Arborist Report and Tree Protection Plan 4933 Victoria Avenue

4933 Victoria Avenue North, Lincoln, Ontario

Submitted to:
4933 Vic Court Globizen LP
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Hamilton ON L9C 2V2

Submitted by:
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March 2024
Project 2302940

Issues and Revisions Registry

Identification	Date	Description of Issued and/or Revision
First Submission	March 13, 2024	

Statement of Conditions

This Report / Study (the “Work”) has been prepared at the request of, and for the exclusive use of, the Owner / Client, the Town of Lincoln and its affiliates (the “Intended User”). No one other than the Intended User has the right to use and rely on the Work without first obtaining the written authorization of GEI Consultants Ltd. and its Owner. GEI Consultants Ltd. expressly excludes liability to any party except the Intended User for any use of, and/or reliance upon, the work.

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1. Introduction

GEI Consultants (GEI) was contracted by 4933 Vic Court Globizen LP to complete an Arborist Report and Tree Protection Plan in support of an Official Plan Amendment for the proposed redevelopment on the property located at 4933 Victoria Avenue North in the Town of Lincoln, Ontario (herein referred to as the Subject Lands; **Figure 1, Appendix A**). The Subject Lands are generally located east of Victoria Avenue North, north of Laurie Avenue and south of Lake Ontario.

This report presents the results of the tree inventory, identifies opportunities for tree preservation and protection, recommends measures to protect retainable trees, and proposes compensation for tree removals. The objective of the preservation plan is to retain existing tree cover wherever feasible and to minimize the risk of injury to trees identified for protection.

The preparation of this report was guided by the Town of Lincoln *Tree Protection and Enhancement Policy* (2020), the Town of Lincoln's Site Alteration By-law No. 2020-64 and the Niagara Region *Tree Preservation Guidelines* (2020).The woodland located within and adjacent to the eastern portion of the Subject Lands is governed by the *Niagara Region Woodland Conservation By-law No. 2020-79*.

2. Existing Conditions and Proposed Redevelopment

The Subject Lands previously contained two buildings; however, those buildings have since been removed from the landscape. There is a cultural woodland (CUW) community located along the eastern limits of the Subject Lands, which contains a portion of Prudhomme Creek. The woodland has been identified as an "other woodlands" within the Scoped Environmental Impact Study (EIS).

The proposed redevelopment of this property includes mixed use hotel and residential condominium development, and some shoreline protection upgrades, which are not expected to impact the existing functions of the woodland located within and adjacent to the eastern portion of the Subject Lands. Minor tree removals are required to permit the proposed development and have been supported within the Scoped EIS. Tree protection measures with regard to the woodland, are further discussed in **Section 5**.

3. Methodology

GEI defined the Study Area as the proposed construction footprint plus an additional 6 m setback. All other areas outside of the Study Area were not included in the tree inventory as they will be retained in place within the retained portions of the CUW. Trees located beyond 6 m with a canopy overhanging the proposed construction footprint were also included in the tree inventory. GEI completed the tree inventory on September 8, 2023, in accordance with the *Tree Protection and Enhancement Policy* (Town of Lincoln, 2020) and the Niagara Region *Tree Preservation Guidelines* (2020). The removal of trees within the Study Area with a diameter-at-breast-height (DBH) of 20 cm or more is regulated under the Town of Lincoln's Site Alteration By-law No. 2020-64.

Trees with DBH of 10 cm and greater within the Study Area were inventoried, as outlined in the Niagara Region Tree Preservation Guidelines (2020). Live trees within the Subject Lands were tagged, and dead trees were mapped and given a label including "D". Trees on adjacent properties were not tagged but were assigned a unique letter for mapping and reference purposes.

The locations for all inventoried trees on the Subject Lands were recorded in UTM coordinates using a sub-meter capable GPS unit. The locations of trees on adjacent properties are approximate and were a assigned a letter or letter combination, as they were assessed from a distance. Other information recorded for all live trees consisted of species, DBH, crown radius, health category (biological, structural, and overall), and notes regarding the assigned health category.

Tree health was categorized as good, fair, or poor. Trees categorized as "good" overall had at least 80% live canopy and showed no significant structural defects (e.g., weak limbs, girdling roots, stem lean) or evidence of biological damage (e.g., insect damage, fungal growth, leaf dieback). "Fair" trees were those with 50% to 80% live canopy and showed no significant structural or biological defects, or the tree had over 80% live canopy but did show some evidence of structural defects and/or biological damage. Trees categorized as "poor" were those with less than 50% live canopy and/or had significant structural defects and/or biological damage.

4. Tree Inventory

Within the Study Area there were a total of 158 trees with DBH greater than 10 cm, of which 146 were live and 12 were dead (**Figure 2**, **Appendix A**).

Table 1 (**Appendix B**) outlines the results of the tree inventory, including the tree identification number, species, DBH, health category (biological, structural, and overall), and notes regarding the assigned health category. **Table 1** (**Appendix B**) also provides the Tree Protection Zone (TPZ), and recommendations for preservation or removal, required compensation, and whether ownership is public or private.

The inventoried trees included 18 different species. Of the live inventoried trees, 42% are native to the Niagara Region (Oldham 2010). It was determined that 92 trees are recommended for preservation and 66 trees are recommended for removal due to proposed construction impacts. Further detail is provided in the following subsections.

4.1 Preservation Trees

Preservation trees are those that are unlikely to be significantly impacted by the proposed construction or can likely be preserved using tree protection measures. Of the 158 trees inventoried, 92 are recommended for protection and preservation.

4.2 Removal Trees

Removal trees include trees that are within the proposed work limits or are likely to be significantly impacted by the proposed works. It is assumed that the shoreline protection alterations will require the removal of any shoreline trees. Of the 158 trees inventoried, 66 trees are recommended for removal.

Of the 66 removal trees, 59 are located on private property and 7 are located within the right-of-way owned by the Town. It should be noted that 20 of the private removal trees are located within a White Cedar (*Thuja occidentalis)* hedgerow that borders the Subject Lands and adjacent property along the southernmost edge. The adjacent landowner should be notified in writing of the proposed tree removals, prior to their removal.

The proponent should ensure that the works are in conformance with the *Migratory Birds Convention Act, 1994* and the *Endangered Species Act, 2007*. Specifically, tree removals should comply with timing window restrictions with regards to the protection of nesting birds (April 1 to August 25) and Species at Risk bats (April 1 to October 1). Where these timing windows cannot be avoided, it is recommended that a qualified ecologist conduct a nest search and bat habitat assessment. Additionally, removal of any tree species protected by the ESA, 2007 will require authorization or permitting for injury or removal.

5. Tree Protection Plan

Tree preservation will be achieved through avoidance and the use of appropriate tree protection measures. GEI inventoried 158 trees within the Study Area, of which 92 are recommended for preservation. The proposed Tree Protection Plan for these preservation trees is described in the following subsections.

5.1 Tree Protection Zones

The area of protection around a tree is referred to as the Tree Protection Zone (TPZ) and is measured outward from the trunk. TPZs were determined in accordance with the International Society of Arboriculture (ISA) Standards for calculating TPZs, where the minimum TPZ was calculated as one foot (0.3m) for each inch (2.5 cm) of trunk diameter. **Table 1** (**Appendix B**) indicates the TPZ for each preservation tree.

The TPZs of preservation trees will be fenced off in accordance with the Niagara Region Tree Preservation Guidelines (2020) to prevent physical damage to the tree. The TPZ of preservation trees will remain fully intact and cannot be altered, moved or removed in any way without the written authorization of Town of Lincoln. There will be no grade change, and TPZs will not be used for the temporary storage of any material or equipment, washing of equipment, nor the dumping of any debris.

The objective of the TPZ is to maximize protection of the tree to ensure its long-term survival. It is recognized, however, that encroachment into the TPZ will sometimes be necessary to facilitate construction. Some healthy trees are known to withstand construction impacts such as root cutting, soil compaction, and soil saturation; however, these individual responses are dependent on the species, site condition, and degree of impacts (Matheny & Clark 1998).

5.2 Protection and Preservation Trees

There is potential for construction activities to occur within the TPZ of some preservation trees. Protection and mitigation techniques are expected to prevent these activities from impacting these trees. This tree will be given a modified TPZ prior to construction, which will follow the limit of construction activity. These modified TPZs will require strict adherence to the tree protection measures outlined below. If the trees cannot be adequately protected during construction, it will be identified as removal trees and will require compensation as described in **Section 6**.

Where construction activity is proposed to occur within a TPZ, the TPZ must be properly prepared. The Project Arborist should be on site during all site alteration activities within the TPZ of live preservation trees, including tree removal, canopy or root trimming, and soil stripping, to monitor these activities and propose site-specific mitigation, where appropriate. If any accidental tree damage or encroachment into the TPZ occurs or is observed, the Project Arborist should be notified in order to take appropriate action on site. In addition, the following tree protection measures should be implemented:

- All relevant contractors should meet with the Project Arborist prior to the beginning of site alteration to review tree protection procedures.
- Low branches may be pruned back or removed to accommodate vehicular movement.
- Trees to be removed should be felled in a manner that drops the tree away from adjacent preservation trees and their TPZs.

- Any brush clearing required within the TPZs should be completed using hand-operated equipment and should be lifted out and not skidded out.
- If excavation or grading is proposed within the TPZs, affected tree roots must be cut at a 90° angle at the edge of anticipated disturbance using specialized equipment. Hydro-vac excavation will be necessary to expose the roots prior to cutting if existing conditions prevent machinery from making a clean, 90^{o} cut.
- Tree roots damaged during construction should be exposed and cut cleanly at a 90° angle using hand operated equipment to aid in root regeneration.
- Any roots exposed for longer than four hours should be kept moist using wet mulch or burlap wrap or be directly irrigated. These affected trees should have wood mulch applied to their respective TPZs at a depth of 5–10 cm to help maintain moisture and moderate soil temperature.
- Horizontal root protection should be used in locations where regular movement of equipment through the TPZ is anticipated.
- Where construction activity is proposed to occur within or near the TPZs, irrigation should be implemented during periods of drought, especially during the summer months. A slow soaking of the entire TPZ to a depth encompassing the root system is the preferred method of irrigation, but it may vary depending on the tree species and soil texture. Water should not be directed at or near the trunks. The frequency of irrigation will depend on air temperature and precipitation at the time of construction.
- Sediment control fencing should be installed to provide a protective barrier between areas intended for stockpiling of excavated soil and candidate preservation trees. The sediment control fencing should be installed to Ontario Provincial Standard 219.130.

If preservation trees cannot be adequately protected during construction or if they exhibit canopy dieback post construction, they will be identified as removal trees and will require compensation as described in **Section 6**.

6. Compensation Requirements

The Town of Lincoln requires compensation for the removal of live private trees 20 cm DBH and greater, except for species listed in Appendix A of the Town's *Tree Protection and Enhancement* policy, based on the DBH of the removed trees. A total of 32 trees require compensation for removal through the construction of the development. **Table 2** below provides the ratio of tree replacements required for private trees according to size, reproduced from the *Tree Protection and Enhancement Policy* (Town of Lincoln 2020).

Table 2. Ratio of Tree Replacement for Private Trees

DBH of Tree to be Cut or Removed	Number of Replacement Trees Required per Removal	Number of Live Tree Removals	Number of Proposed Replacement Trees
20 – 29 cm	1:1	13	13
30 – 49 cm	2:1	9	18
50 – 74 cm	3:1	3	9
75 cm or greater	4:1	7	28

Accordingly, a total of 68 trees are proposed to be planted as compensation for the removal of live private trees through the construction of the proposed development. Where replacement planting is not possible on site, replacement planting at another suitable location or cash-in-lieu (according to the Town's Fees & Charges By-law) will be discussed with the Town of Lincoln.

In addition to the compensation described above, 7 removal trees were located along the regional road allowance and compensation will be determined by the Town.

7. Summary

GEI inventoried 158 trees within the Study Area. Of these, 92 are recommended for preservation and 66 are recommended for removal due to anticipated construction impacts. Under the Town of Lincoln's *Tree Protection and Enhancement Policy* (Town of Lincoln 2020), 32 trees require compensation for removal for a total requirement of 68 compensation trees.

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REFERENCES AND BACKGROUND MATERIALS

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APPENDIX A

Figures

Project 2302940

NOTES:
1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2023.

Legend

- Subject Lands
- Highway
- Road
- Watercourse
- Waterbody
- Wooded Area

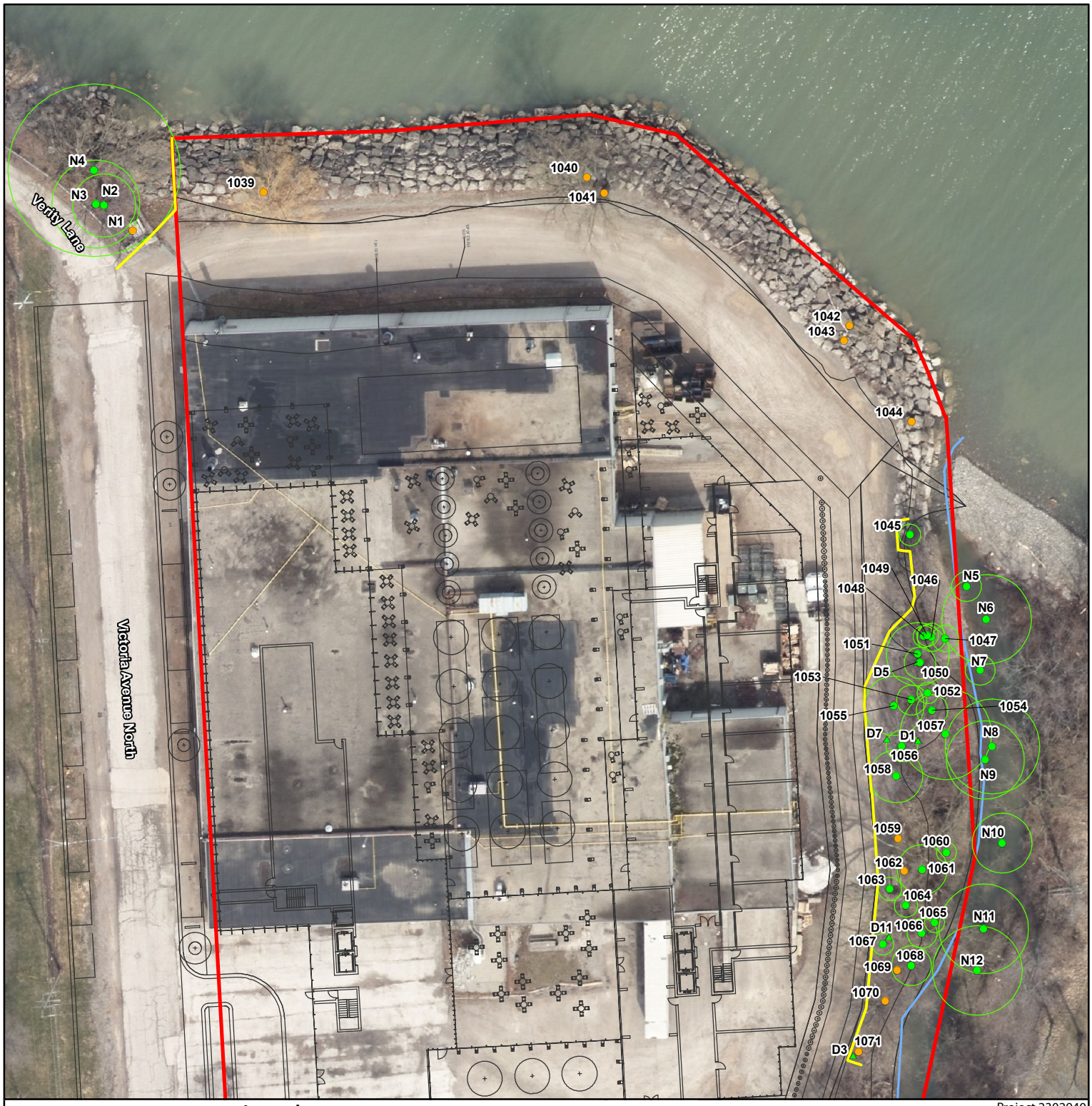
4933 Victoria Avenue
Court Holdings Ltd.

Figure 1
Location of Subject Lands

0 100 m
1:10,000

N

GEI Consultants



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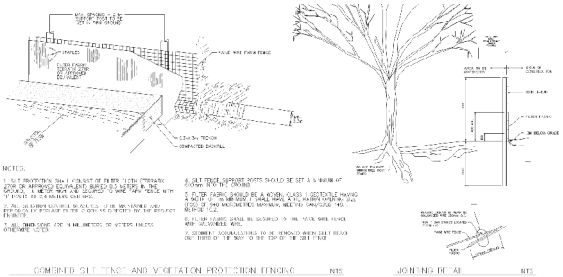
3. Orthoimagery © First Base Solutions, 2024. Imagery taken in 2018.

Legend

- Subject Lands
- Watercourse
- Tree Protection Zone
- Tree Hoarding Line

Tree Inventory (Action - Overall Health)

- Preservation - Alive
- Remove - Alive
- Preservation - Dead



4933 Victoria Avenue North, Lincoln
Court Holdings Ltd.

Figure 2.1
Tree Inventory

0 10 m

1:650

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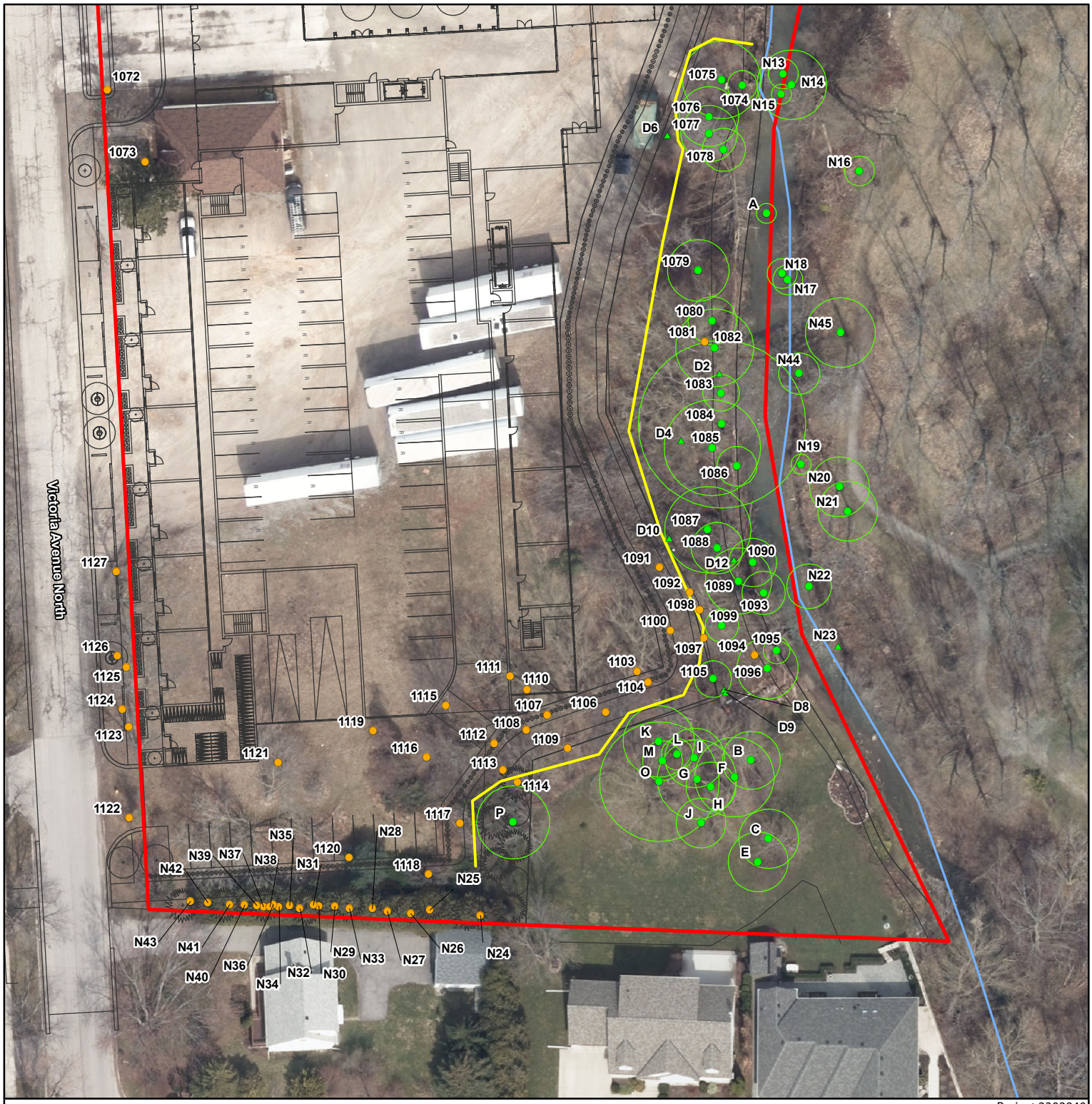

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Legend

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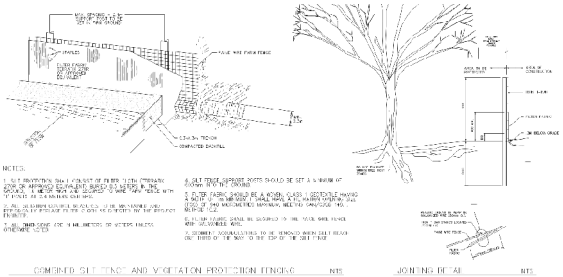

Project 2302940

4933 Victoria Avenue North, Lincoln
Court Holdings Ltd.

Figure 2.2
Tree Inventory

0 10 m

1:650

N

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APPENDIX B

Tables

Table 1: Tree Assessment

Tree ID	Common Name	Scientific Name	Native to NPCA watershed	Diameter at Breast Height (DBH) 1 (cm)	Diameter at Breast Height (DBH) 2 (cm)	Diameter at Breast Height (DBH) 3 (cm)	Diameter at Breast Height (DBH) 4 (cm)	Diameter at Breast Height (DBH) 5 (cm)	Total Diameter at Breast Height (DBH)	Crown Radius (cm)	Biological Health	Structural Health	Overall Health	Tree Protection Zone	Action	Compensation Rate	Ownership	Comments
1039	Crack Willow	*Salix x fragilis*	No	66	78	-	-	-	102	5	Fair	Fair	Fair	12.3	Remove	4:1	Private - Subject Lands	Some main stems pruned near base, epicormic growth, dead scaffold branches
1040	Crack Willow	*Salix x fragilis*	No	80	-	-	-	-	80	4	Good	Fair	Good	9.6	Remove	4:1	Private - Subject Lands	On lean, some dead and pruned scaffold branches with epicormic growth
1041	Crack Willow	*Salix x fragilis*	No	88	-	-	-	-	88	4	Fair	Poor	Fair	10.6	Remove	4:1	Private - Subject Lands	Main stem split, large wound/burl, many dead scaffold branches
1042	Crack Willow	*Salix x fragilis*	No	22	20	25	-	-	39	3	Fair	Poor	Fair	4.7	Remove	2:1	Private - Subject Lands	Growing out of large shoreline rocks, epicormic growth
1043	Slippery Elm	*Ulmus rubra*	No	12	-	-	-	-	12	2	Poor	Poor	Poor	1.4	Remove	N/A	Private - Subject Lands	Growing out of large shoreline rocks, many dead branches, crowded by grapevine
1044	Crack Willow	*Salix x fragilis*	No	15	10	8	7	7	22	2	Fair	Fair	Fair	2.6	Remove	1:1	Private - Subject Lands	Growing out of large shoreline crack, epicormic growth, few dead branches
N4	Crack Willow	*Salix x fragilis*	No	58	64	-	-	-	86	6	Good	Fair	Good	10.4	Retain	N/A	Public - Adjacent Lands	One main stem collapsed, growing over rocks along shore
1084	Crack Willow	*Salix x fragilis*	No	82	20	-	-	-	84	6	Poor	Poor	Poor	10.1	Retain	N/A	Private - Subject Lands	One main stem fallen, upright stem largely dead with hallowed out stem, epicormic growth
1059	Crack Willow	*Salix x fragilis*	No	98	-	-	-	-	98	6	Fair	Fair	Fair	11.8	Remove	4:1	Private - Subject Lands	On slight lean, some dead scaffold branches
1062	Crack Willow	*Salix x fragilis*	No	92	64	-	-	-	112	6	Fair	Fair	Fair	13.4	Remove	4:1	Private - Subject Lands	One main stem leaning over stream, some dead branches, epicormic growth
1069	Manitoba Maple	*Acer negundo*	No	28	34	-	-	-	44	4	Fair	Fair	Fair	5.3	Remove	2:1	Private - Subject Lands	On lean, included bark between main stems
D11	Ash	*Fraxinus sp.*	N/A	60	-	-	-	-	60	0	Dead	Dead	Dead	7.2	Retain	N/A	Private - Subject Lands	
D12	Crack Willow	*Salix x fragilis*	No	60	-	-	-	-	60	0	Dead	Dead	Dead	7.2	Retain	N/A	Private - Subject Lands	
O	Crack Willow	*Salix x fragilis*	No	60	-	-	-	-	60	5	Fair	Fair	Fair	7.2	Retain	N/A	Private - Subject Lands	On lean, some dead scaffold branches
1070	Manitoba Maple	*Acer negundo*	No	17	20	20	30	-	45	3	Poor	Poor	Poor	5.4	Remove	2:1	Private - Subject Lands	Growing in steep slope, a lot of epicormic growth and included bark
1071	Green Ash	*Fraxinus pennsylvanica*	Yes	15	-	-	-	-	15	2	Poor	Poor	Poor	1.8	Remove	N/A	Private - Subject Lands	Many dead branches, EAB, crowded by thicket creeper
1072	Norway Maple	*Acer platanoides*	No	59	-	-	-	-	59	5	Good	Good	Good	7.1	Remove	3:1	Private - Subject Lands	
1073	Norway Spruce	*Picea abies*	No	49	-	-	-	-	49	4	Good	Fair	Good	5.9	Remove	2:1	Private - Subject Lands	Asymmetrical crown
1081	Crack Willow	*Salix x fragilis*	No	90	80	65	-	-	137	6	Fair	Fair	Fair	16.4	Remove	4:1	Private - Subject Lands	One main stem pruned at base, one downed stem horizontal over stream, epicormic growth, included bark between live stems
1091	Black Walnut	*Juglans nigra*	Yes	44	-	-	-	-	44	4	Good	Good	Good	5.3	Remove	2:1	Private - Subject Lands	
1085	Norway Maple	*Acer platanoides*	No	48	-	-	-	-	48	5	Good	Fair	Fair	5.8	Retain	N/A	Private - Subject Lands	One large scaffolded branch broken, twisted stem in crown
N8	Crack Willow	*Salix x fragilis*	No	40	25	-	-	-	47	4	Poor	Fair	Fair	5.7	Retain	N/A	Public - Adjacent Lands	Large dead scaffold branches with low crown cover
1092	Black Walnut	*Juglans nigra*	Yes	24	-	-	-	-	24	2	Good	Fair	Fair	2.9	Remove	1:1	Private - Subject Lands	Twisted stem in crown, some dead branches
1057	Manitoba Maple	*Acer negundo*	No	24	39	-	-	-	46	3	Poor	Poor	Poor	5.5	Retain	N/A	Private - Subject Lands	One main stem dead, many dead scaffold branches and small crown
N11	Silver Maple	*Acer saccharinum*	Yes	45	-	-	-	-	45	4	Good	Good	Good	5.4	Retain	N/A	Public - Adjacent Lands	
N12	Crack Willow	*Salix x fragilis*	No	45	-	-	-	-	45	4	Good	Good	Good	5.4	Retain	N/A	Public - Adjacent Lands	
N6	Black Walnut	*Juglans nigra*	Yes	45	-	-	-	-	45	4	Fair	Fair	Fair	5.4	Retain	N/A	Public - Adjacent Lands	Some dead scaffold branches, low canopy cover
1094	Crack Willow	*Salix x fragilis*	No	98	-	-	-	-	98	5	Fair	Poor	Fair	11.8	Remove	4:1	Private - Subject Lands	Some large dead stems have fallen, leading stem topped, epicormic growth
1097	Norway Maple	*Acer platanoides*	No	18	-	-	-	-	18	2	Fair	Fair	Fair	2.2	Remove	N/A	Private - Subject Lands	Large wound near base, asymmetrical crown
1098	Norway Maple	*Acer platanoides*	No	26	-	-	-	-	26	3	Good	Good	Good	3.1	Remove	1:1	Private - Subject Lands	Few dead branches below crown
N3	Norway Maple	*Acer platanoides*	No	44	-	-	-	-	44	3	Good	Good	Good	5.3	Retain	N/A	Public - Adjacent Lands	
1087	Norway Maple	*Acer platanoides*	No	39	19	-	-	-	43	5	Good	Fair	Fair	5.2	Retain	N/A	Private - Subject Lands	Asymmetrical crown, dead willow stem collapsed between codominant stems
1100	Norway Maple	*Acer platanoides*	No	18	-	-	-	-	18	2	Good	Fair	Good	2.2	Remove	N/A	Private - Subject Lands	Asymmetrical crown, twisted stem in crown
F	Crack Willow	*Salix x fragilis*	No	40	-	-	-	-	40	4	Good	Good	Good	4.8	Retain	N/A	Private - Subject Lands	
G	Crack Willow	*Salix x fragilis*	No	40	-	-	-	-	40	4	Good	Good	Good	4.8	Retain	N/A	Private - Subject Lands	Slight lean
N9	Crack Willow	*Salix x fragilis*	No	30	25	-	-	-	39	4	Poor	Fair	Fair	4.7	Retain	N/A	Public - Adjacent Lands	Large dead scaffold branches with low crown cover
1103	Crack Willow	*Salix x fragilis*	No	55	44	-	-	-	70	6	Good	Fair	Fair	8.5	Remove	3:1	Private - Subject Lands	On lean, one stem dead/collapsed, some dead scaffold branches
1075	Norway Maple	*Acer platanoides*	No	39	-	-	-	-	39	3	Fair	Fair	Fair	4.7	Retain	N/A	Private - Subject Lands	Some dead scaffold branches, large wound at approx 4m, topped
1082	Norway Maple	*Acer platanoides*	No	39	-	-	-	-	39	3	Good	Fair	Fair	4.7	Retain	N/A	Private - Subject Lands	Growing out of base of willow, asymmetrical and leaning crown
1104	Norway Maple	*Acer platanoides*	No	21	-	-	-	-	21	2	Fair	Fair	Fair	2.5	Remove	1:1	Private - Subject Lands	Some dead branches below crown
1106	Norway Maple	*Acer platanoides*	No	49	-	-	-	-	49	5	Good	Good	Good	5.9	Remove	2:1	Private - Subject Lands	
K	Black Walnut	*Juglans nigra*	Yes	36	-	-	-	-	36	4	Good	Good	Good	4.3	Retain	N/A	Private - Subject Lands	
N14	Crack Willow	*Salix x fragilis*	No	35	-	-	-	-	35	4	Fair	Fair	Fair	4.2	Retain	N/A	Public - Adjacent Lands	Large root system with dead main stems, live growth appears healthy, epicormic growth
N23	Black Walnut	*Juglans nigra*	Yes	35	-	-	-	-	35	4		Good		4.2	Retain	N/A	Public - Adjacent Lands	
N45	Black Walnut	*Juglans nigra*	Yes	35	-	-	-	-	35	4	Good	Good	Good	4.2	Retain	N/A	Public - Adjacent Lands	
1089	Norway Maple	*Acer platanoides*	No	33	-	-	-	-	33	3	Fair	Poor	Poor	4	Retain	N/A	Private - Subject Lands	On lean, dead willow leaning on crown, twisted stem
1107	Norway Maple	*Acer platanoides*	No	13	-	-	-	-	13	2	Good	Good	Good	1.6	Remove	N/A	Private - Subject Lands	Stem slightly twisted
1108	Norway Maple	*Acer platanoides*	No	19	-	-	-	-	19	3	Good	Good	Good	2.3	Remove	N/A	Private - Subject Lands	Stem slightly twisted
1051	Norway Maple	*Acer platanoides*	No	32	-	-	-	-	32	4	Poor	Fair	Poor	3.8	Retain	N/A	Private - Subject Lands	On lean, many dead branches in crown, crown dieback, crowded by grapevine
N2	Norway Maple	*Acer platanoides*	No	32	-	-	-	-	32	3	Good	Good	Good	3.8	Retain	N/A	Public - Adjacent Lands	
1079	Norway Maple	*Acer platanoides*	No	31	-	-	-	-	31	2	Poor	Poor	Poor	3.7	Retain	N/A	Private - Subject Lands	Topped, large scaffold branch broken, large dead tree leaning on main stem, on lean
1096	Sycamore Maple	*Acer pseudoplatanus*	No	31	-	-	-	-	31	1	Poor	Poor	Poor	3.7	Retain	N/A	Private - Subject Lands	Crown crowded by neighbouring trees, crowded with grapevine, Willow collapsed on base of trunk, epicormic growth
1055	Green Ash	*Fraxinus pennsylvanica*	Yes	9	29	-	-	-	30	4	Poor	Poor	Poor	3.6	Retain	N/A	Private - Subject Lands	Nearly dead, EAB, only live epicormic
1076	Crack Willow	*Salix x fragilis*	No	30	-	-	-	-	30	2	Poor	Poor	Poor	3.6	Retain	N/A	Private - Subject Lands	Largely dead, twisted main stem, hollowed out, only live epicormic growth
C	Norway Maple	*Acer platanoides*	No	30	-	-	-	-	30	4	Good	Good	Good	3.6	Retain	N/A	Private - Subject Lands	On slight lean
E	Norway Maple	*Acer platanoides*	No	30	-	-	-	-	30	4	Good	Good	Good	3.6	Retain	N/A	Private - Subject Lands	
I	Basswood	*Tilia americana*	Yes	30	-	-	-	-	30	3	Good	Good	Good	3.6	Retain	N/A	Private - Subject Lands	Crowded by neighbouring trees
N10	Black Walnut	*Juglans nigra*	Yes	30	-	-	-	-	30	4	Fair	Fair	Fair	3.6	Retain	N/A	Public - Adjacent Lands	Small crown
N20	Black Walnut	*Juglans nigra*	Yes	30	-	-	-	-	30	3	Fair	Fair	Fair	3.6	Retain	N/A	Public - Adjacent Lands	Small crown, some dead branches
N21	Black Walnut	*Juglans nigra*	Yes	30	-	-	-	-	30	3	Fair	Fair	Fair	3.6	Retain	N/A	Public - Adjacent Lands	Small crown, some dead branches
B	Norway Maple	*Acer platanoides*	No	15	25	-	-	-	29	3	Good	Fair	Good	3.5	Retain	N/A	Private - Subject Lands	Asymmetrical crown, included bark between codominant stems
1077	Manitoba Maple	*Acer negundo*	No	28	-	-	-	-	28	3	Poor	Poor	Poor	3.4	Retain	N/A	Private - Subject Lands	On lean, crown nearly hortizontal, many dead branches, epicormic growth and water sprouting
1109	Black Maple	*Acer nigrum*	Yes	21	-	-	-	-	21	3	Good	Fair	Good	2.5	Remove	1:1	Private - Subject Lands	Asymmetrical crown, included bark
1110	Norway Maple	*Acer platanoides*	No	17	-	-	-	-	17	2	Fair	Fair	Fair	2	Remove	N/A	Private - Subject Lands	On lean, weak branch attachment, tar spot
1058	Green Ash	*Fraxinus pennsylvanica*	Yes	27	-	-	-	-	27	3	Poor	Poor	Poor	3.2	Retain	N/A	Private - Subject Lands	Nearly dead, EAB, only live epicormic
1111	Manitoba Maple	*Acer negundo*	No	10	-	-	-	-	10	1	Poor	Poor	Poor	1.2	Remove	N/A	Private - Subject Lands	On steep lean, crowded by grapevine
1088	Norway Maple	*Acer platanoides*	No	26	-	-	-	-	26	3	Good	Good	Good	3.1	Retain	N/A	Private - Subject Lands	Twisted stem in crown
1112	Black Walnut	*Juglans nigra*	Yes	26	-	-	-	-	26	4	Good	Good	Good	3.1	Remove	1:1	Private - Subject Lands	
1113	Black Walnut	*Juglans nigra*	Yes	13	-	-	-	-	13	3	Good	Good	Good	1.6	Remove	N/A	Private - Subject Lands	Some dead branches in lower canopy
1061	Norway Maple	*Acer platanoides*	No	25	-	-	-	-	25	3	Good	Good	Good	3	Retain	N/A	Private - Subject Lands	On slight lean
H	Norway Maple	*Acer platanoides*	No	25	-	-	-	-	25	2	Fair	Fair	Fair	3	Retain	N/A	Private - Subject Lands	Crowded by neighbouring trees
J	Basswood	*Tilia americana*	Yes	25	-	-	-	-	25	3	Good	Good	Good	3	Retain	N/A	Private - Subject Lands	
1114	Black Walnut	*Juglans nigra*	Yes	33	-	-	-	-	33	4	Good	Good	Good	4	Remove	2:1	Private - Subject Lands	Some dead branches in lower canopy
1115	American Elm	*Ulmus americana*	Yes	30	41	-	-	-	51	4	Poor	Fair	Poor	6.1	Remove	3:1	Private - Subject Lands	One main stem dead, mostly defoliated
1080	Norway Maple	*Acer platanoides*	No	24	-	-	-	-	24	1	Poor	Poor	Poor	2.9	Retain	N/A	Private - Subject Lands	Large wounds and Burl near base, one main stem pruned, asymmetrical crown, on lean
1090	Norway Maple	*Acer platanoides*	No	24	-	-	-	-	24	1	Fair	Poor	Poor	2.9	Retain	N/A	Private - Subject Lands	On steep lean, dead willow leaning on base
1116	Norway Maple	*Acer platanoides*	No	19	20	-	-	-	28	4	Good	Good	Good	3.3	Remove	1:1	Private - Subject Lands	Included bark between codominant stems
N22	Manitoba Maple	*Acer negundo*	No	10	20	-	-	-	22	3	Fair	Fair	Fair	2.7	Retain	N/A	Public - Adjacent Lands	Crown crowded by grapevine
1117	Manitoba Maple	*Acer negundo*	No	21	-	-	-	-	21	2	Fair	Poor	Poor	2.5	Remove	1:1	Private - Subject Lands	On steep lean, crowded by adjacent trees
1093	Norway Maple	*Acer platanoides*	No	22	-	-	-	-	22	3	Good	Fair	Good	2.6	Retain	N/A	Private - Subject Lands	Twisted stem, growing out of large willow roots
1078	Green Ash	*Fraxinus pennsylvanica*	Yes	20	9	-	-	-	22	1	Poor	Poor	Poor	2.6	Retain	N/A	Private - Subject Lands	Main stem dead, large wound near base, only epicormic growth alive, EAB, flower gall, crowded by grapevine
N44	Norway Maple	*Acer platanoides*	No	15	15	-	-	-	21	3	Poor	Poor	Poor	2.5	Retain	N/A	Public - Adjacent Lands	Crowndieback
1118	White Ash	*Fraxinus americana*	Yes	18	-	-	-	-	18	2	Fair	Fair	Fair	2.2	Remove	N/A	Private - Subject Lands	Crowded by grapevine
1119	Black Walnut	*Juglans nigra*	Yes	25	-	-	-	-	25	3	Good	Good	Good	3	Remove	1:1	Private - Subject Lands	
1120	Scot's Pine	*Pinus sylvestris*	No	26	-	-	-	-	26	3	Poor	Poor	Poor	3.1	Remove	1:1	Private - Subject Lands	Main stem topped/deformed, many dead branches
1121	Norway Maple	*Acer platanoides*	No	25	30	-	-	-	39	4	Good	Good	Good	4.7	Remove	2:1	Private - Subject Lands	
1068	Norway Maple	*Acer platanoides*	No	20	-	-	-	-	20	3	Good	Good	Good	2.4	Retain	N/A	Private - Subject Lands	
1086	Elm species	*Ulmus sp.*	N/A	16	12	-	-	-	20	3	Poor	Poor	Poor	2.4	Retain	N/A	Private - Subject Lands	Nearly dead, crown so defoliated that species is indistinguishable
M	Norway Maple	*Acer platanoides*	No	20	-	-	-	-	20	3	Fair	Fair	Fair	2.4	Retain	N/A	Private - Subject Lands	Dead lower branches, crowded by adjacent tree
1122	Cokscrew Willow	*Salix matsudana*	No	24	12	8	-	-	28	3	Good	Fair	Good	3.4	Remove	City	City	Some included bark at base and epicormic growth
1123	Norway Maple	*Acer platanoides*	No	56	31	28	34	-	78	4	Poor	Fair	Fair	9.3	Remove	City	City	Two main stems dead, included bark, large dead scaffold branches
1124	Black Walnut	*Juglans nigra*	Yes	46	-	-	-	-	46	4	Good	Good	Good	5.5	Remove	City	City	
1125	Norway Maple	*Acer platanoides*	No	33	-	-	-	-	33	1	Poor	Poor	Poor	4	Remove	City	City	Majority of the crown dead, only live epicormic growth
1126	Norway Maple	*Acer platanoides*	No	49	-	-	-	-	49	1	Poor	Poor	Poor	5.9	Remove	City	City	Majority of the crown dead, only live epicormic growth

Table 1: Tree Assessment

Tree ID	Common Name	Scientific Name	Native to NPCA watershed	Diameter at Breast Height (DBH) 1 (cm)	Diameter at Breast Height (DBH) 2 (cm)	Diameter at Breast Height (DBH) 3 (cm)	Diameter at Breast Height (DBH) 4 (cm)	Diameter at Breast Height (DBH) 5 (cm)	Total Diameter at Breast Height (DBH)	Crown Radius (cm)	Biological Health	Structural Health	Overall Health	Tree Protection Zone	Action	Compensation Rate	Ownership	Comments
1127	Black Walnut	*Juglans nigra*	Yes	59	-	-	-	-	59	6	Fair	Good	Fair	7.1	Remove	City	City	Low crown cover, otherwise healthy
1083	Manitoba Maple	*Acer negundo*	No	18	-	-	-	-	18	1	Poor	Poor	Poor	2.2	Retain	N/A	Private - Subject Lands	On steep lean, many dead branches in crown, epicormic growth
1105	Norway Maple	*Acer platanoides*	No	18	-	-	-	-	18	2	Fair	Fair	Fair	2.2	Retain	N/A	Private - Subject Lands	Some dead branches below the crown
N1	Black Walnut	*Juglans nigra*	Yes	30	29	-	-	-	42	4	Good	Good	Good	5	Remove	City	City	
N24	White Cedar	*Thuja occidentalis*	Yes	10	-	-	-	-	10	1	Good	Good	Good	1.2	Remove	N/A	Private - Adjacent Property	Hedge
N25	White Cedar	*Thuja occidentalis*	Yes	10	-	-	-	-	10	1	Good	Good	Good	1.2	Remove	N/A	Private - Adjacent Property	Hedge
1099	Norway Maple	*Acer platanoides*	No	17	-	-	-	-	17	3	Good	Fair	Good	2	Retain	1:1	Private - Subject Lands	On slight lean
1050	Green Ash	*Fraxinus pennsylvanica*	Yes	16	-	-	-	-	16	2	Poor	Poor	Poor	1.9	Retain	N/A	Private - Subject Lands	Nearly dead, EAB, only live epicormic
1054	Green Ash	*Fraxinus pennsylvanica*	Yes	16	-	-	-	-	16	2	Poor	Poor	Poor	1.9	Retain	N/A	Private - Subject Lands	Nearly dead, EAB, only live epicormic
1056	Green Ash	*Fraxinus pennsylvanica*	Yes	16	-	-	-	-	16	2	Poor	Poor	Poor	1.9	Retain	N/A	Private - Subject Lands	Nearly dead, EAB, only live epicormic
D10			N/A	16	-	-	-	-	16	0	Dead	Dead	Dead	1.9	Retain	N/A	Private - Subject Lands	
L	Black Walnut	*Juglans nigra*	Yes	16	-	-	-	-	16	2	Fair	Fair	Fair	1.9	Retain	N/A	Private - Subject Lands	Small crown
N26	White Cedar	*Thuja occidentalis*	Yes	15	-	-	-	-	15	2	Good	Good	Good	1.8	Remove	N/A	Private - Adjacent Property	Hedge
1053	Green Ash	*Fraxinus pennsylvanica*	Yes	15	-	-	-	-	15	1	Poor	Fair	Poor	1.8	Retain	N/A	Private - Subject Lands	Many dead branches, epicormic growth, EAB, bark peeling, on lean
N27	White Cedar	*Thuja occidentalis*	Yes	13	-	-	-	-	13	2	Good	Good	Good	1.6	Remove	N/A	Private - Adjacent Property	Hedge
1074	Manitoba Maple	*Acer negundo*	No	15	-	-	-	-	15	2	Good	Good	Good	1.8	Retain	N/A	Private - Subject Lands	
D7	Ash	*Fraxinus sp.*	N/A	15	-	-	-	-	15	0	Dead	Dead	Dead	1.8	Retain	N/A	Private - Subject Lands	
D8			N/A	15	-	-	-	-	15	0	Dead	Dead	Dead	1.8	Retain	N/A	Private - Subject Lands	
D9			N/A	15	-	-	-	-	15	0	Dead	Dead	Dead	1.8	Retain	N/A	Private - Subject Lands	
N13	Manitoba Maple	*Acer negundo*	No	15	-	-	-	-	15	1	Fair	Fair	Fair	1.8	Retain	N/A	Public - Adjacent Lands	Some dead lower scaffold branches, base of trunk growing out of willow roots
N16	Black Walnut	*Juglans nigra*	Yes	15	-	-	-	-	15	2	Good	Good	Good	1.8	Retain	N/A	Public - Adjacent Lands	
N17	Hybrid Butternut	*Juglans x quadrangulata*	Yes	21	-	-	-	-	15	2	Fair	Good	Fair	1.8	Retain	N/A	Public - Adjacent Lands	Approx 50% crown dieback, leaf discolouration, tangled with neighbouring Norway Maple
N18	Norway Maple	*Acer platanoides*	No	15	-	-	-	-	15	2	Good	Fair	Good	1.8	Retain	N/A	Public - Adjacent Lands	Stem tangled with neighbouring Hybrid Butternut tree
N28	White Cedar	*Thuja occidentalis*	Yes	13	-	-	-	-	13	2	Good	Good	Good	1.6	Remove	N/A	Private - Adjacent Property	Hedge
N29	White Cedar	*Thuja occidentalis*	Yes	15	-	-	-	-	15	2	Good	Good	Good	1.8	Remove	N/A	Private - Adjacent Property	Hedge
N5	Ash	*Fraxinus sp.*	N/A	15	-	-	-	-	15	1	Poor	Poor	Poor	1.8	Retain	N/A	Public - Adjacent Lands	Growing along watercourse, crown dieback, many dead branches, likely infected with EAB
N7	Manitoba Maple	*Acer negundo*	No	15	-	-	-	-	15	2	Fair	Fair	Fair	1.8	Retain	N/A	Public - Adjacent Lands	On lean, some dead branches in crown
N30	White Cedar	*Thuja occidentalis*	Yes	15	-	-	-	-	15	2	Good	Good	Good	1.8	Remove	N/A	Private - Adjacent Property	Hedge
N31	White Cedar	*Thuja occidentalis*	Yes	10	-	-	-	-	10	1	Good	Good	Good	1.2	Remove	N/A	Private - Adjacent Property	Hedge
N32	White Cedar	*Thuja occidentalis*	Yes	10	-	-	-	-	10	1	Good	Good	Good	1.2	Remove	N/A	Private - Adjacent Property	Hedge
1066	Manitoba Maple	*Acer negundo*	No	14	5	-	-	-	15	2	Good	Fair	Fair	1.8	Retain	N/A	Private - Subject Lands	On lean
N33	White Cedar	*Thuja occidentalis*	Yes	10	10	10	-	-	17	3	Good	Good	Good	2.1	Remove	N/A	Private - Adjacent Property	Hedge
1046	Green Ash	*Fraxinus pennsylvanica*	Yes	14	-	-	-	-	14	2	Poor	Poor	Poor	1.7	Retain	N/A	Private - Subject Lands	Nearly dead, EAB, only live epicormic
D6	Ash	*Fraxinus sp.*	N/A	14	-	-	-	-	14	0	Dead	Dead	Dead	1.7	Retain	N/A	Private - Subject Lands	
N34	White Cedar	*Thuja occidentalis*	Yes	15	-	-	-	-	15	2	Good	Good	Good	1.8	Remove	N/A	Private - Adjacent Property	Hedge
N35	White Cedar	*Thuja occidentalis*	Yes	15	10	-	-	-	18	3	Good	Good	Good	2.2	Remove	N/A	Private - Adjacent Property	Hedge
N36	White Cedar	*Thuja occidentalis*	Yes	10	-	-	-	-	10	1	Good	Good	Good	1.2	Remove	N/A	Private - Adjacent Property	Hedge
N37	White Cedar	*Thuja occidentalis*	Yes	15	-	-	-	-	15	2	Good	Good	Good	1.8	Remove	N/A	Private - Adjacent Property	Hedge
1047	Green Ash	*Fraxinus pennsylvanica*	Yes	13	-	-	-	-	13	1	Poor	Fair	Poor	1.6	Retain	N/A	Private - Subject Lands	Many dead branches, EAB, bark peeling, on lean
1095	Horsechesnut	*Aesculus hippocastanum*	No	13	-	-	-	-	13	1	Poor	Poor	Poor	1.6	Retain	N/A	Private - Subject Lands	Twisted main stem, crown crowded by neighbouring tree, many dead branches
D5			N/A	13	-	-	-	-	13	0	Dead	Dead	Dead	1.6	Retain	N/A	Private - Subject Lands	
N38	White Cedar	*Thuja occidentalis*	Yes	20	-	-	-	-	20	3	Good	Good	Good	2.4	Remove	1:1	Private - Adjacent Property	Hedge
1063	Manitoba Maple	*Acer negundo*	No	12	-	-	-	-	12	1	Good	Fair	Fair	1.4	Retain	N/A	Private - Subject Lands	On lean
1064	Manitoba Maple	*Acer negundo*	No	12	-	-	-	-	12	1	Good	Fair	Fair	1.4	Retain	N/A	Private - Subject Lands	On lean
D3	Ash	*Fraxinus sp.*	N/A	12	-	-	-	-	12	0	Dead	Dead	Dead	1.4	Retain	N/A	Private - Subject Lands	
D4	Ash	*Fraxinus sp.*	N/A	12	-	-	-	-	12	0	Dead	Dead	Dead	1.4	Retain	N/A	Private - Subject Lands	
1045	Manitoba Maple	*Acer negundo*	No	11	-	-	-	-	11	1	Fair	Fair	Fair	1.3	Retain	N/A	Private - Subject Lands	Crowded by grapevine, growing out of shoreline rocks
1048	Green Ash	*Fraxinus pennsylvanica*	Yes	11	-	-	-	-	11	1	Poor	Poor	Poor	1.3	Retain	N/A	Private - Subject Lands	Nearly dead, EAB, only live epicormic
1052	Green Ash	*Fraxinus pennsylvanica*	Yes	11	-	-	-	-	11	1	Poor	Poor	Poor	1.3	Retain	N/A	Private - Subject Lands	On lean, EAB, many dead branches and bark peeling
1067	Manitoba Maple	*Acer negundo*	No	11	-	-	-	-	11	1	Poor	Poor	Poor	1.3	Retain	N/A	Private - Subject Lands	On lean, many dead branches and epicormic growth
D1	Ash	*Fraxinus sp.*	N/A	11	-	-	-	-	11	0	Dead	Dead	Dead	1.3	Retain	N/A	Private - Subject Lands	
D2	Ash	*Fraxinus sp.*	N/A	11	-	-	-	-	11	0	Dead	Dead	Dead	1.3	Retain	N/A	Private - Subject Lands	
N39	White Cedar	*Thuja occidentalis*	Yes	15	-	-	-	-	15	2	Good	Good	Good	1.8	Remove	N/A	Private - Adjacent Property	Hedge
N40	White Cedar	*Thuja occidentalis*	Yes	15	15	-	-	-	21	3	Good	Good	Good	2.5	Remove	1:1	Private - Adjacent Property	Hedge
N41	White Cedar	*Thuja occidentalis*	Yes	10	10	10	-	-	17	3	Good	Good	Good	2.1	Remove	N/A	Private - Adjacent Property	Hedge
N42	White Cedar	*Thuja occidentalis*	Yes	10	10	-	-	-	14	2	Good	Good	Good	1.7	Remove	N/A	Private - Adjacent Property	Hedge
N43	White Cedar	*Thuja occidentalis*	Yes	15	15	10	-	-	23	3	Good	Good	Good	2.8	Remove	1:1	Private - Adjacent Property	Hedge
P	Black Walnut	*Juglans nigra*	Yes	37	-	-	-	-	37	4	Good	Good	Good	4.4	Remove	2:1	Private - Subject Lands	Some dead lower branches in canopy
1060	Manitoba Maple	*Acer negundo*	No	10	-	-	-	-	10	1	Fair	Poor	Fair	1.2	Retain	N/A	Private - Subject Lands	On lean, crowded by grapevine
1065	Green Ash	*Fraxinus pennsylvanica*	Yes	10	-	-	-	-	10	1	Poor	Poor	Poor	1.2	Retain	N/A	Private - Subject Lands	Nearly dead, EAB, only live epicormic
A	Manitoba Maple	*Acer negundo*	No	10	-	-	-	-	10	2	Good	Good	Good	1.2	Retain	N/A	Private - Subject Lands	
N15	Manitoba Maple	*Acer negundo*	No	10	-	-	-	-	10	2	Fair	Fair	Fair	1.2	Retain	N/A	Public - Adjacent Lands	On steep lean, growing out of willow roots
N19	Norway Maple	*Acer platanoides*	No	10	-	-	-	-	10	1	Poor	Poor	Poor	1.2	Retain	N/A	Public - Adjacent Lands	Most of crown dead, on lean