



**Tree Inventory and Assessment Report (Updated)**  
**Laurelpark Subdivision**  
**Part Lot 19, Concession 6, Town of Caledon (Albion)**  
Town of Caledon, Region of Peel

Prepared for:  
Laurelpark Inc.

Prepared by:  
Azimuth Environmental  
Consulting, Inc.

April 2020

AEC 08-019



Environmental Assessments & Approvals

April 1, 2020

AEC 08-019

Town of Caledon  
Planning and Development  
6311 Old Church Road  
Caledon, ON  
L7C 1J6

Attention: Ms. Mary T. Nordstrom, Senior Development Planner

**Re: Tree Inventory and Assessment Report (Updated)  
Part Lot 19, Concession 6, Town of Caledon (Albion)**

Dear Ms. Nordstrom:

Azimuth Environmental Consulting (Azimuth) is pleased to submit our Tree Inventory and Assessment Report for the above noted property.

This report includes the results of our tree inventory completed for all specimens located within the proposed area of development on the subject property with a diameter at breast height (dbh) of at least 20 cm (as per Town of Caledon policy). Recommendations pertaining to which trees on the property should be retained/removed and compensation options have also been included.

If you have any questions pertaining to the information within this report, please do not hesitate to contact myself directly.

Yours truly,  
**AZIMUTH ENVIRONMENTAL CONSULTING, INC.**

Drew West, A.Sc.T.  
Certified Arborist (ISA# ON-1429A)



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## **1.0 BACKGROUND**

Azimuth Environmental Consulting, Inc. (Azimuth) was retained by Laurelpark Inc. to prepare a Tree Inventory and Assessment Report for the proposed development property located at Part Lot 19, Concession 6 (Albion), Town of Caledon (See Figure 1).

The proponent wishes to develop the subject property into a residential estate subdivision consisting of 8 individual lots. Access to the proposed lots within the northeastern portion of the site would be provided by a road branching off from the existing Mount Pleasant Road. Access to the proposed lots within the southwestern portion of the site would be provided by extended driveways branching off from the existing Diamondwood Drive cul-de-sac.

The trees which have been inventoried as part of this study are primarily located within hedgerows along the perimeter and within the northern portion of the site. These hedgerows fall within areas where the proponent wishes to develop the site. The subject property contains several other trees which are  $\leq 20$  cm in diameter, although they are situated within designated environmental protections zones and will not be harmed.

## **2.0 SCOPE OF INVENTORY WORK**

To comply with the requirements of the Town of Caledon, a tree inventory was completed on February 14<sup>th</sup>, 2017 for all trees with a dbh of 20cm or greater located within the proposed development limits. This field visit included the following elements:

- Inventory of all trees located within the proposed development limits, including all specimens with a dbh (diameter at breast height) of at least 20 cm. Diameter measurements were taken at approximately 1.4 metres (4.5') above ground surface at the base of each tree.
- Recorded species, dbh (cm) and condition/health status of all applicable trees. Tree health assessments were graded on a scale ranging from Dead, Poor, Fair and Good based on characteristics such as trunk integrity, canopy structure and canopy vigour.
- Tree hazard inventory of all trees on the subject property located within 10 metres of the property boundary adjacent to residential land.

## **3.0 TREE RESOURCE DESCRIPTION**

A total of 65 trees were documented within the proposed development limits during the inventory process (see Figure 2 - 4). The site contained a variety of naturally occurring



native and non-native species. Overall, the tree inventory consisted of the following species:

**Table 1: Tree Resource Composition**

<b>Tree Species Common Name (Scientific Name)</b>	<b>Status</b>	<b># Healthy Specimens Found</b>
Sugar Maple ( <i>Acer saccharum</i> )	Native	12
Black Cherry ( <i>Prunus serotina</i> )	Native	10
Butternut ( <i>Juglans cinerea</i> )	Native	10
Bur Oak ( <i>Quercus macrocarpa</i> )	Native	9
White Oak ( <i>Quercus alba</i> )	Native	5
English Oak ( <i>Quercus robur</i> )	Non-Native	2
American Elm ( <i>Ulmus americana</i> )	Native	5
White Ash ( <i>Fraxinus americana</i> )	Native	3
Eastern Hemlock ( <i>Tsuga canadensis</i> )	Native	2
Eastern White Cedar ( <i>Thuja occidentalis</i> )	Native	1
White Birch ( <i>Betula papyrifera</i> )	Native	1
Black Walnut ( <i>Juglans nigra</i> )	Native	1
Norway Maple ( <i>Acer platanoides</i> )	Non-native	2
White Mulberry ( <i>Morus alba</i> )	Non-native	1
Manitoba Maple ( <i>Acer negundo</i> )	Non-native	1

The health status of the trees varied, with 40 healthy specimens and 25 specimens found to be in a state of stress/decline (<70% live canopy) or considered an invasive species (i.e. Manitoba Maple).

The site also contains densely treed areas surrounding the wetlands within the central portion of the property, although these trees will be protected within a designated 30 metre buffer extending outward from each wetland perimeter. A woodlot feature is also located along a portion of the southeastern property boundary, which is also protected by a 30 metre buffer. All trees within these buffer zones were not inventoried as they will be protected from development impacts.

It should also be noted that 17 Butternut (Endangered species) trees were identified on the property between 2008 and 2013 and have been assessed under MNRF protocol by Azimuth staff. A portion of these trees were previously removed by the proponent and only the remaining trees on-site have been included in the tree inventory (regardless of dbh). Please refer to Sections 5.6.2 and 9.3.2 of Azimuth's Environmental Impact Study and Management Plan (2017) for further details regarding the on-site Butternut trees.



Figures 2 & 3 show locations of all Butternut trees (existing and removed). All Butternut trees to be retained on-site are located within the designated wetland/woodland buffer areas and will not be subject to development/construction impacts. No development is proposed within 25 metres of the Butternut trees to be retained. Please refer to Figure 6 of Azimuth's Environmental Impact Study and Management Plan which shows the proposed area for Butternut compensation planting.

#### **4.0 TREE HAZARD ASSESSMENT**

A tree hazard assessment was completed on the subject property for trees within 10 metres of the property boundaries adjacent to residential lands.

Trees #1, #2 and #15 (see Figure 2) have been identified as hazard trees within 10 metres of residential lands and should be removed from the property prior to any construction activities. Theoretically, all 25 inventoried trees in a state of decline should be considered a safety hazard, although the trees listed above in proximity to residential lands should be considered as top priority for removal.

#### **5.0 TREE REMOVAL/PRESERVATION RECOMMENDATIONS**

As stated in the previous section, a total of 65 trees (40 healthy, 25 declining/invasive) were found within the limits of the proposed development. The 25 trees found to be of declining health should be considered hazard trees, which are specimens showing signs of poor health and are prone to failure, causing a risk to public safety/property. These trees should be removed prior to any on-site construction.

It is recommended that all of the healthy trees that will not be impacted by the proposed development (dwellings, roads, grading, etc.) be retained. These trees include #4, #6, #7, #12, #46, #47, #48, #49, #50, #51 and #55. Butternut trees to be retained (#56, #57, #58, #59 and #60) are within designated protection zones and will also not be impacted by the proposed development. All other trees will be impacted by construction (i.e. road, bioretention facility, grading, etc.). Construction of the bioretention facility and associated features (e.g., outlet structure, emergency overflow structure) is the primary factor for trees to be removed within the hedgerow feature adjacent to Mount Pleasant Road. The proposed road (Tivoli Circle) and associated daylight triangle is another reason for tree removals in this area.

The neighbouring residential property to the southeast has several mature trees growing in the front yard, with portions their root zones likely extending into the subject site. It is recommended that tree protection fencing be installed 3 metres offset from the southeastern property boundary (see Figure 2) adjacent to these trees to ensure minimal



impact to their respective root zones. Due to the lot configuration and 3 metre buffer from the southeast property boundary it is not anticipated that root protection areas of neighbouring trees will be impacted by construction/grading.

No construction activities such as paving, building construction, excavating, filling or equipment storage would be permitted within this root protection area. Any trees located on the property line or on adjacent properties that are proposed to be removed/pruned will require written consent from the adjacent property owner prior to works being completed. All correspondence is to be forwarded to the Town of Caledon prior to final approval.

A minimum protection zone (MPZ) has been calculated for each tree to be protected/preserved during construction, which estimates the extent of tree root zone based on the diameter at breast height. The formula accepted by the International Society of Arboriculture (1 inch dbh = 1 foot MPZ) was used to determine the recommended root protection zone for each tree. For example, the dbh for Tree #47 was measured as 20cm, which converts to 7.9 inches. Thus, the MPZ for Tree #47 is a radius of 7.9 feet (2.4 metres) surrounding the base of the trunk. MPZ radius measurements for all trees to be retained are listed in Appendix B and shown in Figures 3 and 4.

Protective fencing (hoarding) with the trench required to install the geotextile excavated on the “development” side of the fence should be constructed around the perimeter of each MPZ to ensure that the root zone of each preserved tree is protected. If there are overlapping MPZ’s, fencing should be constructed around the grouping of trees to be protected. This protective fencing should be installed prior to any on-site construction. Also, no construction equipment (heavy machinery, tools, etc.) or materials (fuel, adhesives, cleaners, etc.) should be stored within each MPZ. The Town of Caledon Standard Tree Preservation Detail (#707) should be followed for construction of tree hoarding and other preservation details (see Appendix C).

Care must be taken by the contractor when removing trees within the root protection zones of nearby retainable trees. These trees should be removed prior to the installation of protective fencing, and must be felled in an area clear of retainable trees (if possible). If the tree to be removed is surrounded by retainable trees, the contractor must carefully remove the trees in sections, working from the top of the canopy to the ground. Stumps and roots of removed trees should not be torn from the ground to ensure minimal disturbance occurs within the root protection zone.



Removals should occur outside of the breeding bird season (April 1- August 1). If this is not possible, clearance with an ecologist should occur prior to construction to ensure no loss of bird nest, egg or unfledged young.

During construction and prior to final approval by the Town, the consulting Arborist along with appropriate Town staff shall inspect the entire site. Any noted hazardous trees must be identified and removed prior to final approval.

## **6.0 TREE COMPENSATION RECOMMENDATIONS**

A total of 49 trees are proposed for removal due to these specimens having the potential to be impacted by the proposed development, or due to poor health condition.

As per Town of Caledon policy, a 2:1 tree compensation ratio will be required for all tree removals. Tree compensation will be in addition to the standard required planting. In the event that tree compensation cannot be accommodated for the planting design, financial compensation shall be collected at a rate (per tree) as determined by the Town.

As there are large environmental protection/naturalized areas proposed within the subject property, the compensation trees should be planted in the most suitable portions of these areas based on conditions such as tree species, sunlight availability and soil moisture. Proposed tree compensation planting areas are shown in Figure 6 of Azimuth's Environmental Impact Study and Management Plan (2017).

Section 3.5.10. of the Town of Caledon Development Standards Policies & Guidelines (2009) states that naturalized plantings may consist of primarily small size/bare root stock. This guideline should be applicable for the 98 compensation trees required due to the loss of 49 existing trees at the site. The compensation trees should consist of a mix of native species common to the local area (i.e., Sugar Maple, Red Oak, White Spruce, Eastern White Cedar, etc.).

## **7.0 LIMITING TERMS AND CONDITIONS**

The observations documented within this report are true for only the period that the Arborist was on site, and therefore do not include any other activity that may have occurred on site or to the trees before or after that period.

If the health of the trees was assessed while they were dormant, there may be some inaccuracy in the assigned health rating of each tree. Notwithstanding the recommendations and conclusions made in this report, it must be realized that trees are





living organisms and their health and vigour constantly change over time. They are not immune to changes in the site conditions, or seasonal variations in weather conditions.

The features outlined in the attached drawings are intended only as visual aids. They should not be construed as engineering reports or surveys.

## **8.0 REFERENCES**

Azimuth Environmental Consulting Inc. (Azimuth). 2017. Environmental Impact Study and Management Plan. Laurelpark Subdivision Part of Lot 19, Concession 9, Town of Caledon, Region of Peel



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## **APPENDICES**

**Appendix A: Figures**

**Appendix B: Tree Inventory and Assessment List**

**Appendix C: Town of Caledon Tree Preservation Detail 707**

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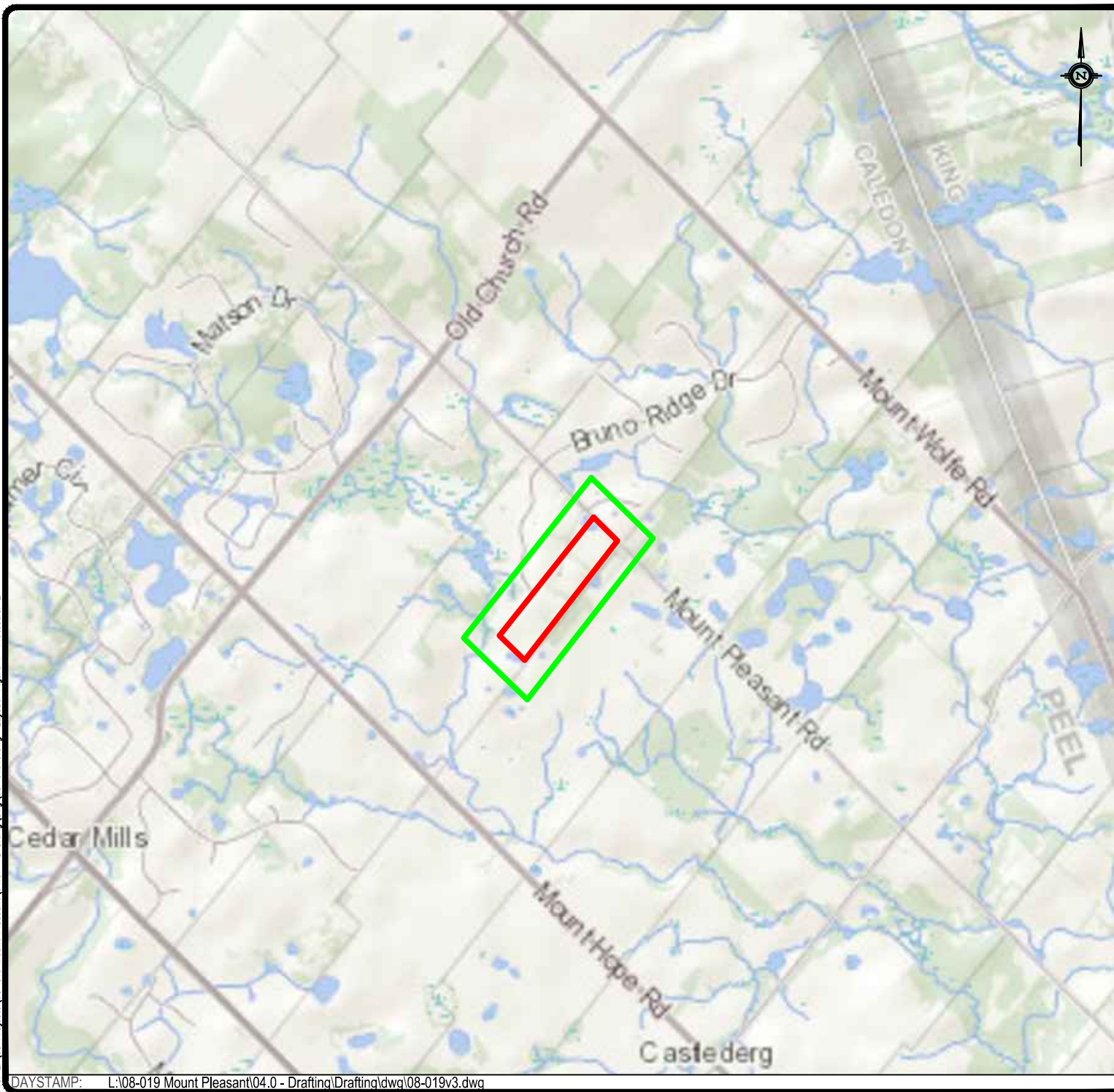
## **APPENDIX A**

### **Figures**

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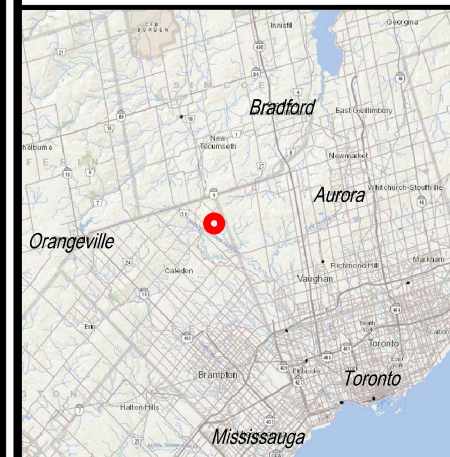
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Plotted by: MCCARTNEY on April 26, 2017 at 3:34pm  
File: L:\08 Projects\08-019 Mount Pleasant\04.0 - Drafting\dwg\08-019v3.dwg Layout: Figure 1 PlotScale: 2



**LEGEND:**

- Approx. Property Boundary
- Approx. Study Area



REG MAP



Study Area Location

Pt. Lot 19, Concession 8,  
Town of Caledon, ON

DATE ISSUED: February 2017	Figure No.  1
CREATED BY: JLM	
PROJECT NO.: 08-019	
REFERENCE: MNR	













LEGEND:

- Property Boundary
- Retainable Tree Locations
- Minimum Protection Zone (MPZ)
- Trees to be Removed
- Tree Protection Fence



Bioretention Pond Trees

Pt. Lot 19, Con. 8  
Town of Caledon

Date Issued:	March 2020	Figure No. <b>4</b>
Created By:	JLM	
Project No.	08-019	
Reference:	First Base Solutions	



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## **APPENDIX B**

### **Tree Inventory and Assessment Table**

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## Tree Inventory and Assessment List

Tree #	Common Name	Scientific Name	DBH (cm)	MPZ (m)	Health Rating	Hazard Tree	Comments	Recommended Action
1	Bur Oak	<i>Quercus macrocarpa</i>	45		Fair	x	Significant Branch Dieback	Remove
2	White Birch	<i>Betula papyrifera</i>	38		Fair	x	Poor Structure, Falling Hazard	Remove
3	Bur Oak	<i>Quercus macrocarpa</i>	27		Good		Good Overall Health	Remove
4	American Elm	<i>Ulmus americana</i>	27	3.2	Fair		Significant Branch Dieback	<b>Retain</b>
5	White Oak	<i>Quercus alba</i>	97		Good		Good Overall Health, Although Very Mature	Remove
6	Bur Oak	<i>Quercus macrocarpa</i>	25	3.0	Good		Good Overall Health	<b>Retain</b>
7	Bur Oak	<i>Quercus macrocarpa</i>	22	2.6	Good		Good Overall Health	<b>Retain</b>
8	White Oak	<i>Quercus alba</i>	29		Fair	x	Significant Branch Dieback, 2 Stems	Remove
9	White Oak	<i>Quercus alba</i>	44		Good		Good Overall Health	Remove
10	American Elm	<i>Ulmus americana</i>	27		Good		Good Overall Health, 2 Minor Bark Wounds	Remove
11	Bur Oak	<i>Quercus macrocarpa</i>	21		Good		Good Overall Health	Remove
12	Bur Oak	<i>Quercus macrocarpa</i>	24	2.9	Good		Good Overall Health	<b>Retain</b>
13	White Oak	<i>Quercus alba</i>	59		Good		Good Overall Health	Remove
14	English Oak	<i>Quercus robur</i>	97		Poor	x	Significant Branch Dieback, Very Mature	Remove
15	White Oak	<i>Quercus alba</i>	48		Poor	x	Significant Branch Dieback and Trunk Rot	Remove
16	Manitoba Maple	<i>Acer negundo</i>	30		Poor	x	3 Stems, Leaning Stems, Invasive Species	Remove
17	White Ash	<i>Fraxinus americana</i>	28		Good		Good Overall Health	Remove
18	Black Cherry	<i>Prunus serotina</i>	39		Good		Good Overall Health	Remove
19	Sugar Maple	<i>Acer saccharum</i>	39		Good		Good Overall Health, 2 Stems	Remove
20	American Elm	<i>Ulmus americana</i>	41		Good		Good Overall Health, 2 Stems	Remove
21	Bur Oak	<i>Quercus macrocarpa</i>	29		Good		Good Overall Health, 2 Stems	Remove
22	Black Walnut	<i>Juglans nigra</i>	46		Fair	x	Significant Branch Dieback	Remove
23	Black Cherry	<i>Prunus serotina</i>	32		Poor		8 Stems, 3 Dead Stems	Remove
24	Sugar Maple	<i>Acer saccharum</i>	32		Good		Good Overall Health, 3 Stems	Remove
25	Sugar Maple	<i>Acer saccharum</i>	36		Good		Good Overall Health	Remove
26	White Ash	<i>Fraxinus americana</i>	21		Fair	x	Leaning Structure, 2 Stems	Remove
27	Sugar Maple	<i>Acer saccharum</i>	31		Good		Good Overall Health	Remove
28	Black Cherry	<i>Prunus serotina</i>	29		Fair	x	Poor Structure, Falling Hazard	Remove
29	Black Cherry	<i>Prunus serotina</i>	23		Good		Good Overall Health	Remove
30	Black Cherry	<i>Prunus serotina</i>	24		Poor	x	9 Stems, 3 Dead Stems	Remove

Tree #	Common Name	Scientific Name	DBH (cm)	MPZ (m)	Health Rating	Hazard Tree	Comments	Recommended Action
31	White Mulberry	<i>Morus alba</i>	29		Fair	x	Significant Branch Dieback, 3 Stems	Remove
32	Bur Oak	<i>Quercus macrocarpa</i>	41		Good		Good Overall Health	Remove
33	Sugar Maple	<i>Acer saccharum</i>	30		Fair	x	Poor Structure, Falling Hazard	Remove
34	Black Cherry	<i>Prunus serotina</i>	25		Fair	x	Significant Branch Dieback, 2 Stems	Remove
35	English Oak	<i>Quercus robur</i>	61		Good		Good Overall Health	Remove
36	Black Cherry	<i>Prunus serotina</i>	20		Fair	x	Significant Branch Dieback	Remove
37	Bur Oak	<i>Quercus macrocarpa</i>	32		Good		Good Overall Health, 2 Stems	Remove
38	Sugar Maple	<i>Acer saccharum</i>	33		Good		Good Overall Health, 6 Stems	Remove
39	Sugar Maple	<i>Acer saccharum</i>	28		Poor		Significant Branch Dieback	Remove
40	Sugar Maple	<i>Acer saccharum</i>	30		Fair	x	2 Stems, Large Trunk Wound	Remove
41	Sugar Maple	<i>Acer saccharum</i>	26		Good		Good Overall Health	Remove
42	American Elm	<i>Ulmus americana</i>	22		Good		Good Overall Health	Remove
43	American Elm	<i>Ulmus americana</i>	22		Good		Good Overall Health	Remove
44	Sugar Maple	<i>Acer saccharum</i>	34		Good		Good Overall Health, 3 Stems	Remove
45	Sugar Maple	<i>Acer saccharum</i>	50		Good		Good Overall Health	Remove
46	Eastern White Cedar	<i>Thuja occidentalis</i>	53	6.4	Good		Good Overall Health	Retain
47	Black Cherry	<i>Prunus serotina</i>	20	2.4	Good		Good Overall Health, 2 Stems	Retain
48	Black Cherry	<i>Prunus serotina</i>	39	4.7	Fair		Significant Branch Dieback	Retain
49	Black Cherry	<i>Prunus serotina</i>	37	4.4	Good		Good Overall Health	Retain
50	Eastern Hemlock	<i>Tsuga canadensis</i>	61	7.3	Good		Good Overall Health	Retain
51	Eastern Hemlock	<i>Tsuga canadensis</i>	58	7.0	Good		Good Overall Health	Retain
52	Norway Maple	<i>Acer platanoides</i>	24		Fair	x	Major Splits in Trunk, Non-native	Remove
53	Norway Maple	<i>Acer platanoides</i>	21		Good		Good Overall Health, Non-native	Remove
54	Sugar Maple	<i>Acer saccharum</i>	71		Poor	x	Major Branch Dieback and Trunk Wounds	Remove
55	White Ash	<i>Fraxinus americana</i>	22	2.6	Good		Good Overall Health, 2 Stems	Retain
56	Butternut	<i>Juglans cinerea</i>	20	25	Good		Butternut Canker Present on Trunk	Retain
57	Butternut	<i>Juglans cinerea</i>	45	25	Good		Butternut Canker Present on Trunk	Retain
58	Butternut	<i>Juglans cinerea</i>	30	25	Good		Butternut Canker Present on Trunk	Retain
59	Butternut	<i>Juglans cinerea</i>	2	25	Good		Butternut Canker Present on Trunk	Retain
60	Butternut	<i>Juglans cinerea</i>	3	25	Good		Butternut Canker Present on Trunk	Retain
61	Butternut	<i>Juglans cinerea</i>	35		Poor	x	Butternut Canker Present on Trunk	Remove
62	Butternut	<i>Juglans cinerea</i>	45		Poor	x	Butternut Canker Present on Trunk	Remove
63	Butternut	<i>Juglans cinerea</i>	10		Poor	x	Butternut Canker Present on Trunk	Remove
64	Butternut	<i>Juglans cinerea</i>	30		Poor	x	Butternut Canker Present on Trunk	Remove
65	Butternut	<i>Juglans cinerea</i>	2		Poor		Butternut Canker Present on Trunk	Remove



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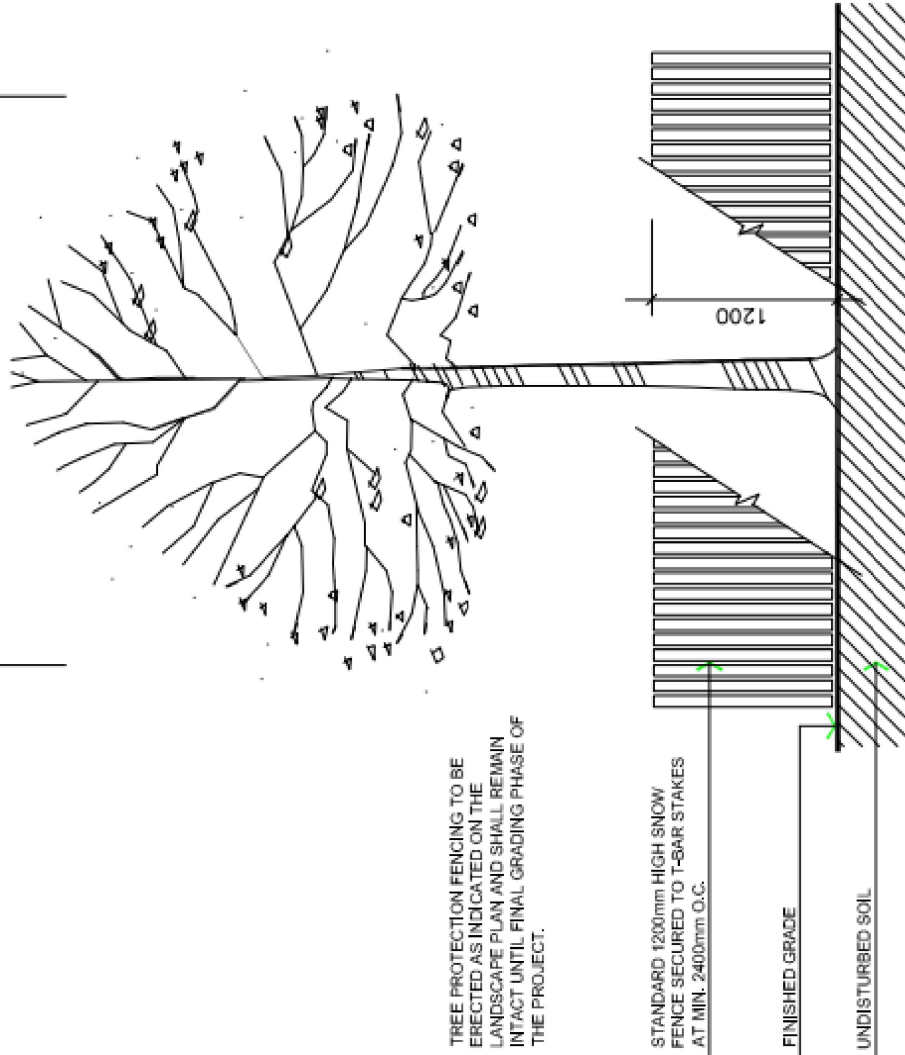
## **APPENDIX C**

### **Town of Caledon Tree Preservation Detail 707**

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DRIPLINE



SPECIFICATIONS FOR THE PROTECTION AND PRESERVATION OF EXISTING VEGETATION:

1. PRIOR TO ISSUANCE OF THE BUILDING PERMIT, ALL EXISTING TREES THAT ARE TO BE PRESERVED SHALL BE FULLY PROTECTED WITH HOARDING (IE SNOW FENCING) OUTSIDE THEIR 'DRIPLINES', TO THE SATISFACTION OF THE TOWN.
2. GROUPS OF TREES AND OTHER EXISTING PLANTINGS TO BE PROTECTED SHALL BE TREATED IN A LIKE MANNER WITH HOARDING AROUND THE ENTIRE CLUMP(S).
3. AREAS WITHIN THE PROTECTIVE FENCING SHALL REMAIN UNDISTURBED AND SHALL NOT BE USED FOR THE STORAGE OF BUILDING MATERIALS OR EQUIPMENT. NO CONTAMINANTS SHALL BE DUMPED OR FLUSHED WHERE FEEDER ROOTS OF TREES EXIST.
4. PRUNE BRANCHES TO REMOVE DAMAGED LIMBS ONLY. DO NOT DAMAGE LEADERS. ALL CUTS OVER 25mm SHALL BE TREATED IN ACCORDANCE WITH APPROPRIATE HORTICULTURAL PRACTICES AS APPROVED BY THE TOWN.
6. CUTTING OF ROOTS OR CHANGING OF GRADES AROUND EXISTING TREES TO BE PRESERVED WILL NOT BE PERMITTED WITHOUT THE APPROVAL OF THE PUBLIC WORKS AND ENGINEERING DEPARTMENT.
7. TREES THAT HAVE DIED, OR HAVE BEEN DAMAGED BEYOND REPAIR SHALL BE REPLACED AT THE DEVELOPER'S EXPENSE, WITH TREES OF A SIZE AND SPECIES APPROVED BY THE TOWN.
8. IF TREES ARE BEING ADVERSELY AFFECTED BY CONSTRUCTION, A WATERING AND FERTILIZING PROGRAM IS TO BE SET UP TO THE SATISFACTION OF THE TOWN.
9. TREE PRESERVATION FENCE TO BE INSPECTED BY THE CONSULTING LANDSCAPE ARCHITECT AND APPROVED PRIOR TO CONSTRUCTION COMMENCING.

TOWN OF CALEDON				APRD:	C.C.	DATE: JUNE 08
TREE PRESERVATION		2	STANDARD No. 1135 NOW 707. NOTES EDIT			
		1	NOTE NO. 9 ADDED		DRAWN: abal	SCALE: NTS
		NO.	REVISION	APR'D	DATE	STANDARD No. 707