

Arborist Report and Tree Protection Plan for 65-71 Agnes Street, Mississauga, Ontario.

Prepared for Intentional Capital

April 29, 2022

A. Overview

The properties at 65-71 Agnes Street Parts 1 and 2 ("site" – shown as 65-79 Agnes Street on online interactive Mississauga map) are in the Cooksville neighbourhood of Mississauga near the intersection of Dundas Street West and Hurontario Street, and currently support two single detached houses with formal landscaping on the north side and a grass lawn with trees on the south side. The owner is proposing to demolish the existing houses and build a multi-storey residential building with underground parking, which will require tree removal and injury.

The City of Mississauga Private Tree Protection By-law (0012-2022) applies to all trees on the property, which states that a permit is necessary if one or more healthy trees with a diameter greater than 15cm diameter of breast height (DBH) are removed or injured, which is applicable to this project. The Site Plan Control By-Law (No. 0293-2006) also applies to trees on the site and adjacent areas, and the Public Tree Protection By-Law (0020-2022) applies to all trees on the City boulevard.



Figure 1: Southwest-facing view of the existing houses from the intersection of Agnes Street and Cook Street.

B. Trees and Site Description

The site was inspected on February 22, 2022 by Urban Forest Associates (UFA) staff. Two single detached houses on the north side of the properties (#65 on the south, #71 to the north along Cook Street) are

surrounded by formal landscaping. South of the houses, an open grass lawn is surrounded by trees on part of the periphery, with scattered trees and groves on the east side. One Siberian elm (tree 2) dominates the tree canopy at the northeast corner of this open grassy area, with a dense line of eastern white cedar (trees 3-13) to the south, with a chain-link fence to the east. Two dead ashes (trees 21 and 22) infested with emerald ash borer (EAB) are south of the cedar grove along the south side of the site.

Coniferous trees dominate the tree canopy west of the existing houses near the northwest corner of the site, including white spruce (tree 14), eastern white cedar (tree 15), Norway spruce (tree 16), balsam fir (tree 17), and Douglas-fir (trees 18-19). Most trees in this area are growing at the periphery of the back yard west of the house at 71 Agnes Street, mixed with shrubs and ornamental plants such as common lilac and a low cedar hedge. A chain-link fence separates the property from the boulevard along Cook Street, with a board and chain-link fence along the west property line.

Coniferous trees are growing near the southern property line at 99 Agnes Street, especially Austrian pine (trees 22, 23, 25, and 26), as well as Scots pine (tree 24) and eastern white cedar (trees 27 and 28). At 3060 Cook Street, two trees in poor condition are growing near the west side of the site, including one Manitoba maple with fungal fruiting bodies (tree 29) and one Norway maple (tree 30) with advanced wounds at the base. A catalpa (tree 31) and black walnut (tree 32) are growing further west.

Refer to Table 1 for more information on all trees 10cm diameter at breast height (DBH) or greater and all boulevard trees on and within 6m or more of the property and proposed work.



Figure 2: West-facing view of the existing house at 71 Agnes Street. Tree 1 (apple) is visible on the right.



Figure 3: Southwest-facing view of the south side of the site from the street, where trees 2 (Siberian elm) and 3-13 (eastern white cedar) are surrounded by grass lawn. No trees are on the boulevard in this area.



Figure 4: Northwest-facing view of trees 2-13 from the street.



Figure 5: West-facing view of the south side of the site. Trees 20 and 21 are dead ashes, with mixed conifers near the southern and western property lines.



Figure 6: South-facing view of trees 2-13 from the driveway at 71 Agnes Street.



Figure 7: West-facing view of the south side of the property from the driveway at 71 Agnes Street.



Figure 8: South-facing view of trees 21 and 22 (dead ashes).



Figure 9: Northwest-facing view of trees 14-17 near the northwest corner of the site.



Figure 10: North-facing view of the west side of the existing houses.



Figure 11: West-facing view of trees 16 and 17.



Figure 12: South-facing view of trees 14 and 15.



Figure 13: East-facing view of the house at 65 Agnes Street, with trees 18 and 19 visible on the left (north).



Figure 14: South-facing view of the northwest corner of the site, where trees 14-19 are growing.



Figure 15: Southeast-facing view of the north side of the site. Trees 18-19 are visible on the right (west).



Figure 16: Southwest-facing view of the northwest corner of the site.



Figure 17: South-facing view of the southwest corner of the site, where trees 22-30 are growing near the western and southern boundaries.



Figure 18: Southeast-facing view of the southeast corner of the site.



Figure 19: Northwest-facing view of trees 27-32, south of the house at 3060 Cook Street.



Figure 20: North-facing view of trees 14-19 and the northwest corner of the site.



Figure 21: A fungal fruiting body is visible in the crown of tree 29 at 3060 Cook Street, which is proposed for removal.



Figure 22: Advanced wounds were visible at the base of tree 30 at 3060 Cook Street, which is proposed for removal. Neighbour permission will be needed to remove trees 29 and 30.



Figures 23-24: Trees 19-20 were showing advanced signs of emerald ash borer (EAB) infestation.

Urban Forest Associates Inc.

restore@ufora.ca 416-423-3387

Table 1. Tree Inventory at 65-71 Agnes Street and adjacent areas, Mississauga, ON. Refer to Drawing AR-01 for tree location and details. The locations of trees 1, 10, 15, 18, 19, 25, 28, 31, and 32 are visual approximations that have not been placed by a surveyor.

Tree #	Common Name	Botanical Name	DBH ¹ (cm)	Cond. ²	Private or City	Minimum Tree Protection (m)	Canopy Width (m)	Remarks	Action Request	Replacement Plantings Required
1	apple	<i>Malus sp.</i>	20.7	P	City (boulevard)	4E	1.8	Large pruned branch on the south side at 2m height. Swollen at the base.	Remove - Construction	To be determined by the City
2	Siberian elm	<i>Ulmus pumila</i>	56.0	G	Private	14	3.6	Small dead branches and stubs in the crown. Minor storm damage in the crown on the west side.	Remove - Construction	3
3	eastern white cedar	<i>Thuja occidentalis</i>	20.4	P	Private	4S	1.8	50% crown dieback, especially on the west side	Remove - Construction	1
4	eastern white cedar	<i>Thuja occidentalis</i>	16.6	D	Private	-	-		Remove - Construction	0
5	eastern white cedar	<i>Thuja occidentalis</i>	20.5	F	Private	4S	1.8	Slightly irregular form	Remove - Construction	1
6	eastern white cedar	<i>Thuja occidentalis</i>	16.4	P	Private	3W	1.5	Highly irregular form	Remove - Construction	1
7	eastern white cedar	<i>Thuja occidentalis</i>	19.9	P	Private	4E	1.5	Highly irregular form	Remove - Construction	1

¹DBH refers to stem diameter at breast height, measured in centimeters, at 1.4 m above the ground.

² Condition (Cond.) refers to the general health of the tree assessed. Categories are defined as G = Good (healthy condition, with good form and structure), F = Fair (moderate health or less desirable form and structure), P = Poor (significant health concerns or extensive disease development and/ or less desirable form and structure), or D = Dead. Since trees were not sampled for internal rot or climbed to look for hidden rot or holes, there could be hidden hazards that were not detected in this survey. Urban Forest Associates Inc. does not accept responsibility for damages caused from hidden tree faults that were not detected by ground observations. Further investigation would be required by a qualified arborist for such an assessment. Trees were not assessed specifically for risks and a risk assessment is not provided or implied.

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Tree #	Common Name	Botanical Name	DBH ¹ (cm)	Cond. ²	Private or City	Minimum Tree Protection (m)	Canopy Width (m)	Remarks	Action Request	Replacement Plantings Required
8	eastern white cedar	<i>Thuja occidentalis</i>	31.7	F	Private	6	2.4	Thin crown	Remove - Construction	1
9	eastern white cedar	<i>Thuja occidentalis</i>	29.3	P	Private	5	1.8	Broken top at 8m height	Remove - Construction	1
10	eastern white cedar	<i>Thuja occidentalis</i>	12.4	D	Private	-	-		Remove - Construction	0
11	eastern white cedar	<i>Thuja occidentalis</i>	26.5	P	Private	2	1.8	Large wound from 2-3m height on the north side, with a cavity. 80% crown dieback.	Remove - Construction	1
12	eastern white cedar	<i>Thuja occidentalis</i>	17.6	P	Private	2W	1.5	Growing south, with a thin crown. 70% crown dieback.	Remove - Construction	1
13	eastern white cedar	<i>Thuja occidentalis</i>	30.1	P	Private	5E	2.4	Dead top, with 40% crown dieback	Remove - Construction	1
14	white spruce	<i>Picea glauca</i>	45.3	G	Private	10	3.0	5% crown dieback. Clothesline grafting to the main stem on the east side.	Remove - Construction	3
15	eastern white cedar	<i>Thuja occidentalis</i>	15.3, 12.3	F	Private	5	1.5	Dual stem at the base, multi-stemmed at 3m height with included bark. Growing close to the existing fence and walkway.	Remove - Construction	1
16	Norway spruce	<i>Picea abies</i>	39.2	G	Private	10	2.4		Remove - Construction	1
17	balsam fir	<i>Abies balsamea</i>	31.7	G	Private	5	2.4	Small dead branches in the crown with minor chlorosis	Remove - Construction	1
18	Douglas-fir	<i>Pseudotsuga menziesii</i>	15.9	G	Private	5	1.5	Backfilled at the base. 10% chlorosis at branch tips.	Remove - Construction	1
19	Douglas-fir	<i>Pseudotsuga menziesii</i>	11.1	F	Private	4	-	Backfilled at the base. 20% chlorosis at branch tips.	Remove - Construction	0

Tree #	Common Name	Botanical Name	DBH ¹ (cm)	Cond. ²	Private or City	Minimum Tree Protection (m)	Canopy Width (m)	Remarks	Action Request	Replacement Plantings Required
20	green ash	<i>Fraxinus pennsylvanica</i>	50.9	D	Private	-	-	Emerald ash borer (EAB) exit holes	Remove – Construction and Poor Condition	0
21	green ash	<i>Fraxinus pennsylvanica</i>	43.8	D	Private	-	-	Emerald ash borer (EAB) exit holes	Remove – Construction and Poor Condition	0
22	Austrian pine	<i>Pinus nigra</i>	52	G	Private (Neighbour)	11E	3.6	5% diplodia tip blight. Many stems and large branches above 3m height.	Injure	
23	Austrian pine	<i>Pinus nigra</i>	42	F	Private (Neighbour)	9E	3.0	15% diplodia tip blight. Many stubs and dead branches in the lower crown.	Injure	
24	Scots pine	<i>Pinus sylvestris</i>	40	G	Private (Neighbour)	12	2.4	Small dead branches in the crown	Injure	
25	Austrian pine	<i>Pinus nigra</i>	38	F	Private (Neighbour)	8	2.4	Irregular form. Curves east at 4m height.		
26	Austrian pine	<i>Pinus nigra</i>	46	G	Private (Neighbour)	8	3.0	5% diplodia tip blight	Injure	
27	eastern white cedar	<i>Thuja occidentalis</i>	24 (Largest)	P	Private (Neighbour)	6	1.8	Broken top at 5m height, with a dead west stem. Many stubs from 0-1m height.	Injure	
28	eastern white cedar	<i>Thuja occidentalis</i>	21, 18	D	Private (Neighbour)	-	-			
29	Manitoba maple	<i>Acer negundo</i>	35.8	P	Private (Neighbour)	9	2.4	Fungal fruiting body at 5m height. Small-medium dead branches in the crown. Rot at a wound at 3m height on the east side.	Remove – Construction and Poor Condition	1

Tree #	Common Name	Botanical Name	DBH ¹ (cm)	Cond. ²	Private or City	Minimum Tree Protection (m)	Canopy Width (m)	Remarks	Action Request	Replacement Plantings Required
30	Norway maple	<i>Acer platanoides</i>	29.8	P	Private (Neighbour)	11	1.8	Large wound at the base on the east side with rot, 70% crown dieback. Growing north under tree 29.	Remove – Construction and Poor Condition	1
31	catalpa	<i>Catalpa speciosa</i>	17	F	Private (Neighbour)	7	1.5	Flaking bark at the base		
32	black walnut	<i>Juglans nigra</i>	26, 25	F	Private (Neighbour)	9	1.8	Poorly pruned branch at 3-4m height on the east side. Dual stem at 1.1m height with included bark.		

C. Tree Protection and Maintenance during Construction⁴

The entire property will require excavation to accommodate underground parking installation, which will require the removal of all trees on the subject property and injury to trees on adjacent properties. Shoring along the property line is expected to be necessary to install underground parking.

1. The goal of tree protection is always to prevent damage from occurring if trees are to be maintained in healthy condition and remain an asset to the owners. Damage to trees is cumulative and usually irreversible once it has occurred. There are very limited options to improve the health of trees damaged by construction, and these may be ineffective in any case. Mature trees do not respond well to large disturbances.

2. Some tree roots may be located within the construction area, but every effort shall be made to avoid cutting them. Any roots that cannot be avoided shall be cut cleanly and not with construction machinery. Wound dressing on the cut surfaces is not recommended. A qualified arborist shall supervise all excavation within tree protection zones (TPZs) to monitor root damage and prune encountered roots up to 5cm diameter, especially during the installation of underground parking within the TPZs of trees 22, 23, 24, 26, and 27. No roots larger than 5cm diameter may be pruned at any time without permission from the City of Mississauga arborist, and all root damage/excavation within TPZs will be avoided where possible. Refer to Drawing AR-02 for more information.

3. Tree protection fencing (1.2m solid board plywood hoarding) will be installed prior to demolition and construction according to City of Mississauga guidelines and remain in place until construction is complete. Braced metal construction fence is also acceptable, while snow fence (1.2m tall on a 2x4 or metal T-bar frame) may be installed on the City boulevard and/or adjacent to access routes. Metal perimeter construction (hoarding) fence at the periphery of the property and proposed excavation is expected to be sufficient in this case. Refer to Drawing AR-02 for location and details.

4. In addition to the supervision noted above, periodic inspections by the project arborist are recommended during the entire construction period to ensure that tree protection remains in place and to monitor tree condition. Reports shall be submitted to the City as requested. Any impacts to retained trees shall be remedied immediately.

5. Construction materials or equipment may not be stored in areas designated for tree protection; the tree protection zone cannot be used for any other purpose. No vehicle access of any kind is permitted within tree protection zones.

6. Concrete must not be mixed near the tree protection zones and any wash water from concrete mixing must be directed into designated disposal areas and not into the root zones of any trees.

7. The addition of 10cm of pine bark mulch to the areas within the tree protection hoarding will also help to retain moisture in the root zone and reduce tree stress. Any roots of retained trees exposed due to excavation from April 15 to November 15 must be covered immediately with wet burlap, which must be kept in place until backfilling is complete.

8. Should it be necessary to install any new services on the site that require trenching the services can be open-trenched in areas outside tree protection zones but must be installed by tunneling if they cross within tree protection zones. Digging for shallow irrigation pipes (20cm or less below the surface) could be undertaken by hand or air spade if it can be done without cutting any roots, under the direct supervision of the project arborist.

D. Tree Removal and Injury

Private Live Tree(s) Greater than 15cm and less than 45cm DBH Proposed for Removal due to Construction (15): 3, 5, 6, 7, 8, 9, 11, 12, 13, 15, 16, 17, 18, 29, 30. Trees 3, 6, 7, 9, 11, 12, 13, 29, and 30 are in poor condition. Trees 29 and 30 are shared with the neighbour at 3060 Cook Street and are showing advanced defects (see Table 1 and Figures 21-22 above).

Private Tree(s) Greater than 45cm DBH Proposed for Removal due to Construction (2): 2, 14.

Dead Tree(s) Proposed for Removal due to Construction (4): 4, 10, 20, 21.

Private Tree(s) Less than 15cm DBH Proposed for Removal due to Construction (1): 19.

Private Tree(s) Greater than 15cm DBH Proposed for Injury due to Construction (5): 22, 23, 24, 26, 27. These trees are located at the neighbouring property at 99 Agnes Street. The injury to trees 24 and 26 is minor (<5% TPZ), while injuries to trees 22 (9.0m², 19.1% TPZ), 23 (4.0m², 19.1% TPZ), and 27 (2.4m², 20.6% TPZ) are within acceptable limits if excavation within TPZs is limited as much as possible and this tree protection plan is implemented as specified.

City Tree(s) Proposed for Removal due to Construction (1): 1. Though final landscaping along Agnes Street is still to be determined, tree 1 is proposed for removal and replacement due to poor condition.

E. Tree Replacement

To replace trees removed due to construction, the owner must plant twenty-one (21) 60mm/180 wire-basket replacement trees to compensate for trees requiring removal due to construction. A final landscape plan will be completed by others, and cash-in-lieu may be permitted for some replacement trees in negotiation with the City of Mississauga. The replacement tree requirement for tree 1 (City) will be determined by the City of Mississauga.

The statement of Limiting Conditions of this Report, as presented in Appendix A, is an integral part of this report.



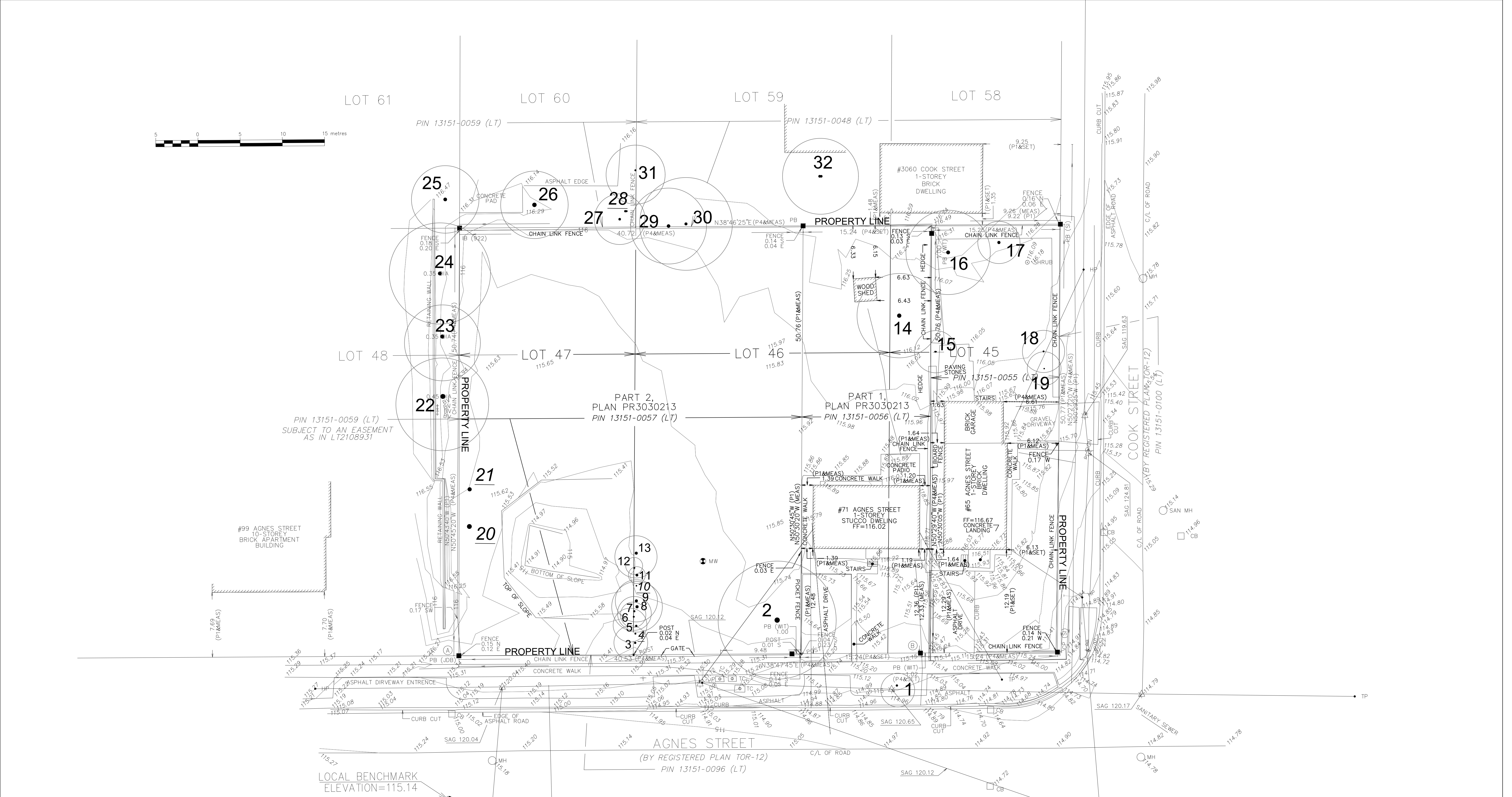
Alex Karney, ISA Certified Arborist #ON-1674A

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Appendix A

Limiting Conditions of this Report

1. Urban Forest Associates Inc. ("UFA") has prepared this Report for use by the client named, only. This Report may not be relied on, in whole or in part, by third parties and UFA makes no representations or warranties to any such third parties whatsoever with respect to the appropriateness, accuracy or completeness of the information contained therein.
2. This Report has been prepared based in part on information provided to UFA by the client and by others. UFA does not guarantee the accuracy of such information. UFA is not responsible for any errors or omissions caused, directly or indirectly or in whole or in part, by any inaccurate or incomplete information provided by others.
3. It is understood that construction or landscaping work may be undertaken in relation to or based upon this Report. UFA will not be responsible for the appropriateness of any such work unless UFA is given the opportunity to comment in that regard, at the client's expense. After such consultation, if the scope or design of any such works undertaken changes, this Report may need to be modified to accommodate the new conditions. In such a circumstance the client must advise UFA of the nature of the changes and allow UFA, at the client's expense, to make any necessary changes, failing which this Report may not be relied on by the client.
4. This Report is not severable and UFA makes no representation or warranty to the client that any portion of this Report is accurate, appropriate or complete if that portion is excerpted from, or not read in context with, the remainder of the Report.
5. Unless otherwise agreed to in writing between the client and UFA;
 - i. Information contained in this Report reflects, subject to item ii), below, the condition of the trees addressed in the Report, and grounds at the time of the inspection. Tree conditions may change at any time after inspection and we cannot guarantee that changes will not occur or will not materially affect the condition of the trees. Follow-up inspections should be arranged to verify tree condition periodically.
 - ii. Inspections were carried out using currently accepted arboricultural techniques and are limited to what can be observed from ground observations without climbing, cutting, probing, coring, excavation, or snow removal. We are not responsible for any losses that may occur from conditions that could not have been observed by ground observations at the time that the inspection(s) was carried out.
 - iii. Prior to the commencement of UFA's work on the Report, the client will provide UFA with information as to the location of property lines and the ownership of trees to be investigated by UFA. UFA may rely on the accuracy and completeness of all such information and shall not be liable for damages or costs resulting from any errors or omissions in that regard. Further, the client agrees to indemnify and hold harmless UFA from any claims made against UFA in relation to property line violations or ownership of trees.
6. The client agrees that the client's recovery from UFA for breach of this Agreement or for negligence in relation to this Report is and shall be limited to the limits of UFA's liability and errors and omissions insurance in place at the time this Report is prepared.
7. Copyright in this Report and in any drawings or specifications prepared by UFA in that regard belongs to UFA and shall not be used by the client in relation to any other project. The client may retain copies of these documents for information and reference provided UFA has been paid in full for services rendered under this Agreement.



REVISIONS/ ISSUE DATES		
NO.	DATE	DESCRIPTION
1	22/04/29	ISSUED FOR SPA REVIEW
2		
3		
4		
5		
6		
7		
8		
9		
10		

LEGEND

●

4

EXISTING TREE

●

4

EXISTING TREE - DEAD

○

EXISTING TREE CANOPY

Survey Information Provided by:

BARNES J.D. LTD.

401 WHEELABRATOR WAY, SUITE A

MILTON, ON L9T 3C1

TEL.: 905-875-9955

Site Plan Information Provided by:

SWEENEY & CO ARCHITECTS

134 PETER STREET, SUITE 1601

TORONTO, ON M5V 2H2

TEL.: 416-971-6252

Urban Forest Associates Inc.

331 Linsmore Crescent, Toronto, ON M4J 4M1

416-423-3387

restore@ufora.ca

PROJECT:

65-71 AGNES STREET

MISSISSAUGA, ON

TRUE NORTH

DRAWN/CHECKED BY:

AK/SS

DATE:

APR. 28, 2022

DRAWING TITLE:

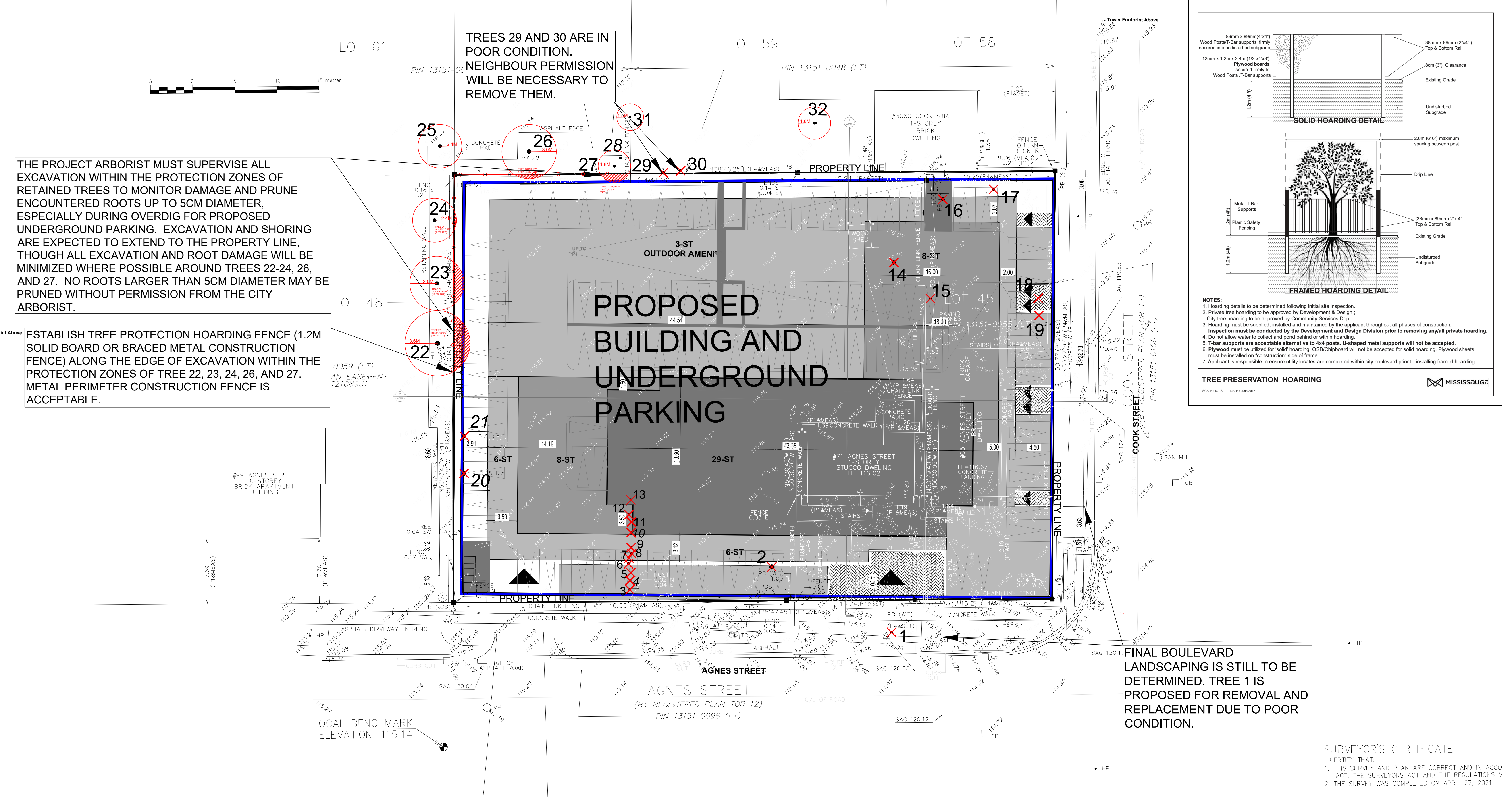
EXISTING CONDITIONS

DRAWING NO:

AR-01

SCALE:

1:200 (24X36)



REVISIONS/ ISSUE DATES			LEGEND		Survey Information Provided by:		Urban Forest Associates Inc.		TRUE NORTH		DRAWN/CHECKED BY:		DATE:	
NO.	DATE	DESCRIPTION	● 4	EXISTING TREE	BARNES J.D. LTD. 401 WHEELABRATOR WAY, SUITE A MILTON, ON L9T 3C1 TEL.: 905-875-9955		331 Linsmore Crescent, Toronto, ON M4J 4M1 416-423-3387 restore@ufora.ca		A circle with a diagonal line through it.		AK/SS		APR. 28, 2022	
1	22/04/29	ISSUED FOR SPA REVIEW	✗ 4	EXISTING TREE PROPOSED FOR REMOVAL	Site Plan Information Provided by: SWEENEY & CO ARCHITECTS 134 PETER STREET, SUITE 1601 TORONTO, ON M5V 2H2 TEL.: 416-971-6252		PROJECT: 65-71 AGNES STREET MISSISSAUGA, ON		A circle with a diagonal line through it.		DRAWING TITLE:			
2			2.4m	MINIMUM TREE PROTECTION ZONE							TREE PROTECTION PLAN			
3				TREE PROTECTION HOARDING FENCE							DRAWING NO:			
4				PROPOSED TREE INJURY							SCALE:			
5				PROPOSED UNDERGROUND PARKING - OVERDIG EXPECTED TO THE PROPERTY LINE							AR-02			
6				EXISTING FEATURE PROPOSED FOR REMOVAL							1:200 (24X36)			
7														
8														
9														
10														