

**Tree Inventory and Preservation Plan Report
42 Park Street, 44 Park Street, 46 Park Street & 23 Elizabeth Street
Mississauga, Ontario**

prepared for

**Edenshaw Elizabeth Development Limited
129 Lakeshore Road East, Suite 201
Mississauga, ON
L5G 1E5**

prepared by



146 Lakeshore Road West
PO Box 1267 Lakeshore W PO
Oakville ON L6K 0B3
t: 289.837.1871 f: 866.693.6390
e: consult@kuntzforestry.ca

15 April 2020
Revision 1: 17 April 2020

KUNTZ FORESTRY CONSULTING Inc. Project P2371

Introduction

Kuntz Forestry Consulting Inc. was retained by Edenshaw Elizabeth Development Limited to complete a Tree Inventory and Preservation Plan in support of a development application for the properties at 42 Park Street, 44 Park Street, 46 Park Street, and 23 Elizabeth Street in Mississauga, Ontario. The subject property is located north of Lakeshore Road East and west of Hurontario Street, within a residential area.

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

- Prepare inventory of the tree resources over 10cm on and within six metres of the subject properties and trees of all sizes within the road right-of-way;
- Evaluate potential tree saving opportunities based on proposed development plans; and,
- Document the findings in a Tree Inventory and Preservation Plan Report.

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 (centimeters) at breast height, measured at 1.4 m above the ground.

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

Dripline – radius (metres) of the tree crown, measured from the stem to the outer branches of the crown

Crown Dieback – percentage of crown that has died.

Comments - additional relevant detail.

The results of the evaluation are provided below.

Methodology

Tree Inventory

Trees measuring over 10cm DBH on and within six metres of the subject properties were identified in the tree inventory. Trees were located using the topographic survey provided and estimations made in the field. The City of Mississauga requires dripline as the limit of protection and as such the dripline of each tree was measured in field. Trees included in the inventory were tagged with the numbers 673 – 700. Refer to Figure 1 for the tree locations and Table 1 for the results of the tree inventory.

Tree Valuation

A valuation was calculated for all trees within the City right-of-way. Refer to Table 2 for the individual tree value computations. See below for the methodology used to calculate the appraised value of the trees. The value was calculated using the Trunk Formula Technique. This method is described in the Guide for Plant Appraisal, 10th Edition (CTLA 2018). The Ontario Supplement (2003) provides regionally relevant data pertaining to basic costs for trees.

Trunk Formula Technique

This method is used for trees that are larger than what is commonly available for transplant from a nursery. The Unit Tree Cost of the replacement tree is derived from a survey of nurseries or supplied by the Regional Plant Appraisal Council and published within the Ontario Supplement (2003). For Ontario, the unit tree cost has been set at \$6.51/cm² within the Supplement and this value has been used for the calculation.

The Basic Tree Cost is calculated by multiplying the unit tree cost by the cross-sectional area of the subject tree. For multi-stemmed trees, the appraised trunk area considers the cross-sectional area of all stems. The Appraised Value is calculated by multiplying the Basic Reproduction Cost by the three depreciation factors (Condition Rating, Functional Limitation Rating, and External Limitation Rating, as described in the Guide).

The appraised value is therefore calculated using the following equation:

Basic Tree Cost = Appraised Tree Trunk Area X Unit Tree Cost

Appraised Value = Basic Tree Cost X Condition Rating X Functional Limitation Rating X External Limitation Rating

Functional Limitation Ratings and External Limitation Ratings are calculated according to the methods outlined in the guide. Condition ratings were calculated based on the assessed condition of the trees on the site and in accordance with the guide.

Existing Site Conditions

The subject area is currently occupied by four residential homes with associated garages, driveways, and backyards. Tree resources exist in the form of landscape trees and natural regeneration. Refer to Figure 1 for the existing site conditions.

Tree Resources

The tree inventory was conducted on 13 April 2020. The inventory documented 28 trees on and within six metres of the subject properties. Refer to Table 1 for the full tree inventory, Figure 1 for the location of trees reported in the tree inventory, and Appendix A for photographs of the trees.

Tree resources were comprised of Cherry (*Prunus* spp.), Weeping White Mulberry (*Morus alba* 'Pendula'), White Spruce (*Picea glauca*), Siberian Elm (*Ulmus pumila*), Little-leaf Linden (*Tilia cordata*), Manitoba Maple (*Acer negundo*), Eastern White Cedar (*Thuja occidentalis*), Tree-of-Heaven (*Ailanthus altissima*), White Mulberry (*Morus alba*), and Black Walnut (*Juglans nigra*).

Proposed Development

The proposed development includes the construction of a multi-storey residential building with an associated underground parking garage, two new vehicle entrance ways, and landscaping upgrades. Refer to Figure 1 for the proposed site plan.

Discussion

The following sections provide a discussion and analysis of tree impacts and tree preservation relative to the proposed work and existing conditions.

Development Impacts / Tree Removal

The removal of 25 trees is required to accommodate the proposed development. Trees 673, 674, 683, 693, and 696 have trunks that conflict directly with the proposed vehicle entrance ways. Trees 675, 676, 678, and 679 are located close to the proposed vehicle entrance ways such that their roots and / or crowns would be significantly impacted by construction. Trees 677 and 698 – 700 are located close to the proposed underground parking garage such that their roots and / or crowns would be significantly impacted by construction. Trees 680, 684, 686, 687, 692, and 697 conflict with the proposed landscaping upgrades. Trees 689 – 691 have trunks that conflict with the proposed building footprint. Tree 688 is located close to the proposed demolition of an existing house such that its roots and / or crown would be impacted by the demolition. Tree 695 is located close to the proposed transformer such that its roots and / or crown would be impacted by its construction. Trees 674, 676, 677, 682, 683, 695, and 697 are in poor or hazardous condition and their removal is advised regardless of the site plan.

Trees 673, 674, 676, 677, 679, 680, 682, 684, 686 – 692, 695, and 697 – 700 are greater than 15 cm DBH, therefore a permit is required prior to the removal of these trees. Trees 693 and 696 are located within the City right-of-way, therefore a permit is required prior to their removal. Trees 676 – 680, 682, 684, 686, and 687 are boundary or neighbouring trees and letters from their respective landowners are required prior to their removal. Refer to Figure 1 for the proposed tree removals.

Tree Preservation

The preservation of the remaining three trees will be possible with the use of appropriate tree protection measures as indicated on Figure 1. As the drip line of Tree 694 does not encroach onto the subject property, tree protection fencing is not required for this tree. Tree protection measures must be implemented prior to the proposed work to ensure tree resources designated for retention are not impacted by the proposed development. Refer to Figure 1 for the location of required tree preservation fencing and general Tree Protection Plan Notes. Refer to Appendix B for tree preservation fencing details.

Tree Valuation

A tree valuation of all trees located within the City right-of-way was conducted. Refer to Table 2 for the results of the tree valuation.

Summary and Recommendations

Kuntz Forestry Consulting Inc. was retained by Edenshaw Elizabeth Development Limited to complete a Tree Inventory and Preservation Plan in support of a development application for the subject properties at 42 Park Street, 44 Park Street, 46 Park Street, and 23 Elizabeth Street in Mississauga, 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 28 trees on and within six metres of the subject properties and within the City right-of-way. The removal of 25 trees is required to accommodate the proposed development. The remaining three trees can be saved.

The following recommendations are suggested to minimize impacts to trees identified for preservation. Refer to Figure 1 for tree protection fencing locations and general Tree Protection Plan Notes.

- 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 is 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.

Kimberly Dowell

Kimberly Dowell, Urban Forestry Specialist
Master of Forest Conservation, ISA Certified Arborist #PN-8858

Table 1. Tree Inventory

Location: 42 Park Street, 44 Park Street, 46 Park Street & 23 Elizabeth Street, Mississauga

Date: 13 April 2020 Surveyors: KD

Tree #	Common Name	Scientific Name	DBH	TI	CS	CV	RZE	CDB	DL	Comments	Action
673	White Spruce	<i>Picea glauca</i>	~65	G	G	G	F-G		6.0	Included fence, exposed roots (M)	Remove
674	Manitoba Maple	<i>Acer negundo</i>	~40	P	P	P	F		2.5	Topped at 6 metres, epicormic branching (H), cavity (H)	Remove (Condition)
675	Weeping White Mulberry	<i>Morus alba</i> 'Pendula'	13	G	G	G	F-G		1.5	Broken branches (L)	Remove
676	Manitoba Maple	<i>Acer negundo</i>	~30, ~20	P	P	P	F		4.0	Multiple stem failures, cavities (H), deadwood (H), epicormic branching (H), multi-stem at base, coppice growth (H), included fence, leaning on utility pole	Remove (Condition)
677	Manitoba Maple	<i>Acer negundo</i>	~75	P	F	P-F	P-F		4.5	Pruning wounds (H), coppice growth (H), epicormic branching (H), included fence	Remove (Condition)
678	Manitoba Maple	<i>Acer negundo</i>	13	F	F	F-G	P-F		4.5	Impervious surface in 50% of root zone	Remove
679	Siberian Elm	<i>Ulmus pumila</i>	~75, ~40	P-F	F	P-F	P-F		7.0	Co-dominant stems at 0.5 metres, included bark (M), broken branches (M), included fence, epicormic branching (H), cavity (M) at 0.5 metres, impervious surface in 50% of root zone	Remove
680	Manitoba Maple	<i>Acer negundo</i>	20	F	P-F	F	F		5.0	Deadwood (M), pruning wounds (M), bow (M), debris in root zone, epicormic branching (L)	Remove
681	Little-leaf Linden	<i>Tilia cordata</i>	~45	F-G	G	F-G	P		4.0		Retain
682	Manitoba Maple	<i>Acer negundo</i>	~23, ~10	P	P	P-F	F		3.5	Debris in root zone, deadwood (H), one stem dead, multi-stem at base, pruning wounds (H), cavity (H) at base	Remove (Condition)
683	Black Walnut	<i>Juglans nigra</i>	12	F	P	P	F-G		0.5	Topped at 2.5 metres	Remove (Condition)
684	Siberian Elm	<i>Ulmus pumila</i>	35, 33, 16	P-F	F	F	P-F		8.0	Multi-stem at base, deadwood (L), epicormic branching (M), stem wound (M) at 1.5 metres, impervious surface in 50% of root zone	Remove
685	Manitoba Maple	<i>Acer negundo</i>	12	F	F	F-G	P-F		2.5	Pruning wounds (M), impervious surface in 50% of root zone, included fence	Retain
686	Manitoba Maple	<i>Acer negundo</i>	12, 6, 6	F	F	F	F		4.0	Coppice growth (H), lean (L), pruning wounds (H), deadwood (M)	Remove
687	Little-leaf Linden	<i>Tilia cordata</i>	16	G	G	F-G	F		4.0		Remove
688	Siberian Elm	<i>Ulmus pumila</i>	33	P-F	F	F-G	F		5.0	Co-dominant stems at 2 metres, broken branches (L), included fence, girdling trunk (H) from fence, epicormic branching (L)	Remove
689	Cherry species	<i>Prunus spp.</i>	32	F	P-F	F	F		6.0	Pruning wounds (H), sweep (L), debris in root zone, epicormic branching (M)	Remove
690	Cherry species	<i>Prunus spp.</i>	31	F	P-F	F	F-G		4.5	Pruning wounds (H), co-dominant stems at 1.5 metres, broken branches (L)	Remove
691	Tree-of-Heaven	<i>Ailanthus altissima</i>	~95	F	F-G	F-G	F		9.0	Seams (L), cavity (L) from pruning wound, pruning wounds (M), included fence, clothesline pulley inserted into trunk, vine competition (L)	Remove
692	Tree-of-Heaven	<i>Ailanthus altissima</i>	110	F	F	F	F		9.0	One stem dead, asymmetrical crown (M), pruning wounds (M), cavity (L)	Remove
693	Siberian Elm	<i>Ulmus pumila</i>	3	G	F-G	G	F		0.5		Remove
694	White Mulberry	<i>Morus alba</i>	~15, ~8, ~8	F	F	F	F		2.5	Multi-stem at base, pruning wounds (M), included bark (M), epicormic branching (H), lean (L)	Retain
695	Eastern White Cedar	<i>Thuja occidentalis</i>	27, 27	P	P-F	F-G	P-F		3.5	Co-dominant stems at base, included bark (M), cavity (H) at union, one stem topped at 6 metres, pruning wounds (M)	Remove (Condition)
696	Weeping White Mulberry	<i>Morus alba</i> 'Pendula'	11	G	F-G	G	F		1.0	Broken branches (L), included bark (L)	Remove
697	Manitoba Maple	<i>Acer negundo</i>	64	P-F	P-F	P-F	F		6.0	Pruning wounds (H), epicormic branching (H), asymmetrical crown (M), seams (M), cavities (M), cavity (H) where large stem was previously pruned, broken branches (L)	Remove (Condition)
698	Manitoba Maple	<i>Acer negundo</i>	18, 15, 11	F	P-F	F	F-G		4.0	Multi-stem at base, one stem pruned at base, pruning wounds (M), broken branches (L)	Remove
699	Manitoba Maple	<i>Acer negundo</i>	15, 14	F	F	F-G	F-G		2.5	Pruning wounds (M), co-dominant stems at 0.25 metres, included bark (H), epicormic branching (M)	Remove
700	Black Walnut	<i>Juglans nigra</i>	116	G	F-G	G	F		10.0	Co-dominant stems at 3 metres, pruning wounds (L)	Remove

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)
RZE	Root Zone Environment	(G, F, P)
CDB	Crown Die Back	(%)
DL	Dripline	(m)
~ = estimate; (VL) = very light; (L) = light; (M) = moderate; (H) = heavy		

Table 2. Tree Valuation

Location: 42 Park Street, 44 Park Street, 46 Park Street & 23 Elizabeth Street, Mississauga				Appraised Trunk Area (cm ²)	Unit Tree Cost (RPAC)	Basic Tree Cost (\$)	Depreciation			
							Condition Rating (%)	Functional Limitation Rating (%)	External Limitation Rating (%)	Appraised Tree Value
Tree #	Common Name	DBH	OC							
673	White Spruce	~65	G	3317	6.51	\$ 21,591.23	0.9	0.7	1	\$ 13,602.47
692	Tree-of-Heaven	110	F	9499	6.51	\$ 61,835.24	0.6	0.8	1	\$ 29,680.91
693	Siberian Elm	3	F-G			\$ 126.00*	0.8	0.5	1	\$ 50.40
694	White Mulberry	~15, ~8, ~8	F-G	277	6.51	\$ 1,803.95	0.6	0.75	1	\$ 811.78
695	Eastern White Cedar	27, 27	P	1145	6.51	\$ 7,450.89	0.2	0.25	1	\$ 372.54
696	Weeping White Mulberry	11	F-G	95	6.51	\$ 618.35	0.8	0.5	1	\$ 247.34
697	Manitoba Maple	64	P-F	3215	6.51	\$ 20,931.99	0.2	0.4	1	\$ 1,674.56
698	Manitoba Maple	18, 15, 11	P-F	431	6.51	\$ 2,805.58	0.35	0.4	1	\$ 392.78

* Basic Tree Cost has been set as the wholesale cost of an Elm species, as the Trunk Formula calculations apply to trees too large to be purchased at a nursery.

Appendix A. Photographs of Inventoried Trees



Image 1. Tree 673



Image 2. Tree 674



Image 3. Tree 675

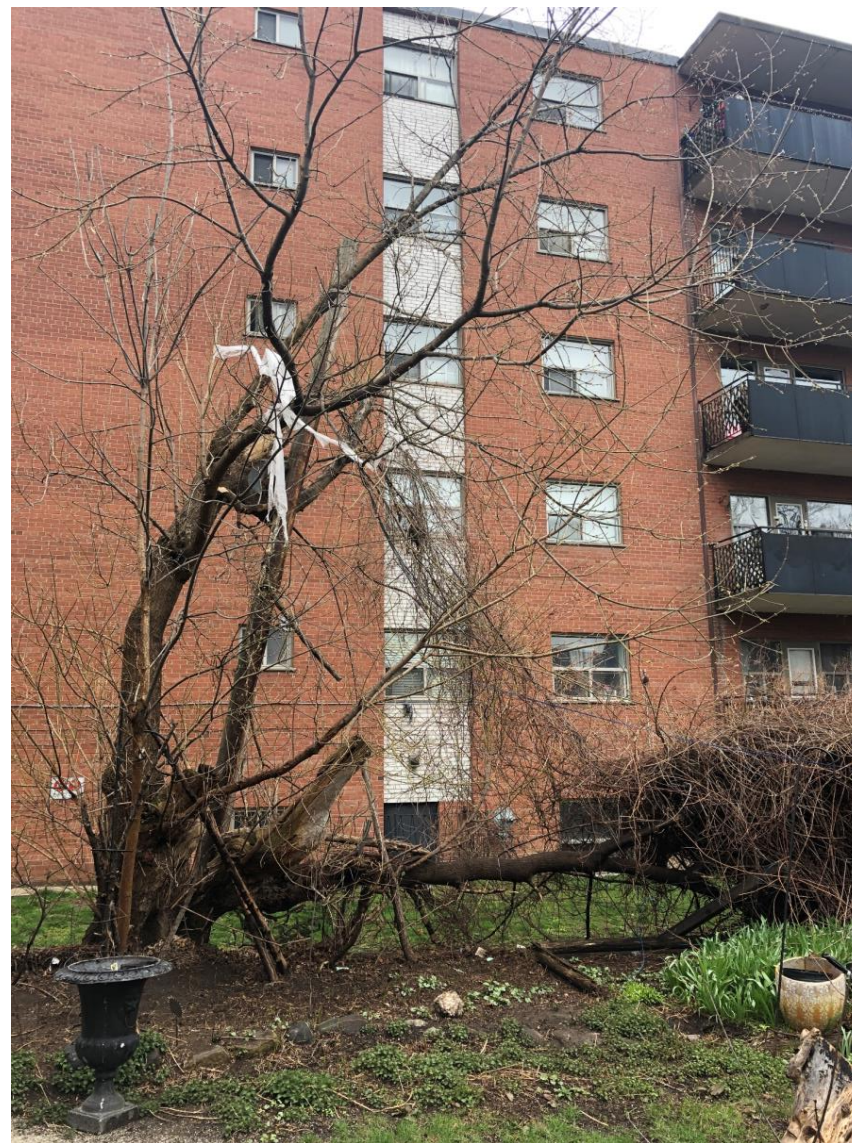


Image 4. Tree 676



Image 5. Tree 677



Image 6. Trees 678 and 679



Image 7. Tree 680



Image 8. Tree 681



Image 9. Tree 682



Image 10. Trees 683 and 684



Image 11. Trees 685 – 687



Image 12. Tree 688



Image 13. Tree 689



Image 14. Tree 690



Image 15. Tree 691



Image 16. Tree 692



Image 17. Tree 693



Image 18. Tree 694



Image 19. Tree 695



Image 20. Tree 696



Image 21. Tree 697



Image 22. Tree 698



Image 23. Tree 699



Image 24. Tree 700

Appendix B: Tree Preservation Fencing Details

