

## Tree Information Report for 422 Hartleigh Avenue, Ottawa

**Prepared by:**

Barbara Hemming, ISA Certification #ON 0389

613-828-3207

[bhemming@sympatico.ca](mailto:bhemming@sympatico.ca)

**Prepared for Owner:** Kate Casey

**Email:** [kateccasey24@gmail.com](mailto:kateccasey24@gmail.com)

**Property is** 422 Hartleigh Ave.,

Ottawa, On.

K2B 5J4

The owner is applying for a permit to demolish the existing structure and build two attached two-story residential units.

**Inspection date:** 2023-03-01

The objective of this report is to identify all protected trees on this and adjacent properties whose Critical Root Zones (CRZ's) fall within the area of construction and to provide strategies for tree preservation during development and construction.

The report identifies the trees that will be removed and details of their condition.

### Definitions

#### Tree Condition Ratings

- **Very good condition;** exhibiting normal, vigorous growth with minimal amounts of fine deadwood, no structural defects or visible signs of disease.
- **Good condition;** 60 to 90% normal canopy density, little or no dieback, some deadwood but no major dead stems or limbs, possible infestation causing minor damage and minor cavities at wound sites and only minor structural defects.
- **Fair condition;** declining with 30 to 60% of normal canopy density, twig and branch dieback, failure of one scaffold branch, infestation causing significant damage, mix of small, medium, and large deadwood, or presence of disease and decay causing structural instability. Treatment recommended by an arborist would be essential but would not guaranty survivability especially if subjected to root loss caused by construction activity.
- **Poor condition;** less than 30% canopy, or dieback of large major scaffold branches, or failure of more than one scaffold branch, loose bark, severe infestation and irreparable damage, or extensive decay causing structural stability. A tree described as "poor" is in severe decline and is unlikely to tolerate any root damage or fill soil typical of development and construction.

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**DBH** or diameter (D) at breast height means the measurement of the diameter of the trunk at 130cm. above grade unless it has multiple trunks, in which case the diameter of the largest stem measured at 130 cm is used as the DBH.

**Critical Root Zone (CRZ);** is the area around the tree or groups of trees in which no grading or construction activity may occur. In keeping with the City of Ottawa requirement the Critical Root Zone extends 10 centimeters from the trunk of a tree for every centimeter of trunk diameter. Therefore, typically  $D \times 10\text{cm} = \text{radius of Critical Root Zone}$ .

**Site Specifics**

The site is a typical residential lot with a vacant house and shed on it. There are 4 trees considered protected. See the list below.

**Table 1 List of Trees**

Tree #	Species	Dbh cm	CRZ M	Owner	Condition	Recommendation
1	White Spruce (Picea glauca)	54.8	5.48	422 Hartleigh	Good	To be retained and protected
2	Black Walnut (Juglans nigra)	97	9.7	422 Hartleigh	Very Good	Retain and protect / needs to be pruned
3	Apple Variety (Malus var.)	38	3.8	422 Hartleigh	Poor, decay and deep cavities	To be removed and replaced with 2 trees
4	Slippery Elm (Ulmus rubrum)	35	3.5	423 Wentworth	Good Double trunk	Retain and protect

**Tree #1 White Spruce (Picea glauca)**

Dbh 54.8 cm

This is a mature White spruce. See photos 1 and 2, p. 3

It has a single trunk.

Stem has no lean and tapers gradually.

Foliage density, size and colour are all good.

There is some die-back of smaller branches. There are a few dead branches and one hanger.

There is a possible unidentified canker on one of the lower branches.

There are no co-dominant stems or included bark.

Crown has been raised to 4.5M.

Roots may be restricted by the nearby paved driveway at 426 Hartleigh Ave.

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### Recommendation

The proposed plan shows very little encroachment into the CRZ, apart from the new driveway. Excavation for the new driveway may impact less than 20% of the CRZ. The tree should be able to tolerate this moderate amount of root loss.<sup>1</sup>

Provide protective fencing around the CRZ as indicated in Drawings #1 p 9 and #2 p 10.  
Follow all the Steps to Conserve Trees p 8.

### Tree #5 Eastern White Cedar



Photo 1 White Spruce in Centre

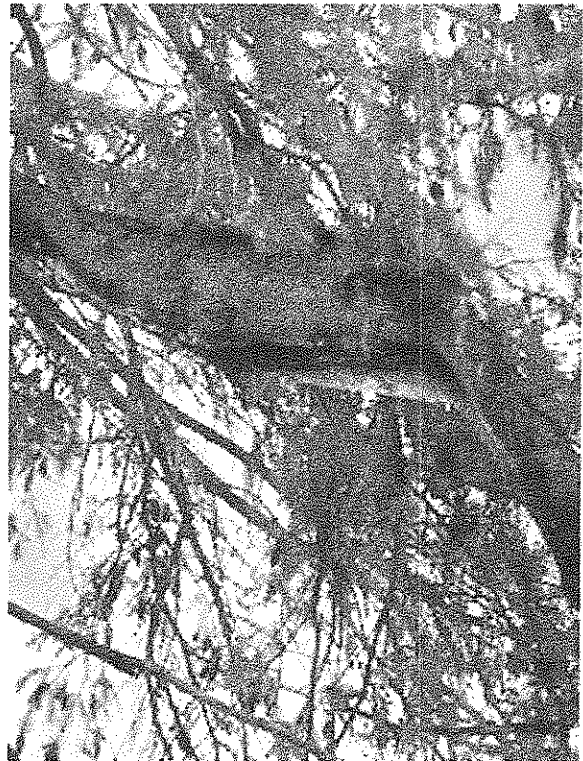


Photo 2 Branch with Unidentified Canker

### Tree #2 Black Walnut (*Juglans nigra*)

Dbh is 97 cm.

This is a mature Black walnut.

It has been well maintained by previous owners.

It has been cabled twice: one at ~9M: another one is broken.

It has a single trunk with very little taper before the first fork.

There are co-dominant stems with included bark and one weak attachment.

There are no branches with excessive end weight.

No visible cavities, cracks or splits. There is a fissure in the bark along the main trunk on both sides from the fork down.

There are some old pruning wounds.

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While the tree is dormant at the time of inspection, I am familiar with this tree and this past summer foliage appeared to be normal.

Crown starts at ~7 M and is about 60% of tree height.

See photos 3 to 6, p. 4.



Photo 3 Mature Black Walnut

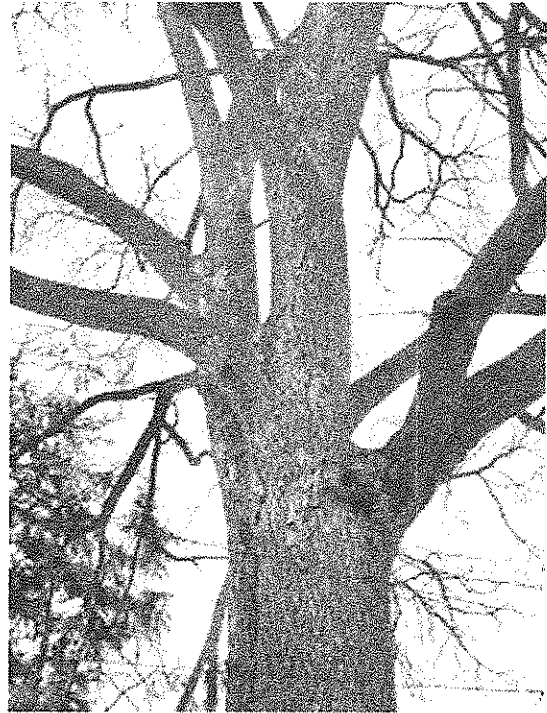


Photo 4 First Fork



Photo 5 Previous Pruning

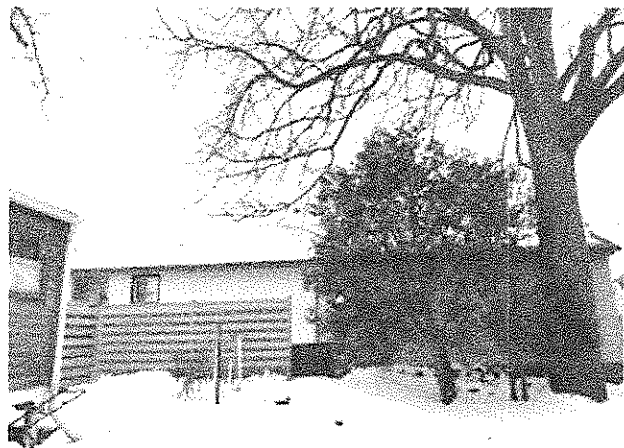


Photo 6 Branch Extension into Yard Space

**Recommendation**

The tree is generally healthy and should be protected before construction begins.

It should be noted that Black Walnut are generally intolerant of root loss.<sup>1</sup>

Approximately 15% of the CRZ will be impacted by the construction. While it may not affect the stability of this tree it may cause some decline.

Therefore, the limit of excavation must be respected.

Erect a fence around the CRZ as shown in Diagrams #1 p. 9 and #2 p.10 and follow "Steps to Conserve Trees" in this report.

Pruning of the canopy may be required before construction to allow for the expansion of construction space at the second story. This must be done under the supervision of a qualified arborist.

**Tree #3 Flowering Crab Apple (Malus var)**

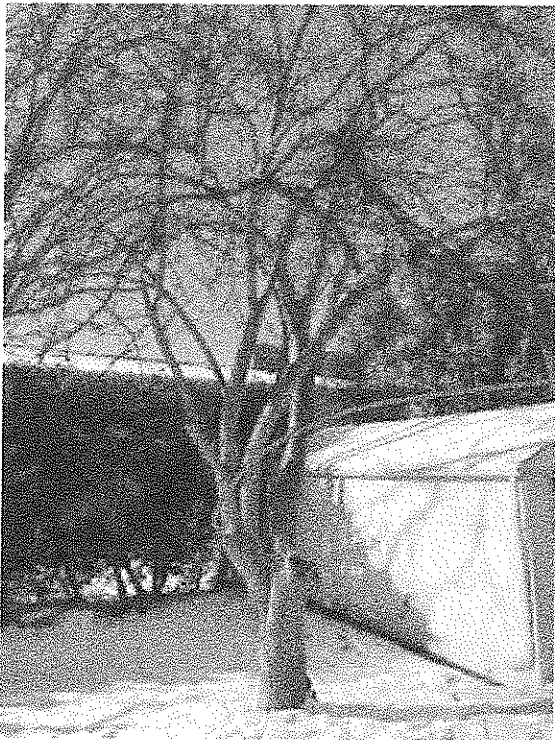


Photo 7 Apple tree



Photo 8 Deep Cavity

Dbh is 38 cm.

This is a flowering crab (probably "Profusion").

It has a double stem partially twisted and growing into each other.

Previous pruning has left unhealed wounds and several deep cavities. See Photos 8 to 10, p 5.

One in Photo 8 is about 50 cm deep.

It has co-dominant stems and included bark.

**Recommendation**

About 30% of the CRZ is within the proposed limit of excavation.

The tree is in poor condition.

Malus species are poor compartmentalizers as exemplified by the cavities.

The tree should be removed before construction begins.



Photo 9 More Cavities and Decay

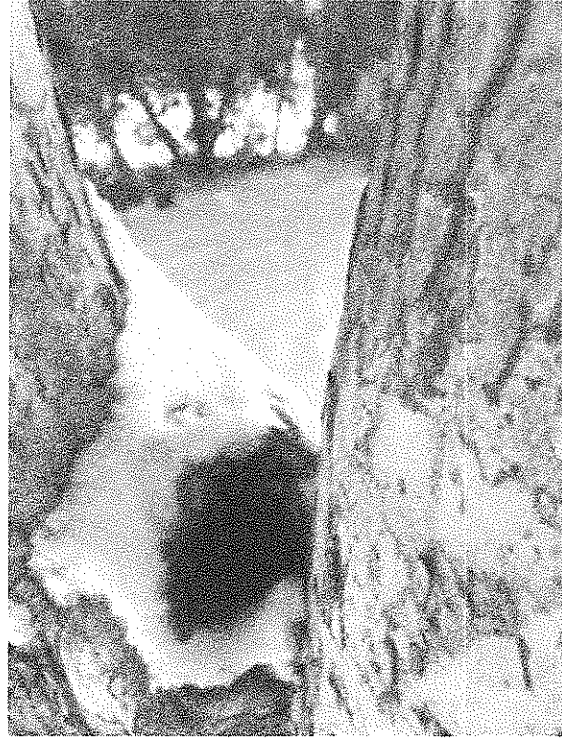


Photo 10 Decay in Fork

**Tree #4 Slippery Elm (*Ulmus rubrum*)**

Dbh of largest stem is 35 cm.

There are actually two stems growing close together. See Photo 11, p. 7.

They appear to be in good condition although the canopies are thin.

The CRZ's are well outside the proposed limit of excavation and neither of these two trees should be affected by the development.

**Recommendation**

Protective fencing erected around the CRZ of the Black Walnut should be extended to include the exposed CRZ of these trees. See illustrations on Diagrams #1 and #2

Follow "Steps to Conserve Trees", p 8 in this report.



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Photo 11 Tree #4 Slippery Elm with two stems.



Photo 12 Largest of the Two Stems



Photo 13 Upper Canopies

### Steps to Conserve Trees

The following measures as well as those listed in Diagram #1 p. 9 are to be taken to ensure the best chances of survival of any of the trees being retained.

1. Do not remove any surface soil in the area of the CRZ except within the limit of excavation as indicated on the plan.
2. Do not raise the grade in the area of the CRZ.
3. Erect a fence with a sign identifying the tree(s) to be protected under the by-laws, around the area of the CRZ as illustrated in the Diagram #1 p. 9, within the property lines unless otherwise indicated in this report. (See pink dotted line in Diagram #2 of Site Plan p.10)
4. Do not place any construction material or equipment within the area of the illustrated CRZ's.
5. Do not attach any signs or notices to the trees being retained.
6. Do not damage the root systems beyond the excavation limit.
7. All severed roots over 2.5 cm in diameter are to be cleanly cut with sharp tools not left torn by mechanical shovel.
8. Do not damage the trunk or branches.
9. Ensure that exhaust fumes from all equipment are not directed at any of the canopy.
10. Any pruning of the trees should only be done under the guidance of a qualified arborist.
11. Avoid soil compaction in the area of the CRZ's. If root zones are unavoidable in the equipment access area, mitigate compaction during construction by covering the area with a layer of crushed stone and cover with plywood. Remove after construction is completed.
12. All mixing gas, cleaning tools and brushes and repairing of equipment will take place outside the CRZ to reduce spillage risk.
13. All debris from existing structures, new construction, and chemical wastes are to be hauled away and not buried on site.
14. Water undisturbed areas of CRZ during construction. Soak to a depth of 18 cm. ("12") once a week in periods of 1 week without sufficient rain to maintain this amount of moisture.

See Diagram #1 p. 9.

### Reference

<sup>1</sup>Matheny and Clark, 1998. Trees and Development, A Technical Guide to Preservation of Trees During Land Development. International Society of Arboriculture





PRELIMINARY ONLY

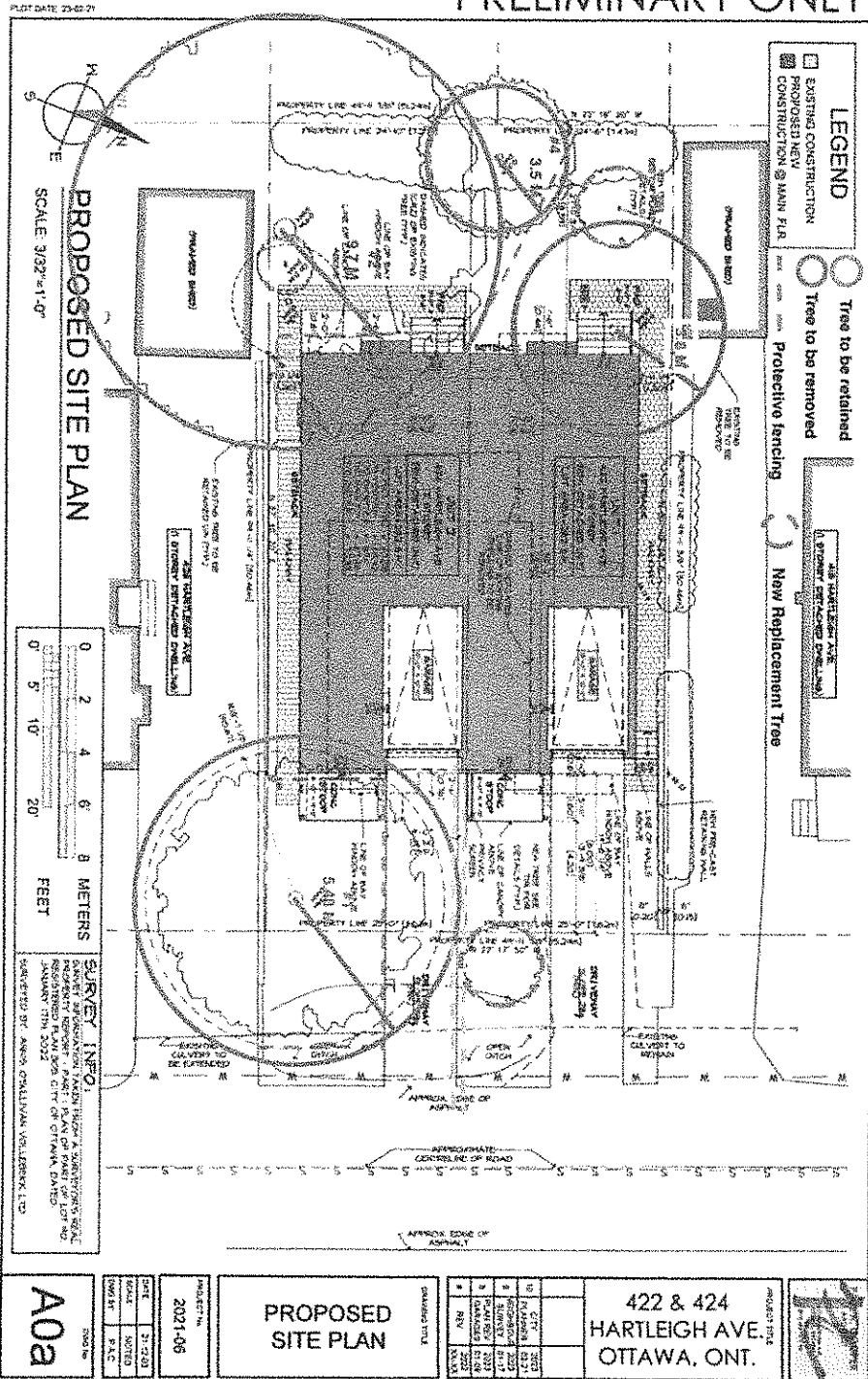


Diagram #2

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### Tree Replacement Plan

In accordance with the City of Ottawa tree compensation for the requested removal at 422 Hartleigh Ave., the owner will have to plant a maximum of 2 new trees.

There is room for 2 new trees to be planted following the City of Ottawa's new guideline. See Drawing #2, p 10 of FTR.

All trees will be nursery grown of quality stock meeting the Canadian Nursery Stock Standard 2017.

All will have a diameter of 50 mm caliper measured at 15 cm above grade.

Tree 1 'Karpick' Red maple *Acer rubrum* 'Karpick'. This is to be planted in the back of 424 Hartleigh as shown in Drawing #2, p 10 of FTR.

Tree 2 Ironwood *Ostrya virginiana*. This is to be planted in the ROW in front of 424 Hartleigh as shown in Diagram #2, p 10 of FTR.

Planting must be done according to the specifications in Forestry Services' tree planting detail:

1M from utility boxes

1.5M from sidewalks, driveways, walkways, fences, sound walls, and old stumps.

2.5M from curbs, hydro transformers, or behind fire hydrants

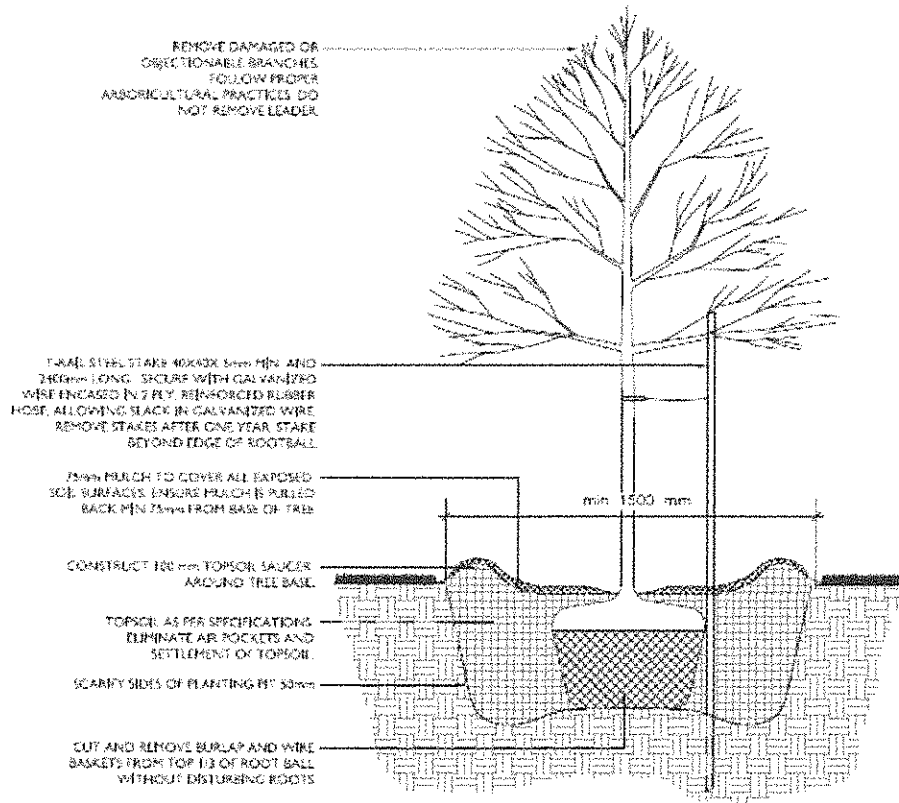
4-7M from any part of an existing tree, depending on canopy width

Trees must be watered regularly following planting to ensure proper establishment.

The City will assume maintenance responsibilities for the tree planted in the ROW.

The following diagram is from the City of Ottawa's Tree Planting Specification and is recommended as a planting guide.

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## NOTES

1. PROTECT TRUNK DURING TRANSPORT AND INSTALLATION. ALL WRAPPING TO BE REMOVED BEFORE FINAL INSPECTION.
2. ALL PROTECTIVE WRAPPING SHALL BE REMOVED AFTER INSTALLATION.
3. STAKING OF TREES SHALL BE PERFORMED ONLY IF DEEMED NECESSARY.
4. ALL DIMENSION IN MILLIMETERS UNLESS OTHERWISE NOTED.