

Tree Conservation Report

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Figure 1 : SITE EXTENTS

INTRODUCTION

The applicants are proposing an office building with underground parking. The site is located immediately north of Montreal Road and east of the Aviation Parkway.



Figure 1 Site Extents

The following Tree Conservation Report has been prepared to examine the impact of the proposed development on the existing natural features on the proposed site and surrounding lots.

The report provides:

- an inventory and assessment of the existing vegetation
- description of the impact of the proposed development on the existing natural features
- identification of trees to be retained
- recommendations to promote tree conservation

The report was prepared based on field work conducted in August 2015.

METHODOLOGY

An inventory and analysis of the existing site and natural features was conducted by Ryan James (OALA) followed by an on-site assessment of each individual tree by Michael Trouten (Landscape Technician, Forestry Technician).

The location of each existing tree was noted and an identification of the tree species, size, health and condition was then conducted. Each tree was assessed according to its location and function in the overall landscape according to the site plan prepared by Novatech. An analysis of the impact of the proposed development on the health of the tree was then made based on a consideration of the location of the proposed development as noted in the plans provided.

The assessment of the impact of the proposed development on the health of the existing trees was based on the following criteria:

- The location of the tree with relation to the proposed underground parking lot
- The impact of proposed grade changes on the health of the tree
- The degree of disruption to the root system by the proposed development

Recommendations were then derived outlining how the conservation of the trees could be maximized during design and construction.

GENERAL CONDITIONS

Vegetation

The site is located within the urban area of the City of Ottawa, the site is populated predominantly with native species of the Great Lakes St. Lawrence Region. *Acer saccharum* (Sugar Maple) was the dominant tree species by far, followed by *Ulmus americana* (White Elm) and *Tilia americana* (Basswood). The invasive *Acer platanoides* (Norway Maple) was found to be readily self-seeding on this rocky site.

Surface Water Features

No surface water features are located on site.

Steep Slopes

The site slopes downward from northeast to southwest. Some of the high ground to the northeast consists of rock outcrops.

Greenspace Master Plan

No part of the site is located in a designated green space.

Wildlife

No evidence of wildlife was identified on site.

TREE CONSERVATION REPORT PLAN

Plan included separately (113211-TCR). Numbers are provided for each tree on the plan; these numbers refer to Table 1 which follows in this report.

INVENTORY AND ASSESSMENTS

Table 1 - Inventory Chart and Recommendations

Table 1 Tree Inventory and Recommendations

No.	Botanical Name	Common Name	DBH (m)	CRZ (m)	Condition	Remarks	Recommendations
1	Acer platanoides	Norway Maple	0.52	5.20	G	Mature; likely planted; highly invasive species	To be removed
2	Acer saccharum	Sugar Maple	0.54	5.40	G	Mature	To be removed
3	Acer saccharum	Sugar Maple	0.42	4.20	F	Mature; co-dominant stems at 0.5-1.75m from grade	To be removed
4	Acer platanoides	Norway Maple	0.27	2.70	G	Mature	To be removed
5	Thuja occidentalis	White Cedar	0.15	1.50	F	Mature hedge; 12 stems in total; approx. 6m tall; base appears to have been browsed	To be partially retained/Refer to plan
6	Acer saccharum	Sugar Maple	0.60	6.00	VG	Very mature	To be retained
7	Acer saccharum	Sugar Maple	0.55	5.50	G	Mature	To be retained
8	Abies balsamea	Balsam Fir	0.16	1.60	F	Maturing	To be removed
9	Acer saccharum	Sugar Maple	0.33	3.30	F	Mature; major wound at base	To be retained
10	Picea glauca	White Spruce	0.25	2.50	F	Mature	To be removed
11	Picea glauca	White Spruce	0.30	3.00	F	Mature	To be retained
12	Picea glauca	White Spruce	0.18	1.80	F	Maturing	To be removed
13	Picea glauca	White Spruce	0.22	2.20	F	Mature	To be retained
14	Thuja occidentalis	White Cedar	0.17	1.70	F	Mature; double-stemmed from grade	To be retained
15	Pinus strobus	White Pine	0.25	2.50	F	Mature	To be removed
16	Acer saccharum	Sugar Maple	0.39	3.90	F	Mature	To be removed
17	Picea glauca	White Spruce	0.19	1.90	F	Maturing	To be removed
18	Picea glauca	White Spruce	0.29	2.90	F	Mature	To be removed
19	Acer saccharum	Sugar Maple	0.23	2.30	G	Mature	To be removed
20	Prunus serotina	Black Cherry	0.15	1.50	G	Maturing	To be removed
21	Ulmus americana	White Elm	0.17	1.70	P	Maturing; heavy DED infection	To be removed
22	Acer saccharum	Sugar Maple	0.16	1.60	G	Maturing	To be removed
23	Ulmus americana	White Elm	0.15	1.50	F	Maturing; no outward signs of DED	To be removed
24	Acer platanoides	Norway Maple	0.13	1.30	F	Maturing; likely originated from seed-highly invasive species	To be removed
25	Acer platanoides	Norway Maple	0.19	1.90	F	Maturing; likely originated from seed-highly invasive species	To be removed
26	Ulmus americana	White Elm	0.19	1.90	F	Mature; double-stemmed from grade	To be removed

27	Acer platanoides	Norway Maple	0.20	2.00	F	Mature; likely originated from seed- highly invasive species	To be removed
28	Ulmus pumila	Siberian Elm	0.53	5.30	F	Mature; likely originated from seed- highly invasive species	To be removed
29	Acer saccharum	Sugar Maple	0.71	7.10	F	Very mature; has some characteristics of black maple (Acer nigrum)	To be removed
30	Tilia americana	Basswood	0.15	1.50	G	Maturing	To be removed
31	Acer saccharum	Sugar Maple	0.31	3.10	P	Mature; major deadwood and dieback in crown	To be removed
32	Tilia americana	Basswood	0.14	1.40	F	Maturing	To be removed
33	Ulmus americana	White Elm	0.19	1.90	G	Maturing	To be removed
34	Ulmus americana	White Elm	0.19	1.90	G	Mature; no signs of DED infection; double-stemmed at 0.3m from grade	To be removed
35	Tilia americana	Basswood	0.22	2.20	G	Mature	To be removed
36	Fraxinus sp.	Ash sp.	-	-	VP	Dead due to EAB infestation	To be removed
37	Acer saccharum	Sugar Maple	0.22	2.20	F	Mature; seam on east side of trunk from grade to 2m	To be retained
38	Acer saccharum	Sugar Maple	0.25	2.50	F	Mature; basal wound from lost co- dominant stem	To be removed
39	Ulmus americana	White Elm	0.17	1.70	F	Maturing; no signs of DED infection	To be retained
40	Acer saccharum	Sugar Maple	0.22	2.20	G	Mature	To be retained
41	Acer saccharum	Sugar Maple	0.26	2.60	G	Mature	To be removed
42	Ulmus americana	White Elm	0.23	2.30	P	Mature; heavy DED infection	To be removed
43	Acer saccharum	Sugar Maple	0.29	2.90	G	Mature	To be removed
44	Acer saccharum	Sugar Maple	0.20	2.00	G	Mature	To be removed
45	Acer saccharum	Sugar Maple	0.33	3.30	F	Mature	To be removed
46	Acer saccharum	Sugar Maple	0.43	4.30	F	Mature; double-stemmed from grade to 1.5m (weak union due to included bark)	To be removed
47	Fraxinus sp.	Ash sp.	-	-	VP	Dead due to EAB infestation	To be removed
48	Acer saccharum	Sugar Maple	0.35	3.50	G	Mature	To be retained
49	Acer saccharum	Sugar Maple	0.35	3.50	G	Mature	To be retained
50	Ulmus americana	White Elm	0.12	1.20	G	Maturing; no signs of DED infection	To be retained
51	Acer platanoides	Norway Maple	0.17	1.70	F	Maturing; likely originated from seed- highly invasive species	To be retained
52	Acer saccharum	Sugar Maple	0.21	2.10	G	Mature	To be removed
53	Acer saccharum	Sugar Maple	0.23	2.30	G	Mature	To be removed
54	Acer platanoides	Norway Maple	0.27	2.70	F	Mature; likely originated from seed- highly invasive species	To be removed
55	Acer saccharum	Sugar Maple	0.19	1.90	G	Maturing	To be removed
56	Acer saccharum	Sugar Maple	0.18	1.80	G	Maturing	To be removed

57	Acer saccharum	Sugar Maple	0.33	3.30	F	Mature	To be removed
58	Acer saccharum	Sugar Maple	-	-	VP	Dead	To be removed
59	Acer saccharum	Sugar Maple	0.16	1.60	G	Maturing	To be removed
60	Acer saccharum	Sugar Maple	0.12	1.20	F	Maturing; tri-stemmed at 0.3m from grade	To be removed
61	Acer saccharum	Sugar Maple	0.21	2.10	G	Mature	To be removed
62	Acer saccharum	Sugar Maple	0.17	1.70	G	Maturing	To be removed
63	Acer saccharum	Sugar Maple	0.20	2.00	G	Mature	To be retained
64	Acer saccharum	Sugar Maple	0.26	2.60	F	Mature	To be retained
65	Acer saccharum	Sugar Maple	0.40	4.00	G	Mature	To be retained
66	Acer saccharum	Sugar Maple	0.22	2.20	G	Mature	To be retained
67	Fraxinus sp.	Ash sp.	-	-	VP	Dead due to EAB infestation	To be removed
68	Acer saccharum	Sugar Maple	0.42	4.20	F	Mature	To be retained
69	Acer saccharum	Sugar Maple	0.32	3.20	G	Mature	To be retained
70	Acer saccharum	Sugar Maple	0.38	3.80	G	Mature; located on adjacent private property	To be retained
71	Acer saccharum	Sugar Maple	0.25	2.50	G	Mature	To be removed
72	Acer saccharum	Sugar Maple	0.21	2.10	F	Mature	To be retained
73	Acer saccharum	Sugar Maple	0.23	2.30	G	Mature	To be removed
74	Acer saccharum	Sugar Maple	0.37	3.70	F	Mature	To be removed
75	Acer saccharum	Sugar Maple	0.37	3.70	F	Mature; co-dominant stems at 4m from grade (weak due to included bark)	To be removed
76	Acer saccharum	Sugar Maple	0.22	2.20	F	Mature; double-stemmed at 2.5m from grade	To be removed
77	Acer saccharum	Sugar Maple	0.13	1.30	G	Maturing	To be removed
78	Acer saccharum	Sugar Maple	0.24	2.40	G	Mature	To be removed
79	Acer saccharum	Sugar Maple	0.34	3.40	G	Mature	To be removed
80	Acer saccharum	Sugar Maple	0.23	2.30	F	Mature	To be removed
81	Ulmus americana	White Elm	0.37	3.70	F	Mature; co-dominant stems at 1m from grade; no signs of DED infection	To be removed
82	Acer saccharum	Sugar Maple	0.23	2.30	G	Mature	To be removed
83	Acer saccharum	Sugar Maple	0.43	4.30	G	Mature	To be retained

Assessment

The site was assessed and 83 individual trees and groupings were identified that could potentially be impacted by the proposed development, see TCR plan (113211-TCR) and Table 1 – Site Inventory and Recommendations. Trees were found to be in very good, good, fair, poor and very

poor condition based on the health of the tree, overall branching structure, trunk condition and presence of disease or other ailment.

The impact of the proposed development on the existing trees on the site interior was analyzed, and the results are shown in our TCR plan (113211-TCR) and Table 1 – Site Inventory and Recommendations. From the analysis, the following conclusions can be made:

- Trees #1-4 are in direct conflict with development and will not survive.
- Tree #5 is a cedar hedge of recent maturity that will be impacted by drainage structure excavation and grading considerations. The southwest portion will likely be removed due to conflict. (See attached 113211-TCR plan)
- Trees # 6, 7, 9, 11, 13, and 14 which occur in the north west of the site are considered important trees for the neighbours' privacy and will be retained. Alternatively, trees # 8, 10, 12, and 15-27 are in conflict with a proposed drainage swale and the Parking Garage below grade and will not survive the installation of either features.
- Tree # 29 is situated in the center of the site and is therefore in direct conflict with the development.
- Trees # 28 and 31 are a Siberian Elm and a Sugar Maple respectively, they were found to be in equally poor health and deemed unsuitable for retention.
- Trees # 30, and 32-35 were found to be in conflict with necessary grade changes and therefore removed.
- Trees # 37, 39, 40, 48-51, 63-66, 68, and 69 in the eastern portion of the site are retained due to no conflict with proposed grade changes and they were found to be in good health.
- Trees # 38, 41-46, 52-57, and 59-62 in the eastern portion of the site are found to be either in poor health or in conflict with necessary grade changes.
- Tree # 70 is on an adjoining property and is therefore an important tree to retain and minimize impact due to grading near its CRZ.
- Trees # 71, and 73-82 along the south-eastern portion of the site are considered to be in too close proximity to proposed building structure and are therefore recommended for removal.
- Trees # 36, 47, 58, and 67 are Ash species that have succumbed to the Emerald Ash Borer and are necessarily recommended for removal.

RECOMMENDATIONS

To ensure that trees recommended for preservation are fully protected, stringent tree preservation techniques should be implemented during construction. In particular, the following mitigating measures designed to protect trees during construction should be implemented:

- Under the guidance of a landscape architect, erect a fence at the critical root zone (CRZ) of trees where the CRZ is established as being 10 centimetres from the trunk of a tree for every centimetre of trunk diameter at breast height. The CRZ is calculated as DBH x 10cm. Refer to the Tree Protection Fence detail (Appendix A). See plan for fence location.

- When trees to be removed overlap with the CRZ of trees to be preserved: cut roots at the edge of the CRZ and grind down stumps after tree removals, do not pull out stumps. Ensure there is not root pulling or disturbance of the ground within the CRZ.
- If roots must be cut, roots 20mm or larger should be cut at right angles with clean, sharp horticultural tools without tearing, crushing, or pulling. Refer to City of Ottawa Specification S.P. F-8011 Tree Protection, Excavation of Root Zone.
- Hand work only where required within the CRZ; absolutely no machinery permitted.
- Do not place any material or equipment within the CRZ of any tree.
- Do not attach any signs, notices or posters to any tree.
- Do not disturb, raise or lower the existing grade within the CRZ without approval.
- Only tunnel or bore when digging within the CRZ of a tree.
- Do not damage the root system, trunk, or branches of any tree.
- Ensure that exhaust fumes from all equipment are directed away from any tree canopy.

Tree Conservation Report
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Appendix A

