

LEXY LEUNGISA CERTIFIED ARBORIST48 St Quentin Avenue, Toronto, ON M1M 2M80: 416 285 4750C: 647 202 6878F: 416 285 4749lexy@centraltreecare.com

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September 15, 2021 Revised May 11, 2022

City of Vaughan Forestry Department Attn: Forestry Planner #2800 Rutherford Rd. Vaughan ON. L4K 2N9 T (905) 832-8577 E parks@vaughan.ca **1846057 Ontario Inc** Attn: Michael Scott Architects Inc. 46 Centre St. Thornhill, ON L4J 1E9 T 416-577-4973 E <u>mscott@michaelscott.ws</u>

Re: #46 Centre Street (Ward 5)

<u>Arborist Addendum Report – Construction/Tree Protection</u>

Central Tree Care Ltd. has been retained by 1846057 Ontario Inc to provide an addendum arborist report, for the proposed work at 46 Centre Street. The addendum report aims to address the following changes to the site plan as per ongoing comments between Central Tree Care LTD and Michael Scott Architects Inc. with input from PHAEDRUS Studio.

The nature of the work includes partially demolish the site, followed by construction of two new buildings and expanded parking area. As of May 11, 2022, the new roadside curb had been modified in response to comments from the City of Vaughan.

To facilitate the proposed construction:

	Privately-Owned	Privately-Owned Neighbouring / Boundary Trees	City-Owned Trees
Injury	4		
Removal	8	1	1
Exemption			

This arborist report and the attached Tree Protection Plan are based on the assumption that *no additional trees will be injured or removed*.

LIMITATIONS

Inspection of the trees on site was limited to a visual assessment from the ground only. No inspection via climbing, exploration below grade, probing, or coring were conducted, unless stated otherwise. Any observations and data collected from site are based on conditions at the time of inspection. Diameters of trees located on neighbouring properties were estimated to avoid trespassing. It must be noted that trees are living organisms and their conditions are subject to change.

This report was completed using the following documents:

- Original Arborist report by Central Tree Care LTD, completed in August 5, 2020
- Site Plan prepared by Michael Scott Architects and Land Art Design Landscape Architects Inc, issued on May 6, 2022

If there are any changes to the noted site plan, the consulting arborist must be notified immediately. It is the assumption that no further work, other than what has been presented above list, has been proposed.

TREE INVENTORY

Permit-sized trees located within 6.0m of the work area were inspected on August 1, 2017 and updated on January 21, 2020. The tree inventory and health assessment were performed on trees within 6.0m from the property. Trees located greater than 6.0m from the site were not included in the inventory.

Tree #	Species	Latin Name	Health	Structure	DBH (cm)	Base Diameter (cm)	TPZ (m)	Category	Comments	Recommendation
1	Black Walnut	Juglans nigra	Fair – Good	Good	21	28	1.8	1	Specimen is in good health. Tight bud progression.	Fully protect.
2	Norway Maple	Acer platanoides	Fair — Poor	Fair — Poor	29.5	35	1.8	1	Top die back. Dead scaffold limb overhanging neighbouring property.	Requires a permit to remove for new Civic access point and its poor condition.
3	Norway Maple	Acer platanoides	Poor	Poor	25	29	1.8	1	Failed central leader.	Requires a permit to remove for its poor condition.
4	Norway Maple	Acer platanoides	Fair- Poor	Fair — Poor	38	41	2.4	1	Vertical seam on west side, extends from grade to 2.0m. Vertical seams throughout canopy, tip dieback. Target canker on central leader.	Requires a permit to remove for new building.
5	Norway Maple	Acer platanoides	Good	Fair	23	35	1.8	1	Specimen is in good health. Crossing leaders.	Requires a permit to remove for new building.
6	Manitoba Maple	Acer negundo	Fair	Fair	46	52	2.4	2	Growing out over asphalt driveway, epicormic growth throughout, small deadwood throughout, large pruning cuts, 50° lean, asphalt surrounding base, and basal damage along the eastern portion of trunk.	Requested for a permit to remove based on tree condition.
7	Norway Spruce	Picea abies	Fair – Poor	Fair	54	58	3.6	1	Deadwood throughout, sparse throughout	Requires a permit to injure for expanded parking area.
8*	Norway Maple	Acer platanoides	Fair- Poor	Poor	57	55	3.6	1	Surrounded by asphalt, large pruning cuts, vertical seam from union to grade, tip dieback, vertical crack at main union with decay. Target canker and failed limbs.	Fully protect.
9	White Spruce	Picea glauca	Fair	Fair	42.5	48	3.0	1	Sparse lower canopy, raised	Requires a permit to injure for expanded parking area.
10	Scots Pine	Pinus sylvestris	Fair- Good	Fair- Good	45	49	3.0	1	Some deadwood	Requires a permit to remove for expanded parking area.

Tree #	Species	Latin Name	Health	Structure	DBH (cm)	Base Diameter (cm)	TPZ (m)	Category	Comments	Recommendation
11	Scots Pine	Pinus sylvestris	Fair	Fair- Good	35	35	2.4	1	Leans into park area	Requires a permit to remove for expanded parking area.
12	White Spruce	Picea glauca	Fair	Fair	24,19 (43)	48	3.0	1	Co-dominant stems. A "U" shaped inclusion.	Requires a permit to injure for expanded parking area.
13	Manitoba Maple	Acer negundo	Fair	Poor	~70	73	4.2	1	Large limb failures, co- dominant, various traces of decay throughout, deadwood, large established suckers	Requires a permit to remove for expanded parking area and poor condition.
14	Black Locust	Robinia pseudoacacia	Good	Good	27	20	1.8	1	Specimen is in good health.	Requires a permit to remove for new parking lot.
14A *	Black Locust	Robinia pseudoacacia	Good	Good	22	20	1.8	1	Specimen is in good health.	Requires a permit to injure for new parking lot.
15	Columnar Norway Maple	Acer platanoides	Good	Good	18	21	1.8	5	Tree band at base, gypsy moth egg mass, growing under hydro lines	Requires a permit to remove for new curb.

Numbers in brackets represent the multi-stem diameters calculated under Vaughan's multi-stem calculation through the summation of all stem diameters.

*Tree was plotted to an approximate location. If it is found on site that the location of the subject trees is in dispute, the consulting arborist must be contacted, and an updated survey may be required.

Category #: 0. Tree NOT regulated under City of Vaughan Tree by-laws

1. Trees with diameter at breast height (DBH) or basal diameters of 20cm or more, situated on private property on the subject site.

2. Trees with diameter at breast height (DBH) or basal diameters s of 20cm or more, situated on private property, within 6m of subject site.

3. Trees of all diameters situated on City owned parkland within 6m of subject site.

4. Trees of all diameters situated within lands designated under Naturalized Areas

5. Trees of all diameters situated within the City road allowance adjacent to the subject site.

6. Trees of all diameters situated within the City road allowance adjacent a neighbouring property.

DISCUSSION

Please refer to "Recommendations" section for further details on tree preservation and how to conduct work within a Tree Protection Zone (TPZ).

Background information

The original arborist report, prepared by Central Tree Care LTD, was completed on January 23, 2020, and revised as recently as August 5, 2020.

Within the report, the following ten (10) trees had been proposed for removal, due to the following proposals:

- Trees 2, 3 5, due to the excavation associated with the proposal of 'Building B'
- Trees 6, 7, 9, 10, 11, 12, and 13, due to the excavation associated with the proposed parking lot expansion

The following three (3) trees had been proposed for injury, due to the following proposals:

- Trees 14A and 14, due to the excavation associated with the proposed parking lot expansion
- Tree 15, due to the excavation associated with the new curb cut

Changes to Site Plan

A new site plan had been issued by Michael Scott Architects Inc., on September 7, 2021. The following structures were adjusted within the proposal:

- The building footprints of both proposed structures have been reduced, to include an adjacent screened waste storage
 - Excavation associated with the new foundation is anticipated to require a depth of approximately 3.0m and an overdig of approximately 1.0m beyond the footprints indicated on the site plan
- The parking lot has been reduced along the back property line, with the parking signs mounted on concrete beams, placed atop of the existing grade
 - Excavation associated with the new parking lot and turning areas are anticipated to require a depth of approximately 0.6m and an overdig of approximately 0.3m beyond the footprint indicated on the site plan

As of May 6, 2022, a new site plan had been issued to address comments related to the curb cut that leads onto the property; the new curb cut has been modified with a greater turning radius.

All impacts that have changed from the updated proposal will be included in the discussion below; otherwise, the impacts mentioned from the previous arborist report are assumed to remain the same.

Trees proposed for removal

The following trees are now proposed for removal, based on the following conditions:

Trees 6 and 13 are both Manitoba Maples, located within the property of 46 Centre St. The subject trees are known to be a fastgrowing, aggressive species, which often produce wood with weak compartmentalization and attachments to the main stem; as a result, the species are known to grow quickly and become more susceptible to failure as they continue to grow. Signs of large limb failures have been noted in tree 13, while deadwood has been noted to be present in tree 6; this suggests that the subject trees are at a stage of declining condition. Furthermore, the aggressive nature of the species tends to outcompete the establishment of other beneficial vegetation; in this case, the property owners wish to remove the trees to introduce more suitable species on site, along with the fact that tree 13 was noted to be in poor condition. For this reason, the subject trees are recommended for removal; a **permit to remove is required.**

Trees 2 and 3 are both Norway Maples, located within the front yard of 46 Centre St. The subject trees are in relatively fair-poor condition, with tree 3 noted to have sustained a large leader failure; tree 2 shows signs of substantial decline, with one large scaffolding limb overhanging the neighbouring property to the east. Despite the new building footprint no longer affecting the subject trees, they are recommended for removal due to their declining conditions and poor structures; with the area currently proposed as the main Civil access point towards Building B, the risk of failure may result in a hazard towards the property and future residents. A **permit to remove is required.**

Changes to Expanded Parking

The existing asphalt parking lot is slated to be removed and replaced with a larger parking area, including a drive aisle, a concrete slab area for garbage and two turning areas on the sides of the lot. Excavation to a depth of 575mm is anticipated to install the subbase for the new heavy-duty asphalt, and the signs for parking are anticipated to be mounted on concrete beams, which are to be laid atop of the existing grade.

Tree 7 is a Norway spruce, located close to the back of the property line of 46 Centre St. The excavation associated with the new parking lot will require encroachment up to 2.6m from the base of the subject tree; given the distance in relation to its current condition, additional recommendations may be required to increase the vitality of the tree prior to completion of the work; these recommendations have been made under the sections titled 'Recommendations for Excavation within the TPZ of a Protected Tree' and 'Recommendations for Remedial Care'. To facilitate the work, a **permit to injure is required.**

Trees 9 and 12 are White spruce trees, located close to the back property line of 46 Centre St. The excavation associated with the new parking lot will require encroachment up to 2.5m from the base of tree 9, and up to 2.1m from the base of tree 12; at these distances, it is expected that few significant roots would be encountered. To mitigate the impacts associated with the excavation, recommendations have been made under the section titled 'Recommendations for Excavation within the TPZ of a Protected Tree'. To facilitate the work, a **permit to injure is required**.

Tree 14 is a Black Locust tree, located within the back lot of 46 Centre St. The excavation associated with the new parking lot will require encroachment up to the base of the tree; at this distance, it is expected that large structural roots would be encountered, causing destabilization of the tree if severed. For this reason, the tree is recommended for removal; to facilitate the work, a **permit to remove is required.**

Changes to the new Curb Cut

The new curb cut has been proposed with a larger turning radius, approaching the existing sidewalk at an angle of approximately 60 degrees; the previous curb radius had been proposed to meet the existing sidewalk at 90 degrees. Excavation associated with the new curb is anticipated to require a depth of approx. 0.6m, and is expected to extend approx. 0.3m beyond the footprint indicated on the site plan.

Tree 15 is a Columnar Maple, located within the city street road allowance of Centre St. The subject tree is located within the proposed curb cut, and will **require a permit to remove.**

RECOMMENDATIONS

Recommendations for Hoarding





Hoarding must be installed by a qualified contractor and put in place as accurately as possible using the scale plan as the reference. It must conform to the recommendation put forth by the City of Vaughan and recommendations within this report. All the protective fencing must be maintained throughout the construction project and its removal must be approved by the Forestry planner. All hoarding must be installed before demolition or construction commences and approved by the Forestry planner.

The TPZ is established on construction sites to help protect the trees from

- Alteration of existing grades
- Changes in grade by excavating and scraping
- Movement of construction vehicles and people
- Disposal of foreign materials
- Storage of waste of construction materials

The tree protection barriers can be constructed from:

- 4ft. high plywood hoarding that can be lowered around limbs, with the supports on the outside
- 4ft. high orange plastic snow fence on a 2"X 4" frame work, this is recommended were visibility is an issue This is recommended for city trees
- If fill or excavates are going to be placed near the plastic fence a plywood barrier must be used to stop these materials from entering the TPZ.
- For more information on the construction of a tree protection zone please see the City of Vaughan's forestry's web site and go to By-laws and Policies.

Tree protection signage:

• This sign will be mounted on each TPZ, and should be a minimum of 40cm x 60cm and made on white gator board. The sign must say in bold letters as a heading: Tree Protection Zone (TPZ) the rest of the text is as follows: No grade changes, storage of materials or equipment is permitted within this TPZ. Tree protection barriers must not be removed without written authorization of the City of Vaughan, Forestry Department. For info call Forestry Department at (905) 832-8577 or the project consultant

Implementation of protection:

- All tree protection barriers must be erected before any type of construction commences on the subject site as per the approved Tree protection plan
- Before construction begins the TPZ must be inspected by city forestry staff and the consulting arborist.
- Before any digging commences around a tree subject to injury by permit, the consulting arborist must be informed.
- To dig near a tree subject to injury by permit the consulting arborist must be on site to supervise the excavation.
- Hoarding cannot be removed until all construction is finished

Recommendations for Excavation within the TPZ of a Protected Tree

The following recommendations must be followed to minimize the damage to the tree:

- A qualified arborist must be on site for the complete duration of each excavation. It is the arborist's duty to instruct the laborers and minimize damage to the tree.
- The arborist is also responsible for all root pruning, and to promote 'working around' roots whenever possible.
- Roots within the proposed work area shall first be exposed prior any root pruning is to take place
- All root pruning is to be conducted to proper arboricultural standards with sharp, sanitized tools and exposed roots to be recovered with parent soil under the supervision by a Certified Arborist
- All excavation/digging is to be done by hand or air spade to the required depth of the proposed work under the supervision by a Certified Arborist
- If roots measuring a minimum of 5cm in diameter or if a large mass of roots are found, the impact of the proposed work shall be evaluated with Urban Forestry, and the structures must be moved away from the affected trees until a tolerable level of impact is found
- All excavation within the minimum TPZ of a protected tree is to be documented; a report of the findings should then be submitted to Urban Forestry

Recommendations for Remedial Care

All trees slated for preservation located within the work area are to receive a deep root fertilization treatment to prepare the trees for the impact of the proposed work. Stela Maris[®], a seaweed-based extract, is recommended to be used to help improve overall plant health, improve root growth and development, improve plant vigor, and to help trees overcome periods of stress.

To aid in the affected trees' recovery, the subject trees should be consistently watered enough to have the soil kept moist, but not wet, as too much water can suffocate the root system and cause anaerobic conditions.

Tree Protection Hoarding and Tree Removal Costs

Please refer to the attached quotations for details.

REPLACEMENT PLANTING



The replacement ratio for the City of Vaughan is as follows:

Tree #	DBH of Tree to be Removed (cm)	Replacement Trees Required	Total Replacements		
15	<20cm	0	0		
2, 3, 5, 14	20cm - 30cm	1:1	4		
4, 11	31cm - 40cm	1:2	4		
6, 10	41 – 50cm	1:3	6		
13	Diameter over 50cm	1:4	4		
		Total Replacements Required:	18		

Please refer to the planting plan (L-102) for planting scheme and approximate planting locations. A total of eleven (11) trees will be planted on the property while the remaining replacement trees will be compensated via a cash in lieu amount of 550.00 per tree (550.00×7 trees = 3,850.00)

Watering Guidelines for Newly Planted Trees

To improve the chances of survival for newly planted trees, they must be watered with at least 20 gallons of water at the time of planting. The following guidelines should be followed:

- Irrigate planted trees 2 to 3 times a week for the first two months, and twice a week thereafter until the rainy season. It may be necessary to increase watering intervals during hot and dry weather
- Soil is to be kept moist, not wet, as too much water can suffocate the root system and cause anaerobic conditions
- During the second year, watering should occur on a weekly basis. Water the soil area under the dripline, allowing enough time for the water to penetrate the soil a depth of 6" to 12"
- It may be necessary to make adjustments to the watering frequency and duration depending on soil type, weather, drainage, and tree species

De-Compaction of Soil

If the proposed planting area has been compacted due to construction, the area must be de-compacted prior to planting. The use of radial trenching using a pneumatic air compressor, such as an air spade, may be employed to de-compact the soil. Vertical mulching may be another option that can be used to de-compact the soil. The trenches may then be filled with compost to increase pore space and to compensate for the nutrients that were lost during the construction process.

SUMMARY

The owner of 46 Centre Street is proposing to partially demolish the site, followed by construction of two new buildings and expanded parking area. This addendum report addresses the changes made to the extent of the proposed work, resulting in the following proposed permits to facilitate the proposed construction:

	Privately-Owned	Privately-Owned Neighbouring / Boundary Trees	City-Owned Trees		
Injury	4				
Removal	8	1	1		
Exemption					

The canopy loss associated with the proposed work will result in a loss of approximately 55% of the total canopy cover on the property; the remaining permit-sized trees will be fully protected.

To compensate for the canopy loss, **eighteen (18) replacement trees** are required.

If there are any questions or concerns regarding the contents of this report, please feel free to contact me at lexy@centraltreecare.com.

Thank you,

c/o Lexy Leung ON-2194A Central Tree Care Ltd.



ON-1379A

SITE PHOTOS

Photo 1



Photo 2



T1

Photo 3



Photo 4



Photo 5



Photo 6



Photo 7



Photo 8







1:100



RECYCLED CONT	FENT -
ТУРЕ	AREA (m ²)
Concrete	25
Asphalt	351
Unit Paving (Unilock)	0
Other	141
TOTAL	517.

P-CO-374-01

TYPE

Open Planting Bed

A





P-CO-374-03

LEGEND - PAVING



AAM

May.06.2022

SCALE AS NOTED

DRAWN BY:

PRINT DATE:

46 r

Thornhill,

1846057 Or

LAD-374 JAN.28.2019

CHECKED BY: JW

					34.50	1	34.50
В	Open Planting Bed	73.6	1.50	110.40			
					110.40	2	55.20
C	Open Planting Bed	5.7	1.50	8.55			
D	Soil Cells	13.0	1.10	14.30			
E	Open Planting Bed	10.7	1.50	16.05			
					38.90	2	19.45
F	Open Planting Bed *On adjacent R.O.W.*	17.4	1.50	26.10			
G	Open Planting Bed	136.0	1.50	204.00		9	
н	Open Planting Bed	14.4	1.50	21.60		1	
I	Soil Cells	13.7000	1.10	15.07			
					266.77	10	26.68
	TOTAL SOIL VOLUME PROVIDED						