

Arborist Report



Prepared For:

Black Creek Group

Property Location:

17 Sophia Street,
3,5,7,11 McDonald Street,
58 and 60 Clapperton Street,
City of Barrie

Revised August 15, 2022



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Introduction

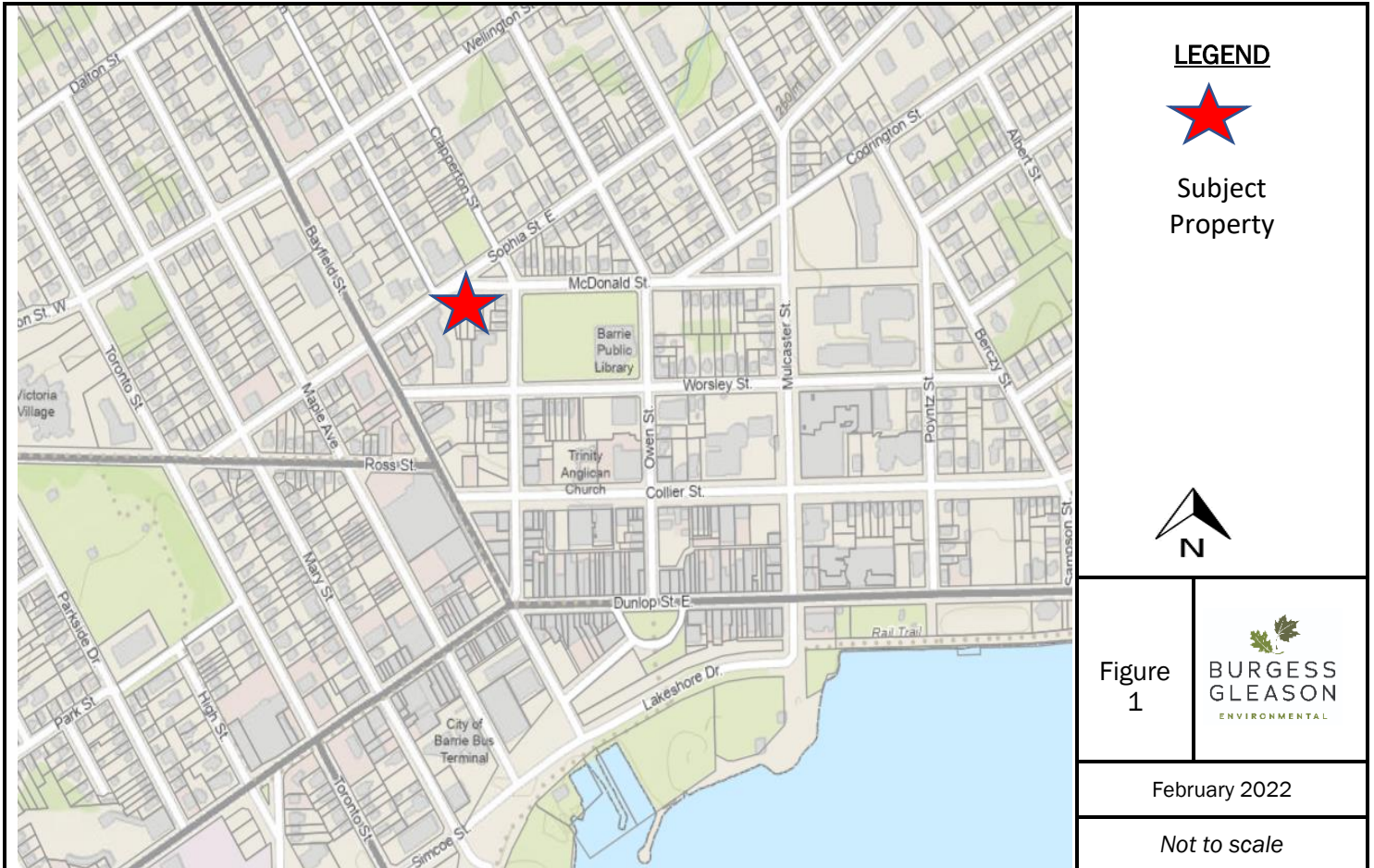
Burgess Gleason Environmental (BGE) has been retained by the owner (Black Creek Group) of the subject property to prepare an Arborist Report (Tree Inventory and Tree Preservation Plan). The purpose of this Report is to determine the composition, character and health of existing trees on the property and assess opportunities for tree preservation. This Report has been prepared in the context of the City's Tree By-Laws and their Tree Protection Manual (TPM). The evaluation and results of this Arborist Report follows the Stepped process illustrated in the City's Tree Protection Manual (Refer to Appendix A).

It should be noted that this Report has been reviewed and stamped by Alison Phillips, OALA, CSLA, a Full Member of the Ontario Association of Landscape Architects. This review and certification reflects a City requirement. Ms. Phillips also site inspected the subject property on July 21, 2021 with BGE.

The landowner is proposing to create a multi-unit residential building on the subject property. This land use proposal involves the construction of a 21-storey residential tower and associated parking. To permit the proposed land use, approval under the *Planning Act* is required through an application for site plan approval. An Arborist Report that includes a Tree Inventory and assessment must be completed as part of the planning application to be submitted for site plan approval.

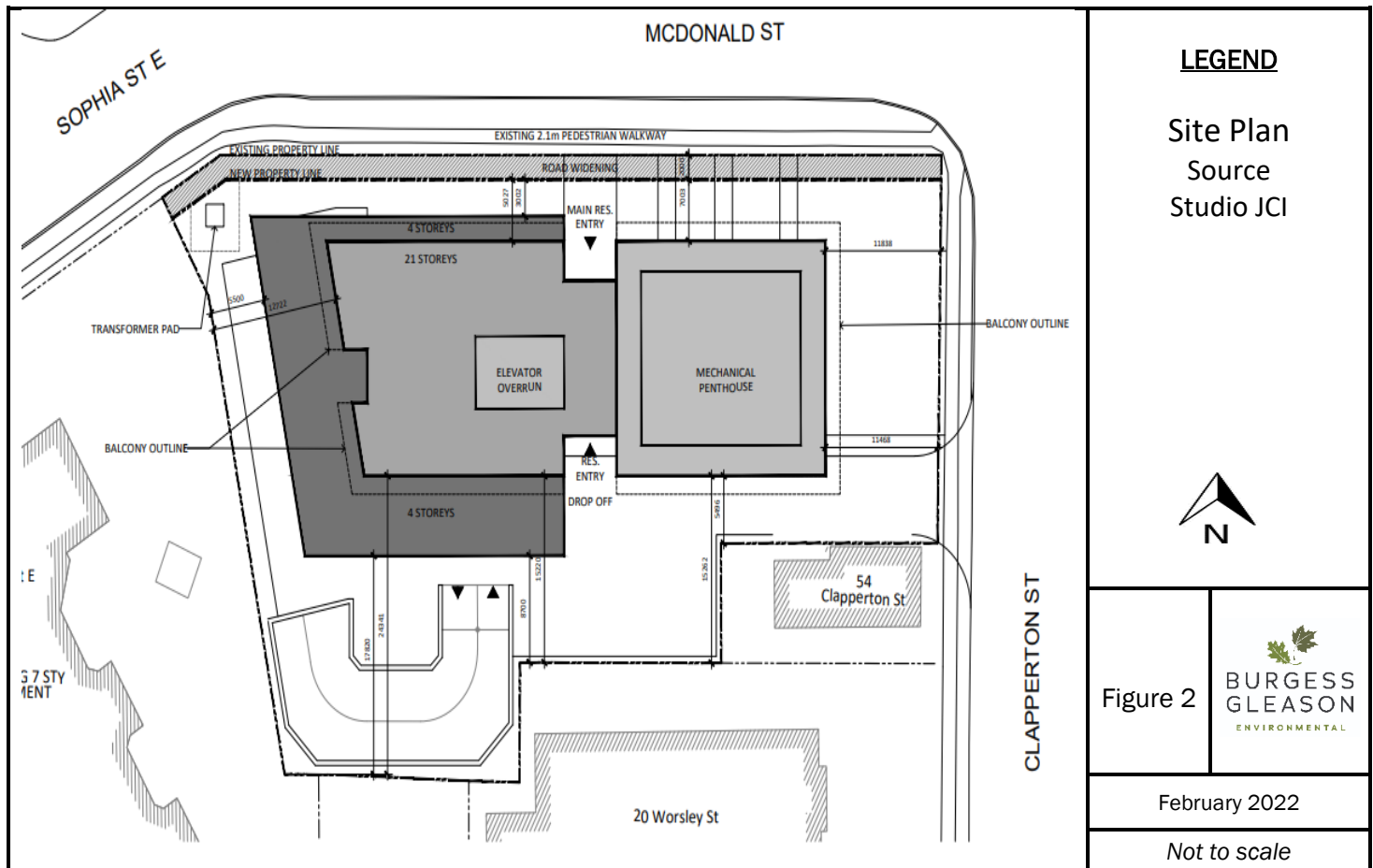
Site Context

The subject property is municipally described as 17 Sophia Street, 3, 5, 7, 11 McDonald Street, and 58 and 60 Clapperton Street, in the City of Barrie. The location of the property, in the context of the City, can be seen on *Figure 1*. The lands on Sophia and McDonald Streets primarily consist of grass and herbaceous plants with a few tree specimens along the property boundaries. Historically, it would appear that these properties were used for low density residential uses including the presence of single-family dwellings. This residential use and dwellings existed on the Sophia and McDonald Street parcels up until approximately eight years ago and has been generally vacant since 2013. 58 and 60 Clapperton Street contain existing buildings.



Planning Context

The subject property is designated City Centre in the City of Barrie's Official Plan according to Schedule A (Land Use). The implementing Zoning By-Law (2009-141) zones the property as Residential Apartment Dwelling Second Density (RA2-1) based on the North Section Schedule. As stated previously, this proposal involves the development of a multi-unit residential building, associated parking, and outdoor amenity space. The provisions of the *Planning Act* need to be fulfilled in order to allow for the proposed land use and development. A Site Plan prepared by Studio JCI is shown below on *Figure 2* illustrating the proposed development.



Other Legislation

In addition to fulfilling the requirements under the *Planning Act*, approval or adherence to the following legislation may be required:

- ✓ *Municipal Act*
- ✓ *Migratory Birds Convention Act*
- ✓ *Building Code Act*
- ✓ *Conservation Authorities Act*

Method and Tree Inventory

Method

This Arborist Report has been prepared in accordance with the City's Tree Protection Manual (Version 4, January 2019). As a result, only those trees that have a diameter at breast height (DBH – 1.37 metres from the ground) of 10cm or greater were counted. Also, the height was calculated using a clinometer (Suunto). It is recognized that the property line contains various juvenile tree species that are <10cm DBH such as *Acer negundo* (Manitoba Maple) and Mulberry (*Morus spp.*).

The subject lands are devoid of a woodlot as defined by the City's Tree Protection Manual as an area of trees that is >0.2 hectares with a specified number of trees and density. As mentioned previously, the property is comprised of overgrown grasses and herbaceous plants with a few individual trees. Based on the site inspections, it has been determined that the subject lands contain a total of eleven (11) trees wholly or partially on the property. These 11 trees are primarily located along the property lines except for a lone *Picea glauca* (White Spruce) which is centrally located. Trees that are on adjacent properties and in proximity to the subject lands were not fully evaluated in order to prevent any violation of the *Trespass to Property Act*. However, the canopy of these trees that intrude onto the subject property have been recognized in this Report. Further, the evaluation of trees on the property was carried out by an ISA Certified Arborist (ON-2456-A) and a licensed Landscape Architect (OALA). Photos of the trees are found in Appendix B.

Tree Inventory

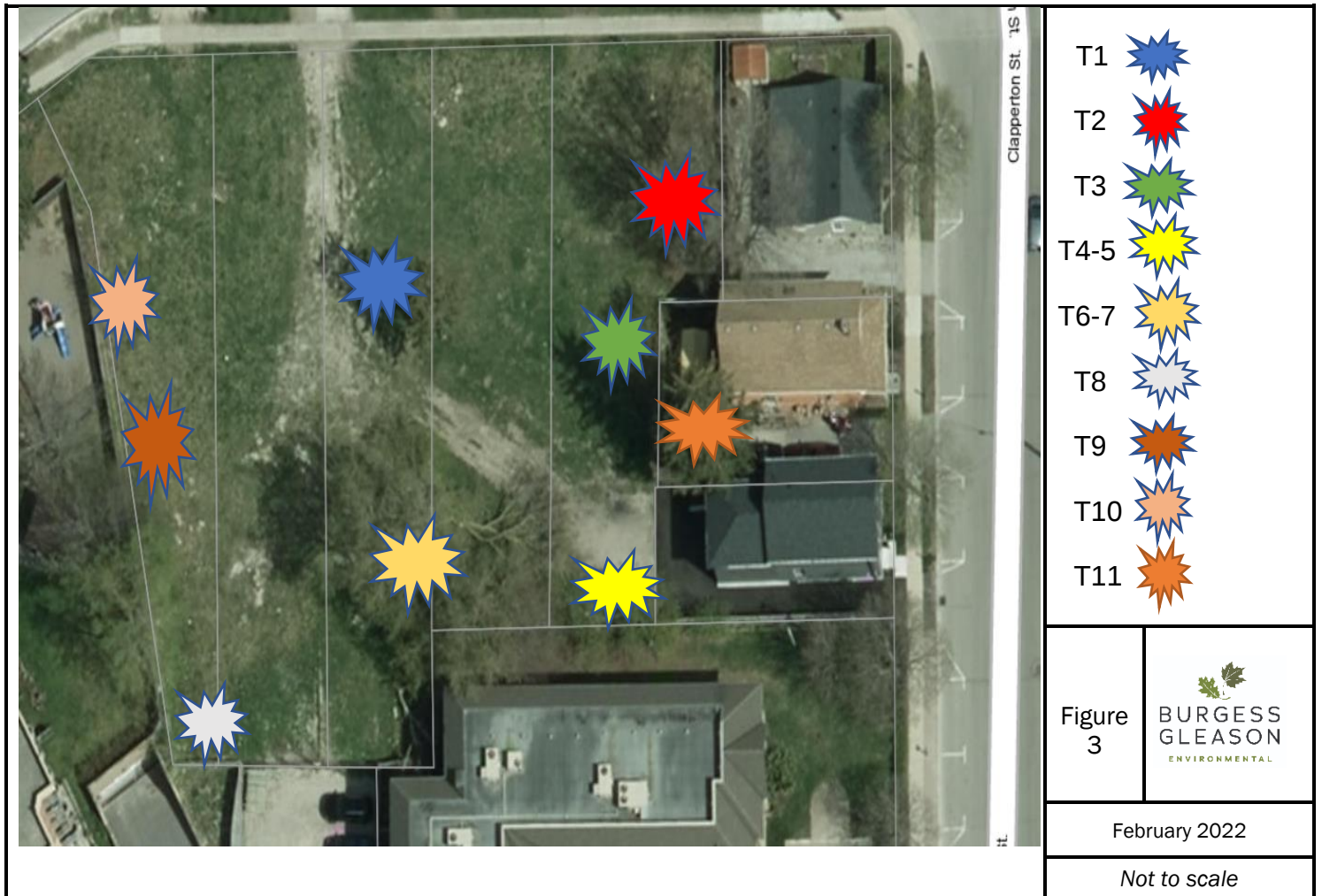
The 11 trees have been evaluated using the criteria identified above. Table A below lists the 11 trees that are located on the property in terms of:

- Latin and Common Name;
- DBH and Height;
- Status;
- Condition - Step 8 of the Tree Protection Manual (poor–fair–good – hazardous - dead);
- Location on property.

Table A: List of Tree Species

Latin Name	Common Name	DBH	Height	Status	Condition	Figure 3 Location
<i>Picea glauca</i>	White Spruce	38cm	17m	Native	Poor	T1
<i>Acer saccharum</i>	Sugar Maple	>100cm	21m	Native	Hazardous	T2
<i>Acer negundo</i>	Manitoba Maple	16cm	7m	Invasive	Good	T3
<i>Acer negundo</i>	Manitoba Maple	17cm	9m	Invasive	Good	T4
<i>Acer negundo</i>	Manitoba Maple	14cm	8m	Invasive	Good	T5
<i>Acer negundo</i>	Manitoba Maple	78cm	18m	Invasive	Poor	T6
<i>Acer negundo</i>	Manitoba Maple	76cm	18m	Invasive	Poor	T7
<i>Acer negundo</i>	Manitoba Maple	10cm	6m	Invasive	Good	T8
<i>Sorbus aucuparia</i>	European Mountain Ash	24cm	5m	Non-native	Good	T9
<i>Acer negundo</i>	Manitoba Maple	12cm	6m	Invasive	Good	T10
<i>Picea glauca</i>	White Spruce	52cm	18m	Native	Good	T11

Figure 3 below shows the location of each tree on the property in relation to Table A.



Tree Assessment and Edge Management

Assessment

The subject property has historically been used for urban uses which has generally resulted in a lack of tree cover. There are 11 trees on the property with a DBH of >10cm. None of the trees are endangered, rare or significant. Butternut or White Walnut (*Juglans cinerea*) was not observed on the property. A survey by Rudy Mak Surveying Ltd. generally showing the canopy of the relevant trees is found in Appendix C.

Based on our assessment, it is recognized that seven of the 11 trees include the Manitoba Maple (*Acer negundo*) tree species. While this species is not technically classified as “invasive” in Ontario, it is commonly known as a “weed” due to its aggressiveness. Given its invasiveness characteristics, Manitoba Maple can negatively impact Ontario’s natural areas. *Acer negundo* grows relatively fast which results in a fairly weak wood structure. For these reasons, Manitoba Maple is susceptible to cracking and branch failure. It is also short lived. As a result, all of the Manitoba Maple on the property should be removed. To help maintain the forest canopy cover in the City, native, non-invasive species should be planted on-site as part of the City’s landscaping requirements. Red Maple (*Acer rubrum*), Sugar Maple (*Acer saccharum*), Common Hackberry (*Celtis occidentalis*), Kentucky Coffee Tree (*Gymnocladus dioicus*), Bur Oak (*Quercus macrocarpa*), Red Oak (*Quercus rubra*), and White Pine (*Pinus strobus*) would be suitable replacement tree species.

A singular European Mountain Ash (*Sorbus aucuparia*) is located on the lot near the western property line (T9 – Figure 3). This tree species is not native to Canada. It’s also considered invasive in the United States. While the tree’s health condition is good, this tree should be removed due to its non-native status. As recommended previously for the 7 Manitoba Maples trees, compensatory plantings should be provided for the removal of this tree species. In addition, a White Spruce (*Picea glauca*) exists near the centre of the lot (T1 – Figure 3). This singular White Spruce is in poor health and should be removed. To help maintain the urban forest canopy in the City, replacement tree(s) should be provided to the satisfaction of the municipality and conservation authority.

A mature Sugar Maple (*Acer saccharum*) exists on the eastern part of the subject property (T2 – Figure 3). With the acquisition of the 58 and 60 Clapperton Street properties, this native tree is located fully on the subject lands. The condition of this mature Maple has been evaluated as “hazardous” given there is presence of die back and structural branching issues. This has been evidenced with the presence of cabling which has been employed to help address the structural issues and minimize branch failure. It should be noted that cabling should only be used as a last resort and does not eliminate the branch failure hazard. For these reasons and the potential for branch failure, this tree is not recommended for preservation. Typically, trees that exhibit a hazard to people or property from potential branch failure should be removed from urban landscapes and replaced accordingly with other native, non-invasive species in suitable locations (e.g. away from dwellings, hydro lines, etc.).

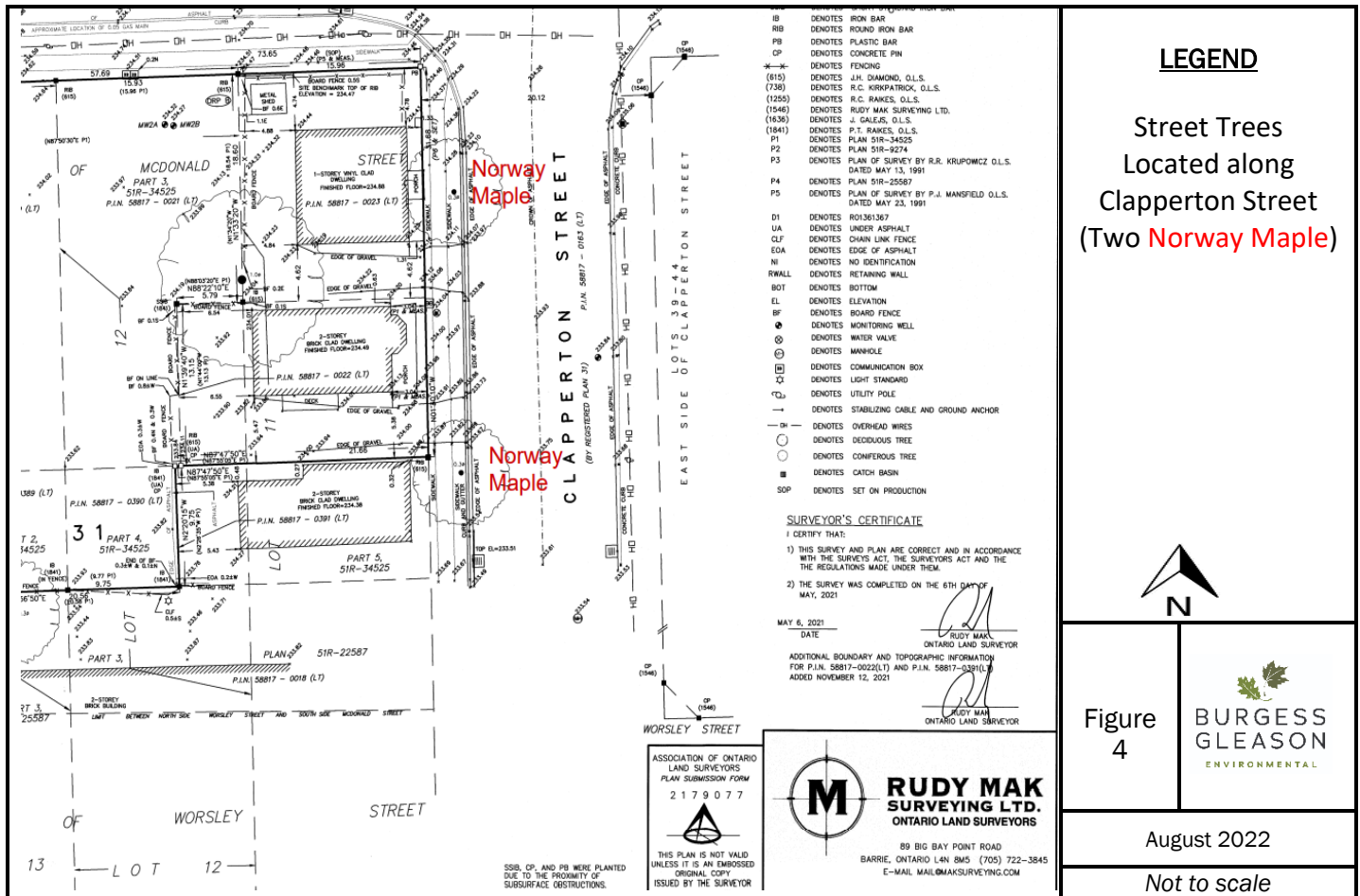
Property Boundary Tree Management

The property to the west contains a few mature trees such as Manitoba Maple. In particular, the canopy of one *Acer negundo* overhangs and extends onto the subject property. Given that Manitoba Maple is a short-lived species with a relatively weak wood structure, this tree should be removed or as a minimum pruned to eliminate branching on the property. Overtime, this tree or major branches thereof will fail likely to cause property damage. Since this tree is located on the lands to the west, permission from the landowner will be required to remove the tree or alternatively prune the major branches that are susceptible to cracking and failure. Further, a Norway Maple (*Acer platanoides*) is located on the property to the south immediately adjacent the residential residence. 95% of the tree's canopy is on the neighbour's property with a few branches overhanging the fence. This Norway Maple has a poor structure and is an invasive, non-native species in Canada. Regardless, the impacts of development on this tree should be monitored. If negative effects occur, it should be replaced with a non-invasive tree at the developer's cost.

In addition, it should be noted that a retaining wall exists along the western property line. The approximate height of the retaining wall is 1.5 metres in the southwest corner and is of a lesser height towards the street. It is likely that this wall was built during the construction of the apartment building on the lands to the west. Given that the trees on the neighbouring lands propagated after the development of the apartment building and retaining wall and that the majority of roots are located within 0.5 metres of the ground, the construction of the 20-storey building on the subject property should have little affect on these trees (i.e., the retaining wall forms part of the trees' Tree Protection Zone).

Street Tree Evaluation

Recent comments from the City identified the need to evaluate the street trees located in front of the subject lands. As a result, a site inspection was conducted on August 15th to observe and assess the relative municipal trees. Based on the field evaluation, a total of two trees were observed and assessed that are located within the streetscape in front of the subject property. These trees are located along Clapperton Street. No trees were identified along McDonald Street. The location of the applicable trees is shown on the survey below undertaken by Rudy Mak Surveying Ltd.



The two trees identified along the streetscape are both Norway Maple (*Acer platanoides*). The condition, size (DBH), and commentary on these two trees is illustrated in the Table below. A recent picture of the two trees is also provided below.

Norway Maple is not native to Canada and is identified as an invasive species. It typically outcompetes native trees to Canada such as *Acer saccharum* (Sugar Maple) by releasing toxic chemicals in the soil which inhibit the growth of native saplings. For these reasons, Norway Maple has been banned in many jurisdictions and should be removed where possible. Historically, Norway Maple trees were planted in urban areas due to their ability to withstand pollution. However, Norway Maple should be removed from our landscapes and replaced with non-invasive species. In this case, these two trees could be replaced as part of an ongoing City tree replacement program.

Latin Name	Common Name	DBH	Status	Condition	Comment
<i>Acer platanoides</i>	Norway Maple	38cm	Non-Native	Good	Invasive
<i>Acer platanoides</i>	Norway Maple	52cm	Non-Native	Good	Invasive



Photo Taken August 15, 2022 Showing the Two Norway Maple Along Clapperton Street

Summary

The property is designated in the City's Official Plan for urban uses and is zoned for residential uses in the implementing Zoning By-Law. As a result, this land use designation and zoning will permit various residential uses in a defined primary growth centre. Growth and development should be directed to urban centres in order to adequately implement provincial policy found in the Growth Plan for the Greater Golden Horseshoe (2020).

There are no rare, significant, or heritage trees on the property. Endangered species such as Butternut (*Juglans cinerea*) do not exist on the lot. The majority of the lot contains Manitoba Maple which is a species that is not desirable in our landscapes. Two of the other species is not native to Canada (European Mountain Ash) or is in poor condition (White Spruce). The only tree (Sugar Maple) that would typically exhibit any true value exists on the eastern part of the property. However, this tree has structural branching issues which can be a hazard risk to people and property. For these reasons, the proper ecological and arboricultural prescription for the property and development is to remove these tree species. As a result, all 11 trees on the property have not been given a Tree Protection Scoring of Level of 1, 2, or 3. On this basis and based on Steps 9 and 10 of Stage 1 (Figure 1A) of the City's Tree Protection Manual, no Tree Preservation Plan is required for the subject property and development.

It is recognized that approval authorities such as the City and conservation authorities support the replacement of trees where possible in order implement the "no net loss" principle with the overall goal of net ecological gain. Burgess Gleason Environmental in association with Greenland International Consulting Ltd. supports the City in its efforts to maintain tree canopy and cover within the municipality. On this basis, it is recommended that the removal of trees onsite be replaced with native, non-invasive tree species. These trees can be planted as part of the City's landscaping requirements through the subsequent Site Plan Approval process. A detailed planting plan or landscape plan should be prepared to the satisfaction of the City as part of the Site Plan Approval process. It is also noted that the City of Barrie has a tree replacement value formula for the removal of trees. This calculation for the loss of trees is identified in the Tree Protection Manual – Section 7.1 and Appendix 6 as follows. The Table below also shows the tree replacement cost for this development which is \$10,664.

Current Tree Value = the Greater of its Current Base Value⁽¹⁾ OR:

$$\begin{array}{|c|} \hline \text{Tree Value} \\ \text{per Unit} \\ \text{Growth}^{(2)} \\ \text{(\$/ht or \$/cm)} \\ \hline \end{array} \times \begin{array}{|c|} \hline \text{Species} \\ \text{Value} \\ \text{Index} \\ \hline \end{array} \times \begin{array}{|c|} \hline \text{Location} \\ \text{Value} \\ \text{Index} \\ \hline \end{array} \times \begin{array}{|c|} \hline \text{Health} \\ \text{Value} \\ \text{Index} \\ \hline \end{array} \times \begin{array}{|c|} \hline \text{Current Tree:} \\ \text{Ht (m) - Conifer} \\ \text{OR DBH (cm) -} \\ \text{Deciduous} \\ \hline \end{array}$$

(1) Note: Current Base Value is set at \$500.00 for deciduous trees and \$400 for conifers, based on the cost of planting a standard nursery stock tree (including purchase, delivery, installation, warranty, and administration).

(2) Note: Tree Value per Unit Growth = \$160.00 per metre Height for coniferous trees and \$100.00 per centimeter DBH for deciduous trees.

Latin Name	Common Name	DBH/ Height	Species Index	Location Index	Health Index	Figure 3 Location	Tree Value
<i>Picea glauca</i>	White Spruce	17m	0.8	0.9	0.5	T1	\$979.20
<i>Acer saccharum</i>	Sugar Maple	>100cm	1.0	0.9	0.5	T2	\$4500
<i>Acer negundo</i>	Manitoba Maple	16cm	0.2	0.9	0.75	T3	\$500
<i>Acer negundo</i>	Manitoba Maple	17cm	0.2	0.9	0.75	T4	\$500
<i>Acer negundo</i>	Manitoba Maple	14cm	0.2	0.9	0.75	T5	\$500
<i>Acer negundo</i>	Manitoba Maple	78cm	0.2	0.9	0.25	T6	\$500
<i>Acer negundo</i>	Manitoba Maple	76cm	0.2	0.9	0.25	T7	\$500
<i>Acer negundo</i>	Manitoba Maple	10cm	0.2	0.9	0.75	T8	\$500
<i>Sorbus aucuparia</i>	European Mountain Ash	24cm	0.4	0.9	0.75	T9	\$648
<i>Acer negundo</i>	Manitoba Maple	12cm	0.2	0.9	0.75	T10	\$500
<i>Picea glauca</i>	White Spruce	18m	0.8	0.9	0.5	T11	\$1036.80

Recommendations

In summary, the development of the subject lands for urban uses is appropriate as it relates to arboricultural objectives provided the following recommendations will be fulfilled.

1. That the removal of trees will occur in accordance with the City's Tree Protection Manual (Version 4, Revised January 2019), related tree protection by-laws and standard specifications and details and by-laws under the *Municipal Act* including any permit requirements or approval process under the *Planning Act*.
2. That the timing of tree removal shall adhere to the provisions of the *Migratory Birds Convention Act*.
3. That written permission shall be obtained from the neighbours to the west to properly prune the canopy of the Manitoba Maple or remove it in its entirety in order to eliminate tree/branch failure.
4. That adequate compensation shall be implemented for the removal of the 11 trees on-site in accordance with Appendix 6 of the City's Tree Protection Manual as per Table B.
5. That the removal of trees on-site shall occur in a sustainable manner that will involve the re-use of wood to products such as fuelwood or mulching products.
6. That the pre-development drainage patterns shall be maintained in order to prevent any negative hydrologic impacts on the neighbouring lands and trees.
7. That Notice of tree removal on the site will be provided and posted a minimum of seven (7) days prior to commencement as per the City's Tree Protection Manual.

Signatory Page

I hereby certify that I, Charles F. Burgess, am a member in good standing with the International Society of Arboriculture (ISA) and the Ontario Chapter of Certified Arborists.

Sincerely,



Charles F. Burgess, MCIP, RPP
Professional Planner and Certified Arborist (ISA ON-2456-A)



Burgess Gleason Environmental
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www.bgenvironmental.ca; charles@bgenvironmental.ca

I hereby certify that I, Alison Phillips, am a Full Member with Seal in good standing of the Ontario Association of Landscape Architects.

Sincerely,



Alison Phillips, O.A.L.A., C.S.L.A.
Landscape Architect, Project Manager

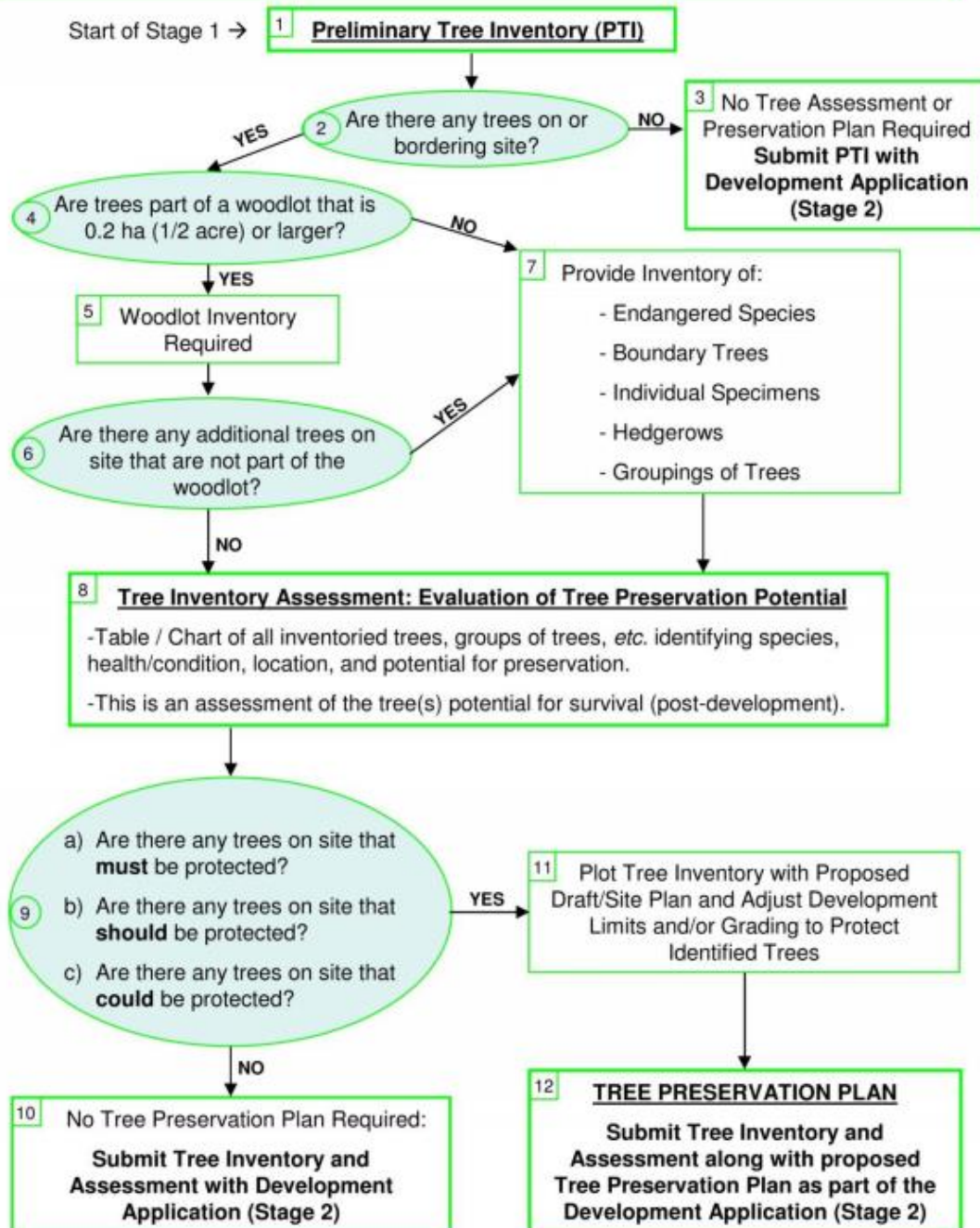
GREENLAND INTERNATIONAL CONSULTING LTD.
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aphillips@grnland.com



Appendix A

City Staged Tree Protection Process

Figure 1a. Stage 1: Pre-Submission – Tree Inventory, Assessment and Preservation Plan



Appendix B

Photos



Photo Viewing Northeast
White Spruce (*Picea glauca*)
T1 on Figure 3



Photo Viewing Southeast Along Eastern Lot Line

Manitoba Maple (*Acer Negundo*)

T3 on Figure 3



Photo Viewing West
Manitoba Maple (*Acer negundo*)
T6-7 on Figure 3



Photo Viewing South
Manitoba Maple (*Acer negundo*)
T8 on Figure 3



Photo Viewing West – Adjacent Apartment Building
Manitoba Maple (*Acer negundo*) – Left Canopy and Juvenile Specimens
T9 on Figure 3



Photo Viewing East
Sugar Maple (*Acer saccharum*)
T2 on Figure 3



Photo Viewing East
White Spruce (*Picea glauca*)
T11 on Figure 3

Appendix C

Canopy Survey

