

ATTACHMENT 6 56-66 WALLACE

Tree Inventory and Preservation Plan 56 and 58 Wallace Street and 1 Memorial Hill Drive, Vaughan, Ontario

prepared for

E.Star Developments Woodbridge Ltd.
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prepared by



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KUNTZ FORESTRY CONSULTING INC Project P2532

Introduction

Kuntz Forestry Consulting Inc. was retained by E. Star Developments Woodbridge Ltd. to complete a Tree Inventory and Preservation Plan in support of a development application for the property located at 56 and 58 Wallace Street and 1 Memorial Hill Drive in Vaughan. The property is located on the west side of Wallace Street, northwest of Highway 7 and Islington Avenue, within a residential area.

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

- Prepare inventory of the tree resources over 15cm diameter at breast height (DBH) on and within six metres of the subject area, 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.

Methodology

The tree inventory was conducted on 13 October 2020 and 14 January 2022. The topographic survey and estimations made in - field were used to locate tree resources. Trees that could be tagged were identified with the numbers 271 – 283 and 512 – 548. Trees that could not be tagged were identified with the letters A – G. Tree locations are shown on Figure 1. Refer to Table 1 for the tree inventory.

Individual tree resources were visually assessed for condition 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 (centimeters) at breast height, measured at 1.4 m 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.

Comments – Any other relevant tree condition information.

The results of the evaluation are provided below.

Existing Site Conditions

The subject property is currently occupied by single detached dwellings with associated amenity areas. The western portions of the property contain natural heritage features that are contiguous with surrounding lands. Tree resources exist in the form of landscape and naturally occurring trees. Refer to Figure 1 for the existing conditions.

Individual Tree Resources

The inventory documented 57 trees on and within six metres of the subject property. Refer to Table 1 for the full tree inventory and Figure 1 for the locations of trees reported in the tree inventory.

Tree resources were comprised of Horsechestnut (*Aesculus hippocastanum*), Swamp White Oak (*Quercus bicolor*), Norway Maple (*Acer platanoides*), Black Walnut (*Juglans nigra*), Scots Pine (*Pinus sylvestris*), Black Cherry (*Prunus serotina*), Austrian Pine (*Pinus nigra*), Sugar Maple (*Acer saccharum*), Manitoba Maple (*Acer negundo*), Yew (*Taxus spp.*), Siberian Elm (*Ulmus pumila*), Blue Spruce (*Picea pungens*), Norway Spruce (*Picea abies*), Mountain Ash (*Sorbus spp.*), Butternut (*Juglans cinerea*), Shademaster Honey Locust (*Gleditsia triacanthos 'inermis'*), Juniper (*Juniperus spp.*), Balsam Fir (*Abies balsamea*), Easter White Cedar (*Thuja occidentalis*), and Apple Species (*Malus spp.*).

Proposed Development

The proposed work includes the demolition of the existing home at 56 Wallace Street, and the construction of a new semi-detached building at this address. A single detached dwelling is proposed just north of 66 Wallace Street. New driveways will provide access to the houses at 1 Memorial Hill Drive and 66 Wallace Street which will be retained. Grading around the existing homes will also be required. 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 Removal

The removal of Trees 271 – 725, 277, 512 – 519, 523, 524, 530 – 533, 535, 540, 546 – 548, A, and E will be required to accommodate the proposed development.

Trees 271 – 275, and 277 are located south of the gravel path adjacent to the house at 1 Memorial Hill Drive. These trees require removal to accommodate a proposed swale along the south side of the gravel path.

Trees E, 271-275, 277, 535, 547, 548, and E are located within the Memorial Hill Drive right-of-way.

Trees 532, 533, and 546 are located at 66 Wallace Street.

Trees 512 – 519, 524, and A are located at 56 Wallace Street. Trees 512, 516, and 519 would have been recommended for removal regardless of the development due to their poor condition.

Tree 540 is located at 1 Memorial Hill Drive and requires removal to accommodate a new swale along the west side of the house at this address.

Trees 523, 530, and 531 are located on the neighbouring property to the south (parkland). These trees, and the others in the rear yard of 66 Wallace Street, require removal due to the proposed regrading (filling of slope and swale) of the rear yard of 66 Wallace Street. Permission from this property owner is required prior to their removal.

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

Refer to Appendix A for photographs of trees identified for removal.

Tree Preservation

The preservation of Trees 276, 278 – 283, 520 – 522, 525 – 529, 534, 536 – 539, 541 – 545, B – D, F, and G will be possible with the use of appropriate tree protection measures as indicated on Figure 1. Tree protection measures should be installed prior to construction to ensure designated tree resources are not impacted by construction. Refer to Figure 1 for the location of trees identified for preservation, the preservation fencing details, and the location of tree protection fencing. Heavy duty hoarding per detail ULA 110A should be used for all trees – refer to Figure 1 and Appendix C for this detail.

Tree 521 is dead and is located on the property to the south (parkland). It is recommended that the City have this tree removed.

Encroachment into the minimum tree protection zones (mTPZs) of Trees 276, 278 – 280, 282, 520, 521, 522, 525, 526, 529, and B will be required to accommodate the proposed driveway and grading. Work within these areas should occur by hand and be supervised by a certified Arborist. Any roots exposed during grading should be pruned in accordance with Good Arboricultural Standards.

Trees 534, F, and G

Horizontal hoarding (wood chips and plywood or steel plates) has been prescribed adjacent to Trees F, G, and 534, to allow access through these areas while avoiding compaction within the root zones of these trees. Refer to Figure 1 for the details and locations regarding horizontal hoarding near these trees. Additional, encroachment into the minimum tree protection zones (mTPZ's) of Trees F and G is required to accommodate the adjacent house. The excavation occurring within the mTPZ's of these trees must occur by hand or using air spading, under the supervision of a certified Arborist. Exposed roots must be pruned in accordance with Good Arboricultural Standards.

Butternut

Trees A – C, and one additional tree to the west of Tree 541 were identified as Butternut (*Juglans cinerea* or *Juglans x*). Pure Butternut (*Juglans cinerea*) are listed as *Endangered* per COSEWIC and therefore protected by the Endangered Species Act (2007). A DNA analysis of these trees was conducted in spring of 2021 and the trees were confirmed as being hybrids (*Juglans x*). Hybrid trees are exempt from the provisions of the ESA. Refer to Appendix B for the results of the DNA test.

Tree Compensation

The City of Vaughan requires the following tree replacement ratios:

DBH of Tree to be Cut or Removed	Number of Replacement Trees Required
20cm to 30cm	1
31cm to 40cm	2
41cm to 50cm	3
51cm or greater	4

For multi-stemmed trees, the compensation is calculated based on the square root of the sum of each stem squared.

Trees 271 – 275, 277, 512 – 517, 519, 523, 531 – 533, 540, 546 – 548, A, and E will require compensation. A total of 38 replacement trees will be required. Refer to Table 1 for compensation details.

Summary and Recommendations

Kuntz Forestry Consulting Inc. was retained by E. Star Developments Woodbridge Ltd. to complete a Tree Inventory and Preservation Plan for 56 and 58 Wallace Street and 1 Memorial Hill Drive in Vaughan, 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 57 trees on and within six metres of the subject property. The removal of 27 trees will be required to accommodate the proposed development. All other 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.

- To avoid interference with the eggs, nests or young of birds protected under the federal Migratory Birds Convention Act, removals should not occur from May 1 to August 1 of any given year. Ideally, removals should occur from August through December to avoid interference with all nesting birds. Should removals be required within the May 1 to August 1 breeding period, a qualified avian biologist should conduct a thorough survey immediately prior to the desired tree removal date to confirm presence or absence of protected species. If protected species are present, removals cannot occur without a permit from the Canadian Wildlife Service.

Respectfully submitted,
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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 (ie. 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 location in the report may not be exact. 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 site plans that have been provided at the time of reporting. These recommendations may no longer be applicable should changes be made to the site 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: 56 and 58 Wallace Street and 1 Memorial Hill Drive, Vaughan

Date: 13 October 2020, 14 January 2022

Surveyors: SA, KNH

Tree #	Common Name	Scientific Name	DBH	TI	CS	CV	CDB	mTPZ	Ownership	Comments	Action	Comp.
271	Norway Maple	<i>Acer platanoides</i>	32	F-G	F-G	G		4.8	City (ROW)	Previously tagged: 010, lean (L), crook (L), asymmetric crown (L)	Remove	2
272	Norway Maple	<i>Acer platanoides</i>	23	F-G	G	G		3.6	City (ROW)	Previously tagged: 011, crook (L)	Remove	1
273	Black Cherry	<i>Prunus serotina</i>	37	F-G	F	P-F	40	4.8	City (ROW)	Previously tagged: 012, union at 5m, one leader bow (L), deadwood (M)	Remove	2
274	Horsechestnut	<i>Aesculus hippocastanum</i>	27.5	F-G	G	G		3.6	City (ROW)	Previously tagged: 013, sweep (L)	Remove	1
275	Scots Pine	<i>Pinus sylvestris</i>	21.5	G	P-F	P-F	40	3.6	City (ROW)	Previously tagged: 014, deadwood (M), sparse crown	Remove	1
276	Scots Pine	<i>Pinus sylvestris</i>	42.5	F-G	G	G		6.0	City(ROW)	Crook (L)	Retain	
277	Norway Maple	<i>Acer platanoides</i>	29	F-G	F	G		3.6	City (ROW)	Previously tagged: 008, asymmetric crown (M), lean (L)	Remove	1
278	Scots Pine	<i>Pinus sylvestris</i>	34	G	F	F-G		4.8	City (Park)	Broken branches (M)	Retain	
279	Norway Maple	<i>Acer platanoides</i>	36	F-G	G	G		4.8	City (Park)	Crook (L)	Retain	
280	Scots Pine	<i>Pinus sylvestris</i>	34	G	F-G	F	10	4.8	City (Park)	Asymmetric crown (L), deadwood (L)	Retain	
281	Scots Pine	<i>Pinus sylvestris</i>	25	F-G	F	F	20	3.6	City (Park)	Crook (L), deadwood (L), sparse crown	Retain	
282	Scots Pine	<i>Pinus sylvestris</i>	37.5	F-G	G	G		4.8	City (Park)	Crook (L), sweep (L)	Retain	
283	Eastern White Cedar	<i>Thuja occidentalis</i>	15, 14, 12	P-F	F	G		3.6	Private	V-union at base and 0.5, bow (H), previously tagged: 039	Retain	
512	Horsechestnut	<i>Aesculus hippocastanum</i>	28.5, 32, 40.5, 42	P	P-F	F	30	3.0	Private	Co-dominant at ~0.5m, torsion cracks (H), split trunks, deadwood (M), cavities (H), removal recommended	Remove	4
513	Swamp White Oak	<i>Quercus bicolor</i>	26	G	G	G		1.8	Private	Deadwood (L)	Remove	1
514	Norway Maple	<i>Acer platanoides</i>	23	F-G	F	F	20	3.6	Private	Deadwood (L), tar spots (H), asymmetric crown (L), small crown, lean (VL)	Remove	1
515	Black Walnut	<i>Juglans nigra</i>	37.5	G	F-G	F-G		4.8	Private	Previously tagged: 006, asymmetric crown (L), bow (VL), deadwood (L)	Remove	2

516	Norway Maple	<i>Acer platanoides</i>	38	P	P	F	60	4.8	Private	Co-dominant at ~1.6m and ~4.0m, deadwood (H), tar spots (M), stem wounds (H) with rot, removal recommended	Remove	2
517	Black Walnut	<i>Juglans nigra</i>	4, 11, 17.5	F	F	F	30	3.6	Private	Co-dominant at base, deadwood (M), crooked stem (L), growing on a steep slope	Remove	1
518	Norway Maple	<i>Acer platanoides</i>	14	F	P-F	F	30	3.6	Private	Deadwood (M), lost leaders, hangers (L), growing a slope	Remove	
519	Norway Maple	<i>Acer platanoides</i>	37	P-F	F	F-G		4.8	Private	Previously tagged: 004, lean (L), deadwood (L), tar spots (L), growing on a steep slope, stem wounds at ~1.3m (H), growth deficit (M), removal recommended	Remove	2
520	Scots Pine	<i>Pinus sylvestris</i>	22.5	G	F	F-G		3.6	City (Park)	Small crown, deadwood (L)	Retain	
521	Black Cherry	<i>Prunus serotina</i>	25.5	P	P	P	100	3.6	City (Park)	DEAD - Remove	Retain	
522	Austrian Pine	<i>Pinus nigra</i>	34	F-G	F	F	30	4.8	City (Park)	Deadwood (M), lost leaders, crooked stem (L)	Retain	
523	Norway Maple	<i>Acer platanoides</i>	20	F	F	F-G		3.6	City (Park)	Crooked stem (M), lean (L), bow (L), asymmetric crown (L), tar spots (L)	Remove	1
524	Norway Maple	<i>Acer platanoides</i>	18.5	F	F	F-G		3.6	Private	Crooked stem (H), growing on slope, leaning over driveway (L), bow over driveway, asymmetric crown (M), tar spots (M)	Remove	
525	Scots Pine	<i>Pinus sylvestris</i>	45.5	F-G	F	F-G		6.0	City (Park)	Asymmetric crown (M), deadwood (L), crooked stem (VL)	Retain	
526	Sugar Maple	<i>Acer saccharum</i>	44.5, 48.5	F-G	F-G	F-G		7.2	City (Park)	Co-dominant at base, lean (L), sweep (L), deadwood (L)	Retain	
527	Sugar Maple	<i>Acer saccharum</i>	29.5	F-G	F-G	F-G		4.8	City (Park)	Lean (L), asymmetric crown (M), deadwood (L)	Retain	
528	Sugar Maple	<i>Acer saccharum</i>	31.5	F-G	F-G	F-G		4.8	City (Park)	Lean (L), asymmetric crown (M), deadwood (L)	Retain	
529	Scots Pine	<i>Pinus sylvestris</i>	40	F-G	F	F-G		4.8	City (Park)	Deadwood (L), crook at top, small crown, located at top of slope	Retain	
530	Norway Maple	<i>Acer platanoides</i>	19.5	F-G	F-G	F-G		3.6	City (Park)	Asymmetric crown (L), lean (VL), bow (L), tar spots (M), located at top of slope	Remove	
531	Scots Pine	<i>Pinus sylvestris</i>	38	G	G	G		4.8	City (Park)	Located at top of slope	Remove	2
532	Norway Spruce	<i>Picea abies</i>	38	G	G	G		2.4	Private		Remove	2
533	Scots Pine	<i>Pinus sylvestris</i>	30	G	G	G		2.4	Private	Lean (VL)	Remove	1

534	Austrian Pine	<i>Pinus nigra</i>	12, 43.5	F-G	F-G	F-G		3.0	Neighbour	Co-dominant at base and ~1.6m, deadwood (L), lean (L)	Retain	
535	Manitoba Maple	<i>Acer negundo</i>	18	F-G	F-G	G		3.6	City (ROW)	Lean (L), bow (L), grapevine competition (H), deadwood (L), asymmetric crown (L), co-dominant at ~2.4m	Remove	
536	Yew	<i>Taxus spp.</i>	15	F-G	F-G	F-G		3.6	City (ROW)	Lean (L), pruning wounds (L), asymmetric crown (L), deadwood (L)	Retain	
537	Scots Pine	<i>Pinus sylvestris</i>	34	G	F	F	30	4.8	Private	Deadwood (M), small crown	Retain	
538	Siberian Elm	<i>Ulmus pumila</i>	49	F	F	F-G		6.0	Private	Lean (L), bow (M), deadwood (L), epicormic branching (L), asymmetric crown (L)	Retain	
539	Scots Pine	<i>Pinus sylvestris</i>	37	F-G	F-G	F-G		4.8	Private	Asymmetric crown (L), deadwood (L), bow (L)	Retain	
540	Scots Pine	<i>Pinus sylvestris</i>	46	F-G	F	F-G		6.0	Private	Previously tagged: 024, co-dominant at ~7.0m, deadwood (L), broken branches (M)	Remove	3
541	Scots Pine	<i>Pinus sylvestris</i>	38	G	F-G	F-G		4.8	Private	Deadwood (L)	Retain	
542	Scots Pine	<i>Pinus sylvestris</i>	31	F-G	F-G	F-G		4.8	Private	Stem wounds (L), deadwood (L), bow (L)	Retain	
543	Scots Pine	<i>Pinus sylvestris</i>	17.5	F-G	F-G	F-G		3.6	Private	Deadwood (L), asymmetric crown (L)	Retain	
544	Scots Pine	<i>Pinus sylvestris</i>	37.5	F-G	F-G	F-G		4.8	Private	Previously tagged 46, crook at ~6.0m, deadwood (VL)	Retain	
545	Manitoba Maple	<i>Acer negundo</i>	18	F	F-G	F-G		3.6	Private	Lean (L), bow (M), crooked stem (M), deadwood (L), poor form	Retain	
546	Blue Spruce	<i>Picea pungens</i>	30.5	F-G	F-G	F-G		2.4	Private	Crooked stem (L), deadwood (L), pruning wounds (L)	Remove	2
547	Norway Spruce	<i>Picea abies</i>	23.5	G	G	G		1.8	City (ROW)		Remove	1
548	Mountain Ash	<i>Sorbus spp.</i>	13, 17, 21, 23	F-G	G	G		1.8	City (ROW)	Co-dominant at ~0.6m, deadwood (L), bow (L)	Remove	2
A	Butternut hybrid	<i>Juglans x</i>	24	F	F-G	F-G	10	3.6	Private	Previously tagged: 003, stem wounds (H), deadwood (L), crooked stem (L), suspected hybrid	Remove	1
B	Butternut hybrid	<i>Juglans x</i>	58.5	F	F	F-G		7.2	City (Park)	Previously tagged: 458, asymmetric crown (M), bow (M), deadwood (L), pruning wounds (L), cavity (L), no canker, suspected hybrid	Retain	

C	Butternut hybrid	<i>Juglans x</i>	27	F-G	F-G	F-G		3.6	City (ROW)	Previously tagged: 015, lean (L), cankers (L) - sealing, deadwood (L), stem wounds (L)	Retain	
D	Honey Locust (shademaster)	<i>Gleditsia triacanthos inermis</i>	~41	F-G	F-G	F-G		3.0	City (Park)	Pruning wounds (L) - leaking sap, deadwood (L), lean (L), bow (L), co-dominant at ~2.5m - 4.0m	Retain	
E	Juniper Species	<i>Juniperus spp.</i>	~24, 26	F-G	F	G		1.8	City (ROW)	Topped, co-dominant at base	Remove	2
F	Balsam Fir	<i>Abies balsamea</i>	~35	F-G	F-G	F	20	2.4	Neighbour	Deadwood (L), co-dominant at ~4.0m	Retain	
G	Apple Species	<i>Malus spp.</i>	~41	F-G	F-G	F-G		3.0	Neighbour	Pruning wounds (L), epicormic branching (M), deadwood (L), lean (L), co-dominant at ~3.0m	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	(%)
Comp.	Compensation Trees Required	(number of trees)
mTPZ	minimum Tree Protection Zone based on City of Toronto's standard	(m), radius from outside edge of tree base
~ = estimate; (VL) = very light; (L) = light; (M) = moderate; (H) = heavy; (VH) = very heavy		

Appendix A. Photos of Trees Identified for Removal



From left to right, Trees 271 – 273



Trees 274 (left) and 275 (right)



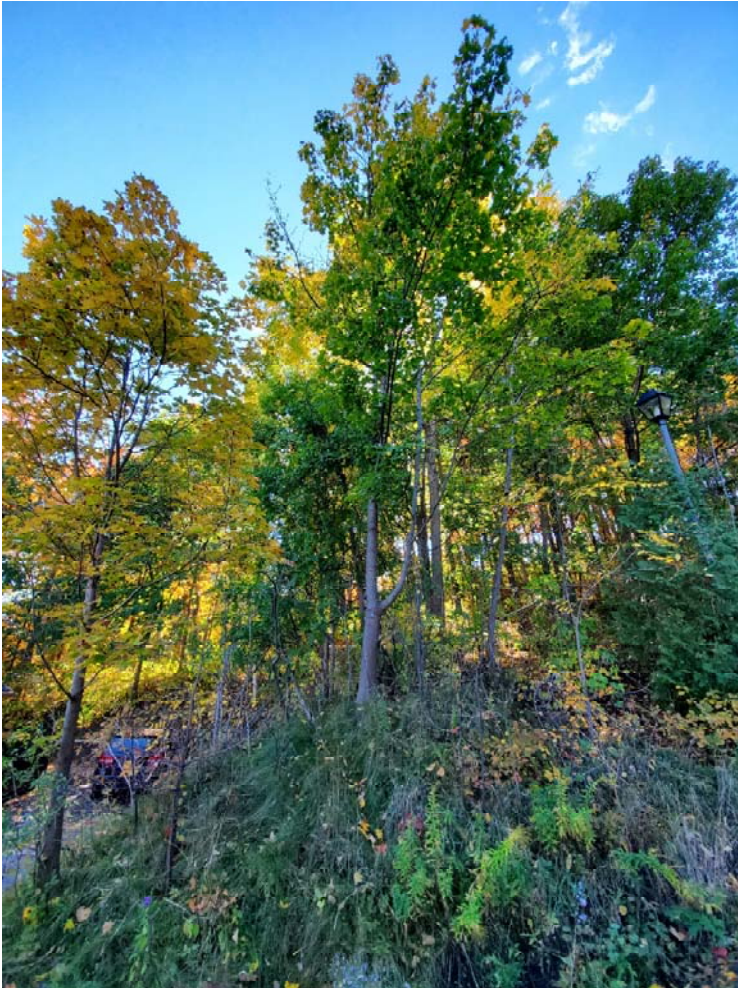
Tree 277 (foreground right)



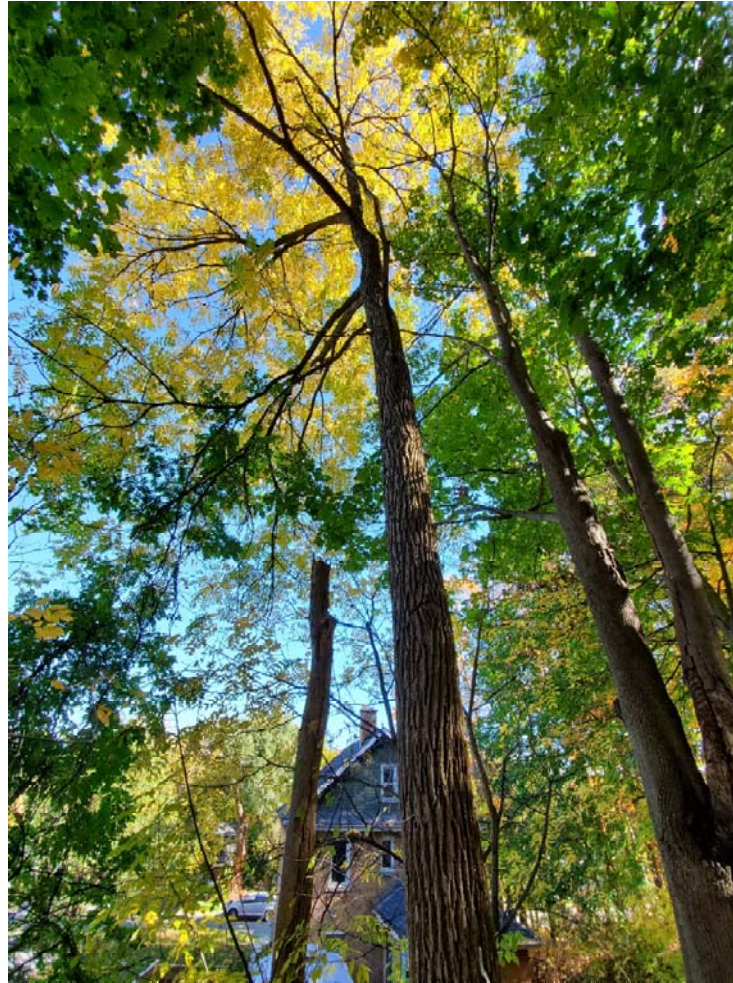
Tree 512



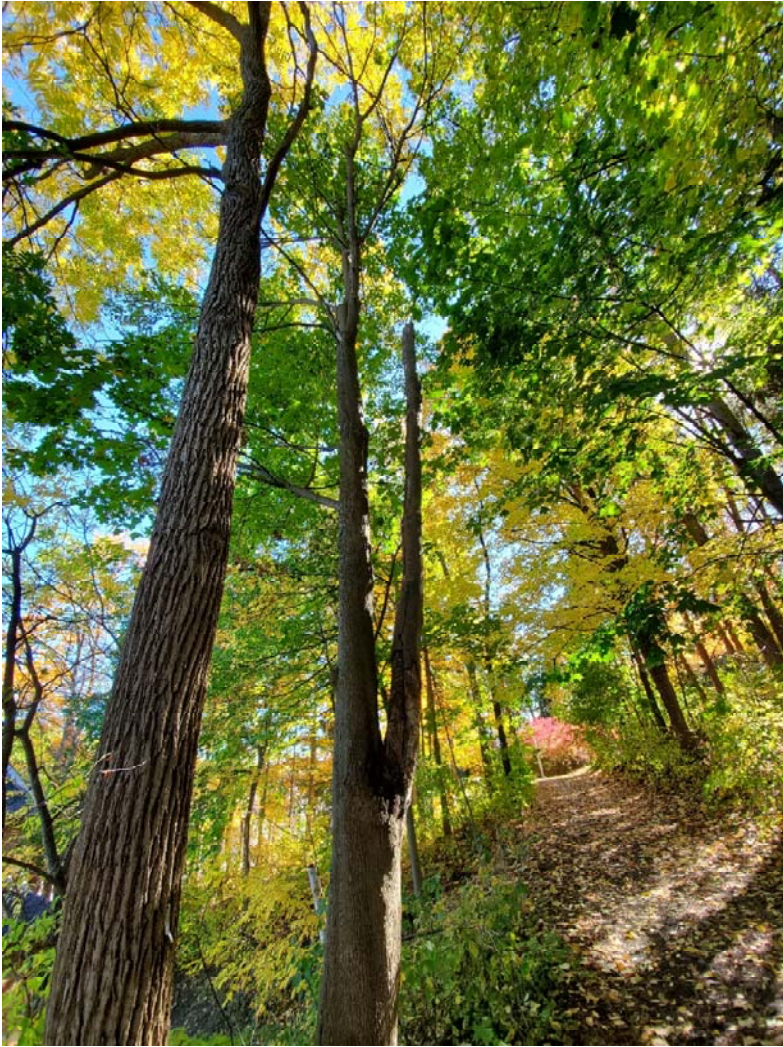
Tree 513



Tree 514



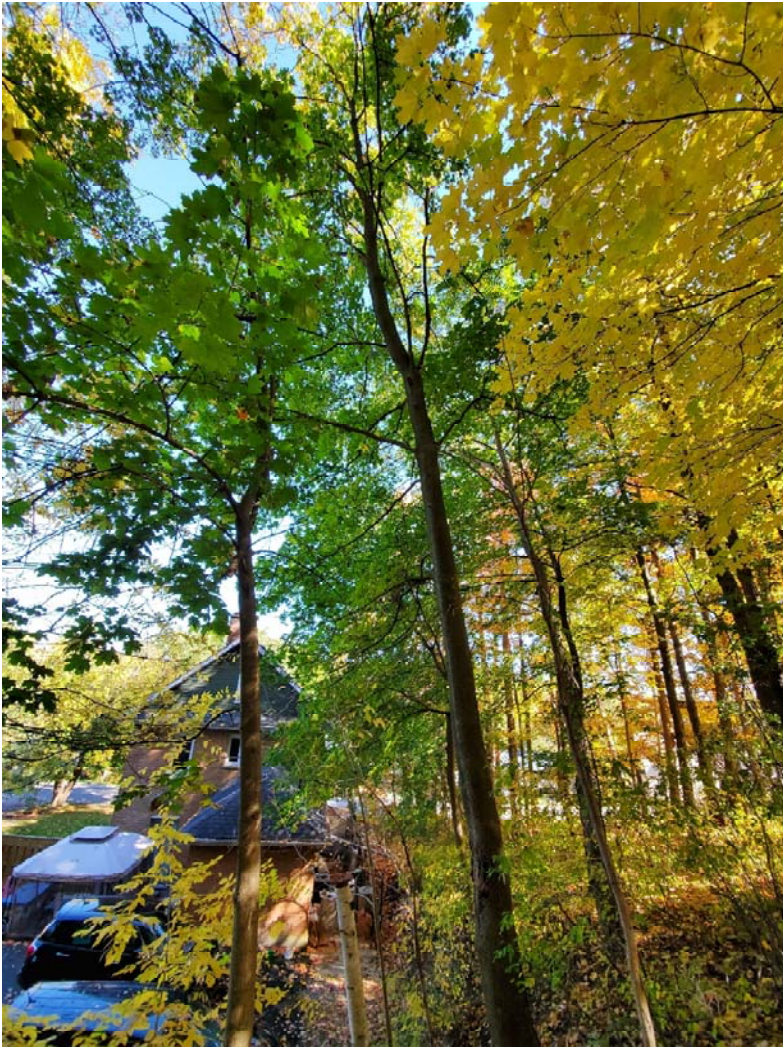
Tree 515



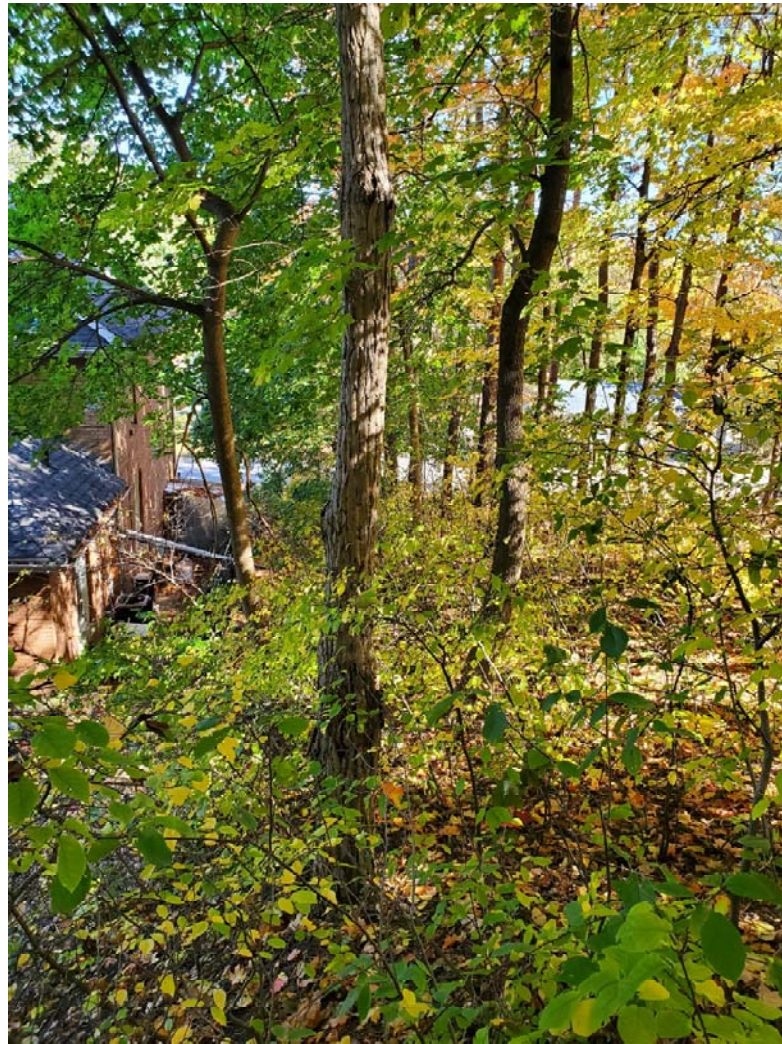
Tree 516 (right) and 517 (left)



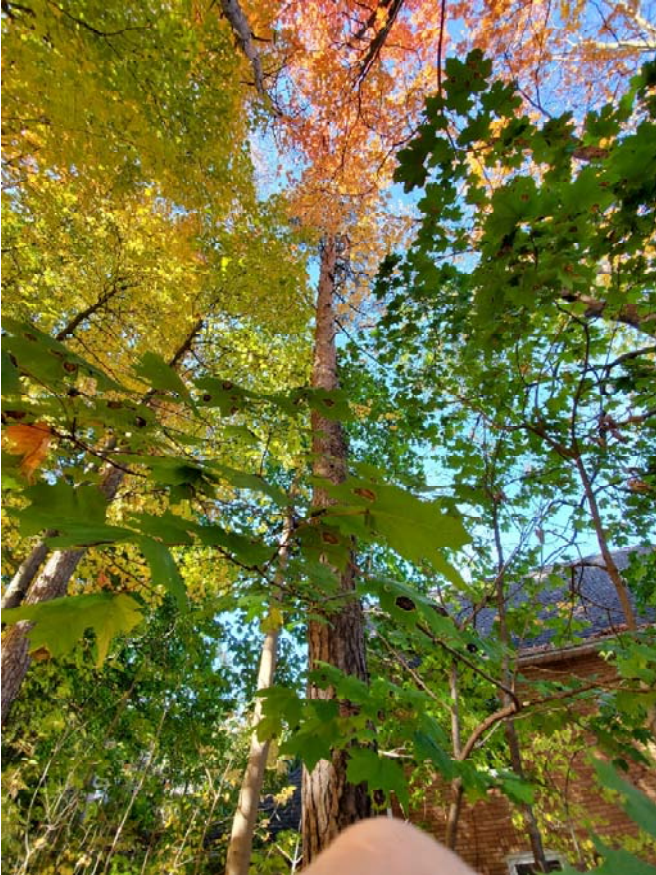
Tree 518



Tree 519



Trees A (foreground), 523 (background right) and 524 (background left)



Tree 530 (left) and 531 (right)



Tree 532



Tree 533 (Tree 534 in background)



Tree 546 (Google photo)



Tree 547



Tree 548



Tree E



Tree F



Tree G

Appendix B. Butternut DNA Test Results

Appendix C. Tree Hoarding Protection Detail

