



JACKSON ARBORICULTURE INC.

CONSULTING AND GIS ANALYSIS

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Tree Inventory and Preservation Plan Report

Subject Property:

2365-2377 Lakeshore Road West
Oakville, ON

Prepared For:

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

Prepared By:

Jackson Arboriculture Inc.
118 Pleasant Ridge Rd.
Brantford, ON N3R 0B8
Oakville Business Licence No. 21-110446

14 March 2022

Jackson Arboriculture Inc. Project No. 289

1.0 Introduction

Jackson Arboriculture Inc. was retained by Adesso Design Inc. to complete a Tree Inventory and Preservation Plan report for a group of properties situated at 2365-2377 Lakeshore Road West in the Town of Oakville, Ontario, 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 Town of Oakville's Tree Protection During Construction Procedure (EN-TRE-001-001) and the private tree by-law No. 2017-038.

2.0 Methodology

At the onset of the project the arboricultural scope of work was coordinated with the client and the consulting team. Prior to conducting a site visit, the 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 then overlaid and a tree preservation analysis was completed to determine the impacts to each tree included in the inventory.

2.1 Tree Inventory

A site visit was conducted on the 21st of February 2022 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 correlating to the tree inventory and the Tree Preservation Plan (Sheet L-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 poor, fair or good. The condition ratings are based on the signs, symptoms and defects exhibited by each tree, considering the conditions in which it is growing.
- **mTPZ:** The minimum tree preservation zone distance measured in meters from the base of the tree trunk at which tree protection fence is to be installed (Table 2).
- **Location:** The property where the tree is situated.
- **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 impact assessment.

The trees included in the inventory are identified with numbers 1-33 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 individually 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 conflict with construction machinery during demolition, pre-grading, construction, grading and servicing.

During the tree preservation analysis the minimum Tree Preservation Zone (mTPZ) distance, as outlined in the Town of Oakville's Tree Protection During Construction Procedure, was utilized to determine the potential impacts to each tree included in the inventory. Where encroachment is required within the mTPZ, tree removal may be required.

The mTPZ distance is the minimum distance at which development can safely occur without appreciably damaging a tree's root system. The mTPZ distance is based on the diameter of the tree and measured in meters from the base of the stem. Refer to Table 2 for the mTPZ distances based on trunk diameter.

Table 2. Minimum tree preservation zone distances.

DBH (cm)	Min. Tree Preservation Zone Distance (m)*
	Radius
< 10	1.8
10 – 30	2.4
31 – 50	3.0
51 – 60	3.6
61 – 70	4.2
71 – 80	4.8
81 – 90	5.4
91 – 100	6.0
101 – 110	6.6

*As measured from the outside of the tree trunk.

3.0 Existing Conditions

The subject property is currently occupied by a mixed use commercial/residential structure and asphalt parking. The property is bound by residential development to the north, commercial development to the east and west, and Lakeshore Road West to the south.

4.0 Tree Inventory Results

The results of the tree inventory indicate that a total of 33 trees reside on subject property and on neighbouring property within 6 m of the property boundaries. There are no trees residing within the road allowance. The trees included in the inventory appear to be comprised of landscape plantings.

The trees included in the inventory are comprised of the following species:

- European Ash (*Fraxinus excelsior*),
- Sweet Cherry (*Prunus avium*)
- Silver Maple (*Acer saccharinum*),
- Black Walnut (*Juglans nigra*),
- Norway Maple (*Acer platanoides*),
- Siberian Elm (*Ulmus pumila*) and
- Manitoba Maple (*Acer saccharum*).

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 the tree locations.

5.0 Proposed Development

The proposed development includes the demolition of the existing structure on site and the construction of a mixed use residential/commercial structure with below ground parking.

6.0 Discussion

The following sections outline the tree removal requirements, tree preservation opportunities, tree preservation recommendations and the tree valuation methodology.

6.1 Tree Removal

The removal of Trees 1, 2, 4-8 and 10-23 will be required to accommodate the proposed development.

6.2 Tree Preservation

The preservation of Trees 3, 9 and 24-33 will be possible with the use of appropriate tree protection measures. Tree protection measures will have to be implemented prior to the commencement of demolition to ensure the trees identified for preservation are not adversely impacted by the proposed development.

Refer to Sheet L-1 for the location of the tree protection fence, the tree protection fence detail and additional tree protection plan notes. Refer to Table 1 for the mTPZ distance for each tree.

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, in Table 1 and on Sheet L-1 unless noted otherwise.
- 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.
- 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 completed for each 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 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 Ontario Supplement (2003) provides regionally relevant data pertaining to basic tree costs.

The Appraised Value is calculated by multiplying the Basic Tree Cost by 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:

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

The Basic Tree Cost is calculated by multiplying the unit tree cost by the cross-sectional area of the subject tree. 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. 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:

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

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. 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 group of properties situated at 2365-2377 Lakeshore Road West in the Town of Oakville. A tree inventory was conducted and an impact assessment was completed in the context of the proposed development plan.

The tree inventory documented a total of 33 Trees situated on subject property, in the road allowances and on neighbouring property within 6 m of the property boundaries. The results of the impact assessment indicate that the removal of 21 trees included in the tree inventory 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 Inventory

Location: 2365-2377 Lakeshore Rd W, Oakville

Date: 21 Feb. 2022

Surveyors: JJJ

Tree #	Common Name	Scientific Name	DBH	TI	CS	CV	CC	mTPZ	Location	Comments	Recom.
1	European Ash	<i>Fraxinus excelsior</i>	~20	P	P	P	CD	2.4	Neighbouring	90% crown dieback	Remove
2	Sweet Cherry	<i>Prunus avium</i>	~51	F	P	P	CD	3.6	Neighbouring	Union at 2.5 m, heavy pruning wounds, 70% crown dieback	Remove
3	Silver Maple	<i>Acer saccharinum</i>	~25	F	FG	G	CD	2.4	Neighbouring	Moderate lean east, crook	Preserve
4	Black Walnut	<i>Juglans nigra</i>	~25	G	G	G	CD	2.4	Subject Property		Remove
5	Norway Maple	<i>Acer platanoides</i>	20	G	G	G	CD	2.4	Subject Property	Union at 3 m	Remove
6	Norway Maple	<i>Acer platanoides</i>	18	G	G	G	CD	2.4	Subject Property		Remove
7	Norway Maple	<i>Acer platanoides</i>	14	G	G	G	CD	2.4	Subject Property		Remove
8	Norway Maple	<i>Acer platanoides</i>	16, 13	FG	G	G	I	2.4	Subject Property	Union at ground	Remove
9	Norway Maple	<i>Acer platanoides</i>	~15	G	G	G	CD	2.4	Neighbouring		Preserve
10	Silver Maple	<i>Acer saccharinum</i>	32, 44	FG	FG	G	CD	3.0	Subject Property	Union at 0.3 m, lean south	Remove
11	Silver Maple	<i>Acer saccharinum</i>	19	FG	FG	FG	I	2.4	Subject Property	Bowed north	Remove
12	Siberian Elm	<i>Ulmus pumila</i>	43	G	G	G	CD	3.0	Boundary	Light lean northwest	Remove
13	Norway Maple	<i>Acer platanoides</i>	13	G	FG	FG	I	2.4	Subject Property		Remove
14	Norway Maple	<i>Acer platanoides</i>	14, 12	G	G	FG	I	2.4	Subject Property		Remove
15	Black Walnut	<i>Juglans nigra</i>	12	FG	P	P	S	2.4	Subject Property	Bowed southwest, top cut at 4 m	Remove
16	Siberian Elm	<i>Ulmus pumila</i>	35, 32	F	FG	G	D	2.4	Subject Property	Union at 1.3 m	Remove
17	Norway Maple	<i>Acer platanoides</i>	17	G	G	G	I	2.4	Subject Property		Remove
18	Manitoba Maple	<i>Acer negundo</i>	12	F	P	P	S	2.4	Subject Property	Top cut at 1.8 m	Remove
19	Norway Maple	<i>Acer platanoides</i>	10	G	G	G	S	1.8	Subject Property	Light seam	Remove
20	Black Walnut	<i>Juglans nigra</i>	16	G	G	G	I	2.4	Subject Property		Remove
21	Siberian Elm	<i>Ulmus pumila</i>	61	F	FG	G	D	4.2	Subject Property	Union at 1.7 m, 10% crown dieback	Remove
22	Manitoba Maple	<i>Acer negundo</i>	18	F	P	P	S	2.4	Subject Property	Sweep, top cut at 1.7 m	Remove
23	Manitoba Maple	<i>Acer negundo</i>	15	FG	FG	FG	I	2.4	Subject Property	Lean northeast	Remove
24	Siberian Elm	<i>Ulmus pumila</i>	~25, 31, 28	F	F	F	CD	2.4	Neighbouring	Union at 1 m, lean/bowed southwest, 20% crown dieback	Preserve
25	Siberian Elm	<i>Ulmus pumila</i>	~15, 35	F	F	G	CD	2.4	Neighbouring	Union at ground, lean south	Preserve
26	Siberian Elm	<i>Ulmus pumila</i>	~35, 25	F	F	F	CD	2.4	Neighbouring	Union at 1 m, 20% crown dieback	Preserve
27	Norway Maple	<i>Acer platanoides</i>	~35, 20	F	G	G	I	2.4	Neighbouring	Union at ground	Preserve
28	Silver Maple	<i>Acer saccharinum</i>	~41	F	F	F	CD	3.0	Neighbouring	Heavy pruning wounds with rot, moderate lean/bowed southeast, 10% crown dieback	Preserve

Tree #	Common Name	Scientific Name	DBH	TI	CS	CV	CC	mTPZ	Location	Comments	Recom.
29	European Ash	<i>Fraxinus excelsior</i>	~18	G	G	G	I	2.4	Neighbouring		Preserve
30	Green Ash	<i>Fraxinus pennsylvanica</i>	~10, 12	F	F	F	CD	2.4	Neighbouring	Union at 1 m, epicormic branching, EAB infestation	Preserve
31	Green Ash	<i>Fraxinus pennsylvanica</i>	~15	F	F	F	CD	2.4	Neighbouring	Union at 3 m, EAB infestation	Preserve
32	Siberian Elm	<i>Ulmus pumila</i>	11	G	G	G	CD	2.4	Neighbouring		Preserve
33	Siberian Elm	<i>Ulmus pumila</i>	16, 8	FG	FG	G	CD	2.4	Neighbouring	Union at ground	Preserve

Table Legend

DBH	Diameter at Breast Height (cm)
TI	Trunk Integrity (G, F, P)
CS	Crown Structure (G, F, P)
CV	Crown Vigor (G, F, P)
DL	Dripline (m)
mTPZ	Minimum Tree Preservation Zone Distance (m)
CC	Crown Class (D, CD, I, S)
D	Dominant
CD	Co-dominant
I	Intermediate
S	Suppressed
Recom.	Recommendation (preserve/remove)
G	Good
F	Fair
P	Poor
~	Estimate

Appendix A – Tree Valuation Calculations

Tree #	Common Name	DBH	Con.	Appraised	Unit	Basic	Depreciation			Appraised Tree Value	Rounded Final Value
				Trunk Area	Tree Cost (RPAC)	Tree Cost	Condition Rating	Functional Limitation Rating	External Limitation Rating		
				(cm ²)	(\$/cm ²)	\$	%	%	%	\$	\$
1	European Ash	20	P	314	\$6.51	\$2,044	0.2	0.7	0.6	\$172	\$170
2	Sweet Cherry	51	P	2042	\$6.51	\$13,292	0.2	0.7	0.6	\$1,117	\$1,115
3	Silver Maple	25	F	491	\$6.51	\$3,194	0.6	0.8	0.8	\$1,226	\$1,225
4	Black Walnut	25	G	491	\$6.51	\$3,194	0.9	0.8	0.7	\$1,610	\$1,610
5	Norway Maple	20	G	314	\$6.51	\$2,044	0.9	0.7	0.8	\$1,030	\$1,030
6	Norway Maple	18	G	254	\$6.51	\$1,656	0.9	0.7	0.8	\$834	\$835
7	Norway Maple	14	G	154	\$6.51	\$1,002	0.9	0.7	0.8	\$505	\$505
8	Norway Maple	16, 13	FG	334	\$6.51	\$2,174	0.75	0.7	0.8	\$913	\$915
9	Norway Maple	15	G	177	\$6.51	\$1,150	0.9	0.9	0.6	\$559	\$560
10	Silver Maple	32, 44	FG	2324	\$6.51	\$15,129	0.75	0.6	0.8	\$5,447	\$5,400
11	Silver Maple	19	FG	283	\$6.51	\$1,845	0.75	0.9	0.6	\$747	\$745
12	Siberian Elm	43	G	1451	\$6.51	\$9,449	0.9	0.9	0.6	\$4,592	\$4,600
13	Norway Maple	13	FG	133	\$6.51	\$864	0.75	0.6	0.8	\$311	\$310
14	Norway Maple	14, 12	FG	267	\$6.51	\$1,738	0.75	0.6	0.8	\$626	\$625
15	Black Walnut	12	P	113	\$6.51	\$736	0.2	0.8	0.8	\$94	\$95
16	Siberian Elm	35, 32	F	1765	\$6.51	\$11,490	0.6	0.8	0.8	\$4,412	\$4,400
17	Norway Maple	17	G	227	\$6.51	\$1,477	0.9	0.8	0.8	\$851	\$850
18	Manitoba Maple	12	P	113	\$6.51	\$736	0.2	0.7	0.8	\$82	\$80
19	Norway Maple	10	G	79	\$6.51	\$511	0.9	0.7	0.8	\$258	\$260
20	Black Walnut	16	G	201	\$6.51	\$1,308	0.9	0.7	0.8	\$659	\$660
21	Siberian Elm	61	F	2921	\$6.51	\$19,016	0.6	0.7	0.8	\$6,389	\$6,400
22	Manitoba Maple	18	P	254	\$6.51	\$1,656	0.2	0.6	0.8	\$159	\$160
23	Manitoba Maple	15	FG	177	\$6.51	\$1,150	0.75	0.6	0.6	\$310	\$310
24	Siberian Elm	25, 31, 28	F	1860	\$6.51	\$12,109	0.6	0.9	0.6	\$3,923	\$3,900
25	Siberian Elm	15, 35	F	1138	\$6.51	\$7,408	0.6	0.9	0.6	\$2,400	\$2,400
26	Siberian Elm	35, 25	F	1452	\$6.51	\$9,453	0.6	0.9	0.6	\$3,063	\$3,100
27	Norway Maple	35, 20	F	1276	\$6.51	\$8,307	0.6	0.9	0.6	\$2,691	\$2,700
28	Silver Maple	41	F	1320	\$6.51	\$8,590	0.6	0.9	0.6	\$2,783	\$2,800
29	European Ash	18	G	254	\$6.51	\$1,656	0.9	0.9	0.6	\$805	\$805
30	Green Ash	10, 12	F	192	\$6.51	\$1,250	0.6	0.9	0.6	\$405	\$405
31	Green Ash	15	F	177	\$6.51	\$1,150	0.6	0.9	0.6	\$373	\$375
32	Siberian Elm	11	G	95	\$6.51	\$618	0.9	0.9	0.6	\$301	\$301
33	Siberian Elm	16, 8	FG	251	\$6.51	\$1,634	0.75	0.9	0.6	\$662	\$660

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