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January 03, 2018

ARBORIST REPORT
5353 Lakeshore Road, Burlington, Ontario

BACKGROUND

MHBC was retained to conduct an inventory of the existing trees within the boundaries of 5353 Lakeshore Road in between Kenwood Avenue and Hampton Heath Drive as they pertain to the City of Burlington's guidelines. Field work was completed on November 29th, 2016, this report relates to the condition of the trees as observed on that date.

PROCEDURE

The on-site inventory of existing trees was carried out using the current survey of the property and relies on the accuracy of this survey. The inventory includes trees within the site boundary, all trees within adjacent public boulevards, and all private trees within 6.0 metres of the site boundary as per City of Burlington's guidelines.

This inventory is summarized graphically in the Tree Inventory Plan TI-1, which shall always be read in conjunction with this report and shall form part of this report. For the purposes of this report, trees and groupings of trees are identified in terms of species, size, condition, and recommendations.

The following rating system was used in describing the general condition of the trees inventoried:

Good (G): Indicates a condition of vigour and no major concerns;
Fair (F): Indicates an adequate tree, which may have some minor issues;
Poor (P): Indicates declining health, bad form, or other more serious issues;
Dead (D): Indicates a dead tree that should be removed.

ASSUMPTIONS AND LIMITING CONDITIONS

- Care has been taken to obtain all information from reliable sources. All data has been verified inso far as possible and is assumed to be correct; however MHBC can neither guarantee nor be responsible for the accuracy of information provided by others.
- It is assumed that the properties are not in violation of any applicable codes, ordinances, statutes, or other governmental regulations.
- Unless otherwise required by law, possession of this report or a copy thereof does not imply right of publication or use for any purpose in whole or in part by any other than the person or company by whom it was commissioned.
- The use of excerpts from this report or alterations to this report, without the authorization of MHBC Planning will invalidate the entire report. This report may not be used for any purpose other than its intended purpose as outlined.

- Unless expressed otherwise: 1) information contained in this report covers only those items that were examined and reflect the condition of those items at the time of inspection; and 2) the inspection is limited to visual examination or accessible items without dissection, excavation, probing, or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies in the plants inventoried may not arise in the future.
- The determination of ownership of any subject tree(s) is the responsibility of the owner and any civil or common-law issues, which may exist between property owners with respect to trees, must be resolved by the owner. The recommendation to remove or maintain any tree(s) does not grant authority to encroach in any manner onto adjacent private properties.

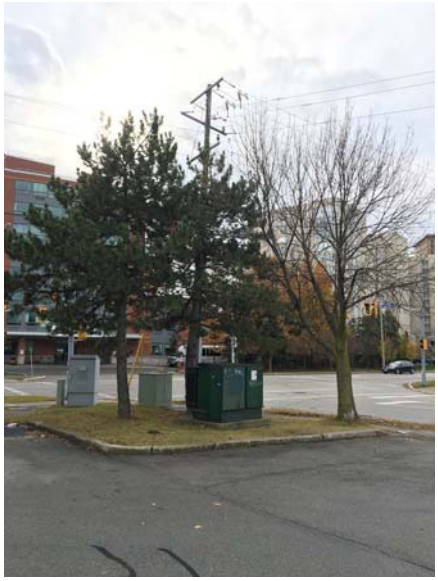
SUMMARY OF TREES INVENTORIED

The following table summarizes the on-site trees.

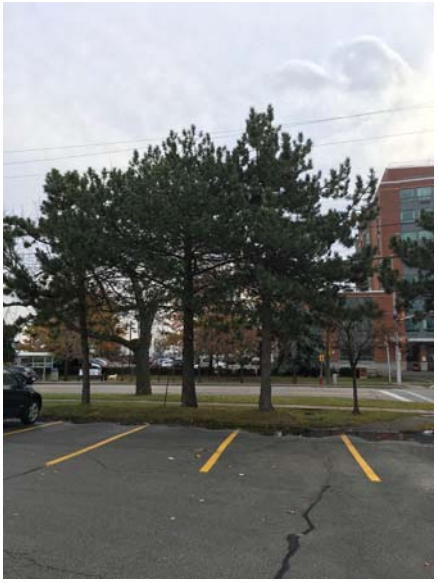
Tree No.	Common Name	Botanical Name	DBH (CM)	Cond.	TPZ Size (m)	Comments	Recommendation
1	Ash sp.	Fraxinus sp.	11	D			Remove due to health
2	Ash sp.	Fraxinus sp.	9	D			Remove due to health
3	Ash sp.	Fraxinus sp.	55	F/P	3.6	Signs of Emerald Ash Borer	Remove due to construction
4	Ash sp.	Fraxinus sp.	40	F/P	2.4	Signs of Emerald Ash Borer	Retain
5	Austrian Pine	Pinus nigra	31	F	2.4		Retain
6	Austrian Pine	Pinus nigra	28	F	2.4		Retain
7	Ornamental Pear	Pyrus calleryana	11	F	2.4		Retain
8	Austrian Pine	Pinus nigra	33	F	2.4		Retain
9	Austrian Pine	Pinus nigra	38	F	2.4		Retain
10	Silver Maple	Acer saccharinum	69	F	4.2	Heavily limbed due to hydro lines	Retain
11	Austrian Pine	Pinus nigra	22	F	2.4		Retain
12	Ash sp.	Fraxinus sp.	23	F/P	2.4		Retain
13	Austrian Pine	Pinus nigra	35	F	2.4		Retain
14	Ash sp.	Fraxinus sp.	39	F/P	2.4		Retain
15	Austrian Pine	Pinus nigra	37	F	2.4		Retain
16	Maple sp.	Acer sp.	14	F/G	2.4		Retain
17	Ash sp.	Fraxinus sp.	41	F/P	3.0		Retain
18	Maple sp.	Acer sp.	13	F	2.4		Retain
19	Ash sp.	Fraxinus sp.	42	F/P	3.0		Retain
20	Austrian Pine	Pinus nigra	41	F	3.0		Retain
21	Austrian Pine	Pinus nigra	30	F	2.4		Remove due to construction
22	Maple sp.	Acer sp.	21	F	2.4		Remove due to construction
23	Ash sp.	Fraxinus sp.	42	F/P	3.0		Retain
24	Maple sp.	Acer sp.	18	F	2.4		Retain
25	Austrian Pine	Pinus nigra	40	F	2.4		Retain
26	Pine sp.	Pinus sp.	17	F	2.4		Retain
27	Austrian Pine	Pinus nigra	36	F	2.4		Retain
28	Ash sp.	Fraxinus sp.	41	F	3.0		Retain
29	Austrian Pine	Pinus nigra	37	F	2.4		Retain
30	Silver Maple	Acer saccharinum	19	F	2.4		Retain
31	Ornamental Pear	Pyrus calleryana	26	F/G	2.4		Retain
32	Ornamental Pear	Pyrus calleryana	25	F	2.4		Retain
33	Ornamental Pear	Pyrus calleryana	25	F/G	2.4		Retain
34	Maple sp.	Acer sp.	22	F/G	2.4		Retain
35	Maple sp.	Acer sp.	20	F/G	2.4		Retain
36	Ornamental Pear	Pyrus calleryana	27	F/G	2.4		Retain
37	Ornamental Pear	Pyrus calleryana	24	F/G	2.4		Retain
38	Maple sp.	Acer sp.	16	F	2.4		Retain
39	Maple sp.	Acer sp.	20	F	2.4		Retain
40	Ash sp.	Fraxinus sp.	37	F/P	2.4		Retain
41	Maple sp.	Acer sp.	19	F	2.4		Retain
42	Austrian Pine	Pinus nigra	35	F	2.4		Retain
43	Austrian Pine	Pinus nigra	27	F	2.4		Retain
44	Austrian Pine	Pinus nigra	26	F	2.4		Retain
45	Ash sp.	Fraxinus sp.	53	F/P	3.6		Retain
46	Austrian Pine	Pinus nigra	44	F	3.0		Retain
47	Austrian Pine	Pinus nigra	25	F	2.4		Retain
48	Austrian Pine	Pinus nigra	26	F	2.4		Retain
49	Apple sp.	Malus sp.	17	F	2.4		Retain

50	Austrian Pine	Pinus nigra	27	F	2.4		Retain
51	Apple sp.	Malus sp.	16	F	2.4		Remove due to construction
52	Apple sp.	Malus sp.	23	F	2.4		Retain
53	Austrian Pine	Pinus nigra	25	F	2.4		Retain
54	Austrian Pine	Pinus nigra	27	F	2.4		Retain
55	Austrian Pine	Pinus nigra	25	F	2.4		Remove due to construction
56	Austrian Pine	Pinus nigra	25	F	2.4		Retain
57	Ivory Silk Lilac	Syringa reticulata 'Ivory Silk'	6	F	1.8		Retain
58	Ivory Silk Lilac	Syringa reticulata 'Ivory Silk'	6	F	1.8		Retain
59	Linden sp.	Tilia sp.	19	F/P	2.4	Leaning heavily; Signs of rot; Compartmentalization in trunk	Remove due to construction
60	Cherry sp.	Prunus sp.	9, 10	F	1.8	2 stem	Remove due to construction
61	Austrian Pine	Pinus nigra	24	F	2.4		Remove due to construction
62	Ivory Silk Lilac	Syringa reticulata 'Ivory Silk'	6	F	1.8		Retain
63	Ivory Silk Lilac	Syringa reticulata 'Ivory Silk'	6	F	1.8		Retain
64	Ivory Silk Lilac	Syringa reticulata 'Ivory Silk'	6	F	1.8		Retain
65	Ivory Silk Lilac	Syringa reticulata 'Ivory Silk'	5	F	1.8		Retain
66	Linden sp.	Tilia sp.	22	F	2.4	Exposed roots	Remove due to construction
67	Linden sp.	Tilia sp.	23	F	2.4	Exposed roots	Remove due to construction
68	Linden sp.	Tilia sp.	25	F	2.4	Exposed roots	Remove due to construction
69	Ash sp.	Fraxinus sp.	10-15	F	2.4	8 stem Ash clump; Grown into fence	Retain
70	Maple sp.	Acer sp.	45	P	2.4	Main leader cut; Grown into fence; Signs of insect infestation and rot	Retain
71	Apple sp.	Malus sp.	31	F	2.4		Retain

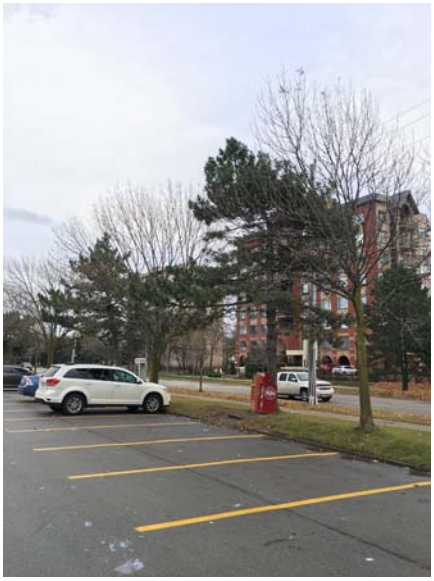
PHOTO RECORD



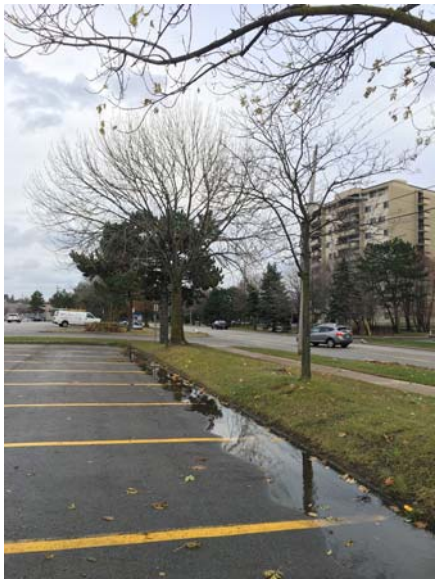
Trees #4 through #6, looking South



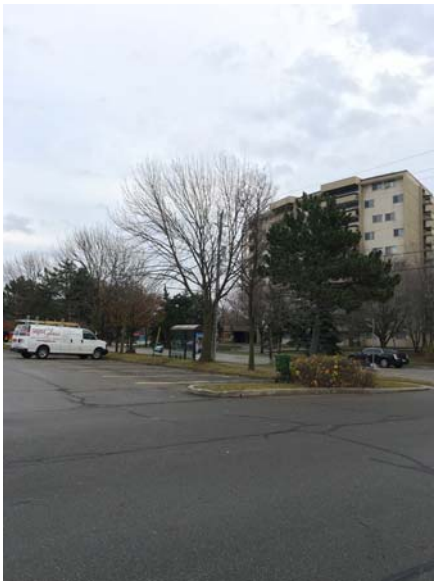
Trees #7 through #10, looking South



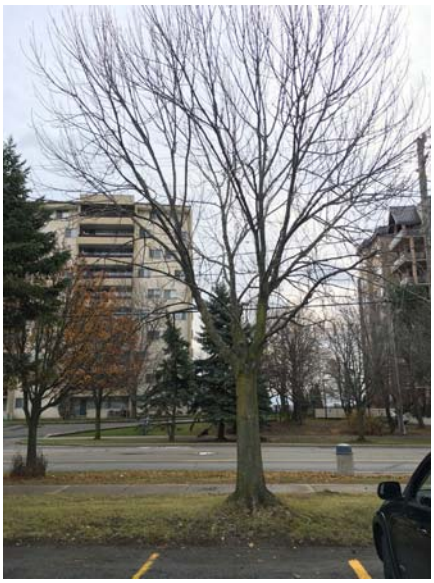
Trees #11 through #16, looking South-east



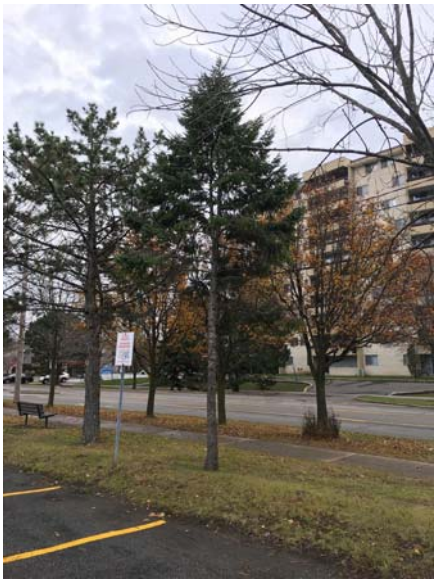
Trees #17 through #20, looking South-east



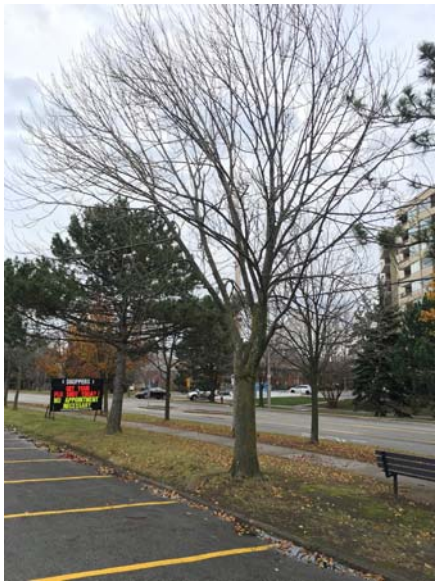
Trees #21 through #26 and #30, looking South-east



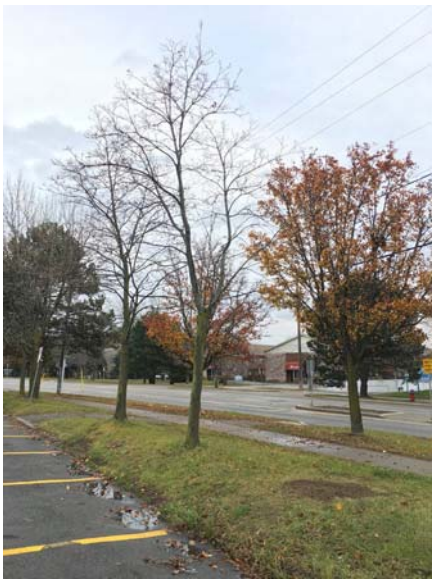
Trees #23, looking South



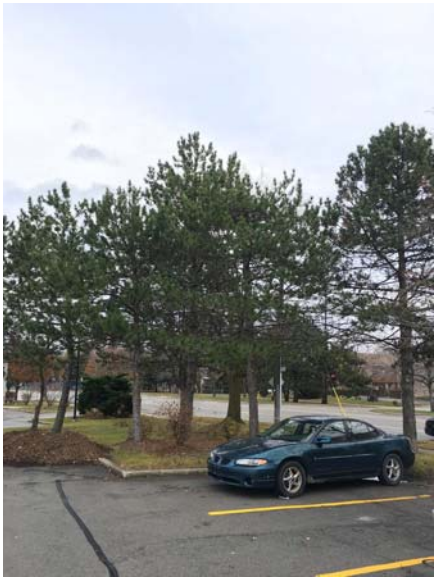
Trees, #24, #26, #27, and #31 through #33 looking South-east



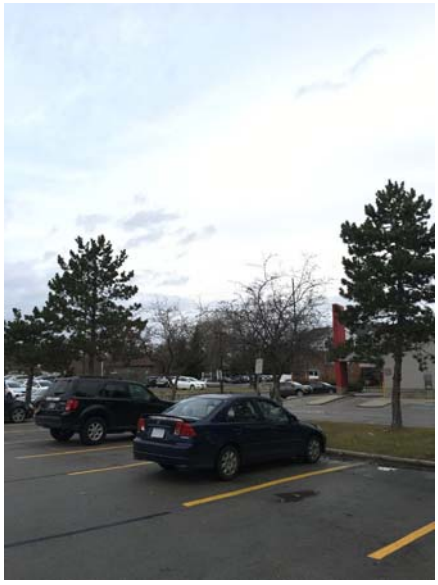
Trees #28 through #29 and #34, looking South-east



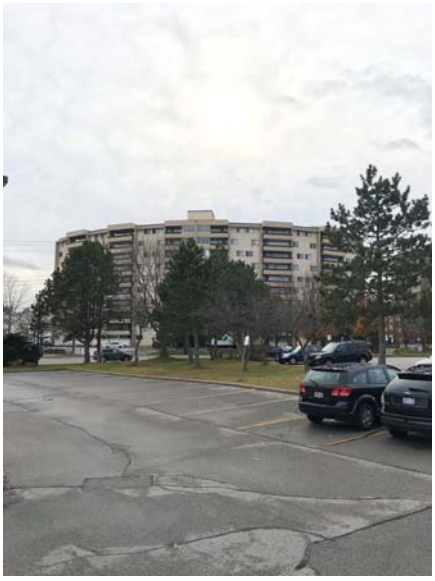
Trees #35 through #41, looking South-east



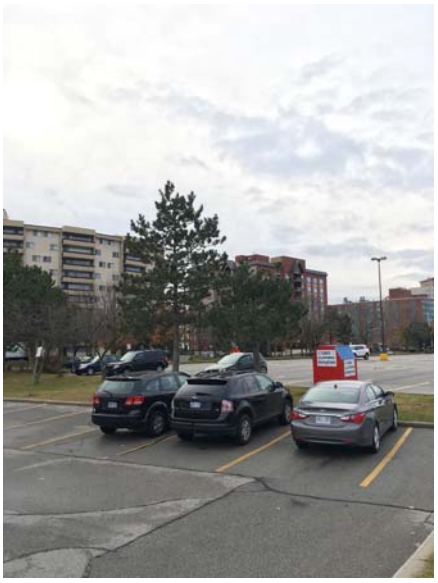
Trees #42 through #48, looking East



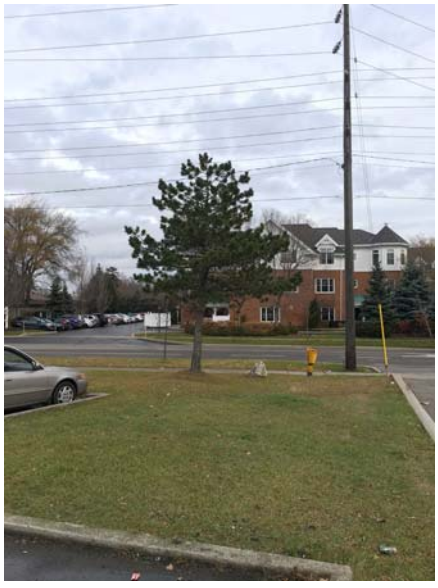
Trees #49 through #52, looking North-East



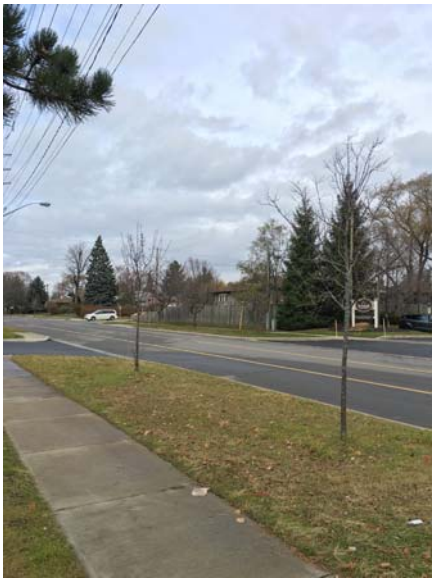
Trees #49 through #55, looking South



Trees #47 through #57, looking South

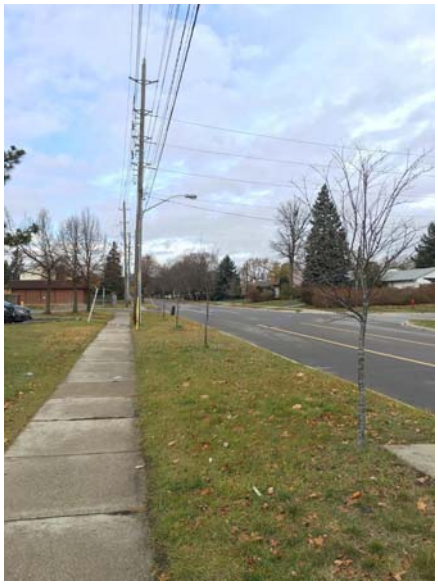


Trees #56, looking East

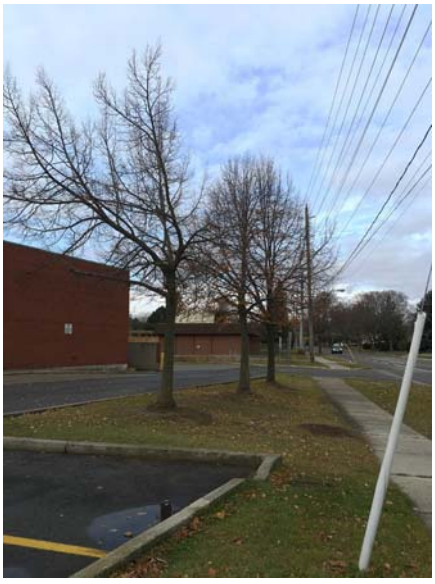


Trees #57 through #58, looking North

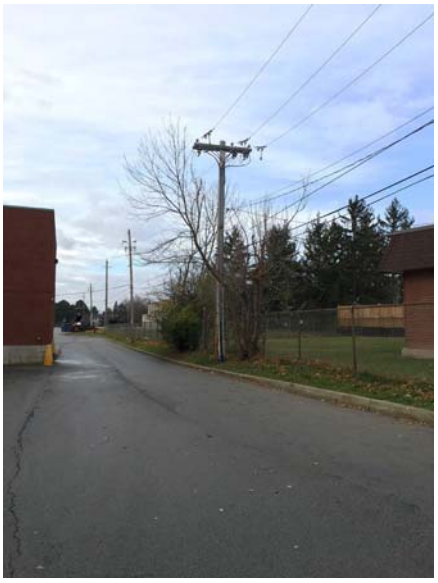
Trees #59 through #61, looking West



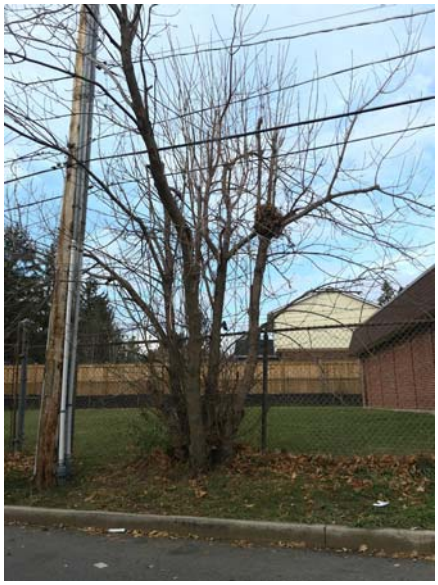
Trees #62 through #65, looking North



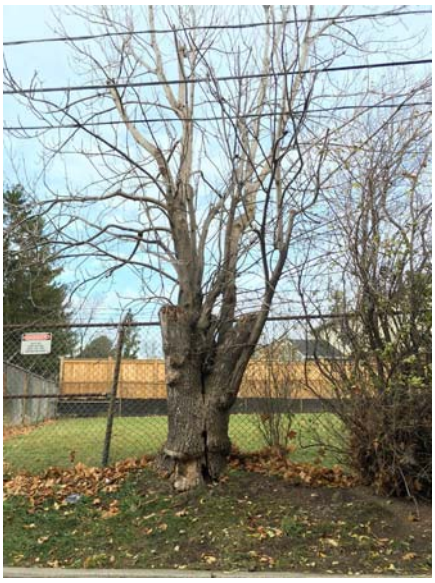
Trees #66 through #68, looking North-West



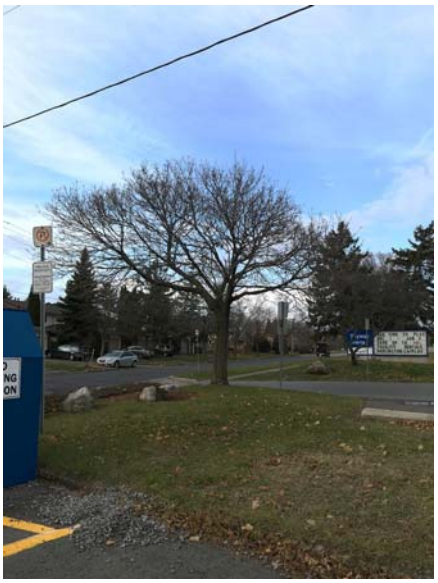
Trees #69, looking West



Trees #69, looking North-West

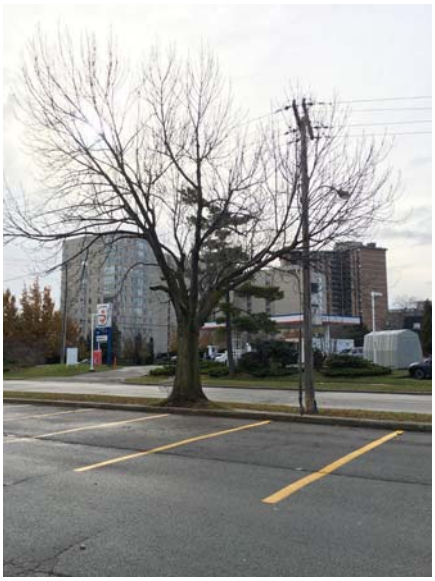


Trees #70, looking North-West



Trees #71, looking North-West

Trees #1 through #2, looking East



Trees #3, looking West

TREE PROTECTION RECOMMENDATIONS

The following standards shall apply to any trees that are identified to be retained. Where the municipality enforces its own standards, those of the governing municipality shall supersede the recommendations contained herein. In all other instances, the following recommendations shall be treated as minimum standards for tree protection and retention.

1.0 ESTABLISH A TREE PROTECTION ZONE

The purpose of the tree protection zone is to prevent root damage, soil compaction and soil contamination during construction activities. Workers and machinery shall not disturb the tree protection zone in any way. In order to prevent access, the following recommendations are offered.

- Install tree protection hoarding as per detail 2 / TI-1.
- Allow no fill, equipment, supplies, or waste within the tree protection zone.
- Maintain the tree protection hoarding in good condition for the duration of construction.
- Tree protection hoarding is not to be removed until all construction activities have been completed.

2.0 ROOT PRUNING

Where possible, hand dig areas closest to each tree to prevent any unnecessary tearing or pulling of roots. Removal of roots that are greater than 2.5 centimetres in diameter or roots that are injured or diseased should be performed as follows:

- Preserve the root bark ridge (similar in structure to the branch bark ridge). Directional Root Pruning (DRP) is the recommended technique and should be employed during hand excavation around tree roots. Roots are similar to branches in their response to pruning practices. With DRP, objectionable and severely injured roots are properly cut to a lateral root that is growing downward or in a favorable direction.

- All roots needing to be pruned or removed shall be cut cleanly with sharp hand tools, by a Certified Arborist.
- No wound dressings or pruning paint shall be used to cover the ends of each cut.
- All roots requiring pruning shall be cut using any of the following tools:
  Large or small loppers, Hand pruners, Small hand saws, Woundscribers
- Avoid prolonged exposure of tree roots during construction - keep exposed roots moist and dampened with mulching materials, irrigation or wrap in burlap if exposed for longer than 4 hours.

3.0 FERTILIZATION AND IRRIGATION

The following measures are recommended:

- Aeration and deep root fertilize to ensure that all trees receive the appropriate nutrients for healthy growth.
- Fertilizer must be a low nitrogen formula such as 5-30-30 to promote root growth rather than shoot growth.
- If construction occurs during July and / or August, roots must be irrigated during conditions of drought.

4.0 ESTABLISH MAINTENANCE PROGRAM

Pre-Construction:

- Prune all trees to remove any deadwood and obstruction prune as required.

During Construction:

- Irrigate tree preservation zones during drought conditions (June through September), in an attempt to reduce the effects of drought stress.
- Inspect the site every month to ensure that all tree protection fence / hoarding is in place and in good condition, inspect the trees to monitor condition.

Post-Construction:

- Prune crowns to remove any newly developed deadwood only. Do not remove any live growth.
- Inspect the trees three times per year (May, July, and September) to monitor condition for a minimum period of 2 additional years.

5.0 LANDSCAPING

Any landscaping completed within the tree preservation zones, after construction is completed and tree protection fencing / hoarding has been removed, is to be carried out in such a way that it will not cause damage to any of the trees or their roots. The trees must be protected to the same standards listed earlier in this report, but without the use of tree protection fence or hoarding.

The following guidelines are recommended:

- **No grade changes** are permitted which include adding and/or removing soil.
- **No excavation** is permitted that can cause damage to the roots of the tree.
- **No heavy equipment** can be used to compact the soil within the tree preservation zone.
- Where possible, hard surface paving around trees to be protected should be constructed using permeable products such as interlocking stone. Areas to be paved must be hand dug when encroaching within the tree protection zone.

CONCLUSIONS

It is our opinion that fifty-seven (58) trees of the identified seventy-one (71) identified can be successfully retained if the recommendations contained herein are followed. Of the remaining thirteen (13) trees, trees #1 and #2 are recommended for removal due to their poor health condition and the remaining eleven (11) trees will need to be removed to accommodate the proposed development. Special care shall be taken when working within or near the tree protection zones of trees that are to be retained.

Kindly direct any questions regarding this report to the undersigned.

Respectfully submitted,
MHBC Planning, Urban Design & Landscape Architecture

Nick A. Miele BLA, OALA, CSLA, ISA
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ISA Certified Arborist No. ON-1251A