

**Tree Inventory and Preservation Plan Report
1910 Bank Street
Ottawa, Ontario**

prepared for

**Terraplan Landscape Architects
20 Champlain Boulevard, Suite 102
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prepared by



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KUNTZ FORESTRY CONSULTING INC Project P1960

Introduction

Kuntz Forestry Consulting Inc. was retained by Terraplan Landscape Architects to complete a Tree Inventory and Preservation Plan in support of a development application for the property located at 1910 Bank Street in Ottawa, Ontario. The property is located on the west side of Bank Street, south of Walkley Road, within a commercial area.

The work plan for this tree preservation study included the following:

- Prepare inventory of all tree resources regardless of size on and adjacent to the subject property;
- Evaluate potential tree saving opportunities based on proposed development plans; and
- Document the findings in a Tree Inventory and Preservation Plan Report.

The results of the evaluation are provided below.

Methodology

The tree inventory was conducted on 1 October 2018. The topographic survey and aerial imagery were used to locate tree resources. Tree resources located on the subject property were tagged using numbers 1764-1793. Neighbouring trees were not tagged and were identified as A-P. Two polygons (groups of trees) were identified as P1 and P2 and are comprised of trees that are less than 10cm DBH. They were assessed by 100% tally, categorizing trees by species, size category, and condition [AGS (Acceptable Growing Stock) and UGS (Unacceptable Growing Stock)]. Tree locations are shown on Figure 1. Refer to Tables 1 and 2 for the results of the tree inventory.

Tree resources were assessed utilizing the following parameters:

Tree # - number assigned to tree that corresponds to Figure 1.

Species - common and botanical names provided in the inventory table.

DBH - diameter (centimetres) at breast height, measured at 1.4 m above the ground.

Dripline – the radius of the crown, measured from the trunk to the outer tips of the branches.

Condition - condition of tree considering trunk integrity, crown structure, and crown vigour. Condition ratings include poor (P), fair (F) and good (G).

Comments - additional relevant detail.

Existing Site Conditions

The subject property is currently occupied by a Swiss Chalet and associated parking and amenity areas. Tree resources exist in the form of landscape trees and naturally-occurring individuals along the peripheries of the site. Common Buckthorn (*Rhamnus carthantica*) was also located throughout the peripheries of the site. Refer to Figure 1 for the existing conditions.

Individual Tree Resources

The inventory documented 46 trees and two tree polygons on and adjacent to the subject property. Refer to Tables 1 and 2 for the full tree inventory and Figure 1 for the locations of trees reported in the tree inventory.

Tree resources were comprised of Freeman Maple (*Acer x freemanii*), Manitoba Maple (*Acer negundo*), Apple species (*Malus sp.*), Austrian Pine (*Pinus nigra*), Norway Maple (*Acer platanoides*), Shademaster Honey Locust (*Gleditsia triacanthos inermis*), Littleleaf Linden (*Tilia cordata*), Siberian Elm (*Ulmus pumila*), Amur Maple (*Acer ginnala*), Mountain Ash (*Sorbus sp.*), White Elm (*Ulmus pumila*), Willow species (*Salix sp.*), Poplar species (*Populus sp.*), and Black Locust (*Robinia pseudoacacia*).

Proposed Development

The construction of a new Starbucks building with drive-through and modified parking is proposed for the subject property. The new building is proposed within an existing vacant space on the property. Refer to Figure 1 for the existing conditions and proposed site plan.

Discussion

The following sections provide a discussion and analysis of development impacts, tree removal requirements, and tree preservation relative to the proposed development and existing conditions.

Development Impacts/Tree Removals

The removal of five trees, identified as Trees 1790, 1791, 1792, 1793, and L will be required to accommodate the proposed development. The removal of three trees, identified as Trees 1765, 1770, and 1781 is recommended due to their condition. Trees 1765, 1770, 1781, and 1790-1793 identified for removal are less than 50cm DBH and are located on the subject property. Tree L is less than 50cm DBH and located on the neighbouring property to the west, permission from the neighbouring property owner is required prior to its removal. Additional neighbouring removals may be required as part of the installation of the multi-purpose path to be installed on the neighbouring property at a later time.

Refer to Figure 1 for the location of proposed tree removals.

The City of Ottawa will be widening Bank Street to include bike lanes and a new sidewalk at a later date. At this time however, all trees located along Bank Street can be retained.

Tree Preservation

The preservation of Trees 1764, 1766-1769, 1771-1780, 1782-1789, A-K, M-P, P1, and P2 will be possible with appropriate tree protection measures as indicated on Figure 1. Tree protection measures will have to be implemented prior to construction to ensure tree resources designated for retention are not impacted by the development. Refer to Figure 1 for the location of required tree preservation fencing, general Tree Protection

Plan Notes, and the tree preservation fence detail. Preservation fencing may not be required outside of the construction zone to the northern portion of the subject property.

City of Ottawa standards define the Critical Root Zone (CRZ) of trees, the minimum distance to be protected, as 10cm x DBH. Except where this distance overlaps with existing features identified for retention, (parking lot and sidewalks), the CRZ can be fully protected for all trees identified for preservation. In many cases, additional protection will be possible.

Trees N and O are in poor and/or hazardous condition. These are neighbouring trees and therefore identified for preservation; however, the neighbouring property owner should be made aware of their condition and our recommendation for their removal. Some additional management recommendations have been made within Table 1. The existing t-bars should be removed for Trees 1964, 1966-1769, and 1774-1777. The suckers should be pruned for Trees 1775, 1776, 1785, and 1786. Tree 1788 should be monitored in the future for hazard potential and removed if required.

Summary and Recommendations

Kuntz Forestry Consulting Inc. was retained by Terraplan Landscape Architects to complete a Tree Inventory and Preservation Plan in support of a development application for the property located at 1910 Bank Street in Ottawa, Ontario. A tree inventory was conducted and reviewed in the context of the proposed site plan.

The findings of the study indicate a total of 46 trees and two tree polygons on and within six metres of the subject property. The removal of five trees will be required to accommodate the proposed development. An additional three trees are recommended for removal due to their condition. The remaining trees can be saved provided appropriate tree protection measures are installed prior to the development.

The following recommendations are suggested to minimize impact to trees identified for preservation. Refer to Figure 1 for the location of required tree preservation fencing, general Tree Protection Plan Notes, and the tree preservation fence detail.

- Tree protection barriers and fencing should be erected at locations as prescribed on Figure 1. All tree protection measures should follow the guidelines as set out in the tree preservation plan notes and the tree preservation fencing detail.
- No construction activity including surface treatments, excavations of any kind, storage of materials or vehicles, unless specifically outlined above, is permitted within the area identified on Figure 1 as a tree protection zone (TPZ) at any time during or after construction.
- Branches and roots that extend beyond prescribed tree protection zones that require pruning must be pruned by a qualified Arborist or other tree professional. All pruning of tree roots and branches must be in accordance with Good Arboricultural Standards.
- Site visits, pre, during, and post construction are recommended by either a certified consulting arborist (I.S.A.) or registered professional forester (R.P.F.) to ensure proper utilization of tree protection barriers. Trees should also be inspected for

damage incurred during construction to ensure appropriate pruning or other measures are implemented.

Respectfully Submitted,

Kuntz Forestry Consulting Inc.

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Table 1. Tree Inventory

Location: 1910 Bank Street, Ottawa

Date: 1 October 2018

Surveyors: SA

Tree #	Common Name	Scientific Name	DBH	TI	CS	CV	CDB	DL	CRZ	Comments	Action
1764	Freeman Maple	<i>Acer x freemanii</i>	11.5	G	F-G	G		3	1.15	Asymmetrical crown (M), competing trees (L), lean (VL), remove T-bars	Retain
1765	Manitoba Maple	<i>Acer negundo</i>	29, 31.5	P	P-F	F-G	10	6	3.15	Co-dominant at base, lean (M), bowed (L), deadwood (L), stems split (H), removal recommended	Remove (condition)
1766	Freeman Maple	<i>Acer x freemanii</i>	10	G	G	G		2	1.00	Stem wounds at base (VL), remove t-bars	Retain
1767	Freeman Maple	<i>Acer x freemanii</i>	13	F	G	G		3	1.30	Girdling root, stem wounds (L), suckering (L), remove t-bars	Retain
1768	Freeman Maple	<i>Acer x freemanii</i>	13.5	F-G	G	G		2.5	1.35	Stem wounds at base (L), suckering (VL), remove t-bars	Retain
1769	Freeman Maple	<i>Acer x freemanii</i>	9	F-G	G	G		2	0.90	Suckering (L), removal t-bars	Retain
1770	Apple species	<i>Malus spp.</i>	16.5, 30.5	F-G	F-G	F-G		4	3.05	Co-dominant at 1.3m and 1.6m, epicormic branching (M), deadwood (L), v-unions, deadwood (L), bowed (L), removal recommended	Remove (condition)
1771	Austrian Pine	<i>Pinus nigra</i>	37	F	F-G	F-G		5	3.70	Stem wound at base, sealing (M), lean (L), bowed (L), pruning wounds (L), deadwood (L), asymmetrical crown (L), exposed roots (L)	Retain
1772	Norway Maple	<i>Acer platanoides</i>	30.5	F-G	F-G	F-G		6	3.05	Co-dominant at 1.9m, exposed roots (L), asymmetrical crown (L), pruning wounds (L), deadwood (L)	Retain
1773	Norway Maple	<i>Acer platanoides</i>	34.5	F	F-G	G		6.5	3.45	Girdling root, bowed (L), pruning wounds (M), seam, deadwood (L), exposed roots (VL), asymmetrical crown (L)	Retain
1774	Norway Maple	<i>Acer platanoides</i>	12.5	F-G	G	G		3	1.25	Stem wound (L), sealing, co-dominant at 1.6m, remove t-bars	Retain
1775	Honey Locust (shademaster)	<i>Gleditsia triacanthos inermis</i>	10.5	F-G	F-G	F-G		3.5	1.05	Suckering (M), deadwood (L), bowed (L), prune suckers, remove t-bars	Retain
1776	Honey Locust (shademaster)	<i>Gleditsia triacanthos inermis</i>	10.5	F-G	F-G	F-G		3.5	1.05	Lean (L), bowed (L), suckering (M), deadwood (L), prune suckers, remove t-bars	Retain
1777	Norway Maple	<i>Acer platanoides</i>	13.5	G	G	G		3	1.35	Deadwood (VL), remove t-bars	Retain
1778	Littleleaf Linden	<i>Tilia cordata</i>	9.5, 30	F-G	F-G	F-G		4	3.00	Co-dominant at base and 2m, pruning wounds (L), deadwood (L), suckering (L), stem wound at base (L)	Retain
1779	Littleleaf Linden	<i>Tilia cordata</i>	36.5	F-G	F-G	F-G		3.5	3.65	Suckering (M), lean (L), sweep (L), pruning wounds (L)	Retain
1780	Littleleaf Linden	<i>Tilia cordata</i>	~10-15, avg 13	P-F	F	F-G		4	1.50	Co-dominant at base, fence inclusion, root rot, lean (M), 8 stems, deadwood (L)	Retain
1781	Littleleaf Linden	<i>Tilia cordata</i>	~12-17, avg 15	P-F	P-F	F	30	3	1.70	Co-dominant at base and 1.2m, lean (M), sweep (L), stem wounds (M), deadwood (M), some dead leaders, removal recommended	Remove (condition)
1782	Honey Locust (shademaster)	<i>Gleditsia triacanthos inermis</i>	15	G	G	G		2.5	1.50		Retain
1783	Honey Locust (shademaster)	<i>Gleditsia triacanthos inermis</i>	17	G	G	G		4	1.70		Retain
1784	Honey Locust (shademaster)	<i>Gleditsia triacanthos inermis</i>	14.5	G	G	G		3	1.45		Retain
1785	Littleleaf Linden	<i>Tilia cordata</i>	~11, 11, 13, 15	P-F	F	F-G		2.5	1.50	Co-dominant at base, suckering (H), ~4 stems, pruning wounds (L), deadwood (L), prune suckers	Retain
1786	Littleleaf Linden	<i>Tilia cordata</i>	~13, 16, 20, 20	F	F-G	F-G		4	2.00	Co-dominant at base, suckering (H), lean (L), pruning wounds (L), deadwood (VL), prune suckers	Retain
1787	Littleleaf Linden	<i>Tilia cordata</i>	28	F-G	F-G	F-G		4	2.80	Co-dominant at 1.8m, suckering, lean (L), pruning wounds (L), deadwood (VL)	Retain
1788	Littleleaf Linden	<i>Tilia cordata</i>	~40	P	F-G	G		4	4.00	Co-dominant at 1.6m with split, suckering (H), stem wound, monitor and remove if necessary	Retain
1789	Siberian Elm	<i>Ulmus pumila</i>	~6-8 avg 7	P-F	F	F-G		3	0.80	~7 stems, co-dominant at base, pruning wounds (L), crooked stems (H), asymmetrical crown (L)	Retain
1790	Freeman Maple	<i>Acer x freemanii</i>	15	F	G	G		2.5	1.50	Stem wound (H), sealing	Remove
1791	Freeman Maple	<i>Acer x freemanii</i>	11	G	G	G		2.5	1.10	Vine competition (VL), remove t-bars	Remove
1792	Honey Locust (shademaster)	<i>Gleditsia triacanthos inermis</i>	~7	F-G	F-G	G		2.5	0.70	Suckering (H), root restriction (M), asymmetrical crown (L), prune suckering	Remove
1793	Honey Locust (shademaster)	<i>Gleditsia triacanthos inermis</i>	8.5	F-G	F-G	F-G		2.5	0.85	Suckering (L), root restriction (M), deadwood (VL), remove t-bars	Remove
A	Manitoba Maple	<i>Acer negundo</i>	~4, 5, 11, 14, 15	F	F	F-G		3	1.50	Co-dominant at base, epicormic branching (M), lean (M), bowed (L), deadwood (L), limb with fence inclusion (L), stem wounds (L)	Retain
B	Norway Maple	<i>Acer platanoides</i>	~5	F	F	G		2.5	0.50	Crooked stem (M), suckering (L), asymmetrical crown (L), competing with Tree L (H),	Retain
C	Manitoba Maple	<i>Acer negundo</i>	~20, 31	F	F	F	10	5	3.10	Co-dominant at base, fence inclusion (L), crooked stems (L), deadwood (L), epicormic branching (VL), pruning wounds (L), bowed (M)	Retain
D	Amur Maple	<i>Acer ginnala</i>	~5, 8, 9, 9, 10	F-G	F-G	G		4	1.00	Co-dominant at base, epicormic branching (L), bowed (L), asymmetrical crown (L)	Retain
E	Manitoba Maple	<i>Acer negundo</i>	~4, 4, 3, 5, 5, 6	P-F	F	G		3	0.60	Co-dominant at base, lean (L), bowed (L), pruning wounds (H), epicormic branching (M)	Retain
F	Manitoba Maple	<i>Acer negundo</i>	~21, 32	P-F	P-F	F	30	5	3.20	Co-dominant at base, stem wounds (L), lean (M), deadwood (M), bowed (L), asymmetrical crown (L), epicormic branching (L)	Retain
G	Mountain Ash	<i>Sorbus spp.</i>	~2, 3, 4, 5, 10	F	F	F	30	3	1.00	Co-dominant at base, deadwood (M), lean (L), bowed (M), stem wounds (L), fungal bodies on stem	Retain
H	Honey Locust (shademaster)	<i>Gleditsia triacanthos inermis</i>	~35	G	G	G		6	3.50	Co-dominant at 1.4m and 3m, pruning wounds (L), deadwood (VL)	Retain

I	White Elm	<i>Ulmus americana</i>	~3, 3, 5, 5	F	F	F		2.5	0.50	On property line, co-dominant at base, deadwood (L), losing vigour	Retain
J	Siberian Elm	<i>Ulmus pumila</i>	~3-11, avg 6	P-F	F	F-G		3	1.10	~8 stems, co-dominant at base, fence inclusion, lean (L), deadwood (L), epicormic branching (L)	Retain
K	Siberian Elm	<i>Ulmus pumila</i>	~3-6 avg 5	F	F	G		2	0.60	Co-dominant at base, ~6 stems, deadwood (L)	Retain
L	Willow species	<i>Salix spp.</i>	~4-12 avg 10	F	F-G	G		~4	1.20	Co-dominant at base, lean (L), bowed (M)	Remove
M	Manitoba Maple	<i>Acer negundo</i>	~5, 7, 7, 9	P-F	F-G	F-G		~4	0.90	Lean (L), co-dominant at base, only coppice growth remaining, pruning wounds (M), fence inclusion	Retain
N	Manitoba Maple	<i>Acer negundo</i>	~3, 5, 6, 18	P	F	F-G		3	1.80	Fence inclusion, cavity (M), vine competition (H), pruning wounds (M), removal recommended	Retain
O	White Elm	<i>Ulmus americana</i>	~18	P	F-G	F-G		4	1.80	Fence inclusion, vine competition (M), bowed (L), deadwood (L), lean (L)	Retain
P	Manitoba Maple	<i>Acer negundo</i>	~48	P	P	P		6	4.80	Stem snapped at 2m, hanging leader, hazard, remove	Retain
P1	See Table 2							<2	1.00		Retain
P2	See Table 2							<2	1.00		Retain

Codes		
DBH	Diameter at Breast Height	(cm)
TI	Trunk Integrity	(G, F, P)
CS	Crown Structure	(G, F, P)
CV	Crown Vigor	(G, F, P)
CDB	Crown Die Back	(%)
DL	Dripline	(metres)
CRZ	Critical Root Zone	(metres)
~ = estimate; (VL) = very light; (L) = light; (M) = moderate; (H) = heavy		

Table 2. 100% Tally of Tree Polygons

Location: 1910 Bank Street
Date: 01-Oct-18
Surveyor: SA
Compartment Number: P1
Stations Tallied: 100% Tally

Stand Analysis Tally (by Species, Size Class and Quality Class)

Tree Size Class >>>>	Regen <10cm		Polewood 10-24 cm		Sawtimber Sizes						Total All Sizes	
	AGS	UGS	AGS	UGS	Small 26-36 cm		Medium 38-48 cm		Large 50 cm +		AGS	UGS
Species					AGS	UGS	AGS	UGS	AGS	UGS		
Poplar species (<i>Populus sp.</i>)	18										18	0
Willow species (<i>Salix sp.</i>)	21										21	0
Black Locust (<i>Robinia pseudoacacia</i>)	1										1	0
Manitoba Maple (<i>Acer negundo</i>)	12										12	0
											0	0
Total Number of Trees	52	0	0	0	0	0	0	0	0	0	52	0

Additional Notes:

Compartment Number: P2
Stations Tallied: 100% Tally

Stand Analysis Tally (by Species, Size Class and Quality Class)

Tree Size Class >>>>	Regen <10cm		Polewood 10-24 cm		Sawtimber Sizes						Total All Sizes	
	AGS	UGS	AGS	UGS	Small 26-36 cm		Medium 38-48 cm		Large 50 cm +		AGS	UGS
Species					AGS	UGS	AGS	UGS	AGS	UGS		
Willow species (<i>Salix sp.</i>)	1										1	0
Manitoba Maple (<i>Acer negundo</i>)	22										22	0
											0	0
Total Number of Trees	23	0	0	0	0	0	0	0	0	0	23	0

Additional Notes: