893 & 911 LOCKHART STREET, INNISFIL
RESIDENTIAL DEVELOPMENT

TREE INVENTORY, ANALYSIS, AND PRESERVATION REPORT

893 & 911 LOCKHART ROAD, TOWN OF INNISFIL,

ONTARIO, COUNTY OF SIMCOE

JULY 2020

OUR FILE: LA 408-19

PREPARED BY:

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TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

1.0 Scope/Assignment:

The Landmark Environmental Group Ltd. (LEGroup) (J. Hosick, J. Grice) was retained Soheil and Mohamed Fayaz (hereafter referred to as the Owners) to provide Consulting Arboricultural services to lands generally in the area east of 20th Sideroad and south of Lockhart Road in Innisfil, ON. The assignment is to prepare a Tree Inventory, Analysis, Preservation Plan and Report to support residential subdivision application that establishes the characterization of the existing tree cover. The intent is to preserve trees to the extent possible given the proposed land development. Those trees that cannot be preserved either by poor or declining health, structural deficiencies or to facilitate the proposed development on the site, are indicated to be removed. This Report is intended to be reviewed by Town staff in compliance with applicable with Town by-laws and standards.

Specifically, LEGroup was assigned to provide the following services:

- Review site data including survey and concept drawings to provide for a site visit and correspond with Town staff and the Lake Simcoe Region Conservation Authority (LSRCA) as necessary;

- Conduct a field review to inventory tree specimens, groupings, boundary trees identifying the type, location, of any trees on site using the Tree Stand Delineation method (as discussed with Town staff) within the developable area and indicating the presence of any Butternut (in accordance with the *Endangered Species Act, 2007*);

- Provide a Tree Inventory, Assessment, Preservation Plan and Report that sets out the methodology, observations, criteria, analysis and conclusions of our review and area conditions;

- Indicate on a Tree Inventory and Protection Plan, those trees that are suitable for preservation or removal and providing the methods of protecting the same;

It is the intent in the undertaking of this Report, to comply with the Town of Innisfil tree preservation policies and any requirements of the Lake Simcoe Region Conservation Authority.

2.0 Proposed Development:

The subject site is generally located in the south-west quadrant of the Sandy Cove community, Innisfil, legally described as Part of Lot 25, Concession 10 in the Town of Innisfil, County of Simcoe and municipally known as 893 and 911 Lockhart Road, County of Simcoe, Ontario. The overview of the development is noted below (also see **Appendix A**-**Proposed Draft Plan 893 & 911 Lockhart Road, Innisfil**).

The subject site is currently a wooded lot awaiting development in the Sandy Cove community of Innisfil. The site fronts onto Lockhart Road in Innisfil. The subject lands are bounded by residential uses on four sides. The limits of the Arborist study were confined to the lot boundaries that may be affected as a result of the proposed development.

This Tree Inventory, Analysis and Preservation Plan and Report is submitted in support of and intended to accompany the Subdivision Application for the development as noted above.

Below, is an air photo illustrating the location of the subject site (red lines show the site boundaries):

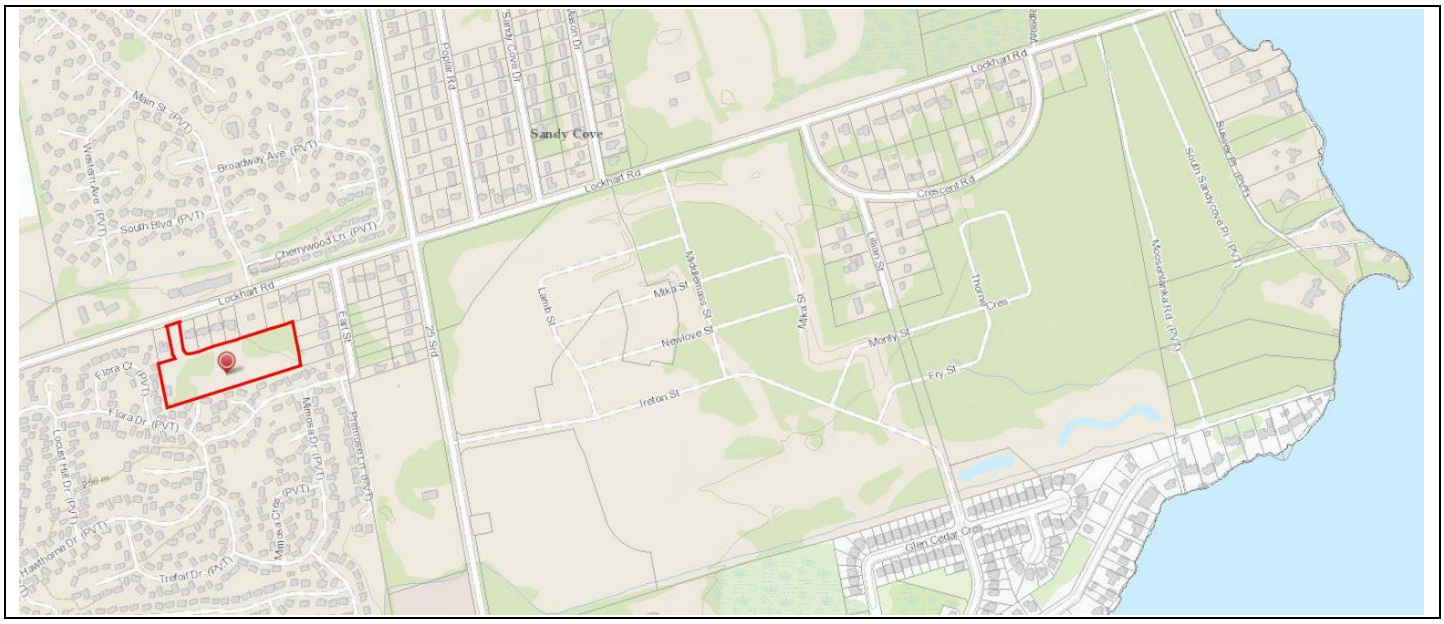

Figure 1 Streetmap of Subject Site (Boundary Highlighted) and Surrounding Area (courtesy Simcoe County GIS)

3.0 Method:

LEGroup was requested to create a Tree Inventory and Assessment that identifies the number and general location of existing trees on site that are 10cm dbh and above and their relative frequency/appearance (referred to the Tree Stand Delineation Method).

The Tree Stand Delineation Method is the general accounting of existing vegetation identified by species composition (by *Latin* and Common name), relative frequency and relative health condition in accordance with the typical criteria used in best arboricultural practices to indicate the merits of tree preservation or removal of existing specimen trees. The stand(s) within the development area are identified in groupings set apart by natural gaps in the tree cover. These gap serves to break the entire site into 8 sub-area Sections into smaller manageable units (**see ARB-1 in Appendix B**).

Each tree was assigned within a Section (1-8) as set out in **ARB-1**, and a summary of inventory, observations and assessments for all trees in each Section is reported in the Observations section below. The summary provides the tree name, quantity encountered and relative frequency that provides a defined character for the subgroup.

4.0 Observations

On multiple dates in February 2020, LEGroup staff (J. Grice, ISA Arborist #2562A), visited the subject site with the intent to review the trees and create an inventory/ assessment of individual tree species present within the subject site.

LEGroup staff generally observed a predominantly woodland area with a small garage and barn on the site. The site is a relatively even grade with undulations within the middle to west side of the site.

The following woody plant species were observed on the subject site during fieldwork:

Latin Name	Common Name
Acer platanoides	Norway Maple
Acer saccharum	Sugar Maple
Betula papyrifera	Paper Birch
Fraxinus americana	White Ash
Juglans nigra	Black Walnut
Malus ssp	Common apple
Pinus strobus	Eastern White Pine
Pinus sylvestris	Scots Pine
Populus balsamifera	Balsam Poplar
Populus tremuloides	Trembling Aspen
Prunus americana	Wild Plum
Thuja occidentalis	Eastern White Cedar
Ulmus americana	American Elm

Table 1 List of Observed Woody Plant Species on the Subject Site.

A total of 604 trees were observed at a dbh (diameter breast height) of equal to or greater than 10cm. on the subject site. LEGroup staff observed that the majority of trees on-site were in marginal to poor condition, largely due to the aggressive growth of the Riverbank Grape Vine throughout the site which has entered the canopies of most trees and is blocks sunlight from reaching the host tree (see **Photos B & D**, **Appendix D)**.

The following is a general description of each of the eight (8) Sections as delineated in **ARB-1** that sets out the tree characteristics that coincide with the woody plant material observed in Table 1 above.

Section 1

This section tree species was observed to be dominated with Eastern White Cedar, with Norway Maples consistently along the west boundary and a few Black Walnut trees surrounding the 2 existing buildings within this section. Of the eighty (**80**) trees within this Section, most of the trees are mature, with a few younger trees along the western boundary. The average diameter at breast height (dbh) is greater than 30cm. A typical view of the section can be seen in **Photo A, Appendix D**.

Many of the trees (mostly Eastern White Cedars) within the northwest corner have corrected leans due to growing under the canopies of larger trees, and several of these trees have cracks/cavities and show signs of basal decay. There are a few American Elm trees near the southwest corner that are experiencing dieback consistent with the symptoms of Dutch Elm Disease (DED). Trees along the western boundary of Section 1 (see **Section 1 location on ARB-1** in **Appendix B**) have grown around/near a wire fence, and have defects including girdling roots, overcrowding, and embedded metal as the fence has impeded their growth. Riverbank Grape Vine is present in the northwest corner of the site, and has entered the canopies of several of the Cedars

Section 2

Section 2 is located adjacent to Section 1, and includes a small section of fenceline along the southern boundary. LEGroup staff observed seventy-seven (77) trees, with the dominant tree species in this section being Eastern White Cedar, and there was a significant change in canopy elevation at the northeast side of Section to a lower and considerably wetter area. Other trees within this Section included Norway Maple, Sugar Maple, White Ash, American Elm, and two (2) Wild Plum trees. All White Ash within this section show signs of the Emerald Ash Borer (EAB), and Riverbank Grape Vine is present in this Section, although to a lesser extent than other Sections. A typical view of this section can be seen in **Photo A, Appendix D**.

The Eastern White Cedars within this section have robust canopies, despite many of them having cavities and trunk damage. Many of these Cedars are multi-stemmed with corrected leans, creating poor attachment points close to the basal flare.

Section 3

This Section has a decrease in elevation, and is significantly wetter than other sections. While there were only fifteen (15) trees in this Section, they are all mature and fairly large with an average dbh of over 30cm. Norway Maple, White Ash and Yellow birch were found, all of which were in poor condition with the Ash showing signs of EAB. One large Black Walnut was found to be in fair condition, despite the trees nearby all having exposed roots in the extremely wet soil, and dense Riverbank Grape vines growing in their canopies. A typical view of this section can be seen in **Photo B, Appendix D**.

Section 4

This Section features an increase in canopy elevation from Section 3, and was observed to be considerably drier soil. Out of the ninety-nine (99) trees within this Section, the most predominant species is Eastern White Cedar which form a dense grouping at the north side of the Section. Other notable species within this Section include Norway Maple, Sugar Maple, White Ash, American Elm, and Manitoba Maple. As with the previous sections, all White Ash appeared to be infected by the EAB and showed significant dieback. The Cedars within this area are all well established, fairly large (30-40cm dbh), and outside of the main Cedar grouping. Red Osier Dogwood makes up nearly all of the understory with several young Cedar trees emerging within open areas. Riverbank Grape Vine is extremely aggressive within this area and is present within nearly all of the tree canopies.

Section 5

This Section is located in the middle of the site, and includes both high soil moisture areas as well as dry soil areas. The main grouping within this Section is composed mainly of Easter White Cedars with Trembling Aspen and White Ash (infested with EAB) found on the outskirts of the main grouping. There were a two (2) Common Apple trees within this Section, as well as Black Walnut, Eastern White Pine, and a small grouping of Scots Pine. Of the seventy-three (73) trees within this Section, the Cedars averaged 25cm dbh, Trembling Aspen averaged between 18-25cm dbh, and the remaining species were all between 15 and 20cm dbh.

The main grouping of Eastern White Cedars has significant numbers of Riverbank Grape Vine throughout their canopies and are therefore the host trees experiencing dieback. However, there are several young (sub-10cm dbh) Cedars nearby that are in good health. The Common Apple trees within this Section have poor tree form with multiple stems/trunks. The grouping of Trembling Aspen observed to experiencing dieback and showing signs of decay.

Section 6

This section is mostly made up of Staghorn Sumac and young Trembling Aspen (all under 10cm dbh), with all notable trees located along the southern fenceline. Of note, Trembling Aspen, Norway Maple, Sugar Maple and Black Walnut were all found in this Section.

Several large Trembling Aspen within the southwest corner of the Section are all experiencing significant dieback and are covered in Riverbank Grape Vine. One large Aspen within this group has lost its leader and appears to be completely dead. While the remainder of the trees along the southern fenceline appear to be in marginal condition. All eighteen (18) trees within this section are mature and between 20 and 30cm dbh.

Section 7

This Section is located on the east side of the site, and is bordered by the property boundary on the north side. There are a few fly-ins of Scots Pine from the large Scots Pine stand in Section 8, but this Section is predominantly comprising of very large Trembling Aspen (30-45cm dbh). Other species found within this

Section include Norway Maple, Sugar Maple, White Ash (infested with EAB), and Paper Birch, all with an average dbh of 20cm.

This Section appears to have high ground moisture, with a dense understory of Red Osier Dogwood and well-established Riverbank Grape Vine which has infiltrated the canopies of nearly every tree within this Section. Almost all of the Trembling Aspen within this Section are in poor condition; experiencing significant canopy dieback, lower branch dieback, and many with absent leaders. It should be noted that no trees within Section 7 are in fair condition, and all of the one hundred and three (**103**) trees exhibit some degree of decay or dieback.

Section 8

This Section is located on the far east side of the site, and almost entirely made up of Scots Pine with an extremely dense understory of Eastern White Cedars (all Cedars ale smaller than 10cm dbh). A few Trembling Aspen are mixed throughout the Pine stand, and there are other species in small quantities along the fenceline of the Section including Common Apple, Paper Birch, trembling Aspen and White Ash (infested with EAB) making up a total of one hundred and thirty-nine (**139**) trees in this Section.

All Scots Pine are observed to have lower branch dieback (due to their close proximity to each other and the lack of light at lower levels), and have thin canopies. Some of the lower branches have been pruned by nearby residents to form pathways throughout the Pine stand, and there is refuse located nearby.

5.0 Study Criteria

Tree species and totals were recorded for each Tree Section (**see Tree Inventory in Appendix C**) as set out in Method paragraph above, and our findings in our Observations noted above, in accordance with the criteria established by common arboricultural practice including:

- Latin/Common Name of tree;
- Size (mm cal);
- Condition/Comments; and
- Recommendation for Preservation or Removal

Tree locations are on the Tree Inventory and Preservation Plan were recorded and adjusted however, the locations are approximate as shown on Drawing **ARB-1** in **Appendix B**.

6.0 Analysis and Recommendations

6.1 Analysis

The following analysis criteria were generally applied to measure the merits of tree preservation:

- Species (including native & non-native)
- Size/Maturity
- Structure
- Health
- Location
- Areas of proposed development.

These criteria were applied to the tree assessments to determine the extent of preservation and removal. In addition, the criterion is applied to assist in assessment of their potential for survival in-situ post construction.

Staff observed high density of plant material within the site, the observance of Riverbank Grape infesting tree canopies in the area competing for sunlight, otherwise low light conditions, no evidence of vegetation maintenance or management and many of the trees have been observed to be in poor to marginal condition. A large number of the trees within the site are of low intrinsic value including Manitoba Maple, Norway Maple, Aspen, Scots Pine and Cedar. Almost ever section observed contains White Ash that are in decline over the Emerald Ash Borer infection.

As a result of the observations noted above, the proposed development (including large scale grading changes, overland storm flows, rear yard swales, site servicing) and health/structural assessment of the trees within the developable area, LEGroup staff recommend that all trees be removed with the exception of a 2.0 metre vegetation buffer along the west property line (Lots 7, 8, 9 and 10) where there is no proposed swales at the rear of the properties (please see **ARB-2** and **ARB-3**, **Appendix B**), keeping well away from the proposed swale at the south-west corner.

LEGroup staff recommend considerations be made to provide new planting added to the perimeter of the site subject to grading/servicing constraints which would satisfy Town standards regarding any buffer/screening of the adjacent neighbours.

6.2 Summary and Recommendations

In summary, as a result of a subdivision proposal for the above-noted 911 Lockhart Road site by Soheil and Mohamed Fayaz, the Town of Innisfil has required that the Owner submit a Tree Inventory and Assessment Plan for their review.

The summarized recommendations are as follows:

- All trees that are in conflict with the proposed development are recommended to be removed with the exception of a 2m buffer along the western edge of the development. The detail for tree preservation fencing can be found in **D-1 in Appendix B**;

- Trees exterior to the site be protected with tree preservation fencing on site where the dripline of the off property trees extend over the boundary into the subject site.

- No equipment storage or refueling is to take place within the tree preservation zone as established by the preservation fencing;

- Tree preservation fencing is to be removed only after construction on the site is complete;

- Existing tree branching that interferes with the development works may be lightly pruned by qualified personnel;

- For other preservation methods, please refer to the Tree Preservation Notes on drawing **D-1** in **Appendix B**.

7.0 Arborist's Declaration

It is the policy of Landmark Environmental Group Ltd to attach the following clause regarding the limitations:

The Consulting Arborist's visual assessment and recommendations, made in this Report, have been completed based on accepted arboricultural practices and represents a fair and accurate assessment of the number, type, size and condition of trees on the subject property. Such visual assessments of all tree components could include scars, bark damage, external decay, insect infestations, discoloured foliage, crown dieback, an excessive degree of lean from the vertical and above-ground root defects. In addition, environmental conditions, which could affect overall health of the trees such as damaging maintenance practices, have also been taken into consideration where appropriate. However, no tree was dissected, cored or rooting systems assessed through excavation.

I hereby certify that I, Jim Hosick has:

- Personally overseen the visual inspection of the trees and property referred to in this letter report and have stated my findings accurately in accordance with accepted arboricultural practices without personal interest or bias;
- No current or prospective interest in the property that is the subject of this Report and have no personal interest or bias with respect to the parties involved;
- That the analysis, opinions and conclusions stated are our own and based on commonly accepted arboricultural practices;
- That our compensation is not contingent on the reporting of a predetermined conclusion that favours the client; and
- That as Jim Hosick, I am a member in good standing with the International Society of Arboriculture (ISA) and the Ontario Association of Landscape Architects (OALA) and the American Association of Consulting Arborists (ASCA).

I trust the above-noted recommendations are of assistance. If there are any questions regarding 893 & 911 Lockhart Road, Innisfil-Site Development Tree Inventory and Preservation and Compensation Report, please do not hesitate to contact our Firm at (705) 796-1122.

Reviewed by,

Jim Hosick, MSc, OALA, RPP
Landscape Architect-Principal,
ISA Certified Arborist No. 1098-A
MNR Butternut Health Assessor # 451
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Prepared by,

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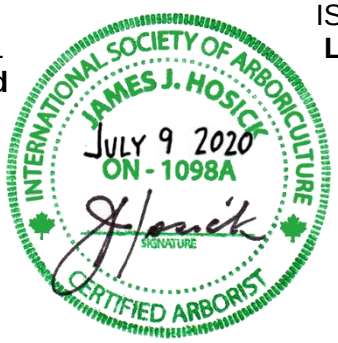
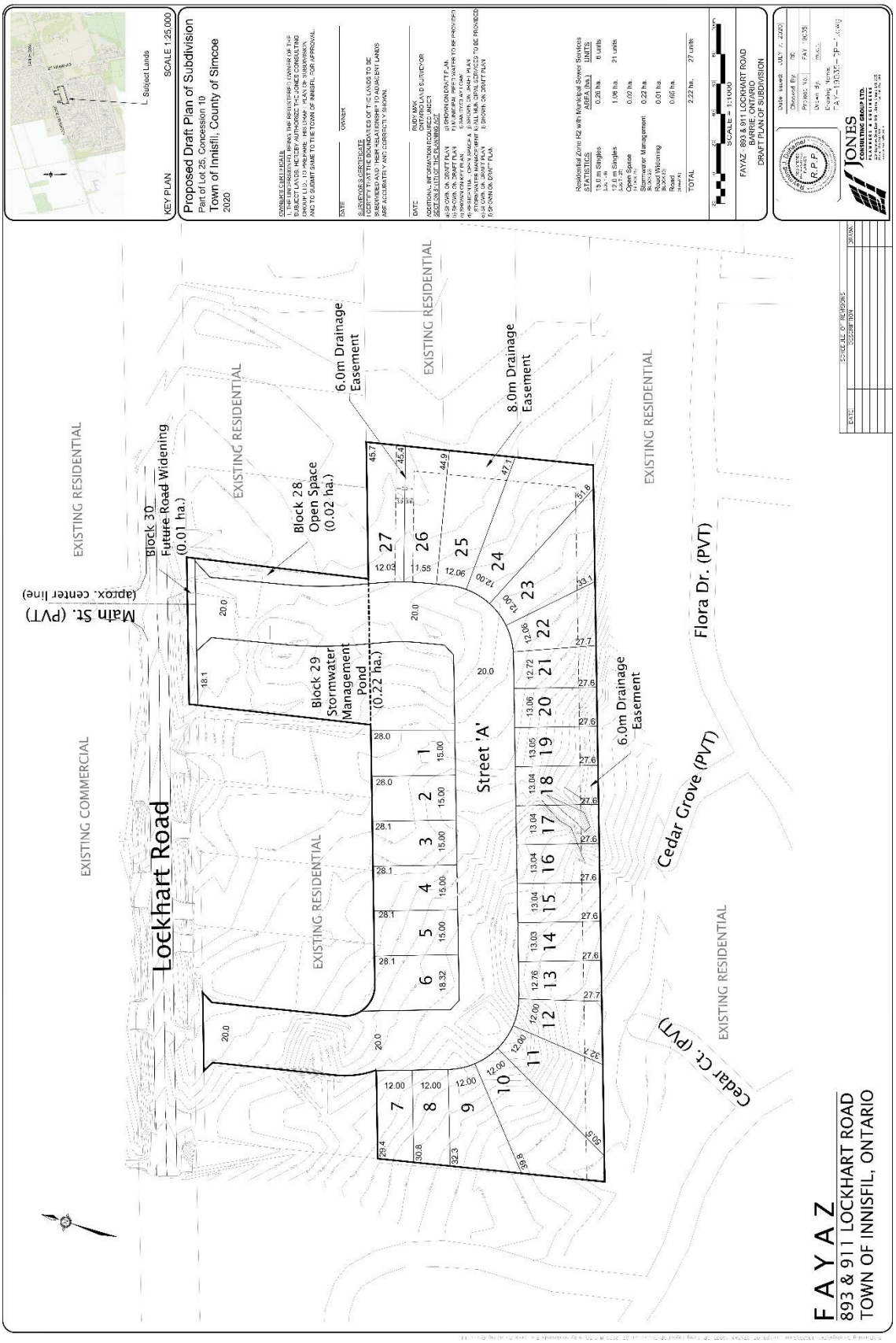


Appendix A: Proposed Draft Plan for 893 & 911 Lockhart Rd, Innisfil



Appendix B: Tree Inventory/Preservation Plan (ARB-1, ARB-2, ARB-3, D-1)

Arbor Plan ARB-2

Arbor Plan ARB-3

Tree Preservation Details D-1

Appendix C: Tree Inventory Table by Section

Section 1	
Latin Name	**Common Name**
Acer platanoides	Norway Maple
Acer saccharum	Sugar Maple
Juglans nigra	Black Walnut
Ulmus americana	American Elm
TOTAL:	**80**

Section 2	
Latin Name	**Common Name**
Acer platanoides	Norway Maple
Acer saccharum	Sugar Maple
Fraxinus americana	White Ash
Prunus americana	Wild Plum
Thuja occidentalis	Eastern White Cedar
Ulmus americana	American Elm
TOTAL:	**77**

Section 3	
Latin Name	**Common Name**
Acer platanoides	Norway Maple
Betula alleghaniensis	Yellow Birch
Fraxinus americana	White Ash
Juglans nigra	Black Walnut
TOTAL:	**15**

Section 4	
Latin Name	**Common Name**
Acer negundo	Manitoba Maple
Acer platanoides	Norway Maple
Acer saccharum	Sugar Maple
Fraxinus americana	White Ash
Thuja occidentalis	Eastern White Cedar
Ulmus americana	American Elm
TOTAL:	**99**

Section 5	
Latin Name	**Common Name**
Acer platanoides	Norway Maple
Fraxinus americana	White Ash
Juglans nigra	Black Walnut
Malus ssp.	Common Apple
Pinus strobus	Eastern White Pine
Pinus sylvestris	Scots pine
Populus tremuloides	Trembling Aspen
Thuja occidentalis	Eastern White Cedar
TOTAL:	**73**

Section 6	
Latin Name	**Common Name**
Acer platanoides	Norway Maple
Acer saccharum	Sugar Maple
Juglans nigra	Black Walnut
Populus tremuloides	Trembling Aspen
TOTAL:	**18**

Section 7	
Latin Name	**Common Name**
Acer platanoides	Norway Maple
Acer saccharum	Sugar Maple
Betula papyrifera	Paper Birch
Fraxinus americana	White Ash
Pinus sylvestris	Scots Pine
Populus tremuloides	Trembling Aspen
TOTAL:	**103**

Section 8	
Latin Name	**Common Name**
Betula papyrifera	Paper Birch
Fraxinus americana	White Ash
Malus ssp.	Common Apple
Pinus sylvestris	Scots Pine
Populus tremuloides	Trembling Aspen
TOTAL:	**139**

*Sections as set out in 4.0 Observations of the Arbor Report. See **ARB-1 in Appendix B**

Appendix D: Selected Site Photos

Photo A: Photo showing typical density within both Sections 1 and 2.

Photo B: Photo looking north at Section 2 showing a decrease of elevation into Section 3. Note Riverbank Grape.

Photo C- Photo looking south at section 5.

Photo D- Photo looking east at section 5. Note Riverbank Grape (arrows).