Tree Inventory and Preservation Plan 1470 Williamsport Drive Mississauga, Ontario

prepared for

1470 Williamsport Holdings Inc. 204-181 Eglinton Avenue East Toronto, Ontario M4P 1J4

prepared by



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KUNTZ FORESTRY CONSULTING INC. Project P4285

Introduction

Kuntz Forestry Consulting Inc. was retained by 1470 Williamsport Holdings Inc. to complete a Tree Inventory and Preservation Plan for the proposed development located at 1470 Williamsport Drive in Mississauga, Ontario. The subject property is located on the southeast side of Williamsport Road, north of Bloor Street, east of Dixie Road, and west of Havenwood Drive, within a residential area.

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

- Prepare an inventory of tree resources measuring 10cm diameter at breast height (DBH) and greater on and within six metres of the subject property and trees of all sizes within the adjacent 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.

The results of the evaluation are provided below.

Methodology

Tree Inventory

The tree inventory was conducted on 17 July 2024. Trees measuring 10cm DBH and greater on and within six metres of the subject property and trees of all sizes within the adjacent road right-of-way were included in the inventory. Tree resources were located using the topographic survey provided for the subject property, aerial imagery, and estimations made from known points in the field. Trees included in the inventory were identified as Trees 544 - 560 and A - H. Where appropriate, trees were tagged with their identification number. Trees that were not tagged were identified using the alphabetic sequence.

Tree resources were assessed utilizing the following parameters:

Tree # – Number assigned to trees that corresponds to Figure 1.

Species – Common and botanical names provided in the inventory table.

DBH – Diameter (cm) at breast height, measured at 1.4m above the ground.

Condition – Condition of tree considering trunk integrity (TI), crown structure (CS) and crown vigor (CV). Condition ratings include poor (P), fair (F), and good (G).

Crown Dieback – Percentage of dead branches within the crown.

Dripline – Crown radius (m).

Comments – Any other relevant tree condition information.

It should be noted that according to the City of Mississauga's standards, for trees with multiple stems at 1.4m above ground level, the DBH of the tree is calculated by taking the square root of the sum of the squared DBH of all stems.

Refer to Table 1 for the detailed tree inventory and Figure 1 for the locations of the trees.

Tree Valuation

A valuation was calculated for City-owned trees. The values were calculated using the Trunk Formula Technique. This method is described in the Guide for Plant Appraisal, 10th Edition

(Council of Tree and Landscape Appraisers, 2018). The Ontario Supplement (International Society of Arboriculture Ontario, 2021) provides regionally relevant data pertaining to species-specific 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 supplied by the Regional Plant Appraisal Council (RPAC) and published within the Ontario Supplement. The species-specific Unit Tree Costs have been calculated within the Ontario Supplement and these Unit Tree Costs have been used for the calculation. For species that are not included within the Ontario Supplement, the generic Unit Tree Cost of \$6.51 / cm² was applied.

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. The final values were rounded to the nearest \$100 for values greater than \$2000, and to the nearest \$5 for values less than \$2000.

Refer to Table 2 for the individual tree valuation calculations.

Existing Site Conditions

The subject property is currently occupied by one six-storey apartment building with an associated subsurface parking garage, surface parking area, and various walkways. One straight driveway and one semi-circular driveway exist, providing vehicular access to Williamsport Drive. Tree resources exist predominantly in the form of landscape trees. Refer to Figure 1 for the existing site conditions.

Tree Resources

The inventory documented a total of 25 trees on and within six metres of the subject property and within the adjacent road right-of-way. Tree resources were comprised of Apple species (*Malus sp.*), Austrian Pine (*Pinus nigra*), Blue Spruce (*Picea pungens*), Manitoba Maple (*Acer negundo*), Norway Maple (*Acer platanoides*), Norway Spruce (*Picea abies*), Scots Pine (*Pinus sylvestris*), Thornless Honey Locust (*Gleditsia triacanthos var. inermis*), and White Fir (*Abies concolor*).

Refer to Table 1 for the detailed tree inventory and Figure 1 for the location of trees reported in the inventory.

Proposed Development

The proposed development involves the demolition of the existing six-storey building, surface parking areas, subsurface parking garage, walkways, and driveways. The construction of a new multiple-storey residential building with an associated subsurface parking garage is proposed. One new vehicular access is proposed to provide access to Williamsport Drive.

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 14 trees, including Trees 544, 545, 549 – 552, 554 – 557, C – E, and G, will be required to accommodate the proposed development. These trees either conflict directly with the proposed development or the level of encroachment into their minimum tree protection zones (mTPZs) resulting from the proposed work would be at an intolerable level such that the trees would not be expected to overcome the injury. The removal of two additional trees, identified as Trees 548 and 553, is recommended regardless of the proposed development due to their poor or dead condition.

Trees 548 – 553, 557, C, E, and G measure 15cm DBH or greater and are located on private property and as such, are protected under the City of Mississauga's Private Tree Protection Bylaw. Trees 544, 545, 554, and 555 are located within the Williamsport Drive right-of-way and as such, permission from the City of Mississauga will be required prior to the removal of these trees. It should be noted that Trees E and G are located on a neighbouring property. As such, written permission from the respective neighbouring property owner will be required prior to the removal of these trees.

Refer to Figure 1 for the locations of the trees identified for removal.

Tree Preservation

The preservation of the remaining nine trees, including Trees 546, 547, 558 – 560, A, B, F, and H, will be possible with the use of appropriate tree protection measures as indicated on Figure 1. Tree protection measures must be implemented prior to the commencement of the proposed works to ensure tree resources designated for preservation are not impacted.

Where the minimum tree protection zone (mTPZ) of a tree cannot be fully respected, including for Trees 546, 547, 558, 559, and A, special mitigation measures have been prescribed and are outlined below.

Trees 546, 547, 558, 559, and A

Encroachment into the mTPZs of Trees 546, 547, 558, 559, and A will be required to accommodate the construction of a proposed sidewalk or a proposed toe wall. Tree preservation fencing has been prescribed at the anticipated limit of encroachment within the mTPZs of these

trees. If the following mitigation measures are employed, long-term adverse effects are not anticipated for these trees.

- 1. Prior to the commencement of the proposed works, tree preservation fencing must be installed as show on Figure 1.
- 2. Air-spade or low-pressure hydro-vacuum technology is to be used to excavate trenches, under the supervision of a Certified Arborist, at the anticipated limit of excavation within the mTPZs of these trees.
- 3. The depths of the trenches will depend on the depth of excavation required for the construction of the proposed sidewalk or toe wall.
- 4. Within the trenches, the exposed roots of these trees are to be pruned by a Certified Arborist in accordance with Good Arboricultural Standards.
- 5. The trenches are to be backfilled with clean topsoil.
- 6. Any work to occur within the mTPZs of these trees should be supervised by a Certified Arborist in accordance with Good Arboricultural Standards.
- 7. Branches that extend into the proposed development and require pruning must be pruned by a Certified Arborist or other tree professional in accordance with Good Arboricultural Standards.

Refer to Figure 1 for the locations of the trees identified for preservation, the locations of the required tree preservation fencing, the tree preservation fence detail, and the general Tree Protection Plan Notes.

Tree Valuation

Valuations were calculated for all City-owned trees, including Trees 544 – 547, 554, 555, and 558 – 560. The total appraised value of all City-owned trees was calculated at \$5,870.00. Refer to Table 2 for the individual tree valuation calculations.

Replacement Plantings

The City of Mississauga requires replacement plantings to compensate for the removal of public and private trees. The ratio of the required replacement plantings per tree is below:

DBH of Tree Identified for Removal (cm)	Number of Replacement Plantings Required
6 – 15	1
16 – 30	2
31 – 45	3
46 – 60	4
61 – 75	5
76 – 90	6
91– 105	7
106 – 120	8
>120	9

A total of 27 replacement plantings will be required within the boundaries of the subject property to compensate for the removal of privately-owned trees. Seven replacement plantings will be required within the road right-of-way to compensate for the removal of City-owned trees.

Refer to Table 1 for the number of replacement plantings required for each individual tree identified for removal.

Summary and Recommendations

Kuntz Forestry Consulting Inc. was retained by 1470 Williamsport Holdings Inc. to complete a Tree Inventory and Preservation Plan for the proposed development located at 1470 Williamsport Drive 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 25 trees on and within six metres of the subject property and within the adjacent road right-of-way. The removal of 14 trees will be required to accommodate the proposed development. The removal of two additional trees is recommended regardless of the proposed development due to their dead condition. The remaining trees can be preserved provided proper tree protection is installed as per Figure 1.

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

- 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.
- Special mitigation measures have been prescribed for select trees, as outlined in the *Tree Preservation* section of this report.
- 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.

Kaylee Harper

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Resources

Council of Tree and Landscape Appraisers, 2018. Guide for Plant Appraisal, 10th Edition. International Society of Arboriculture, Champaign, Illinois. 170 pp.

International Society of Arboriculture Ontario, 2021. Ontario Supplement to the Guide for Plant Appraisal – 10th Edition, 2021. International Society of Arboriculture, Champaign, Illinois. 31 pp.

Limitations of Assessment

Only the tree(s) identified in this report were included in the inventory. The assessment of the trees presented in this report has been made using accepted arboricultural techniques. These may include a visual examination taken from the ground of all the above-ground parts of the tree for structural defects, scars, external indications of decay such as fungal fruiting bodies, evidence of attack by insects, discoloured foliage, the condition of any visible root structures, the degree of lean (if any), the general condition of the trees and the identification of potentially hazardous trees or recommendations for removal (if applicable). Where trees could not be directly accessed (i.e. due to obstructions, and/or on neighbouring properties), trees were assessed as accurately as possible from nearby vantage points.

Locations of trees provided in the report are determined as accurately as possible based on the best information available. If official survey information is not provided, tree locations in the report may not be exact. Where KFCl's in-house GPS unit is used (if applicable), tree locations are accurate only to the extent that the technology allows, which can be variable based on satellite available, RTK network / cell coverage, canopy coverage, and/or projection transformation limitations. In this case, if trees occur on or near property boundaries, an official site survey may be required to determine ownership utilizing specialized survey protocol to gain precise location.

Furthermore, recommendations made in this report are based on the development plans that have been provided at the time of reporting. These recommendations may no longer be applicable should changes be made to the development plan and/or grading, servicing, or landscaping plans following report submission.

Notwithstanding the recommendations and conclusions made in this report, it must be recognized that trees are living organisms, and their health and vigor constantly change over time. They are not immune to changes in site conditions or seasonal variations in the weather conditions. Any tree will fail if the forces applied to the tree exceed the strength of the tree or its parts.

Although every effort has been made to ensure that this assessment is reasonably accurate, the trees should be re-assessed periodically. The assessment presented in this report is valid at the time of inspection.

Table 1. Tree Inventory

Location: 1470 Williamsport Drive, Mississauga Date: 17 July 2024 Surveyors: KNH

Tree #	Common Name	Scientific Name	DBH	Calculated DBH for Multistem Trees	ті	cs	cv	CDB	DL	mTPZ	mTPZ Comments		Action	Rep.
544	Thornless Honey Locust	Gleditsia triacanthos var. inermis	17.5	-	FG	FG	F		4	1.5	Bow (L), epicormic branching (L)	City	Remove	2
545	Thornless Honey Locust	Gleditsia triacanthos var. inermis	18	-	F	F	F	10	4	1.5	Epicormic branching (M), stem wounds (H)	City	Remove	2
546	Thornless Honey Locust	Gleditsia triacanthos var. inermis	17.5	-	G	F	F	10	4	1.5	Epicormic branching (M)	City	Preserve (Injure)	-
547	Thornless Honey Locust	Gleditsia triacanthos var. inermis	17	-	G	F	F	10	3	1.5	Epicormic branching (M)	City	Preserve (Injure)	-
548	Norway Maple	Acer platanoides	24	-	Р	Р	Р	70	4	1.8	Lean (L), bulge in trunk, decay (M) in trunk, girdling roots (M)	Subject	Remove (Condition)	2
549	Austrian Pine	Pinus nigra	39.5	-	F	FG	FG		5	2.4	Sweep (L), bow (L), asymmetrical crown (L)	Subject	Remove	3
550	Austrian Pine	Pinus nigra	44	-	FG	F	F	20	5	3.0	Sweep (L), asymmetrical crown (L)	Subject	Remove	3
551	Austrian Pine	Pinus nigra	33	-	FG	F	FG		5	2.4	Crook (L), asymmetrical crown (M)	Subject	Remove	3
552	Norway Maple	Acer platanoides	35.5	-	PF	F	F	20	5	2.4	Seam (M) with decay (H), v-union at 3m with included bark, girdling roots (M)	Subject	Remove	3
553	Apple species	Malus sp.	23	-	D	D	D	100	-	1.8	Dead	Subject	Remove (Condition)	2
554	Thornless Honey Locust	Gleditsia triacanthos var. inermis	27	-	F	FG	FG	10	5	1.8	Bulge at base, v-union at 2m with included bark	City	Remove	2
555	Thornless Honey Locust	Gleditsia triacanthos var. inermis	15	-	G	PF	F	10	3	1.5	Asymmetrical crown (M), epicormic branching (M)		Remove	1
556	Norway Maple	Acer platanoides	11.5	-	PF	PF	PF	10	3	1.5	Sweep (M), asymmetrical crown (M), decay (L) in trunk, lean (L)	Subject	Remove	1
557	Norway Maple	Acer platanoides	21, 19, 9	29.5	F	F	F	10	5	1.8	V-union at base, 1m, and 1.5m with included bark, asymmetrical crown (L), epicormic branching (L), growth deficit (M)	Subject	Remove	2
558	Thornless Honey Locust	Gleditsia triacanthos var. inermis	23	-	FG	FG	FG	10	5	1.8	Bow (L)	City	Preserve (Injure)	-
559	Thornless Honey Locust	Gleditsia triacanthos var. inermis	22.5	-	G	F	F	10	5	1.8	Epicormic branching (L)		Preserve (Injure)	-
560	Thornless Honey Locust	Gleditsia triacanthos var. inermis	8.5	-	G	FG	FG		3	1.2	Epicormic branching (L)	City	Preserve	-
Α	Scots Pine	Pinus sylvestris	15.5	-	F	G	FG		2	1.5	Crook (M)	Neighbour	Preserve (Injure)	-
В	Scots Pine	Pinus sylvestris	18.5	-	FG	FG	FG		2	1.5	Crook (L), asymmetrical crown (L)	Neighbour	Preserve	-

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С	Manitoba Maple	Acer negundo	~18	-	PF	PF	PF	40	4	1.5	Lean (M), stem wounds (M), epicormic branching (M), top dead, asymmetrical crown (L)	Subject	Remove	2
D	Manitoba Maple	Acer negundo	~12	-	PF	PF	PF	30	3	1.5	V-union at 1.5m with included bark, girdling wire, asymmetrical crown (M), epicormic branching (L)	Subject	Remove	1
Е	Scots Pine	Pinus sylvestris	~26, 26	~37	F	G	FG		4	2.4	V-union at 1m with included bark	Neighbour	Remove	3
F	White Fir	Abies concolor	~68	-	F	FG	F		5	4.2	Lean (L), pruning wounds (M)	Neighbour	Preserve	-
G	Norway Spruce	Picea abies	~18	-	F	FG	FG	10	2	1.5	Sweep (M)	Neighbour	Remove	2
Н	Blue Spruce	Picea pungens	~52	-	FG	G	F		5	3.6	Lean (L)	Neighbour	Preserve	-

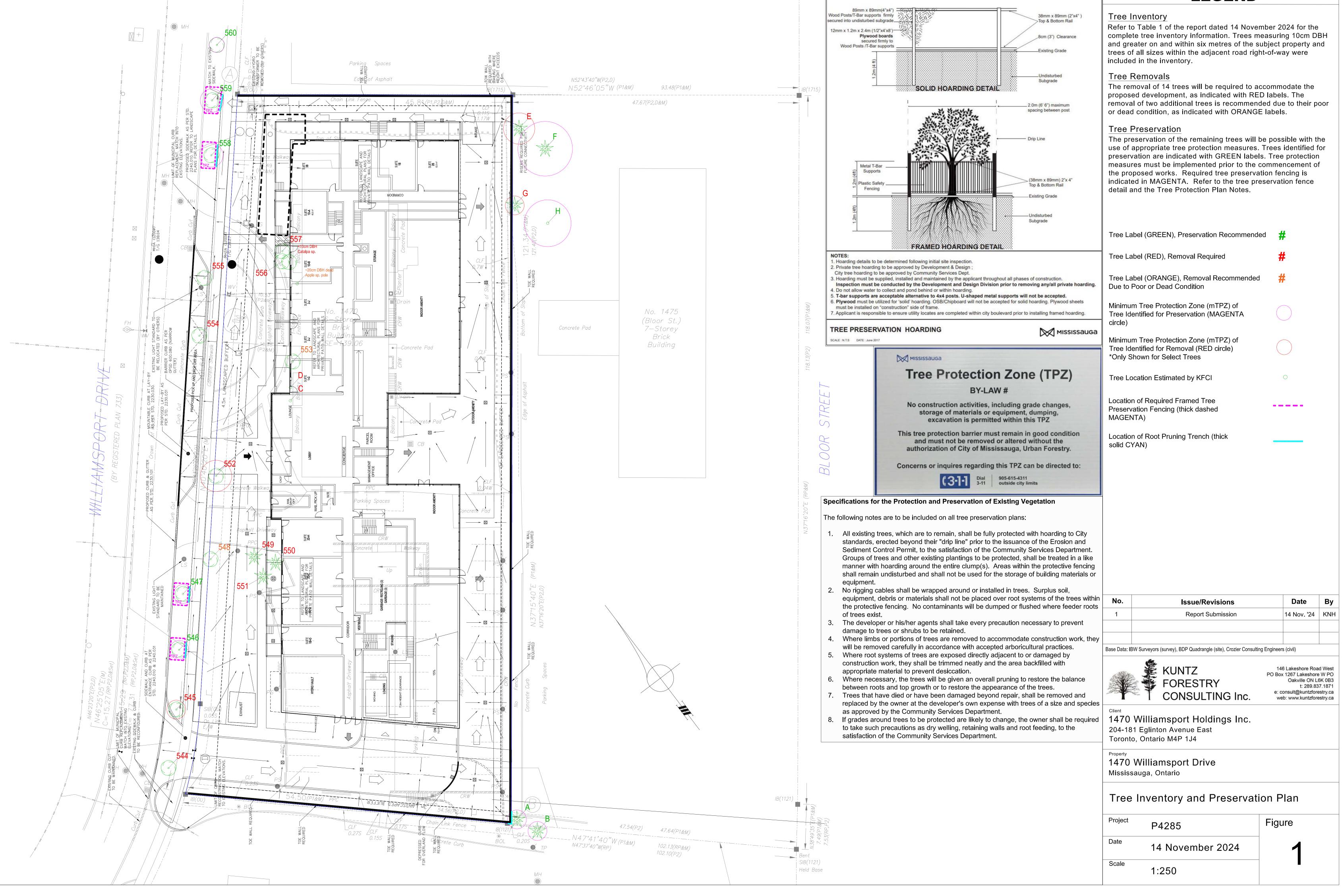
	Codes									
DBH	Diameter at Breast Height	(cm)								
TI	Trunk Integrity	(G, F, P, D)								
CS	Crown Structure	(G, F, P, D)								
CV	Crown Vigor	(G, F, P, D)								
CDB	Crown Dieback	(%)								
DL	Dripline (Radius)	(m)								
mTPZ	Minimum Tree Protection Zone, as measured from edge of tree	(m)								
Owner	Ownership	(Subject, City, Neighbour)								
Rep. Replacement Planting Requirements (# of Trees)										
	~ = estimate; (L) = light; (M) = moderate; (H) = heavy G = good; F = fair; P = poor; D = dead									

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Table 2. City-Owned Tree Valuation

							Depreciation						
Location: 1470 Williamsport Drive, Mississauga					Appraised Trunk Area (cm²)		Basic Tree Cost (\$)	Condition Rating (%)	Functional Limitation Rating (%)	External Limitation Rating (%)	Appraised Tree Value	Adjusted Tree Value	
Tree #	Common Name	Scientific Name	DBH	ос									
544	Thornless Honey Locust	Gleditsia triacanthos var. inermis	17.5	F	241	8.31	1998.79	0.55	0.6	0.8	\$ 527.68	\$ 530.0	
545	Thornless Honey Locust	Gleditsia triacanthos var. inermis	18	F	254	8.31	2114.64	0.55	0.6	0.8	\$ 558.27	\$ 560.0	
546	Thornless Honey Locust	Gleditsia triacanthos var. inermis	17.5	F	241	8.31	1998.79	0.55	0.6	0.8	\$ 527.68	\$ 530.0	
547	Thornless Honey Locust	Gleditsia triacanthos var. inermis	17	F	227	8.31	1886.21	0.55	0.6	0.8	\$ 497.96	\$ 500.0	
554	Thornless Honey Locust	Gleditsia triacanthos var. inermis	27	F	573	8.31	4757.95	0.55	0.6	0.8	\$ 1,256.10	\$ 1,250.0	
555	Thornless Honey Locust	Gleditsia triacanthos var. inermis	15	PF	177	8.31	1468.50	0.375	0.6	0.8	\$ 264.33	\$ 265.0	
558	Thornless Honey Locust	Gleditsia triacanthos var. inermis	23	FG	415	8.31	3452.61	0.725	0.6	0.8	\$ 1,201.51	\$ 1,200.0	
559	Thornless Honey Locust	Gleditsia triacanthos var. inermis	22.5	F	398	8.31	3304.13	0.55	0.6	0.8	\$ 872.29	\$ 870.0	
560	Thornless Honey Locust	Gleditsia triacanthos var. inermis	8.5	FG	57	8.31	471.55	0.725	0.6	0.8	\$ 164.10	\$ 165.0	
	•		•	•		•		•	•		Total	\$ 5,870.0	

Codes										
DBH	Diameter at Breast Height	(cm)								
OC Overall Condition (G, F, P, D)										
~ = estimate; G = good; F = fair; P = poor; D = dead										



LEGEND