading or construction activity, hydro-vacuum excavate to a depth of 300mm along the length of the TPZ distance and at a width of 0.5m to expose roots;
- Ensure that the pressure used from the hydro-vacuum is such that it will not damage roots during excavation;
- Prune any roots in this area using good arboricultural practices per the guidelines in this report or under the supervision of a Certified Arborist;
- Backfill with excavated material and reinstate to original condition or better;
- Upon completion reinstate tree protection fencing to original location;
- Water trees periodically during construction;
- Restore disturbed areas with a layer of 75mm depth mulch in a 2m radius around the trees.
- It is recommended that this measure be applied while a Certified Arborist is present.

5.3 HORIZONTAL ROOT PROTECTION

In select locations where excavation will require the temporary removal of tree protection hoarding and within a TPZ, or close to a tree trunk, Horizontal Root Protection in conjunction with hydro-vacuum excavation is recommended to reduce the potential for compaction. The method will be determined during the site walk with Urban Forestry. Horizontal Root protection is to be installed per City of Toronto detail HTP-1.

There are **no** locations where this measure is feasible or recommended to be applied. In the event that this becomes a necessary measure the following methods / steps are to be implemented prior to construction:

- Place layer of non-woven geo-textile material on top of sod;
- Place 30cm depth wood chip mulch on top of geo-textile. Where required place 4x4 timbers to hold mulch in place;
- Place 4’x8’ plywood boards (minimum ¾” thick) length wise within the TPZ between the trunk and limit of excavation on top of mulch;
- Field fit if necessary. Board width and length may vary depending on available space
- Upon completion, remove boards and spread mulch in a 1m diameter around the trunk to a depth of 5cm and reinstate tree protection fencing to original location;
- Application to be reviewed and approved by the contract administrator prior to installation.

- Place horizontal root protection as per direction from contract administrator and consultant;
- Restore disturbed areas.

5.4 ROOT PRUNING PRACTICES

- All approved root pruning is to take place by or under the supervision of an arborist and in accordance good arboricultural practices.
- Pruned root ends shall be neatly and squarely trimmed, and the area shall be backfilled with clean native fill as soon as possible to prevent desiccation and promote root growth.
- The exposed roots shall not be allowed to dry out and an appropriate watering schedule shall be undertaken (e.g. water bi-weekly to field capacity between **June 1 and September 15** so that the roots maintain optimum soil moisture during construction and backfilling operations.
- Backfilling shall occur immediately and shall be with clean uncontaminated topsoil from an approved source. It is recommended that texture of backfill be coarser than existing soils, and that backfill comes into clean contact with existing soils (i.e. remove air pockets, sod, etc.).
- Pruning to be conducted by an ISA Certified Arborist.

5.5 BRANCH PRUNING PRACTICES

- All limbs damaged or broken during construction should be pruned cleanly, utilizing by-pass secateurs in accordance with approved horticultural practices. Should there be a potential risk of transfer of disease from infected to non-infected trees, tools must be disinfected after pruning each tree by dipping in methyl hydrate. This practice is particularly important during periods of tree stress and when pruning many members of the same genera, within which a disease could be spread quickly (i.e., Verticillium Wilt on Maples or Fireblight on genera of the Rosaceae family).
- All pruning cuts should be made to a growing point such as a bud, twig or branch, cut just outside the branch collar (the swollen area at the base of the branch that sometimes has a bark ridge), and perpendicular to the branch being pruned rather than as close to the trunk as possible. This minimizes the site of the wound. No stubs should be left. Poor cut location, poor cut angle and torn cuts are not acceptable.
- Extensive pruning is best completed before plants break dormancy. Pruning should be limited to the removal of no more than 25% of the total bud and leaf bearing branches. Pruning should include the careful removal of:
    - Deadwood;
    - branches that are weak, damaged, diseased and those which will interfere with construction activity;
    - secondary leaders of conifers;
    - trunk and root suckers;
    - trunk waterspouts;
    - tight V-shaped or weak crotches (included unions).
- Any branches that overhang the work area and require pruning are to be pruned using good arboricultural practices utilizing by-pass secateurs in accordance with approved horticultural practices and/or American National Standard (ANSI) A300 (Part 1) – 2008 Pruning.
- The Contractor must report immediately any damage to trees such as broken limbs, damage to roots, or wounds to the main trunk or stem systems so that the damage can be assessed immediately.
- Pruning to be conducted by an ISA Certified Arborist.

5.6 MIGRATORY BIRD PROTECTION

- To reduce the possibility of contravention of the MBCA, vegetation removal should be scheduled to occur outside of the overall bird nesting season of **April 1 to August 31**. Some birds may nest before and after this peak bird nesting season due to annual seasonal fluctuations. If a nest of a migratory bird is found within the construction area outside of this nesting period, it still receives protection.
    - In addition to the bird nesting season, tree removals should also occur outside of the active period for bats (e.g. up to the end of September), therefore considering the bird nesting and bat active seasons, clearing of trees is permitted between **October 1 to March 31.**
- If vegetation must be removed during the overall bird nesting season:
    - Nest and nesting activity searches will be conducted in areas of simple habitat by a qualified avian Biologist no more than 24 hours prior to vegetation removal. For examples of simple and complex habitat please refer to the Environment and Climate Change Canada's Guidelines to Reduce Risk to Migratory Birds (ECCC 2019). Nesting activity will be documented when it consists of confirmed breeding evidence, as defined by Ontario Breeding Bird Atlas criteria (Cadman 2009).
    - If an active nest or confirmed nesting activity of a migratory bird is observed in simple habitat, regardless of the timing window recommended, a species-specific buffer area following ECCC guidelines will be applied to the nest or confirmed nesting activity wherein no vegetation removal will be permitted until the young have fledged from the nest. The radius of the buffer will depend on species, level of disturbance and landscape context (ECCC 2019), which will be confirmed by a qualified avian Biologist, but will protect a minimum of 10 m around the nest or nesting activity.
    - The results of all nest searches will be documented at the end of each survey day in a Technical Memorandum, including information on the searcher, date, time conducted, weather conditions, habitat type, vegetation community type, observations of breeding activity, observations of confirmed nests including co-ordinates, and, if required, the buffer applied to identified breeding/nesting sites.
- If vegetation removal must occur in complex habitats within the above-listed timing windows and absolutely cannot be avoided, the same Best Management Practices (BMPs) such as nest and nesting activity searches described above will be undertaken.

5.7 CONSTRUCTION IMPLEMENTATION

- Prior to construction, a site meeting shall be held with the Contractor and Contract Administrator to review the clearing limits and confirm the installation location for the temporary tree protection fence.
- Tree protection barriers shall be clearly staked in the field and approved by Urban Forestry prior to construction to ensure correct positioning of fencing and avoid unnecessary disturbance.
- To avoid root zone impacts on trees to be retained, excavated material shall not be stored against the tree protection barrier.
- Inspection of the tree protection fencing, including photographic records and deficiency notes, shall be undertaken by a Certified Arborist and submitted to Urban Forestry prior to the commencement of construction, during construction and after construction is completed.
- 100-200mm of organic amendment and 500-750mm of wood chip mulch shall be applied to the area within the dripline of trees to be retained in parking islands within the subject property to retain moisture and promote survival. Upon completion of construction, all but 100mm of excess mulch shall be removed.
- All removals should be felled into the work area to ensure that damage does not occur to the trees within the tree preservation zone. Upon completion of the tree removals, all felled trees are to be removed from the site, and all brush chipped. All brush, roots and wood debris should be shredded into pieces that are smaller than 25 mm in size to ensure that any insect pests that could be present within the wood are destroyed.

6 TREE REMOVALS / INJURY / COMPENSATION

To facilitate the proposed works a minimal amount of tree removal will be required. Refer to the tables below that detail and removals.

6.1 COMPENSATION NOTES

- Replacement trees are based on the following criteria outlined in Table 7.1
- The ratios and quantities detailed in the table below are consistent with the Tree By-laws – Compensation Planting Ratios, dated: July 29, 2019.

Table 6.1 – Removal and Compensation Criteria Table

By-law	Removal Construction (>30cm DBH)	Removal Construction (>5cm DBH)	Removal Construction (<10cm DBH)	Removal Construction (>10cm DBH)	Removal Non-Construction / Trees in poor condition	Injury	Compensation for Injury	Compensation for Removal	Compensation for Hedge removal
City	N/A	N/A	3:1	3:1	3:1	N/A	No	Yes	1 tree / 5m of hedge
Private	3:1	N/A	N/A	N/A	3:1	N/A	No	Yes	1 tree / 5m of hedge
RNFP	N/A	N/A	1:1	3:1	1:1	1:1	Yes	Yes	1 tree /5m of hedge
Park	N/A	3:1	N/A	N/A	1:1	N/A	No	Yes	N/A

<u>Area Based Compensation</u>

- Applied for tree removal areas where required within the Tree Protection & Plan Review (TPPR) limits for trees and shrubs <10cm DBH:
  - Area based compensation is applied to tree groupings that consist of small DBH trees (e.g. <10cm DBH);
  - Compensation for trees: the total area of groupings that will be removed (converted to hectares) x 800 = quantity of trees required for compensation;
  - Compensation for shrubs: total area of groupings that will be removed (converted to hectares) x 5700 = quantity of shrubs required for compensation.

Table 6.2 – Removal and Compensation Table

By-law	Removals Construction (>10cm dbh)	Removals Construction (poor condition)	Removals Construction (<10cm dbh)	Injury	Exempt from Compensation	Included in Permits	Replacement Ratio	Compensation Trees
RNFP	1	-	-	-	-	1	3:1	3
	-	-	19	-	10	9	1:1	9
	-	-	-	86	3	83	1:1	83
Totals	**1**	**-**	**19**	**86**	**13**	**93**	**-**	**95**

6.2 EXEMPTIONS / REDUCTIONS FROM COMPENSATION

Six trees have been excluded from the above removal and compensation table. Exemptions to compensation requirements include:

- Urban Forestry Policy does not require replanting(s) on injuries for City and Private trees;
- RNFP policy does not require compensation / replanting(s) for invasive species e.g. Buckthorn (*Rhamnus cathartica*);
- Tree sizes that do not meet the minimum By-law requirement e.g. Trees on Private property <30cm DBH;
- Dead trees or Ash trees infested with EAB;
- Shrubs e.g. Staghorn Sumac (*Rhus typhina*);
- Reduced compensation for trees in poor condition from 3:1 to 1:1.

Table 6.3 – Exemption / Compensation Reduction Table

By-law	Tree ID		Reason	Quantity
	TG-1 (10 trees)	Remove	Staghorn Sumac	10
	254, 335, 340	Injury	Staghorn Sumac	3
Total				**13**

6.3 CITY AND TRCA COMPENSATION NOTES

- Total replacement trees equal **95 trees;**
- These replacement trees are recommended to be planted where possible within areas that were disturbed during construction and staging. If adequate space is not available for replacement planting in these areas, then planting can occur within areas adjacent to disturbed limits where vegetation cover is sparse;
- If these areas still do not provide enough space for restoration planting than an alternate location will be agreed upon by Urban Forestry or cash in lieu could be considered. Replacement trees to be native species common to Toronto.
- The method of compensation (planting or cash-in-lieu) will be determined through coordination with RNFP and the Toronto Zoo.

7 CONCLUSION

Trees within the study area are primarily deciduous with a mix of young, semi-mature, and mature trees. Almost all trees are naturalized as a Sugar Maple stand which the existing pathway runs through. The study limits are within RNFP By-law limits but outside of TRCA regulated limits.

Impacts to trees in proximity to the proposed boardwalk will be minimal. Works will require the removal of 1 tree over 10cm DBH and 18 trees under 10cm DBH. Since many trees are semi-mature to mature and have increased TPZs due to the RNFP By-law, injury for 86 trees is expected for those next to the proposed works. Given the implementation of the mitigation measures enclosed in this report, including protection of trees beyond the construction limits, significant impacts to trees to be preserved are not anticipated.

Vegetation has been recommended to be preserved beyond the construction limits. Proposed mitigation measures will minimize the detrimental effects from construction activities and will help to ensure that good tree health will continue. Care should be taken to protect trees to be retained with tree protection fencing as illustrated on the attached plans. Tree protection fencing shall be erected prior to the start of the proposed works and maintained for the duration of the work. Priority should be given to protecting vegetation that will not be impacted by grading and construction as this vegetation along property lines provides a visual barrier, shade, noise and wind buffer between properties.

8 PRESERVATION AND PROTECTION RECOMMENDATIONS

The survival rates for trees, which are in proximity to construction, are dependent on the resultant changes to a variety of environmental and anthropogenic factors. These construction activities bring about changes to a variety of environmental features such as the existing microclimate that includes winds, air temperature, soil moisture, amount of available sunlight, soil quality, and the level of the water table. Increased human activities may also damage the structure and/or physiological activities of the trees. The full effects of the damage may not appear until several years after its occurrence. Thus, it is essential that both vegetative clearing and preservation methods follow the guidelines below. The guidelines are organized into those requirements set out by the City of Toronto's Ravine and Natural Feature Protection By-law and applicable provincial regulations, and additional recommendations, that are in keeping with good horticultural and construction practices.

8.1 BY-LAWS AND PROVINCIAL REGULATIONS

8.1.1 PRIVATE, CITY, PARK AND RNFP BY-LAWS

- Prior to the commencement of construction, tree protection barriers shall be installed in accordance with the City of Toronto Tree Protection Policy and Specifications for Construction Near Trees, and in accordance with the approved tree protection plans and arborist reports and must be approved by Urban Forestry.
- Tree protection barriers shall be maintained in good condition and shall not be altered, moved or removed unless and until authorized by Urban Forestry.
- The owner shall notify all contractors and other parties working on site of approved tree protection plans and arborists reports and shall ensure that all contractors and other parties adhere strictly to the requirements of the tree protection plan.
- The 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 until such time as the approved tree injury has been completed in accordance with the permit.
- Should a permit to injure or remove trees be issued, the work shall be carried out by or under the supervision of an arborist.
- Prior to the commencement of any excavation, roots approved for pruning by Urban Forestry must first be exposed using pneumatic (air) excavation, by hand digging or by using a low pressure hydraulic (water) excavation. This root-sensitive excavation must be undertaken by an experienced operator under the supervision of a qualified and experienced arborist. The water pressure for hydraulic excavation must be low enough that root bark is not damaged or removed. This will allow a proper pruning to cut and minimize tearing of the roots. The arborist retained to carry out root pruning must contact Urban Forestry no less than three (3) working days prior to conducting any specified work.
- The following activities are prohibited within a TPZ:
    - demolition, construction, replacement or alteration of permanent or temporary buildings, structures or pathways of any kind;
    - installation of large stones or boulders;
    - altering grade by adding or removing soil or fill, excavating, trenching, topsoil or fill scraping, compacting soil or fill, dumping or disturbance of any kind;
    - storage of construction materials, equipment, wood, branches, leaves, soil or fill, construction waste or debris of any sort;

- application, discharge or disposal of any substance or chemical that may adversely affect the health of a tree;
- causing or allowing water or discharge, to flow over slopes or through natural areas;
- access, parking or movement of vehicles, equipment or pedestrians;
- cutting, breaking, tearing, crushing, exposing or stripping tree's roots, trunk and branches;
- nailing or stapling into a tree, including attachment of fences, electrical wires or signs;
- stringing of cables or installing lights on trees;
- soil remediation, removal of contaminated fill;
- excavating for directional or micro-tunneling and boring entering shafts.

- Every precaution must be taken to prevent damage to trees and root systems from damage, compaction and contamination resulting from the construction to the satisfaction of Urban Forestry. The Contractor must report immediately to Urban Forestry any accidental/unforeseen damage to trees such as broken limbs and damage to roots so that the damage can be assessed and mitigated as deemed appropriate by Urban Forestry.
- Ash materials may be removed from the site and disposed of within the 'Regulated Area' (see CFIA website)

Urban Forestry, Ravine and Natural Feature Protection

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9 LITERATURE CITED

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10 LIMITATIONS OF ASSESSMENT

- It is our policy to attach the following clause regarding limitations. We do this to ensure that the client is aware of what is technically and professionally realistic in retaining trees.
- The assessment of the trees presented in this report has been made using accepted arboricultural techniques. These include a visual examination of all the above ground parts of the tree for structural defects, scars, external indications of decay such as fungal fruiting bodies, evidence of attack by insects, discoloured foliage, the condition of any visible root structures, the degree and direction of lean (if any), the general condition of the trees and the surrounding site, and the proximity of property and people. Except where specifically noted, the trees were not cored, probed or climbed and there was no detailed inspection of the root crowns involving excavations.
- Notwithstanding the recommendations and conclusions made in this report, it must be recognized that trees are living organisms, and their health and vigour constantly change over time. They are not immune to changes in site conditions or seasonal variations in the weather conditions.
- While reasonable efforts have been made to ensure that the subject trees are healthy, no guarantees are offered, or implied, that these trees or any of their parts will remain standing. It is both professionally and practically impossible to predict with absolute certainty the behaviour of any single tree or its component parts under all circumstances. Inevitably, a standing tree will always pose some level of risk. Most trees have the potential for failure under adverse weather conditions, and the risk can only be eliminated if the tree is removed.

11 DEFINITIONS

The following are the definitions of the assessment categories utilized in our tree assessment:

Table 11.1 – Definitions

ACRONYM / DEFINITION	DESCRIPTION
Tree Number	This number refers to the number on the on the tree tag or alpha-numeric, alphabetical or tree grouping label listed in Table 1: Tree Inventory and Preservation Tables and labelled on the Tree Preservation Plans (e.g. P29, 1216, A or TG-1).
Tree Grouping	A tree grouping is more than one (1) tree located within proximity of other trees sometimes with no separation between the canopies.
DBH	This refers to diameter (in centimetres) at breast height and is measured at 1.4 m above the ground for each tree.
Tree Protection Zone (TPZ)	This is the area around a tree that is to be protected through tree protection measures e.g. hoarding. No construction activities are to be undertaken within this zone.
Suppressed	Refers to trees that have their crowns completely overtopped by adjacent trees and received limited to very limited sunlight.
Co-dominant Stem	Stems equal in size and relative importance that make up the overall crown of the tree.
Union	Junction point where two or more stems meet. A 'U' shaped junction indicates a well-formed union. A 'V' shaped junction indicates a weakly formed union, whereas stems grow and increase in girth, weak bark called 'included bark' forms within the junction and stems start to push apart causing vertical cracks and loss of structure.
Compartmentalization	This is a naturally occurring process by which chemical and physical barriers are synthesized to prevent the spread of decay and disease in trees.
Irregular Tree Form	Refers to branches and stems that have formed irregularly often resulting in contorted growth, weak attachments, weakly formed unions and codominant stems. The irregular growth of scaffold (lateral) branches typically leads to damage to other scaffold branches.
Imminently Hazardous Tree	Refers to a destabilized or structurally compromised tree that is in imminent danger of causing damage or injury to life or property.
Injure and Injury	Described as any act that will harm a tree's health, including failure to protect in accordance with standards set by the Cities tree protection / preservation policy.
Root Zone	Refers to the subterranean area around the tree measured from the trunk to up to 2-3m beyond the dripline.
Critical Root Zone	The minimum area of the root system necessary to maintain vitality or stability of the tree. Typically, this area extends to the drip line of the tree. The severing of one root can cause approximately 5-20% loss of the root system. A reduction of this area by greater than 30% can pose stability concerns for the tree.

Table 11.2 – Tree Assessment Criteria

DEFINITION	DESCRIPTION
Trunk Integrity (T.I.)	This is an assessment of the trunk for any defects or weaknesses. It is measured on a scale of poor, fair, good.
Canopy Structure (C.S.)	This is an assessment of the scaffold branches, unions and the canopy of the tree. This is measured on a scale of poor, fair, good.
Canopy Vigour (C.V.)	This is an assessment of the health of the tree and assesses the amount of deadwood and live growth in the crown as compared to a 100% healthy tree. The size, colour and amount of foliage are also considered in this category. This is measured on a scale of poor, fair, good.
Good	Tree displays less than 15% deficiency/defect within the given tree assessment criteria (TI, CS, CV).
Fair	Tree displays 15%-40% deficiency/defect within the given tree assessment criteria (TI, CS, CV).
Poor	Tree displays greater than 40% deficiency/defect within the given tree assessment criteria (TI, CS, CV).

APPENDIX

A TREE PRESERVATION TABLES

Project: Toronto Zoo | Field Work Completed By: Nicole Bitter & Carly Van Daele (ON-2739A) | **Date:** 2022-04-26 and 27 | Weather: 6 degrees, overcast

Tree Condition Assessment Criteria:
TI - Trunk Integrity: assessment of the trunk for any defects or weaknesses.
CS - Canopy Structure: assessment of scaffold branches, unions and canopy
CV - Canopy vigour: assessment of the health of the tree, based on the % of deadwood, disease, pests & live crown

Tree Condition:
Good (G): tree displays less than 15% deficiency/defect within the given tree assessment criteria (TI,CS,CV)
Fair (F): tree displays 15-40% deficiency/defect within the given tree assessment criteria (TI,CS,CV)
Poor (P): tree displays greater than 40% deficiency/defect within the given tree assessment criteria (TI,CS,CV)

Recommendation Legend:
Trees to be Retained
Trees to be Preserved
Minimum TPZ Reduction / Injury
Trees to be Pruned
Trees to be Removed - Proposed works
Trees to be Removed - Health (poor / dead)

Tree #	Botanical Name	Common Name	Qty	DBH (cm)	Tree Condition			Dripline Radius (m)	Tree Location / Applicable By-law	City of Toronto Category	Tree Protection Zone	Recommendation	Comments / Health	Comments - Removal / Preservation
					TI	CS	CV							
East Side of Trail														
101	Acer platanoides	Norway Maple	1	37	G	G	G	3.5	Private / RNFP	4	4.8	Preserve	Exposed roots	
103	Acer saccharum	Sugar Maple	1	33	G	G	G	3	Private / RNFP	4	4.8	Preserve		
104	Acer saccharum	Sugar Maple	1	27	G	G	G	3	Private / RNFP	4	3.6	Preserve		
106	Ostrya virginiana	Ironwood	1	14	G	G	G	1	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		boardwalk
107	Ostrya virginiana	Ironwood	1	13	G	G	G	1	Private / RNFP	4	3.6	Preserve		
108	Ostrya virginiana	Ironwood	1	15	G	G	G	1	Private / RNFP	4	3.6	Preserve		
109	Ostrya virginiana	Ironwood	1	17	G	G	G	1.5	Private / RNFP	4	3.6	Preserve		
110	Ostrya virginiana	Ironwood	1	11	G	G	G	1	Private / RNFP	4	3.6	Preserve		
111	Acer saccharum	Sugar Maple	1	75	G	F	G	6	Private / RNFP	4	9.6	Minimum TPZ Reduction / Injury	Galls, lean	boardwalk, asphalt removal
114	Acer saccharum	Sugar Maple	1	21	G	G	G	2	Private / RNFP	4	3.6	Preserve		
115	Ostrya virginiana	Ironwood	1	11	G	F	G	1	Private / RNFP	4	3.6	Preserve		
116	Ostrya virginiana	Ironwood	1	10	G	G	G	0.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
117	Ostrya virginiana	Ironwood	1	12	G	G	G	1	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
118	Acer saccharum	Sugar Maple	1	15	G	G	G	1.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
119	Acer saccharum	Sugar Maple	1	55	G	G	G	4	Private / RNFP	4	7.2	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
120	Ostrya virginiana	Ironwood	1	12	G	G	G	1	Private / RNFP	4	3.6	Preserve		
121	Ostrya virginiana	Ironwood	1	15	F	P	P	0.5	Private / RNFP	4	3.6	Preserve		
122	Ostrya virginiana	Ironwood	1	16	G	G	G	2	Private / RNFP	4	3.6	Preserve		
123	Ostrya virginiana	Ironwood	1	21	G	G	G	2	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
124	Acer saccharum	Sugar Maple	1	43, 14	G	G	G	4.5	Private / RNFP	4	6.0	Minimum TPZ Reduction / Injury		asphalt removal
125	Betula papyrifera	Paper Birch	1	27	G	G	G	3	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		asphalt removal
126	Acer saccharum	Sugar Maple	1	21	G	G	G	2	Private / RNFP	4	3.6	Preserve		
127	Acer saccharum	Sugar Maple	1	20	G	F	G	2	Private / RNFP	4	3.6	Preserve		
128	Acer saccharum	Sugar Maple	1	53	G	G	G	5	Private / RNFP	4	7.2	Preserve		
129	Ostrya virginiana	Ironwood	1	25	G	G	G	3	Private / RNFP	4	3.6	Preserve		
130	Acer saccharum	Sugar Maple	1	16	G	G	G	2	Private / RNFP	4	3.6	Preserve		
131	Acer saccharum	Sugar Maple	1	28	G	G	G	3.5	Private / RNFP	4	3.6	Preserve		
132	Acer saccharum	Sugar Maple	1	20	G	G	G	3	Private / RNFP	4	3.6	Preserve		
133	Acer saccharum	Sugar Maple	1	52	G	G	G	5	Private / RNFP	4	7.2	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
134	Acer saccharum	Sugar Maple	1	11	G	G	G	1.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
135	Acer saccharum	Sugar Maple	1	22	G	G	G	3	Private / RNFP	4	3.6	Preserve		
136	Acer saccharum	Sugar Maple	1	13	G	G	G	1.5	Private / RNFP	4	3.6	Preserve		

Project: Toronto Zoo | Field Work Completed By: Nicole Bitter & Carly Van Daele (ON-2739A) | **Date:** 2022-04-26 and 27 | Weather: 6 degrees, overcast

Tree Condition Assessment Criteria:
TI - Trunk Integrity: assessment of the trunk for any defects or weaknesses.
CS - Canopy Structure: assessment of scaffold branches, unions and canopy
CV - Canopy vigour: assessment of the health of the tree, based on the % of deadwood, disease, pests & live crown

Tree Condition:
Good (G): tree displays less than 15% deficiency/defect within the given tree assessment criteria (TI,CS,CV)
Fair (F): tree displays 15-40% deficiency/defect within the given tree assessment criteria (TI,CS,CV)
Poor (P): tree displays greater than 40% deficiency/defect within the given tree assessment criteria (TI,CS,CV)

Recommendation Legend:
Trees to be Retained
Trees to be Preserved
Minimum TPZ Reduction / Injury
Trees to be Pruned
Trees to be Removed - Proposed works
Trees to be Removed - Health (poor / dead)

Tree #	Botanical Name	Common Name	Qty	DBH (cm)	Tree Condition			Dripline Radius (m)	Tree Location / Applicable By-law	City of Toronto Category	Tree Protection Zone	Recommendation	Comments / Health	Comments - Removal / Preservation
					TI	CS	CV							
137	Acer saccharum	Sugar Maple	1	15	F	G	G	2	Private / RNFP	4	3.6	Preserve	Shoots from trunk	
140	Acer saccharum	Sugar Maple	1	31	G	G	G	4.5	Private / RNFP	4	4.8	Preserve		
141	Acer saccharum	Sugar Maple	1	12	G	G	G	1.5	Private / RNFP	4	3.6	Preserve		
148	Acer saccharum	Sugar Maple	1	12	G	G	G	1.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		boardwalk lookout
149	Acer saccharum	Sugar Maple	1	16	G	G	G	2.5	Private / RNFP	4	3.6	Preserve		
150	Ostrya virginiana	Ironwood	1	43	P	P	P	5	Private / RNFP	4	6.0	Minimum TPZ reduction / Injury	Several galls on trunk, epicormic growth	boardwalk, asphalt removal
151	Acer saccharum	Sugar Maple	1	12	G	G	G	1.5	Private / RNFP	4	3.6	Preserve		
152	Acer saccharum	Sugar Maple	1	16	G	G	G	2	Private / RNFP	4	3.6	Preserve		
153	Acer saccharum	Sugar Maple	1	80, 18	G	G	G	7.5	Private / RNFP	4	10.8	Minimum TPZ Reduction / Injury	lean	ashpalt removal
154	Acer saccharum	Sugar Maple	1	15	G	G	G	2	Private / RNFP	4	3.6	Preserve		
155	Acer saccharum	Sugar Maple	1	18	G	G	G	2.5	Private / RNFP	4	3.6	Preserve		
156	Acer saccharum	Sugar Maple	1	30	G	G	G	4	Private / RNFP	4	4.8	Minimum TPZ Reduction / Injury		asphalt removal
157	Fagus grandifolia	American Beech	1	17	F	G	G	2.5	Private / RNFP	4	3.6	Preserve	Beach bark disease (BBD)	
158	Acer saccharum	Sugar Maple	1	13	G	G	G	1.5	Private / RNFP	4	3.6	Preserve		
159	Fagus grandifolia	American Beech	1	11	F	G	G	1	Private / RNFP	4	3.6	Preserve	BBD	
160	Acer saccharum	Sugar Maple	1	16	G	F/P	G	2	Private / RNFP	4	3.6	Preserve		
161	Acer saccharum	Sugar Maple	1	20	G	G	G	2.5	Private / RNFP	4	3.6	Preserve		
168	Acer saccharum	Sugar Maple	1	70	G	G	G	6.5	Private / RNFP	4	8.4	Preserve		
169	Acer saccharum	Sugar Maple	1	14	G	G	G	1.5	Private / RNFP	4	3.6	Preserve		
174	Acer saccharum	Sugar Maple	1	16	G	G	G	2	Private / RNFP	4	3.6	Preserve		
175	Acer saccharum	Sugar Maple	1	86	G	G	G	7.5	Private / RNFP	4	10.8	Minimum TPZ Reduction / Injury		boardwalk lookout
176	Acer saccharum	Sugar Maple	1	26	G	G	G	3	Private / RNFP	4	3.6	Preserve		
177	Acer saccharum	Sugar Maple	1	70, 12	G	G	G	6.5	Private / RNFP	4	8.4	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
178	Acer saccharum	Sugar Maple	1	52	G	G	G	6	Private / RNFP	4	7.2	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
191	Acer saccharum	Sugar Maple	1	52	G	G	G	6	Private / RNFP	4	7.2	Minimum TPZ Reduction / Injury		boardwalk / lookout
192	Acer saccharum	Sugar Maple	1	27	G	G	G	3	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		boardwalk / lookout
193	Acer saccharum	Sugar Maple	1	14	G	P	G	1.5	Private / RNFP	4	3.6	Preserve	Heavy lean	
194	Acer saccharum	Sugar Maple	1	15	G	G	G	2	Private / RNFP	4	3.6	Preserve		
195	Acer saccharum	Sugar Maple	1	33	G	G	G	3.5	Private / RNFP	4	4.8	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
196	Acer saccharum	Sugar Maple	1	19	G	G	G	2.5	Private / RNFP	4	3.6	Preserve		
197	Acer saccharum	Sugar Maple	1	22	G	G	G	2.5	Private / RNFP	4	3.6	Preserve		
198	Acer saccharum	Sugar Maple	1	13	G	G	G	1.5	Private / RNFP	4	3.6	Preserve		
199	Quercus rubra	Red Oak	1	85	G	G	G	7.5	Private / RNFP	4	10.8	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal

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Trees to be Preserved
Minimum TPZ Reduction / Injury
Trees to be Pruned
Trees to be Removed - Proposed works
Trees to be Removed - Health (poor / dead)

Tree #	Botanical Name	Common Name	Qty	DBH (cm)	Tree Condition			Dripline Radius (m)	Tree Location / Applicable By-law	City of Toronto Category	Tree Protection Zone	Recommendation	Comments / Health	Comments - Removal / Preservation
					TI	CS	CV							
200	Quercus rubra	Red Oak	1	75	G	F	G	7	Private / RNFP	4	9.6	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
201	Acer saccharum	Sugar Maple	1	26	G	G	G	3	Private / RNFP	4	3.6	Preserve		
202	Acer saccharum	Sugar Maple	1	12	G	G	G	1.5	Private / RNFP	4	3.6	Preserve		
204	Acer saccharum	Sugar Maple	1	13	G	G	G	1.5	Private / RNFP	4	3.6	Preserve		
206	Acer saccharum	Sugar Maple	1	60	G	G	G	6.5	Private / RNFP	4	7.2	Preserve		
208	Acer saccharum	Sugar Maple	1	12	P	G	G	1.5	Private / RNFP	4	3.6	Preserve		
209	Acer saccharum	Sugar Maple	1	30	G	G	G	3.5	Private / RNFP	4	4.8	Preserve		
210	Acer saccharum	Sugar Maple	1	19	G	F	G	2.5	Private / RNFP	4	3.6	Preserve		
211	Acer saccharum	Sugar Maple	1	13	G	F	G	1.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
212	Fagus grandifolia	American Beech	1	34	F-P	F	G	3.5	Private / RNFP	4	4.8	Minimum TPZ Reduction / Injury	BBD, trunk carved	boardwalk, asphalt removal
213	Acer saccharum	Sugar Maple	1	13	G	G	G	1.5	Private / RNFP	4	3.6	Preserve		
214	Acer saccharum	Sugar Maple	1	14	G	G	G	1.5	Private / RNFP	4	3.6	Preserve		
215	Acer saccharum	Sugar Maple	1	11	G	G	G	1	Private / RNFP	4	3.6	Preserve		
216	Acer saccharum	Sugar Maple	1	12	P	F	F	1.5	Private / RNFP	4	3.6	Preserve	Galls	
225	Acer saccharum	Sugar Maple	1	25	G	F	G	3	Private / RNFP	4	3.6	Preserve	Unbalanced canopy	
226	Quercus rubra	Red Oak	1	100	F	G	G	7.5	Private / RNFP	4	12.0	Minimum TPZ Reduction / Injury	Dead and broken stem, wound	boardwalk
227	Acer saccharum	Sugar Maple	1	27	G	G	G	3	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		boardwalk
228	Acer saccharum	Sugar Maple	1	10	G	G	G	1	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		boardwalk
TG-4	Acer saccharum	Sugar Maple	2	2	G	G	G	0.5	Private / RNFP	4	1.2	Remove		boardwalk
TG-4	Acer saccharum	Sugar Maple	1	7	G	G	G	0.5	Private / RNFP	4	1.2	Remove		boardwalk
229	Acer saccharum	Sugar Maple	1	13	G	F	G	1.5	Private / RNFP	4	3.6	Remove	Unbalanced canopy - leaning towards path	boardwalk
230	Acer saccharum	Sugar Maple	1	34	G	F	G	3.5	Private / RNFP	4	4.8	Minimum TPZ Reduction / Injury	Unbalanced canopy - leaning towards path	boardwalk, asphalt removal
231	Acer saccharum	Sugar Maple	1	23	G	F	G	2.5	Private / RNFP	4	3.6	Preserve	Unbalanced canopy - leaning towards path	
232	Acer saccharum	Sugar Maple	1	10	G	F	G	1	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury	Unbalanced canopy - leaning towards path	asphalt removal
233	Fraxinus sp.	Ash sp.	1	11	F	F	G	1	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury	Unbalanced canopy - leaning towards path, lean, EAB	boardwalk, asphalt removal
234	Tilia americana	Basswood	1	21	G	G	G	2.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
235	Ulmus americana	American Elm	1	13	G	G	G	1.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
236	Quercus rubra	Red Oak	1	28	G	F	G	3.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
237	Tilia americana	Basswood	1	35	G	G	G	4	Private / RNFP	4	4.8	Minimum TPZ Reduction / Injury		boardwalk
238	Tilia americana	Basswood	1	33, 11	G	G	G	4	Private / RNFP	4	4.8	Minimum TPZ Reduction / Injury		boardwalk
TG-3	Fraxinus sp.	Ash sp.	1	5	G	G	G	0.5	Private / RNFP	4	1.2	Remove		boardwalk
TG-3	Acer saccharum	Sugar Maple	1	9	G	G	G	1	Private / RNFP	4	1.2	Remove		boardwalk
TG-3	Tilia americana	Basswood	1	5	G	G	G	0.5	Private / RNFP	4	1.2	Remove		boardwalk

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Minimum TPZ Reduction / Injury
Trees to be Pruned
Trees to be Removed - Proposed works
Trees to be Removed - Health (poor / dead)

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					TI	CS	CV							
243	Tilia americana	Basswood	1	35	G	G	G	4	Private / RNFP	4	4.8	Minimum TPZ Reduction / Injury		boardwalk
244	Tilia americana	Basswood	1	21	G	G	G	2.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
245	Prunus serotina	Black Cherry	1	13	G	G	G	1.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury	Lean, black knot	boardwalk, asphalt removal
246	Ulmus americana	American Elm	1	25, 26	G	G	G	3	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury	Exposed roots, close to path	asphalt removal
247	Tilia americana	Basswood	1	47	G	G	G	5	Private / RNFP	4	6.0	Preserve		
248	Acer saccharum	Sugar Maple	1	16	G	G	G	2	Private / RNFP	4	3.6	Preserve		
250	Ostrya virginiana	Ironwood	1	70	G	G	G	6.5	Private / RNFP	4	8.4	Preserve		
251	Ostrya virginiana	Ironwood	1	18	G	G	G	2.5	Private / RNFP	4	3.6	Preserve		
252	Ostrya virginiana	Ironwood	1	20	G	G	G	2.5	Private / RNFP	4	3.6	Preserve		
253	Acer saccharum	Sugar Maple	1	20	G	G	G	2.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		asphalt removal
254	Rhus typhina	Staghorn Sumac	1	14	G	G	G	1.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		asphalt removal
255	Acer saccharum	Sugar Maple	1	12	G	G	G	1.5	Private / RNFP	4	3.6	Preserve		
256	Prunus serotina	Black Cherry	1	10	G	G	G	1	Private / RNFP	4	3.6	Preserve		
257	Fagus grandifolia	American Beech	1	20	F	G	G	2.5	Private / RNFP	4	3.6	Preserve	BBD	
258	Fagus grandifolia	American Beech	1	22	F	G	G	2.5	Private / RNFP	4	3.6	Preserve	BBD	
259	Fagus grandifolia	American Beech	1	19	F	G	G	2.5	Private / RNFP	4	3.6	Preserve	BBD	
265	Fagus grandifolia	American Beech	1	21	F	G	G	2.5	Private / RNFP	4	3.6	Preserve	BBD. Lean	
266	Fagus grandifolia	American Beech	1	28	F	G	G	3.5	Private / RNFP	4	3.6	Preserve	BBD	
267	Fagus grandifolia	American Beech	1	13	F	G	G	1.5	Private / RNFP	4	3.6	Preserve	BBD	
268	Fagus grandifolia	American Beech	1	20	F	G	G	2.5	Private / RNFP	4	3.6	Preserve	BBD	
269	Fagus grandifolia	American Beech	1	20	F	G	G	2.5	Private / RNFP	4	3.6	Preserve	BBD	
270	Fagus grandifolia	American Beech	1	5, 18	F	G	F	2	Private / RNFP	4	3.6	Preserve	BBD, dead branches	
271	Fagus grandifolia	American Beech	1	13	F	G	G	1.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury	BBD	asphalt removal
272	Fagus grandifolia	American Beech	1	28	F	G	G	3.5	Private / RNFP	4	3.6	Preserve	BBD, lean	
273	Fagus grandifolia	American Beech	1	34	F	G	G	3.5	Private / RNFP	4	4.8	Preserve	BBD	
274	Fagus grandifolia	American Beech	1	34	F	G	G	3.5	Private / RNFP	4	4.8	Preserve	BBD	
275	Fagus grandifolia	American Beech	1	16	F	G	G	2	Private / RNFP	4	3.6	Preserve	BBD	
277	Quercus rubra	Red Oak	1	43	G	G	G	4.5	Private / RNFP	4	6.0	Preserve		
282	Acer saccharum	Sugar Maple	1	27	G	F	G	3	Private / RNFP	4	3.6	Preserve	leaning into canopy of 281	
283	Tilia americana	Basswood	1	33	G	G	G	3.5	Private / RNFP	4	4.8	Preserve		
284	Acer saccharum	Sugar Maple	1	28	G	F	G	3.5	Private / RNFP	4	3.6	Preserve	Unbalanced canopy	
285	Acer saccharum	Sugar Maple	1	16	G	G	G	2	Private / RNFP	4	3.6	Preserve		
286	Acer saccharum	Sugar Maple	1	11	G	G	G	1	Private / RNFP	4	3.6	Preserve		

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					TI	CS	CV							
287	Tilia americana	Basswood	1	16	G	G	G	2	Private / RNFP	4	3.6	Preserve		
288	Rhus typhina	Staghorn Sumac	1	17	G	G	G	2	Private / RNFP	4	3.6	Preserve		
290	Betula papyrifera	Paper Birch	1	19	G	G	G	2.5	Private / RNFP	4	3.6	Preserve		
292	Acer saccharum	Sugar Maple	1	11	G	G	G	1	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		asphalt removal
TG-7a	Sugar Maple	Sugar Maple	1	33	G	G	G	3	Private / RNFP	4	4.8	Retain	Included bark	102
TG-7a	Paper Birch	Paper Birch	1	10	F	G	G	0.5	Private / RNFP	4	3.6	Retain	lean	105
TG-7a	Black Cherry	Black Cherry	1	25	G	F	G	3	Private / RNFP	4	3.6	Retain	lean	112
TG-7a	Sugar Maple	Sugar Maple	1	11	G	G	G	1	Private / RNFP	4	3.6	Retain		113
TG-7a	Sugar Maple	Sugar Maple	1	31	G	G	G	4.5	Private / RNFP	4	4.8	Retain		138
TG-7a	Sugar Maple	Sugar Maple	1	11	G	G	G	1	Private / RNFP	4	3.6	Retain		139
TG-7a	Sugar Maple	Sugar Maple	1	11	G	G	G	1	Private / RNFP	4	3.6	Retain		142
TG-7a	Sugar Maple	Sugar Maple	1	65	G	G	G	7	Private / RNFP	4	8.4	Retain		143
TG-7a	Sugar Maple	Sugar Maple	1	66, 30	G	G	G	7	Private / RNFP	4	8.4	Retain		144
TG-7a	Sugar Maple	Sugar Maple	1	50	G	G	G	6	Private / RNFP	4	6.0	Retain		145
TG-7a	Sugar Maple	Sugar Maple	1	25	G	G	G	3	Private / RNFP	4	3.6	Retain		146
TG-7a	Sugar Maple	Sugar Maple	1	70	F	F/P	G	7	Private / RNFP	4	8.4	Retain	Cavity, canopy growth to one side	147
TG-7a	Sugar Maple	Sugar Maple	1	53	G	G	G	6	Private / RNFP	4	7.2	Retain		162
TG-7a	Sugar Maple	Sugar Maple	1	13	G	G	G	1.5	Private / RNFP	4	3.6	Retain		163
TG-7a	Sugar Maple	Sugar Maple	1	25	G	G	G	3	Private / RNFP	4	3.6	Retain		164
TG-7a	Sugar Maple	Sugar Maple	1	66	G	G	G	6.5	Private / RNFP	4	8.4	Retain		165
TG-7a	Sugar Maple	Sugar Maple	1	15	G	G	G	2	Private / RNFP	4	3.6	Retain		166
TG-7a	Sugar Maple	Sugar Maple	1	70	G	G	G	6.5	Private / RNFP	4	8.4	Retain		167
TG-7a	Sugar Maple	Sugar Maple	1	25	G	G	G	3	Private / RNFP	4	3.6	Retain		170
TG-7a	American Beech	American Beech	1	10	F	G	G	1	Private / RNFP	4	3.6	Retain	BBD	171
TG-7a	Sugar Maple	Sugar Maple	1	50	G	G	G	6	Private / RNFP	4	6.0	Retain	lean	172
TG-7a	Sugar Maple	Sugar Maple	1	11	G	G	G	1	Private / RNFP	4	3.6	Retain		173
TG-7a	Sugar Maple	Sugar Maple	1	12	G	G	G	1.5	Private / RNFP	4	3.6	Retain		179
TG-7a	Sugar Maple	Sugar Maple	1	35	F	F	F	4	Private / RNFP	4	4.8	Retain	Irregular bark, dead tree leaning into it, canopy unbalanced	180
TG-7a	Sugar Maple	Sugar Maple	1	46	G	G	G	5	Private / RNFP	4	6.0	Retain		181
TG-7a	Sugar Maple	Sugar Maple	1	22	G	G	G	2.5	Private / RNFP	4	3.6	Retain		182
TG-7a	Sugar Maple	Sugar Maple	1	11	G	G	G	1	Private / RNFP	4	3.6	Retain		183
TG-7a	Sugar Maple	Sugar Maple	1	75	G	G	G	7	Private / RNFP	4	9.6	Retain		184
TG-7a	Sugar Maple	Sugar Maple	1	30	F/P	G	G	3.5	Private / RNFP	4	4.8	Retain	Eutypella canker	185

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					TI	CS	CV							
TG-7a	Sugar Maple	Sugar Maple	1	14	G	G	G	1.5	Private / RNFP	4	3.6	Retain		186
TG-7a	Sugar Maple	Sugar Maple	1	36	G	F	G	4	Private / RNFP	4	4.8	Retain		187
TG-7a	Sugar Maple	Sugar Maple	1	50	G	G	G	6	Private / RNFP	4	6.0	Retain		188
TG-7a	Sugar Maple	Sugar Maple	1	26	G	G	G	3	Private / RNFP	4	3.6	Retain		189
TG-7a	Sugar Maple	Sugar Maple	1	13	G	G	G	1.5	Private / RNFP	4	3.6	Retain		190
TG-7a	Sugar Maple	Sugar Maple	1	39	G	G	G	4.5	Private / RNFP	4	4.8	Retain		203
TG-7a	Sugar Maple	Sugar Maple	1	42	G	G	G	4.5	Private / RNFP	4	6.0	Retain		205
TG-7a	Sugar Maple	Sugar Maple	1	32	G	G	G	3.5	Private / RNFP	4	4.8	Retain		207
TG-7a	Sugar Maple	Sugar Maple	1	±105	G	G	G	8	Private / RNFP	4	12.6	Retain	lean	217
TG-7a	Sugar Maple	Sugar Maple	1	52	G	G	G	6	Private / RNFP	4	7.2	Retain		218
TG-7a	Sugar Maple	Sugar Maple	1	19	G	G	G	2.5	Private / RNFP	4	3.6	Retain		219
TG-7a	Sugar Maple	Sugar Maple	1	11	G	G	G	1	Private / RNFP	4	3.6	Retain		220
TG-7a	Sugar Maple	Sugar Maple	1	18	G	G	G	2.5	Private / RNFP	4	3.6	Retain		221
TG-7a	Sugar Maple	Sugar Maple	1	46	G	G	G	5	Private / RNFP	4	6.0	Retain		222
TG-7a	Sugar Maple	Sugar Maple	1	31	G	G	G	3.5	Private / RNFP	4	4.8	Retain		223
TG-7a	Sugar Maple	Sugar Maple	1	17	F	F	G	2	Private / RNFP	4	3.6	Retain	Large dead branch	224
TG-7a	Sugar Maple	Sugar Maple	1	65	F	F	G	6.5	Private / RNFP	4	8.4	Retain	Cavity	239
TG-7a	Sugar Maple	Sugar Maple	1	50	G	F	F	6	Private / RNFP	4	6.0	Retain		240
TG-7a	Sugar Maple	Sugar Maple	1	33, 8, 58	G	G	G	6.5	Private / RNFP	4	7.2	Retain		241
TG-7a	Sugar Maple	Sugar Maple	1	16	G	G	G	2	Private / RNFP	4	3.6	Retain		242
TG-7a	Ironwood	Ironwood	1	10	G	G	G	1	Private / RNFP	4	3.6	Retain		249
TG-7a	Sugar Maple	Sugar Maple	1	50	G	G	G	6	Private / RNFP	4	6.0	Retain	broken branch	260
TG-7a	Sugar Maple	Sugar Maple	1	29	G	G	G	3.5	Private / RNFP	4	3.6	Retain		261
TG-7a	Sugar Maple	Sugar Maple	1	55	F/P	G	G	6	Private / RNFP	4	7.2	Retain	Cavity, broken branch	262
TG-7a	Ironwood	Ironwood	1	12	G	G	F	1.5	Private / RNFP	4	3.6	Retain		263
TG-7a	Ironwood	Ironwood	1	16	G	F	G	2	Private / RNFP	4	3.6	Retain		264
TG-7a	Sugar Maple	Sugar Maple	1	21	G	G	G	2.5	Private / RNFP	4	3.6	Retain		276
TG-7a	Sugar Maple	Sugar Maple	1	12	G	G	G	1.5	Private / RNFP	4	3.6	Retain		278
TG-7a	Elm sp.	Elm sp.	1	30	G	G	G	3.5	Private / RNFP	4	4.8	Retain		279
TG-7a	Red Oak	Red Oak	1	50	G	F	G	6	Private / RNFP	4	6.0	Retain	lean	280
TG-7a	Sugar Maple	Sugar Maple	1	15	G	G	G	2	Private / RNFP	4	3.6	Retain		281
TG-7a	Paper Birch	Paper Birch	1	18	G	G	G	2.5	Private / RNFP	4	3.6	Retain		289
TG-7a	Basswood	Basswood	1	9, 9, 9	G	G	G	1	Private / RNFP	4	1.2	Retain		291

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Recommendation Legend:
Trees to be Retained
Trees to be Preserved
Minimum TPZ Reduction / Injury
Trees to be Pruned
Trees to be Removed - Proposed works
Trees to be Removed - Health (poor / dead)

Tree #	Botanical Name	Common Name	Qty	DBH (cm)	Tree Condition			Dripline Radius (m)	Tree Location / Applicable By-law	City of Toronto Category	Tree Protection Zone	Recommendation	Comments / Health	Comments - Removal / Preservation
					TI	CS	CV							
TG-7	Fraxinus americana	White Ash	54	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-7	Rhamnus cathartica	Common Buckthorn	21	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-7	Acer saccharum	Sugar Maple	58	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-7	Ostrya virginiana	Ironwood	6	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-7	Tilia americana	Basswood	1	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-7	Ulmus sp.	Elm sp.	3	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-7	Cornus alternifolia	Alternate-leaved Dogwood	46	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-7	Euonymus sp.	Spindle Tree sp.	14	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-7	Fagus grandifolia	American Beech	2	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-7	Celtis occidentalis	Common Hackberry	1	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-7	Acer platanoides	Norway Maple	2	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-7	Prunus serotina	Black Cherry	10	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-7	Fraxinus sp.	Ash sp.	55	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-7	Rhamnus cathartica	Common Buckthorn	13	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-7	Acer saccharum	Sugar Maple	74	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-7	Ostrya virginiana	Ironwood	1	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-7	Tilia americana	Basswood	7	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-7	Ulmus sp.	Elm sp.	1	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-7	Cornus alternifolia	Alternate-leaved Dogwood	8	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-7	Euonymus sp.	Spindle Tree sp.	3	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-7	Fagus grandifolia	American Beech	14	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-7	Carya cordiformis	Bitternut Hickory	1	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-7	Prunus serotina	Black Cherry	14	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
Between Path Fork														
293	Acer saccharum	Sugar Maple	1	31	P	F/P	F	3.5	Private / RNFP	4	4.8	Preserve		
294	Salix sp.	Willow sp.	1	58	G	P	F	6	Private / RNFP	4	7.2	Preserve		
295	Salix sp.	Willow sp.	1	63	G	P	F	6.5	Private / RNFP	4	8.4	Preserve		
296	Picea glauca	White Spruce	1	27	G	F	F	3	Private / RNFP	4	3.6	Preserve		
297	Pinus sylvestris	Scots Pine	1	30	G	F	F	3.5	Private / RNFP	4	4.8	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
298	Tilia americana	Basswood	1	24	G	G	G	3	Private / RNFP	4	3.6	Preserve		
299	Acer saccharum	Sugar Maple	1	17	G	G	G	2	Private / RNFP	4	3.6	Preserve		
300	Pinus sylvestris	Scots Pine	1	27	G	F	F	3	Private / RNFP	4	3.6	Preserve		
301	Pinus sylvestris	Scots Pine	1	12	G	G	G	1.5	Private / RNFP	4	3.6	Preserve		

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Trees to be Retained
Trees to be Preserved
Minimum TPZ Reduction / Injury
Trees to be Pruned
Trees to be Removed - Proposed works
Trees to be Removed - Health (poor / dead)

Tree #	Botanical Name	Common Name	Qty	DBH (cm)	Tree Condition			Dripline Radius (m)	Tree Location / Applicable By-law	City of Toronto Category	Tree Protection Zone	Recommendation	Comments / Health	Comments - Removal / Preservation
					TI	CS	CV							
302	Pinus sylvestris	Scots Pine	1	17	G	G	G	2	Private / RNFP	4	3.6	Preserve		
303	Acer saccharum	Sugar Maple	1	12	G	G	G	1.5	Private / RNFP	4	3.6	Preserve		
304	Acer saccharum	Sugar Maple	1	21	G	G	G	2.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		asphalt removal
305	Acer saccharum	Sugar Maple	1	14	G	G	G	1.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		asphalt removal
306	Acer saccharum	Sugar Maple	1	11	G	G	G	1	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		asphalt removal
307	Acer saccharum	Sugar Maple	1	22, 32	G	G	G	4	Private / RNFP	4	4.8	Minimum TPZ Reduction / Injury	codominant	asphalt removal
308	Acer saccharum	Sugar Maple	1	16	G	G	G	2	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		asphalt removal
309	Pinus sylvestris	Scots Pine	1	19, 20	G	G	G	3	Private / RNFP	4	3.6	Preserve	codominant. Included bark	
310	Acer saccharum	Sugar Maple	1	10	G	G	G	1	Private / RNFP	4	3.6	Preserve		
311	Pinus sylvestris	Scots Pine	1	22	F	P	F	2.5	Private / RNFP	4	3.6	Preserve		
312	Acer saccharum	Sugar Maple	1	11	G	G	G	1	Private / RNFP	4	3.6	Preserve		
313	Acer saccharum	Sugar Maple	1	18	G	G	G	2.5	Private / RNFP	4	3.6	Preserve		
314	Acer saccharum	Sugar Maple	1	28	G	G	G	3.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		asphalt removal
315	Pinus sylvestris	Scots Pine	1	28	F	P	F	3.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		asphalt removal
316	Acer saccharum	Sugar Maple	1	12	G	G	G	1.5	Private / RNFP	4	3.6	Preserve		
317	Acer saccharum	Sugar Maple	1	25	G	G	G	3	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		boardwalk
318	Acer saccharum	Sugar Maple	1	20	G	G	G	2.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
319	Acer saccharum	Sugar Maple	1	27	G	G	G	3	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
320	Tilia americana	Basswood	1	31	G	G	G	3.5	Private / RNFP	4	4.8	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
TG-2	Acer saccharum	Sugar Maple	1	8	G	G	G	0.5	Private / RNFP	4	1.2	Remove		boardwalk
TG-2	Fraxinus sp.	Ash sp.	1	5	G	G	G	0.5	Private / RNFP	4	1.2	Remove		boardwalk
TG-2	Acer saccharum	Sugar Maple	1	3	G	G	G	0.5	Private / RNFP	4	1.2	Remove		boardwalk
TG-5	Rhus typhina	Staghorn Sumac	5	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-5	Lonicera sp.	Honeysucke sp.	2	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-5	Fraxinus sp.	Ash sp.	10	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-5	Rhamnus cathartica	Common Buckthorn	±48	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-5	Syringa vulgaris	Common Lilac	±20	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-5	Acer saccharum	Sugar Maple	20	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-5	Cornus alternifolia	Alternate-leaved Dogwood	3	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-5	Prunus serotina	Black Cherry	10	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
Picnic Area														
321	Acer saccharum	Sugar Maple	1	95	G	G	G	7.5	Private / RNFP	4	12.0	Retain	Behind building	
322	Pinus strobus	White Pine	1	75	G	G	G	7	Private / RNFP	4	9.6	Retain	girdling	

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					TI	CS	CV							
323	Thuja occidentalis	White Cedar	1	35	G	G	G	4	Private / RNFP	4	4.8	Retain		
324	Pinus sylvestris	Scots Pine	1	28	G	F	F	3.5	Private / RNFP	4	3.6	Retain		
325	Pinus sylvestris	Scots Pine	1	25	G	F	F	3	Private / RNFP	4	3.6	Retain		
326	Pinus sylvestris	Scots Pine	1	35	G	F	G	4	Private / RNFP	4	4.8	Retain	Exposed roots	
327	Thuja occidentalis	White Cedar	1	39	G	G	G	4.5	Private / RNFP	4	4.8	Retain	Exposed roots	
328	Pinus strobus	White Pine	1	48	G	G	F	5	Private / RNFP	4	6.0	Retain		
329	Picea glauca	White Spruce	1	37	G	G	G	4	Private / RNFP	4	4.8	Retain		
TG-6	Fraxinus sp.	Ash sp.	1	<10	G	G	G	0.5	Private / RNFP	4	1.2	Retain		
TG-6	Syringa vulgaris	Common Lilac	4	<10	G	G	G	0.5	Private / RNFP	4	1.2	Retain		
West Side of Trail														
330	Catalpa speciosa	Northern Catalpa	1	48	G	G	G	5	Private / RNFP	4	6.0	Minimum TPZ Reduction / Injury		ashpalt removal
332	Catalpa speciosa	Northern Catalpa	1	60	G	G	G	6.5	Private / RNFP	4	7.2	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
333	Quercus rubra	Red Oak	1	31	G	G	F	3.5	Private / RNFP	4	4.8	Preserve	dead branches	
334	Rhus typhina	Staghorn Sumac	1	13	G	G	G	1.5	Private / RNFP	4	3.6	Preserve	dead branch, vine	
335	Rhus typhina	Staghorn Sumac	1	14	G	G	G	1.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury	vine	boardwalk
340	Rhus typhina	Staghorn Sumac	1	11	G	F	F	1	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury	Vine	boardwalk
TG-1	Rhus typhina	Staghorn Sumac	1	5	G	G	G	0.5	Private / RNFP	4	1.2	Remove		boardwalk
TG-1	Rhus typhina	Staghorn Sumac	3	3	G	G	G	0.5	Private / RNFP	4	1.2	Remove		boardwalk
TG-1	Rhus typhina	Staghorn Sumac	3	2	G	G	G	0.5	Private / RNFP	4	1.2	Remove		boardwalk
TG-1	Rhus typhina	Staghorn Sumac	2	1	G	G	G	0.5	Private / RNFP	4	1.2	Remove		boardwalk
TG-1	Rhus typhina	Staghorn Sumac	1	4	G	G	G	0.5	Private / RNFP	4	1.2	Remove		boardwalk
343	Acer saccharum	Sugar Maple	1	88	P	P	P	7.5	Private / RNFP	4	10.8	Minimum TPZ Reduction / Injury	3/4 dead, large cavity through more than half the trunk	boardwalk
344	Acer saccharum	Sugar Maple	1	14	G	F	G	1.5	Private / RNFP	4	3.6	Preserve	lean, vine	
345	Acer saccharum	Sugar Maple	1	11	G	G	G	1	Private / RNFP	4	3.6	Preserve		
346	Acer saccharum	Sugar Maple	1	28	G	G	G	3.5	Private / RNFP	4	3.6	Preserve		
347	Acer saccharum	Sugar Maple	1	13	G	G	G	1.5	Private / RNFP	4	3.6	Preserve		
348	Acer saccharum	Sugar Maple	1	18	G	G	G	2.5	Private / RNFP	4	3.6	Preserve		
349	Acer saccharum	Sugar Maple	1	22	G	G	G	2.5	Private / RNFP	4	3.6	Preserve		
350	Tilia americana	Basswood	1	14	G	G	G	1.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
351	Acer saccharum	Sugar Maple	1	30	G	G	G	3.5	Private / RNFP	4	4.8	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
352	Acer saccharum	Sugar Maple	1	38	G	G	G	4	Private / RNFP	4	4.8	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
353	Acer saccharum	Sugar Maple	1	13	G	G	G	1.5	Private / RNFP	4	3.6	Preserve		
354	Ulmus sp.	Elm sp.	1	13	G	G	G	1.5	Private / RNFP	4	3.6	Preserve		

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355	Acer saccharum	Sugar Maple	1	18	G	G	G	2.5	Private / RNFP	4	3.6	Preserve		
356	Acer saccharum	Sugar Maple	1	16	G	G	G	2	Private / RNFP	4	3.6	Preserve		
359	Acer saccharum	Sugar Maple	1	22	G	F	G	2.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury	heavy vine	boardwalk, asphalt removal
366	Acer saccharum	Sugar Maple	1	15	G	F	F	2	Private / RNFP	4	3.6	Preserve	Heavy vine	
368	Tilia americana	Basswood	1	12	G	G	G	1.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
369	Ulmus sp.	Elm sp.	1	13	G	G	G	1.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury	Close to path	boardwalk, asphalt removal
370	Fagus grandifolia	American Beech	1	43	F	F	G	4.5	Private / RNFP	4	6.0	Minimum TPZ Reduction / Injury	BBD	boardwalk, asphalt removal
371	Acer saccharum	Sugar Maple	1	16	G	G	G	2	Private / RNFP	4	3.6	Preserve		
372	Acer saccharum	Sugar Maple	1	±95	G	F	G	7.5	Private / RNFP	4	12.0	Minimum TPZ Reduction / Injury		
373	Acer saccharum	Sugar Maple	1	15	G	G	G	2	Private / RNFP	4	3.6	Preserve		
374	Acer saccharum	Sugar Maple	1	12	G	G	G	1.5	Private / RNFP	4	3.6	Preserve		
375	Acer saccharum	Sugar Maple	1	16	G	G	G	2	Private / RNFP	4	3.6	Preserve		
377	Acer saccharum	Sugar Maple	1	22	G	F	G	2.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
378	Quercus rubra	Red Oak	1	52, 60	G	G	G	7.5	Private / RNFP	4	7.2	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
379	Acer saccharum	Sugar Maple	1	12	G	G	G	1.5	Private / RNFP	4	3.6	Preserve		
380	Acer saccharum	Sugar Maple	1	13	G	G	G	1.5	Private / RNFP	4	3.6	Preserve		
382	Acer saccharum	Sugar Maple	1	20	G	G	G	2.5	Private / RNFP	4	3.6	Preserve		
383	Acer saccharum	Sugar Maple	1	22	G	G	G	2.5	Private / RNFP	4	3.6	Preserve		
384	Acer saccharum	Sugar Maple	1	12	G	G	G	1.5	Private / RNFP	4	3.6	Preserve		
385	Acer saccharum	Sugar Maple	1	18	G	G	G	2.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		asphalt removal
386	American Elm	American Elm	1	11	G	F	G	1	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury	Canopy towards path	asphalt removal
387	Acer saccharum	Sugar Maple	1	16	G	G	G	2	Private / RNFP	4	3.6	Preserve		
388	Acer saccharum	Sugar Maple	1	10	G	G	G	1	Private / RNFP	4	3.6	Preserve	conflict with another canopy	
389	Acer saccharum	Sugar Maple	1	44, 16	G	G	G	4.5	Private / RNFP	4	6.0	Preserve		
390	Fagus grandifolia	American Beech	1	44	F/P	F	F	5	Private / RNFP	4	6.0	Preserve	BBD	no injury
403	Fagus grandifolia	American Beech	1	38	F	F	G	4	Private / RNFP	4	4.8	Preserve	BBD	
404	Acer saccharum	Sugar Maple	1	19	G	G	G	2.5	Private / RNFP	4	3.6	Preserve		
405	Acer saccharum	Sugar Maple	1	22	G	F	G	2.5	Private / RNFP	4	3.6	Preserve	Canopy leaning towards path	
406	Acer saccharum	Sugar Maple	1	65	G	F	G	6.5	Private / RNFP	4	8.4	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
407	Acer saccharum	Sugar Maple	1	31	G	G	G	3.5	Private / RNFP	4	4.8	Preserve		
408	Acer saccharum	Sugar Maple	1	28	G	G	G	3.5	Private / RNFP	4	3.6	Preserve		
409	Acer saccharum	Sugar Maple	1	31	G	G	G	3.5	Private / RNFP	4	4.8	Minimum TPZ Reduction / Injury		boardwalk
410	Acer saccharum	Sugar Maple	1	16	F	G	G	2	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury	Growing on slope, exposed roots, close to path	boardwalk, asphalt removal

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Recommendation Legend:
Trees to be Retained
Trees to be Preserved
Minimum TPZ Reduction / Injury
Trees to be Pruned
Trees to be Removed - Proposed works
Trees to be Removed - Health (poor / dead)

Tree #	Botanical Name	Common Name	Qty	DBH (cm)	Tree Condition			Dripline Radius (m)	Tree Location / Applicable By-law	City of Toronto Category	Tree Protection Zone	Recommendation	Comments / Health	Comments - Removal / Preservation
					TI	CS	CV							
419	Acer saccharum	Sugar Maple	1	80	G	G	G	7	Private / RNFP	4	9.6	Preserve		
420	Acer saccharum	Sugar Maple	1	16	G	F	G	2	Private / RNFP	4	3.6	Preserve		
421	Acer saccharum	Sugar Maple	1	20	G	G	G	2.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		boardwalk
422	Acer saccharum	Sugar Maple	1	25	F	G	G	3	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury	Exposed roots, close to path, small wound	boardwalk, asphalt removal
423	Acer saccharum	Sugar Maple	1	14	G	F	G	1.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury	Canopy towards path	boardwalk
425	Fagus grandifolia	American Beech	1	13	F	F/P	F	1.5	Private / RNFP	4	3.6	Preserve	BBD, top off	
426	Fagus grandifolia	American Beech	1	12	F	G	G	1.5	Private / RNFP	4	3.6	Preserve	BBD	
427	Acer saccharum	Sugar Maple	1	46	G	G	G	5	Private / RNFP	4	6.0	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
428	Acer saccharum	Sugar Maple	1	55	G	G	G	6	Private / RNFP	4	7.2	Preserve		
438	Acer saccharum	Sugar Maple	1	12	G	G	G	1.5	Private / RNFP	4	3.6	Preserve		
440	Acer saccharum	Sugar Maple	1	16	G	G	G	2	Private / RNFP	4	3.6	Preserve		no injury
441	Acer saccharum	Sugar Maple	1	11	G	G	G	1	Private / RNFP	4	3.6	Preserve		
446	Acer saccharum	Sugar Maple	1	39	G	G	G	4.5	Private / RNFP	4	4.8	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
447	Acer saccharum	Sugar Maple	1	35	G	F	G	4	Private / RNFP	4	4.8	Preserve	Canopy over path	
448	Acer saccharum	Sugar Maple	1	17	G	F	G	2	Private / RNFP	4	3.6	Preserve	Canopy over path	
449	Acer saccharum	Sugar Maple	1	29	G	F	G	3.5	Private / RNFP	4	3.6	Preserve	Canopy over path	
450	Acer saccharum	Sugar Maple	1	15	G	G	G	2	Private / RNFP	4	3.6	Preserve		
453	Acer saccharum	Sugar Maple	1	11	F/P	G	G	1	Private / RNFP	4	3.6	Preserve	Eutypella canker	
454	Acer saccharum	Sugar Maple	1	12	G	F/P	G	1.5	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury	Canopy over path, unbalanced	boardwalk, asphalt removal
455	Acer saccharum	Sugar Maple	1	20	G	G	G	2.5	Private / RNFP	4	3.6	Preserve		no injury
456	Acer saccharum	Sugar Maple	1	40	G	G	G	4.5	Private / RNFP	4	4.8	Preserve		no injury
457	Acer saccharum	Sugar Maple	1	41	G	G	G	4.5	Private / RNFP	4	6.0	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
458	Acer saccharum	Sugar Maple	1	11	G	G	G	1	Private / RNFP	4	3.6	Preserve		
459	Acer saccharum	Sugar Maple	1	24	G	F	G	3	Private / RNFP	4	3.6	Preserve	Canopy unbalanced towards path	
460	Acer saccharum	Sugar Maple	1	52	G	F	G	6	Private / RNFP	4	7.2	Minimum TPZ Reduction / Injury	Canopy unbalanced towards path	boardwalk, asphalt removal
461	Acer saccharum	Sugar Maple	1	17	G	F	G	2	Private / RNFP	4	3.6	Preserve	Canopy unbalanced towards path	
462	Acer saccharum	Sugar Maple	1	11	G	F	G	1	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury	Canopy unbalanced towards path	asphalt removal
463	Acer saccharum	Sugar Maple	1	28	G	G	G	3.5	Private / RNFP	4	3.6	Preserve		
464	Acer saccharum	Sugar Maple	1	12	G	F	G	1.5	Private / RNFP	4	3.6	Preserve		
465	Ostrya virginiana	Ironwood	1	17	G	F	G	2	Private / RNFP	4	3.6	Preserve		
466	Acer saccharum	Sugar Maple	1	14, 42	G	G	G	4.5	Private / RNFP	4	6.0	Preserve		
467	Acer saccharum	Sugar Maple	1	16	G	F	G	2	Private / RNFP	4	3.6	Preserve		
479	Betula papyrifera	Paper Birch	1	20	G	F/P	F	2.5	Private / RNFP	4	3.6	Preserve	Heavy lean	

Project: Toronto Zoo | Field Work Completed By: Nicole Bitter & Carly Van Daele (ON-2739A) | **Date:** 2022-04-26 and 27 | Weather: 6 degrees, overcast

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Recommendation Legend:
Trees to be Retained
Trees to be Preserved
Minimum TPZ Reduction / Injury
Trees to be Pruned
Trees to be Removed - Proposed works
Trees to be Removed - Health (poor / dead)

Tree #	Botanical Name	Common Name	Qty	DBH (cm)	Tree Condition			Dripline Radius (m)	Tree Location / Applicable By-law	City of Toronto Category	Tree Protection Zone	Recommendation	Comments / Health	Comments - Removal / Preservation
					TI	CS	CV							
480	Betula papyrifera	Paper Birch	1	34	G	G	G	3.5	Private / RNFP	4	4.8	Preserve	Used to hang décor	
481	Aesculus glabra	Ohio Buckeye	1	17, 11	G	G	G	2	Private / RNFP	4	3.6	Minimum TPZ Reduction / Injury		boardwalk, asphalt removal
482	Aesculus glabra	Ohio Buckeye	1	13, 13	G	G	G	2	Private / RNFP	4	3.6	Preserve		
483	Acer negundo	Manitoba Maple	1	11	G	G	G	1	Private / RNFP	4	3.6	Preserve	Vine	
484	Aesculus glabra	Ohio Buckeye	1	14	G	G	G	1.5	Private / RNFP	4	3.6	Preserve	In separate planter	
485	Aesculus glabra	Ohio Buckeye	1	12, 10	G	G	G	2	Private / RNFP	4	3.6	Preserve	In separate planter	
TG-8a	Catalpa speciosa	Northern Catalpa	1	48	F	G	G	5	Private / RNFP	4	6.0	Retain	Lean, cavities, exposed roots	331
TG-8a	Betula papyrifera	Paper Birch	1	21	G	F	F	2.5	Private / RNFP	4	3.6	Retain	broken branch, vine	336
TG-8a	Catalpa speciosa	Northern Catalpa	1	25, 17, 17	G	F/P	F	4	Private / RNFP	4	3.6	Retain	heavy vine throughout canopy, conflict with other tree	337
TG-8a	Betula papyrifera	Paper Birch	1	20	G	F	F	2.5	Private / RNFP	4	3.6	Retain	Vine	338
TG-8a	Betula papyrifera	Paper Birch	1	17	G	F	F	2	Private / RNFP	4	3.6	Retain	Vine	339
TG-8a	Quercus rubra	Red Oak	1	16	G	F/P	F/P	2	Private / RNFP	4	3.6	Retain	Heavy vine	341
TG-8a	Acer saccharum	Sugar Maple	1	11	G	G	G	1	Private / RNFP	4	3.6	Retain		342
TG-8a	Acer saccharum	Sugar Maple	1	11	G	G	G	1	Private / RNFP	4	3.6	Retain		357
TG-8a	Tilia americana	Basswood	1	10	F	F/P	F/P	1	Private / RNFP	4	3.6	Retain		358
TG-8a	Acer saccharum	Sugar Maple	1	18	G	G	G	2.5	Private / RNFP	4	3.6	Retain		360
TG-8a	Acer saccharum	Sugar Maple	1	11	G	G	G	1	Private / RNFP	4	3.6	Retain		361
TG-8a	Acer saccharum	Sugar Maple	1	13	G	G	G	1.5	Private / RNFP	4	3.6	Retain		362
TG-8a	Acer saccharum	Sugar Maple	1	11	G	G	G	1	Private / RNFP	4	3.6	Retain		363
TG-8a	Tilia americana	Basswood	1	31, 26	F/P	F	G	4.5	Private / RNFP	4	4.8	Retain		364
TG-8a	Acer saccharum	Sugar Maple	1	28	G	G	G	3.5	Private / RNFP	4	3.6	Retain		365
TG-8a	Acer saccharum	Sugar Maple	1	12	G	G	G	1.5	Private / RNFP	4	3.6	Retain		367
TG-8a	Acer saccharum	Sugar Maple	1	12	G	G	G	1.5	Private / RNFP	4	3.6	Retain		376
TG-8a	Acer saccharum	Sugar Maple	1	80	G	G	G	7	Private / RNFP	4	9.6	Retain		381
TG-8a	Acer saccharum	Sugar Maple	1	33	G	G	G	3.5	Private / RNFP	4	4.8	Retain		391
TG-8a	Acer saccharum	Sugar Maple	1	13	G	G	G	1.5	Private / RNFP	4	3.6	Retain		392
TG-8a	Acer saccharum	Sugar Maple	1	10	G	F	G	1	Private / RNFP	4	3.6	Retain		393
TG-8a	Acer saccharum	Sugar Maple	1	31	G	G	G	3.5	Private / RNFP	4	4.8	Retain		394
TG-8a	Acer saccharum	Sugar Maple	1	15	G	G	G	2	Private / RNFP	4	3.6	Retain		395
TG-8a	Acer saccharum	Sugar Maple	1	12	G	G	G	1.5	Private / RNFP	4	3.6	Retain		396
TG-8a	Acer saccharum	Sugar Maple	1	23	G	G	G	2.5	Private / RNFP	4	3.6	Retain		397
TG-8a	Acer saccharum	Sugar Maple	1	20	G	G	G	2.5	Private / RNFP	4	3.6	Retain		398
TG-8a	Acer saccharum	Sugar Maple	1	21	G	G	G	2.5	Private / RNFP	4	3.6	Retain		399

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Recommendation Legend:
Trees to be Retained
Trees to be Preserved
Minimum TPZ Reduction / Injury
Trees to be Pruned
Trees to be Removed - Proposed works
Trees to be Removed - Health (poor / dead)

Tree #	Botanical Name	Common Name	Qty	DBH (cm)	Tree Condition			Dripline Radius (m)	Tree Location / Applicable By-law	City of Toronto Category	Tree Protection Zone	Recommendation	Comments / Health	Comments - Removal / Preservation
					TI	CS	CV							
TG-8a	Fagus grandifolia	American Beech	1	20	F	G	G	2.5	Private / RNFP	4	3.6	Retain	BBD	400
TG-8a	Acer saccharum	Sugar Maple	1	17	F/P	G	G	2	Private / RNFP	4	3.6	Retain	BBD	401
TG-8a	Acer saccharum	Sugar Maple	1	16	G	G	G	2	Private / RNFP	4	3.6	Retain		402
TG-8a	Acer saccharum	Sugar Maple	1	29	G	G	G	3.5	Private / RNFP	4	3.6	Retain		411
TG-8a	Acer saccharum	Sugar Maple	1	23	G	G	G	2.5	Private / RNFP	4	3.6	Retain		412
TG-8a	Acer saccharum	Sugar Maple	1	14	G	F	G	1.5	Private / RNFP	4	3.6	Retain		413
TG-8a	Acer saccharum	Sugar Maple	1	22	G	G	G	2.5	Private / RNFP	4	3.6	Retain		414
TG-8a	Fagus grandifolia	American Beech	1	18	F	G	G	2.5	Private / RNFP	4	3.6	Retain	BBD	415
TG-8a	Fagus grandifolia	American Beech	1	39	G	G	G	4.5	Private / RNFP	4	4.8	Retain	BBD	416
TG-8a	Acer saccharum	Sugar Maple	1	80	G	F	G	7	Private / RNFP	4	9.6	Retain		417
TG-8a	Acer saccharum	Sugar Maple	1	21	G	G	G	2.5	Private / RNFP	4	3.6	Retain		418
TG-8a	Fagus grandifolia	American Beech	1	10	F	G	G	1	Private / RNFP	4	3.6	Retain	BBD	424
TG-8a	Acer saccharum	Sugar Maple	1	62	G	G	G	6.5	Private / RNFP	4	8.4	Retain		429
TG-8a	Fagus grandifolia	American Beech	1	12	F/P	F	G	1.5	Private / RNFP	4	3.6	Retain	BBD	430
TG-8a	Acer saccharum	Sugar Maple	1	12	G	G	G	1.5	Private / RNFP	4	3.6	Retain		431
TG-8a	Acer saccharum	Sugar Maple	1	24	G	F	G	3	Private / RNFP	4	3.6	Retain		432
TG-8a	Acer saccharum	Sugar Maple	1	12	G	G	G	1.5	Private / RNFP	4	3.6	Retain		433
TG-8a	Acer saccharum	Sugar Maple	1	12	G	G	G	1.5	Private / RNFP	4	3.6	Retain		434
TG-8a	Acer saccharum	Sugar Maple	1	13	G	G	G	1.5	Private / RNFP	4	3.6	Retain		435
TG-8a	Acer saccharum	Sugar Maple	1	±95	G	G	G	7.5	Private / RNFP	4	12.0	Retain		436
TG-8a	Acer saccharum	Sugar Maple	1	15	G	G	G	2	Private / RNFP	4	3.6	Retain		437
TG-8a	Acer saccharum	Sugar Maple	1	12	G	G	G	1.5	Private / RNFP	4	3.6	Retain		439
TG-8a	Acer saccharum	Sugar Maple	1	22	G	G	G	2.5	Private / RNFP	4	3.6	Retain		442
TG-8a	Acer saccharum	Sugar Maple	1	22	G	G	G	2.5	Private / RNFP	4	3.6	Retain		443
TG-8a	Acer saccharum	Sugar Maple	1	70	G	G	G	6.5	Private / RNFP	4	8.4	Retain		444
TG-8a	Acer saccharum	Sugar Maple	1	13	G	G	G	1.5	Private / RNFP	4	3.6	Retain		445
TG-8a	Acer saccharum	Sugar Maple	1	42	G	G	G	4.5	Private / RNFP	4	6.0	Retain		451
TG-8a	Acer saccharum	Sugar Maple	1	85	G	G	G	7.5	Private / RNFP	4	10.8	Retain		452
TG-8a	Acer saccharum	Sugar Maple	1	14	G	G	G	1.5	Private / RNFP	4	3.6	Retain		468
TG-8a	Acer saccharum	Sugar Maple	1	14	G	F	G	1.5	Private / RNFP	4	3.6	Retain		469
TG-8a	Acer saccharum	Sugar Maple	1	21	G	F	G	2.5	Private / RNFP	4	3.6	Retain		470
TG-8a	Acer saccharum	Sugar Maple	1	49	G	F	G	5	Private / RNFP	4	6.0	Retain		471
TG-8a	Acer saccharum	Sugar Maple	1	21	G	G	G	2.5	Private / RNFP	4	3.6	Retain		472

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Trees to be Preserved
Minimum TPZ Reduction / Injury
Trees to be Pruned
Trees to be Removed - Proposed works
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Tree #	Botanical Name	Common Name	Qty	DBH (cm)	Tree Condition			Dripline Radius (m)	Tree Location / Applicable By-law	City of Toronto Category	Tree Protection Zone	Recommendation	Comments / Health	Comments - Removal / Preservation
					TI	CS	CV							
TG-8a	Acer saccharum	Sugar Maple	1	55	G	G	G	6	Private / RNFP	4	7.2	Retain		473
TG-8a	Acer saccharum	Sugar Maple	1	11	G	P	P	1	Private / RNFP	4	3.6	Retain	topped	474
TG-8a	Acer saccharum	Sugar Maple	1	12	G	G	G	1.5	Private / RNFP	4	3.6	Retain		475
TG-8a	Acer saccharum	Sugar Maple	1	11	G	G	G	1	Private / RNFP	4	3.6	Retain		476
TG-8a	Acer saccharum	Sugar Maple	1	19	G	F	G	2.5	Private / RNFP	4	3.6	Retain		477
TG-8a	Acer saccharum	Sugar Maple	1	58, 34, 32	G	G	G	7	Private / RNFP	4	7.2	Retain	Used to hang décor	478
TG-8	Fraxinus sp.	Ash sp.	3	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-8	Fraxinus sp.	Ash sp.	61	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-8	Quercus rubra	Red Oak	1	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-8	Rhus typhina	Staghorn Sumac	1	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-8	Rhamnus cathartica	Common Buckthorn	51	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-8	Acer saccharum	Sugar Maple	4	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-8	Acer saccharum	Sugar Maple	95	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-8	Catalpa speciosa	Northern Catalpa	1	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-8	Cornus alternifolia	Alternate-leaved Dogwood	67	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-8	Prunus serotina	Black Cherry	40	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-8	Tilia americana	Basswood	1	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-8	Ulmus sp.	Elm sp.	4	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-8	Euonymus sp.	Spindle Tree sp.	±120	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-8	Ostrya virginiana	Ironwood	2	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-8	Fagus grandifolia	American Beech	28	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-8	Betula papyrifera	Paper Birch	2	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		
TG-8	Lonicera sp.	Honeysucke sp.	1	<10	G	G	G	0.5	Private / RNFP	4	1.2	Preserve		

APPENDIX

B

RNFP APPLICATION

Application Form

Ravine and Natural Feature Permit Application

For Office Use Only	
Date Received: Planning District:	Date Application Deemed Complete: Forestry Planner:

Ravine and Natural Feature Planning Districts: **Etobicoke York:** 416-392-7815 **Scarborough:** 416-392-1377 **North York:** 416-392-0585 **Toronto East York:** 416-392-1900

A pre-submission meeting or discussion is encouraged for all projects. Please contact the Urban Forestry Planning staff at the appropriate telephone number listed above. The scope of the Arborist report and requirements for geotechnical or drainage reports will depend on the environmental impact of the project. You will be advised if it is determined that the plans and report supplied with the application do not address the full environmental impact. You will be given instructions for plotting the by-law protection limit on your Plan or Survey. You are encouraged to bring site pictures, sketches and any information that will help the City's reviewer to understand the character of the site and proposed undertaking.

Application for a Permit to:

(Check appropriate statement(s) and specify the type(s) of permit(s) for which you are applying)

☑ Injure a tree(s) ☑ Destroy (Remove) a tree(s) ☑ Place or dump fill or alter the grade of land

Has an application been filed with the TRCA under Fill Regulation 166/06? ☐ Yes ☒ No

If yes, what is the status of this application? _____

Has an application been filed with the ☐ Committee of Adjustment
or ☐ City Planning Division
or ☐ Building Division

If yes, what is that status of this application? _____

Property Information

Municipal Address of Property: 2000 Meadowvale Rd, Scarborough, ON M1B 5K7		
Description of proposed work: (a reason MUST be provided) Trail upgrade to boardwalk for accessibility and lookout.		
Name or Registered Owner of Property (as it appears on the Deed/Transfer of land) Toronto Zoo		
Street Number: 2000	Street Name: Meadowvale Rd	Suite / Unit Number:
City: Toronto	Province: ON	Postal Code: M1B 5K7
Telephone Number:	Fax Number:	

Applicant is: ☐ Owner ☑ Arborist ☐ Engineer ☐ Contractor ☐ Agent ☐ Other _____

I hereby certify that the information, survey and plans provided are correct and truly indicate my intentions respecting the proposed work. The City will communicate with the applicant, unless otherwise requested in writing at the time of application. In submitting this application, I acknowledge, consent and agree to allow City designated officers onto the property for the purpose of conducting the required inspection(s).

Signature (owner or applicant)*	Name (please print)	Date (yyyy-mm-dd)
Peter McNamara	Peter McNamara	2022-09-21

Telephone number(s) 289-982-4370 Email Peter.McNamara@wsp.com

Notice of Collection

The personal information on this form is collected under the authority of the City of Toronto Act, S.O. 2006, Chapter 11, Schedule A, s. 136 (b) & (c) and the City of Toronto Municipal Code, Chapter 658, Ravine and Natural Feature Protection. The information is used to process your application and notify you of meetings related to your application. Questions about this collection can be directed to Manager of Tree Protection and Plan Review, Parks, Forestry & Recreation, 18 Dyas Rd., Toronto, ON M1M 2V2, or by telephone at 416-392-0724.

APPENDIX

C SITE PHOTOS

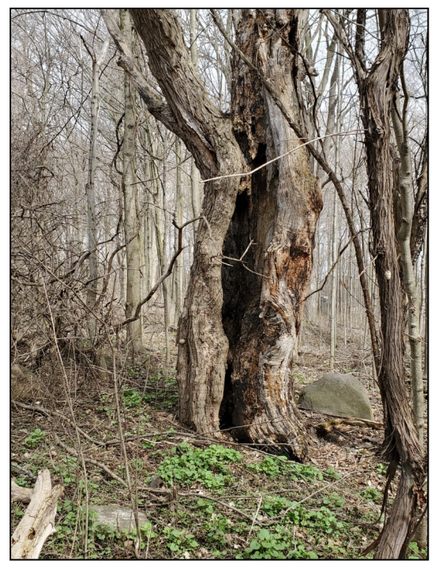
Tree #s 123, 125, 124 — Sugar Maples and Paper Birch which will be injured / preserved.

Tree # 133 — Sugar Maple that will be injured / preserved.

Densely forested area—general condition of study area.

Tree # 212 — American Beech to be injured / preserved.

Tree # 246 — American Elm to be injured / preserved.



Tree # 343 — Sugar Maple in poor condition to be injure / preserved.

Tree # 410 — Sugar Maple to be injured / preserved.

Tree # 473 — Sugar Maple outside work area to be retained.

wsp	Accessible Paths – Area 2 Forest SITE PHOTOGRAPHS	Date: September 2022 Project No: 20M-00631-00 Appendix C