COHEN & MASTER™

TREE AND SHRUB SERVICES

ARBORIST REPORT
&
TREE PROTECTION PLAN

Traditions Seniors Housing Ltd.

3255, 3259, 3265 New Street and
454, 462 Cumberland Ave.
Burlington, Ontario

Date: Aug. 9, 2023

Cohen and Master Tree and Shrub Services Ltd.
42 Guardsman Road
Thornhill, Ontario, L3T 6L4
416-932-0622

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Introduction

Cohen & Master Tree and Shrub Services was retained in January 2023 by Traditions Seniors Housing Ltd. to complete an arborist report and Tree Protection Plan for 3255, 3259, 3265 New Street and 454, 462 Cumberland Ave., Burlington. The report was requested relative to demolition of the existing houses and construction of a mid-rise residential development on the site.

The purpose of this report is to:

- Establish species, size and condition of trees protected by the City of Burlington Public Tree By-law (068-2013) and Private Tree By-law (040-2022).
- Provide a prescription for trees to be protected during the project.
- Provide a Tree Protection Plan showing the location of required tree protection measures, injuries, removals, and protection notes based on the proposed site plan.

Key Item

To accommodate the design, the following By-law protected trees will be affected.

Ownership	Action	Tree #	Total
City	Injure	4, 48, 49	3
Private (subject site and private adjacent)		12, 14	2
Boundary (Private/City)		0	0
City	Remove	3, 31	2
Private (subject site and private adjacent)		2, 5, 6, 16, 21, 22, 23, 25, 26, 27, 28, 29, 30, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 51	27
Boundary (Private/City)		34	1

An application is to be submitted to the City of Burlington for the above proposed actions to By-law protected trees.

Refer to the Tree Protection Plan (Appendix II) for required tree protection measures and methods of work.

Method

1. The subject site was assessed by Meagan Krzywicki, ISA certified consulting arborist with Cohen & Master, on February 1, 2023.

2. Photos were taken at the time and the most representative are attached as Appendix I.

3. The methods used to collect data and the information provided below are consistent with the details provided in the City of Burlington's 'A Guide to Tree Protection' and 'Tree Protection and Preservation Specification No.:SS12A', dated Sep. 2020.

4. All trees 20 cm in diameter at breast height (DBH) and greater, located on the subject site and within 6 meters of the subject site property line were inventoried. All trees on adjacent municipal property within 6 meters of the subject site were inventoried.

5. Trunk diameter was measured using a calibrated diameter tape. The measurement was taken at 1.37 meters above ground level, generally referred to as the diameter at breast height (DBH).

6. Trees were assessed by external visual inspection from the ground and assigned a condition rating ranging from good to poor in consideration of biological and structural condition.

7. Cohen and Master created a Tree Protection Plan by adding tree protection comments to a site plan prepared by MCL Architects, dated May 19, 2023, and based on a topographic survey prepared by Cunningham McConnell Ltd. dated Dec. 16, 2021.

8. The Tree Inventory and Tree Protection Plan are found in Appendix II.

9. Limitations of the assessment applicable to this report are described in Appendix III.

Tree Inventory

See Appendix II.

Impacts to Trees

Tree Removals

Trees 2, 3, 5, 6, 16, 21, 22, 23, 25 – 31 (inclusive), 34 – 47 (inclusive) and 51 are proposed for removal due to excavation for the underground parking garage. The tree is located within the footprint of excavation, or excavation is required inside the TPZ to an extent that the tree's stability is expected to be compromised.

Tree Injuries

Tree 4 is a 21 cm DBH Norway maple located in the municipal boulevard between the sidewalk and Cumberland Ave. A new vehicle driveway is proposed north of the tree, requiring excavation less than 2 m from the base of the tree. Root sensitive excavation under arborist supervision is required to prune roots if required. If the arborist deems the root damage will affect the health or stability of this tree, removal may be required.

Tree 12 is a 44 cm (cumulative) DBH Manitoba maple located on the adjacent property to the north. Installation of the shoring for excavation of the underground parking garage is proposed 2.5m from this tree, within approximately 5% of the TPZ. Root sensitive excavation under arborist supervision is required to prune roots if required. It is anticipated that this tree will be able to withstand this injury.

Tree 14 is a 44 cm DBH Manitoba maple located on the adjacent property to the north. Installation of the shoring for excavation of the underground parking garage is proposed 2m from this tree, within approximately 11% of the TPZ. Root sensitive excavation under arborist supervision is required to prune roots if required. It is anticipated that this tree will be able to withstand this injury.

Tree 48 is an 83 cm DBH basswood tree located on the municipal right of way in front of 3259 New Street. Excavation of the underground parking garage is proposed 4.3m from this tree to the north, inside approximately 5% of the TPZ of this tree. A new vehicle driveway is proposed 4.5m west of this tree, within approximately 5% of the TPZ. The area that is currently a gravel driveway and walkway are to be removed and replaced with soft ground surface. Root sensitive excavation under arborist supervision is required to prune roots if required. If significant roots are in conflict with the driveway entrance, accommodations are to be made for the roots (e.g., adjusting the grade, driveway curb, and/or bridging over tree roots).

Tree 49 is a 47 cm (cumulative) DBH chestnut tree located in the municipal right of way in front of 3255 New Street. The existing interlocking paver driveway inside the 5% of the TPZ of this tree is to be removed and replaced with soft ground surface. This work must be completed by hand. Significant impacts to this tree are not anticipated.

Tree Protection Prescription

1. Approval must be obtained from the City of Burlington for the injury to Trees 4, 12, 14, 48, and 49 (5 trees), and to remove Trees 2, 3, 5, 6, 16, 21, 22, 23, 25, 26, 27, 28, 29, 30, 31, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 51 (29 trees).

2. No construction activity is permitted prior to approval from the City of Burlington.

3. The Tree Protection Plan, Appendix II, must be provided to the site supervisor prior to any work commencing on the site.

4. Tree protection is specified to prevent damage to existing trees. Damage to trees is cumulative and often irreversible. Mature trees are especially sensitive to injury or changes in the environment.

5. No disturbance is allowed within the Tree Protection Zone (TPZ) of By-law protected trees without permission from the City of Burlington. Disturbance includes soil compaction from foot traffic and construction materials, excavation, trenching, grade changes, or storage or disposal of materials, including those toxic to plants.

6. The minimum TPZ radius is specified by the City of Burlington as follows,

Trunk Diameter (DBH) Measured @ 1.37m Above Grade	**Minimum Protection Distances Required For: Trees on City Property**
< 10cm	1.8m
11-40cm	2.4m
41-50cm	3.0m
51-60cm	3.6m
61-70cm	4.2m
71-80cm	4.8m
81-90cm	5.4m
91-100cm	6.0m
> 100cm	6cm + 10 cm per 1 cm DBH

7. The TPZ radius must be measured from the outside edge of the base of the trunk.

8. Tree protection barriers are to be installed as shown on the Tree Protection Plan (Appendix II). The barriers are to be 1.2m (4 feet) high and built to the standards set out in the City of Burling Specification No.:SS12A.

9. Signs are to be mounted on the construction-facing side of the tree protection barriers for the duration of the project. See the Tree Protection Plan for details.

10. It is the responsibility of the site supervisor to inspect the condition of the tree protection measures outlined on the plan and within this report each morning. If disturbance is observed, it is to be repaired prior to work commencing on site that day.

11. During construction, if any tree roots are exposed or disturbed **outside** the tree protection barriers, care is to be taken to minimize their disturbance. If roots must be removed outside the TPZ, they must be cleanly pruned. Tearing roots hinders wound closure and can increase risk of disease and root rot.

12. Any injury to, or removal of, trees located on/over shared property lines ('boundary trees') must be consented to by all owners of the tree, regardless of size or municipal approval. 'Boundary' trees (in which any part of the tree from the ground to the first branch crosses over a property boundary), are protected under the Provincial Forestry Act, and the consent of all owners for the removal or injury of shared trees is required.

13. Where work is proposed inside the TPZ of a By-law protected tree, a prescription to minimize impacts to trees must be followed, as per the Tree Protection Plan.

14. On this project, root sensitive excavation (by hand, AirSpade, or low-pressure hydrovac) is required to a depth of 90 cm, where excavation is proposed inside of the TPZs of Trees 7-11, 12, 14, and 48 for excavation of the underground parking garage. Root sensitive excavation is also required for excavation of the proposed driveway inside the TPZs of Trees 4 and 48.

15. Removal of the existing walkway and driveways inside the TPZs of Trees 48 and 49 must be carried out by hand, and after all building construction is complete.

16. All work inside of TPZs must be overseen by a qualified arborist, and roots pruned using proper arboricultural methods and at the arborist's discretion.

17. As per the City of Burlington, a qualified arborist is,

- An International Society of Arboriculture (ISA) Certified Arborist, Municipal Specialist, Qualified Tree Risk Assessor, or Board-Certified Master Arborist (BCMA)
- A Registered Consulting Arborist (RCA) with the American Society of Consulting Arborists (ASCA)
- A Registered Professional Forester (RPF)

18. Prior to the start of demolition and construction, a site meeting with the retained contractor and a qualified arborist is required to determine clearance requirements for site access and excavation/shoring.
19. Pruning must be completed using proper arboricultural methods and with approval from the City.
20. All new site services and connections are to be located outside of TPZs whenever possible. If work must be completed inside of TPZs, alternatives to open trenching are to be used (e.g., directional tunneling). If open trenching is required, low-pressure hydrovac or AirSpade are to be used under the supervision of a qualified arborist.
21. Additional tree protection requirements and details are provided on the Tree Protection Plan (Appendix II).

Compensation

As compensation for the removal of By-law protected trees, replanting is proposed on the site as per the Landscape Plans prepared by SDG.

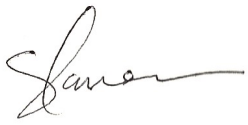
For the removal of private trees, compensation ratios (or cash in lieu of replanting) is typically required as follows,

Trunk Diameter (DBH)	Tree Replacement Ratio
20 – 35 cm	2:1
36 – 74 cm	3:1
75 cm or more	4:1

Compensation for the removal of City trees is to be determined by the City of Burlington.

Details on replanting on the site are beyond the scope of this report.

On behalf of **Cohen and Master Tree and Shrub Services**,



Sarah Lamon, HBSc, MFC
Consulting Arborist - ISA Certification: ON 1220A
Cohen and Master Tree and Shrub Services Ltd.
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Appendices
Attached

Appendix I – Photographs



Photo 1. Tree 2.



Photo 2. Trees 3 and 4.



Photo 3. Tree 5.



Photo 4. Tree 6.



Photo 5. Trees along fence line (8-15).



Photo 6. Tree 16.



Photo 7. Trees 21 and 22.



Photo 8. Tree 23



Photo 9. Tree 24.



Photo 10. Trees 25, 26, 28.



Photo 11. Trees 28, 29, 30.



Photo 12. Tree 31.



Photo 13. Trees 34 – 38 (left to right).



Photo 14. Trees 44, 45, 46.



Photo 15. Tree 47.



Photo 16. Tree 48.

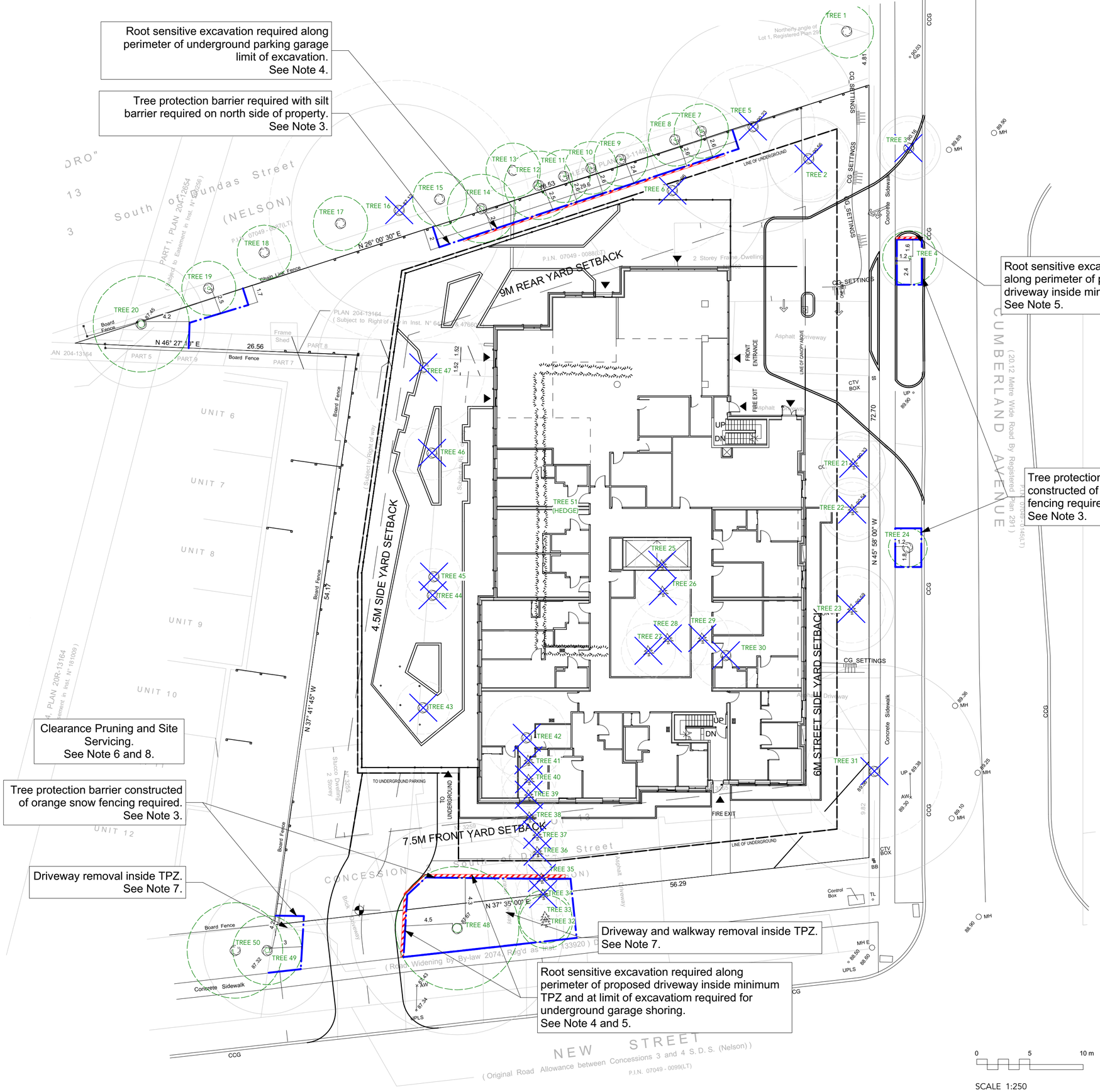


Photo 17. Trees 49, 50.



Photo 18. Tree 51.

Appendix II – Tree Inventory and Tree Protection Plan



SCALE 1:250

LEGEND

- TREE 1 — INVENTORIED TREE
- MINIMUM REQUIRED TREE PROTECTION ZONE (TPZ)
- TPZ FOR TREE TO BE REMOVED
- TREE PROTECTION BARRIER
- ROOT SENSITIVE EXCAVATION
- TREE REMOVAL

General Notes
- This plan must be read in conjunction with the arborist report prepared by Cohen and Master.
- Cohen & Master provided the tree protection comments, and icons for trees 1, 7-15, 17-19, 24-30, 32-46, 50. All other information was provided on a topographic survey prepared by Cunningham McConnell Ltd. datedDec. 16 2021, and site plans prepared by MCL Architects Ltd, May 19 2023.

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No.	DATE
3	Aug. 9, 2023
2	Jun. 6, 2023
1	Feb. 6, 2023

SITE
TRADITIONS SENIORS HOUSING
454-462 CUMBERLAND AVE & 3255, 3259 AND 3265 NEW STREET, BURLINGTON

TITLE
TREE PROTECTION PLAN

TPP-1

TREE INVENTORY

Inventory Date: Feb. 1 2023

TABLE DETAILS

Tree # - the identification number assigned to each inventoried tree, corresponding to the plan.
Species - the common name and botanical/Latin name of inventoried tree.
Botanical Name - the botanical or Latin name for each inventoried tree.
DBH - refers to diameter at breast height (in centimeters) measured at 1.37 m above finished grade**.**
Tree Protection Zone (TPZ) - minimum Tree Protection Zone as recommended by the City of Burlington. This radius distance is based on the diameter of the tree and the protection zone is measured from the outside of the base of the trunk.
Root Zone - this is an assessment of the growing conditions within the root zone of the tree measured on a scale of Good, Fair, Poor**.**
Trunk Integrity - this is an assessment of the trunk for any defects or weaknesses measured on a scale of Good, Fair, Poor**.**
Crown Structure - this is an assessment of the scaffold branches and the canopy of the tree measured on a Good, Fair, Poor**.**
Crown Vitality - this is an assessment of the health of the tree measured on a Good, Fair, Poor.
Overall Tree Condition - this is an assessment of the overall condition of the tree based on the health and structure of the tree, measured on a scale of Good, Fair, Poor.
Ownership - Subject site, neighbouring property, City property or boundary (on/over shared property lines).
Condition Comments - Observations that inform the condition rating and recommendations.
Action - Proposed action (preserve, remove, or injure) to trees based on site plans or tree condition

Tree #	Species	DBH (cm)	Tree Protection	Root Zone	Trunk Integrity	Crown Structure	Crown Vitality	Overall Tree Condition	Ownership	Condition Comments	Action
1	white spruce (*Picea glauca*)	22	2.4	Good	Good	Fair	Fair	**Fair**	neighbouring property	Limbs branching to ground, canopy competition due to Manitoba maple.	Preserve, beyond scope
2	white mulberry (*Morus alba*)	51	3.6	Good	Poor	Fair	Poor	**Fair - Poor**	Subject Site	Lower branches dead - recommend pruning if retained, large deadwood (15cm), 40% deadwood, trunk decay.	Remove due to footprint of U/G parking.
3	Norway maple (*Acer platanoides*)	21	2.4	Good	Good	Fair	Good	**Good**	City	Evidence of girdling roots - flat trunk on east side, hydro lines above- recommend prune for hydro, broken leader	Remove due to vehicle entrance
4	Norway maple (*Acer platanoides*)	27	2.4	Good	Good	Fair	Fair	**Good**	City	Hydro lines above - recommend prune for hydro if retained	Injure. New curb less than 2m from tree to north.
5	Manitoba maple (*Acer negundo*)	60,45, 30-35 [83]	5.4	Fair	Poor	Fair	Poor	**Poor**	Boundary (Subject Site & neighbouring)	Est. DBH for smallest stem, large deadwood (15cm+), recommend prune deadwood, significant lean, growing in chain link fence	Remove due to excavation for U/G parking.
6	Silver maple (*Acer saccharinum*)	88	5.4	Good	Fair	Fair	Fair	**Fair**	Subject Site	30% deadwood, minor trunk wounds	Remove due to footprint of U/G parking.
7	Manitoba maple (*Acer negundo*)	25, 19 [31]	2.4	Fair	Poor	Fair	Fair	**Fair - Poor**	neighbouring property	Multiple stem, lean (larger stem almost horizontal away from subject site), minor included bark at union	Preserve
8	Manitoba maple (*Acer negundo*)	18	2.4	Fair	Fair-Poor	Fair	Fair	**Fair**	neighbouring property	15% deadwood, moderate - extensive lean, grape vine in crown	Preserve
9	Manitoba maple (*Acer negundo*)	20,13, 8 [25]	2.4	Fair	Fair	Fair	Fair	**Fair**	neighbouring property	15% deadwood	Preserve
10	Manitoba maple (*Acer negundo*)	15	2.4	Fair	Fair	Fair	Fair	**Fair**	neighbouring property	10% deadwood	Preserve
11	Manitoba maple (*Acer negundo*)	15	2.4	Fair	Poor	Fair	Fair	**Fair**	neighbouring property	Dead 12cm stem	Preserve
12	Manitoba maple (*Acer negundo*)	35,26 [44]	3	Fair	Poor	Poor	Fair	**Poor**	neighbouring property	26cm stem on lean away from subject site	Injure for shoring installation
13	Manitoba maple (*Acer negundo*)	32	2.4	Fair	Fair	Fair	Fair	**Fair**	neighbouring property	lean away from subject site	Preserve
14	Manitoba maple (*Acer negundo*)	44	3	Fair	Poor	Poor	Poor	**Poor**	neighbouring property	lean, large deadwood (10-20cm), 70% deadwood, decay evident in trunk, recommend removal	Injure for shoring installation (recommend removal by City)
15	Manitoba maple (*Acer negundo*)	26	2.4	Fair	Fair	Fair	Fair	**Fair**	neighbouring property	20% deadwood, lean, epicormic on lower trunk, recommend prune if retained	Preserve
16	Willow (*Salix sp.*)	153	11.5	Fair	Poor	Fair	Poor	**Poor**	neighbouring property	Large deadwood (15-20cm), 30% deadwood, canker with decay, lean, epicormic from trunk - recommend pruning dead wood if retained.	Remove due to footprint of U/G parking.
17	Manitoba maple (*Acer negundo*)	32	2.4	Dead	Dead	Dead	Dead	**Dead/ dying**	neighbouring property	Tall standing stump (~8m tall), on significant lean, bark peeling, dense amount of epicormic growth at base	Preserve
18	Manitoba maple (*Acer negundo*)	31	2.4	Fair	Fair	Fair	Fair	**Fair**	neighbouring property	lean	Preserve
19	Manitoba maple (*Acer negundo*)	28	2.4	Fair	Fair	Fair	Fair	**Fair**	neighbouring property	Epicormic shoots at base	Preserve
20	Manitoba maple (*Acer negundo*)	64	4.2	Fair	Poor	Fair	Fair	**Fair**	Boundary (Subject Site & neighbouring)	Trunk cotorsion, epicormic shoots at base, 30% deadwood	Preserve
21	Balsam fir (*Abies balsamifera*)	40	2.4	Fair	Fair	Fair	Fair	**Good**	Subject Site	10% deadwood	Remove due to excavation for U/G parking.
22	Balsam fir (*Abies balsamifera*)	32	2.4	Good	Good	Good	Good	**Good**	Subject Site		Remove due to excavation for U/G parking.
23	Balsam fir (*Abies balsamifera*)	43	3	Good	Good	Fair	Good	**Good**	Subject Site	Multiple leaders	Remove due to excavation for U/G parking.
24	Callery pear (*Pyrus calleryana*)	4	1.8	Good	Good	Good	Good	**Good**	City		Preserve
25	Cedar (*Thuja occidentalis*)	28	2.4	Fair	Fair	Good	Fair	**Fair**	Subject Site	10% deadwood	Remove due to footprint of building.
26	Cedar (*Thuja occidentalis*)	30	2.4	Good	Good	Good	Good	**Good**	Subject Site	10% deadwood	Remove due to footprint of building.
27	Balsam fir (*Abies balsamifera*)	30	2.4	Good	Good	Good	Good	**Good**	Subject Site	15% deadwood	Remove due to footprint of building.
28	Norway Spruce (*Picea abies*)	57	3.6	Good	Good	Good	Good	**Good**	Subject Site	15% deadwood	Remove due to footprint of building.
29	Balsam fir (*Abies balsamifera*)	26	2.4	Good	Good	Fair	Good	**Good**	Subject Site	10% deadwood	Remove due to footprint of building.
30	Manitoba maple (*Acer negundo*)	48	3	Fair	Fair	Fair	Fair	**Fair**	Subject Site	Epicormic growth at base	Remove due to footprint of building.
31	Basswood (*Tilia americana*)	94	6	Fair	Fair	Fair	Fair	**Fair**	City	Trunk wounds and decay, 30% deadwood, 5-15cm deadwood, recommend pruning deadwood if retained, very asymmetrical due to OH.	Remove due to excavation for U/G parking and conflict with crown.
32	Cedar (*Thuja occidentalis*)	29	2.4	Fair	Good	Good	Good	**Good**	City	5-15% deadwood, crown elevated.	Preserve
33	Cedar (*Thuja occidentalis*)	10, 12 [15.5]	2.4	Good	Fair	Fair	Good	**Fair**	City	5-15% deadwood, crown elevated.	Preserve
34	Cedar (*Thuja occidentalis*)	23	2.4	Fair	Good	Good	Good	**Good**	Boundary (Subject Site & City)	5-15% deadwood, crown elevated.	Remove due to excavation for U/G parking.
35	Cedar (*Thuja occidentalis*)	28	2.4	Fair	Good	Good	Good	**Good**	Subject Site	5-15% deadwood, crown elevated.	Remove due to excavation for U/G parking.
36	Cedar (*Thuja occidentalis*)	23, 18 [29]	2.4	Fair	Good	Good	Good	**Good**	Subject Site	5-15% deadwood, crown elevated.	Remove due to footprint of building.
37	Cedar (*Thuja occidentalis*)	29	2.4	Fair	Good	Good	Good	**Good**	Subject Site	5-15% deadwood, crown elevated.	Remove due to footprint of building.
38	Cedar (*Thuja occidentalis*)	20	2.4	Fair	Good	Good	Good	**Good**	Subject Site	5-15% deadwood, crown elevated.	Remove due to footprint of building.
39	Cedar (*Thuja occidentalis*)	20	2.4	Fair	Good	Good	Good	**Good**	Subject Site	5-15% deadwood	Remove due to footprint of building.
40	Cedar (*Thuja occidentalis*)	33	2.4	Fair	Good	Good	Good	**Good**	Subject Site	5-15% deadwood	Remove due to footprint of building.
41	Cedar (*Thuja occidentalis*)	30, 27 [40]	2.4	Fair	Good	Good	Good	**Good**	Subject Site	5-15% deadwood	Remove due to footprint of building.
42	Willow (*Salix sp.*)	33, 33, 32, 18 [59]	3.6	Fair	Fair	Fair	Fair	**Fair**	Subject Site	Gypsy moth egg masses, decay in trunk, epicormic growth at base, confirm species in leaf out.	Remove due to footprint of building.
43	White Ash (*Fraxinus americana*)	19.5	2.4	Good	Fair	Fair	Fair	**Fair**	Subject Site	No observed signs of EAB	Remove due to excavation for U/G parking.
44	Manitoba maple (*Acer negundo*)	18,17, 12 [27.5]	2.4	Fair	Fair	Fair	Fair	**Fair**	Subject Site	10% deadwood	Remove due to excavation for U/G parking.
45	Honey Locust (*Gleditsia triacanthos*)	23	2.4	Fair	Good	Fair	Fair	**Fair**	Subject Site	10% deadwood	Remove due to excavation for U/G parking.
46	Cedar (*Thuja occidentalis*)	25, 25 [35]	2.4	Good	Fair	Fair	Good	**Fair**	Subject Site	20% deadwood	Remove due to excavation for U/G parking.
47	Manitoba maple (*Acer negundo*)	78, 31, 27 [88]	5.4	Fair	Poor	Poor	Poor	**Poor**	Subject Site	Epicormic growth from trunk, trunk decay, 10-20cm deadwood, 40-50% deadwood, recommend pruning if retained, lean	Remove due to excavation for U/G parking.
48	Basswood (*Tilia americana*)	83	5.4	Fair	Poor	Poor	Fair	**Fair - Poor**	City	15% deadwood, trunk wounds and decay, epicormic growth at base, prune deadwood	Injure due to excavation for U/G parking 4.3 m from tree and driveway 4.5m from tree.
49	Chestnut (*Castanea sp.*)	35, 32 [47]	3	Fair	Fair	Fair	Fair	**Fair**	City	10-15% deadwood, lean away from adjacent tree	Injure due to removal of existimg driveway inside < 5% of the TPZ.
50	Sugar maple (*Acer saccharum*)	61	4.2	Good	Good	Fair	Good	**Good**	City	minor dead branches within inner crown	Preserve
51	Cedar hedge (*Thuja occidentalis*)	20-22	2.4	Good	Good	Good	Good	**Good**	Subject Site	cedar hedge consisting of 43 stems, of which 6 are protected by the private tree bylaw (21, 21 & 17, 21, 20, 22, 21 cm DBH)	Remove due to footprint of building.

General Notes
• This plan must be read in conjunction with the arborist report prepared by Cohen and Master.
• Cohen & Master provided the tree protection comments, and icons for trees 1, 7-15, 17-19, 24-30, 32-46, 50. All other information was provided on a topographic survey prepared by Cunningham McConnell Ltd. datedDec. 16 2021, and site plans prepared by MCL Architects Ltd, May 19 2023.

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SITE
TRADITIONS SENIORS HOUSING
454-462 CUMBERLAND AVE & 3255, 3259 AND 3265 NEW STREET, BURLINGTON

TITLE
TREE PROTECTION PLAN

TPP-2

TREE PROTECTION NOTES

1. TREE PERMITS AND PERMISSION

1.1 PRIOR TO ANY CONSTRUCTION ON THE PROPERTY THAT MAY AFFECT BYLAW-PROTECTED TREES, A PERMIT TO INJURE/REMOVE TREES AS SPECIFIED IN THE TREE INVENTORY TABLE MUST BE OBTAINED FROM THE CITY OF BURLINGTON .

1.2 REFER TO CITY OF BURLINGTON STANDARD SPECIFICATION FOR TREE PROTECTION AND PRESERVATION SS12A. ALL REQUIREMENTS MUST BE FOLLOWED.

1.3 PRIOR TO SITE DISTURBANCE THE OWNER MUST CONFIRM THAT NO MIGRATORY BIRDS ARE MAKING USE OF THE SITE FOR NESTING. THE OWNER MUST ENSURE THAT THE WORKS ARE IN CONFORMANCE WITH THE MIGRATORY BIRD CONVENTION ACT AND THAT NO MIGRATORY BIRD NESTS WILL BE IMPACTED BY THE PROPOSED WORK OR TREE REMOVALS.

2. TREE PROTECTION ZONES (TPZ)

2.1 THE TREE PROTECTION ZONE (TPZ) IS A 'NO-TOUCH' AREA AROUND TREES BASED ON TRUNK DIAMETER. THE TREE PROTECTION ZONE IS SPECIFIED BY URBAN FORESTRY. WITHIN THE TPZ THERE IS TO BE NO SOIL DISTURBANCE, EXCAVATION, COMPACTION, MOVEMENT OR STORAGE OF MATERIALS, MACHINERY OR FOOT TRAFFIC, WITHOUT A PERMIT FROM URBAN FORESTRY.

2.2 THE TPZ IS TO BE MEASURED FROM THE OUTSIDE EDGE OF THE BASE OF THE TRUNK.

2.3 ANY ROOTS EXPOSED BY EXCAVATION OR TRENCHING *OUTSIDE* OF THE TREE PROTECTION ZONE (TPZ) OF TREES MUST BE CLEANLY CUT. NO TEARING BY MACHINERY IS PERMITTED.

2.4 ANY WORK INSIDE THE TPZ OF TREES **MUST BE OVERSEEN BY A QUALIFIED ARBORIST**.

3. TREE PROTECTION BARRIERS

3.1 TREE PROTECTION BARRIERS MUST BE INSTALLED AS SHOWN ON THE TREE PROTECTION PLAN.

3.2 TREE PROTECTION BARRIERS ARE TO BE CONSTRUCTED AS PER SPECIFICATION SS12A. ALONG THE NORTH SIDE OF THE PROPERTY, SILTATION BARRIERS ARE TO BE ATTACHED TO THE TREE PROTECTION BARRIER.

3.3 TREE PROTECTION SIGNAGE IS TO BE MOUNTED ON THE CONSTRUCTION-FACING SIDE OF THE TREE PROTECTION FENCING FOR THE DURATION OF THE PROJECT.

3.4 THE TREE PROTECTION BARRIERS ARE TO BE CONSTRUCTED OVER THE EXISTING DRIVEWAYS AT 3255 AND 3259 NEW STREET, TO ENCLOSE THE TPZs OF TREES 48 AND 49. THE DRIVEWAYS INSIDE THE BARRIERS ARE TO REMAIN IN PLACE AS IS, UNTIL BUILDING CONSTRUCTION IS COMPLETE.

3.5 IT IS THE RESPONSIBILITY OF THE SITE SUPERVISOR TO INSPECT THE CONDITION OF THE TREE PROTECTION MEASURES OUTLINED ON THE PLAN AND WITHIN THE ARBORIST REPORT EACH MORNING. IF DISTURBANCE IS OBSERVED, IT IS TO BE REPAIRED PRIOR TO WORK COMMENCING ON SITE THAT DAY.

3.6 UPON PROJECT COMPLETION, THE CITY OF BURLINGTON IS TO BE NOTIFIED PRIOR TO REMOVAL OF THE TREE PROTECTION FENCING ON THE SITE. WITH APPROVAL, THE FENCING MAY BE DISMANTLED.

4. ROOT SENSITIVE EXCAVATION INSIDE OF MINIMUM TPZs FOR PARKING GARAGE

4.1 EXCAVATION FOR THE PROPOSED GARAGE WILL REQUIRE ENCROACHMENT INTO THE MINIMUM TPZs OF TREES 12, 14, AND 48, AND AT THE PERIMETER OF THE MINIMUM TPZs OF TREES 7 - 11.

4.2 THE PERIMETER OF THE EXCAVATION FOR THE UNDERGROUND PARKING GARAGE ALONG THE NORTH SIDE OF THE PROPERTY MUST BE EXCAVATED USING ROOT SENSITIVE EXCAVATION (BY AIRSPADE, LOW PRESSURE HYDROVAC, OR BY HAND) TO A DEPTH OF 90 CM.

4.3 WORK INSIDE THE TPZ MUST BE CARRIED OUT UNDER THE SUPERVISION OF A QUALIFIED ARBORIST.

4.4 AS PER CITY REQUIREMENTS, TREE ROOTS UP TO 8 cm DIAMETER MAY BE CLEANLY PRUNED BY THE ARBORIST, PENDING THEIR DISCRETION. ROOTS OVER 8 cm DIAMETER MAY BE PRUNED PENDING THE ARBORIST'S DISCRETION. IF THE ROOTS ARE DETERMINED TO BE CRITICAL TO THE HEALTH OR STABILITY OF THE TREE, THE TREE MAY REQUIRE REMOVAL, PENDING CITY APPROVAL.

4.5 IT IS STRONGLY RECOMMENDED THAT THE ABOVE ROOT SENSITIVE EXCAVATION BE CARRIED OUT PRIOR TO OTHER WORK ON THE SITE, IN THE EVENT THAT ADDITIONAL TREE REMOVALS ARE REQUIRED.

5. ROOT SENSITIVE EXCAVATION INSIDE OF MINIMUM TPZs DRIVEWAY. INSTALLATION

5.1 EXCAVATION FOR THE PROPOSED DRIVEWAY WILL REQUIRE ENCROACHMENT INTO THE MINIMUM TPZs OF TREES 4 AND 48.

5.2 THE PERIMETER OF THE EXCAVATION FOR THE DRIVEWAYS MUST BE EXCAVATED USING ROOT SENSITIVE EXCAVATION (BY AIRSPADE, LOW PRESSURE HYDROVAC, OR BY HAND) TO A DEPTH OF 45 CM.

5.3 WORK INSIDE THE TPZ MUST BE CARRIED OUT UNDER THE SUPERVISION OF A QUALIFIED ARBORIST.

5.4 AS PER CITY REQUIREMENTS, TREE ROOTS UP TO 8 cm DIAMETER MAY BE CLEANLY PRUNED, PENDING THE ARBORIST'S DISCRETION. ROOTS OVER 8 cm DIAMETER MAY BE PRUNED PENDING THE ARBORIST'S DISCRETION. IF THE ROOTS ARE DETERMINED TO BE CRITICAL TO THE HEALTH OR STABILITY OF THE TREE, THE TREE MAY REQUIRE REMOVAL OR THE DRIVEWAY DESIGN IS TO BE ADJUSTED TO ACCOMMODATE ROOTS, PENDING CITY APPROVAL.

6. PRUNING

6.1 PRIOR TO WORK ON THE SITE, A MEETING WITH THE RETAINED CONTRACTOR AND ARBORIST IS REQUIRED TO DETERMINE CLEARANCE PRUNING REQUIREMENTS FOR SITE ACCESS AND EXCAVATION/SHORING.

6.2 TREES THAT REQUIRE PRUNING MUST BE APPROVED BY THE CITY OF BURLINGTON.

6.3 ALL BRANCH PRUNING MUST BE COMPLETED USING PROPER ARBORICULTURAL METHODS. HEADING CUTS, TOPPING, OR REMOVAL OF MORE THAN 25% OF THE CROWN (ABSOLUTE MAXIMUM) ARE NOT ALLOWED.

7. REMOVAL OF EXISTING DRIVEWAYS AND WALKWAY AT 3255 AND 3259 NEW STREET - TREES 48 AND 49

7.1 THE EXISTING PAVER AND GRAVEL DRIVEWAYS AND WALKWAY INSIDE THE TPZs OF TREES 48 AND 49 ARE TO REMAIN IN PLACE ENCLOSED BY THE TREE PROTECTION BARRIERS, UNTIL COMPLETION OF THE NEW BUILDING.

7.2 FOLLOWING COMPLETION OF THE NEW BUILDING AND HARDSCAPING, THE BARRIERS ARE TO BE REMOVED ONLY WITH PERMISSION FROM THE CITY OF BURLINGTON AND UNDER ARBORIST SUPERVISION.

7.3 THE EXISTING HARD SURFACE IS TO BE REMOVED BY HAND INSIDE OF THE TPZs. COMPACTED SOIL OR SCREENINGS MAY BE SCARIFIED BY HAND. TREE ROOTS ARE NOT TO BE DISTURBED DURING THIS PROCESS. SANDY LOAM TOPSOIL MAY BE ADDED TO MATCH THE SURROUNDING GRADE. USE OF MACHINERY IS NOT PERMITTED.

7.4 THE BARRIERES ARE TO BE REINSTALLED IMMEDIATELY FOLLOWING THE ABOVE WORK, UNLESS APPROVED BY THE CITY.

8. SITE SERVICES

8.1 WHERE SITE SERVICES AND CONNECTIONS MUST BE MADE INSIDE OF MINIMUM TPZs (TPZ), WORK MUST BE OVERSEEN BY A QUALIFIED ARBORIST. WORK MUST BE COMPLETED USING ROOT SENSITIVE METHODS (HYDROVAC OR AIRSPADE).

8.2 WHEN NEW PRIVATE WATER AND SANITARY LINES MUST BE INSTALLED, AND THERE IS NOT A SUITABLE LOCATION OUTSIDE OF THE TPZ, DIRECTIONAL MICRO TUNNELING AND BORING IS THE PREFERRED OPTION FOR INSTALLATION WITHIN THE MTPZ.

8.3 AS PER CITY REQUIREMENTS, WHEN ANY SITE WORKS ARE WITHIN THE LIMITS OF THE TPZ AND HAVE THE POTENTIAL TO DAMAGE TREE ROOTS, ROOT PRUNING USING HYDROVAC OR AIRSPADE IS ACCEPTABLE, PROVIDED IT IS OPERATED BY A QUALIFIED ARBORIST OR UNDER AN ARBORIST'S SUPERVISION, AND COMPLETED TO A MINIMUM DEPTH OF 60 CM, OR GREATER PER THE ARBORIST'S DISCRETION

General Notes
- This plan must be read in conjunction with the arborist report prepared by Cohen and Master.
- Cohen & Master provided the tree protection comments, and icons for trees 1, 7-15, 17-19, 24-30, 32-46, 50. All other information was provided on a topographic survey prepared by Cunningham McConnell Ltd. datedDec. 16 2021, and site plans prepared by MCL Architects Ltd, May 19 2023.

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TREE AND SHRUB SERVICES
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info@cmtrees.com
CMTREES.COM BE GOOD TO YOUR TREES.

No.	DATE
3	Aug. 9, 2023
2	Jun. 6, 2023
1	Feb. 6, 2023

SITE
TRADITIONS SENIORS HOUSING
454-462 CUMBERLAND AVE. & 3255, 3259 AND 3265 NEW STREET, BURLINGTON

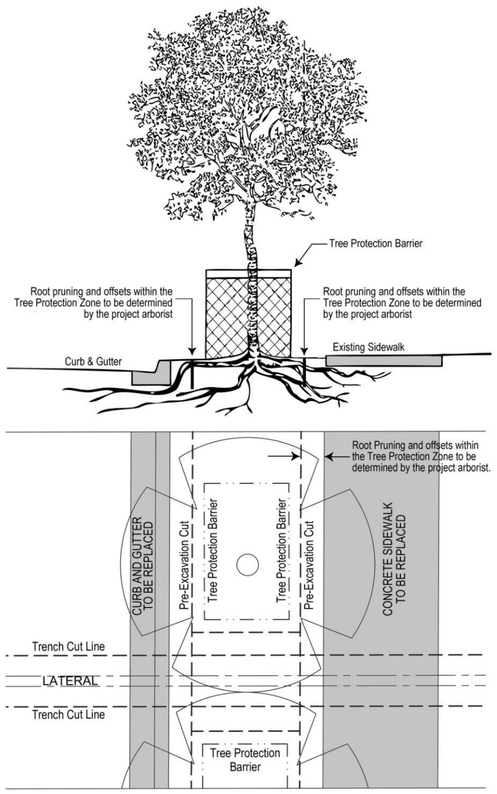
TITLE
TREE PROTECTION PLAN

TPP-3

TREE DETAILS

Tree Protection and Preservation
Specification No.: SS12A

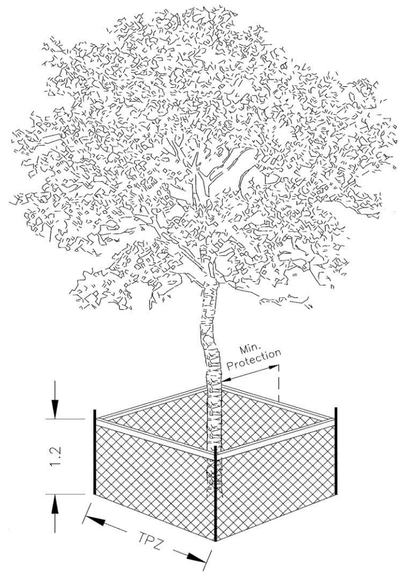
Detail TP-2 – Root Pruning Detail



NOTE:
For excavations perpendicular to to the curbing (ie. sidewalk, curbing, water or sewer laterals renewal)

(a) The contractor is to use a trench box to minimize the width of the open cut.
(b) When the lateral replacement is within the Tree Protection Zone of a tree, the contractor is to complete the works using trenchless technologies.

Tree Protection and Preservation
Specification No.: SS12A



Detail TP-1 – Tree Protection Detail.

Trunk Diameter (DBH) [2]	Minimum Tree Protection Zone (MTPZ) Distances Required [3]	Critical Root Zone (CRZ) Distances Required [3&4]
< 10 cm	1.8 m	1.8 m
11 - 40 cm	2.4 m	4.0 m
41 - 50 cm	3.0 m	5.0 m
51 - 60 cm	3.6 m	6.0 m
61 - 70 cm	4.2 m	7.0 m
71 - 80 cm	4.8 m	8.0 m
81 - 90 cm	5.4 m	9.0 m
91 - 100+ cm	6.0 m	10.0 m

NOTES:

[1] The roots of a tree can extend from the trunk to approximately 2-3 times the distance of the drip line.
[2] Diameter at breast height (DBH) is the measurement of tree trunk taken at 1.4 metres above ground.
[3] Minimum Tree Protection Zone and Critical Root Zone distances are to be measured from the outside edge of the tree base towards the drip line and may be limited by an existing paved surface, provided the existing paved surface remains intact throughout the construction work and is subject to Section 6 of this specification.
[4] Where work is being performed beyond the Minimum Tree Protection Zone but within the Critical Root Zone the works are subject to Section 8 of this specification.

TREE PROTECTION BARRIER

1. The required barrier is a 1.2 metre (4 ft) high orange plastic web snow fencing on 2" x 4" frame. Where orange plastic web snow fencing creates a restriction to sightlines, page wire fencing with reflective tape can be used.
2. Tree protection barriers are to be erected prior to the commencement of any construction or grading activities on the site and are to remain in place throughout the entire duration of the project. The barriers shall be maintained erect and in good repair throughout the duration of construction operations with breaks and unsupported sections repaired immediately. Tree protection may be not be removed prior to the completion of construction without written authorization from the Manager of Urban Forestry or designate.
3. All supports and bracing used to safely secure the barrier should be located outside the MTPZ. All supports and bracing should minimize damage to roots.
4. Where some fill or excavated material must be temporarily located near a MTPZ, a wooden barrier with silt fencing must be used to ensure no material enters the MTPZ.
5. No materials or fill may be stored within the MTPZ.
6. Equipment or vehicles shall not be operated, parked, repaired, or refueled within the MTPZ.
7. No construction activity, grade changes, surface treatment or excavations of any kind is permitted within the MTPZ without written authorization from the Manager of Urban Forestry or designate.
8. A laminated Minimum Tree Protection Zone sign (See Detail TP-3 – Minimum Tree Protection Zone Sign) must be attached to the side of the Tree Protection where it will be visible by persons entering the site. Minimum size must be 10"x14".

CITY OF Burlington

TREE PROTECTION ZONE (TPZ)

No equipment or vehicles shall be operated, parked, repaired or refueled within the Tree Protection Zone.

No construction activity, grade changes, surface treatment or excavations of any kind is permitted within the Tree Protection Zone.

No materials or fill may be stored within the Tree Protection Zone.

This tree protection barrier must not be removed prior to the completion of construction without written authorization from the City of Burlington, Urban Forestry Department.

For information, contact:
City of Burlington, Development and Infrastructure Division,
905-335-7642.

General Notes
• This plan must be read in conjunction with the arborist report prepared by Cohen and Master.
• Cohen & Master provided the tree protection comments, and icons for trees 1, 7-15, 17-19, 24-30, 32-46, 50. All other information was provided on a topographic survey prepared by Cunningham McConnell Ltd. datedDec. 16 2021, and site plans prepared by MCL Architects Ltd, May 19 2023.

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TITLE
TREE PROTECTION PLAN

TPP-4

Appendix III - LIMITATIONS OF ASSESSMENTS

It is the policy of Cohen and Master Tree and Shrub Services to attach the following clause in regard to limitations. This is to ensure that the client is fully aware of what is technically and professionally realistic in the preservation and assessment of trees in the urban environment.

The assessment of the trees in this report has been done in conjunction with and according to accepted arboriculture methods and techniques. These include an examination of the above ground parts of the tree for structural defects, scars, cracks, the overall condition of the root structures, the severity and direction of lean (if any), the general condition of the trees and the surrounding environment, external indications of decay such as fungal fruiting bodies, evidence of attack by insects, symptoms of infestation and pathogens, discoloured foliage, and the proximity of potential targets should a tree fail. Except where specifically noted, the trees were not cored, probed, or climbed and there was no detailed inspection of the root crowns involving excavations, or samples taken to be scientifically tested.

Notwithstanding the recommendations and conclusions presented in this report, it must be acknowledged that trees are living organisms. They are not immune to changes in site conditions, dramatic weather events or seasonal variations in climate. Therefore, it should always be recognized that trees are ever evolving, and their health and vigour constantly vary over time. While all reasonable efforts have been made to ensure that the subject trees are healthy, no guarantees are offered or implied that these trees or part(s) of any trees will remain intact.

It is professionally and practically impossible to predict with absolute certainty the behaviour of any tree or its component parts under all circumstances and variables. Most trees have the potential for failure under adverse weather conditions and the risk can only be completely eliminated if the tree is removed. Inherently, a standing tree will always pose some level of risk. Although every effort has been made to ensure that this assessment is reasonably accurate, trees should be re-assessed periodically. The assessment presented in this report is valid at the time of inspection.

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