



Arborist Report and Tree Protection Plan
3064 Trafalgar Road

Oakville, Ontario

Submitted to:

Distrikt Developments
1-90 Wingold Avenue
Toronto, Ontario
M6B 1P5

Submitted by:

GEI Consultants Ltd.
100 Ahrens Street West, Unit 201
Kitchener, Ontario
N1G 3G9

Updated April 2024
Project 1902588

Table of Contents

1.	Introduction	1
2.	Methodology	2
3.	Tree Inventory	3
3.1	Preservation Trees	3
3.2	Removal Trees	3
4.	Tree Protection Plan	4
4.1	Tree Protection Zones	4
4.2	Protection of Preservation Trees	5
5.	Compensation Requirements	7
6.	Summary	8

Appendices

- A. Figures
- B. Tables



1. Introduction

GEI Consultants Ltd (GEI) was retained by Distrikt Developments to complete a tree inventory and prepare an Arborist Report and Tree Protection Plan for their property located at 3064 Trafalgar Road in Oakville, Ontario (**Figure 1, Appendix A**), in advance of proposed development.

GEI completed the tree inventory on June 27, 2019. This Arborist Report and Tree Protection Plan presents the results of the tree inventory, identifies opportunities for tree preservation and protection, recommends measures to protect preservation trees, and discusses compensation for tree removals. The objective of the Tree Protection Plan is to retain existing tree cover wherever feasible and to minimize the risk of injury to trees identified for protection. The preparation of this Tree Protection Plan was guided by the Town of Oakville's *Tree Protection During Construction Procedure* (2016).



2. Methodology

GEI defined the Study Area as the 6 m surrounding the Subject Lands (**Figure 2, Appendix A**). GEI (then Savanta Inc.) completed the tree inventory on June 27, 2019. Trees with a diameter-at-breast-height (DBH) of 10 cm and greater were tagged, assessed, and mapped using a hand-held GPS unit. Trees that were not be tagged were assigned a letter for mapping and reference purposes. The following information was recorded for each tree: species, DBH, crown radius, health category (biological, structural, and overall), and notes regarding the assigned health category.

Tree health was categorized as good, fair, or poor. Trees categorized as “good” overall had at least 80% live canopy and showed no significant structural defects (e.g., weak limbs, girdling roots, stem lean) or evidence of biological damage (e.g., insect damage, fungal growth, leaf dieback). “Fair” trees were those with 50% to 80% live canopy and showed no significant structural or biological defects, or the tree had over 80% live canopy but did show some evidence of structural defects and/or biological damage. Trees categorized as “poor” were those with less than 50% live canopy and/or had significant structural defects and/or biological damage.



3. Tree Inventory

A total of 24 trees (all live) were mapped and assessed during this tree inventory (**Figure 2, Appendix A**). **Table 1 (Appendix B)** outlines the results of the tree inventory, including the tree identification number, species, DBH, crown radius, health category (biological, structural, and overall), comments, recommendations for preservation or removal, and the size of the Tree Protection Zone (TPZ).

The inventoried trees included nine different species, including one that could only be identified to genus. Of the 24 inventoried trees, 17 (71%) are native to the Conservation Halton watershed (HCA 2014). The two most common species overall were Manitoba Maple (11%) and Black Walnut (*Juglans nigra*) (42%).

Based on analysis of predicted impacts to the inventoried trees, all 24 trees are recommended for removal due to anticipated construction impacts or due to health condition. Further detail is provided in the following subsections.

3.1 Preservation Trees

Preservation trees are those that are unlikely to be significantly impacted by the proposed construction or they can likely be preserved using tree protection measures, as described in **Section 4**. None of the 24 inventoried trees have been identified for preservation.

3.2 Removal Trees

Removal trees are those that are located within or at the edge of the proposed construction footprint and cannot be preserved. All of the 24 inventoried trees have been identified as removal trees. Eight of these removals are located on adjacent private lands. Compensation for removal trees is discussed in **Section 5**.

The proponent should ensure that the works are in conformance with the *Migratory Birds Convention Act, 1994* and the *Endangered Species Act, 2007*. Specifically, tree removals should comply with timing window restrictions with regards to the protection of nesting birds (April 1 to August 25) and Species at Risk bats (April 1 to September 30). Where these timing windows cannot be avoided, it is recommended that a qualified ecologist conduct a nest search and bat habitat assessment.



4. Tree Protection Plan

Tree preservation will be achieved through avoidance and/or the use of appropriate tree protection measures. GEI inventoried 24 trees within the Study Area (all live), which have all been identified for removal. However, the work area should be set up such that trees to be preserved on adjacent lands, if applicable, are protected. The proposed Tree Protection Plan is described in the following subsections.

4.1 Tree Protection Zones

The area of protection around a tree is referred to as the TPZ and is measured outward from the trunk. TPZs were determined in accordance with the Town of Oakville's *Tree Protection During Construction Procedure* (2016). **Table 2** below provides the TPZ requirements according to the size of the tree.

Table 2. Minimum Tree Protection Zone (TPZ)

Trunk Diameter (DBH)	Minimum Protection Distances Required (TPZ)
<10 cm	1.8 m
10–30 cm	2.4 m
31–50 cm	3.0 m
51–60 cm	3.6 m
61–70 cm	4.2 m
71–80 cm	4.8 m
81–90 cm	5.4 m
91–100 cm	6.0 m
100+ cm	Add 10 cm for each additional cm of DBH.

The TPZs should be fenced off to prevent physical damage to the tree and compaction of the soil. Tree protection barriers should be erected prior to the commencement of any construction activity and should remain fully intact throughout all phases of construction. The TPZs cannot be used for the temporary storage of fill, topsoil, building materials, equipment storage, washing of equipment, or dumping of any construction debris. Tree protection fencing should be provided to the individual trees and groups of trees to be preserved on adjacent lands.

Signage should be posted in visible locations on each tree protection fence and should clearly state that the barrier delineates the TPZ. Signage is provided by the Town and paid for by the applicant. The applicant shall notify the appropriate Town department in writing prior to commencing any construction activities to confirm that the tree protection barriers are in place. Authorization from the appropriate Town department shall be obtained prior to the removal of tree protection barriers.



4.2 Protection of Preservation Trees

The objective of the TPZ is to maximize protection of the tree to ensure its long-term survival. It is recognized, however, that encroachment into the TPZ will sometimes be necessary to facilitate construction. Some healthy trees are known to withstand construction impacts such as root cutting, soil compaction, and soil saturation; however, these individual responses are dependent on the species, site condition, and degree of impacts (Matheny & Clark 1998).

If construction activities are to occur within the TPZs of certain preservation trees, protection and mitigation techniques are required to prevent construction impacts to these trees. These trees should be given a modified TPZ prior to construction, which should follow the limit of construction activity. This modified TPZ will require strict adherence to the tree protection measures outlined below. If any trees cannot be adequately protected during construction, they shall be identified as removal trees.

Where construction activity is proposed to occur within a TPZ, the TPZ should be properly prepared. The Project Arborist should be on site during all site alteration activities within the TPZ of live preservation trees, including tree removal, canopy or root trimming, and soil stripping, to monitor these activities and propose site-specific mitigation, where appropriate. If any accidental tree damage or encroachment into the TPZ occurs or is observed, the Project Arborist should be notified in order to take appropriate action on site. In addition, the following tree protection measures should be implemented:

- All tree protection barriers should be installed and then inspected by the Development Services Department prior to obtaining final Site Plan approval. The tree protection barriers are to be installed at minimum TPZ distance.
- All relevant contractors should meet with the Project Arborist prior to the beginning of site alteration to review tree protection procedures.
- Low branches may be pruned back or removed to accommodate vehicular movement.
- Trees to be removed should be felled in a manner that drops the tree away from adjacent preservation trees and their TPZs.
- Any brush clearing required within the TPZs should be completed using hand-operated equipment and should be lifted out and not skidded out.
- If excavation or grading is proposed within the TPZs, affected tree roots should be cut at a 90° angle at the edge of anticipated disturbance using specialized equipment. Hydro-vac excavation will be necessary to expose the roots prior to cutting if existing conditions prevent machinery from making a clean, 90° cut.
- Tree roots damaged during construction should be exposed and cut cleanly at a 90° angle using hand operated equipment to aid in root regeneration.
- Any roots exposed for longer than four hours should be kept moist using wet mulch or burlap wrap or be directly irrigated. These affected trees should have wood mulch applied to their respective TPZs at a depth of 5–10 cm to help maintain moisture and moderate soil temperature.
- Horizontal root protection should be used in locations where regular movement of construction equipment through the TPZ is anticipated.



- Where construction activity is proposed to occur within or near the TPZs, irrigation should be implemented during periods of drought, especially during the summer months. A slow soaking of the entire TPZ to a depth encompassing the root system is the preferred method of irrigation, but it may vary depending on the tree species and soil texture. Water should not be directed at or near the trunks. The frequency of irrigation will depend on air temperature and precipitation at the time of construction.
- Sediment control fencing should be installed to provide a protective barrier between areas intended for stockpiling of excavated soil and candidate preservation trees. The sediment control fencing should be installed to Ontario Provincial Standard 219.130.

If preservation trees cannot be adequately protected during construction or if they exhibit canopy dieback post construction, they will be identified as removal trees.



5. Compensation Requirements

The Subject Lands are located within the North Oakville Secondary Plan area. As such, alternative compensation for tree removals has been agreed upon. Compensation for tree removals is discussed in the Environmental Impact Study, submitted under separate cover.

GEI recommends that compensation trees be native to the Conservation Halton watershed. The minimum tree replacement size required by the Town of Oakville is 30 mm caliper for deciduous trees or 150 cm tall for coniferous trees, with tree stock in a five-gallon container, balled in burlap, or in a wire basket.

Additional details regarding tree compensation will be refined at a later stage.



6. Summary

GEI inventoried 24 trees (all live) of 10 cm DBH or greater within the Study Area. All 24 inventoried trees are recommended for removal due to anticipated construction impacts or due to health condition. Compensation for removal trees is discussed in the Environmental Impact Study, submitted under separate cover.

Prepared By:

GEI Consultants



Agneta Szabo
Botanist
647-242-6492
aszabo@geiconsultants.com

Reviewed By:



Sara Ross
ISA Certified Arborist ON-2084A
416-294-6658
sross@geiconsultants.com

c.c. Eva Lee, Project Manager



REFERENCES AND BACKGROUND MATERIALS

HCA 2014. Hamilton Natural Areas Inventory Project, 3rd Edition. Species Checklist Document. Hamilton, ON: Hamilton Conservation Authority.

Matheny, N.P. and J.R. Clark 1998. Trees and Development: A Technical Guide to Retention of Trees During Land Development. Denver, CO, U.S.A.: Dream Books Company.

Town of Oakville 2017. By-law No. 2017-038: Private Tree Protection By-law. Available online: <https://www.oakville.ca/assets/general%20-%20residents/2017-038-PrivateTreeBylaw.pdf>

Town of Oakville 2019. Tree Protection During Construction Procedure. Available online: <https://www.oakville.ca/townhall/en-tre-001-001.html>



Appendix A

Figures






Project 1902588

3064 Trafalgar Road

Figure 1
Subject Lands

NOTES:
 1. Coordinate System: NAD 1983 UTM Zone 17N.
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2023.
 3. Orthoimagery © First Base Solutions, 2023. Imagery taken in 2021.

Legend

 Subject Lands





Project 1902588

- NOTES:**
1. Coordinate System: NAD 1983 UTM Zone 17N.
 2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2024.
 3. Orthoimagery © First Base Solutions, 2024. Imagery taken in 2021.
 4. Site plan received from BDP Quadrangle, updated on June 21, 2021.

Legend

- Subject Lands
- Limit of Grading
- Conservation Halton Approximate Regulation Limit
- Site Plan (June 2021)
- Swale and LID

Tree Inventory

- Removal

3064 Trafalgar Road

Figure 2
Tree Inventory

0 10 m
1:800



Appendix B

Tables



Tree ID Number	Species Common Name	Species Scientific Name	Multi-stem DBH ¹ (cm)	Stem 1 DBH (cm)	Stem 2 DBH (cm)	Stem 3 DBH (cm)	Stem 4 DBH (cm)	Stem 5 DBH (cm)	Crown Radius (m)	Biological Health	Structural Health	Overall Health	TPZ (m)	Recommended Action	Ownership	Notes
101	Norway Maple	<i>Acer platanoides</i>	48	48	0	0	0	0	6	Fair	Fair	Fair	3	Remove	Private	Likely planted with adjacent Norway Maple
102	Manitoba Maple	<i>Acer negundo</i>	19	19	0	0	0	0	2.5	Fair	Good	Fair	2.4	Remove	Private	On lean
103	Black Walnut	<i>Juglans nigra</i>	17	17	0	0	0	0	3	Good	Good	Good	2.4	Remove	Private	
104	Black Walnut	<i>Juglans nigra</i>	19	19	0	0	0	0	3	Good	Good	Good	2.4	Remove	Private	
105	Black Walnut	<i>Juglans nigra</i>	33	33	0	0	0	0	4	Good	Good	Good	3	Remove	Private	
106	Black Walnut	<i>Juglans nigra</i>	22	22	0	0	0	0	3	Good	Good	Good	2.4	Remove	Private (Adjacent)	
107	Black Walnut	<i>Juglans nigra</i>	11	11	0	0	0	0	2	Good	Good	Good	2.4	Remove	Private	
108	Black Walnut	<i>Juglans nigra</i>	26	26	0	0	0	0	4	Good	Good	Good	2.4	Remove	Private	
109	Black Walnut	<i>Juglans nigra</i>	21	21	0	0	0	0	3	Good	Good	Good	2.4	Remove	Private (Adjacent)	
110	Black Walnut	<i>Juglans nigra</i>	15	15	0	0	0	0	2	Good	Good	Good	2.4	Remove	Private (Adjacent)	
111	Silver Maple	<i>Acer saccharinum</i>	64	34	33	30	28	15	6	Fair	Poor	Fair	4.2	Remove	Private (Adjacent)	Multi-stemmed
112	Silver Maple	<i>Acer saccharinum</i>	69	45	30	25	25	24	6	Fair	Poor	Fair	4.2	Remove	Private (Adjacent)	
113	Eastern White Cedar	<i>Thuja occidentalis</i>	10	10	0	0	0	0	1	Fair	Poor	Poor	2.4	Remove	Private	
114	Manitoba Maple	<i>Acer negundo</i>	22	22	0	0	0	0	2	Fair	Poor	Fair	2.4	Remove	Private	
115	White Spruce	<i>Picea glauca</i>	41	41	0	0	0	0	5	Fair	Fair	Fair	3	Remove	Private	
116	Norway Maple	<i>Acer platanoides</i>	52	27	26	25	18	18	5	Fair	Fair	Fair	3.6	Remove	Private	
117	Trembling Aspen	<i>Populus tremuloides</i>	11	11	0	0	0	0	1	Good	Good	Good	2.4	Remove	Private	In ditch
118	Trembling Aspen	<i>Populus tremuloides</i>	12	12	0	0	0	0	2	Good	Good	Good	2.4	Remove	Private	In ditch
200	Norway Maple	<i>Acer platanoides</i>	50	50	0	0	0	0	5	Good	Good	Good	3	Remove	Municipal	
A	Common Pear	<i>Pyrus communis</i>	20	20	0	0	0	0	2	Fair	Fair	Fair	2.4	Remove	Private	Abundant buckthorn
B	Hawthorn	<i>Crataegus sp.</i>	26	21	16	0	0	0	4	Poor	Poor	Poor	2.4	Remove	Private	Significant branch dieback
C	Hawthorn	<i>Crataegus sp.</i>	32	19	18	18	0	0	4	Poor	Poor	Poor	3	Remove	Private (Adjacent)	Significant branch dieback
D	Hawthorn	<i>Crataegus sp.</i>	21	15	14	0	0	0	2	Poor	Poor	Poor	2.4	Remove	Private (Adjacent)	
E	Manitoba Maple	<i>Acer negundo</i>	20	20	0	0	0	0	2	Fair	Good	Fair	2.4	Remove	Private	