

Clifton Road Arborist Report

Clifton Property Development, City of Ottawa

Date: August 28, 2020

A001062

CIMA+

415 Baseline Road West, 2nd Floor
Bowmanville, ON L1C 5M2
T 905 697 4464 F 905 697 0443
cima.ca

Contact

Lisa Cullen
Lisa.Cullen@cima.ca
T 905 697-4464, 6915



Arborist Report

Clifton Road

Project no A00106

PREPARED BY:



Sean Nailer, ISA Certified Arborist

VERIFIED BY:



Lisa Cullen, OALA, ISA Certified Arborist
Associate Partner, Senior Project Manager

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Appendix A: Tree Inventory Drawing & Table

1 Introduction

CIMA+ has been retained to review the trees potentially affected by proposed townhouse development on Clifton Road in the City of Ottawa. The site encompasses five (5) properties on the west side of Clifton Road, north of Wilber Avenue (street numbers are 316, 320, 324, 328, and 332 Clifton Road).

Using the Zoning By-Law Amendment Drawings as reference, this report will help determine the project's potential impacts and provide general recommendations to avoid and/or mitigate tree loss and injury.

2 Limitations

The assessment presented in this report has been made using accepted standard arboriculture techniques as outlined in the Council of Tree and Landscape Appraisers Guide for Plant Appraisal, 10th Edition, Second Printing (2019). These techniques include visual examination of above ground parts of each tree or trees in each group. The trees observed were not climbed, cored, or dissected, and excavation for detailed root crown inspection was not performed. Since some symptoms may only be present seasonally, the extent of observations that can be made may be limited by the time of year in which the inspection took place.

Since trees are living organisms, their health and vigour continually change over time due to seasonal variations, changes in site conditions, and other factors. For this reason, the assessment presented in this report is valid at the time of inspection, and no guarantee is made about the continued health of trees that are deemed to be in good condition. It is recommended that the trees be re-assessed periodically to identify changes in condition. While every standing tree has the potential for failure and therefore poses some risk, a tree assessment is a good indication of present health and potential problems that could arise in the future.

CIMA+ has prepared this report for the sole use of the client. Any use of this report by a third party, as any decision based on this report, is the singular responsibility of the third party. CIMA+ will not be held responsible for eventual damages towards a third party resulting from decisions taken, or based, on this report.

3 Methodology

CIMA+ conducted a site visit on August 20th, 2020 to complete the following inventory and assessment.

Trees were located and inventoried within and adjacent to the site. Trees over 10 cm diameter at breast height (DBH) were recorded.

Trees were numbered, identified, measured, and assessed for condition. The assessment methodology is outlined in Section 3. The tree inventory tables containing this information are

included in Appendix A along with the Tree Inventory and Assessment drawing showing the locations of the numbered trees surveyed.

3.1 Tree Size

Size refers to trunk diameter (caliper or DBH) measured in centimetres at 1.4 m above the ground. Where trees had more than one trunk from the base, the size of each trunk was recorded. Where trees forked to codominant trunks, each trunk was measured or the diameter was measured under the flare and the approximate height of the measurement was noted.

3.2 Observations

Several structural defects and health problems are included in the Comments section of the tree inventory and assessment table. Following is an explanation of the short forms used in the table:

GR	Girdling roots
COD	Codominant trunks or codominant leaders
NA	Narrow branch angles
INCL	Included bark
CRB	Crossing branches
MBR	Multiple branches from the same point of attachment
DPR	Decay at pruning wounds
SMD	Small dead branches
ADV	Adventitious shoots

These observations are defined below.

Structural defects are often insignificant when a tree is small, but can pose problems when the tree grows larger and the weight of branches put added stress on defects that can cause weakness. Larger trees also have the potential to cause more damage should they fail. The following is an explanation of some of the observations included in the inventory and assessment table, and how they can affect trees over time.

- *Adventitious shoots* are vigorous growth of shoots from pruning cuts, inner branches, or along the trunk that usually occur in response to stress.
- A *canker* is an area of dead tissue, often shrunken and discoloured.
- *Codominant leaders* (2 trunks or branches of approximately equal size) often have narrow branch angles, and are associated with weak branch attachment. Strong branch attachments occur between 2 limbs of unequal size with enough space for branch enlargement and formation of a branch bark ridge.

- *Crossing branches* are often associated with narrow branch angles. Branches that cross over each other often rub, causing damage and therefore weakness to one or both branches, and crossing branches can eventually girdle each other.
- *Decay at pruning wounds* can occur when pruning (or other bark-penetrating abrasions) expose a tree's heartwood, which can then be affected by a rot-causing fungi. The decay can lead to cavities and internal decay, and potentially affect the structural integrity of the tree.
- *Girdling roots* are roots that cross over each other or around the trunk of the tree. As these roots grow larger, they can restrict the uptake of nutrients and water, and inhibit structural anchorage.
- *Included bark* is bark that has become embedded in a crotch where limbs join, and causes weakened branch attachments. As the trunk and branch increase in diameter, the bark of each stem in the tight crotch begin to push apart, increasing the likelihood of failure.
- When a tree has *multiple branches from the same point of attachment*, the branches usually have characteristics of weakly attached branches.
- *Narrow branch angles*, especially where there is *included bark*, can be a problem as trees grow larger because the inner wood is poorly attached.
- *Small dead branches* are an indicator of crown dieback and can be an early sign of stress.

The detailed observations made concerning tree species, size, and condition are included in the tree inventory and assessment table in Appendix A.

There is understory species of concern. Following is an explanation of the species noted in the Tree Inventory and Assessment Table:

- Buckthorn is a thorny, invasive exotic shrub species that out-competes native *vegetation*.

3.3 Tree Condition

Each tree was given a subjective rating for trunk integrity, canopy structure, and crown vigour, and an overall health condition rating of Excellent, Good, Fair, Poor, or Dead. The following is a summary of how the ratings are determined:

- EXCELLENT (E): no apparent health problems; good structural form
- GOOD (G): minor problems with health and/or structural form
- FAIR(F): more serious problems with health and/or structural form
- POOR (P): major problems with health and structural form
- DEAD (D): dead

4 Summary

A total of 29 trees were surveyed on site, and include all trees numbered 1 through to 29. See tree inventory table and drawing in Appendix A for further information about the locations and descriptions of these trees.

A total of 26 trees are expected to require removal to facilitate the proposed development. Trees #2, #12 and #16 are to be retained and protected.

5 Protected Species

The Migratory Birds Convention Act, 1994 protects the nests of migratory birds. This effectively means that trees to be removed from the site should be removed outside of the migratory bird-nesting window, the timing of which differs regionally across Canada as determined by Environment Canada. Following Environment Canada's guidelines, the window at this site is from April 1 to August 31. Trees may be removed during this restricted period only when trees are inspected for nests of protected bird species by a qualified avian biologist immediately prior to removal.

6 Construction Management

The most typical construction damage to trees is root damage from compaction and severance. While the dripline of a tree's canopy is typically thought to be associated with the root area, the root zones can actually extend significantly beyond the dripline of the tree, sometimes up to 2 or 3 times the height of the tree. Some of the trees inventoried are growing close to the edge of the proposed construction and will be at risk of contact with, and damage from, heavy equipment. It is recommended that tree protection fencing be installed along the Minimum Tree Protection Zone prior to construction.

Generally, to protect trees, grade changes and construction activities that could cause soil compaction should be kept away from trees as much as possible. If roots will be damaged by excavation equipment, it is better to cut roots cleanly with sharp pruning tools rather than allow them to be torn by large equipment. Clean cuts will help to minimize decay and entry points for disease. If branches are likely to hang in the way of passing equipment, the branches should be pruned by a qualified arborist to avoid tearing and undue injury to the tree.

Equipment and materials should not be stored near trees, and equipment should not be left idling where exhaust could burn foliage.

Future delineation of construction limits in combination with this inventory will determine the potential tree injury and removal anticipated by the proposed work. The TPZ will be used to determine tree protection hoarding needs, and tree removal permits will be obtained through the appropriate applications with the City of Ottawa.

7 Certification and Closure

We certify that all the statements of fact in this assessment are true, complete, and correct to the best of our knowledge and belief, and that they are made in good faith.

We trust that this report meets your needs at this time. If you have any questions, please do not hesitate to contact the undersigned.

Sincerely,



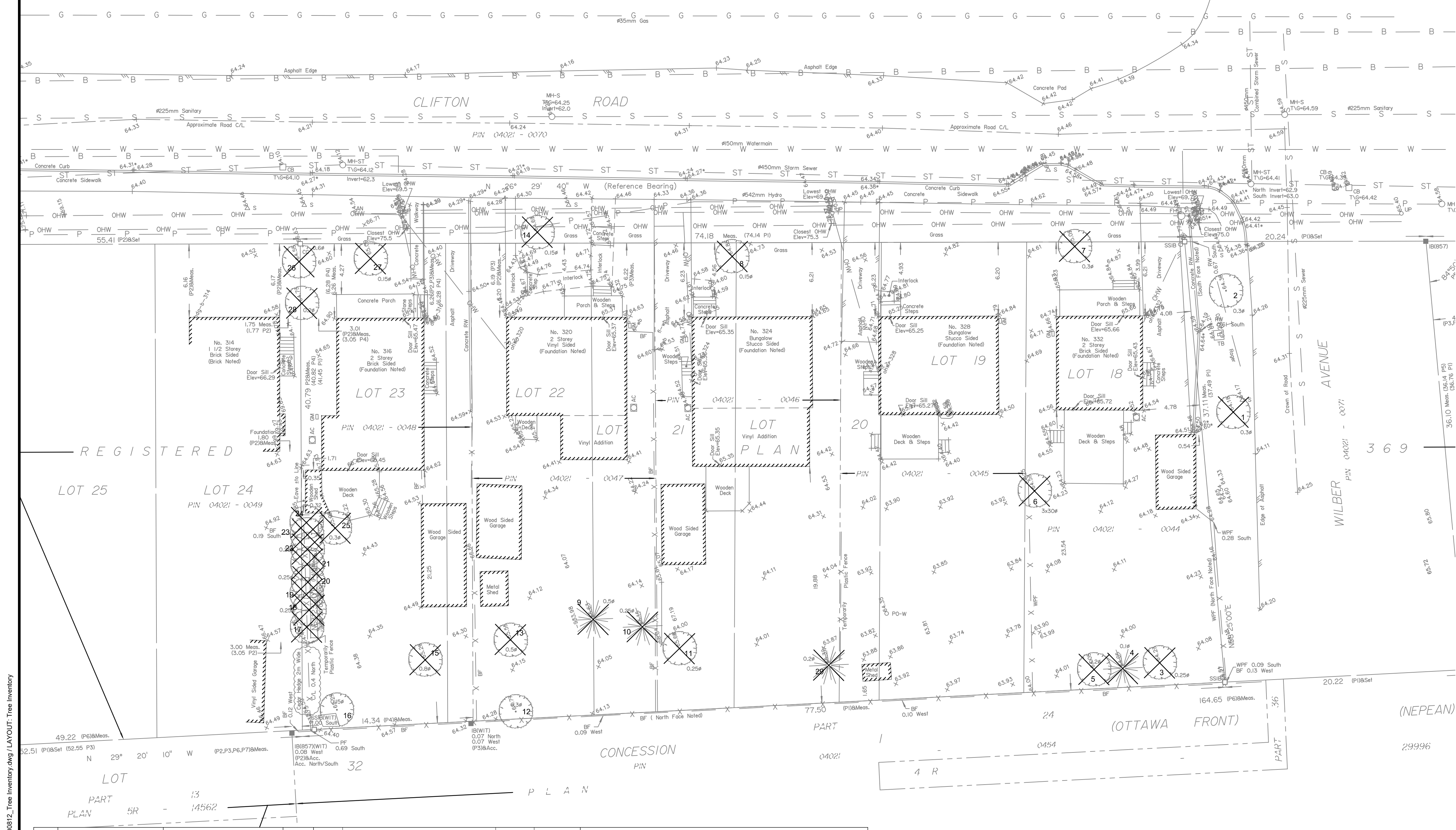
Lisa Cullen

ISA Certified Arborist ON-0741A

Attachments: Appendix A – Tree Inventory Drawings & Table

A

Appendix A: Tree Inventory Drawing & Table



EXISTING

- Survey Monument Planted
- Survey Monument Found
- Fire Hydrant
- Maintenance Hole (Storm Sewer)
- Maintenance Hole (Sanitary)
- Maintenance Hole (Unidentified)
- Underground Storm Sewer
- Underground Sanitary Sewer
- Underground Water
- Underground Power
- Underground Gas
- Underground Telecommunication
- Bell Cable
- Overhead Wires
- Catch Basin
- Utility Pole
- Location of Elevations
- Top of Concrete Curb / RW Elevation
- Deciduous Tree with Tree Inventory Number see Tree Report
- Existing Tree to be removed see Tree Report
- Coniferous Tree with Tree Inventory Number see Tree Report
- Wood Pole
- Sign
- Unidentified Terminal Box

No	Date	Description	By

DESIGNED BY: _____ APPROVED BY: _____

ENGINEER:

CIMA+

CLIENT:

PROJECT NAME:

CLIFTON PROPERTY DEVELOPMENT

SHEET TITLE:

TREE INVENTORY AND ASSESSMENT

DISCIPLINE:

CIVIL

DRAFTER: L. MAY	SCALE: 1:200
DESIGNER: S. NAILER	DATE: 2020/08/12
APPROVER: S. NAILER	APPROVER: L. CULLEN
PROJECT NO: A001062	DRAWING NO:
SHEET No: 1 of 1	1

Tree #	Common name	Scientific name	DBH (cm) * approx	Height (m)	Structural Defects										Overall Condition (D, (F), (P), (G), or (E))	Tree Impacts (Injury / Remove)	Comments	
					GR	COD	NA	INCL	CRB	M/R	DPR	SMD	ADV					
1	Norway Maple	Acer platanoides	31	15		X										F	R	Canker
2	Norway Maple	Acer platanoides	36	16									X			F	R	Canker
3	Silver Maple	Acer saccharinum	24	15				X								F	R	
4	White Spruce	Picea glauca	14	12												F	R	
5	Littleleaf Linden	Tilia cordata	22	13				X								G	R	
6	Manitoba Maple	Acer negundo	41	20		X										G	R	
7	Ivory Silk Tree	Syringa reticulata	33	6				X				X	X			F	R	
8	Poplar	Populus sp.	21	10			X					X				F	R	
9	White Pine	Pinus strobus	51	18					X							F	R	Invasive buckthorn undergrowth
10	White Pine	Pinus strobus	30	18								X				F	R	
11	Norway Maple	Acer platanoides	23	12												F	R	
12	Norway Maple	Acer platanoides	47	14		X	X	X								F	R	
13	Bur Oak	Quercus macrocarpa	52	17						X	X	X				P	R	
14	Amur Maple	Acer ginnala	22	7		X						X	X			F	R	Crown appears to have been pruned due to proximity of power lines
15	Silver Maple	Acer saccharinum	71	16		X			X	X	X	X				F	R	Canker
16	Common Hackberry	Celtis occidentalis	19	10						X						F	R	
17	Norway Maple	Acer platanoides	22	15		X	X			X						G	R	4 codominant trunks at breast height. Invasive buckthorn
18	Norway Maple	Acer platanoides	22	15		X	X					X				G	R	Small invasive buckthorn around tree base
19	Norway Maple	Acer platanoides	16	15				X			X					P	R	Horizontal shear of bark around entire circumference of tree. Potential hazard.
20	Norway Maple	Acer platanoides	21	15												F	R	
21	Norway Maple	Acer platanoides	14	15						X						F	R	Part of tightly packed group of Norways
22	Norway Maple	Acer platanoides	21	15		X	X	X			X	X				F	R	Codominant trunk above 2m. Second trunk removed. Cut point well healed
23	Norway Maple	Acer platanoides	29	15		X			X	X	X					F	R	Canker
24	Norway Maple	Acer platanoides	21	15		X			X	X	X	X				F	R	On boundary of 314 and 316. Canker. Branches high up
25	Norway Maple	Acer platanoides	32	16		X	X				X					F	R	
26	Norway Maple	Acer platanoides	34	12		X	X	X	X	X	X					F	R	Multiple codominant trunks
27	Norway Maple Crimson King	Acer platanoides 'Crimson King'	17	6		X				X	X	X				G	R	Crown growing near power lines, but doesn't appear to have been cut back
28	Norway Maple	Acer platanoides	32	11					X	X						G	R	
29	White Pine	Pinus strobus	20	15						X						F	R	

Tree #	Common name	Scientific name	DBH (cm) * approx.	Height (m)	Structural Defects									Overall Condition (D), (P), (F), (G), or (E)	Tree Impacts (I)njure / (R)emove	Comments
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2	Norway Maple	Acer platanoides	36	16										F		Canker
3	Silver Maple	Acer saccharinum	24	15					X				X	F	R	
4	White Spruce	Picea glauca	14	12										F	R	
5	Littleleaf Linden	Tilia cordata	22	13					X					G	R	
6	Manitoba Maple	Acer negundo	41	20		X								G	R	
7	Ivory Silk Tree	Syringa reticulata	33	6		X				X		X	X	F	R	
8	Poplar	Populus sp.	21	10		X						X		G	R	
9	White Pine	Pinus strobus	51	18			X							F	R	
10	White Pine	Pinus strobus	30	18								X		F	R	Invasive buckthorn undergrowth
11	Norway Maple	Acer platanoides	23	12										G	R	
12	Norway Maple	Acer platanoides	47	14		X	X	X	X			X		F		
13	Bur Oak	Quercus macrocarpa	52	17							X	X	X	P	R	
14	Amur Maple	Acer ginnala	22	7		X					X	X	X	F	R	Crown appears to have been pruned due to proximity of power lines
15	Silver Maple	Acer saccharinum	71	16		X			X			X	X	F	R	Canker
16	Common Hackberry	Celtis occidentalis	19	10					X				X	F		
17	Norway Maple	Acer platanoides	22	15	X	X			X			X		G	R	4 codominant trunks at breast height. Invasive buckthorn
18	Norway Maple	Acer platanoides	22	15		X			X				X	G	R	Small invasive buckthorn around tree base
19	Norway Maple	Acer platanoides	16	15			X				X			P	R	Horizontal shear of bark around entire circumference of tree. Potential hazard.
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21	Norway Maple	Acer platanoides	14	15								X		G	R	Part of tightly packed group of Norways
22	Norway Maple	Acer platanoides	21	15		X	X		X				X	F	R	Codominant trunk above 2m. Second trunk removed. Cut point well healed
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24	Norway Maple	Acer platanoides	21	15					X		X	X	X	F	R	On boundary of 314 and 316. Canker. Branches high up
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26	Norway Maple	Acer platanoides	34	12		X	X	X	X		X			F	R	Multiple codominant trunks
27	Norway Maple Crimson King	Acer platanoides 'Crimson King'	17	6	X						X	X		G	R	Crown growing near power lines, but doesn't appear to have been cut back
28	Norway Maple	Acer platanoides	32	11					X		X			G	R	
29	White Pine	Pinus strobus	20	15								X		F	R	

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