Tree Inventory & Protection Plan

Prepared for:
Technoarch Architects & Designers

Subject Site:
79 Columbia St W, Waterloo, ON N2L 3K7

Prepared By:
The Urban Arborist Inc.
PO BOX #74525 Humbertown Centre
Etobicoke Ontario M9A 5E2
Tel: 416.833.6467
info@theurbanarborist.ca

THE URBAN ARBORIST
FROM THE ROOTS UP

ISA Certifed Arborist----Robert Rafal Lis----Cert. #ON-1374A

October 24, 2024

Table of Contents

1.0 Introduction 02
1.1 Assignment 02
1.2 Existing Site Characteristics 02
2.0 Methodology 03
2.1 Field Study 03
2.2 Tree Locations 03
2.3 Tree Conditions 03
3.0 Tree Inventory 04
3.1 Trees to Preserve 04
3.2 Trees to Remove 05
3.3 Trees to Injure 05
3.4 Trees to Re-Plant 06
4.0 Tree Preservation, Protection and Management 06
4.1 Pruning 06
4.2 Tree Protection Barriers 06
4.3 Root Sensitive Excavation 06
5.0 Conclusions and Recommendations 07

Appendix 1 Tree Inventory 08
Appendix 2 Site Plan / Tree Protection Plan Drawing 09
Appendix 3 City of Toronto Tree Protection Barrier Detail 10
Appendix 4 Photographs 11-

The Urban Arborist Inc. PO BOX #74525 Humbertown Centre. Etobicoke, ON. M9A 5E2.
Tel: 416.833.6467 Email: info@theurbanarborist.ca

1.0 Introduction

1.1 Purpose of Assignment

The Urban Arborist Inc was retained by Technoarch Architects & Designers to prepare a Tree Inventory and Protection Plan for a re development project. The project consists of demolishing an existing home and constructing a 5 storey mulit unit residential building.



Figure 1. Front of 79 Columbia St W, Waterloo, ON N2L 3K7.

1.2 Existing Site Characteristics

The property has 2 adjacent properties with no grade changes throughout and an adjacent path. There are 26 trees on or within 6m of the property boundaries that measure 10cm in diameter (DBH) and greater.

The Urban Arborist Inc. PO BOX #74525 Humbertown Centre. Etobicoke, ON. M9A 5E2.
Tel: 416.833.6467 Email: info@theurbanarborist.ca

2.0 Methodology

All data used in this report is empirical in nature, unless stated otherwise. All measurements in this report utilize the metric system of measurement.

2.1 Field Study

Site inspection and data collection was initiated October 17, 2024. All trees 10cm in diameter and greater measured at 1.37m from grade (DBH) on the property and beyond 6m were inventoried. All city owned trees, if any, have been included.

2.2 Tree Locations

The locations of all significant trees were surveyed and plotted and shown on drawing in appendix 2.

2.3 Tree Conditions

During field study a generalized assessment system was used to give each significant tree a rating based on structural condition and health condition.

The following 5 level assessment for health is listed below.

Very Poor -	Tree displays severe dieback of branches, canopy is extremely sparse. May exhibit extreme pathogen infestation or infection. Or tree is dead.
Poor -	Tree displays some dieback. Branches or canopy is sparse with little or no signs of new growth or vigour. Possible pathogen infestation or infection. Foliar canopy is sparse.
Fair -	Tree is developing in a manner typical to others in the area. Canopy is full.
Good -	New growth is vigorous as evidenced by stem elongation and colour. Canopy is dense.
Very Good -	In addition to the attributes of a good rating, tree is displaying extremely vigorous growth and trunk displays a pattern of vigour cracks or lines.

The Urban Arborist Inc. PO BOX #74525 Humbertown Centre. Etobicoke, ON. M9A 5E2.
Tel: 416.833.6467 Email: info@theurbanarborist.ca

The following 5 level assessment for structural condition was as follows:

Very Poor - Trunk has large pockets of decay, is bifurcated or has a severe lean. Limbs or branches are poorly attached or dead. Possible hazard.

Poor - Limbs or branches are poorly attached or developed. Canopy is not symmetrical. Trunk has a lean.

Fair - Trunk, limb and branch development though flawed is typical of this species.

Good - Trunk is well developed with well attached limbs and branches; some flaws but are hardly visible.

Very Good - In addition to attributes of a good rating, the tree exhibits a well developed root flare and a balanced canopy.

Factors Assessed were as follows:

Roots	**Trunk**	**Foliage/Buds**	**Scaffold Branches**	**Small Branches/Twigs**
· Collar/flare · Mechanical injury · Girdling roots · Insects/disease · Decay/fungi	· Cavities · Mechanical injury · Cracks · Swollen/sunken areas · Insects/disease · Fungi	· Size of foliage/buds · Foliage colour · Foliage injury · Dieback of buds/foliage · Insects/disease	· Attachments/included bark · Taper · Distribution · Decay/cavities · Deadwood · Insects/disease	· Vigour/growth rates · Distribution · Appearance · Insects/disease · Dieback

3.0 Tree Inventory

A total of 26 trees were inventoried at the subject property and beyond 6m. (See Tree Inventory Spreadsheet in appendix 1).

3.1 Trees to Preserve

The trees in this section have been evaluated suitable for preservation and fall under the Tree Preservation, Protection and Management guidelines in this report. Different approaches of Tree Preservation can be carried out following tree health and structure evaluation. The following describes the differences in approaches to Tree Preservation.

The Urban Arborist Inc. PO BOX #74525 Humbertown Centre. Etobicoke, ON. M9A 5E2.
Tel: 416.833.6467 Email: info@theurbanarborist.ca

1. Preserve, Protect & Maintain
Includes protection with tree preservation hoarding, as well as pre and post-construction arboricultural works.

2. Preserve & Protect
Includes the installation of tree protection hoarding; no maintenance will be required unless specified in the recommendations in Appendix 1

3. Retain
No protection or maintenance measures are required. Installation of tree protection barriers is optional.

# Trees evaluated as suitable for Preservation	0
# of Trees to use Method 1	0
# of Trees to use Method 2	0
# of Trees to use Method 3	0

In the case of 79 Columbia St W, no existing trees can be preserved. See Tree Inventory Protection Plan Drawing TP-1 in appendix 2.

3.2 Trees to Remove

There are 26 trees recommended to be removed due to development impact and/or poor health and structure that requires a permit.

Total of number of Trees to be removed	All

3.3 Trees to Injure

There are no trees scheduled to be injured.

The Urban Arborist Inc. PO BOX #74525 Humbertown Centre. Etobicoke, ON. M9A 5E2.
Tel: 416.833.6467 Email: info@theurbanarborist.ca

3.4 Trees to Replant (Replacement)

A replanting plan has been incorporated into this report showing a total of 10 trees to be planted utilizing all available green space. Any additional required replacement trees will be required to be paid in the form of cash-in-lieu.

4.0 Tree Preservation, Protection and Management

4.1 Pruning

There is no pruning required as result of the proposed construction.

4.2 Tree Protection Barriers

All trees on the property are being proposed to be removed and all neighbouring trees (if any) are beyond the distance for minimum tree protection. No tree protection barriers are required.

The Urban Arborist Inc. PO BOX #74525 Humbertown Centre. Etobicoke, ON. M9A 5E2.
Tel: 416.833.6467 Email: info@theurbanarborist.ca

5.0 Conclusions and Recommendations

Based on all data collected from on-site field work and review of all site plans the following conclusions and recommendations are made and correspond with Tree Inventory in Appendix 1:

Conclusions	Recommendations
All trees are being proposed to be removed.	Submit this report to City of Waterloo.
A total of 10 replacement trees are being proposed to be planted back onto the site.	Plant 10 replacement trees as shown once final approval has been granted by City of Waterloo.

Attachments are as follows:
Appendix 1 Tree Inventory
Appendix 2 Site Plan / Tree Protection Plan Drawing
Appendix 3 Photographs

This 7 page Report was written by:

Robert Rafal Lis
The Urban Arborist Inc.
ISA Certified Arborist No. ON-1374A
MTCU Qualified Arborist 18004025

The Urban Arborist Inc. PO BOX #74525 Humbertown Centre. Etobicoke, ON. M9A 5E2.
Tel: 416.833.6467 Email: info@theurbanarborist.ca

79 Columbia St W, Waterloo, ON N2L 3K7 – October 10, 2024.

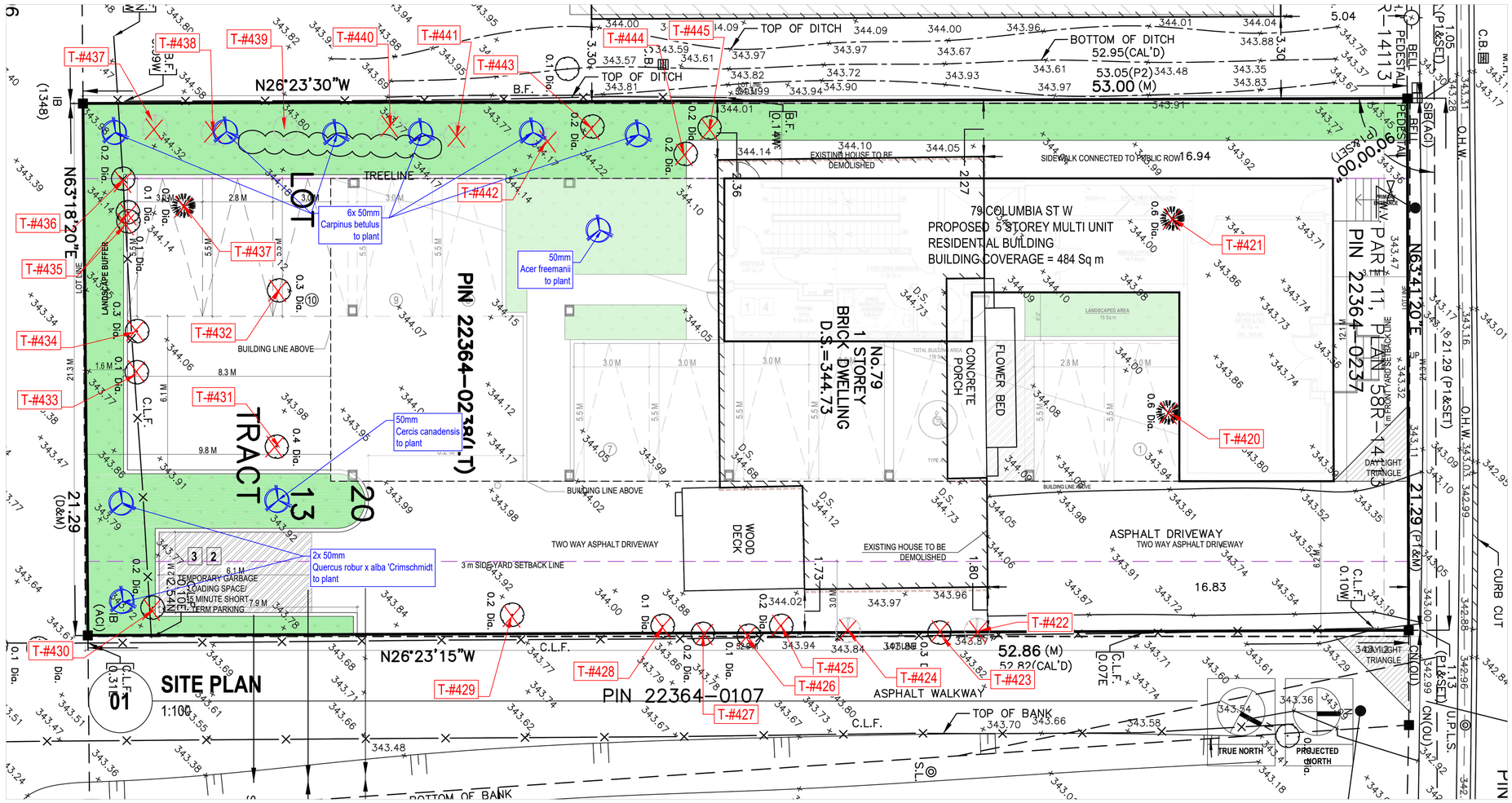
Tag #	Common Name	Botanical Name	Diamater at Breast Height CM	Crown Radius (m)	Health Condition	Structural Condition	Notes	Ownership	Recommendations Based on Site Plan and Assessment	Minimum TPZ (m)	Propozed TPZ (m)
420	Austrian Pine	Pinus nigra	65	8	Fair	Fair		79 Columbia	Remove	Dripline +1	-
421	Austrian Pine	Pinus nigra	59	8	Fair	Fair		79 Columbia	Remove	Dripline +1	-
422	Basswood	Tilia americana	17 x 17 x 12 x 12	4	Fair	Poor	Along fence line, grown into fence.	79 Columbia	Remove	Dripline +1	-
423	Basswood	Tilia americana	11	4	Fair	Poor	Along fence line, grown into fence.	79 Columbia	Remove	Dripline +1	-
424	Basswood	Tilia americana	19 x 10 x 9	4	Fair	Poor	Along fence line, grown into fence.	79 Columbia	Remove	Dripline +1	-
425	Norway Maple	Acer platanoides	15	4	Fair	Poor	Along fence line, grown into fence.	79 Columbia	Remove	Dripline +1	-
426	Norway Maple	Acer platanoides	18	4	Fair	Fair	Along fence line, grown into fence.	79 Columbia	Remove	Dripline +1	-
427	Norway Maple	Acer platanoides	17	4	Fair	Fair		79 Columbia	Remove	Dripline +1	-
428	Norway Maple	Acer platanoides	13	4	Fair	Fair	Along fence.	79 Columbia	Remove	Dripline +1	-
429	Basswood	Tilia americana	19 x 14 x 14 x 14	4	Fair	Poor	Co-dominant and multi-stem	79 Columbia	Remove	Dripline +1	-
430	Buckthorn	Rhamnus	16 x 14	3	Fair	Fair	Surrounded by smaller	79 Columbia	Remove	Dripline +1	-
431	Apple	Malus domestica	33 x 25	4	Poor	Poor	1 stem dead	79 Columbia	Remove	Dripline +1	-
432	Pear	Pyrus	26	3	Very Poor	Very Poor	Dead/dying	79 Columbia	Remove	Dripline +1	-
433	Trembling Aspen	Populus tremuloides	15	3	Fair	Fair	Along fence line.	79 Columbia	Remove	Dripline +1	-
434	Mountain Ash	Sorbus	24 x 20	3	Fair	Poor	Along fence line, some dead wood.	79 Columbia	Remove	Dripline +1	-
435	Mountain Ash	Sorbus	16 x 19	3	Fair	Fair		79 Columbia	Remove	Dripline +1	-
436	Norway Maple	Acer platanoides	25	3	Fair	Poor	Grown through fence	79 Columbia	Remove	Dripline +1	-
437	Eastern White Cedar	Thuja occidentalis	19	3	Fair	Fair		79 Columbia	Remove	Dripline +1	-
438	Norway Maple	Acer platanoides	12	3	Fair	Fair	Surrounded by smaller	79 Columbia	Remove	Dripline +1	-
439	Norway Maple	Acer platanoides	11	3	Fair	Fair	Surrounded by smaller	79 Columbia	Remove	Dripline +1	-
440	Norway Maple	Acer platanoides	12	3	Fair	Fair	Surrounded by smaller	79 Columbia	Remove	Dripline +1	-
441	Norway Maple	Acer platanoides	14 x 12	3	Fair	Fair	Surrounded by smaller	79 Columbia	Remove	Dripline +1	-
442	Norway Maple	Acer platanoides	11	3	Fair	Fair	Surrounded by smaller	79 Columbia	Remove	Dripline +1	-
443	Norway Maple	Acer platanoides	11	3	Fair	Fair	Surrounded by smaller	79 Columbia	Remove	Dripline +1	-
444	Norway Maple	Acer platanoides	18 x 11 x 14 x 13	3	Very Poor	Very Poor	Surrounded by smaller	79 Columbia	Remove	Dripline +1	-
445	Norway Maple	Acer platanoides	15	3	Very Poor	Very Poor	Surrounded by smaller	79 Columbia	Remove	Dripline +1	-

79 Columbia St W, Waterloo, ON N2L 3K7 – October 10, 2024.

Tag #	Common Name	Botanical Name	Diamater at Breast Height CM	Crown Radius (m)	Health Condition	Structural Condition	Notes	Ownership	Recommendations Based on Site Plan and Assessment	Minimum TPZ (m)	Propozed TPZ (m)
420	Austrian Pine	Pinus nigra	65	8	Fair	Fair		79 Columbia	Remove	Dripline +1	-
421	Austrian Pine	Pinus nigra	59	8	Fair	Fair		79 Columbia	Remove	Dripline +1	-
422	Basswood	Tilia americana	17 x 17 x 12 x 12	4	Fair	Poor	Along fence line, grown into fence.	79 Columbia	Remove	Dripline +1	-
423	Basswood	Tilia americana	11	4	Fair	Poor	Along fence line, grown into fence.	79 Columbia	Remove	Dripline +1	-
424	Basswood	Tilia americana	19 x 10 x 9	4	Fair	Poor	Along fence line, grown into fence.	79 Columbia	Remove	Dripline +1	-
425	Norway Maple	Acer platanoides	15	4	Fair	Poor	Along fence line, grown into fence.	79 Columbia	Remove	Dripline +1	-
426	Norway Maple	Acer platanoides	18	4	Fair	Fair	Along fence line, grown into fence.	79 Columbia	Remove	Dripline +1	-
427	Norway Maple	Acer platanoides	17	4	Fair	Fair		79 Columbia	Remove	Dripline +1	-
428	Norway Maple	Acer platanoides	13	4	Fair	Fair	Along fence.	79 Columbia	Remove	Dripline +1	-
429	Basswood	Tilia americana	19 x 14 x 14 x 14	4	Fair	Poor	Co-dominant and multi-stem	79 Columbia	Remove	Dripline +1	-
430	Buckthorn	Rhamnus	16 x 14	3	Fair	Fair	Surrounded by smaller	79 Columbia	Remove	Dripline +1	-
431	Apple	Malus domestica	33 x 25	4	Poor	Poor	1 stem dead	79 Columbia	Remove	Dripline +1	-
432	Pear	Pyrus	26	3	Very Poor	Very Poor	Dead/dying	79 Columbia	Remove	Dripline +1	-
433	Trembling Aspen	Populus tremuloides	15	3	Fair	Fair	Along fence line.	79 Columbia	Remove	Dripline +1	-
434	Mountain Ash	Sorbus	24 x 20	3	Fair	Poor	Along fence line, some dead wood.	79 Columbia	Remove	Dripline +1	-
435	Mountain Ash	Sorbus	16 x 19	3	Fair	Fair		79 Columbia	Remove	Dripline +1	-
436	Norway Maple	Acer platanoides	25	3	Fair	Poor	Grown through fence	79 Columbia	Remove	Dripline +1	-
437	Eastern White Cedar	Thuja occidentalis	19	3	Fair	Fair		79 Columbia	Remove	Dripline +1	-
438	Norway Maple	Acer platanoides	12	3	Fair	Fair	Surrounded by smaller	79 Columbia	Remove	Dripline +1	-
439	Norway Maple	Acer platanoides	11	3	Fair	Fair	Surrounded by smaller	79 Columbia	Remove	Dripline +1	-
440	Norway Maple	Acer platanoides	12	3	Fair	Fair	Surrounded by smaller	79 Columbia	Remove	Dripline +1	-
441	Norway Maple	Acer platanoides	14 x 12	3	Fair	Fair	Surrounded by smaller	79 Columbia	Remove	Dripline +1	-
442	Norway Maple	Acer platanoides	11	3	Fair	Fair	Surrounded by smaller	79 Columbia	Remove	Dripline +1	-
443	Norway Maple	Acer platanoides	11	3	Fair	Fair	Surrounded by smaller	79 Columbia	Remove	Dripline +1	-
444	Norway Maple	Acer platanoides	18 x 11 x 14 x 13	3	Very Poor	Very Poor	Surrounded by smaller	79 Columbia	Remove	Dripline +1	-
445	Norway Maple	Acer platanoides	15	3	Very Poor	Very Poor	Surrounded by smaller	79 Columbia	Remove	Dripline +1	-

Tree Re-Planting List – 79 Columbia Street West. Waterloo, ON.

Quantity	Common Name	Botanical Name	Height (cm)	Spread (cm)	Caliper (mm)	Root	Remarks	I.D. Name
6	European Hornbeam	Carpinus betulus "Fastgiata"	-	-	50	B&B	Full Form	CB
1	Red Bud	Cercis canadensis	-	-	50	B&B	Full Form	CC
2	Crimson Spire Oak	Quercus robur x alba 'Crimschmidt'	-	-	50	B&B	Full Form	QR
1	Freeman Maple	Acer x freemanii	-	-	50	B&B	Full Form	AF
10	TOTAL TREES							



General Notes

- EXISTING TREE
- TREE TO REMOVE
- MINIMUM TREE PROTECTION ZONE
- TREE PROTECTION BARRIER
- REPLACEMENT TREE TO PLANT

Robert R Lis
ISA Certified Arborist
NO. ON-1374A

No.	Revision/Issue	Date

Firm Name and Address
The Urban Arborist Inc.
P.O. Box 74525
Humbertown Centre
Etobicoke, ON
M9A 5E2

Project Name and Address
79 Columbia St W
Waterloo, ON.
N2L 3K7

Project	Tree Inventory Protection Plan
Date	24-10-2024
Scale	1:150
Sheet	TP-1

Tree Re-Planting List – 79 Columbia Street West. Waterloo, ON.								
Quantity	**Common Name**	**Botanical Name**	**Height (cm)**	**Spread (cm)**	**Caliper (mm)**	**Root**	**Remarks**	**I.D. Name**
6	European Hornbeam	Carpinus betulus "Fastgiata”	-	-	50	B&B	Full Form	CB
1	Red Bud	Cercis canadensis	-	-	50	B&B	Full Form	CC
2	Crimson Spire Oak	Quercus robur x alba 'Crimschmidt'	-	-	50	B&B	Full Form	QR
1	Freeman Maple	Acer x freemanii	-	-	50	B&B	Full Form	AF
10	**TOTAL TREES**							




NO
WINTER
MAINTENANCE













