City of Medford
Parks & Recreation Department

Guideline for the Protection of Trees

This guideline is intended to be used for the preservation of trees on private property. Trees found within the Public Right-of-way are governed by Medford Municipal Code 6.725 Permit Required, which states "No person … shall plant, prune, root prune, remove, cut above ground, or otherwise disturb any tree on public property without prior written permission of the Parks and Recreation Director."

The following steps will help in developing a viable tree preservation program for the existing trees on your property:

1) **Protect the Root Zone**
Consider first the path of the construction and where tree roots lie. Approximately 90 to 95 percent of a tree's root system is in the top three feet of soil; more than half is in the top one foot alone. Every tree has a Protected Root Zone (PRZ), or critical root radius. Calculate this by measuring the tree's diameter 4.5 feet above the ground. Measure in inches and for each inch allow 1 to 1.5 feet of critical root radius. So for instance if a tree's diameter is 10 inches, its critical root **radius** is 10 to 15 feet, or 20 to 30 foot **diameter**. This is the minimum area you need to protect (the larger the area, the better).

a. Measure the tree's diameter (in inches) about 4 feet off of the ground.
b. Multiply the diameter by 18
c. This gives you the radius of the Critical Root Zone
Example: 10" DBH tree x 18 = 180" or 15' radius.
So, 30' diameter Critical Root Zone

This area contains most of the roots essential to the tree's continued health and vigor. If construction encroaches too far into the Critical Root Zone, the structural integrity of the tree may be jeopardized, creating a hazardous tree. Where construction impacts more than 30 percent of the Critical Root Zone, the tree is considered damaged beyond probable recovery.

2) Install metal construction fencing surrounding the Critical Root Zone prior to beginning any construction activity.

a. Maintain all tree preservation protective fencing until completion of all construction activities.
b. None of the following may occur within the Critical Root Zone:
- Grade changes,
- Parking of equipment, and
- Spillage of chemicals, fuel, or other toxins
- Storage of materials.

3) Hire a Project Arborist (PA)

a. Project Arborist must be certified by the International Society of Arboriculture

b. Project Arborist to identify limbs of trees to be preserved that may interfere with construction activity and equipment. The Project Arborist shall recommend and supervise appropriate methods for protecting the tree limbs, such as careful moving or removing of limbs. Pruning and removal of limbs of trees to be preserved shall be completed by the Project Arborist , according to ANSI A300-1995 standards, using a sharp saw or hand pruners. In no case shall more than 25 percent of a tree's canopy be removed.

c. Roots within the Critical Root Zone of trees to be preserved that may interfere with construction activity shall be located and pruned by Project Arborist as follows:

- Roots encountered within the Critical Root Zone shall be cut using a sharp saw or hand pruners. Roots shall be severed cleanly perpendicular to the long axis of the root and cut ends immediately covered with wet burlap or loam.
- Exposed roots of trees to be preserved shall be covered with burlap, mulch or backfill and kept damp.
- Burlap wrap shall be removed after construction work is completed, prior to final backfill. Exposed roots shall be permanently backfilled as soon as possible.

4) Water trees throughout the duration of construction, at the rate of one inch of water over the undisturbed Critical Root Zone area per week, or as directed by the Project Arborist.

5) Boring or tunneling for utilities installation at a depth of 30 inches or greater is allowed within the Critical Root Zone of a tree to be preserved . Access pits shall be located outside the Critical Root Zone.

6) In certain cases, construction may be allowed to encroach into the Critical Root Zone, but only with additional tree protection measures. The plan may show a zone of protection within the Critical Root Zone of a tree to be preserved, protecting 80 percent of the Critical Root Zone, and allowing construction within the remaining 20 percent. Special tree protection measures will be required for work within that tree's Critical Root Zone, but construction would be prohibited within the remaining Critical Root Zone.