

Tree Inventory and Preservation Plan Report

Subject Property:

Lot 186 & 7640 Kalar Road Niagara Falls, ON

Prepared For:

M5V Developments Inc. 3 Cultivar Road Brampton ON L7L 1B3

Prepared By:

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13 April 2022

Jackson Arboriculture Inc. Project No. 273

1.0 Introduction

Jackson Arboriculture Inc. was retained by M5V Developments Inc. to complete a Tree Inventory and Preservation Plan report for a site situated at Lot 186 and 7640 Kalar Road in the City of Niagara Falls, Ontario, hereby referred to as the subject property. It is understood that a development application will be filed with the City for the construction of a townhouse complex.

2.0 Methodology

At the onset of the project the arborilogical 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 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 3rd of December 2021 to complete the tree inventory. All trees 10 cm in diameter and larger situated on subject property, on neighbouring property within 5 m and within the road allowances 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 (Figure 1)
- **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.
- Dripline: The distance in meters from the stem to the tips of the live branches.
- 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 1-133 and were located using 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, foundation excavation and servicing.

During the tree preservation analysis the dripline was utilized to determine the impacts to the trees included in the tree inventory. Where encroachment is required within the dripline tree removal may be required.

3.0 Existing Conditions

The subject property is currently occupied by a detached residential dwelling, cultural meadow, provincially significant wetland (PSW) and scattered tree resources. The property is bound by cultural meadow to the north, PSW to the east, residential development and PSW to the south and Kalar Road to the West.

4.0 Tree Inventory Results

The results of the tree inventory indicate that a total of 133 trees reside on subject property, within the road allowances and on neighbouring property within 5 m of the property boundaries. The trees included in the inventory appear to be comprised of naturally occurring trees and landscape plantings.

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

- Blue Spruce (*Picea pungens*)
- Dwarf White Spruce (Picea glauca 'Conica'),
- Norway Spruce (*Picea abies*),
- Sweet Cherry (Prunus avium),
- White Spruce (*Picea glauca*),
- Green Ash (Fraxinus pennsylvanica),
- Apple species (*Malus sp.*),
- Eastern White Cedar (Thuja occidentalis),
- Pin Oak (*Quercus palustris*),
- Eastern Cottonwood (Populus deltoides),
- Silver Maple (*Acer saccharinum*),
- Willow species (*Salix sp.*),
- White Elm (Ulmus americana),
- Bur Oak (*Quercus macrocarpa*) and
- Swamp White Oak (Quercus bicolor).

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

5.0 Proposed Development

The proposed development includes the demolition of the existing dwelling and the construction of a townhouse complex comprised of 99 housing units. The PSW situated in the eastern portion of the property will be protected behind a 15 m setback.

6.0 Discussion

The following sections outline the recommended tree removal and preservation opportunities based on the results of the impact analysis.

6.1 Tree Removal

The removal of Trees 1-11, 13-24, 29-107, 110-117 and 127-132 will be required to accommodate the proposed development.

6.2 Tree Preservation

The preservation of Trees 12, 25-28, 108, 109, 118-126 and 133 will be possible with the use of appropriate tree protection measures. Tree protection measures must be implemented prior to the commencement of demolition to ensure that the trees identified for preservation are not damaged by the proposed development activities.

Tree protection fence must be installed at the driplines of the trees identified for preservation. Refer to Figure 1 for the prescribed tree protection fence locations and the tree protection fence detail.

6.3 Tree Protection 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 dripline for trees identified for preservation prior to the commencement of demolition.
- 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 Figure 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 proposed development must be pruned by a Certified Arborist in accordance with good 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.

7.0 Summary

Jackson Arboriculture Inc. was retained by M5V Developments Inc. to complete a Tree Inventory and Preservation Plan report for a site situated at Lot 186 and 7640 Kalar Road in the City of Niagara Falls. 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 133 situated on subject property, in the road allowances and on neighbouring property within 5 m of the property boundaries. The results of the impact assessment indicate that the removal of 116 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 of group of trees or their component parts in al 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: Lot 186 & 7640 Kalar Rd, Niagara Falls

Date: <u>3 Dec. 2021</u>

Surveyors: <u>JJJ</u>

Tree #	Common Name	Scientific Name	DBH	ті	cs	с٧	DL	Location	Comments	Recom.
1	Blue Spruce	Picea pungens	31	G	G	G	3	Subject property		Remove
2	Dwarf White Spruce	Picea glauca 'Conica'	~12	G	G	G	1	Subject property		Remove
3	Norway Spruce	Picea abies	18	G	F	F	2	Subject property	20% crown dieback	Remove
4	Norway Spruce	Picea abies	18	G	G	G	3	Subject property		Remove
5	Norway Spruce	Picea abies	18	G	G	G	3	Subject property		Remove
6	White Spruce	Picea glauca	17	FG	G	G	3	Subject property	Rope girdling stem	Remove
7	Norway Spruce	Picea abies	24	G	G	G	3	Subject property		Remove
8	Norway Spruce	Picea abies	22	G	G	G	3	Subject property		Remove
9	Sweet Cherry	Prunus avium	23, 11	Ρ	PF	PF	2	Subject property	Union at 0.8 m with cavity with heart rot, seam, pruning wounds	Remove
10	White Spruce	Picea glauca	15	G	G	G	2	Subject property		Remove
11	Norway Spruce	Picea abies	24	G	F	G	4	Subject property	Union in crown	Remove
12	Green Ash	Fraxinus pennsylvanica	10	G	G	G	3	Neighbouring		Preserve
13	Norway Spruce	Picea abies	22	G	G	G	3	Subject property		Remove
14	Norway Spruce	Picea abies	25	G	FG	G	3	Subject property	Vertical scaffold limbs	Remove
15	Norway Spruce	Picea abies	12	G	FG	FG	2	Subject property	Small crown - shading	Remove
16	Norway Spruce	Picea abies	18	G	F	FG	3	Subject property	Union in crown	Remove
17	Norway Spruce	Picea abies	18	G	FG	G	3	Subject property	Vertical scaffold limbs	Remove
18	Norway Spruce	Picea abies	31	G	F	FG	3	Subject property	Union in crown	Remove
19	Norway Spruce	Picea abies	22	G	F	G	4	Subject property	Union in crown	Remove
20	Norway Spruce	Picea abies	26	G	FG	G	4	Subject property	Vertical scaffold limbs	Remove
21	Norway Spruce	Picea abies	18	G	G	G	3	Subject property		Remove
22	Norway Spruce	Picea abies	22	G	FG	G	4	Subject property	Union in crown	Remove
23	Norway Spruce	Picea abies	17	G	FG	G	3	Subject property	Union in crown	Remove
24	White Spruce	Picea glauca	35	G	G	G	5	Subject property		Remove
25	White Spruce	Picea glauca	22	G	FG	G	3	Neighbouring	Crook	Preserve
26	White Spruce	Picea glauca	29	G	G	G	4	Neighbouring		Preserve
27	White Spruce	Picea glauca	20	G	G	G	4	Neighbouring		Preserve
28	White Spruce	Picea glauca	24	G	G	G	4	Neighbouring		Preserve
29	Apple species	Malus sp.	30, 16, 21	F	FG	FG	5	Subject property	Union at 0.5 m	Remove
30	Apple species	Malus sp.	23	F	Р	Р	1	Subject property	Heavy pruning wounds - majority of crown has been removed	Remove
31	Apple species	Malus sp.	20	FG	G	G	3	Subject property	Union at 1.6 m	Remove
32	Eastern White Cedar	Thuja occidentalis	~10-20, avg: 12	F	F	F	1	Subject property	Cedar hedge, 12 trees	Remove
33	Pin Oak	Quercus palustris	21	G	G	G	4	Subject property		Remove
34	Norway Spruce	Picea abies	18	FG	FG	G	2	Subject property	Growth deficit	Remove
35	Norway Spruce	Picea abies	26	G	F	F	3	Subject property	20% crown dieback	Remove
36	Eastern Cottonwood	Populus deltoides	37	G	G	G	7	Subject property		Remove
37	Eastern Cottonwood	Populus deltoides	78	F	G	G	9	Subject property	Stem wound with heart rot	Remove
38	Eastern Cottonwood	Populus deltoides	23	FG	FG	G	4	Subject property	Bowed northwest	Remove

Tree #	Common Name	Scientific Name	DBH	ті	cs	с٧	DL	Location	Comments	Recom.
39	Eastern Cottonwood	Populus deltoides	17	F	F	F	4	Subject property	Seam, crook, bowed northwest	Remove
40	Eastern Cottonwood	Populus deltoides	14	F	F	F	3	Subject property	Seam, bowed west	Remove
41	Eastern Cottonwood	Populus deltoides	26	G	G	G	4	Subject property		Remove
42	Eastern Cottonwood	Populus deltoides	25, 25, 25, 22	FG	FG	G	4	Subject property	Clump of 4 stems, bowed, crook	Remove
43	Eastern Cottonwood	Populus deltoides	36	G	G	G	5	Subject property		Remove
44	Pin Oak	Quercus palustris	18	G	G	G	3	Subject property		Remove
45	Silver Maple	Acer saccharinum	28, 10, 27, 18, 24	F	FG	G	7	Subject property	Union at 0.5 m	Remove
46	Willow species	Salix sp.	22, 14, 12, 10, 11, 12	F	FG	G	4	Subject property	Unions at ground and 0.5 m	Remove
47	Pin Oak	Quercus palustris	14	G	G	G	3	Subject property		Remove
48	White Elm	Ulmus americana	13	G	G	G	3	Subject property		Remove
49	White Elm	Ulmus americana	24	G	G	G	3	Subject property		Remove
50	Silver Maple	Acer saccharinum	12	F	FG	FG	3	Subject property	Stem wound, 10% crown dieback	Remove
51	Pin Oak	Quercus palustris	20	G	FG	FG	4	Subject property	Heavy gall	Remove
52	Silver Maple	Acer saccharinum	31, 16, 42	FG	FG	G	6	Subject property	Union at 0.3 m	Remove
53	White Elm	Ulmus americana	20	FG	G	G	4	Subject property	Union at base of crown	Remove
54	White Elm	Ulmus americana	16	FG	FG	G	4	Subject property	Bowed north west	Remove
55	White Elm	Ulmus americana	17	G	G	G	3	Subject property		Remove
56	White Elm	Ulmus americana	23	FG	G	G	4	Subject property	Union at 2 m	Remove
57	White Elm	Ulmus americana	18	G	G	G	3	Subject property		Remove
58	White Elm	Ulmus americana	18	FG	G	G	3	Subject property	Union at base of crown	Remove
59	White Elm	Ulmus americana	15	G	FG	G	3	Subject property		Remove
60	White Elm	Ulmus americana	15	G	G	G	3	Subject property		Remove
61	White Elm	Ulmus americana	13	FG	G	G	3	Subject property	Union at 2 m	Remove
62	White Elm	Ulmus americana	33	FG	FG	G	7	Subject property	Crook/bowed southeast	Remove
63	White Elm	Ulmus americana	22	FG	G	G	4	Subject property	Union at 2.5 m	Remove
64	White Elm	Ulmus americana	16	FG	G	G	4	Subject property	Stem wound	Remove
65	White Elm	Ulmus americana	12	G	G	G	4	Subject property	Grapevine competition	Remove
66	Pin Oak	Quercus palustris	16	G	G	G	3	Subject property		Remove
67	Silver Maple	Acer saccharinum	53, 46	F	FG	G	7	Subject property	Union at 0.3 m with included bark	Remove
68	White Elm	Ulmus americana	17	G	G	G	4	Subject property		Remove
69	Pin Oak	Quercus palustris	12	G	G	G	3	Subject property		Remove
70	Pin Oak	Quercus palustris	20	G	G	G	4	Subject property		Remove
71	Pin Oak	Quercus palustris	14	G	G	G	3	Subject property		Remove

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Tree #	Common Name	Scientific Name	DBH	TI	CS	CV	DL	Location	Comments	Recom.
72	Sweet Cherry	Prunus avium	13, 16, 14	PF	PF	Р	3	Subject property	Cavity with heart rot, 50% crown dieback	Remove
73	White Elm	Ulmus americana	16	G	G	G	3	Subject property		Remove
74	White Elm	Ulmus americana	20	FG	G	G	4	Subject property	Union at base of crown	Remove
75	White Elm	Ulmus americana	12	G	G	G	3	Subject property	Bowed lightly east	Remove
76	White Elm	Ulmus americana	18	FG	G	G	5	Subject property	Union at base of crown	Remove
77	White Elm	Ulmus americana	14, 18	PF	PF	F	6	Subject property	Tree failed and stem lying on ground	Remove
78	White Elm	Ulmus americana	23	FG	G	G	5	Subject property	Union at 3 m	Remove
79	White Elm	Ulmus americana	12	FG	G	G	3	Subject property	Base of tree covered in fill	Remove
80	White Elm	Ulmus americana	14	G	G	G	4	Subject property		Remove
81	White Elm	Ulmus americana	22	FG	G	G	4	Subject property	Union at base of crown	Remove
82	Bur Oak	Quercus macrocarpa	15	G	G	G	3	Subject property		Remove
83	White Elm	Ulmus americana	12	G	G	G	3	Subject property		Remove
84	Silver Maple	Acer saccharinum	19	G	G	G	5	Subject property		Remove
85	Green Ash	Fraxinus pennsylvanica	14	FG	G	G	3	Subject property	Loose bark, EAB infestation	Remove
86	White Elm	Ulmus americana	22	F	F	F	4	Subject property	Crooks, poor form, epicormic branching	Remove
87	White Elm	Ulmus americana	11	FG	G	G	3	Subject property	Union at 2 m	Remove
88	White Elm	Ulmus americana	16	G	G	G	3	Subject property		Remove
89	Silver Maple	Acer saccharinum	28, 31	F	F	G	7	Subject property	Union at 0.3 m, vertical scaffold limbs	Remove
90	Green Ash	Fraxinus pennsylvanica	16	F	F	F	3	Subject property	EAB infestation	Remove
91	White Elm	Ulmus americana	24	G	G	G	3	Subject property		Remove
92	Pin Oak	Quercus palustris	21	G	FG	FG	4	Subject property	Twig gall	Remove
93	Pin Oak	Quercus palustris	29	G	G	G	4	Subject property		Remove
94	White Elm	Ulmus americana	17	FG	G	G	3	Subject property	Union at base of crown	Remove
95	Silver Maple	Acer saccharinum	20, 30	FG	G	G	5	Subject property	Union at 0.3 m	Remove
96	Silver Maple	Acer saccharinum	18, 8	FG	G	G	3	Subject property	Union at 0.3 m	Remove
97	White Elm	Ulmus americana	21	G	G	G	4	Subject property		Remove
98	White Elm	Ulmus americana	32	G	G	G	4	Subject property		Remove
99	White Elm	Ulmus americana	14	G	FG	G	3	Subject property	Vertical scaffold limbs	Remove
100	Willow species	Salix sp.	73	F	F	PF	5	Subject property	Union at 3 m, 30% crown dieback	Remove
101	Green Ash	Fraxinus pennsylvanica	32, 15, 25, 28	PF	Ρ	Ρ	6	Subject property	Union at ground, peeling bark, epicormic branching, EAB infestation	Remove
102	Pin Oak	Quercus palustris	54	G	G	G	6	Subject property		Remove
103	Pin Oak	Quercus palustris	17	G	G	G	4	Subject property		Remove

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Tree #	Common Name	Scientific Name	DBH	ті	CS	cv	DL	Location	Comments	Recom.
104	White Elm	Ulmus americana	13	F	G	G	3	ROW	Stem wound, base of tree 0.1 m from sidewalk and covered with fill	Remove
105	Willow species	Salix sp.	45	FG	FG	FG	6	ROW	Union at 2.5 m, broken branches	Remove
106	Pin Oak	Quercus palustris	18	FG	G	G	4	Subject property	Crook	Remove
107	White Elm	Ulmus americana	17	G	G	G	3	Subject property		Remove
108	White Elm	Ulmus americana	14	F	FG	FG	2	Neighbouring	Union at base of crown	Preserve
109	White Elm	Ulmus americana	19	G	G	G	5	Neighbouring		Preserve
110	White Elm	Ulmus americana	26, 14	FG	G	FG	5	Subject property	Union at 1.3 m	Remove
111	White Elm	Ulmus americana	22	PF	PF	F	4	Subject property	Tree growing horizontally out of fill pile	Remove
112	Pear species	Pyrus sp.	21, 23	F	FG	G	4	Subject property	Union at 0.75 m	Remove
113	White Elm	Ulmus americana	22	G	G	G	5	Subject property		Remove
114	Pin Oak	Quercus palustris	16, 7	FG	FG	G	4	Subject property	Union at ground	Remove
115	Pin Oak	Quercus palustris	20	G	G	G	4	Subject property	Light twig gall	Remove
116	Green Ash	Fraxinus pennsylvanica	18	Ρ	Ρ	Ρ	3	Subject property	50% crown dieback, peeling bark, EAB infestation	Remove
117	White Elm	Ulmus americana	37	FG	G	G	7	Subject property	Union at base of crown	Remove
118	Silver Maple	Acer saccharinum	21	FG	G	G	4	Subject property	Union at 2 m	Preserve
119	White Elm	Ulmus americana	23	G	G	G	4	Subject property		Preserve
120	White Elm	Ulmus americana	21	G	G	G	4	Subject property		Preserve
121	White Elm	Ulmus americana	13, 31	FG	G	G	4	Subject property	Union at ground	Preserve
122	White Elm	Ulmus americana	16	G	G	G	3	Subject property		Preserve
123	Pussy Willow	Salix discolour	16, 21	Ρ	Ρ	Ρ	3	Subject property	Union at ground, 60% crown dieback	Preserve
124	Pin Oak	Quercus palustris	12	G	G	G	3	Subject property		Preserve
125	Pin Oak	Quercus palustris	32	G	G	FG	3	Subject property	Heavy branch galls	Preserve
126	Swamp White Oak	Quercus bicolor	18	FG	G	G	3	Subject property	Seam	Preserve
127	Pin Oak	Quercus palustris	24, 13	FG	G	G	4	Subject property	Union at ground	Remove
128	Pin Oak	Quercus palustris	27	G	G	G	4	Subject property		Remove
129	Silver Maple	Acer saccharinum	10, 9, 10	F	FG	G	3	Subject property	Unions at 0.3 and 0.5 m	Remove
130	White Elm	Ulmus americana	14	F	Р	F	2	Subject property	Majority of crown missing	Remove
131	White Elm	Ulmus americana	16	G	G	G	2	Subject property		Remove
132	White Elm	Ulmus americana	29, 22, 14	F	FG	G	4	Subject property	Unions at 0.4 and 1.3 m	Remove
133	Norway Spruce	Picea abies	28	G	G	G	4	Neighbouring		Preserve

Table Legend

DBH Diameter at Breast Height (cm)

TI Trunk Integrity (G, F, P)

CS Crown Structure (G, F, P)

Jackson Arboriculture Inc.

CV	Crown Vigor (G, F, P)
DL	Dripline (m)
Recom.	Recommendation (preserve/remove)
G	Good
F	Fair
Р	Poor
EAB	Emerald Ash Borer

~ Estimate