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Urban Forestry & Forest Management Consulting

October 31, 2017

Joey Theberge  
Theberge Homes  
904 Lady Ellen Place  
Ottawa, ON  
K1Z 5L5

**RE: TREE CONSERVATION REPORT – 21 WITHROW AVENUE, OTTAWA**

Dear Joey,

This report details a pre-construction Tree Conservation Report (TCR) for the above-noted property in Ottawa. This TCR has been compiled in accordance with section 4.7 of the City of Ottawa Official Plan, 2007.

The need for this TCR is related to the re-development of the subject property. Such reports are required for properties under site plan control applications that are greater than one hectare in area, are located within the urban boundary and on which there are trees 10 centimetres in diameter or greater. The approval of this TCR by the City of Ottawa and the issuing of a tree permit authorizes the injury or destruction of approved trees. No tree work should occur before such a permit is issued.

The inventory in this report details the assessment of all individual and groups of trees on the subject property. The construction proposed for the site includes renovating the existing dwelling (including demolition of an attached garage and construction of a new exterior garage) and construction of 13 single-family dwellings. A new roadway into the development from St. Helen's Place is also planned. Construction of the proposed roadway and buildings will require a majority of the existing trees to be removed. These include trees fully on the subject property and several shared trees along property lines. Permission from neighbouring property owners will be required for the removal of shared trees. No trees were found to be present on City of Ottawa property.

**TREE SPECIES, CONDITION, SIZE AND STATUS**

On the Table 1 on page 2 details the species, condition, size (diameter) and status of the individual trees on and adjacent to the subject property. Each of these trees is referenced by the numbers plotted on the accompanying tree conservation plan prepared Gino J. Aiello, Landscape Architect.



Table 1. Species, condition, diameter and status of trees at 21 Withrow Avenue.

Tree No.	Tree Species	Condition (VP→E)	DBH <sup>1</sup> (cm)	Tree Condition Notes & <b>Preservation Status</b> (to be removed or preserved)
1	Grouping of trees: sugar maple ( <i>Acer saccharum</i> ); white elm ( <i>Ulmus americana</i> ); buckthorn ( <i>Rhamnus</i> spp.)	Good	<10 avg.	Overstory of maple and elm, understory of introduced, invasive buckthorn (from seed) and naturalized black-locust (from root sprouts); trees over 10cm are: maple 52cm and elm 34 and 44cm; <b>to be preserved and protected</b>
2	White cedar hedge ( <i>Thuja occidentalis</i> )	Fair	10 avg.	Mature; thin due to shading from adjacent trees; native species; <b>to be removed</b>
3	Black-locust ( <i>Robinia pseudoacacia</i> )	Fair	61	Mature; naturalized species; <b>to be removed due to conflicts with construction</b>
4	Sugar maple	Good	35	Mature; good growth form; native species; <b>to be removed due to conflicts with construction</b>
5	Norway maple ( <i>Acer platanoides</i> )	Good	35	Mature; fair growth form; introduced, invasive species; <b>to be removed due to conflicts with construction</b>
6	Black-locust	Good	40	Mature; naturalized species; <b>to be removed due to conflicts with construction</b>
7	Black-locust	Fair	35	Mature; naturalized species; <b>to be removed due to conflicts with construction</b>
8	Black walnut ( <i>Juglans nigra</i> )	Fair	107	Very mature; co-dominant stems from 0.25m – broad crown; native species; <b>to be removed due to conflicts with construction</b>
9	Bur oak ( <i>Quercus macrocarpa</i> )	Good	48	Mature; heavy vine growing into crown; native species; <b>to be removed due to conflicts with construction</b>
10	Line of trees: primarily buckthorn with 11 planted Scots pine ( <i>Pinus sylvestris</i> ) and 4 white spruce ( <i>Picea glauca</i> )	Poor	<10 buckthorn; 18-27 pine & spruce	Maturing; several dead trees, others heavily pruned from hydro lines; <b>to be removed</b>
11	Butternut ( <i>Juglans cinerea</i> )	Poor	34	Planted or progeny of planted tree; <b>to be removed due to conflicts with construction</b>

Table 1. Con't

12	Norway maple	Fair	30	Mature; fair growth form; introduced, invasive species; <b>to be removed</b>
13	Norway maple	Fair	29	Mature; fair growth form; introduced, invasive species; <b>to be removed</b>
14	White elm	Good	26	Mature; no signs of Dutch elm disease ( <i>Ophiostoma novo-ulmi</i> ); native species; <b>to be removed</b>
15	Scots pine	Poor	20	Maturing; naturalized species; <b>to be removed</b>
16	White spruce	Poor	23	Maturing; thin, asymmetrical crown due to influence of nearby butternuts; <b>to be removed</b>
17	White spruce	Poor	35	Mature; thin, asymmetrical crown due to influence of nearby butternuts; <b>to be removed</b>
18	Butternut	Poor	15	Planted or progeny of planted tree; <b>to be removed</b>
19	White pine	Good	40	Mature; upright form; good crown density, growth increment and needle colour; <b>to be preserved and protected</b>
20	Butternut	Poor	22	Planted or progeny of planted tree; <b>to be removed</b>
21	White cedar hedge	Fair	12 avg.	Mature; thin due to shading from adjacent trees; native species; <b>to be removed</b>
22	Sugar maple	Fair	87	Very mature; divergent and asymmetrical form due to adjacent maple; major deadwood in crown; native species; <b>to be removed due to conflicts with construction</b>
23	Sugar maple	Good	94	Very mature; co-dominant stems at 2m with strong union; mildly divergent and asymmetrical form due to adjacent maple; native species; <b>to be removed due to conflicts with construction</b>
24	White cedar hedge	Fair	16 avg.	Mature; thin due to shading from adjacent trees; some winter damage; <b>to be removed</b>
25	Norway maple	Fair	32	Mature; single stem with competing laterals from 0.5m-broad crown; planted 'Crimson king' variety; introduced, invasive species; <b>to be removed due to conflicts with construction</b>

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26	White pine	Good	48	Mature; upright form; good crown density, growth increment and needle colour; <b>to be removed</b>
27	Line of Norway spruce ( <i>Picea abies</i> )	Fair-Good	17-52cm	Mature; 26 trees in total – 1 dead, several suppressed, most dominant; planted; introduced species; <b>to be removed</b>
28	Sugar maple	Poor	123	Very mature; advanced decay in lower bole below dog's leg; living crown held offset to bole; will become hazardous; <b>to be removed due to poor condition</b>
29	Sugar maple	Poor	119	Very mature; advanced decay in union of once tri-dominant stems (one failed in past, another just recently); will become hazardous; <b>to be removed due to poor condition</b>
30	Norway spruce	Fair	112	Very mature; poor crown density, growth increment and needle colour-senescent; planted; introduced species; <b>to be removed due to conflicts with construction</b>
31	Sugar maple	Poor	+/-100	Very mature; cavity on southeast side of main stem at 2m; major wound from past co-dominant stem failure on west side; will become hazardous; <b>to be removed due to poor condition</b>
32	Grouping of trees: primarily sugar maple, buckthorn and black-locust (with scatted white cedar and lilac ( <i>Syringa vulgaris</i> ))	Fair-Good	5-25	Maturing; most originated from seed or root sprouts (including naturalized 22cm Horsechestnut ( <i>Aesculus hippocastanum</i> )); <b>to be removed due to conflicts with construction</b>
33	Grouping of trees: primarily buckthorn, sugar maple and staghorn sumac ( <i>Rhys typhina</i> )	Fair-Poor	10-37	Maturing to mature; most originated from seed or root sprouts (including naturalized 18cm Horsechestnut); at southern end of grouping are two mature trees: a dead elm (37cm) and sugar maple (34 cm) in poor condition; heavy vine growth throughout; <b>to be removed due to conflicts with construction</b>

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34	Lines of trees: 13 Norway spruce and 21 white spruce	Fair-Good	Norway 28-47; white 6-21	Mature; line of white spruce generally suppressed by faster growing Norway spruce located to south; planted; <b>to be removed due to conflicts with construction</b>
35	Lines of trees: 3 Norway spruce and 4 white spruce	Poor-Good	Norway 30-48; white 6-21	Mature; line of white spruce suppressed by faster growing Norway spruce located to south and west; one Norway topped by hydro (poor tree); planted; <b>to be removed due to conflicts with construction</b>
36	Grouping of trees: sugar maple; white elm; buckthorn			Overstory of maple and elm, understory of buckthorn (from seed) and black-locust (from root sprouts); trees over 10cm are mainly sugar maple; <b>to be removed for roadway construction</b>

<sup>1</sup>Diameter at breast height, or 1.4m from grade (unless otherwise noted).

### ENDANGERED SPECIES

Six butternut (*Juglans cinerea*) were found on the subject property. This species of tree is listed as endangered under the Province of Ontario's Endangered Species Act (ESA, 2007) and so is protected from harm.

A review of historic aerial photographs of the property revealed significant amounts of tree planting dating back to the mid-twentieth century. The presence of many mature introduced species and tree lines confirms these efforts. However, since the property has been settled since the mid-nineteenth century, it is possible tree planting started even earlier. In response to this, and in an effort to confirm their provenance, leaf samples from all six butternut trees were sent away for hybridity testing. The results found each tree to be genetically pure. Nonetheless, it is almost certain all trees currently on the property were either planted or are the progeny of planted trees. As a result, since planted butternut are not protected under the ESA, the normal protocol in relation to butternuts was not required. That being said, a butternut health assessment was submitted to the Ministry of Natural Resources and Forestry on September 27<sup>th</sup> after three trees were removed by the proponent in mid-September under the assumption they were hazardous.

### TREE PRESERVATION AND PROTECTION MEASURES

Preservation and protection measures intended to mitigate damage during construction will be applied to the trees to be retained on and adjacent to the subject property. The following measures are recommended to ensure tree survival during and following construction:



1. Erect a fence (snow or metal) as close as possible to the critical root zone (CRZ<sup>1</sup>) of trees;
2. Attach signs to the fence indicating the area within is a protected space (do not attach any signs, notices or posters to any tree);
3. Do not place any material or equipment within the CRZ of trees;
4. When possible do not raise or lower the existing grade within the CRZ;
5. Tunnel or bore instead of digging or trenching within the CRZ of trees;
6. Do not damage the root system, trunk or branches of any tree – if damage does occur cut the wound cleanly and, especially in the case of roots, seal the wound with beeswax;
7. Ensure that exhaust fumes from all equipment are not directed towards any tree's crown.

<sup>1</sup> 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.

Please do not hesitate to contact me with any questions concerning this Tree Conservation Report.

Yours,

*Andrew Boyd*

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Consulting Urban Forester