341 Veterans Lane

Barrie, Ontario

Arborist Report

September 19, 2019

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Property Agent

GEOMETRIC

341 Veterans Lane, Barrie, ON

Arborist Inventory and Report

Section Contents

Appendix

1.0 Background Information

1.1 Introduction

The following arborist report has been prepared for Draft Plan of Subdivision and Zoning By-Law Amendment in the City of Barrie and in keeping with the expectations of the International Society of Arboriculture. This arborist report relates to the proposed development located at 341 Veterans Lane in Barrie, Ontario (See Context Map below).

Figure 1: Context Map

The study boundary (limit) is approximately 2.07 acres with an existing residential building, planting beds, an open lawn and existing roadway and a small triangle parcel of lawn and trees bound on all sides by roadway.

All trees sampled within the study limits were surveyed utilizing an ISA Class 1 Visual Inspection from Ground Locations only, and as such, all trees were identified, measured, and assessed for physical and health condition.

1.2 Purpose of Assignment

Geometric Studio Inc. was retained by **thinc design** to prepare a Tree Inventory Plan and Arborist Report for this development for the purpose of Draft Plan of Subdivision and Zoning By-Law Amendment.

The purpose of this report is to:

1. Inventory and assess the current conditions of all trees:

    a. Measuring 20cm diameter at breast height or larger located within the study boundary and within a 6m swath of the eastern study boundary; and,

    b. Trees of any diameter, located on adjacent municipal lands within 6m of the subject site.

2. Prepare a Tree Inventory Plan to establish Tree Protection Zones an Arborist Report to identify trees to be removed, preserved or injured as required to facilitate the proposed concept site plan, and;

3. Prepare preliminary recommendations for retention, injury mitigation and tree removal based on tree condition and analysis of the existing site, site concept plan and anticipated grading & site servicing requirements.

    3.1. These recommendations will also provide information that will serve as a basis for the **Tree Preservation Plan prepared by thinc design**. Final recommendations on removals, preservations and injuries can be provided when a final site plan, servicing and grading and landscape plan details are provided.

1.3 Overview

This report focuses on the current tree conditions for trees equal to or greater than 20cm DBH on private property and assumes all trees on private property are not considered as part of a 'woodlot' as defined by the Private Tree By-law 2014-115. Furthermore, this report inventories all trees adjacent the site within 6m on public land of any diameter as required by the Public Tree By-law 2014-116. The public tree By-Law requires written approval by the City of Barrie to remove or injure public trees.

This report discusses one hundred twenty-three (123) trees as follows:

Private Trees ~20CM+	See Definition 2(a) in the By-Law	Public Trees (All dia.)
Not Regulated by the By-Law 2014-115	**Regulated by By-Law 2014-115**	**Regulated by By-Law 2014-16**
106	0	17

The proposed development of the site includes:

a. Excavation and construction associated with the proposed town homes, 4-Storey Walk-Up and associated foundations.
b. Excavation and construction associated with installation of sidewalks, asphalt surfacing, landscaping and other surface treatments.
c. Excavation and construction associated with a stormwater management pond and/ or underground storage units.
d. Site re-grading (cutting and filling) and servicing

A review of the following available documents was performed in preparation of this report including the following:

a. Conceptual Site Plan by Innovative Planning Solutions dated September 11, 2019
b. Topographic Survey by Dino Astri Surveying Ltd. dated March 11, 2019

This report is intended to highlight the existing tree conditions and rank the trees in terms of their current condition, present impediments to growth, and to provide recommendations to injure, remove or preserve specimens where possible based on the proposed plans.

Construction practices on site are required to take the necessary steps to protect all specimens on and adjacent to the property designated for preservation utilizing the minimum tree protection zones provided in this report to protect the tree(s).

2.0 Methods

The following section outlines the processes used in the preparation of this report as well as information gathered during on-site field inventory.

All data used in this report is empirical in nature, unless otherwise stated.

On site field review and data collection included in this report was initiated on February 5, 2019 for 341 Veterans Lane and March 27, 2019 for the triangle parcel of land west of 341 Veterans Lane. This included all trees greater than 20cm DBH on private property, within a 6m swatch of the eastern study boundary (where accessible) and trees of all diameters on Publicly owned land.

Each of these aforementioned trees were given a number, and the specimens were all individually assessed for their character, health, unique growing conditions and their potential for future contributions to the urban forest.

The following inventory and analysis data was collected and/ or generated for each tree:

- **Tree Tag #** - Each inventoried tree was issued an identification number on an aluminum forestry tag that was affixed to the trunk of each tree approximately 1.7m above grade on tree trunks.

- **Tree Species** – All inventoried trees have been identified by their most current taxonomical nomenclature followed by their regionally used common name.

    - **European buckthorn were not included in the inventory.*

- **DBH –** Diameter of tree stem measured at approximately 1.37m (~4 ½') above ground level per accepted arboricultural standards. Tree(s) with DBH from 0-50cm were measured utilizing a forestry tree caliper. Tree(s) greater than 50cm DBH were measured utilizing forestry tree diameter tape.

- **T.P.Z. –** Tree Protection Zone

    a. Value is determined per City of Barrie Tree Protection Manual Version 4, Revised January 2019.

Trunk Diameter (DBH)	Minimum Required Tree Protection Zone (TPZ)
>=10 cm	1.0 m
11-25 cm	1.5 m
26-40 cm	2.0 m
41-60 cm	2.5 m
61-80 cm	3.0 m
81+ cm	4.0 m
***NOTE: The Municipality reserves the right to adjust these distances depending on the tree, required construction activity and surrounding environment.**	

- **Condition –** Summarized as follows:

    1. VG = Very Good
    2. G = Good
    3. F = Fair
    4. P = Poor
    5. VP = Very Poor

    A generalized condition assessment system was employed to describe the overall condition of each inventoried tree. A 5 level scale of plant health and structure with descriptors of very good, good, fair, poor, and very poor was used to quantify the range of the tree's condition.

    A Very Good condition was applied to a tree whose health, growth rate, crown closure and structural integrity was greater than eighty percent of a perfect specimen. Conversely, Very Poor condition was applied to a tree whose condition is less than twenty percent of a perfect specimen.

    The table below provides a summary of factors and rating scale for assessed plant condition:

FACTORS ASSESSED		ASSESSED CONDITION	PERCENTAGE OF A PERFECT SPECIMEN
Roots Collar/flare Mechanical injury Girdling roots Insects/disease Decay/fungi **Trunk** Cavities Mechanical injury Cracks Swollen/sunken areas Insects/disease Fungi **Foliage/Buds** Size of foliage/buds Foliage colour Foliage injury Dieback of buds/foliage Insects/disease	**Scaffold Branches** Attachments/included bark Taper Distribution Decay/cavities Deadwood Insects/disease **Small Branches/Twigs** Vigour/growth rates Distribution Appearance Insects/disease Dieback (Adapted from the CTLA *Guide for Plant Appraisal, 9th Ed.)*	Very Good	100 – 81
		Good	80 – 61
		Fair	60 – 41
		Poor	40 – 21
		Very Poor	20 – 0

***NOTE: Trees were assessed using ISA Class 1 Visual Inspection from ground level only. As a result, internal rot or other hidden hazards may exist that are not reported here. There is no warranty or guarantee, expressed or implied by Geometric Studio Inc. that the tree(s) inventoried here or any of its parts will remain in standing or in stable condition. Trees should be re-assessed periodically to determine the level of risk for failure; inevitably a tree will always pose some level of risk.**

- **Comments –** Included in physical tree inventory.

- **Tree Locations on Plan –** Tree locations are provided on the topographic survey noted under documents reviewed.

- **Rational/ Recommendation –** Denotes whether a tree is to be removed, injured or preserved based on existing site and tree conditions coupled with proposed site changes along with the rationale for the recommendation.

3.0 Inventory Results

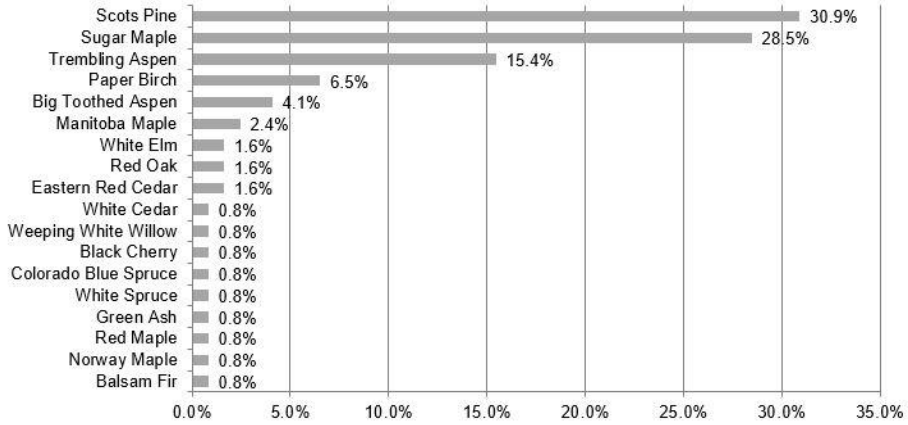
This tree inventory documented one hundred twenty-three (123) trees within or adjacent to the study boundary and one (1) *Populous grandidentata* Stand denoted by Tree #210 in the inventory where indicated on the Tree Inventory Plan and in the Tree Inventory and Assessment Table.

The tree inventory *(individually tagged specimens only)* revealed that the majority of the trees within or adjacent to the study site are Scots Pine (*Pinus sylvestris),* followed by Sugar Maple (*Acer saccharum*) and Trembling Aspen (*Populus tremuloides*), which together compose approximately 74.8% of the trees found in the study area (See Table 1 and Chart 1 below).

Table 1: Species Composition

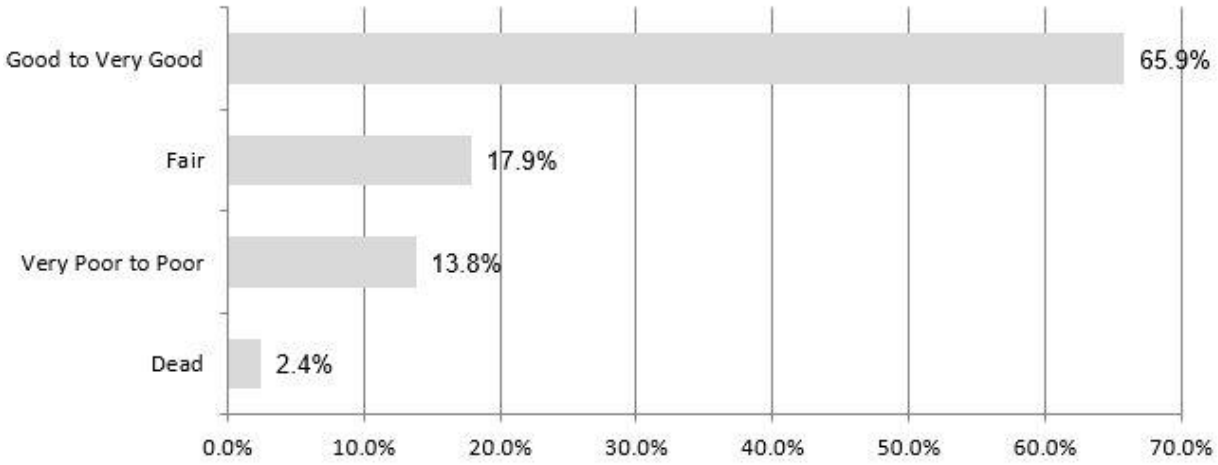
Botanical Name	Common Name	Quantity	Percentage
Pinus sylvestris	Scots Pine	38	30.9%
Acer saccharum	Sugar Maple	35	28.5%
Populus tremuloides	Trembling Aspen	19	15.4%
Betula papyrifera	Paper Birch	8	6.5%
Populus grandidentata	Big Toothed Aspen	5	4.1%
Acer negundo	Manitoba Maple	3	2.4%
Juniperus virginiana	Eastern Red Cedar	2	1.6%
Quercus rubra	Red Oak	2	1.6%
Ulmus americana	White Elm	2	1.6%
Abies balsamea	Balsam Fir	1	0.8%
Acer platanoides	Norway Maple	1	0.8%
Acer rubrum	Red Maple	1	0.8%
Fraxinus pensylvanica	Green Ash	1	0.8%
Picea glauca	White Spruce	1	0.8%
Picea pungens	Colorado Blue Spruce	1	0.8%
Prunus serotina	Black Cherry	1	0.8%
Salix alba 'Tristis'	Weeping White Willow	1	0.8%
Thuja occidentalis	White Cedar	1	0.8%

Chart 1: Species Composition



As outlined in the following *Chart 2: Observed Tree Conditions* approximately 65.9% of trees are in good to very good condition, 17.9% are in fair condition, 13.8% are in very poor to poor to condition and 2.4% were dead, all of which can be thoroughly examined in the tree inventory

Chart 2: Observed Tree Conditions



The specific attributes and assessment of each tree can be examined in detail in the inventory and assessment table and the locations of each tree can be cross-examined on the Tree Inventory Plan.

4.0 Conclusions, Recommendations Tree Preservation & Management

The preliminary recommendations in this section were determined after review of the condition of the trees and analysis of the existing site cross-referenced with the proposed conceptual site plan and anticipated grading and servicing requirements. Once grading and site servicing plans can be reviewed and cross-referenced the recommendations in this report can be finalized.

This section outlines the prescriptions for tree preservation, protection and maintenance. This includes required tree removals, pruning, fertilizing, root pruning and protection, mulching, and installation of tree protection hoarding.

It is understood that **thinc design** will be providing the **Tree Preservation and Removals Plan** based on the proposed site plan, landscape design, and anticipated grading and servicing works coupled with the recommendations/ tree conditions outlined in this report. Refer to the attached Tree Inventory Plan for tree locations only.

In all instances, it is recommended tree injuries, removals or preservation recommendations be carried out under the supervision of a qualified attending ISA Certified Arborist.

Tree Protection and Removals Plan:

1.1.1. Recommendations in this report are to be incorporated where appropriate on the Tree Protection and Removals Plan prepared by **thinc design**.

1.1.2. The recommendations that follow for preservation and protection are based on the condition of the trees, existing site conditions, proposed concept plan and the ability to maintain the required tree protection zones. Should tree protection zones require encroachment for site servicing, grading or other design considerations, recommendations in this report will need to be revised.

The site supervisor and/ or attending arborist must maintain a copy of both the approved Tree Preservation Plan prepared by **thinc design** along with the approved arborist report on site for the duration of construction activities.

Trees recorded in the inventory are assigned one of three (3) levels of protection, preservation and/ or removal:

1. **Preserve & Protect:**
   Includes the installation of tree protection hoarding; pre- and post-construction maintenance arboricultural works where specified.
2. **Retain:**
   No protection or maintenance measures are required. Installation of tree protection barriers is optional.
3. **Remove:**
   Due to site or development constraints, tree condition or location, retention is not warranted.

Application To Permit The Injury or Removal (Destruction) of Trees on Public Property:

1. The client/ owner is required to obtain written approval from the Director prior to scheduling or commencing any of the recommendations to preserve, injure or remove trees contained in this report.
2. **Approval from Director must be granted prior to any work commencing.**

The City of Barrie may issue an approval subject to conditions which may include but are not limited to any one or more of the following per Public Tree By-law 2014-116:

INJURY AND REMOVAL OF TREES

6. No person shall injure, destroy or remove a public tree without the prior written approval of the Director. Approval may be subject to such conditions as the Director may impose, including payment of the tree value, removal and replacement costs, replanting, posting a letter of credit in a form and content acceptable to the City in an amount sufficient to cover the appraised value of the subject tree as well as removal and replacement costs, provision of a detailed Tree Protection Plan **[*by thinc design*]** and provision of a qualified Arborist's, qualified Landscape Architect or Registered Professional Forester's report detailing specific arboriculture procedures to be undertaken.

TREE PLANTING AND TREE REPLACEMENT

12. No person shall plant any public tree without the approval of the Director and such tree shall be planted in accordance with the appropriate City of Barrie Standard Details. Approval by the Director will include the planting location, species, size and condition.
13. The City of Barrie's Forestry Supervisor and Forestry Coordinator have delegated authority for the selection of location, species, size and condition and the planting of public trees under the City planting program.
14. Should the Director approve the planting of any public tree(s), the Director may request a monetary deposit from such person in an amount appropriate to secure the planting of trees. These funds may be held by the City until after the planting of the trees for a period of time determined by the Director and shall be released by the City, provided that the trees are healthy and in a state of vigorous growth after the stipulated time period.
15. When a public tree is removed, a replacement public tree must be planted unless otherwise determined by the Director. The planting location, species, size, condition and planting date must be approved by the Director.
16. Where the Director has approved the removal of a public tree, such approval may be subject to conditions which include the applicant providing payment of tree value, removal and replacement costs and a minimum of one replacement public tree being planted for each public tree approved for removal.

SCHEDULES OF TREE PRESERVATIONS AND REMOVALS:

The following key(s) is to be used when reviewing the table(s) on the following page(s):

Action Key	
P	Preserve and Protect
Pi	Preserve and Protect with **injury**
Re	Retain
R	Remove
Ownership Key	
M	Municipal/ Public Owned Tree
P	Privately Owned Tree (On Subject Site)
N	Neighbour Owned Private Tree (Adjacent Property)
BT*	Boundary Tree*
UD	Undetermined. Tree not provided on topographic survey.

Comments Key (applies when abbreviations are used)

Abbrv.	Note	Abbrv.	Note
AS	AMPLE SOIL	L/ HL - X	LEAN/ HEAVY LEAN - 'X' CARDINAL DIRECTION
B	BORER	LT	LION TAILING
BB	BROKEN BRANCHES	MD	MECHANICAL DAMAGE
BBS	BORING BIRDS	MS(#)-(#)	MULTISTEMMED (# OF STEMS)-(DBH's)
BC	BALANCED CANOPY	NB	NEAR BUILDING
BK	BLACK KNOT	NF	NEAR FENCE
BT	BOUNDARY TREE	NOA	NO ACCESS
BW	BASAL WOUND	NS	NEAR SIDEWALK
C	CAVITY	PL	POWER LINES
CB	CROSSING BRANCHES	PS	PRUNING STUBS
CD	CODOMINANT	S	SUCKERING
D	DECAY	SB	SLOUGHING BARK
DEAD	DEAD	SC	SPARSE CANOPY
DB	DIEBACK	SD	SALT DAMAGE
DW	DEADWOOD	SL	SLIGHT LEAN
EAB	EMERALD ASH BORER	SPR	SPROUTING
EC	ELEVATED CROWN	STS	STORM TORN STUB
ER	EXPOSED ROOTS	T	TOPPED
GR	GIRDLING ROOTS	TB	TORN BRANCH(ES)
H	HEALTHY	TWT/ B	TWISTING BRANCH/ TRUNK
HT	HAZARD TREE	UC	UNBALANCED CANOPY
HW	HEALING WOUND	VS/VM	VOLCANO MULCH/SOIL SAUCER
IB	INCLUDED BARK	WB	WITCHES BROOM
ID	INSECT DEFOLIATOR	WW	WETWOOD (SLIME FLUX)

***Boundary trees** are approximately identified. No guarantee is express or implied that a tree identified as a "Boundary Tree" is the same as defined by the Forestry Act. In all instances, it is highly recommended that the client/ owner obtain written consent to injure, remove or maintain trees on or adjacent the property line near adjoining property from the adjoining land owner prior to doing any work(s).*

The Forestry Act, R.S.O. 1990, c. F.26 defines boundary trees as follows. "10 (2) Every tree whose trunk is growing on the boundary between adjoining lands is the common property of the owners of the adjoining lands. 1998, c. 18, Sched. I, s. 21."

NOTE 1:

Preserving all boundary trees and trees on adjacent property is highly recommended, as the owner has no legal right to injure or remove a neighbour's property. Trees also fall under the definition of 'property' and are protected by property ownership legislation; therefore, approval from the Municipality to remove or injure trees that are boundary or owned by neighbouring land owner's does not preclude Civil Action. In all instances below where boundary trees or adjacent private trees are recommended for removal or will sustain injury due to the proposed site work, it is highly recommended the owner obtain written approval prior to proceeding with any works.

NOTE 2: *The following Tree Tags were not used as part of this inventory: 179*

NOTE 3: *The following Trees were not located by the Surveyor on site: 336*

5.1 Trees To Be Preserved:

There are a total of **five (5)** trees scheduled for preservation. The following table summarizes the trees to be preserved:

SCHEDULE OF PRESERVATIONS									
Tag #	**Botanical Name**	**Common Name**	**D.B.H. (cm)**	**Condition**	**City of Barrie T.P.Z. (m)**	**Ownership**	**Approval Required**	**Comments**	**Preliminary Rationale/ Recommendation**
210	*Populus grandidentata*	Big Toothed Aspen	23.0	Fair	1.5	P		**Large Tooth Aspen Stand 'A' (#210):** Tree tagged central to stand **Stand Info:** Approximately 30-40 poplar stems, 10-30cm DBH, overall stand condition Fair to Good	**Preserve** The following recommendations will apply: - Install tree protection fencing along the dripline of the stand indicated on survey per the approved Tree Protection Plan. This tree protection fencing is to remain in place until all construction has been completed. - NO HEAVY MACHINERY OR EQUIPMENT IS TO ENTER INTO THE TPZ OF THE TREE. - Prune any **low** overhanging limbs to clear for construction per accepted arboricultural practices as required - Should extensive grading be required within the dripline of these trees to accommodate swale design revision to this report will be needed.
223	*Acer negundo*	Manitoba Maple	29.0	Fair	2.0	P		MS(2@29,25), failed scaffold limb on east side	**Preserve** The following recommendations will apply: - Install tree protection fencing where the TPZ crosses onto the subject site as per the approved Tree Protection Plan. This tree protection fencing is to remain in place until all construction has been completed. - NO HEAVY MACHINERY OR EQUIPMENT IS TO ENTER INTO THE TPZ OF THE TREE. - Prune any **low** overhanging limbs to clear for construction per accepted arboricultural practices as required
A	*Acer saccharum*	Sugar Maple	45.0	Good	2.5	N			**Preserve** The following recommendations will apply: - Install tree protection fencing where the TPZ crosses onto the subject site as per the approved Tree Protection Plan. This tree protection fencing is to remain in place until all construction has been completed. - NO HEAVY MACHINERY OR EQUIPMENT IS TO ENTER INTO THE TPZ OF THE TREE. - Should extensive grading or servicing be required within the TPZ of this tree to accommodate SWM Pond or underground chambers this report will require revision

5.2 Trees To Be Retained:

There are a total of **nine (9)** trees recommended for retention.

Tag #	Botanical Name	Common Name	D.B.H. (cm)	Condition	City of Barrie T.P.Z. (m)	Ownership	Comments	Preliminary Rationale/ Recommendation
206	Prunus serotina	Black Cherry	60.0	Very Poor	2.5	P	Decay on lower bole, extensive dieback throughout crown, imbalanced to north, East of property line within 6m of site starting at the north end	**Retain** Tree Protection Zone does not cross onto site. No action necessary.
207	Acer saccharum	Sugar Maple	25.0	Good	1.5	P		
208	Acer saccharum	Sugar Maple	21.0	Good	1.5	P		
213	*Populus grandidentata*	Big Toothed Aspen	23.0	Fair	1.5	P		
214	*Populus grandidentata*	Big Toothed Aspen	28.0	Good	2.0	P		
215	*Populus grandidentata*	Big Toothed Aspen	27.0	Poor	2.0	P	Cankered	
216	*Populus grandidentata*	Big Toothed Aspen	29.0	Poor	2.0	P	Extensive dieback, cankered	
219	*Pinus sylvestris*	Scots Pine	40.0	Good	2.0	P		
220	*Pinus sylvestris*	Scots Pine	38.0	Fair	2.0	P		

5.3 Trees To Be Removed:

There are a total of **one-hundred nine (109)** trees recommended for removal due to the proposed development. In the vast majority of instances trees require removal due to direct conflict with the proposed site plan as a result of anticipated demolitions of existing structures, clearing and grubbing activities to accommodate parking islands, roadways, and buildings. The following schedule summarizes the trees to be removed.

***Preserving all boundary trees is highly recommended**, as the owner has no legal right to injure or remove neighbour's property. Trees also fall under the definition of 'property' and are protected by property ownership legislation. Where boundary trees are recommended for removal it is highly recommended the owner obtain written approval prior to proceeding with any site works.*

Tag #	Botanical Name	Common Name	D.B.H. (cm)	Condition	City of Barrie T.P.Z. (m)	Ownership	Approval Required	Comments	Preliminary Rationale/ Recommendation
156	*Acer saccharum*	Sugar Maple	83.0	Very Poor	4.0	M	YES	Large failure on south side of crown with decay, potential root decay on north side	**Remove** due to tree condition coupled with expected grading and species sensitivity to construction/ development removal is warranted.
157	*Betula papyrifera*	Paper Birch	42.0	Good	2.5	P		Bark inclusion at main crotch, minor deadwood	**Remove** due to direct conflict with building footprint.
158	*Acer saccharum*	Sugar Maple	45.0	Poor	2.5	P		Girdling root, branch dieback throughout crown	**Remove** due to conflict with building footprint, entry sidewalk and driveway
159	*Betula papyrifera*	Paper Birch	38.0	Poor	2.0	P		Minor deadwood, bark inclusion at main crotch (crotch is splitting apart), co-dominant leaders	**Remove** due to direct conflict with building footprint.
160	*Acer saccharum*	Sugar Maple	57.0	Good	2.5	P		Severe bark inclusion at main crotch	
161	*Acer saccharum*	Sugar Maple	42.0	Good	2.5	P		Tall crown, poor root flare	
162	*Acer saccharum*	Sugar Maple	35.0	Fair	2.0	P		Poor root flare, bark inclusion at main crotch, nectria canker on west side	
163	*Acer saccharum*	Sugar Maple	35.0	Good	2.0	P		Swelling on bole	
164	*Acer saccharum*	Sugar Maple	37.0	Good	2.0	P		Some deadwood, bark inclusion at crotch	
165	*Acer saccharum*	Sugar Maple	25.0	Good	1.5	P		Retained leaves, bark inclusion at crotch	
166	*Acer saccharum*	Sugar Maple	31.0	Very Good	2.0	P			
167	*Betula papyrifera*	Paper Birch	16.0	Good	1.5	P		MS(2@16,15), some deadwood, suppressed (shade)	
168	*Acer*	Sugar	27.0	Very	2.0	P			

	saccharum	Maple		Good					
169	*Acer rubrum*	Red Maple	32.0	Fair	2.0	P		Imbalanced crown to south, broken branches in crown, minor basal twig dieback (witches broom)	
170	*Betula papyrifera*	Paper Birch	20.0	Good	1.5	P		MS(3@20,19,17), deadwood throughout	
171	*Acer saccharum*	Sugar Maple	38.0	Very Good	2.0	P		Small cavity on west side	
172	*Acer platanoides*	Norway Maple	36.0	Good	2.0	P		Suppressed (shade)	
173	*Acer saccharum*	Sugar Maple	25.0	Very Good	1.5	P			
174	*Pinus sylvestris*	Scots Pine	28.0	Good	2.0	P		Imbalanced to west, would on east side at root crown	
175	*Acer saccharum*	Sugar Maple	23.0	Good	1.5	P		Wound on west side of root crown	
176	*Acer saccharum*	Sugar Maple	27.0	Very Good	2.0	P			
177	*Acer saccharum*	Sugar Maple	44.0	Very Good	2.5	P			**Remove** due to conflict with building footprint coupled with species sensitivity to root disturbance and anticipated extensive grade changes.
178	*Acer saccharum*	Sugar Maple	24.0	Good	1.5	P		Imbalanced crown	
180	*Pinus sylvestris*	Scots Pine	38.0	Good	2.0	P		Bole bowed to south, potential girdling roots on south side	
181	*Betula papyrifera*	Paper Birch	27.0	Good	2.0	P		Leaning to south east, basal twig dieback	**Remove** due to direct conflict with building footprint.
182	*Salix alba* '*Tristis*'	Weeping White Willow	61.0	Fair	3.0	P		Broken branches throughout crown, poor root flare, poor structure	
183	*Pinus sylvestris*	Scots Pine	34.0	Fair	2.0	P		Swelling on bole, some branch dieback	
184	*Acer saccharum*	Sugar Maple	24.0	Good	1.5	P		leaves retained, imbalanced crown to east	**Remove** due to conflict with proposed driveway and roadway
185	*Pinus sylvestris*	Scots Pine	19.0	Good	1.5	P		MS(2@19,16), co-dominant with bark inclusion at crotch, minor deadwood	**Remove** due to direct conflict with proposed driveway and roadway
186	*Quercus rubra*	Red Oak	41.0	Very Good	2.5	P			
187	*Pinus sylvestris*	Scots Pine	26.0	Good	2.0	P		Minor deadwood	
188	*Acer saccharum*	Sugar Maple	18.0	Very Good	1.5	P		Leaves retained	**Remove** due to direct conflict with building footprint.
189	*Acer saccharum*	Sugar Maple	19.0	Very Good	1.5	P		Leaves retained	
190	*Picea glauca*	White Spruce	17.0	Very Good	1.5	P		Suppressed area on north side of crown (shade)	
191	*Acer saccharum*	Sugar Maple	14.0	Very Good	1.5	P		MS(2@14,12), imbalanced crown	**Remove** due to conflict with building footprint coupled with species sensitivity to root disturbance and anticipated extensive grade changes.

192	*Acer saccharum*	Sugar Maple	19.0	Very Good	1.5	P			
193	*Acer saccharum*	Sugar Maple	22.0	Very Good	1.5	P		MS(2@22,18), 2 stems from base	
194	*Juniperus virginiana*	Eastern Red Cedar	28.0	Fair	2.0	P		Poor form	**Remove** due to direct conflict with building footprint.
195	*Juniperus virginiana*	Eastern Red Cedar	18.0	Good	1.5	P			
196	*Acer saccharum*	Sugar Maple	68.0	Good	3.0	P		Severe bark inclusion at main crotch, minor deadwood	**Remove** due to direct conflict with proposed driveway.
197	*Acer saccharum*	Sugar Maple	46.0	Fair	2.5	P		Poor form, minow deadwood	
198	*Betula papyrifera*	Paper Birch	26.0	Good	2.0	P		MS(5@26,24,21,19,16), minor deadwood	
199	*Acer saccharum*	Sugar Maple	51.0	Good	2.5	P		Crown imbalanced to south, poor structure, minor deadwood	**Remove** due to direct conflict with building footprint.
200	*Acer saccharum*	Sugar Maple	76.0	Good	3.0	P		Minow deadwood, potential girdling on north side	
201	*Picea pungens*	Colorado Blue Spruce	43.0	Good	2.5	P		Lower branch removed	**Remove** due to anticipated conflict with required rear lot swale grading and excavations associated with patio placement
202	*Acer saccharum*	Sugar Maple	90.0	Poor	4.0	BT		2 Large lower scaffold limbs removed, nectria canker on old cavity, deadwood throughout crown	**Remove** due to tree condition (#202) coupled with conflict with anticipated grading, small building demolition, excavations for SWM Pond and/ or underground water storage along with species sensitivity to root disturbance (#202 & #203). **NOTE:** Written approval from the adjacent land owner to remove these trees is recommended prior to commencing any work on site as the trees are situated along the property line and understood to be a boundary trees. **Neighbour Consent Letter for these boundary trees has been provided see Appendix D.**
203	*Acer saccharum*	Sugar Maple	62.0	Good	3.0	BT		Growing into board fence, imbalanced crown to west, minor deadwood	
204	*Quercus rubra*	Red Oak	40.0	Good	2.0	P		Listing to east, some deadwood	**Remove** due to anticipated conflict with required rear lot swale grading and excavations associated with building and patio placement
205	Acer saccharum	Sugar Maple	44.0	Fair	2.5	P		Imbalanced crown to east, cavity on west side of bole	**Remove** due to anticipated conflict with required rear lot swale grading and anticipated clearing and grubbing activities to property line coupled with species sensitivity to root disturbance.
209	Abies balsamea	Balsam Fir	40.0	Fair	2.0	P		Leaning to east	
211	*Acer saccharum*	Sugar Maple	37.0	Good	2.0	P		Tree #212 grown into crown	
212	*Acer negundo*	Manitoba Maple	35.0	Fair	2.0	P		Bowed and growing into Tree #211	**Remove** due to anticipated conflict with required rear lot swale grading and anticipated clearing and grubbing activities to property line.
217	*Betula papyrifera*	Paper Birch	20.0	Good	1.5	P		MS(2@20,10)	
218	*Acer saccharum*	Sugar Maple	45.0	Good	2.5	P		Large seam on bole	

221	*Betula papyrifera*	Paper Birch	42.0	Good	2.5	P		Deadwood throughout	
222	*Thuja occidentalis*	White Cedar	28.0	Very Good	2.0	P		MS(3@28,28,18)	
308	*Pinus sylvestris*	Scots Pine	25.0	Good	1.5	M	YES		**Remove** due to anticipated conflict with the requirement for a large planted screening berm per Client's notes.
309	*Pinus sylvestris*	Scots Pine	21.0	Good	1.5	M	YES		**Remove** due to direct conflict with proposed sidewalk
310	*Pinus sylvestris*	Scots Pine	31.0	Very Good	2.0	P			**Remove** due to direct conflict with building footprint.
311	*Pinus sylvestris*	Scots Pine	19.0	Good	1.5	P			
312	*Pinus sylvestris*	Scots Pine	16.0	Fair	1.5	M	YES		**Remove** due to direct conflict with proposed sidewalk
313	*Pinus sylvestris*	Scots Pine	18.0	Fair	1.5	P			
314	*Pinus sylvestris*	Scots Pine	26.0	Very Good	2.0	P			
315	*Pinus sylvestris*	Scots Pine	23.0	Very Good	1.5	M	YES		
316	*Populus tremuloides*	Trembling Aspen	12.0	Fair	1.5	P			
317	*Populus tremuloides*	Trembling Aspen	11.0	Good	1.5	P			
318	*Pinus sylvestris*	Scots Pine	53.0	Very Good	2.5	P		MS(2@11,7)	
319	*Pinus sylvestris*	Scots Pine	20.0	Good	1.5	P			
320	*Pinus sylvestris*	Scots Pine	27.0	Very Good	2.0	P			
321	*Pinus sylvestris*	Scots Pine	11.0	Poor	1.5	M	YES		
322	*Pinus sylvestris*	Scots Pine	22.0	Good	1.5	M	YES		
323	*Pinus sylvestris*	Scots Pine	16.0	Good	1.5	M	YES		**Remove** due to anticipated conflict with the requirement for extensive grading, servicing placement.
324	*Pinus sylvestris*	Scots Pine	21.0	Good	1.5	M	YES		
325	*Pinus sylvestris*	Scots Pine	24.0	Good	1.5	M	YES		
326	*Pinus sylvestris*	Scots Pine	13.0	Fair	1.5	M	YES		
327	*Pinus sylvestris*	Scots Pine	17.0	Good	1.5	P			
328	*Pinus sylvestris*	Scots Pine	25.0	Good	1.5	M	YES		
329	*Pinus sylvestris*	Scots Pine	20.0	Good	1.5	M	YES		
330	*Pinus sylvestris*	Scots Pine	30.0	Good	2.0	M	YES		
331	*Fraxinus pensylvanica*	Green Ash	16.0	Very Poor	1.5	M	YES		
332	*Pinus sylvestris*	Scots Pine	13.0	Good	1.5	M	YES		
333	*Ulmus americana*	White Elm	17.0	DEAD	1.5	P			**Remove** due to condition (dead)
334	*Ulmus americana*	White Elm	20.0	DEAD	1.5	P		MS(2@20,13)	**Remove** due to condition (dead)
335	*Pinus sylvestris*	Scots Pine	11.0	Poor	1.5	P			**Remove** due to anticipated conflict with

336	*Acer saccharum*	Sugar Maple	9.0	Fair	1.0	P			the requirement for extensive grading, servicing placement.
337	*Acer negundo*	Manitoba Maple	15.0	Good	1.5	BT	YES	MS(2@15,14)	
338	*Pinus sylvestris*	Scots Pine	15.0	Poor	1.5	P			
339	*Pinus sylvestris*	Scots Pine	18.0	Good	1.5	P			
340	*Pinus sylvestris*	Scots Pine	18.0	Very Good	1.5	P			
341	*Pinus sylvestris*	Scots Pine	25.0	Very Good	1.5	P		MS(2@25,8)	
342	*Pinus sylvestris*	Scots Pine	20.0	Fair	1.5	P			
343	*Pinus sylvestris*	Scots Pine	17.0	Good	1.5	P			
344	*Populus tremuloides*	Trembling Aspen	13.0	Good	1.5	P			
345	*Populus tremuloides*	Trembling Aspen	16.0	Good	1.5	P			
346	*Populus tremuloides*	Trembling Aspen	16.0	Good	1.5	P			
347	*Populus tremuloides*	Trembling Aspen	16.0	Poor	1.5	P			
348	*Populus tremuloides*	Trembling Aspen	11.0	Poor	1.5	P			
349	*Populus tremuloides*	Trembling Aspen	18.0	DEAD	1.5	P			**Remove** due to condition (dead)
350	*Pinus sylvestris*	Scots Pine	17.0	Very Good	1.5	P			
351	*Populus tremuloides*	Trembling Aspen	19.0	Poor	1.5	P			
352	*Populus tremuloides*	Trembling Aspen	18.0	Good	1.5	P			
353	*Populus tremuloides*	Trembling Aspen	21.0	Good	1.5	P			
354	*Populus tremuloides*	Trembling Aspen	16.0	Poor	1.5	P			
355	*Populus tremuloides*	Trembling Aspen	26.0	Very Poor	2.0	P			
356	*Populus tremuloides*	Trembling Aspen	11.0	Fair	1.5	P			**Remove** due to direct conflict with building footprint.
357	*Populus tremuloides*	Trembling Aspen	14.0	Fair	1.5	P			
358	*Populus tremuloides*	Trembling Aspen	25.0	Good	1.5	P			
359	*Populus tremuloides*	Trembling Aspen	21.0	Good	1.5	P			
360	*Populus tremuloides*	Trembling Aspen	17.0	Very Poor	1.5	P			
361	*Pinus sylvestris*	Scots Pine	18.0	Fair	1.5	P			
362	*Populus tremuloides*	Trembling Aspen	24.0	Good	1.5	P			

GENERAL TREE PRESERVATION AND PROTECTION RECOMMENDATIONS:

The following preservation and protection recommendations are required to eliminate or greatly reduce project phase-related impacts to trees (**Pre-Construction**, **During Construction** and **Post-Construction**). Revisions to this report will be required if the tree protection zones for trees scheduled for preservation cannot be maintained due to project specific considerations.

Pre-Construction Maintenance:

1. ***Tree Protection Fencing (Hoarding):*** Trees indicated for preservation are to have their critical root zones protected with the installation of tree protection hoarding.

   a. Tree protection hoarding is to be installed, as a minimum, per the municipal detail on the following page.

   b. It is recommended that written notification be provided to the municipality notifying them that tree protection hoarding is installed. The Municipality reserves the right to inspect and approve prior to commencing work.

   c. All trees on adjacent private property are to have tree protection hoarding erected where the tree protection zone crosses onto the subject site.

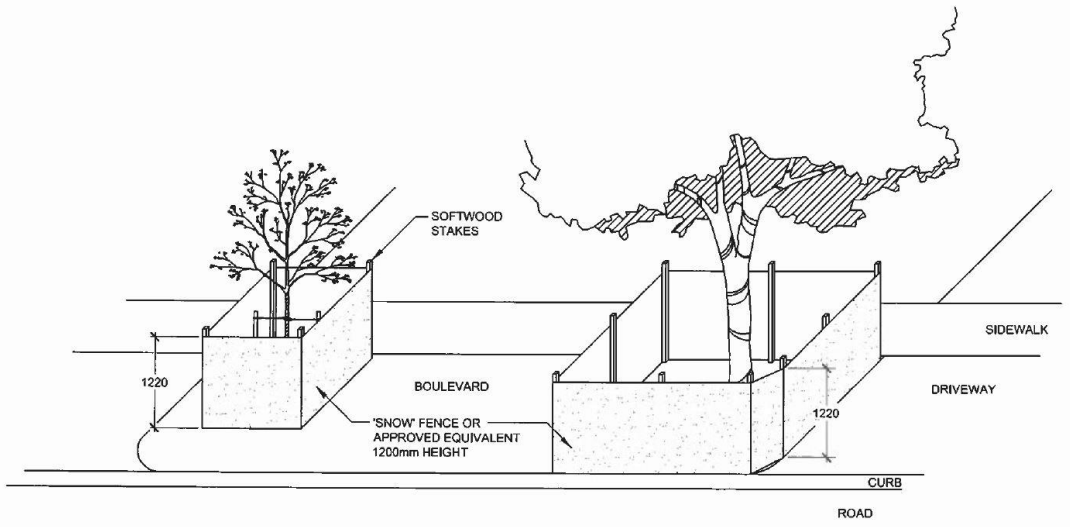
   d. Signage similar to the following is recommended, but not required, unless otherwise indicated by the Municipality.

> **TREE PROTECTION ZONE (TPZ)**
> No grade change, storage of materials or equipment is permitted within this area. Tree protection barrier must not be removed without the written authorization of the Town.
> Report any contraventions to
> **Contact Name_____ Tel. No._____**
> Unauthorized removal of the tree protection barrier or other contraventions may result in prosecution.

   e. During site preparation all excavation activities should be limited to outside of the tree protection zones indicated on the Tree Preservation Plan by DTAH. If any required excavations, equipment storage or (any other) construction activity needs to encroach on the Tree Protection Zones outlined in this document, it is recommended that an ISA Certified Arborist monitor excavation activities in proximity to trees ensuring the integrity of the root systems are not compromised beyond the point of recovery.

   f. Any area(s) designated for stockpiling of excavated soil must be outside of tree protection zones and be enclosed with sediment control fencing (Ontario Provincial Standards OPSD-219.130) as recommended by the project Civil Engineer.

MUNICIPAL ROW DETAIL (BSD-1236)

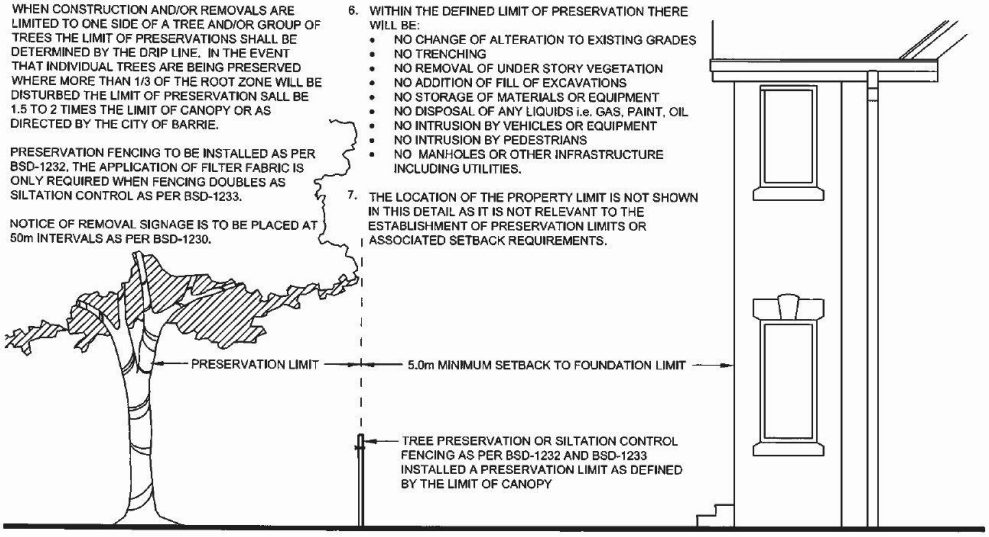


1. TREE HOARDING TO USE ONLY SOFTWOOD STAKES (38X38X2400) EXTENDING 300mm INTO FIRM GROUND SPACED AT ONE METER CENTRES. SECURE USING #12 GAUGE GALVANIZED WIRE OR APPROVED EQUIVALENT.
2. THIS STANDARD ONLY APPLIES TO TREES IMPACTED BY ACTIVITIES ON MUNICIPAL RIGHT-OF-WAYS.
3. THE OPTIMUM TREE PROTECTION ZONE IS THE LIMIT OF CANOPY (*DRIP LINE*).
4. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.
5. THIS DETAIL TO BE USED IN CONJUNCTION WITH BSD-1234.

The City of BARRIE STANDARD DETAIL	TREE HOARDING DETAIL FOR ACTIVITIES ON MUNICIPAL RIGHT-OF-WAYS	REV No. 1	DATE: JUNE 2015	SCALE: N.T.S.	BSD-1236	APPROVED DATE June 11/15 DIRECTOR OF ENGINEERING

DEVELOPMENT APPROVALS DETAIL (BSD-1235)

1. THE DRIP LINE IS MEASURED FROM THE OUTER MOST LIMIT OF BRANCHING WITHIN THE CROWN OF THE TREE. THE FURTHEST DISTANCE SHALL APPLY TO THE ENTIRE PERIMETER OF THE CROWN.
2. WHEN CONSTRUCTION AND/OR REMOVALS ARE LIMITED TO ONE SIDE OF A TREE AND/OR GROUP OF TREES THE LIMIT OF PRESERVATIONS SHALL BE DETERMINED BY THE DRIP LINE. IN THE EVENT THAT INDIVIDUAL TREES ARE BEING PRESERVED WHERE MORE THAN 1/3 OF THE ROOT ZONE WILL BE DISTURBED THE LIMIT OF PRESERVATION SALL BE 1.5 TO 2 TIMES THE LIMIT OF CANOPY OR AS DIRECTED BY THE CITY OF BARRIE.
3. PRESERVATION FENCING TO BE INSTALLED AS PER BSD-1232. THE APPLICATION OF FILTER FABRIC IS ONLY REQUIRED WHEN FENCING DOUBLES AS SILTATION CONTROL AS PER BSD-1233.
4. NOTICE OF REMOVAL SIGNAGE IS TO BE PLACED AT 50m INTERVALS AS PER BSD-1230.
5. THERE IS TO BE NO GRADING, CONSTRUCTION OF SWALES, CATCH BASINS OR OTHER DRAINAGE CONTROLS PLACED WITHIN THE LIMIT OF PRESERVATION.
6. WITHIN THE DEFINED LIMIT OF PRESERVATION THERE WILL BE:
   - NO CHANGE OF ALTERATION TO EXISTING GRADES
   - NO TRENCHING
   - NO REMOVAL OF UNDER STORY VEGETATION
   - NO ADDITION OF FILL OF EXCAVATIONS
   - NO STORAGE OF MATERIALS OR EQUIPMENT
   - NO DISPOSAL OF ANY LIQUIDS i.e. GAS, PAINT, OIL
   - NO INTRUSION BY VEHICLES OR EQUIPMENT
   - NO INTRUSION BY PEDESTRIANS
   - NO MANHOLES OR OTHER INFRASTRUCTURE INCLUDING UTILITIES.
7. THE LOCATION OF THE PROPERTY LIMIT IS NOT SHOWN IN THIS DETAIL AS IT IS NOT RELEVANT TO THE ESTABLISHMENT OF PRESERVATION LIMITS OR ASSOCIATED SETBACK REQUIREMENTS.



The City of BARRIE STANDARD DETAIL	LIMIT OF TREE PRESERVATION FOR DEVELOPMENT APPROVALS	REV No. 1	DATE: JUNE 2015	SCALE: N.T.S.	BSD-1235 FORMERLY BSD-21A	APPROVED DATE June 11/15 DIRECTOR OF ENGINEERING

2. **Canopy Pruning:** Only where recommended specifically in the report, trees that were identified for crown cleaning are to have their crowns cleaned prior to the commencement of construction. Crown cleaning is to be done per accepted arboricultural standards to encourage healthy and vigorous growth. No pruning of live healthy branch is permitted unless for the explicit purpose of balancing or improving crown health or safety.

1. Exploratory Digs: Only where recommended specifically in the report, trees that were identified for exploratory digs are to be done as follows for each specified dig type (hand or air spade/ hydro-vac):

1.1. Hand Digging

Roots to be pruned are to be exposed by use of hand digging with extreme care only. No use of machinery or heavy equipment to excavate other than air knife or hydro-vac is permitted. Roots are to be pruned as follows:

1.1.1. Hand-digging is to be done to the depth specified for each specific tree as noted prior in the plan(s).
1.1.2. The attending arborist in the field must approve roots of significant size in diameter or number for root pruning in agreement with the Municipal Forestry Representative. Roots encountered larger than 5 cm in diameter are to be left intact and undamaged (notably – buttress and anchorage roots) unless approved as previously noted;
1.1.3. Exposed roots approved to be severed will be cleanly pruned flush to the soil surface by the attending arborist according to proper arboricultural standards, however;
1.1.4. If the extent of injury is deemed unacceptable by the attending arborist or Municipal Urban Forestry Representative, or will compromise the structural stability of the tree, these roots will not be pruned and instead either:
1.1.4.1. Removal permits and written consent from other tree owners will be obtained prior to proceeding with construction activities; OR
1.1.4.2. The design team will adjust the design to accommodate the discovered roots. In this instance, the roots are not to be left to dry out and are to be moistened and immediately covered with parent material on site.

1.2. Air Spade or Hydro-Vac

This procedure is to be completed using an Air-Spade or Hydrovac as follows:

1.2.1. The exploratory dig will occur on the tree side of each open pit. The trench will be a minimum of 1ft (300mm) wide and 3ft (1000mm) deep along the length of the tree side of each of the pits
1.2.2. Exposed roots approved to be severed will be cleanly pruned flush to the soil surface by the attending arborist according to proper arboricultural standards, however;
1.2.3. If the extent of injury is deemed unacceptable by the attending arborist, or will compromise the structural stability of the tree, these roots will not be pruned and removal permits must be obtained prior to proceeding with construction activities.

3. **Root Pruning Outside TPZ:**

    a. Some roots may be located in the construction area beyond Tree Protection Zones. Where possible, these roots should not be cut. If cutting is necessary, roots should be severed cleanly by a clean sharp implement (not with construction machinery) by or under the supervision of a qualified attending Arborist.
    b. If roots of retained trees are exposed, damaged, or severed by construction work a qualified attending arborist will undertake proper root pruning in accordance with acceptable arboriculture practices.

4. **Root Zone Protection:**
    a. In the event the tree protection fencing cannot be maintained as it will limit access to the site or impede development activities, low impact construction measures are required for trees to be preserved only once approved by the attending arborist and Municipal Representative.
    b. At a minimum, this will include temporary installation of large 1-inch thick steel plates (or approved alternate) placed within the root zone installed over filter fabric and 30 cm of woodchip mulch in all areas within tree protection zones that cannot be protected. This will greatly reduce soil compaction over tree roots and increase the chance of survival for trees to be preserved.

During Construction Maintenance:

1. The tree protection zone is not to be breached/ moved or altered once it is in place without approval from the Municipality. The tree protection zone are not be used for the storage or mixing of any construction materials eg:

    a. Concrete must not be mixed near tree protection zones and any wash water from concrete mixing must be directed away from root zones of any trees or downward slopes.

2. Some roots located outside the Tree Protection Zones may be located in the construction area. Where possible, these roots should not be severed, broken or damaged. If roots are encountered, it is recommended these roots are severed cleanly (not with construction machinery), by a qualified ISA Certified Arborist.

3. A qualified attending arborist or project landscape architect is to be present for the establishment of tree protection hoarding, and provide bi-weekly reviews during the construction period to ensure that tree protection remains in place, OR;

4. The acting site supervisor will be required to inspect the condition of the tree protection measures outlined on the Tree Protection Plan and per Municipality's requirements (where applicable) prior to any construction activity every day. No disturbance to the barriers is permitted. Tree protection hoarding is to be in place or reinstated (if disturbed) prior to any work commencing.

5. Only minor grading is permitted at the edge of tree preservation hoarding when required to correct/ adjust localized areas. This work to be undertaken under the direct supervision qualified attending arborist.

6. In all instances, trees to be preserved with exposed root systems or in close proximity to construction activity subjected to drought conditions should be well-watered within the trees entire drip-line.

7. Trees that are damaged beyond the point of recovery during construction should be replaced at a pre-arranged ratio agreed upon with the Municipality prior to the commencement of any work.

8. **Excavation Monitoring:** During construction, if any excavation is required within the tree protection zones outlined in this report an ISA Certified Arborist is to be commissioned to monitor excavations. The monitoring arborist is to prescribe remediation measures as required to address tree injuries per accepted arboricultural standards.

Post Construction Maintenance:

1. **Notify City:** At the completion of all site work the Municipal representative must approve removal of tree protection hoarding.

2. **Planting & Landscaping:** Any landscape work (planting or re-sodding etc.) to be done within tree protection zones is to be done at the end of all other construction activity and only after approval by the Municipality to remove Tree Protection Hoarding. Extreme care, and hand digging only is to be used when preparing holes for shrub or perennial plant material.

    2.1. No grade changes are permitted including the addition or excavation of soil.
    2.2. Existing soil can be lightly surface raked to prepare for sodding.
    2.3. Only individual planting holes carefully hand-dug for planting of new trees and shrubs is permitted and spacing to be adjusted to avoid discovered tree roots.
    2.4. No heavy equipment can be used within the TPZ to place planting material or sod. This will prevent additional root disturbance and soil compaction.

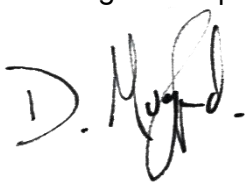
3. **New Plantings:** Minimal pruning should be undertaken in the first two (2) to three (3) years after planting of new trees. Foliage should be retained to allow for roots to get established and for the tree to overcome transplant shock. Only crossing branches or competing leaders should be pruned per proper arboricultural standards.

4. **Fertilizing:** Only where recommended specifically in the report, tree's identified for fertilization will follow the following protocols. Prior to fertilizing, a soils analysis should be performed to ensure there is proper soil function. Upon confirmation of soils analysis a post construction fertilization of 8-20-30 (By Plant Prod or approved alternative) with a complete micronutrient package is to be applied by high pressure injection using water as a medium. Application rate is to follow manufacturer's recommendations. This high phosphorous fertilizer will aid in the tree re-establishing its feeder root system.

4.1. Additionally, a mycorrhizal inoculant, such as Myke® Pro Arbor-WP or an approved alternate may be used at the discretion of the attending arborist via incorporation into the root injection blend. Application rate is to follow manufacturer's recommendations.

5. **Monitoring:** It is recommended the Owner consider retaining a qualified ISA Certified Arborist to review tree conditions two (2) times per year (May/ September) to observe for indications of stress following construction for a minimum of two (2) years. Stress as a result of construction may not be apparent for several years following disturbance and can make trees more susceptible to secondary stressors including insects, disease, water stress etc. If trees are observed to decline, the most appropriate prescription to address the decline is to be performed by an ISA Certified Arborist.

Queries for additional information related to this Arborist Report can be directed to the undersigned via phone or email.



Prepared by:
Geometric Studio Inc.

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BLA, OALA, CSLA, CNLA, ISAO, ISA
ISA Certified Arborist ON-1791A

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Enclosed

Arborist Report	27 pages
Appendix 1: Assumptions & Limiting Conditions	1 page
Appendix 2: Image Gallery	4 pages
Appendix 3: L001 Tree Inventory Plan	1 page

APPENDIX A

Assumptions and Limiting Conditions

(1 page)

ASSUMPTIONS & LIMITING CONDITIONS

1. Trees were assessed using ISA Class 1 Visual Inspection from ground level only. As a result, internal rot or other hidden hazards may exist that are not reported here. There is no warranty or guarantee, expressed or implied by Geometric Studio Inc. ('the consultant') that the tree(s) inventoried here or any of its parts will remain in standing or in stable condition under any or all circumstances. Trees should be re-assessed periodically to determine the level of risk for failure; inevitably a tree will always pose some level of risk.

2. Any legal description provided to the consultant is assumed to be correct. Any titles and ownerships to any property are assumed to be good and marketable. No responsibility is assumed for matter as legal in character. Any and all property is appraised or evaluated though free and clear, under responsible ownership and competent management.

3. Visual assessment is further limited during the dormant season when fungi, insects/ pests, foliage activity and other biotic factors are inactive. Additionally, there is the potential for snow or ice layers to be covering a tree's collar/ root flare, girdling roots, decay, cavities, swollen/ sunken areas, other tree parts and in general mask/ obstruct the visibility of important abiotic factors.

4. Loss or alteration of any part of this report invalidates the entire report.

5. Possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person/ agent to whom it is addressed, without prior expressed written or verbal consent of the consultant.

6. Neither all nor any part of the contents of this report, nor copy thereof, shall be conveyed by anyone, including the client, to the public through advertising, public relations, news, sales or other media, without prior expressed written consent of the consultant, particularly as to the value conclusions, identity of the consultant, or any reference to any professional society or institute or to any initialed designation conferred up the consultant as sates in his/her qualifications.

7. This report and values expressed herein represent the opinion of the consultant, and the consultant's fee is in no way contingent upon the reporting of a specified value, a stipulated results, the occurrence of a subsequent event, nor upon any finding to be reported.

8. Sketches, diagrams, graphs, and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineered or surveyed.

9. The consultant does not guarantee or warranty that the recommendations made in this report will categorically result in the tree(s) being made safe or healthy. It is understood that trees are living organisms and as such subject to forces and influences out of the control of the consultant. Recommendations are made in this report based on what can be reasonably identified at the time of inventory.

APPENDIX B

Image Gallery

Tree(s) 158,159,201

Tree(s) Clump A, 202, 203

Tree(s) (~#160-180) looking south from the driveway

Tree(s) (~#320-356) looking east from the corner or Veterans Drive & Montserrand Street

Tree(s) 'Poplar Stand 'A'

APPENDIX C

Tree Inventory Plan

(1 page)

1 TREE INVENTORY PLAN
L001 1:300

GENERAL NOTES:

1. TREE PROTECTION ZONES SHOWN ON THIS PLAN ARE BASED ON CITY OF BARRIE'S MINIMUM TREE PROTECTION ZONES (TPZ) FOR TREES.
2. THE MINIMUM TREE PROTECTION ZONES ARE ESTABLISHED BASED ON THE DIAMETER OF THE TREE. AS A RESULT THESE TPZs SHOWN HERE PROVIDE MINIMUM PROTECTION DISTANCES FOR THE ANCHOR AND TRANSPORT ROOTS OF A TREE.
3. SIGNIFICANT LOSS OF THE FEEDER ROOTS BEYOND THE ESTABLISHED TREE PROTECTION ZONE COULD STILL OCCUR. FEEDER ROOTS ARE RESPONSIBLE FOR WATER AND NUTRIENT ABSORPTION AND GAS EXCHANGE. FOR THIS REASON, URBAN FORESTRY MAY REQUIRE A TPZ LARGER THAN THE MINIMUM SHOWN HERE, DEPENDING ON THE TREE AND THE SURROUNDING ENVIRONMENT.
4. CITY OF BARRIE URBAN FORESTRY RESERVES THE RIGHT TO REQUEST A LARGER TREE PROTECTION ZONE ON A PROJECT SPECIFIC BASIS FOR THE REASONS OUTLINED ABOVE.

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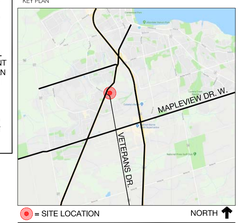
KEY PLAN



= SITE LOCATION NORTH

TEAM

LANDSCAPE ARCHITECT: thinc design
ARCHITECT:
STRUCTURAL:
MECHANICAL:
CIVIL:
ELECTRICAL:
TRANSPORTATION:
IRRIGATION:

GENERAL NOTES

1. ALL DRAWING(S) ARE IN METERS(M) UNLESS OTHERWISE NOTED.
2. ALL DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF GEOMETRIC STUDIO INC. AND MAY NOT BE REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.
3. GEOMETRIC STUDIO INC. PROVIDED THE TREE PROTECTION ZONES, AND SOME ICONS IF/ WHERE INDICATED. DINO ASTRI SURVEYING LTD. PROVIDED TREE ICONS AND TREE NUMBERS.
4. LEGAL PROPERTY LINES AND UTILITIES TO BE VERIFIED IN FIELD PRIOR TO STARTING CONSTRUCTION.
5. DO NOT SCALE DRAWINGS.
6. THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE ARBORIST REPORT PREPARED BY GEOMETRIC STUDIO INC., DATED SEPTEMBER 19, 2019.
7. REFER TO THE APPROVED TREE PROTECTION PLAN PREPARED BY THINC DESIGN FOR TREE PROTECTION REQUIREMENTS.

LEGEND

- STUDY BOUNDARY
- TREES PROVIDED ON SURVEY
- TREE PROTECTION ZONE PER ARBORIST REPORT (REFER TO ARBORIST REPORT FOR ALL TREE PROTECTION ZONES)

NO.	REVISIONS	DATE
2	ISSUED FOR DRAFT PLAN AND ZBA	19.09.19
1	ISSUED FOR COORDINATION	19.03.05

ISSUED FOR CITY/ TOWN APPROVAL ONLY. NOT FOR CONSTRUCTION.

CLIENT :
thinc design

PROJECT :
341 VETERAN'S LANE
Barrie, ON

TITLE:
TREE INVENTORY PLAN

PROJECT NO: 19003
SCALE: AS INDICATED
DRAWN BY: GEOMETRIC STUDIO INC.
REVIEWED BY: DM

PROJECT NORTH DRAWING NO.

L001

OF 1

APPENDIX D

Reference Documents (1 page total)

23 Montserrand Street Consent Letter (1 page)

We, Linda and John Coyle, are the owners of 23 Montserrand Rd., Barrie ON.

We understand the current development proposal of townhomes and walk up apartment building on 339 Veteran's Dr. & 341 Veteran's Ln. by Sean Mason Homes (Vet Lane) Inc. as its pertains to our property. We understand that City of Barrie development approvals have not been awarded and that a Neighbourhood Meeting begins the public process.

We agree to remove the boundary sugar maple trees after roots dealt with at Sean Mason Homes (Vet Lane) Inc.'s expense and effort, with any fence/grading damage on our property to be rectified immediately. We agree that a new fence will be installed when the project fencing is installed and that the landscape architect will be responsible to screen our property with vegetation on the south side of the boundary, and possibly, with our consultation, on the north side. In the event of a house insurance claim by us due to the tree(s) being removed, Sean Mason Homes (Vet Lane) Inc. will reimburse the $1000 deductible.

We agree to not appeal Sean Mason Homes (Vet Lane) Inc.'s and associated companies' proposals through the approval process.

Linda Coyle, May 13 2019

John P. Coyle, May 13 2019

Sean Mason Homes (Vet Lane) Inc.
Per Sean Mason, May 13 2019