

Pre-engineered Building
3265 Principal's Road, Mississauga
University of Toronto Mississauga

Version 1.4

December 2023

Arborist Report



Prepared For:
University of Toronto

Prepared By:
Sumac Environmental Consulting



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December 18, 2023

SEC 20-009a

University of Toronto Mississauga
3359 Mississauga Road
Mississauga, Ontario
L5L 1C6

Attention: Maria Codispoti, Manager of Project Administration and Technical Services

Re: **Arborist Report for the Pre-engineered Building at the University of Toronto
Mississauga**

Dear Ms. Codispoti,

Thank you for retaining Sumac Environmental Consulting (Sumac) to prepare an Arborist Report at the University of Toronto Mississauga Campus for the construction of the Pre-engineered Building located at 3265 Principal's Road, Mississauga.

A tree inventory was completed on December 11, 2023 to identify existing trees and evaluate the extent of tree preservation, injury and/or removal required as a result of the proposed site works. The diameter at breast height was measured at 1.4 m above ground for all inventoried trees. This Arborist Report summarizes the findings of the tree inventory and provides recommendations for tree preservation. This report was prepared for the University of Toronto and the undersigned accepts no responsibility for future use by other parties.

We thank you for the opportunity to be part of this project and should you have any questions, please do not hesitate to contact the undersigned.

Sumac Environmental Consulting

A handwritten signature in black ink, appearing to read "C. Fligg".

Cassandra Fligg, M.Sc.
ISA Certified Arborist
Certification ID: ON-2527A

A handwritten signature in black ink, appearing to read "Nathan Fligg".

Nathan Fligg, M.Sc.
Environmental Consultant

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1.0 Introduction

Sumac Environmental Consulting (Sumac) was retained to prepare an Arborist Report at the University of Toronto Mississauga (UTM) for the construction of the Pre-engineered Building located at 3265 Principal's Road, Mississauga. The proposed site works include the construction of an educational building and associated amenities (e.g., parking, utilities). The Study Area is comprised of paved laneway/parking, manicured lawn and landscape trees associated with the Paleomagnetism Laboratory and UTM Grounds Building, as well as, forest cover at its perimeter (Figure 1).

An Arborist Report has been prepared to address the current condition of all trees with a diameter at breast height (DBH) measuring equal to and greater than 10 cm located in the 'Area of Work' and up to 6 m of the adjacent lands (Figure 1). A Tree Inventory and Preservation Plan identifying trees to be retained and tree protection measures has been included in this report, as well as, general recommendations. This work has been conducted in general accordance with the guideline policies of the Terms of Reference: Arborist Reports, Tree Inventory/Survey & Tree Preservation Plans (City of Mississauga, 2020).

2.0 Methodology

A tree inventory was completed on December 11, 2023 to gain a better understanding of tree composition and quality in the Study Area. A visual inspection of all tree individuals with a DBH measuring equal to or greater than 10 cm located within the Area of Work and up to 6 m of the adjacent lands was completed to determine their general condition, with regard for structural integrity and form, deadwood, vigour, infections, pathological concerns, fungal fruiting bodies and decay. All inventoried trees were affixed with a metal tree identification tag. Hazardous trees were documented, where present. Inventoried trees were reviewed for their Species at Risk (SAR) status as per O. Reg. 230/08.

3.0 Tree Inventory

The tree inventory included 45 trees, comprising both urban landscape and naturally occurring individuals (Figure 2). All of the inventoried trees fall within the property limits of the University of Toronto Mississauga. Of the 18 species of trees inventoried, Norway maple (*Acer platanoides*) was the most common. More than 80% of the inventoried trees exhibited an overall fair to good health condition. More than half of the inventoried trees (~55%) were non-native species. An image gallery has been provided for reference (Appendix A).

The inventoried ash trees were either dead or showing signs of decline as a result of the emerald ash borer (*Agrilus planipennis*). This pest is an invasive species known to attack and kill ash trees, commonly found throughout Southwestern Ontario.

Three (3) trees were assessed as hazardous (i.e., Tree ID 48, 216 and 265). All identified hazard trees are recommended for removal, except Tree ID 48, which is to be prune and retained.

A SAR tree (Tree ID 209) was encountered in the inventoried area. This tree was noted as a three-stem Eastern flowering dogwood measuring approximately 6 m in height. Included bark was noted at the point of attachment. Loose/damaged bark was noted at the root flare. Two (2) of the three (3) stems are dead and have broken off from the tree. Epicormic growth was noted throughout the living stem and at the root flare. No evidence of dogwood anthracnose fungus was observed. Overall, the Eastern flowering dogwood was in poor condition.

4.0 Tree Preservation

The City of Mississauga recommends maintaining an area around each tree, referred to as the Tree Protection Zone (TPZ). The TPZ was calculated following the Tree Preservation & Protection Standards (City of Mississauga, 2019). Of the inventoried trees, 28 trees are recommended to be retained (Figure 2). Solid tree preservation hoarding as per Forestry Protection Hoarding Guidelines (City of Mississauga, 2018) and a protective mulch layer (Section 7.6) is recommended to protect trees to be retained.

5.0 Tree Removal

A total of 15 trees with a DBH measuring equal to or greater than 15 cm are recommended for removal. Of said 15 trees, 13 trees are recommended for removal as they are located in or near the proposed limit of disturbance and the remaining two (2) trees are recommended for removal due to their hazardous condition.

The Eastern flowering dogwood identified in the tree inventory is proposed for removal. Eastern flowering dogwood is listed as an endangered species under the provincial *Endangered Species Act*, 2008 (ESA). As such, authorization will be required for the purpose of the ESA prior to its removal (Section 7.1).

6.0 Conclusion

Based on the current site plan, a total of 15 trees with a DBH measuring equal to or greater than 15 cm are recommended for removal. Excluding ash species, 12 healthy and non-hazardous trees with a DBH measuring equal to or greater than 15 cm are recommended for removal to facilitate the proposed development.

In accordance with municipal requirements, 19 compensation trees are required to offset said tree loss (Section 7.2). The proponent has agreed to install the compensation trees on the subject property and nearest to the study area, where feasible.

All of the trees recommended for preservation are to be protected during the undertaking of the proposed development (Section 7.9).

7.0 Recommendations

7.1. Authorization

For the purpose of the ESA, the proponent should obtain authorization from the Ministry of Environment, Conservation and Parks to remove the Eastern flowering dogwood.

7.2. Compensation

The City of Mississauga requires replacement tree(s) be planted to offset the loss of a healthy tree measuring 15 cm DBH or greater. Replacement coniferous trees must be at least 1.8 m tall. Replacement deciduous trees must measure equal to or greater than 6 cm in DBH. One (1) compensation tree is required for the removal of every 15 cm diameter of tree removed.

7.3. Fertilization

Fertilization during the first year following the completion of site works is not recommended. Supplemental fertilization thereafter should be assessed and prescribed by a Certified Arborist accordingly.

7.4. Irrigation

An Irrigation Plan for the trees marked for preservation should be prepared by a Certified Arborist after appropriately assessing the magnitude of tree injury following the completion of any required root pruning.

7.5. Monitoring

A Certified Arborist should be present to monitor tree removal, evaluate tree injury/stress and screen for hazard trees throughout the construction phase. Monitoring the preserved trees and screening for hazard trees post-construction should be completed by a Certified Arborist semi-annually for two (2) years following the completion of site works.

7.6. Protective Mulch Layer

To minimize compaction impacts from the weight of construction machinery to the root system of Tree ID 212, 213, 226 and 228, it is recommended that a layer of mulch with a depth of approximately 10-15 cm be applied at the base of said trees and covered in plywood (Figure 2). Mulch should be certified pest-free, dye-free and made of native species. Mulch should be removed immediately following completion of all site works.

7.7. Pruning

Root pruning is completed on trees requiring root removal/injury to significantly improve the chances of survival. A Certified Arborist should be present where site works are completed in proximity to trees marked for preservation to assess for the need to complete root pruning. Root pruning should be completed by a Certified Arborist.

Branch pruning should be completed by a Certified Arborist.

7.8. Root Zone Aeration

Aerating the root zone of preserved trees may have the ability to reduce stress caused by soil compaction. The need for root zone aeration should be assessed and prescribed by a Certified Arborist following the completion of site works accordingly.

7.9. Tree Preservation

Solid tree preservation hoarding is recommended to protect trees selected for preservation. The location of tree preservation hoarding has been depicted (Figure 2). We recommend the location of hoarding be staked by an Ontario Land Surveyor prior to its erection. The tree preservation hoarding should be erected prior to the onset of siteworks and must remain in place for the duration of all construction activity. There should be no disturbance (e.g., digging, trenching, compaction, changes in grade or other soil disturbance) beyond the limits of tree preservation hoarding. Fill should never be placed beyond the limits of the tree preservation hoarding. Tree preservation hoarding should be monitored throughout the undertaking of the proposed works.

The proponent is responsible for ensuring that tree preservation hoarding is maintained throughout all phases of demolition and construction in the location and condition as approved by the Planning and Building Department. No materials (e.g., building materials, soil) may be stockpiled beyond the limits of the tree preservation hoarding. Failure to maintain the hoarding as originally approved or the storage of materials within the hoarding will be cause for the Letter of Credit to be held for two (2) years following completion of all site works.

7.10. Tree Removal

Tree removal should be completed in a manner that does not contravene the *Migratory bird Convention Act* and as such, should not occur between April 5 to August 28 of any given year unless otherwise directed by a biologist at the time of removal. Tree removal should be completed by a qualified professional and in a manner that does not cause injury or damage to trees marked for preservation. Hazard trees marked for removal should be removed as soon as possible.

8.0 References

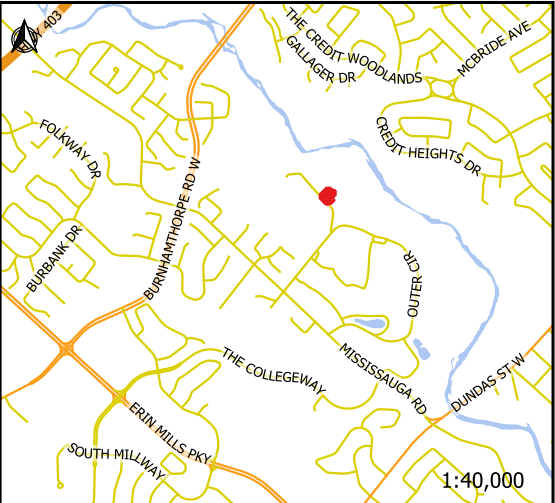
City of Mississauga, 2018. Forestry Protection Hoarding Guidelines.
City of Mississauga, 2022. Private Tree Protection By-law 0021-2022.
City of Mississauga, 2020. Terms of Reference: Arborist Reports, Tree Inventory/Survey & Tree Preservation Plans.
City of Mississauga, 2019. Tree Preservation and Protection Standards.

Limitations:

This report was prepared using the most current site plan provided to Sumac's office. The conclusion and recommendations provided herein may no longer be applicable should changes be made to the site plan following submission of this report. The assessment provided herein is valid at the time of inspection.

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Legend



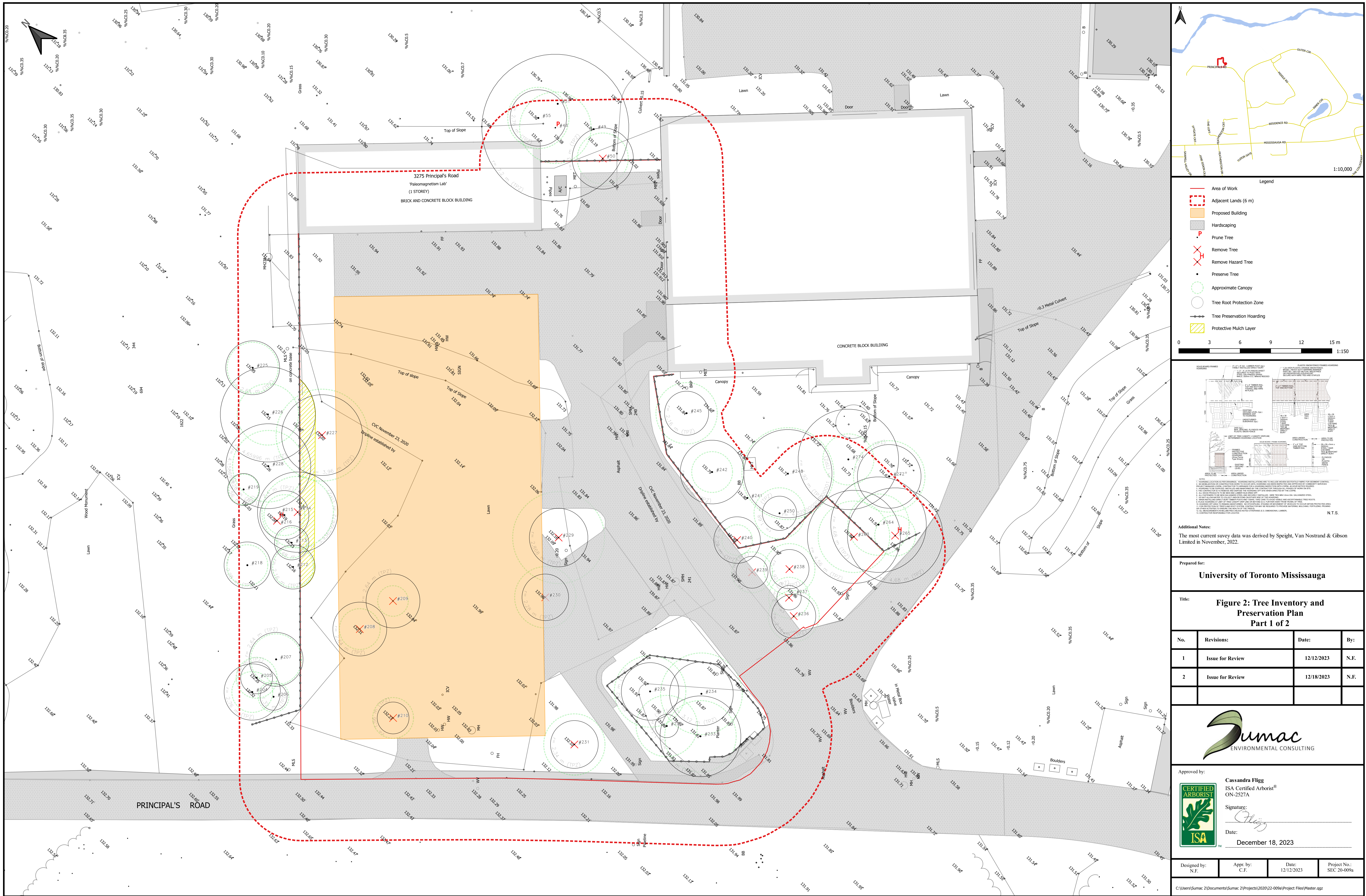
- Area of Work
- Adjacent Lands (6 m)



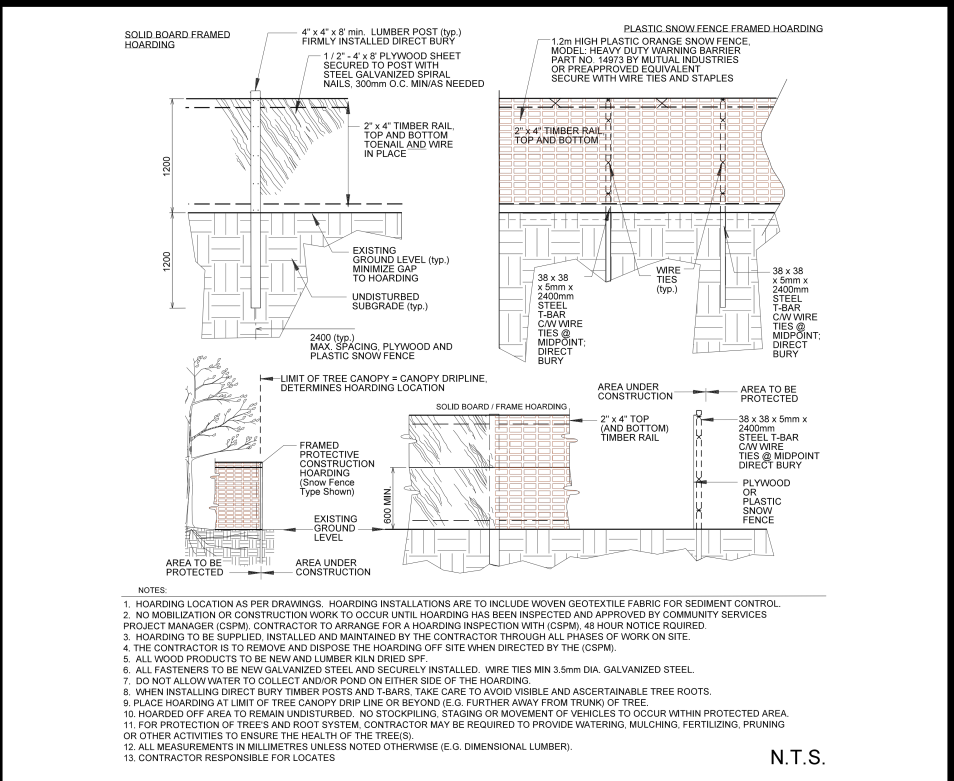
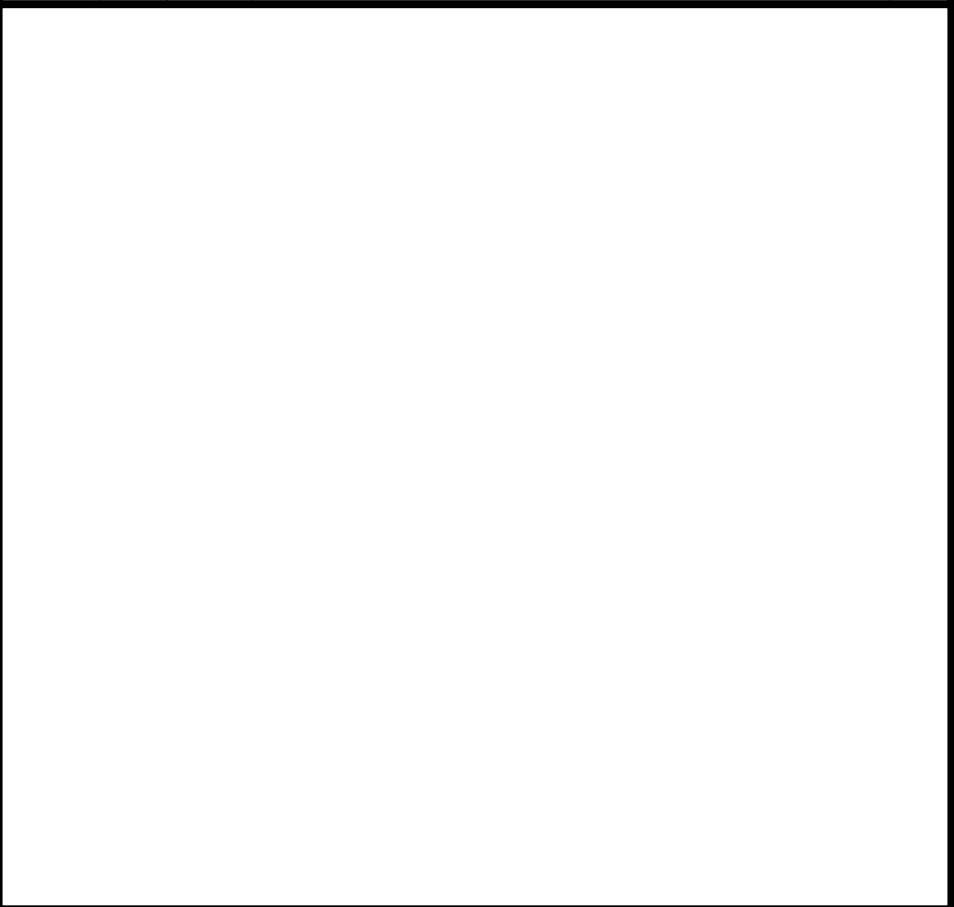
Figure 1: Study Area



Designed by: N.F.
Date: 12/18/2023
Project: SEC 20-009a



Tree Inventory										
Tree ID	Tag No.	Scientific Name	Common Name	DBH (cm)	Tree Protection Zone Radius (m)	Approximate Canopy Size (m)	Health	Comments	Hazard	Recommendation
48	763	<i>Acer saccharinum</i>	Silver Maple	60	7.2	7	Fair	-Two stems diverging at 2m -Second stem is hollow and leaning towards building	Yes	Prune and Retain
49	771	<i>Fraxinus americana</i>	White Ash	25		0	Dead	-EAB infected -Peeling bark -Virginia creeper noted on main stem		Preserve
50	769	<i>Acer platanoides</i>	Norway Maple	25	3	5	Good	-Virginia creeper noted on main stem		Remove
51	768	<i>Crataegus sp.</i>	Hawthorne Sp.	12		0	Dead	-Virginia creeper noted on main stem		Preserve
55	762	<i>Acer platanoides</i>	Norway Maple	23	2.76	6	Good	-Virginia creeper noted on main stem		Preserve
204	657	<i>Acer platanoides</i>	Norway Maple	23	2.76	4	Good			Preserve
205	656	<i>Acer platanoides</i>	Norway Maple	13	1.56	4	Good			Preserve
206	1648	<i>Acer platanoides</i>	Norway Maple	11	1.32	3	Good			Preserve
207	654	<i>Acer platanoides</i>	Norway Maple	22	2.64	5	Good			Injure
208	1641	<i>Acer saccharum</i>	Sugar Maple	22	2.64	4	Fair	-Callousing wound at base -Damaged bark at 10 m		Remove
209	669	<i>Cornus florida</i>	Eastern Flowering Dogwood	22	2.64	3	Poor	-Three stems diverging at 35cm -Included bark -Loose bark at root flare -Second and third stem are dead -Epicormic growth throughout		Remove
210	651	<i>Quercus rubra</i>	Northern Red Oak	26	1.56	4	Good	-Slight lean		Remove
212	671	<i>Acer platanoides</i>	Norway Maple	18	2.16	4	Fair	-Epicormic growth throughout		Injure
213	673	<i>Acer platanoides</i>	Norway Maple	14	1.68	3	Fair	-Epicormic growth throughout		Injure
214	681	<i>Acer platanoides</i>	Norway Maple	26,20	3.936292672	7	Fair	-Epicormic growth throughout		Remove
215	680	<i>Acer platanoides</i>	Norway Maple	20	2.4	4	Fair	-Epicormic growth throughout		Injure
216	679	<i>Pinus resinosa</i>	Red Pine	29		0	Dead	-Loose bark -Hollow	Yes	Remove Hazard Tree
218	674	<i>Acer platanoides</i>	Norway Maple	19	2.28	4	Good			Preserve
219	683	<i>Acer platanoides</i>	Norway Maple	13	1.56	3	Good			Preserve
225	692	<i>Acer platanoides</i>	Norway Maple	22	2.64	5	Fair	-Epicormic growth throughout		Preserve
226	689	<i>Acer platanoides</i>	Norway Maple	32,22	4.65996	6	Fair	-Two stems diverging at 20cm -Second stem leaning		Injure
227	1694	<i>Acer platanoides</i>	Norway Maple	33	3.96	9	Fair	-Significant lean		Remove
228	682	<i>Acer platanoides</i>	Norway Maple	25,24	4.158653628	7	Fair	-Epicormic growth throughout -Included bark		Injure
229	715	<i>Quercus rubra</i>	Northern Red Oak	29,38	2.868	9	Fair	-Two stems diverging at 5cm -Epicormic growth throughout -Lean over parking lot		Remove
230	716	<i>Juglans x bixbyi</i>	Walnut Hybrid	38	2.28	6	Fair	-Epicormic growth throughout -Dieback throughout -Dead limbs overhanging road		Remove
231	717	<i>Liquidambar styraciflua</i>	Sweetgum	39	2.34	6	Good	-Some lower limb dieback		Remove
232	719	<i>Cercis canadensis</i>	Eastern Redbud	19	1.14	6	Fair	-Slight lean -Limb dieback throughout -Epicormic growth throughout		Preserve
233	720	<i>Cercis canadensis</i>	Eastern Redbud	33	3.96	7	Poor	-Significant lean -Epicormic growth throughout -Large cracks on main stem -Some limb dieback		Injure
234	723	<i>Pinus sylvestris</i>	Scots Pine	52	3.12	8	Fair	-Lower and mid limb dieback -Fungal growth at root flare		Preserve
235	722	<i>Pinus sylvestris</i>	Scots Pine	47	2.82	7	Fair	-Limb dieback -Some chlorosis		Preserve
236	725	<i>Acer platanoides</i>	Norway Maple	18	2.16	5	Good	-Deer scratches on main stem		Remove
237	1660	<i>Acer platanoides</i>	Norway Maple	10	1.2	4	Fair	-Slight lean -Crack on main stem but callusing over		Remove
238	1658	<i>Acer platanoides</i>	Norway Maple	16	1.92	5	Fair	-Cracks on main stem but callusing over		Remove
239	1638	<i>Acer platanoides</i>	Norway Maple	13	1.56	4	Good	-Slight lean		Remove
240	728	<i>Prunus serotina</i>	Black Cherry	19	2.28	3	Fair	-Thin crown		Remove
241	729	<i>Fraxinus americana</i>	White Ash	26		0	Dead	-EAB infected		Preserve
242	750	<i>Scandosorbus intermedia</i>	Swedish Whitebeam	26	3.12	4	Fair	-Large cracks on main stem -Damage at root flare		Injure
245	752	<i>Celtis occidentalis</i>	Common Hackberry	25,26	2.16	6	Good			Preserve
248	749	<i>Juglans x bixbyi</i>	Walnut Hybrid	36	4.32	9	Fair	-Some cankers -Slight lean		Preserve
250	730	<i>Acer platanoides</i>	Norway Maple	14	1.68	5	Good			Preserve
263	731	<i>Acer negundo</i>	Manitoba Maple	38	4.56	7	Fair	-Significant Lean		Remove
264	732	<i>Acer rubrum</i>	Red Maple	39	4.68	6	Fair	-Large hollow at root flare -Included bark		Injure
265	733	<i>Acer saccharinum</i>	Silver Maple	39	4.68	4	Poor	-Large dead limb over road -Dieback -Epicormic shoots	Yes	Remove Hazard Tree
272	739	<i>Acer platanoides</i>	Norway Maple	26	3.12	7	Good	-slight lean		Preserve
274	742	<i>Acer platanoides</i>	Norway Maple	41	4.92	5	Fair	-2 stems diverge at 0.5 m -Included bark		Injure



Additional Notes:
The most current survey data was derived by Speight, Van Nostrand & Gibson Limited in November, 2022.

Prepared for:
University of Toronto Mississauga

Title:
**Figure 2: Tree Inventory and Preservation Plan
Part 2 of 2**

No.	Revisions:	Date:	By:
1	Issue for Review	12/12/2023	N.F.
2	Issue for Review	12/18/2023	N.F.



Approved by:
Cassandra Fligg
ISA Certified Arborist®
ON-2527A
Signature: _____
Date: December 18, 2023

Designed by: N.F.	Appr. by: C.F.	Date: 12/12/2023	Project No.: SEC 20-009a
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List of Appendices

Appendix A: Image Gallery

Appendix A: Image Gallery

Appendix A: Image Gallery



Western corner of Study Area viewing
Principal's Road
(Trees 204-210)



Western edge of subject property viewing
woodland
(Trees 212-216, 219)

Appendix A: Image Gallery



Western edge of subject property viewing
woodland continued
(Trees 225-228)



Paleomagnetism Laboratory located at
northern limit of Study Area
(Trees 48-51, 55, 59-62, 69, 74, 186)

Appendix A: Image Gallery



Eastern edge of subject property adjacent to
the Grounds Building

(Trees 236-242, 245, 248, 250, 263-265, 272,
274)



Existing laneway and parking area in Study
Area

(Trees 229-235)