



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

Prepared for:
Harbour View Investments Limited

Prepared by:
Azimuth Environmental
Consulting, Inc.

May 2017

AEC 08-019



Environmental Assessments & Approvals

May 15, 2017

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
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. 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 Harbour View Investments Limited 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 ≤ 20 cm in diameter, although they are situated within designated environmental protection 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 14th, 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 55 trees were documented within the proposed development limits during the inventory process (see Figure 2 & 3). 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

Tree Species Common Name (Scientific Name)	Status	# Healthy Specimens Found
Sugar Maple (<i>Acer saccharum</i>)	Native	12
Black Cherry (<i>Prunus serotina</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 33 healthy specimens found and 22 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) trees were identified on the property and were assessed previously by Azimuth staff. All Butternut trees remaining on-site (following removal of a portion of the Butternut trees) will be protected within the designated wetland/woodland buffer areas and will not be subject to development/construction impacts. For more information regarding the Butternut trees



identified on-site, please refer to Azimuth's Environmental Impact Study and Management Plan (2017) for the subject property.

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 22 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 55 trees (33 healthy, 22 declining/invasive) were found within the limits of the proposed development. The 22 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, including trees #46, #47, #48, #49, #50, #51 and #55. All other trees are proposed to be impacted by construction (i.e. roads, dwellings, stormwater management area, grading, etc.).

The neighbouring residential property to the southeast also 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. No construction activities such as paving, building construction, excavating, filling or equipment storage would be permitted within this root protection area.

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 Figure 3.

Protective fencing (following OPSD – 219.130 or equivalent) 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.

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.

6.0 TREE COMPENSATION RECOMMENDATIONS

A total of 48 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. A total of 28 of the 48 trees to be removed are in good/healthy condition.

The Town of Caledon tree compensation ratio is 2:1 (i.e. 2 compensation trees for every 1 healthy tree removed). To comply with this ratio, the landowner would provide a total of 56 native trees to compensate for the loss of 28 healthy trees being removed. As there is a large area of environmental protection area proposed within the subject property, the compensation trees can be planted in the most suitable portions of this area based on conditions such as tree species, sunlight availability and soil moisture.

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



APPENDICES

Appendix A: Figures

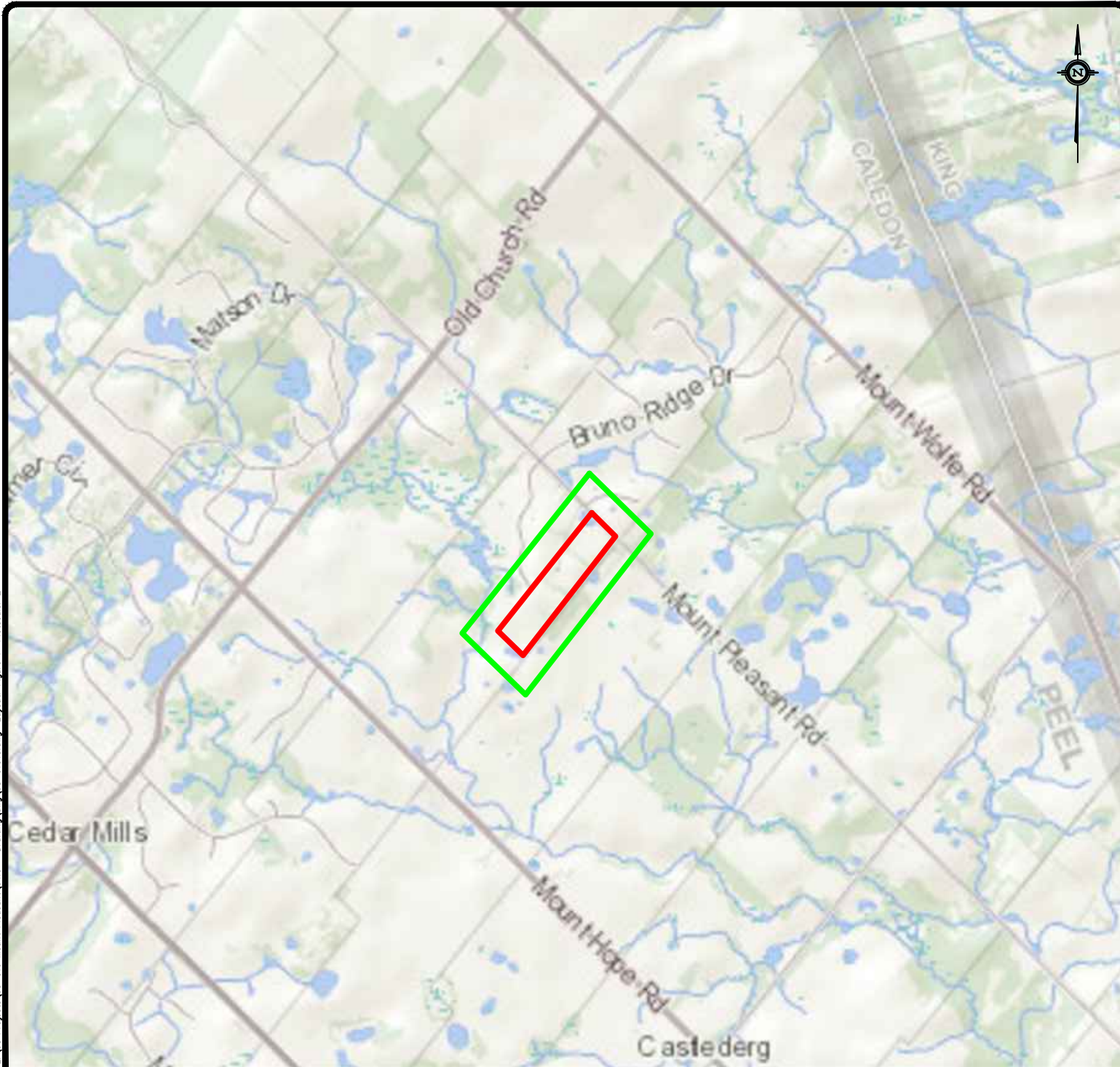
Appendix B: Tree Inventory and Assessment List



APPENDIX A

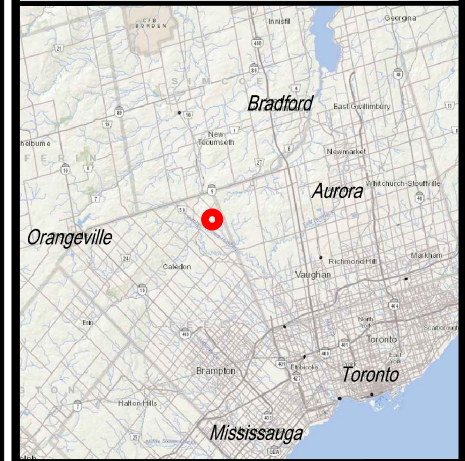
Figures

Plotted by: MCCARTNEY on April 26, 2017 at 3:34pm
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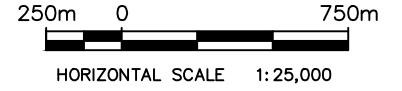


LEGEND:

- Approx. Property Boundary
- Approx. Study Area



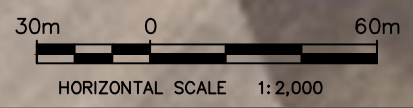
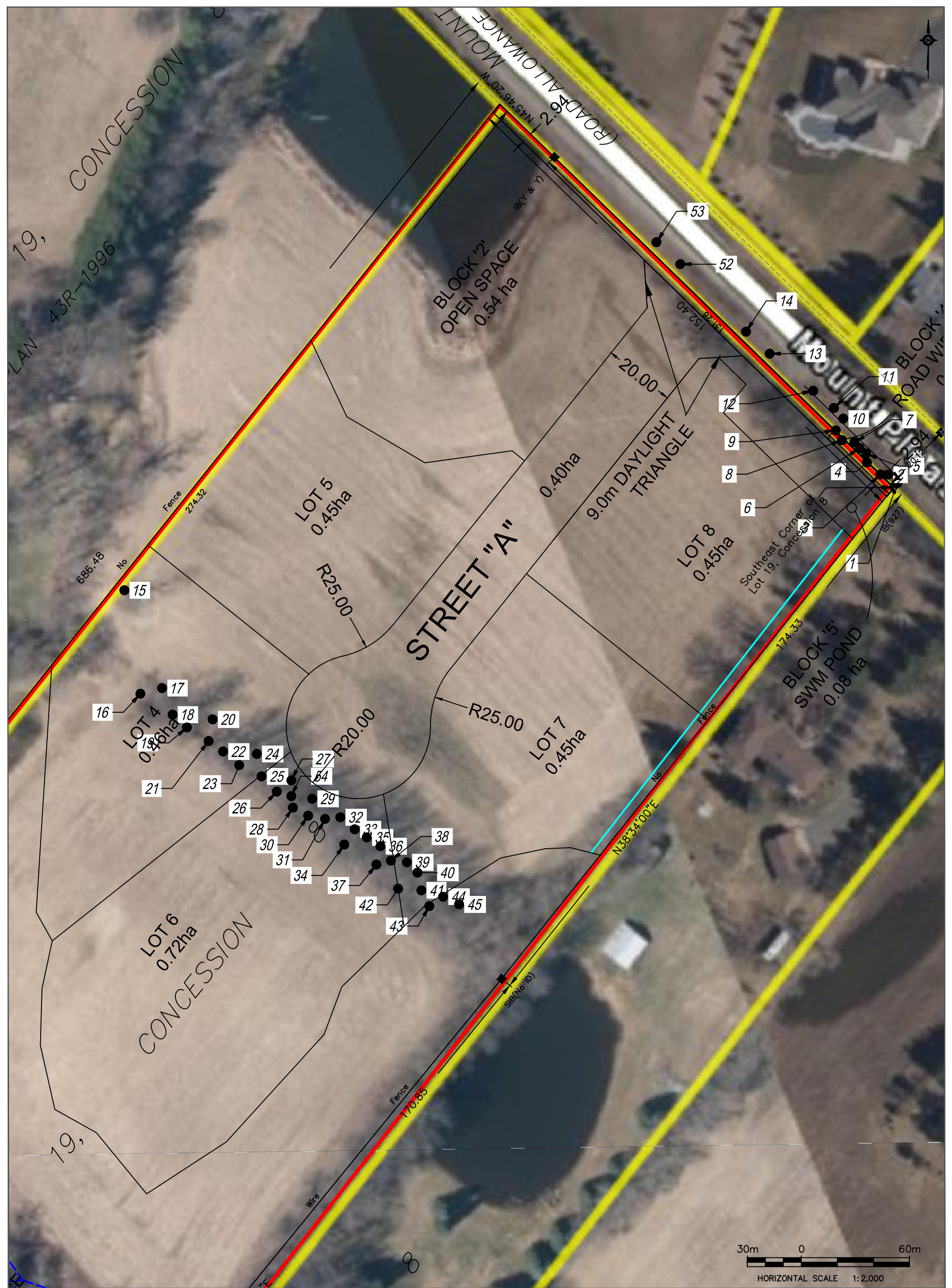
REG MAP



Study Area Location

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

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



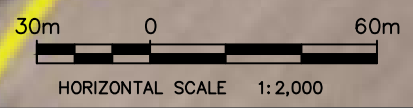
- LEGEND:**
- Property Boundary
 - Trees to be Removed
 - Tree Protection Fence



Northern Tree Locations

Pt. Lot 19, Con. 8
Town of Caledon

Date Issued:	May 2017	Figure No. 2
Created By:	JLM	
Project No.	08-019	
Reference:	First Base Solutions	



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



Southern Tree Locations

Pt. Lot 19, Con. 8
Town of Caledon

Date Issued:	May 2017	Figure No. 3
Created By:	JLM	
Project No.	08-019	
Reference:	First Base Solutions	



APPENDIX B

Tree Inventory and Assessment List

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		Fair	x	Significant Branch Dieback	Remove
5	White Oak	<i>Quercus alba</i>	97		Good		Good Overall Health, Although Very Mature	Remove
6	Bur Oak	<i>Quercus macrocarpa</i>	25		Good		Good Overall Health	Remove
7	Bur Oak	<i>Quercus macrocarpa</i>	22		Good		Good Overall Health	Remove
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		Good		Good Overall Health	Remove
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

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