

# Arborist Report

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4029 Spruce Avenue  
Burlington, Ontario  
L7L 1K1  
January 4<sup>th</sup>, 2021



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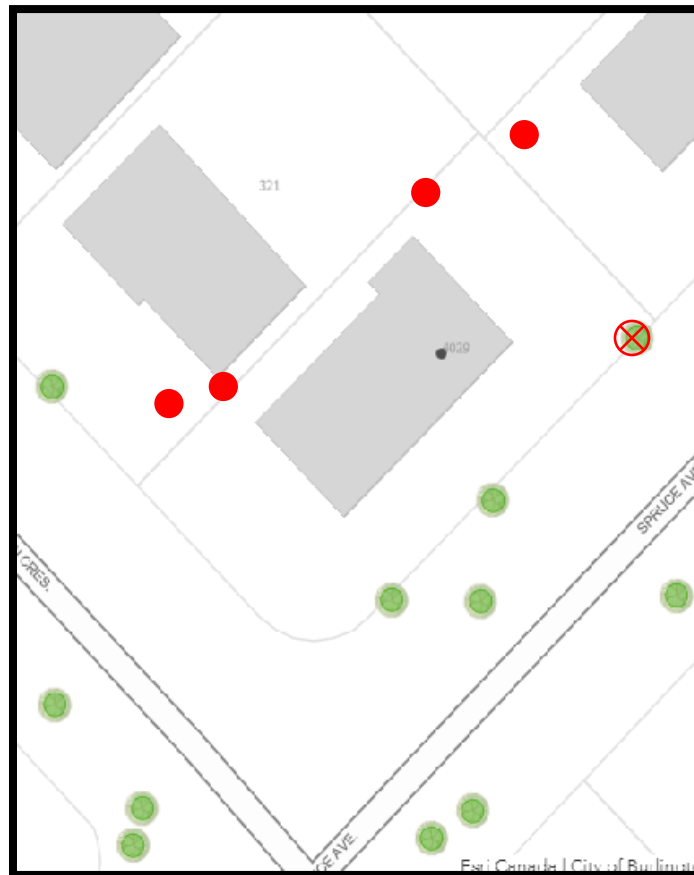


diamond tree care & consulting inc.

[www.diamondtreecare.ca](http://www.diamondtreecare.ca)

Roads, Parks and Forestry Department  
Tree Management  
3330 Harvester Road  
Burlington, ON L7N 3M8  
January 4<sup>th</sup>, 2021

RE: Arborist Report and Tree Protection Plan



Overhead view of the property. City-owned trees marked as green circles, privately owned trees associated with this report marked with red circles.

## **Definitions and Abbreviations**

**COH:** Current overall health. A general rating of the condition of the tree. This is based on visually observed indicators. Ratings range from poor to fair to good, or a combination of two of these descriptors. The current rating is given as it could decline in the future.

### **COH Meanings:**

-Good: The canopy was alive and evenly dispersed, no signs of disease or decay.

-Fair: The canopy was alive, but asymmetrical or somewhat sparse. Signs of disease or decay, but nothing imminently hazardous or concerning.

-Poor: Canopy is sparse at best. Signs of disease or decay present, and unlikely to recover.

**DBH:** Diameter of the tree measured in centimetres at 1.4m above ground.

**EWT:** Used in the inventory table comments to mean that motorized equipment has moved within the TPZ of the tree.

**Horizontal tree protection:** A layer of coarse mulch, 15-30 cm thick. To help with better weight distribution, place 3/4 inch plywood on top of the mulch. This is a temporary measure, and this mulch should not be left in place for a prolonged period of time.

**Soil compaction:** Soil having a level of density that is not conducive towards healthy plant growth. Usually a result of heavy equipment moving over it without horizontal tree protection. Trees growing in compacted soil are likely to struggle. It can take several years for signs of stress to show after recent soil compaction.

**TPB:** Tree protection barrier. Built in a way to remain in place during construction, as per the specifications provided by the city.

**TPZ:** Tree protection zone. Minimum amount of physical protection required. Physical protection typically takes the form of a TPB, or horizontal mulching if the full extent of the barrier is not possible to install due to access requirements. Measured from the outside edge of the trunk. This measurement is based on the dbh of the tree and corresponding TPZ chart provided by the city.

## **Introduction**

Diamond Tree Care & Consulting Inc. was asked by Salman Cheema, the owner of 4029 Spruce avenue in Burlington Ontario, to provide an arborist report and tree protection plan for a proposed development project at the subject property. The inspection was completed on January 4<sup>th</sup>, 2021. The proposed development is the addition of a second story onto an existing residential dwelling. The existing footprint will not be expanded and no additional excavation for the addition will occur. An additional component of the proposed development is widening of the driveway, which will require the removal of soil and tree roots.

## **Inspection**

Upon inspection it was determined that there are three city-owned trees, six trees on neighbouring properties and one hedge located on the subject property. Any other trees on the property or neighbouring properties are less than 10cm in diameter, or have a TPZ that would not cross the property boundary.

### **Limiting Conditions**

This tree inventory was created from data gathered on site. A visual examination of all trees was preformed and any structural defects, signs of health and vigour were assessed. All examination took place from the ground and no trees were cored, probed or climbed. There was no inspection of the root systems. It must be realized that trees are living organisms, and their health and vigour constantly change over time. They are susceptible to changes in site conditions, or seasonal variations in the weather conditions. The assessment in this inventory is valid only at the time of inspection.

Assessment of trees on neighbouring properties was limited to a visual estimation from public property or from the subject property.

## Inventory table

Tree #	Species	Dbh (cm)	TPZ (m)	CRZ (m)	COH	Status	Comments
1	Kwanzan Cherry ( <i>Prunus serrulata</i> )	44,47	3	5	Poor to fair	Remove	Double-stem, city owned
2	Honey locust ( <i>Gleditsia tricanthos</i> )	57	3.6	6	Good	Protect	City owned
3	Paper birch ( <i>Betula papyrifera</i> )	20,20,17,13	2.4	4	Fair	Protect	City owned, requires pruning
4	Honey locust ( <i>Gleditsia tricanthos</i> )	30cm (visual approximation)	2.4	4	Good	Protect	Neighbour owned
5	White cedar ( <i>Thuja occidentalis</i> )	27	2.4	4	Good	Protect	Neighbour owned
6	White cedar ( <i>Thuja occidentalis</i> )	29	2.4	4	Good	Protect	Neighbour owned
7	White cedar ( <i>Thuja occidentalis</i> )	20	2.4	4	Good	Protect	Neighbour owned
8	White cedar ( <i>Thuja occidentalis</i> )	20	2.4	4	Good	Protect	Neighbour owned
9	Cedar hedge	5-20	2.4	4	Good	Protect	Regularly trimmed
10	London plane ( <i>Platanus x acerifolia</i> )	70 (Visual approximation)	4.2	7	Good	Protect	Neighbour owned

\*Distances for TPZ and Critical root zone used from the City of Burlington website

## **Discussion**

### **Tree 1**

Tree 1 is a double-stemmed Kwanzan cherry located in the front yard adjacent to the existing driveway. Several surface roots have been damaged, most likely due to lawn maintenance equipment. Closer to the base of the tree, four primary roots are being constricted by surface roots.

The main union of the two stems forms a narrow-angle, causing the development of included bark. At this main union there is dead tissue present, as well as a seam that extends to the base of the tree. This would suggest that the two stems have not formed a strong union, and is a potential failure point. There is likely decay present between the two stems.

According to the homeowner, the canopy was pruned approximately six months ago. It appears that the canopy was reduced to appropriately sized laterals in the style of reduction pruning. Several stubs remain in the canopy. Further pruning will be required to accommodate the proposed development and equipment access. The stem furthest from the house has a seam facing the road, suggesting internal decay.

The proposed driveway expansion would be within the TPZ of this tree and would cause the tree to experience stress. The combination of the structurally compromised union, the need to prune a significant portion of the tree for clearance, and the expected damage to the roots are reasons to suggest this tree be removed. It is likely to struggle or become hazardous after the work is completed. Being that this tree is city-owned, it will require written permission from the manager of urban forestry. Any compensation for the removal of this tree is at the discretion of the department of urban forestry.

### **Tree 2**

Tree 2 is a city-owned honey locust located on the boulevard along Spruce avenue. The roots from this tree are raising the sidewalk. Some of the roots are exposed on the roadside of the tree, as the tree sits higher than the grade. This tree appears to be in good health with no visible diseases or decay.

This tree was recently pruned, and the centre appears “cleaned out” with little internal canopy. There are multiple stems originating at approximately 3m above ground. All of the unions appear u-shaped which indicates a stronger point of attachment than v-shaped unions.

To protect this tree during construction, tree hoarding will be limited to the distance of the sidewalk. The hoarding can be placed to the full extent of the TPZ along the open space in the boulevard. The driveway expansion will be outside of the critical root zone. If it is expanded

further, the distance from the tree will need to be measured and re-assessed.

### **Tree 3**

Tree 3 is a multi-stem white birch in the front yard of the house. It is located on city property. There are currently 4 stems originating from the base that all form narrow-angled unions. These are potential failure points as included bark forms, or as the trunks continue to compete for space. One stem has been removed in the past, creating a potential entry point for decay.

There is decay present in the stem growing closest to the house. The site of the decay is at an old pruning wound. On the top side of the stem there is a seam, suggesting further spread of internal decay. This stem will need to be pruned to accommodate the proposed construction. It will require written permission to be pruned by the manager of urban forestry, or be pruned by city staff.

There is decay present in the smallest stem near the base at an old pruning wound.

This tree is in fair health overall and can be retained during construction. The tree hoarding will form a square around the tree. There is to be no excavation as part of this project that would impact the critical root zone.

### **Tree 4**

Tree 4 is a honey locust located on the neighbouring property of 321 Arden crescent. This tree is in good overall condition with deadwood typical of the species. It has been pruned in the past for property clearance, and appears to have been “cleaned out” with minimal remaining interior canopy.

The TPZ of this tree would be on the property at 321 Arden crescent, so it will be protected by restricting activity to the property boundaries of 4029 Spruce avenue. The critical root zone does extend over the property boundary, but there is to be no excavation in the area that could impact the root system of this tree.

### **Trees 5-8**

Trees 5-8 are cedars located on the neighbouring property of 321 Arden crescent. They are growing in a tight grouping. The canopy extends onto the property of 4029 Spruce avenue. These trees are in good overall condition. Any pruning required for access should be done by a certified arborist. The pruning should be done in a manner to preserve the health and aesthetics of the trees while allowing access.

To protect these trees, hoarding should be installed just outside the canopy, to allow movement around that side of the house as necessary. For any amount of the TPZ that is still lacking in hoarding, horizontal tree protection measures should be installed. There is no excavation to happen in this area of the property that will impact the critical root zone of the trees.

### **Tree 9**

Tree 9 is a cedar hedge located at the rear of the property. The stem diameter varies from 5-20cm. The overall condition of the hedge is good. There is an existing layer of hardscape in the form of interlock stone directly adjacent to the hedge. There is no need to set up hoarding as long as the existing hardscape remains in place during construction. The canopy is directly against the hardscape, and hoarding would be limited to this edge anyways. It is possible that installing hoarding in such close proximity to the trees could result in more damage than no hoarding being installed. The only excavation to occur in the area is potentially post holes for the new porch. The digging of these post holes is likely to have little or no impact on the critical root zone of this hedge.

### **Tree 10**

Tree 10 is a London plane tree located in the backyard of the neighbouring property of 4043 Spruce avenue. This tree is approximately 1m from the existing shed on 4039 Spruce avenue. It has been pruned in the past for clearance of the utility lines located in the backyard. Overall it appears to be in good condition.

This tree will require hoarding in the backyard of 4039 that can be attached to the fence and will finish at the existing shed. The existing shed will act as a physical barrier for a portion of the TPZ. This shed will need to remain in place for the duration of the project to act as the barrier. If it is to be removed, it will need to be done so by hand, without the use of machinery. A section of hoarding will need to be installed to replace the shed if it is removed. There is no excavation to happen in this area of the property that will impact the critical root zone of the trees. The digging of post holes will be done outside of the critical root zone of this tree.

## **Prohibited Activities**

Activities which are likely to injure or destroy the tree are not permitted within the MTPZ. Equipment or vehicles shall not be operated, parked, repaired or refueled within the dripline of trees.

No objects may be attached to trees protected by the City Tree by-law without written authorization by the City. Construction material, supplies, or equipment and earth shall not be stockpiled within the dripline of any tree.

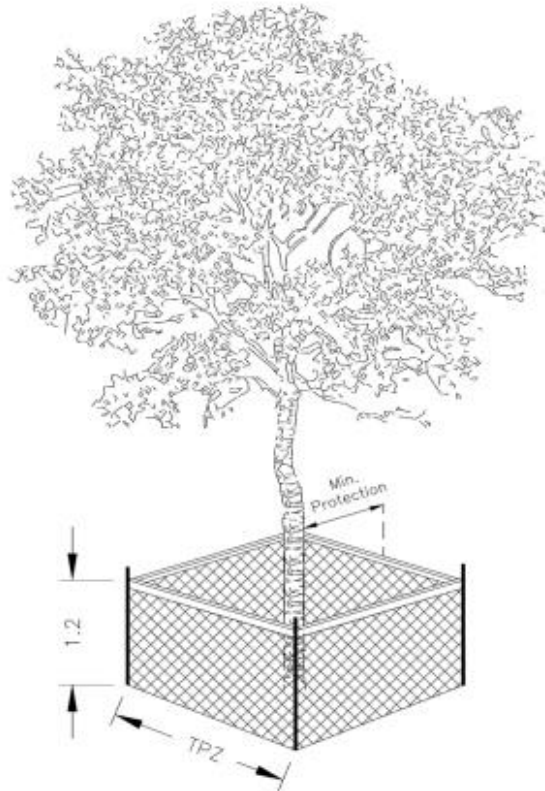
No City tree or tree protected by the City Tree by-law may be removed without the written permission of the Manager of Urban Forestry or designate.



# Tree protection Hoarding Standard

## Tree Protection and Preservation Specification No.: SS12A

### Detail TP-1 – Tree Protection Detail.



Trunk Diameter (DBH) <sup>2</sup>	Minimum Tree Protection Zone (MTPZ) Distances Required <sup>3</sup>	Critical Root Zone (CRZ) Distances Required <sup>3&amp;4</sup>
< 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:

<sup>1</sup> The roots of a tree can extend from the trunk to approximately 2-3 times the distance of the drip line.

<sup>2</sup> Diameter at breast height (DBH) is the measurement of tree trunk taken at 1.4 metres above ground.

<sup>3</sup> 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.

<sup>4</sup> 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 not be removed prior to the completion of construction without written authorization from the City Arborist.
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 City Arborist.
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".



## **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.*

## Photos



Image 1: Tree 1 in situ





Image 2: Compromised union of tree 1



Image 3: Seam on the stem closest to the road of tree 1





Image 4: View of the compromised union of tree 1 from the other side of the tree





Image 5: Tree 2 in situ. The limited space for tree protection hoarding can be seen.





Image 6: Tree 3 in situ. The stem to the right will need to be pruned or removed to accommodate the proposed construction.



Image 7: Old pruning wound and seam on the topside of the limb to be pruned, on tree 3.





Image 8: Tree 4 in situ



Image 9: Trees 5-8 in situ.



Image 10: Tree 9 (hedge on the left) in situ. The existing hardscape can be seen. This hardscape will need to be kept in place to act as a barrier for the hedge.





Image 11: Tree 10 in situ. The existing shed will act as hoarding in addition to a section of hoarding to be installed. The shed will need to remain in place to act as hoarding.

Regards,  
David Sukhiani, ISA ON-1280A



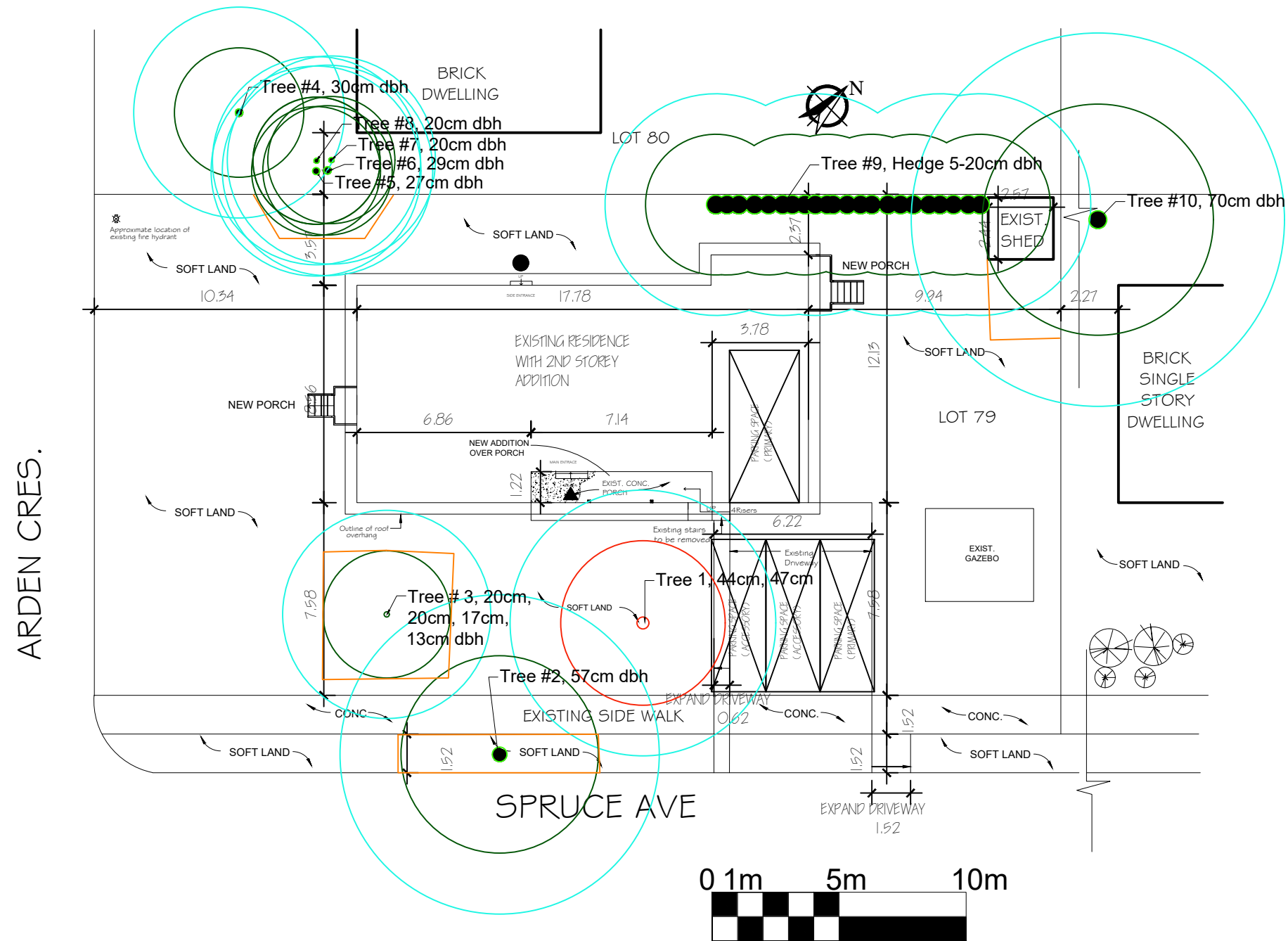


This Site map was created as an overlay of the original created by Brian Li Engineering INC, 2020

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**Legend**

**Date: January 4th, 2021**

This site plan to be printed in colour and viewed with the accompanying arborist report

Location of tree hoarding

Tree not located on original survey to be retained, location approximated

Tree to be removed

Critical Root Zone

TPZ of tree to be retained