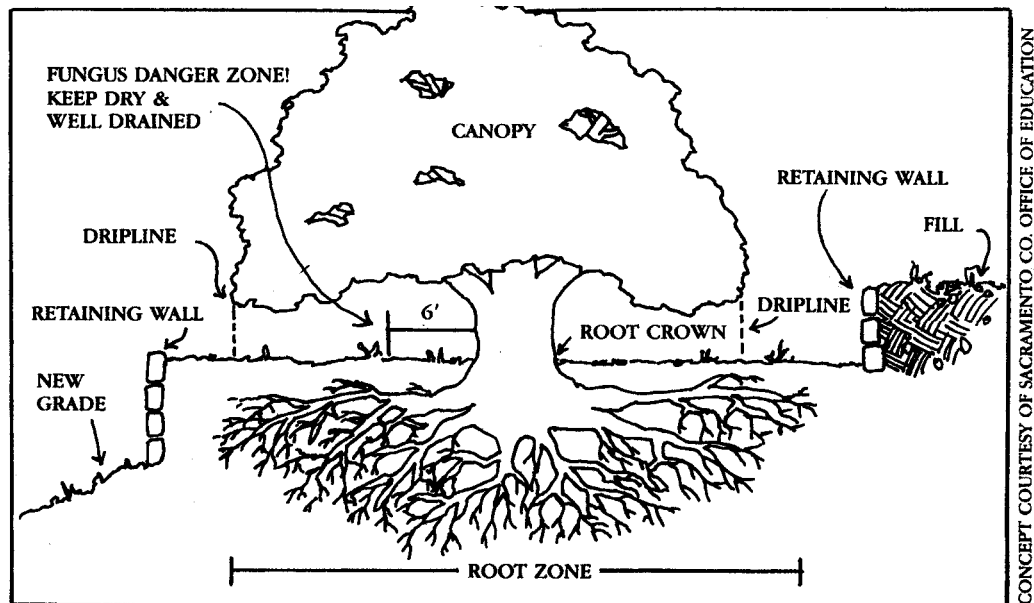


## GUIDELINES FOR DEVELOPMENT AROUND OLD OAKS

By Janet Caprile, Research Associate

San Joaquin County has a wealth of native oak trees within its' boundaries. Many of these trees are quite old, having developed under natural conditions of summer drought and winter rains. The health of these beautiful old specimen trees is often unknowingly compromised by the environmental changes which accompany construction and landscaping activities.



From: Living Among the Oaks (See References).

The portion of the tree most sensitive to disturbance is the root zone and root crown. The root crown is the area at the base of the trunk. The actual rooting area may be quite variable from tree to tree; however, for our purposes, consider the “root zone” to include the area within the drip line of the tree and even a little beyond. In order to minimize damage to the tree, it is important to keep the root zone and root crown in as natural a state as possible. The most common developmental activities which disrupt the root environment include:

**Soil Compaction:** To reduce damage from compaction avoid vehicular and pedestrian traffic within the drip line of the tree, especially when the soil is wet. Do not park vehicles/equipment or confine animals under the trees.

**Grade Changes:** Avoid either the removal or addition of soil within the root zone. Irreparable root loss and damage can occur during soil excavation. The addition of soil or fill can seriously disrupt the water, nutrient, and air balance of a mature tree.

**Trenching:** If it is necessary to dig trenches for utility or irrigation lines, dig outside the root zone to avoid severance of major roots.

**Paving:** Installing pavement within the root zone is a doubly dangerous activity for a mature oak. The impermeable surface restricts the flow of air, water, and nutrients to the roots; the compaction necessary to form a proper subsurface for the pavement exacerbates the problem.

**Irrigation:** Do not water a mature oak or plants around the oak during the summer dry season. Summer irrigation can encourage the development of root and crown diseases that may lead to tree decline and eventual death.

**Drainage Changes:** Be careful to avoid grade changes outside the drip line that may cause water to flow into and remain in the root crown-root zone area.

If condition force development activity within a portion of the root zone, make sure to preserve at least a 6 foot radius around the trunk which remains free from any changes. In the area outside the 6 foot radius, the following mitigation measures should be employed, where applicable, to help minimize the damage from development activities:

- ✓ Never make grade changes that entail removing more than 6 inches or adding more than 12 inches of soil.
- ✓ If a utility line must be installed, drill or bore the conduit through the soil rather than digging a trench. Less root damage will occur. Place all utility lines in the same passage to avoid future disruptions to the root zone.
- ✓ If paving is necessary, use porous materials such as gravel, boulders, cobbles, brick with sand joints, wood chips or bark mulch.
- ✓ If landscaping is necessary, select drought tolerant materials that require a minimum of summer irrigation. A manually operated drip system is the preferable method of irrigation. Irrigate established plants no more than 4 times each summer. Never allow irrigation water to seep into the 6' radius or pool around the root crown.

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