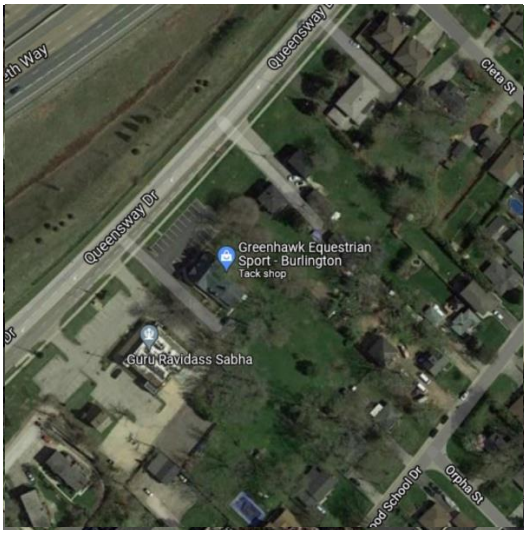
ARBORIST REPORT

2300 Queensway Drive
Burlington, Ontario







September 14, 2021

Prepared For:
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Introduction

Adesso Design Inc., the project landscape architect, has requested the preparation of this arborist report for the planned site alterations at the site of 2300 Queensway Drive in Burlington, Ontario. The intention of the site alteration is to build a townhome development on the property with associated parking and landscaping.

This report provides an inventory and assessment of the 14 trees and two Units on and relating to the subject site and outlines their preservation requirements based on the site plans provided by Adesso Design Inc and in accordance with the current City of Burlington private and town tree By-laws.

This report is supplemental and should be understood in conjunction with related project plans prepared by Adesso Design Inc.

Method of Evaluation

Site observations were made on May 25, 2019, to evaluate and inventory all trees on and within 3m of the site. All trees on City land, and all trees >/=20cm dbh on private property were inventoried. The trees were visually assessed in this evaluation for overall health, structure, and vigor, as well as confirming their locations in relation to planned site alterations and ownership.

Tree inventory, as included in Table 1 is outlined according to the following categories:

- **Species** – botanical and common names are provided for each tree;
- **DBH** – 'diameter at breast height' (1.37 m above grade) for each tree in centimeters;
- **Canopy Width (CW)** – an estimation of the average diameter of the tree canopy in meters;
- **Condition** – an assessment of the overall health and quality of the tree rated on an ascending scale of poor-fair-good;
- **Comments** – general comments and/or site observations;
- **Recommendation** – Preserve or remove relative to planned site alterations, and width of the Minimum Tree Protection Zone, in meters, as required by the City of Burlington's Tree Protection and Preservation (SPEC NO. SS12A). MTPZ is based on DBH and may vary according to existing site conditions.

Table 1: Tree Inventory Chart

Tree #	Common Name	Botanical Name	DBH	Canopy Dia.	Crown	Condition	Comments/Recommendation
Unit 1	White Cedar	*Thuja occidentalis*	5-15	2	C	Fair	Save: 2.4m TPZ
Unit 2	White Cedar	*Thuja occidentalis*	multi	1	C	Poor	Save: 1.8m TPZ
1	Littleleaf Linden	*Tilia cordata*	13	2	D	Poor	Remove
2	Kentucky Coffee Tree	*Gymnocladus dioicus*	3	0.5	D	Fair	Save: 1.8m TPZ
3	Ginkgo	*Ginkgo biloba*	3	0.5	D	Fair	Remove
4	Chinese Lilac	*Syringa x*	multi	5	D	Fair	Save: 1.8m TPZ
5	Sugar Maple	*Acer sacharum*	36	8	C	Poor	Save: 2.4m TPZ - 23% TPZ encroachment.
6	Black Locust	*Robinia pseudoacacia*	40	8	C	Good	Save: 2.4m TPZ - 4.5% TPZ encroachment.
7	Black Locust	*Robinia pseudoacacia*	36	8	C	Good	Save: 2.4m TPZ - 33% TPZ encroachment.
8	White Mulberry	*Morus alba*	50/40/45	14	C	Fair	Save: 3.0m TPZ - 21% TPZ encroachment.
9	Black Walnut	*Juglans nigra*	40	16	C	Good	Save: 2.4m TPZ - 3% TPZ encroachment.
10	White Pine	*Pinus strobus*	50	14	C	Fair	Save: 3.0m TPZ
11	Colorado Spruce	*Picea pungens*	40	8	D	Good	Save: 2.4m TPZ
12	Kentucky Coffee Tree	*Gymnocladus dioicus*	3	0.5	D	Fair	Save: 1.8m TPZ
13	European Hornbeam	*Carpinus betulus*	3	0.5	D	Good	Save: 1.8m TPZ
14	London Plane	*Platanus x acerifolia*	8	0.5	D	Fair	Remove

Discussion

Proposed Works

The intention of the site alteration is to build a townhome development on the property with associated parking and landscaping. The existing trees on site will require protection measures for the proposed development to occur.

Tree Ownership

- **Trees 1, 2, 3, 12, 13 and 14:** are City-owned and located in the City ROW.
- **Tree 5:** is privately owned and shared by subject property and neighbour.
- **Tree Units 1, 2 and Trees 4 and 6 - 11:** are privately owned and located on neighbouring properties.

Conflicts

The City of Burlington Forestry Department must approve all injuries and removals of all trees 20cm DBH or greater on private property, and trees of all sizes on municipal land.

Five (5) regulated trees require permission to injure due to encroachment into the TPZs.

Regulated Trees to be Injured/ Encroached Upon:

- **Trees: 5 - 9**

Excavation for the foundations (Trees 5-8) and regrading for site drainage (Tree 9) will occur within the minimum required TPZ areas of these trees. The amount of encroachment is relatively minor as a percentage of the total area of the tree protection zone, ranging from 3 – 33%. Because of the minor encroachment, with sound horticultural care and caution the trees have a high likelihood of survival and recovery success from the injuries.

The following measures are recommended to reduce stress from injury on these trees and to increase their recovery:

- **Place 10cm of mulch or woodchips in the area of the reduced TPZs.**
- **The trees should be watered and monitored during construction to avoid drought stress, particularly during summer and periods of reduced rainfall.**
- **Deep root or slow release top-dress fertilizing should be carried out between months of May and September.**

Overall, by minimizing these impacts using the mitigation measures described above and herein, it is anticipated that these trees will tolerate the proposed disturbance and have good recovery success.

Tree Removals

Trees 1, 2 and 14 require removal for the proposed development to occur.

Tree Preservation

Eleven (11) trees and two (2) Units should be preserved according to City of Burlington requirements. **Minimum Tree Protection Zone** (MTPZ) measures according to City guidelines are required, as prescribed in Table 1, and shown in Appendix 2.

Tree Risk

No trees on the site posed any unacceptable level of risk at time of assessment.

Permit Requirements

Pursuant to City Tree by-law 068-2013, and those privately-owned trees protected by the Private Tree By-law 02-2020, private tree removals, and MTPZ requirements on this site are subject to the conditions and approvals as required for a site plan.

Minimum Tree Protection Zones (MTPZ's)

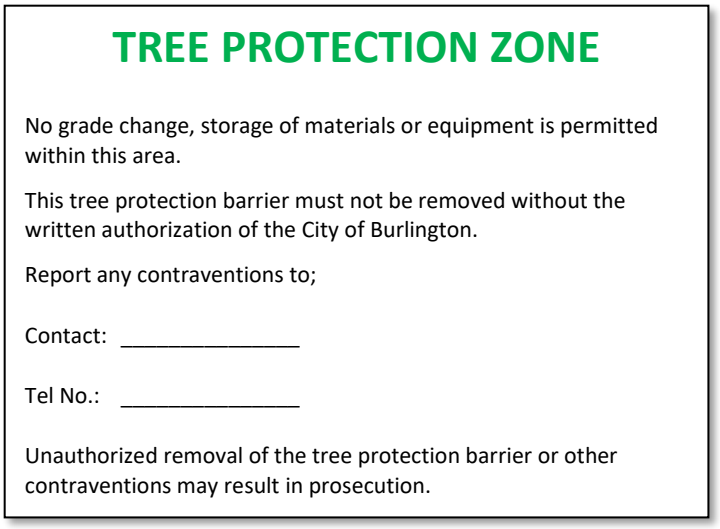
Prior to issuance of the Tree Permit, Site Alteration Permit, tree protection measures for all retained trees must be in place and must remain in place during the entire construction period. These protection measures must be in accordance with City standards.

Trees within or adjacent to a construction site must be protected during construction by means of a barrier installed in accordance with City standards and meet the following specifications;

- No unauthorized activities may take place within the MTPZ of a tree covered under any municipal permit process or agreement;
- If fill or excavated material must be temporarily located near the MTPZ, a wooden barrier shall be used to ensure no material enters the MTPZ;
- MTPZ fencing shall consist of framed construction or snow fencing, and be supported by solid wood framing;
- All MTPZ locations should be clearly marked on site project plans;
- An informational sign should be mounted on MTPZ hoarding and remain throughout the duration of the project. Example below.

Trees and MTPZs should be monitored regularly by a consulting arborist throughout the duration of the project.

Figure 1, Tree Protection Signage



Recommendations

Included here are general recommendations and suggested measures that will help ensure the health and survival of the preserved trees during and, most importantly, after the construction process is complete;

- MTPZ's are suggested minimums, and as such it is recommended to keep all equipment and vehicular movement as far away from existing trees as possible;
- Any tree work such as trimming and branch removals should be carried out according to sound arboricultural practices, and should be performed by a certified arborist;
- All excavation near existing trees should be carried out in a sensitive manner – that is with keen attention to tree roots and soil movement. Large roots should be removed with a saw and by a certified arborist to minimize the damage to the tree as much as possible.

Recommendations to help reduce damage, and increase recovery success of preserved trees include:

- **Pre-construction:**
    - Erect plywood MTPZ hoarding along limit of construction/excavation and out to maximum MTPZ distance where possible.
    - Spread 5 – 10 cm thick layer of shredded pine mulch in the area of the MTPZ.

- **During Construction:**
    - Preferred methods of root-sensitive excavation include: airspade, directional boring, and hand digging.
    - The zone of construction/excavation must be strictly enforced. No excavation or storage of equipment outside this area is allowed.
    - Roots larger than 2.0 cm in diameter that require cutting should be properly pruned by a certified arborist using clean hand tools only. Shovels, picks or other construction tools should not be used to prune roots.
    - Prolonged exposure of tree roots must be avoided. Shortly after and during excavation exposed roots should be kept moist with soil, mulch or irrigation.
    - MTPZ barriers should be monitored regularly for integrity
    - Watering during dry periods is strongly recommended to alleviate construction stress.

- **Post Construction:**
    - Preserved trees should be monitored regularly during their recovery period for signs of construction-induced stress, which may last 5 – 10 years post construction.
    - Broken or dead branches should be properly pruned, and soil decompaction and/or decontamination should be undertaken if recommended by the consulting arborist.

General Limitations of Tree Assessment

The assessment presented in this report is only valid at the time of inspection.

Tree risk assessments rely on identifying and assessing the structural condition of trees to determine weak points and failure potential. Assessment and management of tree risk is based on the science of biomechanics — the way trees grow for structural support and biological function. It must be understood that trees are dynamic, living organisms that are subject to internal and external changes over time.

Similarly, tree management relies on forecasting potential construction impacts and the ability of trees to withstand stresses due to compaction, excavation, filling and mechanical damage. The success of tree protection requires adherence to minimum standards as set forth by the municipality and best management practices by the contractor. The willingness of the owner to comply is also a mitigating factor.

We have made reasonable efforts to assess the overall condition of the trees on or adjacent to the subject property. No guarantee or warranty is offered, expressed or implied, that these trees or any of their parts will remain intact or in stable condition. We cannot predict or be held responsible for the behaviour of any tree regardless of its condition at the time of assessment.

To reduce risk to trees, human life or property we recommend ongoing inspections and evaluations during construction. Post construction evaluation and remediation should also be considered to promote the long-term health of trees.

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