

Maintenance Requirements for Protected Trees during Construction

The provision of tree health care measures in advance of and during construction, reduces the potential for tree injury, promotes hardiness and mitigates construction impacts. The following methods will be considered as part of the recommended measures included in an approved Tree Preservation and Protection Plan:

Pruning

Where required and previously approved by the Town, pruning will occur prior to commencement of on-site operations utilizing arboricultural best practices. Pruning may be required to be provided by an Arborist. (For root pruning, refer to “root pruning” section below).

Recommendations for pruning by the Arborist may include consideration for the careful removal of:

- deadwood;
- branches that are weak, damaged, or diseased;
- pruning of overhanging branches that may interfere with construction equipment;
- secondary leaders of conifers;
- trunk and root suckers;
- trunk waterspouts;
- tight V-shaped or weak crotches; and
- branches that rub causing damage to bark.

Watering

The Contractor will be required to water the large trees a minimum of three (3) times during the summer or during any extended dry period or as directed by the Arborist and/or the Town. Irrigation of protected trees or areas may also be required at the discretion of the Arborist. Long, slow soaks over the entire root zone are preferable. Frequent, shallow

watering will be avoided. If drainage is poor, limitations need to be identified and corrected under the guidance of the Arborist.

Mulching

Application of a 5-10 cm (2"-4") depth of wood chip mulch over the root system of a tree can enhance root growth, moderate soil temperatures, maintain moisture, and reduce competition from weeds and grass. Mulch will never be placed against a trunk. Dyed mulches will not be utilized.

Root Protection and Prevention of Soil Compaction

When encroachment into the TPZ area cannot be avoided and there is potential for soil compaction, the consulting Arborist will recommend root-protection methods to minimize potential impacts by minimizing the vertical loading and spreading the load horizontally. Root protection may be provided by horizontal mulching to protect soil conditions within and/or adjacent to a TPZ. Non-woven geotextile fabric or geo-grid, spread over as large an area as is reasonably feasible, covered with 150-300 mm wood chip mulch, covered by 38 mm (3/4") thickness plywood that is staggered, overlapped, fastened together and adequately secured to the ground.

Requirements will vary depending on the size of machinery used on site, the soil type, anticipated weather conditions, or other factors. These methods are temporary and required to be carefully removed once access is no longer required. Additional post-construction treatments may also be required by the consulting Arborist.



For more information, contact

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Root feeding

At the discretion of the Arborist, and following soil testing and foliar analysis, trees to be preserved may require root fertilization prior to and/or post construction by applying a complete, balanced, slow release and soluble mineral source fertilizer. Application rates will be kept low until the root system adjusts. Fertilization during droughts will be avoided. This work will be completed by commercial tree care experts.

Root Pruning

Prior to any site disturbance or requirements for pruning of roots, alternative strategies will be considered before cutting tree roots that may result in instability or decline of an existing tree. These strategies may include grinding raised sidewalks or re-routing a proposed disturbance out of TPZ areas, such as driveways or sidewalk connections.

Where root disturbance is unavoidable, proper root pruning will minimize the impacts to existing trees and prevent the spread of decay. Root pruning will be conducted under the guidance of an Arborist where required. Root pruning may be required in advance of any excavation that may be unavoidable within or adjacent to a TPZ area. Root pruning may also be required if roots have been unexpectedly damaged during on-site works.

Guidance for root-pruning will include consideration for the following:

- Roots greater than 60 mm in diameter, or those that are exposed, excavated, injured, severed or diseased will be pruned in accordance with proper arboricultural methods;
- Pruning activities will be conducted with clean, appropriate hand tools only. Shovels, picks, or other construction tools will not be used for pruning;
- The integrity of the root bark ridge will be maintained;
- Pruning paint or wound dressing of any kind will not be used to cover the ends of a root pruning cut;
- Prolonged exposure of roots will be avoided. Where root systems of protected areas are exposed directly or damaged by construction work, they will be trimmed neatly and the area backfilled to prevent desiccation. Exposed roots are required to be kept moist, covered with soil, mulch, irrigation or a minimum of moistened burlap if exposed for longer than 3 hours;
- Should the root system or above ground components of any tree designated to remain sustain minor damage, remediation of the damage will be the responsibility of the Contractor with the guidance of the Arborist; and

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- If irreparable damage has occurred, the tree becomes unsafe or liability is questionable, it is recommended that an Arborist that is Tree Risk Assessment Qualified provide an assessment of the impacts and determine if removal is necessary; the Contractor will be required to remove the tree(s) and provide compensation to the satisfaction of the Arborist and the Town.

Dry-Welling

Tree wells are constructed to save an existing tree when the soil grade within the tree preservation zone is being raised or lowered. If a proposed development requires major grade alterations within the TPZ, existing trees will be impacted. An Arborist can determine the suitability of the impacted trees for preservation, and provide guidance regarding methods and techniques for dry-welling.

Aeration

Soil compaction and changes in grades can reduce soil pore size and deplete the oxygen supply to roots. Soil remediation techniques such as vertical mulching, radial trenching and root zone aeration in combination with the application of organic compost, soil additives, and mycorrhizal inoculants using an air excavator or hydro-vac may improve root growth and water uptake. The Arborist will consider the timing of any of these techniques in relationship to other construction impacts an existing tree may still be recovering from.

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