

TREE CONSERVATION REPORT— 373 PRINCETON AVENUE

PREPARED FOR:

BARRY HOBIN, PRINCIPAL
BARRY J. HOBIN & ASSOCIATES ARCHITECTS INC.
63 PAMILLA STREET
OTTAWA, ON
K1S 3K7
613 238-7200

PREPARED BY:

ANDREW BOYD, B.Sc.F, R.P.F.
IFS ASSOCIATES
P.O. BOX 13593
OTTAWA, ON
K2K 1X6
613-839-0101

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INTRODUCTION

The importance of protecting vegetative cover on sites subject to development is specified in Section 4.7.2 of the City of Ottawa's Official Plan. In accordance with this the City of Ottawa's Urban Tree Conservation By-law (no. 2009-200) requires a detailed Tree Conservation Report (TCR) prior to the removal of trees on such sites. In this instance the removal of vegetation is required within the subject property surrounded by Melbourne, Princeton and Edison Avenues. A residential development is proposed for the property by and Uniform Urban Developments Ltd. Barry J. Hobin & Associates Architects Inc. has been engaged to design the lot layout and houses for the development.

The purpose of this TCR is to define which of the existing trees can possibly be retained given their current health status and the proposed layout of the development. Presently two detached houses, eight semis and eight townhouses, all two storeys in height, are proposed for the property (Hobin & Associates site study – September 12, 2016). Ultimately some healthy trees will be lost due to conflicts with lot layout, site serving and other infrastructure issues. It is assumed all readers of this report are familiar with the layout of the proposed development and the methods used to install site services and construct houses.

The approval of this TCR by the City of Ottawa and the issuing of a permit constitutes authorization to remove the approved trees. No trees should be removed until such a permit has been issued.

METHODOLOGY

A tree survey of the subject property was completed on October 3 and 4, 2016. Following the site survey prepared by Annis, O'Sullivan, Vollebakk, all trees over 10cm in diameter were inventoried and assessed for their size (diameter), species and health. All such trees were then assessed for retention in relation to the proposed block layout and related grade changes. This information was then compiled and put into tabular form. This information is summarized in Table 1 of this report.

TREE INVENTORY

Table 1 on pages 2, 3, 4, 5 and 6 details the trees now present within the subject property at 373 Princeton Ave. The location of each of these trees is shown on the accompanying site survey prepared by Annis, O'Sullivan, Vollebakk.

Table 1. Species, size, ownership, condition and status of trees at 373 Princeton Ave.

Tree No.	Tree Species	D.B.H (cm)	Ownership	Tree Condition Notes and Status (to be removed or retained)
1	Honey-locust (<i>Gleditsia triacanthos</i>)	30.6	City	Fair; heavily pruned from overhead wires by Hydro; to be retained and protected
2	White pine (<i>Pinus strobus</i>)	52.1	Private	Fair; co-dominant stems at 4.25m from grade - parallel; poor crown density and needle colour, fair growth increment; to be removed due to conflicts with development
3	Douglas-fir (<i>Pseudotsuga menziesii</i>)	41.2	Private	Fair; tri-stemmed at 2-2.25m from grade; both stems split again at 4-4.25m; broad crown; fair density, increment and colour; to be removed due to conflicts with development
4	Honey-locust	27.4	City	Fair; heavily pruned from overhead wires by Hydro; to be retained and protected
5	Honey-locust	31.0	City	Fair; heavily pruned from overhead wires by Hydro; to be retained and protected
6	Siberian elm (<i>Ulmus pumila</i>)	58.0	Private	Poor; crown heavily asymmetrical due to Hydro pruning; weak-wooded, invasive species; recommended for removal
7	Siberian elm	80.5	Private	Very poor; crown heavily asymmetrical due to Hydro pruning; weak-wooded, invasive species; root plate partially lifted out of ground – potentially hazardous; recommended for removal
8	Norway maple (<i>Acer platanoides</i>)	81.6	Private	Poor; very mature (senescent); co-dominant stems at 1.75m; ribs of reaction wood and cavities in both stems; invasive species; to be removed due to pre-existing poor condition
9	Sugar maple (<i>Acer saccharum</i>)	79.4	Private	Very poor; co-dominant stems at 3.5m with major cavity at union (expanding foam present); basal decay due to past root damage/death – hazardous; to be removed due to pre-existing poor condition

Table 1. Continued

Tree No.	Tree Species	D.B.H (cm)	Ownership	Tree Condition Notes and Status (to be removed or retained)
10	Norway maple	62.0	Private	Good; co-dominant stems at 4m with strong union; early Eutypella canker (<i>Eutypella parasitica</i>) present on north side of main stem at 4m; good root collar-binding roots present; invasive species; not affected by construction
11	Sugar maple	40.5	Private	Very good; central stem; dense crown; raised grade at base; moderate mower damage; not affected by construction
12	Manitoba maple (<i>Acer negundo</i>)	56.2	City	Poor; co-dominant stems at 4m – both leaning heavily over intersection; pockets of decay in both stems – potentially hazardous; not affected by construction
13	Siberian elm	44.5	City	Poor; crown completely asymmetrical due to previous tree to east; weak-wooded, invasive species; slime flux present in old pruning wounds; not affected by construction
14	Emerald cedars (<i>Thuja</i> spp.)	24.7 (avg.)	Private	Fair; four trees planted in a line; three are suffering from basal wounds due to root damage; not affected by construction
15	White spruce (<i>Picea glauca</i>)	41.6	Private	Poor; in advanced decline; top half of crown dead - likely due to bark beetles; not affected by construction
16	Norway spruce (<i>Picea abies</i>)	51.7	Shared	Fair; crown apex dead - likely due to bark beetles; not affected by construction
17	Norway spruce	41.6	Private	Good; good density, increment and colour; not affected by construction
18	Manitoba maple	53.3	City	Poor; t-bar and chain link fence embedded at base - burls and small cavities present; leaning heavily over road; pockets of decay in both stems – potentially hazardous; not affected by construction

Table 1. Continued

Tree No.	Tree Species	D.B.H (cm)	Ownership	Tree Condition Notes and Status (to be removed or retained)
19	Norway maple	69.2	City	Fair; co-dominant stems at 2m with central stem, competing lateral stem (with rib of reaction wood) and one suppressed lateral; very broad crown; not affected by construction
20	Sugar maple	33.7	City	Very poor; hazardous due to Eutypella canker at base; <i>Coriolus versicolour</i> in main stem; to be removed due to pre-existing poor condition (with City permission)
21	Sugar maple	37.5	City	Good; co-dominant stems at 2.25m with weak union (included bark); central stem with competing lateral; to be retained and protected
22	White spruce	13.3	Private	Good; mildly asymmetrical due to tree #20; transplantable; to be moved due to conflicts with development
23	Colorado spruce (<i>Picea pungens</i>)	35.1	Private	Very good; symmetrical crown; good density, increment and colour; to be removed due to conflicts with development
24	Freeman maple (<i>Acer x freemanii</i>)	23.8	Private	Good; co-dominant stems at 0.6m with moderately weak union; to be removed due to conflicts with development
25	Sugar maple	29.2	Private	Good; co-dominant stems at 0.75m, larger stem splits again at 1.75m – both with weak unions (reaction wood present); to be removed due to conflicts with development
26	Sugar maple	25.3	Private	Very good; central, dominant stem; to be removed due to conflicts with development
27	Red oak (<i>Quercus rubra</i>)	37.7	Private	Good; co-dominant stems at 2.5m with weak union (included bark); frost crack on southeast side of main stem - grade to 2.25m; to be removed due to conflicts with development

Table 1. Continued

Tree No.	Tree Species	D.B.H (cm)	Ownership	Tree Condition Notes and Status (to be removed or retained)
28	Norway maple	17.8	Private	Poor; poor form – three divergent stems at 1m; invasive species; to be removed due to conflicts with development
29	Sugar maple	29.0	Private	Good; co-dominant stems at 1m with weak union; to be removed due to conflicts with development
30	Norway maple	63.7	Private	Fair; mature tree; crown asymmetrical due to Hydro pruning; primary union at 3m with multiple old pruning wounds – future entry point for decay; fair root collar; invasive species; to be retained and protected
31	Norway maple	83.6	Private	Fair; mature tree; crown asymmetrical due to Hydro pruning; co-dominant stems at 2.5m with moderately strong union; central stem most heavily pruned; multiple binding and girdling roots; invasive species; to be retained and protected
32	Norway maple	21.6	Private	Good; central stem with competing leaders; good root collar; invasive species; to be removed due to conflicts with development
33	Sugar maple	35.6	Private	Good; central stem with multiple competing laterals; broad crown; to be removed due to conflicts with development
34	Black walnut (<i>Juglans nigra</i>)	74.8	Private	Poor; primary union at 1.5m; major stem wound on north side at and below primary union - future entry point for decay; basal cavity with decay now present; multiple wounds in lateral stem towards west; to be removed due to pre-existing poor condition
35	Norway spruce	46.3	Private	Fair; mature tree; fair density, increment and colour; to be retained and protected
36	Norway spruce	43.4	Private	Fair; mature tree; fair density, increment and colour; to be retained and protected

Table 1. Continued

Tree No.	Tree Species	D.B.H (cm)	Ownership	Tree Condition Notes and Status (to be removed or retained)
37	Norway spruce	32.5	Private	Fair; mature tree; fair density, increment and colour; to be retained and protected
38	Norway spruce	40.2	Private	Fair; mature tree; fair density, increment and colour; to be retained and protected
39	Norway spruce	44.2	Private	Fair; mature tree; fair density, increment and colour; to be retained and protected
40	Bur oak (<i>Quercus macrocarpa</i>)	61.0	Private	Good; crown asymmetrical due to competition with line of spruce trees towards north; to be retained and protected
41	Norway maple	59.5	Private	Good; central dominant stem; generally symmetrical crown; invasive species; to be retained and protected
42	Manitoba maple	66.1	Private	Very poor; co-dominant stems at 3.25m – divergent; one stem topped to create clearance from roof, other stem growing towards tree #41; fair root collar; to be removed due to pre-existing poor condition

As with all trees within development zones, the proposed retention of trees at 373 Princeton Avenue is subject to final lot layout and grading plans.

Pictures 1 through 5 on pages 9, 10 and 11 show selected trees on the subject property.

ENDANGERED SPECIES

No endangered tree species were found within the subject property. Butternut (*Juglans cinerea*) is listed as endangered under the Province of Ontario’s Endangered Species Act (ESA) and so is protected from harm. However, only the closely related black walnut was found to be present. This species is not subject to the ESA.

PROTECTION MEASURES

The following measures are the minimum recommended by the City of Ottawa to ensure tree survival during construction:

1. Erect a fence at the critical root zone (CRZ¹) of trees;
2. Do not place any material or equipment within the CRZ of the tree;



3. Do not attach any signs, notices or posters to any tree;
4. Do not raise or lower the existing grade within the CRZ without approval;
5. Tunnel or bore when digging within the CRZ of a tree;
6. Do not damage the root system, trunk or branches of any tree;
7. Ensure that exhaust fumes from all equipment are NOT directed towards any tree's canopy.

¹ The critical root zone (CRZ) is established as being 10 centimetres from the trunk of a tree for every centimetre of trunk Diameter at breast height (DBH). The CRZ is calculated as DBH x 10 cm.

However, given the desire of Hobin & Associates and Uniform Urban Developments to go beyond the minimum requirements in the development of this property, a number of further measures are recommended to promote the survival of the retained trees following construction:

Tree Protection Barrier: Snow fencing, 1.2 metres in height should be installed at the furthest distance possible from the trees. All of the supports and bracing for the barrier should be placed outside of the protected area and should be installed in such a way as to minimize root damage. Also, since the desired effect of the barrier is to prevent construction traffic from entering, the barrier should be kept in place until all construction has been completed. The barrier should also have signage attached to it indicating its presence as a protection barrier. Lastly, neither the repair or refueling of machinery nor the storage or stockpiling of materials should take place within this area.

Surface Treatment: Where construction traffic passes near the protected area a root buffer is required outside of the tree protection barrier. This buffer will consist of woodchips spread to a thickness of 10 cm covered by a layer of granular 'A' gravel deep enough to stabilize 2 cm thick (¾ inch) plywood. This will help prevent the compaction of soil surrounding the fine feeding roots.

Excavation/Exposed Roots: When excavation is necessary within a CRZ a trench should first be dug carefully either by hand or hydraulic or pneumatic air excavation technology. After the trench is established, a backhoe or other equipment can be used to complete the work. If roots are encountered while trenching they should be cleanly cut and the cut ends sealed with bees wax. The cuts should be made with either pruning shears or saw wiped with alcohol before each cut. This will ensure clean cuts of the roots, thus facilitating healing.

Watering/Fertilization: If any tree roots are exposed during construction they should be immediately reburied with soil or temporarily covered with burlap, filter cloth or woodchips and kept moist (*i.e.* watering with a soft-spray nozzle at least three times a week). A covering of plastic should be used in order to retain moisture during an extended period when watering may not be possible (*i.e.* over weekends). Fertilizing the trees with a liquid, deep-root, slow-release fertilizer is recommended only after the completion of all construction. Since the trees could show signs of root-related stress, a fertilizer with a high-phosphorus formulation should be used.

In terms of future maintenance, the trees should be monitored regularly for construction-related dieback and any dead branches pruned out when warranted. In some cases dieback may continue to the point where the removal of the entire tree is required. In these instances City of Ottawa staff should be alerted before the tree is removed.

Please do not hesitate to contact me if you have any questions concerning this report

Yours,

Andrew Boyd

Andrew K. Boyd, B.Sc.F, R.P.F. (#1828)
ISA Certified Arborist #ON-0496A and TRAQualified
Butternut Health Assessor #513



Picture 1. Trees 1 through 5 at 373 Princeton Ave.



Picture 2. Trees 8, 9 and 10 at 373 Princeton Ave.



Picture 3. Trees 31 (background), 33 and 34 at 373 Princeton Ave.



Picture 4. Trees 23, 24 and 27 at 373 Princeton Ave.



Picture 5. Trees 41 (far left) and 35 through 38 (top half only showing) at 373 Princeton Ave.