BEACON ENVIRONMENTAL

GUIDING SOLUTIONS IN THE NATURAL ENVIRONMENT

Arborist Report
230 Finch Avenue
City of Pickering

Prepared For:

Fairglen Homes

Prepared By:

Beacon Environmental Limited

Date: **July 2021**

Project: **220352**

Table of Contents

page

1. Introduction 1
2. Methodology 1
3. Results 1
4. Proposed Development and Tree Removals and Preservation 2
   - 4.1 Trees Recommended for Removal 2
   - 4.2 Trees Recommended for Preservation 2
5. Tree Protection and Recommendations 3
   - 5.1 Timing of Vegetation Removal 3
6. Compensation for Tree Removal 3
7. Conclusions 5

Tables

Table 1. City of Pickering Tree Removal Compensation Ratios 4
Table 2. Tree Replacement Calculation Table 4
Table 3. List of Suggested Tree Species for Planting 5

Appendices

Appendix A. Methodology and Limitations Assessment
Appendix B. Tree Inventory Table
Appendix C. Tree Inventory and Preservation Plan

1. Introduction

Beacon Environmental Limited (Beacon) has been retained by Fairglen Homes to prepare an Arborist Report in support of the proposed residential development at 230 Finch Avenue, City of Pickering, Regional Municipality of Durham (herein referred to as the subject property). The subject property is located on the north side of Finch Avenue and east of Nature Haven Crescent.

The City of Pickering requires the completion of an Arborist Report and Tree Inventory and Preservation Plan (TIPP) in accordance with the City's Tree Inventory, Preservation, and Removal Compensation Requirements (undated) as part of a complete application for a Draft Plan of Subdivision, Zoning By-law Amendment (ZBA), Land Division or Site Plan Application (SPA), prepared by a Certified Arborist or Landscape Architect. The City's guidelines apply to all trees ≥ 15 cm in diameter at breast height (DBH) on the subject property and adjoining lands that may be affected by development.

The purpose of this report is to provide an inventory and assessment of the trees on and adjacent to the subject property and identify those trees that are recommended for removal to accommodate the proposed development and to provide recommendations for tree preservation measures and mitigation.

This report was prepared in accordance with accepted arboricultural guidelines, standards and practices as outlined in the Arborists' Certification Study Guide (Lilly 2001) and the City of Pickering's Tree Inventory, Preservation, and Removal Compensation Requirements (undated).

2. Methodology

Tree inventory data was collected on September 9, 2020 by a Beacon arborist certified by the International Society of Arboriculture (ISA). The inventory includes all trees at least 15 cm diameter at breast height (DBH) on the subject property and trees at least 15 cm DBH within 6 m of the subject property limits. Tree diameters were measured at breast height, approximately 1.4 m from the ground surface. Tree condition was assessed based on the presence and severity of flaws, damage, evidence of pests or diseases, structural condition, dead or dying branches, or other indicators of decline. Individual trees with DBH values of 15 cm or greater on the subject property were tagged with metal, numbered labels.

The methodology and limitations of this assessment are detailed in **Appendix A**. All tree inventory data including tag/tree number, tree species, size (DBH), health condition, comments, and recommendations are provided in **Appendix B**. Tree locations were recorded using a survey-grade Arrow 100 GNSS Receiver and incorporated into Geographical Information Systems (GIS) and AutoCAD platforms and are shown on **Appendix C**.

3. Results

A total of 74 trees 15 cm DBH or greater were inventoried and assessed. Of the 74 trees inventoried, 42 trees occur on the subject property or property line, 28 trees occur within the Finch Avenue right-of-way (ROW) and four trees occur on adjacent property (**Appendix B**). White Cedar (*Thuja occidentalis*)

was the dominant species recorded with Siberian Elm (*Ulmus pumila*), American Elm (*Ulmus americana*) and Green Ash (*Fraxinus pennsylvanica*).

4. Proposed Development and Tree Removals and Preservation

The proposed development is for eight detached residential dwellings on lots fronting onto either Finch Avenue or Nature Haven Crescent. It is assumed that the entire property will be graded to accommodate the proposed development. All 42 trees ≥ 15 cm DBH recorded on the subject property are recommended for removal due to the proposed development. An additional 13 trees within the Finch Avenue ROW are recommended for removal due to the proposed development. A total of 15 trees ≥ 15 cm DBH within the Finch Avenue ROW and four trees on adjacent property to the east are recommended for preservation.

Tree preservation and removal recommendations may need to be updated during the final design stage when additional pertinent studies including but not limited to grading plans, functional servicing reports, and stormwater management reports become available.

Detailed tree preservation and removal recommendations are provided below and shown in **Appendix C**.

4.1 Trees Recommended for Removal

Trees located within the area of the proposed development are recommended for removal. On this basis, it is anticipated that the proposed development will require the removal of 42 trees on the subject property. An additional 13 trees within the Finch Avenue ROW are recommended for removal due to the proposed development. Of the 55 trees recommended for removal, eight trees (Trees No. 103, 126, 127, 135, 136, 139, 146, and 153) are in a state of decline and have a limited longevity. An additional seven trees (Trees No. 117, 137, 138, 141, 144, 145, and 159) are dead.

Upon completion of the tree removals, all felled trees are to be removed from the site, and all brush chipped and removed.

4.2 Trees Recommended for Preservation

A total of 15 trees within the Finch Avenue ROW and four trees on adjacent property are recommended for preservation. Of the 19 trees recommended for preservation, nine trees (Trees No. 104, 106, 118, 119, 121, 122, 123, 124, and 125) are in poor condition and have a limited longevity.

Tree protection fencing is to be installed per the City of Pickering's guidelines and detail as shown in **Appendix C**.

5. Tree Protection and Recommendations

All trees recommended for preservation shall be protected through the establishment of Tree Protection Zones (TPZs). Tree Preservation Fencing is to be installed per the City of Pickering's policy and details. The locations of proposed tree protection barriers are shown in the Tree Inventory and Preservation Plan (**Drawing TP-1**; **Appendix C**) No materials shall be stored inside or up against fencing, and a sign will be hung on the most visible side designating the TPZ.

In addition to the establishment of TPZs, the following specifications are recommended:

- Before commencing work, the contractor and Beacon will meet on site to review work procedures, access routes, storage areas and TPZs or other tree protection measures;
- Where underground utilities are to be installed, the route shall be outside the TPZ. If this is not feasible tunnelling or boring methods should be used for installation;
- Any root damage occurring during construction should be cut cleanly to the sound tissue;
- Exposed and pruned roots should be covered with native soil or wood mulch as soon as possible to avoid drying of roots;
- Any injury to a tree during construction should be evaluated by a qualified arborist;
- Any pruning of trees for construction clearance shall be performed by a qualified Arborist; and
- No rigging cables shall be wrapped around or installed in the trees and surplus soil, equipment, debris or materials shall not be placed over the root systems of the trees within the protective fencing. No contaminants will be dumped or flushed where feeder roots of trees exist.

Due to negative construction effects, trees may experience a decline in health over a period of months or years. Trees found to be hazardous should be removed as soon as possible to maintain a safe environment.

5.1 Timing of Vegetation Removal

The federal *Migratory Birds Convention Act* (1994) and provincial *Fish and Wildlife Conservation Act* (1997) protect the nests, eggs and young of most bird species from harm or destruction. As the peak breeding bird season in southern Ontario is generally from mid-May to early-July, and the more general breeding bird season is between early April and late August, vegetation clearing should occur outside of these periods (i.e., April 1 to August 31) whenever possible. For any proposed clearing of vegetation within these dates, or where birds may be suspected of nesting outside of these dates, an Ecologist or Avian Biologist should undertake detailed nest searches immediately prior to site alteration to ensure that no active nests are present. If active nests are confirmed, removal of the tree / vegetation will need to be delayed until the nest is no longer actively used.

6. Compensation for Tree Removal

As per the City's Tree Inventory, Preservation, and Removal Compensation Requirements (undated),

compensation is required for the removal of all existing live trees with a minimum DBH of 15 cm to accommodate development on the subject property, and as a condition of approval of a Draft Plan of Subdivision, ZBA, Land Division or SPA. As per the City's guidelines, Ash (*Fraxinus* spp.) trees are excluded from the tree compensation calculations as they are susceptible to the Emerald Ash Borer. Compensation may be made in the form of replacement plantings or cash-in-lieu, to be paid to the City of Pickering to fund tree planting initiatives elsewhere within the City.

Compensation for tree removal has been determined in accordance with the City's Tree Inventory, Preservation, and Removal Compensation Requirements (undated). A total of 47 trees to be removed require compensation as per the City requirements. The remaining 8 trees to be removed are not subject to compensation requirements as seven trees are dead and one tree is an Ash.

The number of replacement trees required by the City of Pickering is determined by the DBH of each tree proposed for removal as outlined in **Table 1** below. Of the 47 trees to be removed, 16 trees are multi-stemmed and require compensation to be calculated on a per stem basis as per the City's compensation requirements.

Table 1. City of Pickering Tree Removal Compensation Ratios

DBH of Tree to be Removed (cm)	Compensation Ratio
15 - 29	1:1
30 - 49	2:1
50 - 74	3:1
≥ 75	4:1

Replacement calculations for trees proposed for removal outside of natural areas within and adjacent to the subject property are shown below in **Table 2** and are based on the City's requirements, the tree inventory table in **Appendix B,** and the Tree Inventory and Preservation Plan in **Appendix C**.

Table 2. Tree Replacement Calculation Table

Size Class (DBH in cm)	Number of Trees Proposed for Removal	Tree Replacement Calculation	Number of Replacement Trees Required
15 - 29	49	1 x 49	49
30 - 49	24	2 x 24	48
50 - 74	7	3 x 7	21
≥ 75	1	4 x 1	4
Total Number of Replacement Trees Required			**122**

Based on the results presented in **Table 2,** a total of 122 replacement trees are required to compensate for the proposed removal of the 47 trees subject to the City's replacement requirements.

As per the City's guidelines, replacement trees should consist of deciduous trees with a minimum caliper size of 60 mm (6 cm) and/or coniferous trees with a minimum height of 1.8 m. Any required boulevard tree planting within the development will **not** be considered as part of the tree replacement compensation.

The City's Tree Inventory, Preservation, and Removal Compensation Requirements (undated) states that:

> *Should compensation planting take the form of naturalization planting in an open space area where smaller size plant material may be more suitable, the City will determine the appropriate total quantity/value of the plant material that will be required. Reasonable effort must be taken to compensate for tree loss through on-site and/or off-site plantings by the developer*.

As such, there may be opportunities for naturalization plantings. Determination of replacement tree size, species and location will be determined in consultation with the agencies.

A list of suggested native tree species that can be used as replacement trees is shown in **Table 3** below. Planting of ash trees, which are hosts for the Emerald Ash Borer, should be avoided entirely.

Table 3. List of Suggested Tree Species for Planting

Scientific Name	Common Name
Acer saccharum	Sugar Maple
Acer saccharinum	Silver Maple
Acer x freemanii	Freeman's Maple
Betula papyrifera	White Birch
Celtis occidentalis	Common Hackberry
Picea glauca	White Spruce
Pinus strobus	White Pine
Quercus macrocarpa	Bur Oak
Quercus rubra	Red Oak
Thuja occidentalis	White Cedar

7. Conclusions

Beacon has been retained by Fairglen Homes to prepare an Arborist Report in support of a proposed residential development of eight detached residential dwellings for the property located at 230 Finch Avenue, City of Pickering, Regional Municipality of Durham. The purpose of the tree inventory and assessment was to provide an assessment of the condition of all trees ≥ 15 cm DBH on the subject property and within 6 m of the subject property limits. The following points summarize the results of the tree inventory and assessment:

- A total of 42 trees at least 15 cm DBH were inventoried and assessed on the subject property. A total of three trees inventoried on the subject property are dead and two trees are in a state of decline (poor condition) and pose a potential hazard. All trees on the subject property are recommended for removal due to the proposed development;
- An additional 28 trees at least 15 cm DBH were inventoried and assessed within the Finch Avenue ROW. Of the 28 trees in the adjacent ROW, three trees are dead, and 15 trees are

in poor condition. A total of 13 live trees in the Finch Avenue ROW are recommended for removal due to the proposed development;

- Four trees were inventoried and assessed on adjacent property to the east and are recommended for preservation. It is not anticipated that these trees will be negatively affected by the proposed development;
- White Cedar (*Thuja occidentalis*) was the dominant species recorded with Siberian Elm (*Ulmus pumila*), American Elm (*Ulmus americana*) and Green Ash (*Fraxinus pennsylvanica*);
- Trees recommended for preservation could become negatively affected by construction and become potentially hazardous. The potential for this is increased for those trees noted to be in a state of decline and recommended for preservation;
- Tree Preservation Fencing is to be installed per the City of Pickering's guidelines and detail;
- No materials shall be stored inside or up against fencing, and a sign will be hung on the most visible side designating the Tree Protection Zones;
- Vegetation removal should occur in accordance with the federal Migratory Birds Convention Act and provincial *Fish and Wildlife Conservation Act*; and
- Approval from the City of Pickering is required prior to any tree removal.

Should you have any comments regarding the above, or require clarification or modification, please do not hesitate to contact the undersigned at jharnden@beaconenviro.com.

Report prepared by:
Beacon Environmental

Jesse Harnden, B.Sc., Cert. Eco. Restoration Ecologist,
ISA Certified Arborist (ON-1540A)

Report reviewed by:
Beacon Environmental

Geri Poisson, B.A. (Hons.), Dipl. Eco. Restoration
Senior Terrestrial Ecologist,
ISA Certified Arborist (ON-1288A)

Report reviewed by:
Beacon Environmental

Brian E. Henshaw
CEO, Senior Ecologist

Appendix A

Tree Inventory and Assessment Methodology

Appendix A

Tree Inventory and Assessment Methodology*

**Note that not all the tree descriptors contained herein may be used in a tree assessment and report.*

DBH (cm): Diameter at breast height, 1.4 m above ground, measured in centimeters. Two or more numbers denotes the DBH of each stem/trunk for trees with multiple stems/trunks. For multi-stemmed trees, for the purpose of determining the minimum tree protection zone DBH is calculated as the square root of the sum of the square DBH of each stem.

Crown Reserve/Diameter (metres): Crown diameter (tree's canopy) measured at intervals of 1 metre.

Condition: General Condition is recorded for standard tree inventories and assessments. For detailed tree inventories and assessments, when required the assessment of tree condition evaluates factors of Biological Health and Structural Condition separately.

The descriptors of health and structure attributed to a tree evaluate the individual specimen to what could be considered typical for that species growing in its location under current site and climatic conditions. For example, some species can display inherently poor branching architecture, such as multiple acute branch attachments with included bark. Whilst these structural defects may technically be considered arboriculturally poor, they are typical for the species and may not constitute an increased risk of failure. These trees may be assigned an intermediate structural rating of fair – poor (rather than poor) at the discretion of the assessor.

General Condition: Outlined below are the detailed guidelines utilized for the classification of general condition rating:

- **Excellent**: (Healthy);
    - No major branch mortality: crown is typical with less than 10% branch or twig mortality; no signs of decay;
- **Good**: (Light Decline);
    - Branch mortality, twig dieback in 11-25% of the crown: broken branches or crown missing based on presence of old snags is less than 26%; minor evidence of decay;
- **Fair**: (Moderate Decline);
    - Branch mortality, twig dieback in 26-50% of the crown: broken branches or crown area missing based on presence of old snags is 50% or less; decay evident;
- **Poor**: (Severe Decline);
    - Branch mortality, 50% or more of the crown dead: broken branches or crown area missing based on presence of old snags in more than 50%; decay resulting in high hazard assessment;
- **Dead**: (due to Natural or Human Causes); and
    - Tree is dead, either standing or down: phloem under bark has brown streaks: few epicormic shoots may be present.

Biological Health: Related to presence and extent of various attributes to describe the overall health and vigour of the tree.

Biological Health Category*	Vigour, Extension, & Growth	Decline symptoms, Deadwood, & Dieback	Foliage density, colour, size, & intactness	Pests and/or Disease
Excellent	Above typical. Excellent. Full canopy density.	None or negligible.	Above typical. No deficiencies or defects detected.	None or negligible.
Good	Above typical. Full canopy density.	Negligible.	Typical. Minor deficiencies or defects could be present.	Negligible.
Fair	Typical vigour. >80% canopy density.	More than typical. Small sub-branch dieback.	Exhibiting deficiencies. Could be thinning, or foliage smaller.	Minor, within damage thresholds.
Poor	Below typical or minimal – declining.	Excessive, large, and/or prominent amount and size of dead wood.	Exhibiting severe deficiencies. Thinning foliage, generally smaller or deformed.	Exceeds damage thresholds and contributing to decline.
Dead	Tree is dead	n/a	n/a	n/a

*Note that intermediate ratings can be applied, at the discretion of the arborist, in cases where biological health attributes fall within closely related categories, e.g. Good-Fair.

Structural Condition: Related to defects in a tree's structure, (i.e., lean, codominant trunks). Structural rating will also consider general branching architecture, stem taper, live crown ratio, crown symmetry, and crown position such as a tree being suppressed by more dominant trees. Tree structure zones listed below are adapted from Coder, Construction damage assessments: trees and sites, 1996 University of Georgia, USA.

Structure Category*	Root plate & Lower stem	Trunk	Primary branch support	Outer crown & Roots
Good	No obvious damage, disease or decay; obvious basal flare / stable in ground.	No obvious damage, disease, or decay; well tapered.	Well formed, attached, spaced and tapered. No history of failure.	No obvious damage, disease, decay, or structural defect. No history of failure.
Fair	Moderate-Minor damage or decay. Basal flare present.	Minor damage or decay.	Generally well-attached, spaced and tapered branches. Minor structural deficiencies may be present or developing. No history of branch failure.	Minor damage, disease, or decay; minor branch end-weight or over-extension. No history of branch failure.
Poor	Moderate - major damage, disease or decay; fungal fruiting bodies present. Excessive lean placing pressure on root plate.	Moderate - major damage, disease, or decay; exceeds recognized thresholds; fungal fruiting bodies present. Acute lean. Stump re-sprout.	Weak, decayed, cavities or has acute branch attachments with included bark; excessive compression flaring; failure likely. Evidence of major branch failure.	Moderate - major damage, disease or decay; fungal fruiting bodies present; major branch end-weight or over-extension. Branch failure evident.

*Note that intermediate ratings can be applied, at the discretion of the arborist, in cases where biological health attributes fall within closely related categories, e.g. Good-Fair.

Height (metres): Height of tree from ground to top of crown. Height is estimated from visual ground observations**.**

Limitations of Tree Assessment

It is the policy of Beacon Environmental Ltd. to attach the following clause regarding limitations of the tree assessment. The intent is to ensure that the client is aware of what is technically and professionally realistic in assessing and/or retaining trees.

The assessment of the trees presented in this report has been made using accepted arboricultural techniques. These techniques include a visual examination of the above-ground parts of each tree for structural defects, scars, external indications of decay such as fungal fruiting bodies, evidence of insect attack, crown dieback, discoloured foliage, the condition of any visible root structures, the degree and direction of lean (if any), the general condition of the tree(s) and the surrounding site, and the proximity of property and people. Except where specifically noted in the report, none of the trees examined were dissected, cored, probed, or climbed, and detailed root crown examinations involving excavation were not undertaken.

Notwithstanding the recommendations and conclusions made in this report, it must be recognized that trees are living organisms and their health and vigour constantly change over time. They are not immune to changes in site conditions, pests, or variations in the weather conditions including severe storms with high-speed winds. Furthermore, some symptoms may only be visible seasonally; the extent of observations that can be made may be limited by the time of year in which the inspection took place.

While reasonable efforts have been made to ensure that the trees recommended for retention are healthy unless stated otherwise within the report, no warranty or guarantees are offered, or implied, that these trees, or any parts of them, will have continued health or structure as noted in the report. It is both professionally and practically impossible to predict with absolute certainty the behaviour of any single tree or group of trees or their component parts in all circumstances. Inevitably, a standing tree will always pose some risk. Most trees have the potential for failure if provided with the necessary combinations of stresses and elements. This risk can only be eliminated if the tree is removed.

Although every effort has been made to ensure that this assessment is reasonably accurate, it is recommended that trees be re-assessed periodically to identify changes in condition. Design or site plan changes may also necessitate re-assessment and/or revisions to this report. **The assessment presented in this report is valid at the time of the inspection and is intended for sole use of the client.** Any use of this report by a third party, and any decision based on this report, is the singular responsibility of the third party.

Appendix B

Tree Inventory

Appendix B

Tree Inventory

Table B-1. Tree Inventory Table

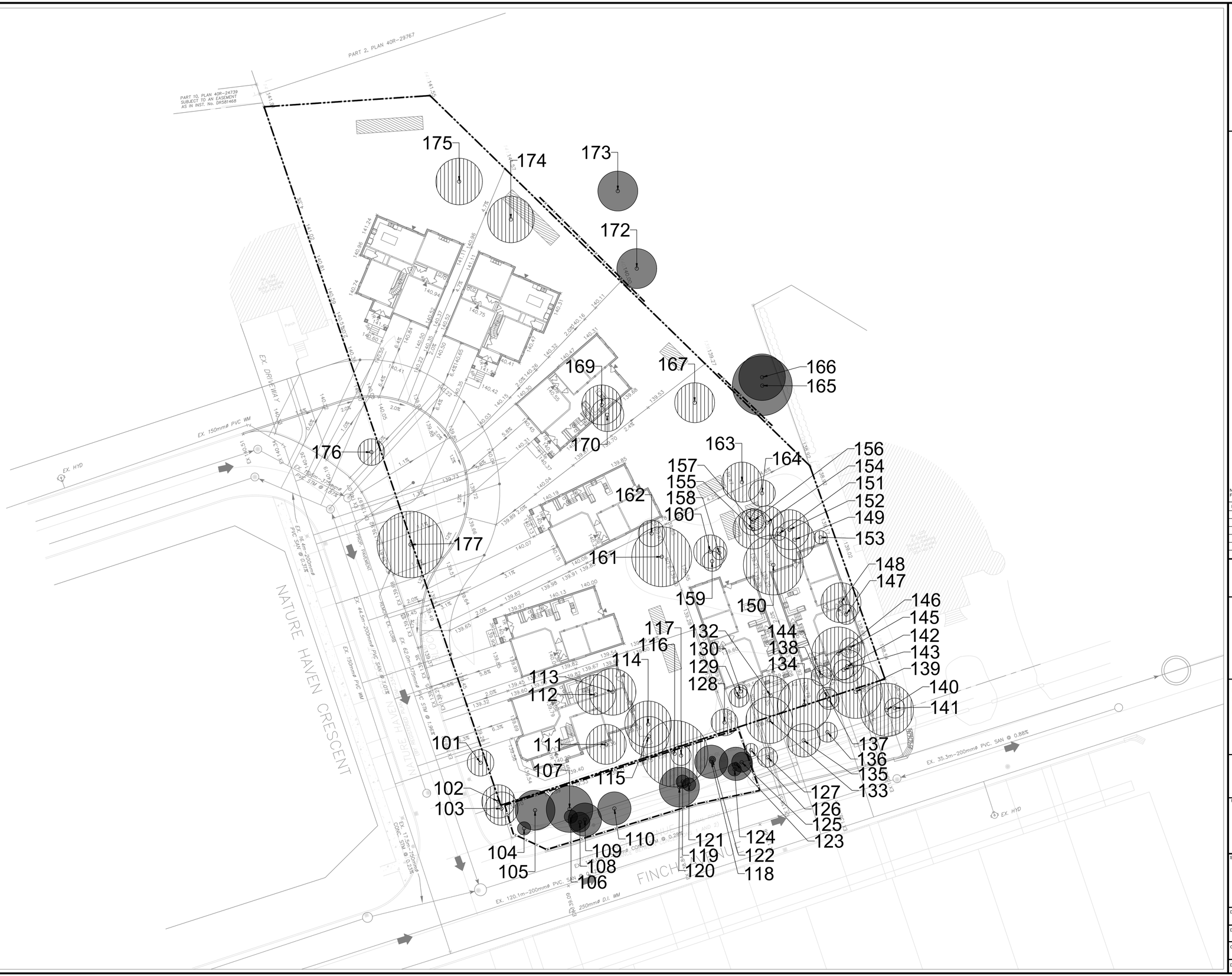
Tree No.	Botanical Name	Common Name	DBH	Crown Diameter (m)	Condition	Comments	TPZ (m)	Recommendation
101	*Acer saccharum*	Sugar Maple	15	4	Good		-	Remove - due to proposed development. Located in road right-of-way.
102	*Ulmus americana*	American Elm	15, 14, 12	5	Good	Canopy one-sided, shaded by 103	-	Remove - due to proposed development. Located on property line.
103	*Thuja occidentalis*	White Cedar	70	5	Fair-Poor	Trunk damaged, canopy thin, wire fence embedded in trunk	-	Remove - due to proposed development. Located in road right-of-way.
104	*Thuja occidentalis*	White Cedar	30	2	Poor	Damaged at base, one leader cut, canopy very thin	4.3	Preserve - no impacts expected. Located in road right-of-way.
105	*Ulmus americana*	American Elm	29	6	Fair-Good	Some dead branches	2.3	Preserve - minor impacts expected. Located in road right-of-way.
106	*Thuja occidentalis*	White Cedar	38	2	Poor	Topped, very thin, under hydro lines	3.8	Preserve - no impacts expected. Located in road right-of-way.
107	*Thuja occidentalis*	White Cedar	45, 25, 31	7	Fair	One leader dead at top, trunk damaged	3.8	Preserve - no impacts expected. Located in road right-of-way.
108	*Thuja occidentalis*	White Cedar	29	3	Fair	Topped, under hydro lines	2.5	Preserve - no impacts expected. Located in road right-of-way.
109	*Thuja occidentalis*	White Cedar	71	5	Fair	One leader cut, under hydro lines	2.6	Preserve - no impacts expected. Located in road right-of-way.
110	*Thuja occidentalis*	White Cedar	65	5	Fair	Topped, under hydro lines, heavily pruned	2.8	Preserve - no impacts expected. Located in road right-of-way.
111	*Ulmus pumila*	Siberian Elm	23	6	Fair	Poor form, dead branches, epicormic shoots, watersprouts	-	Remove - due to proposed development.
112	*Ulmus pumila*	Siberian Elm	35	6	Fair-Good	Some dead branches, epicormic shoots	-	Remove - due to proposed development.
113	*Ulmus pumila*	Siberian Elm	30	7	Fair	Many dead branches, epicormic shoots, watersprouts	-	Remove - due to proposed development.
114	*Ulmus pumila*	Siberian Elm	29	7	Fair	Many dead branches, watersprouts, epicormic shoots	-	Remove - due to proposed development.
115	*Ulmus pumila*	Siberian Elm	18	6	Fair	Many dead branches, epicormic shoots, watersprouts	-	Remove - due to proposed development.
116	*Ulmus pumila*	Siberian Elm	16, 35	10	Fair-Good	Grape in crown, many dead branches, epicormic shoots, watersprouts	-	Remove - due to proposed development. Located in road right-of-way.
118	*Thuja occidentalis*	White Cedar	40, 32, 33, 20	5	Fair-Poor	Limbs cut, adjacent to hydro lines, main leader dead at top, canopy thin	3.5	Preserve - no impacts expected. Located in road right-of-way.
119	*Thuja occidentalis*	White Cedar	23, 13	2	Poor	Main leader cut and dead, under hydro lines, remaining leader reaching for light	3.8	Preserve - no impacts expected. Located in road right-of-way.
120	*Thuja occidentalis*	White Cedar	43	6	Fair	Thin at top, dead branches	3.2	Preserve - no impacts expected. Located in road right-of-way.
121	*Thuja occidentalis*	White Cedar	31	2	Fair-Poor	Leader pruned, under hydro lines, canopy thin	3.0	Preserve - no impacts expected. Located in road right-of-way.
123	*Thuja occidentalis*	White Cedar	30	5	Poor	Trunk damaged and rotting	2.1	Preserve - no impacts expected. Located in road right-of-way.
124	*Thuja occidentalis*	White Cedar	31	2	Poor	Leader cut, under hydro lines, canopy thin	2.5	Preserve - no impacts expected. Located in road right-of-way.
125	*Thuja occidentalis*	White Cedar	27, 31, 29	3	Poor	All leaders cut, under hydro lines, one leader dead, canopy thin	1.2	Preserve - no impacts expected. Located in road right-of-way.

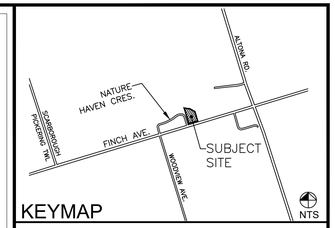
Tree No.	Botanical Name	Common Name	DBH	Crown Diameter (m)	Condition	Comments	TPZ (m)	Recommendation
126	*Thuja occidentalis*	White Cedar	43	2	Fair-Poor	Canopy thinning, dead branches	-	Remove - due to proposed development. Located in road right-of-way.
127	*Thuja occidentalis*	White Cedar	45	3	Poor	Topped, under hydro lines, many dead branches, very thin canopy	-	Remove - due to proposed development. Located in road right-of-way.
128	*Ulmus pumila*	Siberian Elm	16	4	Fair	Dead branches and epicormic shoots	-	Remove - due to proposed development.
129	*Thuja occidentalis*	White Cedar	22	3	Fair-Good	Shaded	-	Remove - due to proposed development.
130	*Thuja occidentalis*	White Cedar	15	2	Fair-Good	Shaded	-	Remove - due to proposed development.
132	*Thuja occidentalis*	White Cedar	32, 17	6	Fair-Good	Some dead branches, one leader shows poor form	-	Remove - due to proposed development.
133	*Thuja occidentalis*	White Cedar	42, 40, 25, 12, 15	7	Fair	Many dead branches	-	Remove - due to proposed development. Located in road right-of-way.
134	*Thuja occidentalis*	White Cedar	42, 65, 31	8	Fair-Good	Some dieback in crown and dead branches	-	Remove - due to proposed development. Located on property line.
135	*Thuja occidentalis*	White Cedar	49	5	Fair-Poor	Limbs cut, under hydro lines, many dead branches, very thin	-	Remove - due to proposed development. Located in road right-of-way.
136	*Thuja occidentalis*	White Cedar	44	3	Fair-Poor	Limbs cut, under hydro lines, many dead branches, very thin	-	Remove - due to proposed development. Located in road right-of-way.
139	*Thuja occidentalis*	White Cedar	72, 55	8	Poor	Very thin, tree previous cabled with chains, base rotting, girdled	-	Remove - due to proposed development. Located in road right-of-way.
140	*Ulmus americana*	American Elm	40	8	Good	Trimmed, under hydro lines	-	Remove - due to proposed development. Located in road right-of-way.
142	*Thuja occidentalis*	White Cedar	24	5	Fair	Dead branches, thin	-	Remove - due to proposed development.
143	*Thuja occidentalis*	White Cedar	17	3	Fair	Thin, shaded, dead branches	-	Remove - due to proposed development.
146	*Malus domestica*	Common Apple	27	8	Poor	Poor form, dead branches, heavy lean	-	Remove - due to proposed development.
147	*Thuja occidentalis*	White Cedar	19	3	Fair	Shaded, one-sided, dead branches	-	Remove - due to proposed development.
148	*Thuja occidentalis*	White Cedar	26, 28	6	Good		-	Remove - due to proposed development.
149	*Thuja occidentalis*	White Cedar	29, 22, 31, 14, 60	6	Fair	Dead branches, grape in crown, shaded	-	Remove - due to proposed development.
150	*Thuja occidentalis*	White Cedar	39, 72	9	Fair	Shaded, dead branches	-	Remove - due to proposed development.
151	*Thuja occidentalis*	White Cedar	17	2	Fair	Shaded, dead branches	-	Remove - due to proposed development.
152	*Thuja occidentalis*	White Cedar	26, 80	6	Fair-Good	Dead branches, grape in crown	-	Remove - due to proposed development.
154	*Ulmus americana*	American Elm	18	5	Good		-	Remove - due to proposed development.
155	*Acer negundo*	Manitoba Maple	24	6	Fair	Heavy lean, growing within 157's canopy	-	Remove - due to proposed development.
156	*Thuja occidentalis*	White Cedar	17	3	Fair-Good	Shaded, one-sided	-	Remove - due to proposed development.
157	*Thuja occidentalis*	White Cedar	24	4	Fair-Good	Shaded, one-sided	-	Remove - due to proposed development.
158	*Thuja occidentalis*	White Cedar	17	2	Good		-	Remove - due to proposed development.
160	*Thuja occidentalis*	White Cedar	18	5	Good	Slightly one-sided	-	Remove - due to proposed development.
161	*Thuja occidentalis*	White Cedar	48, 48, 35, 40	9	Good		-	Remove - due to proposed development.
162	*Pinus strobus*	White Pine	19	4	Good		-	Remove - due to proposed development.
163	*Ulmus americana*	American Elm	20	6	Fair	Many dead branches	-	Remove - due to proposed development.
164	*Thuja occidentalis*	White Cedar	18	4	Good		-	Remove - due to proposed development.
165	*Ulmus pumila*	Siberian Elm	65	9	Fair-Good	Many dead branches, epicormic shoots, watersprouts	3.6	Preserve - minor root impacts expected. Located on adjacent property.
166	*Ulmus americana*	American Elm	16, 9, 19	7	Good		4.5	Preserve - no impacts expected. Located on adjacent property.
167	*Ulmus pumila*	Siberian Elm	18	6	Fair-Good	Many dead branches	-	Remove - due to proposed development.

Tree No.	Botanical Name	Common Name	DBH	Crown Diameter (m)	Condition	Comments	TPZ (m)	Recommendation
169	*Ulmus americana*	American Elm	20, 17, 12	6	Fair	Dead branches and epicormic shoots	-	Remove - due to proposed development.
170	*Thuja occidentalis*	White Cedar	22, 19	5	Good		-	Remove - due to proposed development.
172	*Thuja occidentalis*	White Cedar	25, 22, 11, 24	6	Good		3.0	Preserve - no impacts expected. Located on adjacent property.
173	*Thuja occidentalis*	White Cedar	22, 21, 11, 12, 12, 14, 14, 12, 11	6	Good		9.3	Preserve - no impacts expected. Located on adjacent property.
174	*Thuja occidentalis*	White Cedar	42, 16, 15, 13, 13, 11, 11	7	Good		-	Remove - due to proposed development.
175	*Thuja occidentalis*	White Cedar	44, 50	7	Good		-	Remove - due to proposed development.
176	*Acer saccharum*	Sugar Maple	15	4	Good		-	Remove - due to proposed development.
177	*Ulmus americana*	American Elm	45, 28, 42, 43	10	Fair-Good	Some dead branches, epicormic shoots	-	Remove - due to proposed development.

Appendix C

Tree Inventory and Preservation Plan





LEGEND

- Subject Property Line
- 1678 — Tree tag
- Tree Crown
- Minimum Tree Protection Zone
- Tree Location
- Tree to be Preserved
- Tree to be Removed Due to Development
- x — x — Tree Protection Fencing (Refer to Details on Sheet TP-2)

Notes: Scale shown is for an 36" x 24" page.
For illustrative purposes. Do not scale

Nº	REVISIONS	DATE:	BY:
6			
5			
4			
3			
2			
1	COMMENT	xxxx/xx/xx	xx

SCALE
1:250
0 5 10 20m

NORTH ARROW

CERTIFIED ARBORIST ISA
JESSE HARNDEN
#ON-1540A

SEAL

BEACON ENVIRONMENTAL
MARKHAM OFFICE
80 MAIN ST NORTH
MARKHAM, ON L3P 1X5
T) 905.201.7622
F) 905.201.0639
www.beaconenviro.com

CLIENT
FAIRGLEN HOMES

PROJECT
230 FINCH AVENUE
PICKERING, ON

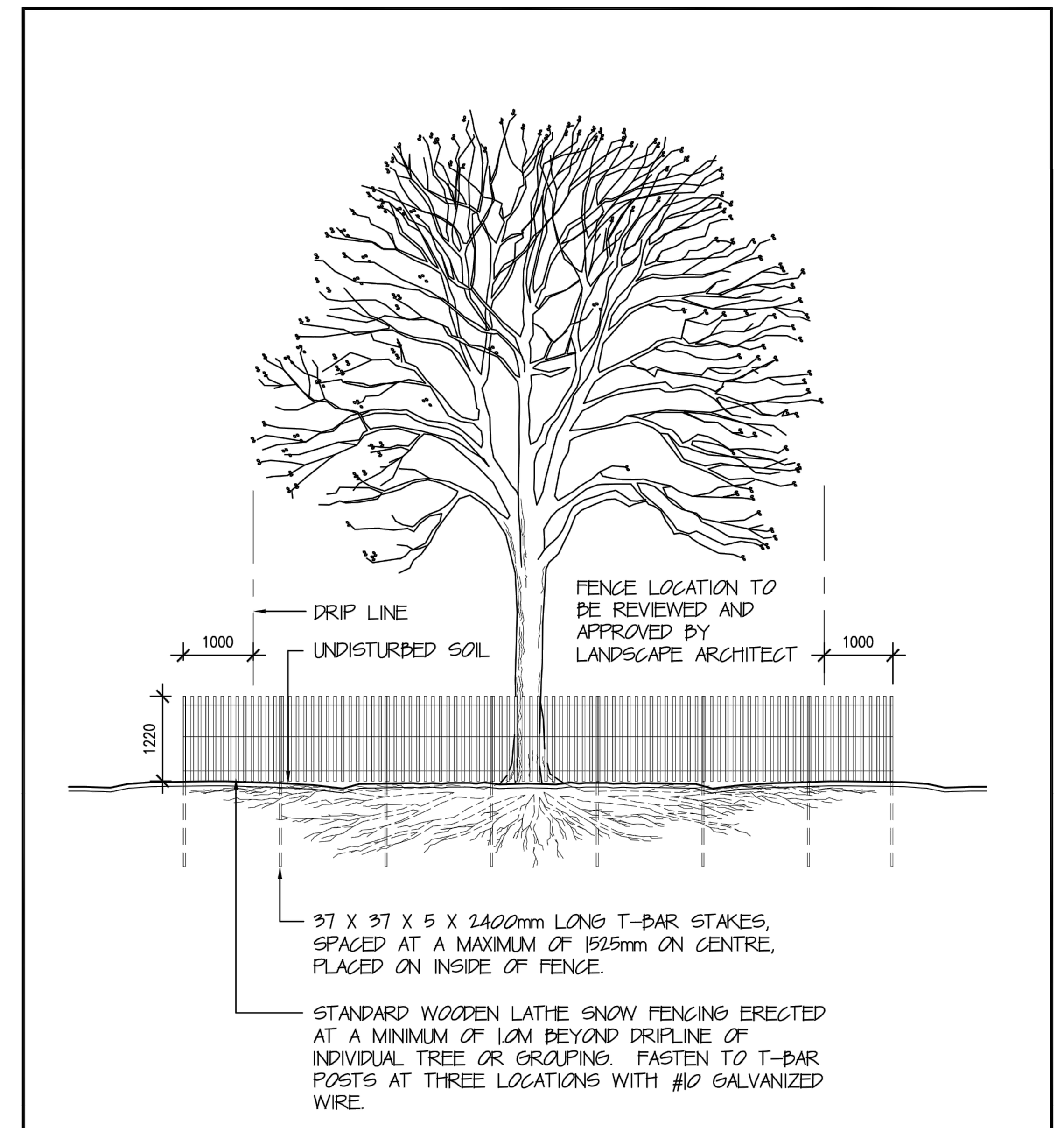
SHEET TITLE
TREE INVENTORY AND PRESERVATION PLAN

DESIGN BY: --	PROJECT Nº: 220352
DRAWN BY: MB	FIGURE Nº: TP-1
CHECKED BY: JH	
DATE: 13 April 2021	

TREE INVENTORY TABLE

Tag/Tree No.	Scientific Name	Common Name	DBH	Crown Diameter (m)	Condition	Comments	TPZ radius (m)	Recommendation
101	*Acer saccharum*	Sugar Maple	15	4	Good		-	Remove - due to proposed development. Located in road right-of-way.
102	*Ulmus americana*	American Elm	15, 14, 12	5	Good	Canopy one-sided, shaded by 103	-	Remove - due to proposed development. Located on property line.
103	*Thuja occidentalis*	White Cedar	70	5	Fair-Poor	Trunk damaged, canopy thin, wire fence embedded in trunk	-	Remove - due to proposed development. Located in road right-of-way.
104	*Thuja occidentalis*	White Cedar	30	2	Poor	Damaged at base, one leader cut, canopy very thin	4.3	Preserve - no impacts expected. Located in road right-of-way.
105	*Ulmus americana*	American Elm	29	6	Fair-Good	Some dead branches	2.3	Preserve - minor impacts expected. Located in road right-of-way.
106	*Thuja occidentalis*	White Cedar	38	2	Poor	Topped, very thin, under hydro lines	3.8	Preserve - no impacts expected. Located in road right-of-way.
107	*Thuja occidentalis*	White Cedar	45, 25, 31	7	Fair	One leader dead at top, trunk damaged	3.8	Preserve - no impacts expected. Located in road right-of-way.
108	*Thuja occidentalis*	White Cedar	29	3	Fair	Topped, under hydro lines	2.5	Preserve - no impacts expected. Located in road right-of-way.
109	*Thuja occidentalis*	White Cedar	71	5	Fair	One leader cut, under hydro lines	2.6	Preserve - no impacts expected. Located in road right-of-way.
110	*Thuja occidentalis*	White Cedar	65	5	Fair	Topped, under hydro lines, heavily pruned	2.8	Preserve - no impacts expected. Located in road right-of-way.
111	*Ulmus pumila*	Siberian Elm	23	6	Fair	Poor form, dead branches, epicormic shoots, watersprouts	-	Remove - due to proposed development.
112	*Ulmus pumila*	Siberian Elm	35	6	Fair-Good	Some dead branches, epicormic shoots	-	Remove - due to proposed development.
113	*Ulmus pumila*	Siberian Elm	30	7	Fair	Many dead branches, epicormic shoots, watersprouts	-	Remove - due to proposed development.
114	*Ulmus pumila*	Siberian Elm	29	7	Fair	Many dead branches, watersprouts, epicormic shoots	-	Remove - due to proposed development.
115	*Ulmus pumila*	Siberian Elm	18	6	Fair	Many dead branches, epciromic shoots, watersprouts	-	Remove - due to proposed development.
116	*Ulmus pumila*	Siberian Elm	16, 35	10	Fair-Good	Grape in crown, many dead branches, epicormic shoots, watersprouts	-	Remove - due to proposed development. Located in road right-of-way.
117	*Fraxinus pennsylvanica*	Green Ash	18	0	Dead	EAB	-	Remove - due to proposed development. Located in road right-of-way.
118	*Thuja occidentalis*	White Cedar	40, 32, 33, 20	5	Fair-Poor	Limbs cut, adjacent to hydro lines, main leader dead at top, canopy thin	3.5	Preserve - no impacts expected. Located in road right-of-way.
119	*Thuja occidentalis*	White Cedar	23, 13	2	Poor	Main leader cut and dead, under hydro lines, remaining leader reaching for light	3.8	Preserve - no impacts expected. Located in road right-of-way.
120	*Thuja occidentalis*	White Cedar	43	6	Fair	Thin at top, dead branches	3.2	Preserve - no impacts expected. Located in road right-of-way.
121	*Thuja occidentalis*	White Cedar	31	2	Fair-Poor	Leader pruned, under hydro lines, canopy thin	3.0	Preserve - no impacts expected. Located in road right-of-way.
122	*Fraxinus pennsylvanica*	Green Ash	17	1	Poor	Almost dead, EAB, epicormic shoots alive	3.2	Preserve - no impacts expected. Located in road right-of-way.
123	*Thuja occidentalis*	White Cedar	30	5	Poor	Trunk damaged and rotting	2.1	Preserve - no impacts expected. Located in road right-of-way.
124	*Thuja occidentalis*	White Cedar	31	2	Poor	Leader cut, under hydro lines, canopy thin	2.5	Preserve - no impacts expected. Located in road right-of-way.
125	*Thuja occidentalis*	White Cedar	27, 31, 29	3	Poor	All leaders cut, under hydro lines, one leader dead, canopy thin	1.2	Preserve - no impacts expected. Located in road right-of-way.
126	*Thuja occidentalis*	White Cedar	43	2	Fair-Poor	Canopy thinning, dead branches	-	Remove - due to proposed development. Located in road right-of-way.
127	*Thuja occidentalis*	White Cedar	45	3	Poor	Topped, under hydro lines, many dead branches, very thin canopy	-	Remove - due to proposed development. Located in road right-of-way.
128	*Ulmus pumila*	Siberian Elm	16	4	Fair	Dead branches and epicormic shoots	-	Remove - due to proposed development.
129	*Thuja occidentalis*	White Cedar	22	3	Fair-Good	Shaded	-	Remove - due to proposed development.
130	*Thuja occidentalis*	White Cedar	15	2	Fair-Good	Shaded	-	Remove - due to proposed development.
132	*Thuja occidentalis*	White Cedar	32, 17	6	Fair-Good	Some dead branches, one leader shows poor form	-	Remove - due to proposed development.
133	*Thuja occidentalis*	White Cedar	42, 40, 25, 12, 15	7	Fair	Many dead branches	-	Remove - due to proposed development. Located in road right-of-way.
134	*Thuja occidentalis*	White Cedar	42, 65, 31	8	Fair-Good	Some dieback in crown and dead branches	-	Remove - due to proposed development. Located on property line.
135	*Thuja occidentalis*	White Cedar	49	5	Fair-Poor	Limbs cut, under hydro lines, many dead branches, very thin	-	Remove - due to proposed development. Located in road right-of-way.
136	*Thuja occidentalis*	White Cedar	44	3	Fair-Poor	Limbs cut, under hydro lines, many dead branches, very thin	-	Remove - due to proposed development. Located in road right-of-way.
137	*Prunus serotina*	Black Cherry	17	0	Dead		-	Remove - due to proposed development. Located in road right-of-way.
138	*Thuja occidentalis*	White Cedar	41, 38	0	Dead		-	Remove - due to proposed development. Located on property line.
139	*Thuja occidentalis*	White Cedar	72, 55	8	Poor	Very thin, tree previous cabled with chains, base rotting, girdled	-	Remove - due to proposed development. Located in road right-of-way.
140	*Ulmus americana*	American Elm	40	8	Good	Trimmed, under hydro lines	-	Remove - due to proposed development. Located in road right-of-way.
141	*Thuja occidentalis*	White Cedar	70	0	Dead		-	Remove - due to proposed development. Located in road right-of-way.
142	*Thuja occidentalis*	White Cedar	24	5	Fair	Dead branches, thin	-	Remove - due to proposed development.
143	*Thuja occidentalis*	White Cedar	17	3	Fair	Thin, shaded, dead branches	-	Remove - due to proposed development.
144	*Fraxinus pennsylvanica*	Green Ash	22	0	Dead	EAB	-	Remove - due to proposed development.
145	*Fraxinus pennsylvanica*	Green Ash	17	0	Dead		-	Remove - due to proposed development.
146	*Malus domestica*	Common Apple	27	8	Poor	Poor form, dead branches, heavy lean	-	Remove - due to proposed development.
147	*Thuja occidentalis*	White Cedar	19	3	Fair	Shaded, one-sided, dead branches	-	Remove - due to proposed development.
148	*Thuja occidentalis*	White Cedar	26, 28	6	Good		-	Remove - due to proposed development.
149	*Thuja occidentalis*	White Cedar	29, 22, 31, 14, 60	6	Fair	Dead branches, grape in crown, shaded	-	Remove - due to proposed development.
150	*Thuja occidentalis*	White Cedar	39, 72	9	Fair	Shaded, dead branches	-	Remove - due to proposed development.
151	*Thuja occidentalis*	White Cedar	17	2	Fair	Shaded, dead branches	-	Remove - due to proposed development.
152	*Thuja occidentalis*	White Cedar	26, 80	6	Fair-Good	Dead branches, grape in crown	-	Remove - due to proposed development.
153	*Fraxinus pennsylvanica*	Green Ash	22	2	Poor	Dying, all growth epicormic, EAB	-	Remove - due to proposed development.
154	*Ulmus americana*	American Elm	18	5	Good		-	Remove - due to proposed development.
155	*Acer negundo*	Manitoba Maple	24	6	Fair	Heavy lean, growing within 157's canopy	-	Remove - due to proposed development.
156	*Thuja occidentalis*	White Cedar	17	3	Fair-Good	Shaded, one-sided	-	Remove - due to proposed development.
157	*Thuja occidentalis*	White Cedar	24	4	Fair-Good	Shaded, one-sided	-	Remove - due to proposed development.
158	*Thuja occidentalis*	White Cedar	17	2	Good		-	Remove - due to proposed development.
159	*Fraxinus pennsylvanica*	Green Ash	17	0	Dead		-	Remove - due to proposed development.
160	*Thuja occidentalis*	White Cedar	18	5	Good	Slightly one-sided	-	Remove - due to proposed development.
161	*Thuja occidentalis*	White Cedar	48, 48, 35, 40	9	Good		-	Remove - due to proposed development.
162	*Pinus strobus*	White Pine	19	4	Good		-	Remove - due to proposed development.
163	*Ulmus americana*	American Elm	20	6	Fair	Many dead branches	-	Remove - due to proposed development.
164	*Thuja occidentalis*	White Cedar	18	4	Good		-	Remove - due to proposed development.
165	*Ulmus pumila*	Siberian Elm	65	9	Fair-Good	Many dead branches, epicormic shoots, watersprouts	3.6	Preserve - minor root impacts expected. Located on adjacent property.
166	*Ulmus americana*	American Elm	16, 9, 19	7	Good		4.5	Preserve - no impacts expected. Located on adjacent property.
167	*Ulmus pumila*	Siberian Elm	18	6	Fair-Good	Many dead branches	-	Remove - due to proposed development.
169	*Ulmus americana*	American Elm	20, 17, 12	6	Fair	Dead branches and epicormic shoots	-	Remove - due to proposed development.
170	*Thuja occidentalis*	White Cedar	22, 19	5	Good		-	Remove - due to proposed development.
172	*Thuja occidentalis*	White Cedar	25, 22, 11, 24	6	Good		3.00	Preserve - no impacts expected. Located on adjacent property.
173	*Thuja occidentalis*	White Cedar	22, 21, 11, 12, 12, 14, 14, 12, 11	6	Good		9.3	Preserve - no impacts expected. Located on adjacent property.
174	*Thuja occidentalis*	White Cedar	42, 16, 15, 13, 13, 11, 11	7	Good		-	Remove - due to proposed development.
175	*Thuja occidentalis*	White Cedar	44, 50	7	Good		-	Remove - due to proposed development.
176	*Acer saccharum*	Sugar Maple	15	4	Good		-	Remove - due to proposed development.
177	*Ulmus americana*	American Elm	45, 28, 42, 43	10	Fair-Good	Some dead branches, epicormic shoots	-	Remove - due to proposed development.

TREE PROTECTION FENCING DETAIL

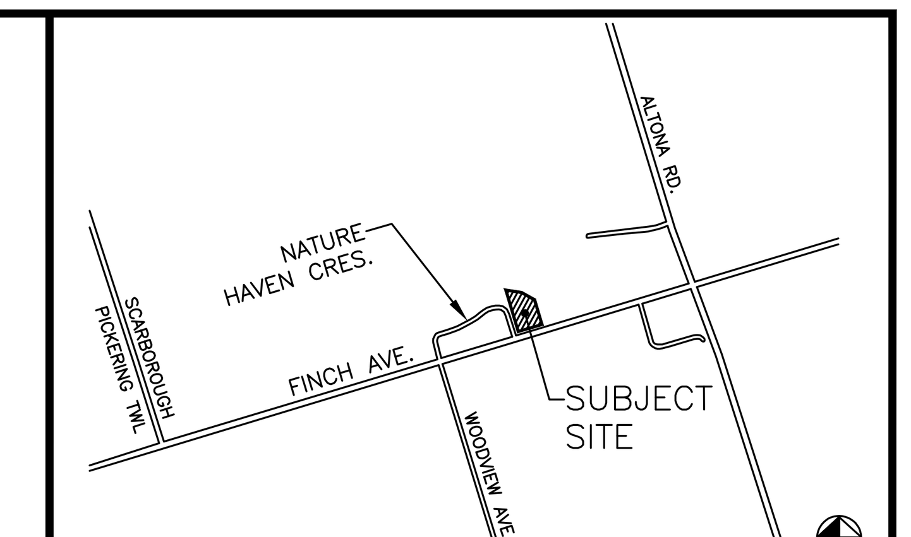


REVISION NO.	ENGINEERING SERVICES	City of PICKERING
SCALE NTS		
DRAWN A. MOSTERT	TREE PRESERVATION PROTECTIVE FENCING	
APPROVED		
DATE MARCH 2008		P.6.7

TREE PRESERVATION NOTES

1. ALL EXISTING TREES WHICH ARE TO REMAIN SHALL BE FULLY PROTECTED WITH SNOW FENCING OR SIMILAR STRUCTURES ERECTED OUTSIDE THE DRIP LINE OF THE TREES, PRIOR TO COMMENCEMENT OF CONSTRUCTION. GROUPS OF TREES AND OTHER EXISTING PLANTINGS TO BE PROTECTED SHALL BE DONE IN A LIKE MANNER WITH SNOW FENCING OR OTHER SIMILAR STRUCTURES AROUND THE ENTIRE CLUMP(S). AREAS WITHIN THE PROTECTIVE FENCING SHALL REMAIN UNDISTURBED AND SHALL NOT BE USED FOR THE STORAGE OF BUILDING MATERIALS OR EQUIPMENT.
2. NO RIGGING CABLES SHALL BE WRAPPED AROUND OR INSTALLED IN TREES AND SURPLUS SOIL, EQUIPMENT, DEBRIS OR MATERIALS SHALL NOT BE PLACED OVER THE ROOT SYSTEMS OF THE TREES WITHIN THE PROTECTIVE FENCING. NO CONTAMINANTS ARE TO BE DUMPED OR FLUSHED WHERE FEEDER ROOTS OF TREES EXIST.
3. THE CONTRACTOR SHALL TAKE EVERY PRECAUTION NECESSARY TO PREVENT DAMAGE TO TREES OR SHRUBS TO BE RETAINED.
4. WHERE LIMBS OR PORTIONS OF TREES ARE REMOVED TO ACCOMMODATE CONSTRUCTION WORK, THEY WILL BE CLEANLY CUT IN ACCORDANCE WITH ACCEPTABLE ARBORICULTURAL PRACTICES.
5. WHERE ROOT SYSTEMS OF PROTECTIVE TREES ARE EXPOSED DIRECTLY ADJACENT TO OR DAMAGED BY CONSTRUCTION WORK, THEY SHALL BE TRIMMED NEATLY AND THE AREA BACK-FILLED WITH APPROPRIATE MATERIAL IN A TIMELY MANNER TO PREVENT DRYING.
6. WHERE NECESSARY, THE TREES SHALL BE GIVEN AN OVERALL PRUNING TO RESTORE THE BALANCE BETWEEN ROOTS AND TOP GROWTH OR TO RESTORE THE APPEARANCE OF THE TREE.
7. TREES SCHEDULED FOR PRESERVATION THAT HAVE DIED OR BEEN DAMAGED BEYOND REPAIR SHALL BE REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE BY TREES OF A SIMILAR SIZE AND SPECIES OR SUCH SIZE AND SPECIES AS APPROVED BY THE LANDSCAPE ARCHITECT.
8. IF GRADES AROUND TREES TO BE PROTECTED ARE LIKELY TO CHANGE, THE CONTRACTOR SHALL BE REQUIRED TO TAKE SUCH PRECAUTIONS AS DRY WELLING AND ROOT FEEDING TO THE SATISFACTION OF THE CITY OF PICKERING.
9. SHOULD A CONFLICT OCCUR BETWEEN TREES SCHEDULED FOR PRESERVATION AND THE PROPOSED CONSTRUCTION, APPROVAL SHALL BE OBTAINED IN WRITING FROM THE CITY OF PICKERING PRIOR TO PROCEEDING WITH THE REMOVAL OF SUCH.
10. ANY TREES DESIGNATED FOR REMOVAL SHALL BE REMOVED IN ENTIRETY INCLUDING ALL STUMPS AND ROOTS AND DISPOSED OF OFF SITE. NO BURYING OF TREE BRANCHES AND STUMPS WILL BE PERMITTED.

REVISION NO.	ENGINEERING SERVICES	City of PICKERING
SCALE		
DRAWN A. MOSTERT	TREE PRESERVATION NOTES	
APPROVED		
DATE MARCH 2008		P.6.8



KEYMAP

LEGEND

Notes: Scale shown is for an 36" x 24" page.
For illustrative purposes. Do not scale

Nº	REVISIONS	DATE:	BY:
6			
5			
4			
3			
2			
1	COMMENT	xxxx/xx/xx	xx

SCALE

NORTH ARROW

JESSE HARNDEN
#ON-1540A

SEAL

BEACON ENVIRONMENTAL
MARKHAM OFFICE
80 MAIN ST NORTH
MARKHAM, ON L3P 1X5
T) 905.201.7622
F) 905.201.0639
www.beaconenviro.com

CLIENT
FAIRGLEN HOMES

PROJECT
230 FINCH AVENUE
PICKERING, ON

SHEET TITLE
TREE INVENTORY AND PRESERVATION PLAN

DESIGN BY: --	PROJECT Nº: 220352
DRAWN BY: MB	FIGURE Nº: TP-2
CHECKED BY: JH	
DATE: 13 April 2021	