



JACKSON ARBORICULTURE INC.

CONSULTING AND GIS ANALYSIS

118 Pleasant Ridge Road, Brantford ON, N3R 0B8

905-512-6303, jeremy@jacksonarbor.ca

Tree Inventory and Preservation Plan Report

Subject Property:

5160 & 5170 Ninth Line
Mississauga, ON

Prepared For:

Adesso Design Inc.
218 Locke St. S., 2nd Floor
Hamilton, ON L8P 4B4

Prepared By:

Jackson Arboriculture Inc.
118 Pleasant Ridge Road
Brantford, ON N3R 0B8

10 November 2021

Jackson Arboriculture Inc. Project No. 262

1.0 Introduction

Jackson Arboriculture Inc. was retained by Adesso Design Inc. to complete a Tree Inventory and Preservation Plan report for a property situated at 5160 & 5170 Ninth Line in Mississauga, hereby referred to as the subject property. It is understood that a development application will be filed with the Town for the redevelopment of the property.

The following study has been completed in accordance with the technical standards outlined in the City of Mississauga's Terms of Reference for Arborist Reports, Tree Inventory/Survey & Tree Preservation Plans, and the Tree Preservation & Protection Standards.

2.0 Methodology

At the onset of the project the arborological scope of work was coordinated with the client and the consulting team. Prior to conducting a site visit, a topographic survey of the subject property and current aerial photography were overlaid utilizing geographic information software for use on site during the completion of the tree inventory. The tree locations, the topographic survey and the site plan were overlaid and a tree preservation analysis was completed to determine the impacts to the trees included in the inventory.

2.1 Tree Inventory

A site visit was conducted on the 20th of October 2021 to complete the tree inventory. All trees 10 cm in diameter and larger situated on subject property, on neighbouring property within 6 m and within the road allowance were included in the tree inventory. A visual assessment was completed on each tree included in the inventory and the following information is provided in the tree inventory table (Table 1):

- **Tree #:** A number assigned to each tree corresponding to the tree inventory (Table 1) and the Tree Preservation Plan (Sheet 1) as prepared by Adesso Design Inc.
- **Species:** Common and scientific (Latin) species names.
- **DBH:** The trunk diameter at breast height, measured in centimeters at 1.4 m from the ground.
- **Condition:** The health of the tree considering the trunk integrity, the crown structure and the crown vigour; each rated as good, fair or poor. The condition ratings are based on the signs, symptoms and defects exhibited by each tree, considering the surroundings in which it is growing.
- **Dripline:** The distance from the trunk to the tips of the live branches.
- **mTPZ:** Minimum tree preservation zone distance, based on the DBH, measured from the base of the trunk in meters (Table 2).
- **Ownership:** The owner of the tree.
- **Comments:** Any additional notes relevant to the tree's health or growing conditions.
- **Recommendation:** The recommended removal or preservation of each tree based on the results of the impact assessment.

The trees included in the inventory were identified with numbers 1-26 and were located using the topographic survey provided and a tablet computer with a GPS chip.

2.2 Impact Assessment

A tree preservation analysis was completed on each tree considering the impacts from the proposed development and many other factors including, but not limited to, tree condition, species, DBH and the existing site conditions. The impacts from the proposed development will occur where tree roots and branches conflict with construction machinery during construction.

During the tree preservation analysis the minimum tree preservation zone (mTPZ) distances, as outlined in the City's Tree Preservation & Protection Standards, utilized to determine the potential impacts. The mTPZ distance is based on the diameter of the tree trunk and provides a minimum distance at which development can safely occur without adversely affecting the tree health. Refer to Table 2 for the mTPZ distance based on the corresponding trunk diameter.

Table 2. Minimum tree preservation zone (mTPZ) distances.

DBH (cm)	Min. Protect Distance (m)
	Radius
< 10	1.2
10 – 20	1.5
21 – 30	1.8
31 – 40	2.4
41 – 50	3.0
51 – 60	3.6
61 – 70	4.2
71 – 80	4.8
81 – 90	5.4
91 – 100	6.0

3.0 Existing Conditions

The subject property is occupied by a single family residential dwelling and a veterinary clinic with associated asphalt parking. The property is bound by a woodland to the north, Ninth Line to the east, and land under development to the south and west.

4.0 Tree Inventory Results

The results of the tree inventory indicate that a total of 26 trees reside on subject property, within the road allowance and on neighbouring property within 5 m. The trees included in the inventory appear to be comprised of landscape plantings with some naturally occurring trees.

Trees included in the inventory are comprised of the following species:

- Apple species (*Malus sp.*),
- Pear species (*Pyrus sp.*),
- Apricot species (*Prunus sp.*),
- English Walnut (*Juglans regia*),
- Blue Spruce (*Picea pungens*),
- Sugar Maple (*Acer saccharum*),
- Bur Oak (*Quercus macrocarpa*),
- Weeping White Mulberry (*Morus alba* 'pendula'),
- Northern Catalpa (*Catalpa speciosa*),
- Norway Maple (*Acer platanoides*) and
- Hawthorn species (*Crataegus sp.*).

No rare, threatened or endangered tree species were documented in the tree inventory. Refer to Table 1 for the complete tree inventory and Sheet L-1 for tree locations.

5.0 Proposed Development

The proposed development is comprised of a 6 storey, 198 unit residential development. Access to the development is proposed from a local road to the west.

6.0 Discussion

The following sections discuss the tree removal requirements, tree preservation opportunities, tree preservation recommendations and the valuation of City owned trees.

6.1 Tree Removal

The removal of Trees 1-9 and 13-26 will be required to accommodate the proposed development.

6.2 Tree Preservation

The preservation of Trees 10, 11 and 12 will be possible with the use of appropriate tree protection measures. Tree protection fence must be installed prior to the commencement of construction. Refer to Sheet L-1 for the prescribed tree protection fence locations and Sheet L-2 for the tree protection fencing detail.

6.3 Tree Preservation Recommendations

The following recommendations are made in attempts to reduce the impacts to trees identified for preservation:

- Tree protection fence must be installed at the mTPZ distance outlined in this report and on Sheet L-1.
- Once tree protection fence has been installed it must not be moved, relocated or altered in any way (unless repairing fallen fence etc.) for the duration of the construction period.
- No intrusion into an area identified on Sheet L-1 as a tree preservation zone (TPZ) is allowed at anytime during construction unless noted otherwise in this report and on Sheet L-1.

- No storage of machinery, construction debris, materials, waste or any other items is allowed within a TPZ.
- Any tree branches and roots that conflict with the proposed development must be pruned by a Certified Arborist in accordance with acceptable arboricultural practice.
- Tree protection fencing should be inspected by a Certified Arborist prior to and during construction to ensure that the fencing remains intact and in good repair throughout the stages of development.

6.4 Tree Valuation

A tree valuation was calculated for each City owned tree included in the tree inventory. The values were calculated using the Trunk formula Technique as outlined in the Guide for Plant appraisal, 10th Edition. The Ontario Supplement (2003) provides regionally relevant data pertaining to basic tree costs.

The Trunk Formula Technique is used to determine the value of trees that are larger than what is commonly available for purchase from a nursery. The unit tree cost is supplied by the Regional Plant Appraisal Council and published within the Ontario Supplement (2003). For Ontario, the unit tree cost has been set at \$6.51/cm² within the Supplement and this value has been used in the valuation calculations.

The Basic Tree Cost is calculated by multiplying the unit tree cost by the cross-sectional area of the subject tree. For multi-stemmed trees, the appraised trunk area considers the cross-sectional area of all stems. The following equation is utilized to calculate the Basic Tree Cost:

$$\text{Basic Tree Cost} = \text{Appraised Tree Trunk Area} \times \text{Unit Tree Cost}$$

The Appraised Value is calculated by multiplying the Basic Tree Cost by the three depreciation factors (Condition Rating, Functional Limitation Rating, and External Limitation Rating, as described in the Guide). The following equation is utilized to calculate the Appraised Value:

$$\text{Appraised Value} = \text{Basic Tree Cost} \times \text{Condition Rating} \times \text{Functional Limitation Rating} \times \text{External Limitation Rating}$$

Functional Limitation Ratings and External Limitation Ratings are calculated according to the methods outlined in the guide. Condition ratings were calculated based on the assessed condition of the trees on the site and in accordance with the guide. The final values were rounded to the nearest \$100 for values greater than \$2000, and to the nearest \$5 for values less than \$2000.

Refer to Appendix A for the individual tree calculations.

7.0 Summary

Jackson Arboriculture Inc. was retained by Adesso Design Inc. to complete a Tree Inventory and Preservation Plan report for a property situated at 5160 & 5170 Ninth Line in Mississauga. A tree inventory was conducted and an impact analysis was completed in the context of the proposed development plan.

The tree inventory documented a total of 26 trees situated on subject property, in the road allowance and on neighbouring property within 6 m. The results of the impact analysis indicate that the removal of 23 trees will be required to accommodate the proposed development.

Respectfully submitted,
Jackson Arboriculture Inc.

Jeremy Jackson

Jeremy Jackson, H.B.Sc.,
ISA Certified Arborist #ON-1089A
GIS Analyst

Limitations of Assessment

It is our policy to attach the following limitations of assessment to ensure that the client, municipalities and agencies are fully aware of what is technically and professionally realistic when visually assessing and retaining trees.

The assessment of the trees presented in this report has been made using accepted arboricultural techniques. These include a visual examination of the above ground parts of each 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 any lean, the general condition of the trees and the surrounding site, and the proximity of property and people.

Notwithstanding the recommendations and conclusions made in this report, it must be realized that trees are living organisms and their health and vigour constantly change. They are not immune to changes in site conditions, or seasonal variations in the weather conditions, including severe storms with high-speed winds.

While reasonable efforts have been made to ensure that the trees recommended for retention are healthy no guarantees are offered, or implied, that these trees, or any parts of them, will remain standing. It is both professionally and practically impossible to predict with absolute certainty the behaviour of any single tree or group of trees or their component parts in all circumstances. Inevitably a standing tree will always pose some risk. Most trees have the potential for failure under adverse weather conditions, and the risk can only be eliminated if the tree is removed.

Although every effort has been made to ensure that this assessment is reasonably accurate, trees should be re-assessed periodically. The assessment presented in this report is valid as the time of the inspection.

Table 1. Tree InventoryLocation: 5160 & 5170 Ninth Ln, MississaugaDate: 20 Oct. 2021Surveyors: JJJ

Tree #	Common Name	Scientific Name	DBH	TI	CS	CV	DL	mTPZ	CC	Ownership	Comments	Recom.
1	Apple species	<i>Malus sp.</i>	23	FG	FG	G	3	1.8	D	Subject property	Union at 1.7 m with pruning wound	Remove
2	Pear species	<i>Pyrus sp.</i>	9, 9, 10, 10	FG	G	G	2	1.5	D	Subject property	Union at 1.1 m	Remove
3	Apple species	<i>Malus sp.</i>	9, 13	FG	G	G	2	1.5	D	Subject property	Unions at 1.2 and 1.4 m	Remove
4	Apricot species	<i>Prunus sp.</i>	15, 15, 15	FG	G	G	3	1.5	CD	Subject property	Union at 1.1 m	Remove
5	Apple species	<i>Malus sp.</i>	31	FG	FG	G	4	2.4	CD	Subject property	Union at 1.7 m with pruning wound	Remove
6	English walnut	<i>Juglans regia</i>	24	G	FG	G	4	1.8	D	Subject property	Stem wounds in crown - possible sunscald	Remove
7	Blue Spruce	<i>Picea pungens</i>	24	G	G	G	2	1.8	D	Subject property		Remove
8	Blue Spruce	<i>Picea pungens</i>	18	G	G	G	2	1.8	D	Subject property		Remove
9	Apple species	<i>Malus sp.</i>	10, 11, 12, 12, 10	FG	G	G	2.5	1.5	D	Subject property	Union at 0.9 m	Remove
10	Sugar Maple	<i>Acer saccharum</i>	31	G	G	G	5	2.4	CD	Subject property		Preserve
11	Bur Oak	<i>Quercus macrocarpa</i>	15	G	FG	FG	2	1.5	CD	Subject property	Epicormic branching	Preserve
12	Bur Oak	<i>Quercus macrocarpa</i>	26	FG	G	G	4	1.8	CD	Road allowance	Stem wound, light bow east	Preserve
13	Bur Oak	<i>Quercus macrocarpa</i>	29	FG	FG	G	4	1.8	CD	Road allowance	Narrow union at 3.5 m	Remove
14	Weeping White Mulberry	<i>Morus alba 'pendula'</i>	21	G	F	F	1	1.8	D	Subject property	Pruned in globe form	Remove
15	Northern Catalpa	<i>Catalpa speciosa</i>	38	FG	FG	FG	5	2.4	D	Subject property	Seams, pruning wounds	Remove
16	Norway Maple	<i>Acer platanoides</i>	40	F	G	G	5	2.4	D	Subject property	Swollen flare with stem wounds	Remove
17	Norway Maple	<i>Acer platanoides</i>	28	P	F	F	2	1.8	D	Subject property	Heavy canker wound, 30% crown dieback	Remove
18	Norway Maple	<i>Acer platanoides</i>	28	FG	G	G	4	1.8	D	Road allowance	Union at 2 m	Remove
19	Norway Maple	<i>Acer platanoides</i>	14	P	P	P	1	1.5	D	Road allowance	Stem wound, main crown missing	Remove
20	Norway Maple	<i>Acer platanoides</i>	27	F	G	G	3	1.8	D	Subject property	Seam	Remove
21	Norway Maple	<i>Acer platanoides</i>	20	FG	G	G	3	1.8	D	Road allowance	Seam	Remove
22	Norway Maple	<i>Acer platanoides</i>	24	G	G	G	4	1.8	D	Subject property		Remove
23	Norway Maple	<i>Acer platanoides</i>	25	FG	G	G	3.5	1.8	D	Subject property	Girdling root	Remove
24	Norway Maple	<i>Acer platanoides</i>	32	P	G	G	3	2.4	D	Subject property	Heavy canker wound	Remove
25	Norway Maple	<i>Acer platanoides</i>	22	FG	G	G	3	1.8	D	Subject property	Light seam	Remove
26	Hawthorn species	<i>Crataegus sp.</i>	9, 8, 8	FG	FG	FG	1.5	1.5	D	Subject property	Union at 1 m, pruning wounds	Remove

Legend		
DBH	Diameter at Breast Height	cm
TI	Trunk Integrity	G, F, P
CS	Crown Structure	G, F, P
CV	Crown Vigour	G, F, P
DL	Dripline	m
mTPZ	Minimum Tree Preservation Zone	m
CC	Crown Class	D, CD
Recom.	Recommendation	Remove/Preserve
D	Dominant	
CD	Co-dominant	
G	Good	
F	Fair	
P	Poor	

Appendix A – Tree Valuation Computations

Tree #	Common Name	DBH	Con.	Appraised Trunk Area (cm ²)	Unit Tree Cost (RPAC) (\$/cm ²)	Basic Tree Cost (\$)	Depreciation			Appraised Value Tree (\$)	Rounded
							Condition Rating %	Functional Limitation Rating %	External Limitation Rating %		Final Value (\$)
12	Bur Oak	26	FG	531	\$6.51	\$3,456	0.725	0.9	0.7	\$1,579	\$1,580
13	Bur Oak	29	FG	661	\$6.51	\$4,300	0.725	0.8	0.7	\$1,746	\$1,745
18	Norway Maple	28	FG	616	\$6.51	\$4,009	0.725	0.8	0.7	\$1,627	\$1,630
19	Norway Maple	14	P	1556	\$6.51	\$10,130	0.2	0.9	0.7	\$1,276	\$1,275
21	Norway Maple	20	FG	314	\$6.51	\$2,045	0.725	0.8	0.7	\$830	\$830
26	Hawthorn Species	9, 8, 8	FG	164	\$6.51	\$1,068	0.725	0.8	0.7	\$433	\$435

Codes	
DBH	Diameter at Breast Height
Con.	Condition
G	Good
F	Fair
P	Poor