Tree Pruning Guidelines

Purpose and Scope

These Tree Pruning Guidelines describe the tree pruning principles applied to trees maintained by City of Toronto's Urban Forestry, including trees located within the City-owned right-of-way, in City parklands and in natural areas. They apply to privately owned trees in instances where there are adverse impacts on the City-owned right-of-way and/or City parkland and natural areas. These Guidelines also clarify practices and terminology.

Definitions

Clearance Pruning is a pruning technique that removes limbs and/or branches that interfere with any part of an adjacent structure or its immediate attachment(s). This technique also attempts to train limbs and branches away from adjacent obstructions to minimize future pruning requirements.

Crown Balance is a pruning technique used to maintain the specific crown characteristics of trees and to remove limbs that protrude out past the normal crown shape. For example, in the event of storm damage, the crown may be “heavy” on one side, and requires balancing to reduce potential risk of branch failure.

Crown Elevation is a pruning technique used to provide clearances over pedestrian and vehicular rights-of-way, driveways, other travel routes, turf areas and other objects and/or adjacent structures. The technique involves the selective removal and/or reduction of lower limbs to provide required clearances and to train trees to grow within confined spaces to minimize future pruning requirements.

Crown Reduction is a pruning technique that is used to maintain the structural integrity of trees or to minimize the risks of potential branch failure. The technique results in an overall reduction of the tree’s crown size. It involves the pruning back of branches and/or limbs to lateral branches that are at least 1/3 the size of the parent limb. Careful consideration should be given to not remove more than 20 per cent of the overall canopy within a single growing season.

Deadwooding is a pruning technique that entails the removal of dead, dying, damaged and/or diseased branches from the crown of the tree. Deadwooding removes possible food sources for damaging pests, limits diseases and enhances the overall health and safety of the tree.

Structural Pruning is a pruning technique that proactively and gradually trains and establishes proper branching structure throughout a tree's crown. It uses a combination of pruning techniques to selectively reduce (subordinate), redirect/train and gradually remove limbs and foliage to enhance tree vitality. Structural pruning is typically done on younger trees when it is most effective, but can be applied to mature trees as well. When structural pruning is executed properly, it is proven to effectively reduce future branch and whole tree failures as well as future maintenance costs.

Weight Reduction is a pruning technique used to selectively eliminate growth on individual limb(s) to reduce the limb's potential to fail. Weight reduction is not restricted to small diameter limbs/branches; however careful consideration should be given when considering removal of limbs of larger diameter.

Root Pruning is the pruning of roots back to lateral roots to prevent root injury from construction/trenching activities within the root zone of the tree. Root pruning is also the process of pre-digging a root ball to increase the density of root development for transplanting.

Traffic Sign/Signal Clearance involves pruning and/or removing limbs and/or foliage to maintain proper sight lines for a vehicles and/or pedestrians approaching traffic signals or signs.

Tree Pruning Objectives and Guidelines

In the context of these Guidelines, pruning is the controlled cutting of foliage and/or branches to achieve the following objectives according to the following proper arboricultural standards:

- To encourage the health of a tree
- To clear tree limbs and branches interfering with structures, street lighting, pedestrian and vehicular traffic, utility conductors and traffic signals or signs.
- To encourage the natural form of the tree species
- To remove dead limbs
- To maintain structural stability and balance of a tree

Pruning work includes removing dead, dying, diseased, decayed, damaged and noticeably weak or crowded branches from the crowns of trees as well as unwanted epicormic growth from the lower tree trunks; and training, establishing and improving the structure of the tree to improve and enhance its health and stability.

All work shall be carried out using proper arboriculture practices, in alignment with the American National Standard Institute Standard Pruning Practices (ANSI) A300 (Part 1)-2008, an internationally recognized standard, where applicable.

Pruning shall not to be used to improve scenic views; to obtain uninterrupted paths for telecommunication signals; to clear for store signs or security cameras; nor to increase light to swimming pools, solar panels, patios, lawns or gardens. In these cases, a permit to remove or injure trees in accordance with Municipal Code, Chapter 813, Trees, Article II, as required.

General Pruning Guidelines

- Prune trees for deadwood and interfering limbs.
- Elevate trees over major arterial roads, and where required, provide 4.5 m clearances for public transportation vehicles.

- Prune trees to elevate low limbs over all other roadways to provide a clearance of 3 m to 4 m, enough to provide clearance for trucks on the street side.
- Elevate trees over driveways and sidewalks to provide a clearance of 2.5 m to 3 m.
- Prune trees away from structures (buildings, homes) to a distance of 2 to 3 m.
- Prune trees to clear stop signs, traffic regulatory signs, traffic signals and street lighting to provide a clearance of 0.5 m to 1 m. Traffic signals should have a minimum of 30 m of unimpeded view for approaching vehicles.
- Prune trees to maintain an unobstructed 2 m radius around fire hydrants.
- Remove no more than 20 per cent of foliage within one growing season.
- Adjust the percentage and distribution of branches and foliage to be removed according to the tree species, age, health and location. Faster growing species may be pruned to the higher distance in the ranges provided.

Guidelines for Pruning Young Trees

Effective pruning is critical to maintaining healthy tree structure. Early pruning to correct and establish branching habit will significantly reduce the need for pruning later in the tree's life as well as reduce decay and extend the longevity of the tree. Better branch structure also reduces the vulnerability of trees to storm damage, something which is particularly important with increasing wind velocities and storm intensities associated with climate change.

When pruning young trees, careful attention is required to the individual tree's species and health. This will determine the degree of pruning that can be conducted. No more than 20 per cent of the foliage should be removed within one growing season.

Elevation in young and small growing trees may have to be achieved over a number of years.

Prune young trees with a focus on the following in this order of priority:

1. Remove dead, dying, broken or damaged branches.
2. Prune to maintain one dominant stem.
3. Elevate canopy lightly.
4. Establish and space out scaffold branches.
    - Remove branches with tight angles at the stem (<45° or "V" attachment) gradually to avoid the development of poor or structurally weak branch unions as the tree matures, where possible.
    - Consider directional pruning for nearby structures, obstacles and utility infrastructure.

Pruning Restrictions

Pruning of oak and elm trees is prohibited between the months of April and October to prevent the spread of disease. There are unique circumstances which may require tree maintenance work to take place during prohibited times, such as storm or hazard situations. If pruning of an oak or elm tree must occur during prohibited months, all work must be approved by a City of Toronto Urban Forestry Representative. All standard arboricultural best management practices must be followed including painting a thin layer of wound paint or shellac to the wound immediately following pruning; and sterilizing tools after pruning individual trees.

Utility Line Clearing

Utility line clearing is the process by which branches interfering with utility conductors and infrastructure are cut back to provide acceptable clearances to: avoid potential damage to utility infrastructure; ensure safety and protection of property; and provide reliable services to utility customers. Utility line clearing is not the same as tree pruning as its purpose is to clear branches away from utility infrastructure. Utility infrastructure includes hydro-electric and telecommunications lines.

Toronto Hydro (also known as Toronto Hydro Electric Service or THES) is a holding company of the City of Toronto that is incorporated under the authority of the Ontario Electricity Act, 1998. Toronto Hydro performs utility line clearing in accordance with that legislation.

In instances where the City of Toronto undertakes utility line clearing on hydro-electric infrastructure, the following utility clearances are used:

Wire Construction and Voltage Class	**Clearance Zone:** **Vertical above Conductor (m)**	**Clearance Zone** **Horizontal outside Conductor (m)**	**Clearance Zone** **Vertical below Conductor (m)**
Bare and insulated secondary lines and house service lines <750 V Includes weatherproof coated and Multiplex coated	0.30 m	0.30 m	0.30 m
Bare wire 4000 V- 27,600 V (4 kV – 27.6 kV)	1.6 m	1.2 m	1.2 m
Insulated wire (i.e. Hendrix coated) 4000 V- 27,600 V (4 kV – 27.6 kV)	1.0 m	1.0 m	1.0 m