

Tree Protection During Construction

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Section:	Environment
Sub-section:	Trees
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Authority:	CAO
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Purpose statement

The purpose of this procedure is to outline the required action [by the property owner and/or contractor](#) to protect trees during construction. This procedure shall represent the standard specifications for tree protection whenever tree protection measures are required by the town. Higher standards of tree protection may be imposed where warranted in the opinion of the town having regard to the size, variety, location and health of the tree, and any circumstances surrounding the construction which requires additional tree protection measures.

Scope

This procedure applies to town ~~and private~~ trees covered under any municipal permit process or agreement relating to construction.

Procedure

Town trees required to be removed as a result of construction activities must receive approval by the ~~Town Forester~~ [Director of Parks and Open Space](#) or designate. If approval is granted for removal of town owned trees, the applicant will assume all costs involved and shall either: 1) pay the amenity value of the tree(s) calculated in accordance with the most recent International Society of Arboriculture Guide for Plant Appraisal; or 2) plant the equivalent number of trees based upon a “no net loss or canopy cover” objective as

determined by the ~~Town Forester~~[Director of Parks and Open Space](#) or designate. Where tree relocation is approved, the applicant will assume all relocation and establishment costs.

~~Anyone failing to adhere to this procedure will be financially responsible for any resulting damage to trees in addition to any penalty that may be imposed under relevant by-laws or statutes.~~

1. The Tree Protection Zone

The Tree Protection Zone (TPZ) is the minimum setback required to maintain the structural integrity of the tree's anchor roots, based on generally accepted arboricultural principles. If trees are protected to the TPZ then the tree's anchor root structure is expected to be maintained.

No unauthorized activities may take place within the TPZ of a tree covered under any municipal permit process or agreement. The following chart shows the TPZ. Some trees and site conditions may require a greater setback at the ~~Town's discretion~~[discretion of the Director of Parks and Open Space or designate](#).

Diameter of Trunk (DBH)³ in centimetres	Tree Protection Zone⁴ Distance from trunk measured in metres
<10	1.8
10-30	2.4
31-50	3.0
51-60	3.6
61-70	4.2
71-80	4.8
81-90	5.4
91-100	6.0

1. For trees over 100 cm. DBH, add 10 cm. to the TPZ for every one centimeter of DBH.
2. Roots can extend from the trunk to 2-3 times the distance of the drip line (~~see~~ Detail TP-1 (SCHEDULE 4) for further information).
3. Diameter at breast height (DBH) measurement of tree trunk taken at 1.37 metres above ground.
4. Tree Protection 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.

2. Tree Protection Barriers - ~~See~~ Schedule 1 for further information.

Trees within or adjacent to a construction site must be protected during construction by means of a barrier installed in accordance with the table in section 1 and meet the following specifications:

- (a) Tree protection barriers must be erected prior to the commencement of any construction activity that may injure a tree on the site and are to remain in place throughout the entire duration of the project. The applicant shall notify the appropriate town department in writing prior to commencing any such activities to confirm that the tree protection barriers are in place.
- (b) The tree protection barriers specified herein must remain in a condition satisfactory to the town until all site activities including landscaping are complete.
- (c) Authorization from the appropriate town department must be obtained prior to the removal of tree protection barriers.
- (d) If some fill or excavated material must be temporarily located near the tree protection barrier, a wooden barrier must be used to ensure no material enters the TPZ.
- (e) A sign, provided by the town that is similar to the illustration below will be paid for by the application and mounted on one side of a tree protection barrier for the duration of the project.

<p><u>Tree Protection Zone</u></p> <p>No grade change, storage of materials or equipment is permitted within this area. This tree protection barrier must not be removed without the written authorization of the Town of Oakville. Report any contraventions to Contact Name _____ Tel No. _____</p> <p>Unauthorized removal of the tree protection barrier or other contraventions may result in prosecution.</p>
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3. Tree Protection Permit and or Agreement - Authorization from the Town

For trees covered under this procedure, written authorization from the town is required in the form of either a Tree Protection Agreement, or a Tree Protection Zone Encroachment Permit or a Tree Permit; and

The applicant is required to have a town approved tree service ([available on Oakville.ca](http://available.on.oakville.ca)) raise the crown of all branches to provide adequate clearance for construction equipment.

3.1. Tree Protection Agreement (TPA)

The applicant is required to enter into a Tree Protection Agreement when construction activities take place outside of the TPZ area as determined by ~~Town Forester~~[the Director of Parks and Open Space](#) or designate. Should the town determine that a tree protection agreement is required, a tree protection agreement fee shall be charged to the applicant in accordance with the [town's annual rates and fees](#).~~established Town fees~~

3.2. Tree Protection Zone Encroachment Permit (TPZEP) - Schedule 2 (Application)

- (a) It is recognized that there are cases where existing or proposed utilities, capital infrastructure or buildings are located within the TPZ of a tree impacted by construction. The expectation is for the project design to respect the TPZ, however, in cases where the proposed construction impacts the area within the TPZ, the applicant shall demonstrate, with appropriate supporting documentation, that the impact on the structural integrity of the anchor roots will be within acceptable limits to avoid creating a hazardous tree.
- (b) A Tree Protection Zone Encroachment Permit is required when construction activities take place within the TPZ. An Application for TPZEP must be submitted to the Town of Oakville prior to anticipated construction start date. No other permit, agreement and/or consent issued by the town authorizes working inside the tree protection zone of a town tree.
- (c) An arborist must be present on site at all times when work is within the TPZ. The schedule of inspections must comply with Section 7 set out herein. Above ground clearance for overhanging branches in the work zone must be taken into consideration. The applicant is required to have a town approved tree service raise the crown of all branches to provide adequate clearance for construction equipment.
- (d) The town specifies the non-invasive methods of excavation including but not limited to air spade, hydro vac, hand digging to minimize the damage to the health and structure of the trees.
- (e) Root pruning in open trench methods of construction is required under the direction of - and along with - written approval of an arborist. The objective is to minimize severance of anchor roots, which provide upright support for the tree, thereby minimizing potential hazards.
- (f) Emergency repairs due to underground utilities are permitted to commence immediately. However, the utility company concerned is responsible for notifying the town as soon as possible when town trees are involved.

3.3. Tree Permit (TP)

Where the impact on the structural integrity of anchor roots is beyond acceptable limits and may cause a hazardous tree:

- (a) the tree may be removed in accordance with the applicable by-law; or
- (b) in the case of a town tree, the applicant shall bear the cost of the tree and stump removal as well as payment of the amenity value of the tree as calculated in accordance with the most recent International Society of Arboriculture's Guide for Plan Appraisal.

4. Standards for Arborist Report

An Arborist Report is required: where multiple trees are involved in a Capital Project, a Municipal Consent, and/or a planning application; and an Arborist Report is mandatory to initiate a Tree Protection Zone Encroachment Permit or a Tree Protection Agreement.

Arborist report must be signed by a Registered Professional Forester as defined in the *Ontario Professional Foresters Act* where the construction has a potential impact on woodlands.

An Arborist Report shall be prepared by an Arborist and must include but is not limited to the following:

- (a) Species referenced to municipal address, ownership and location through an accurate plotting and identification of all trees on the plan in accordance with Schedule 3;
- (b) Diameter at breast height (DBH), measured in centimetres at 1.37 metres above ground level;
- (c) Crown spread (Drip Line), measured in metres;
- (d) Tree health/disease;
- (e) Soil compaction inside the TPZ using methods approved by the town;
- (f) Tree risk assessment for trees deemed hazardous as assessed by the arborist, must be provided in accordance with “ Best management Practices, Tree Risk Assessment, International Society of Arboriculture” as revised from time to time, including a photographic record of each tree as required by the town; and
- (g) For each tree identified as being preserved and each tree recommended for removal, the valuation as determined by the most recent International Society of Arboriculture’s Guide for Plant Appraisal.

The town may request additional information in an arborist report for Capital projects, Municipal Consents, and planning applications at the discretion of the town.

5. Standards for Tree Protection Plan(s) - See Schedule 3

A Tree Protection Plan is required for site plan and site alteration applications at the determination of the town. Such plans shall include but are not limited to the following:

- (a) Accurate plotting and identification of all trees on the plan in accordance with Schedule 3;
- (b) Crown spread, measured in metres on a drawing indicating the appropriate scale, showing extent of tree foliage covering the lot;
- (c) Approved Grading plan. This requires collaboration of the applicant’s engineering and arboricultural consultants;
- (d) Approved servicing plan indicating water, sewer/storm, hydro, gas, bell, cable and any other impacted utility. This requires collaboration of the applicant’s engineering and arboricultural consultants;
- (e) Tree protection zone (TPZ) limits;
- (f) In accordance with the Tree Protection Barrier requirements - Schedule 1;
- (g) Appropriate signatures in accordance with the Tree Protection Plan - Schedule 3; and

- (h) The name and contact information for the arborist responsible for monitoring the implementation of the plan.

The town may request additional information in the tree protection plan for planning applications at the discretion of the town.

6. Securities for Tree Protection

Where tree protection measures are required as a condition of any agreement, approval or permit, the town will require securities to secure the protection of trees. The required securities, as determined by the town shall be held by the town for a period specified by the town. Early release of securities may occur provided the town is satisfied that the tree has not been damaged. Applicants requesting for the early release/reduction of securities or final release shall submit for approval an Audit from an arborist certifying that the tree is in a state of vigorous health and has not been injured or destroyed as a result of the construction activities in accordance with section 7 below.

7. Tree Protection Audits

Tree Protection Audits prepared by an arborist are required for all trees present or adjacent to a construction site when activity, or the potential for activity, takes place within the TPZ. A schedule of audits by an arborist will be specified at the discretion of the town and shall consist of a minimum of three written site inspection reports. These tree protection audits shall include the following:

- (a) Tree Impact Evaluation:
 - i. Disturbances which occurred within TPZ
 - ii. Excavation distance from the trunk and depth of excavations (e.g. grade changes, underground utilities, pavement section, footings, foundations, etc.)
 - iii. A soil compaction comparison to preconstruction condition
 - iv. Distance and diameter of any severed structural roots (greater than one inch in diameter) to the trunk
- (b) Mitigation process and costs:
 - i. Pruning, irrigation, fertilization, and mulching requirements
- (c) Tree Hazard mitigation, if applicable
- (d) Tree replanting program, if applicable
- (e) Soil amendments (e.g. soil aeration, soil removal and replacement, etc.)
- (f) Recommendations for removal of severely damaged or hazardous trees
- (g) Provide photographic records where appropriate

8. Compliance with this Procedure

Failure to comply with this procedure may result in one or more of the following:

- (a) An Order to Comply
- (b) Loss of security in whole or in part
- (c) Prosecution under an applicable by-law
- (d) Additional remedial costs as determined by the town

References and related documents

Town Tree Protection By-law
~~Private Tree Protection By-law~~
Site Alteration By-law
Halton Region's Tree By-Law # 121-05
Healthy Green Space for Public Lands Report
Environmental Sustainability Policy

Definitions

Arborist – means a person who has graduated from an accredited college or university with a diploma or degree in Urban Forestry, Arboriculture or equivalent and satisfies at least one of the following requirements:

- (a) is certified by the Ontario Training and Adjustment Board or the International Society of Arboriculture;
- (b) is currently accepted as consulting arborist with the American Society of Consulting Arborists;
- (c) is a Registered Professional Forester (RPF) as defined in the Professional Foresters Act, 2000, S.O. 2000, c. 18; or
- (d) has comparable qualifications to those set out under clauses (a) to (c) above as approved by the Designated Official.

Hazardous Tree – means a tree that is destabilized or structurally compromised such that it poses a potential safety concern to property or life.

Woodlands – means as defined in the Halton Region Tree By-Law 121-05, as may be amended or replaced, namely: an area of land with at least: 1000 trees, of any size, per hectare or 500 such trees per 0.5 hectare; 750 trees, measuring over five (5) centimetres in diameter at DBH, per hectare or 375 such trees per 0.5 hectare; 500 trees, measuring over twelve (12) centimetres in diameter at DBH, per hectare or 250 such trees per 0.5 hectare; or 250 trees, measuring over twenty (20) centimetres in diameter at DBH, per hectare or 125 such trees per 0.5 hectare; but does not include: an active cultivated fruit or nut orchard; a plantation established for the purpose of producing Christmas trees; a plantation specifically planted and maintained for the purpose of harvesting as certified in writing by an Officer based on field inspection and investigation; a tree nursery, or a narrow linear strip of trees that defines a laneway or a boundary between fields.

Responsibilities

1. It is the responsibility of the Forestry Section, Parks and Open Space department to ensure that applicants are in compliance with the Tree Protection policy & procedure in relation to town trees in driveway applications, road cut applications, Capital projects and park access applications.
2. It is the responsibility of the Development Engineering department to ensure that applicants are in compliance with the Tree Protection Policy and related procedures in relation to trees in planning applications.

Appendices

Schedule 1 – Tree Protection Barrier

Schedule 2 – Application for Tree Protection Zone Encroachment Permit

Schedule 3 – Tree Protection Plan Form

Schedule 4 – Detail TP1