

**City of Stevens Point
Forestry Specifications for Construction on Public Lands**

1. Installation, Repair, or Maintenance of Underground Wires, Cables, Conduits, Utilities or Other Facilities

A. Boring

Any and all installations that will have impact on public trees in relation to underground utilities are subject to the review and approval of the City Forester & Director of Public Works before the project starts. When possible, a plan showing the path of the underground utility in relationship to the surrounding trees shall be submitted to the City Forester & Director Public Works two (2) weeks before any work begins for approval of utility placement and technique. Open-cut excavating is allowed only up to the distance from various size trees, as listed below. Where there is insufficient space for trenching to bypass the Tree Protection Zone (TPZ), boring must be used in place of trenching. See Figures 1 and 2. You must bore at a minimum depth of three (3) feet. The surface area and subsoil directly adjacent to street trees shall not be disturbed as follows:

<u>Tree Diameter (DBH)</u>	<u>Tree Protection Zone (TPZ)</u>
0 - 4 inches in diameter	Bore 3 feet from trunk of the tree in all directions if trench is located within or intersects this radius from the tree.
5 - 9 inches in diameter	Bore 8 feet from trunk of the tree in all directions if trench is located within or intersects this radius from the tree.
10 - 14 inches in diameter	Bore 10 feet from trunk of the tree in all directions if trench is located within or intersects this radius from the tree.
15 -19 inches in diameter	Bore 12 feet from trunk of the tree in all directions if trench is located within or intersects this radius from the tree.
19+ inches in diameter	Bore 15 feet from trunk of the tree in all directions if trench is located within or intersects this radius from the tree.

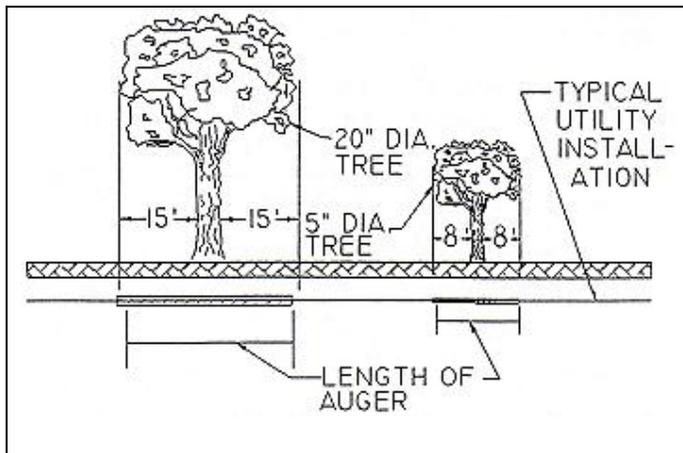


Figure 1

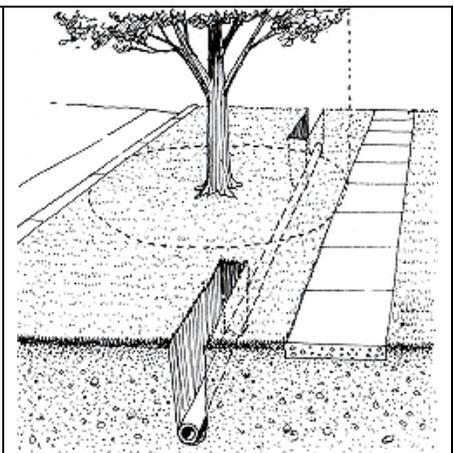


Figure 2 - Bore Method

B. Trenching

Trenching operations, when allowed to be used in the TPZ causes damage to that tree's root system. Trenching through the tree's TPZ will cause any or all of the following damage to occur to the tree: Slowing of growth rate, die-back and decline of the tree's crown and or root system, deadwood formation, wind throw, invasion of wood-decaying fungi and/or insects, or total tree mortality. See Figure 3. Open trenching in the TPZ of a public tree is prohibited. In some instances, exceptions may be allowed if in the opinion of the City Forester & Director of Public Works the impact of trenching upon the tree will be negligible. It is also recognized that there may be situations where utilities must be installed or repaired within the tree's TPZ, and trenchless excavation is not possible. The City Forester & Director of Public Works shall have the authority to determine whether trenchless excavation is impossible, in which case permission to proceed may be granted under the following conditions:

- The City Forester & Director of Public Works will determine the location and size of the pit or trench.
- Pre-construction root pruning may be required. See section two (Root pruning).
- Any roots encountered during construction, which can not be saved, must be cleanly cut as described in section two (Root pruning).
- All trenches/excavations shall be backfilled as soon as possible to prevent roots from drying out.
- See section six (General).

2. Root Pruning

A. Pre-construction root pruning

Some construction activities may require pre-construction root pruning. Pre-construction root pruning will be an option considered when root loss is unavoidable in the TPZ, and shall only be performed under Forestry Dept. supervision. This procedure results in roots being cut, but if done properly it will minimize damage to the tree and afford the pruned roots an opportunity to quickly regenerate. If approved by the City Forester & Director of Public Works, a mechanical root cutting machine designed for such purpose may be used to cut roots. Trenching machines are not allowed in root pruning operations. Areas to be root pruned will be determined by the City Forester. See section six (General).

B. During Construction

Roots that are one (1) inch in diameter or larger that can't avoid being destroyed during construction, such as trenching or excavating a boring pit, must be cleanly and sharply cut by hand. See section six (General). Make the cut flush with the side of the trench closest to the tree. There is no need to paint or treat the ends. See Figure 4.

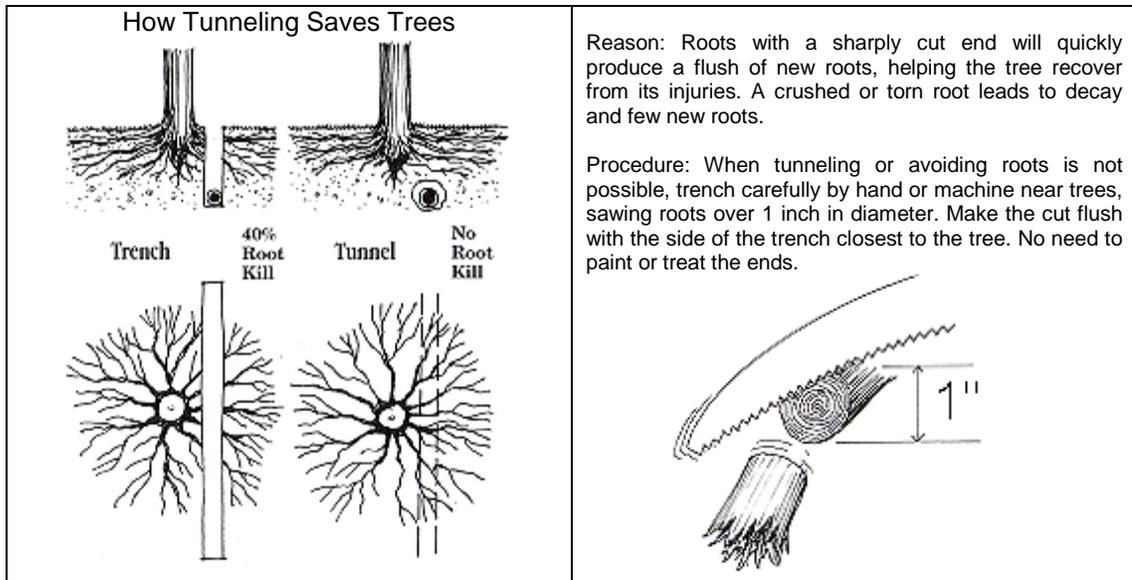


Figure 3

Figure 4 - Make Sharp Cuts

3. Sidewalk Construction

Specifications

Sidewalk removal shall occur prior to root pruning. Sidewalk removal shall be performed in a manner which prevents damage to tree branches, trunks and roots and/or prevents soil compaction. Unless other specifications apply, roots are then to be pruned by hand not deeper than nine (9) inches below finished grade of the new walks, and not more than five (5) inches out from the edge of the new walk. See section two (Root pruning).

4. Curb and Gutter Construction

Specifications

Roots may not be cut further back than the stated setback. The stated setback may vary depending upon the tree. Root pruning shall be performed with hand implements only. Curb excavation shall be allowed to a maximum depth of eighteen (18) inches. Exposed tree roots shall be covered with mulch from a period immediately following curb and gutter removal, until the area is backfilled following construction. See section two (Root pruning).

5. Backfilling

Specifications

Backfilling and landscaping shall be done by use of hand implements within the dripline (outermost reach of branches) of boulevard trees. All cutting for the removal of sod and soil in order to establish a finished grade within four (4) feet of existing trees must be done manually if necessary. The top one (1) foot of all excavations in the tree border (between the curb and sidewalk/property line) and in all boulevard medians shall be backfilled ONLY with clean, viable soil. No concrete, slurry, gravel, stone, sand, or other such materials shall be used for backfill. Flush backfilled excavations to settle material. Restoration shall be to original grade, unless otherwise specified.

6. General

All provisions of Chapter 11 of the Forestry Ordinance apply, and in addition to:

A. To protect the immediate portion of tree root zones, NO construction equipment (ex. Backhoes or their outriggers) or materials, sand, soil, concrete or any other materials shall be placed, parked, or stored on the surface of any unpaved areas within the driplines of city street trees. NO chemicals, rinsates, or petroleum products shall be deposited within the driplines of city street trees. Contractors failing to comply will incur a cost of a minimum of \$100.00 per occurrence per day or the cost of remediation, whichever is greater.

B. Care shall be taken not to damage tree trunks and branches. The City Forestry Department shall be contacted at least three (3) business days prior to the set-up for any construction to discuss problems of overhanging branches which may be damaged.

C.) Forestry Department personnel can be reached at the Forestry Dept. Office: 715-346-1532 or Cell: 715-340-3494 or at the Parks Dept. Main Office: 715-346-1531. Please call with any tree related question or concern.

7. Cost Recovery Charges and Liquidated Damages

The Contractors failure to follow the proper safeguards of these specifications shall result in the following cost recovery charges and liquidated damages to be assessed against the Contractor:

A. Damage to city-owned trees, shrubs, and other plant material due to Contractor negligence or accident shall be repaired only by the City Forestry Department. The Forestry Department shall remove and replace any trees, shrubs, and other plant material determined to be excessively damaged. The costs of all such repairs, removals, replacements, and an amount of value lost will be the liability of the Contractor and billed accordingly, or withheld from project payment.

B. If removal of a tree is warranted due to Contractor negligence the costs incurred as per section 7A. plus the value of the tree equal to \$125 per trunk diameter inch measured at breast height shall be assessed.

C. For excavations in excess of specified distances for curb and/or sidewalk installations the Contractor shall incur a cost of \$100.00 per occurrence, or loss of appraised value due to root loss, whichever is greater.

D. Ripping roots back towards the trunk of the tree, without prior permission from City Forestry personnel, the Contractor shall incur a cost of \$100.00 per occurrence.

E. For failure to cleanly cut damaged roots greater than one (1) in diameter within the dripline of the tree the same day as the excavation the Contractor shall incur a cost of \$100 per occurrence.

F.) For loss of limb or broken branches larger than three (3) inches in diameter the Contractor shall incur a cost of \$150.00 per occurrence. Breakage of limbs that are less than (16) sixteen feet above the street shall be reviewed on a case by case basis.

G. Damage to the bark larger than one-half (1/2) square foot in area the contractor shall incur a cost of \$100 per occurrence and will increase in proportion to size of damage accordingly.

Definitions and/or Terms

Boring - To create an underground passage. Shall be synonymous with tunneling and augering.

Street tree - Shall mean any public tree presently or hereafter located in the public way between the curb and public sidewalk, or between the curbs of a median strip, or in the equivalent location with respect to future curb, sidewalk or median strips where such curbs or sidewalk are not yet installed.

Tree Protection Zone (TPZ) - Shall mean a zone of protected space surrounding any public tree extending from the topmost branch or leader downward to a distance of thirty-six (36) inches below the surrounding ground surface level. The radial dimensions from the center of the tree to the outermost horizontal limit of the zone is determined by the diameter of said tree as measured at four and one half (4 ½) feet above ground surface level, and is further defined in the "Forestry Specifications for Construction on Public Lands".

Trench - Shall mean to create a furrow or a ditch by digging, slicing, plowing, or the like of. Shall be synonymous with open-cut excavating.