

Chapter 5 - VEGETATIVE PRACTICE STANDARDS

TREE PRESERVATION AND PROTECTION

Definition

Practices to preserve and protect desirable trees from damage during project development.

Purpose

To preserve and protect trees that have present or future value for their use in protection from erosion, for their landscape and aesthetic value, or for other environmental benefits.

Conditions Where Practice Applies

On development sites containing trees or stands of trees.

Planning Considerations

Preserving and protecting trees and other natural plant groups often results in a more stable and aesthetically pleasing development. During site evaluation, note where valuable trees and other natural landscape features should be preserved, then consider these trees and plants when determining the location of roads, buildings, or other structures.

Trees that are near construction zones should be either protected or removed, because damage during construction activities may cause the death of the tree at a later time.

Trees should be considered for preservation for the following benefits:

1. They stabilize the soil and prevent erosion.
2. They reduce stormwater runoff by intercepting rainfall, promote infiltration, and lower the water table through transpiration.
3. They moderate temperature changes, promote shade, and reduce the force of wind.
4. They provide buffers and screens against noise and visual disturbance, providing a degree of privacy.
5. They filter pollutants from the air, remove carbon dioxide from the air, and produce oxygen.
6. They provide a habitat for animals and birds.
7. They increase property values and improve site esthetics.

Tree Selection Criteria

Consider the following characteristics when selecting trees to be protected and saved:

1. Tree vigor. Preserve healthy trees. A tree of low vigor is susceptible to damage by environmental changes that occur during site development. Healthy trees are less susceptible to insects and disease. Indications of poor vigor include dead tips of branches, small annual twig growth, stunted leaf size, sparse foliage, and pale foliage color. Hollow or rotten trees, cracked, split, or leaning trees, or trees with broken tips also have less chance for survival.
2. Tree age. Old, picturesque trees may be more aesthetically valuable than smaller, younger trees, but they may require more extensive protection.
3. Tree species. Preserve those species that are most suitable for site conditions and landscape design. Trees that are short-lived or brittle or are susceptible to attack by insects and disease may be poor choices for preservation.
4. Tree aesthetics. Choose trees that are aesthetically pleasing, shapely, large, or colorful. Avoid trees that are leaning or in danger of falling. Occasionally, an odd-shaped tree or one of unusual form may add interest to the landscape if strategically located. However, be sure the tree is healthy.
5. Wildlife benefits. Choose trees that are preferred by wildlife for food, cover, or nesting. A mixture of evergreens and hardwood may be beneficial. Evergreen trees are important for cover during the winter months, whereas hardwoods are more valuable for food.

Construction activities can significantly injure or kill trees unless protective measures are taken. Although direct contact by equipment is an obvious means of damaging trees, most serious damage is caused by root zone stress from compacting, filling, or excavating too close to the tree. Clearly mark boundaries to maintain sufficient undisturbed area around the trees.

Design Criteria

The following general criteria should be considered when developing sites in wooded areas:

1. Leave critical areas (such as flood plains, steep slopes and wetlands) with desirable trees in their natural condition or only partially cleared.
2. Locate roadways, storage areas, and parking pads away from valuable tree stands. Follow natural contours, where feasible, to minimize cutting and filling in the vicinity of trees.
3. Select trees to be preserved before siting, roads, buildings, or other structures.
4. Minimize trenching in areas with trees. Place several utilities in the same trench.

5. Designate groups of trees and individual trees to be saved on the erosion and sedimentation control plan.
6. Do not excavate, traverse, or fill closer than the drip line, or perimeter of the canopy, of trees to be saved.

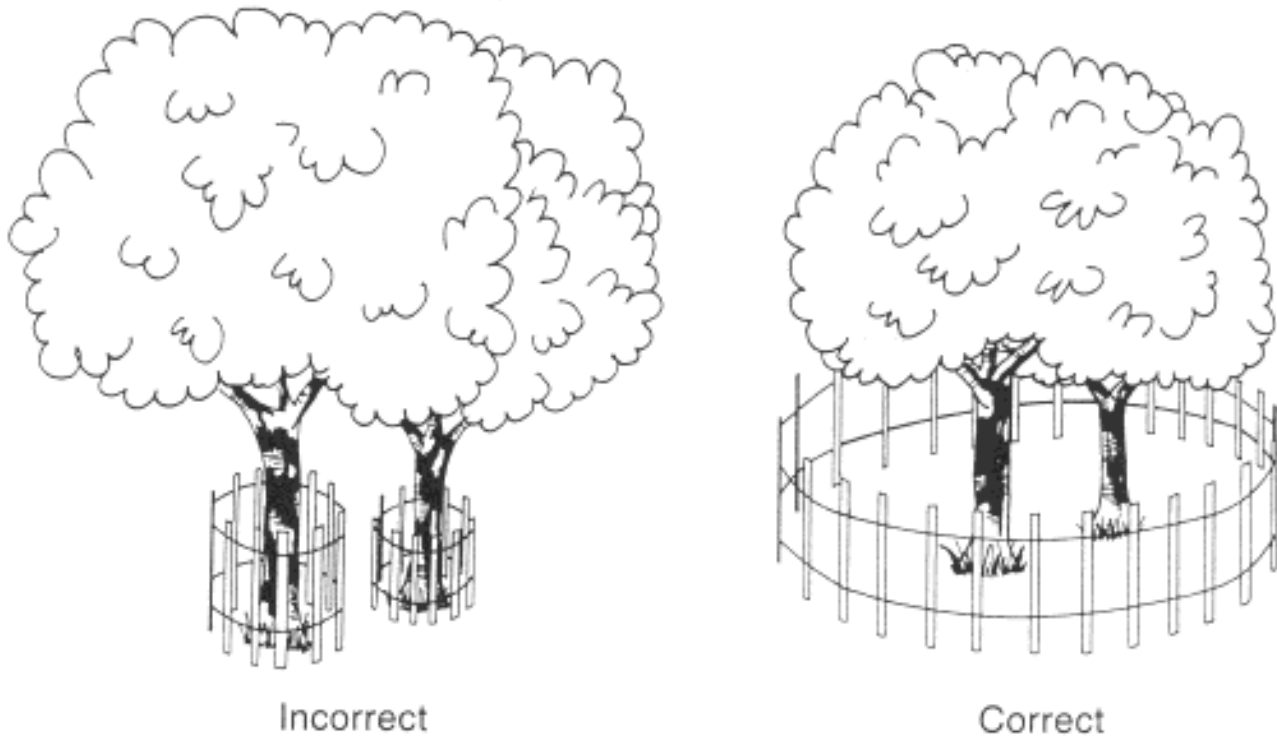


Figure 5-14 Barrier should be installed at the drip line of tree branches.

Maintenance

In spite of precautions, some damage to protected trees may occur. In such cases, repair any damage to the crown, trunk or root system immediately.

1. Repair roots by cutting off the damaged areas and painting them with tree paint. Spread peat moss or moist topsoil over exposed roots.
2. Repair damage to bark by trimming around the damaged area as shown in Figure 5-14, taper the cut to provide drainage, and paint with tree paint.
3. Cut off all damaged tree limbs above the tree collar at the trunk or main branch. Use three separate cuts as shown in Figure 5-15 to avoid peeling bark from the tree trunk when limb falls.

Figure 5-15 Trim bark wounds with a tapered cut, then apply tree paint.

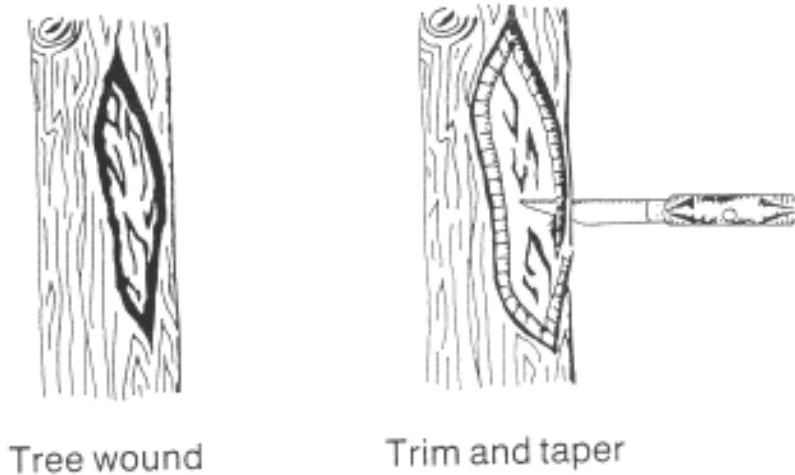
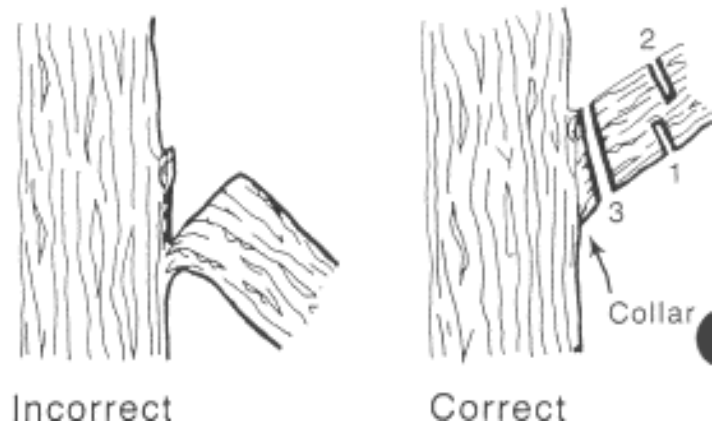


Figure 5-16 Prune damaged branches with three cuts to avoid peeling bark from the tree trunk when limb falls.



Plans and Specifications

Plans for tree preservation and protection shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve the intended purpose. Plans shall identify the location of all trees to be preserved.

Specifications for tree preservation and protection shall use or be in conformance with the following. Any variation from these specifications shall be approved by an engineer.

1. Place barriers to prevent the approach of equipment within the drip line of trees to be retained.
2. Do not nail boards to trees during building operations.
3. Do not cut tree roots inside the tree drip line.
4. Do not place equipment, construction materials, topsoil, or fill dirt within the limit of the drip line of trees to be saved.
5. If a tree marked for preservation is damaged, examine the damage to determine if repair is possible to preserve the tree. Provide repair in accordance with standard procedures outlined in the "Maintenance" section.

If the tree is damaged beyond repair, remove it and replace it with tree of the same or similar species (2-inch diameter or larger) from balled and burlaped nursery stock when activity in the area is complete.

6. During final site cleanup, remove barriers around trees.