

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD  
NEW JERSEY**

**RECREATION AREA IMPROVEMENT  
(Acre)  
CODE 562**

**DEFINITION**

Establishing grasses, legumes, vines, shrubs, trees, or other plants or selectively reducing stand density and trimming woody plants to improve an area for recreation.

appropriately to ensure adequate sunlight reaches grass.  
The guiding criteria for species selection should be the desired effect needed as most tree species can withstand varying amounts of recreation use.

**PURPOSE**

To increase the attractiveness and usefulness of recreation areas and to protect the soil and plant resources.

**Table 1.**

**Species Ranking for Recreational Use**

Deciduous trees:	Coniferous trees:
1. Hickories	1. Shortleaf pine
2. Persimmon	2. Hemlocks
3. Sycamore	3. White pine
4. White Ash*	4. Austrian pine
5. Beech	5. Pitch pine
6. Sassafras(short-lived)	
7. Buckeye.	
8. Yellow poplar*	
9. Dogwood**	
10. Blackgum	
11. Yellow birch	
12. Red maple*	
13. American holly	
14. Sourwood*	
15. Black birch*	
16. White oaks	
17. Black walnut	
18. Red oaks	
19. Black locust	
20. Magnolia	
21. Black cherry**	
22. Sugar maple*	



\*good fall color \*\*flowering trees

**CONDITIONS WHERE PRACTICE APPLIES**

On any area planned for recreation use.

**CRITERIA**

**1. Plant Materials**

A. Permanent Vegetation-Follow guidelines from Critical Area Planting (342) Standard for correct site preparations and preferred species for the establishment and management of grasses, legumes, vines, shrubs, and trees.

B. Establishment of woody plants should follow guidelines established in Critical Area Planting (342). Table 1 shows the ability of hardwoods and conifers to withstand the impact of recreational use. Species are listed in order of decreasing ability. Conifers generally rank lower than two-thirds of the hardwoods. This list of species is only a guide as there are also other species suitable for recreational area planting.

c. When selecting trees for recreation areas where the desired ground cover is grass, avoid species that create dense shade and have surface roots such as sycamores, beeches, and some maples. Space other species

**I. Planting**

Plant under optimum soil and water conditions. Handling and transplanting large plants will require special equipment and techniques. The method of planting will depend upon the size of the stock and method of lifting and moving the stock.

A. Bare root transplanting (Also see Std. 612, Tree/Shrub Establishment, for seedlings)

1. Bare-root planting should be done in spring or fall.
2. Keep roots moist. Heel-in when immediate planting is not possible.
3. Plant by machine or hand with tools and equipment suitable for site. Refer to Standard and Specifications for Std. 612.
4. Provide opening large enough to accommodate roots. Spread roots. Prune torn or broken ends.
5. Plant at same depth as stock was originally growing.
6. Firm soil around roots to avoid air spaces.
7. Water weekly for the first six months and mulch to assure better survival.
8. If possible, place a single wooden stake next to each seedling to increase visibility. Paint top 4" of stake white.
9. Replace dead or missing plants after first year.

B. Ball and Burlap Transplanting

Use this method for larger trees and shrubs. Planting of stock too large to manage by hand should be transplanted by trained and equipped nursery personnel.

1. Prepare a pit large enough to accommodate root ball. This should be about six inches deeper and at least one foot larger in diameter than the diameter of the ball. See Table 2 for approximate sizes of root balls for sizes and heights of trees and shrubs.
2. Fill bottom of pit with 6"-8" of topsoil.
3. Place root ball in pit and adjust crown at original ground level. Do not plant too deep.
4. Open top of burlap, fill and compact until pit is half full.
5. Water thoroughly to complete settling of soil.
6. Complete filling around ball leaving a slight depression for additional watering and mulch.
7. Place two to four inches of mulch around plant to create a circular area at least 2-3 feet in diameter.

**Table 2. Approximate Root Ball Diameters for Different Sizes of Shrubs and Trees**

Shrub & Small Trees		Larger Trees		
Height of Plant (Feet)	Diameter of Ball (Inches)	Tree Diameter (at 1 foot) (Inches)	Diameter of Ball (Inches)	Depth of Ball (Inches)
1-1/2 to 2	11	1 to 1-1/2	18	14
2 to 3	12	1-1/2 to 1-3/4	20	15
3 to 4	14	1-3/4 to 2	22	15
4 to 5	16	2 to 2-1/2	24	16
5 to 6	18	2-1/2 to 3	28	18
6 to 7	20	3 to 3-1/2	33	20
7 to 8	22	3-1/2 to 4	38	22
8 to 9	24	4 to 4-1/2	43	24
9 to 10	26	4-1/2 to 5	48	26

C. Mulching

Place wood chips or shredded wood mulch in a circular pattern around each tree or shrub to a depth of 2"- 4". Wood mulch will deter weed growth, conserve moisture, and increase visibility of plant. Mulch may be of the type available at little or no cost from municipalities and tree service companies. If trees or shrubs are planted in a compact area, place mulch all around plants to create a homogenous bed. This can be an asset for aesthetics and for maintenance reasons.

D. Pruning at Planting Time

1. Prune deciduous trees slightly to balance top and root system. Do not prune leader.
2. Do not prune evergreen trees except to remove damaged branches.
3. Prune shrubs to remove some of the older canes and to head back some main branches.

E. Bracing

Brace trees over one inch in trunk diameter and higher than six feet.

1. Small trees- use at least one stake, set out from tree and fastened to tree with wire and a loop of rubber hose.
2. Larger trees- use three heavy stakes and 12-gauge wire fastened to tree through a loop of rubber hose.

#### F. Protection

1. Wrap trunks of deciduous trees with horticultural tree wrap or similar material. Start above the second limb and wrap downward overlapping each turn halfway. Tree wrap will reduce damage from power weed trimmers and antlered deer.
2. Reduce moisture loss during "off season" transplanting by spraying leaves with a partial cover of wax emulsion or plastic sprays diluted with water.
3. Protect from fire, grazing, and rodents.
4. Use of an animal guard is suggested.

#### CONSIDERATIONS

1. Protect and use desirable existing vegetation in recreation areas wherever possible. The native vegetation is already established and has adapted to the local environmental conditions.
2. Plantings can be used to screen or enhance specific areas, delineate traffic patterns, control sound, retard erosion, improve or create wildlife habitat and create shade or background.
3. When planting, use species that are adapted to the soils, slope, exposure and other site conditions. Plantings should be simple, functional and economical. Emphasize natural land forms with plantings. Use insect pest and disease resistant plant species when possible.
4. Vegetation may not survive under certain conditions. High impact areas may need structural reinforcement such as sand, gravel or wood chips. Use the Heavy Use Area Protection standard (561) for planning these areas.
5. During planning of this practice any water quality and water quantity effects of the practice should be addressed. Possible effects of recreation area improvement include:  
Water Quantity-Effects on the water budget especially on volumes and rates of runoff, infiltration, and transpiration.  
Water Quality-Effects of erosion and the movement of sediment, pathogens, and soluble and sediment-attached substances that could be carried by runoff. Important factors are short-term changes caused by construction (sediments, fuels, oils, and other chemicals) compared to long-term changes caused by the same substances resulting from

recreation activities. Consider effects of changes in ground water from infiltrating soluble substances associated with vegetation management and recreation activities.

#### Plans and Specifications-

1. Specify the planned use(s) of the area and the recreational improvements to be made.
2. Specify any areas where vegetation is to be established and include the species to plant and rates or spacing recommended.
3. Specify any management activities required in order to maintain the recreation area.

#### OPERATION and MAINTENANCE

1. Cultivate or remove weed and competing vegetation when necessary.
2. Heavy fertilization of tree and shrub planting is generally not needed or desirable. Without tests, safe rates are: Shrub Areas-2 to 3 lbs. of 10-5-5 or similar analysis per 100 sq. ft. of area. Trees-3 to 5 lbs. of 10-5-5 or similar analysis per inch of diameter per tree. Apply 1/10 lb. per hole in drilled hole 15 inches deep and 18 inches apart.
3. Thinning and Pruning Woody Plants to Improve Recreation Areas:  
A. Thinning
  1. Remove dead, diseased, dying, severely damaged, poorly anchored, interfering and objectionable trees and branches which are a hazard to users of the area. A few den trees may be left for wildlife use.
  2. Thin to increase sunlight, improve grass cover, enhance natural beauty, and release and make more visible shrubs and understory cover.
  3. Thin according to a formula  $D \times 3$  (the average diameter of the overstory trees times three, answer in feet). Crown cover after thinning should be approximately 50 percent. To release shrubs and understory trees, use the diameter of the nearest overstory tree as a base. Twelve inch trees would be spaced approximately 36 feet apart. Follow Forest Stand Improvement Specification (666).
  4. Any structural weakness, decayed trunk or branches or split crotches and branches should be eliminated.
  5. Give preference to trees which do not "weep" resins and insect juices. Some weeping species are American elm, red maple, yellow poplar, honey locust, and white pine.

6. In natural areas leave downed trees and limbs on the ground to decay and build organic matter while providing habitat for wildlife.

#### B. Pruning

1. Remove limbs and limb stubs to a height of eight feet in human use areas such as paths and trails. On bridle paths and on roads for four-wheeled vehicles, remove limbs to a height of 12 feet.
2. Do not remove more than one-third of the live crown of a tree in one pruning operation.
3. Make all cuts flush to the parent stem so that healing can start under normal conditions.
4. Undercut all limbs one inch in diameter or over to prevent splitting.
5. Cuts and wounds may be treated with an approved tree wound dressing. It is best to prune trees when they are dormant.
6. Disinfect tools with alcohol after each cut and between trees where there is known danger of transmitting the disease on tools.

Natural Areas- No modification; in some instances, it is desirable to leave areas of natural density and vegetation. This should be done when such areas are not intensively

#### REFERENCES

1. Recreation Ready Reference. US Department of Interior, National Park Service. Washington, DC.
2. Forest Conservation Manual-Guidance For The Conservation Of Maryland's Forests During Land Use Changes. Metropolitan Council of Governments. Annapolis, MD.
3. Guide to Seed and Sod In The US and Canada .Lofts Seed Inc. Bound Brook, NJ.

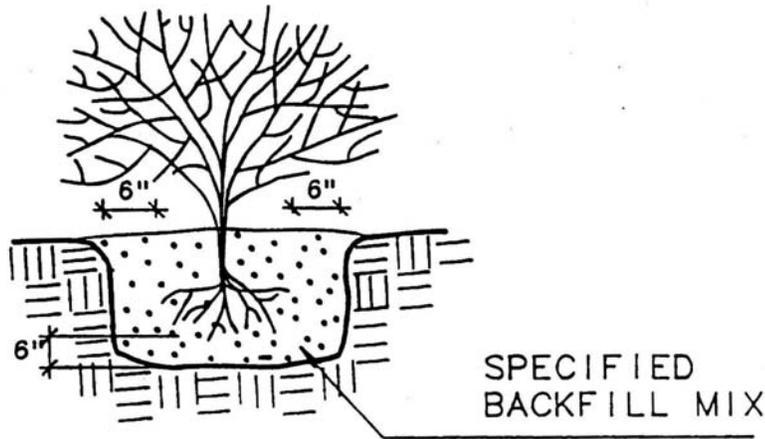
used, are not made up of invasives, and are needed for visual or noise barriers, climate control, etc.

#### Supporting Data for Documentation

1. Field location of the recreation area and the extent in acres.
2. A brief description of the specific improvements completed and how they were accomplished.

#### PLANS AND SPECIFICATIONS

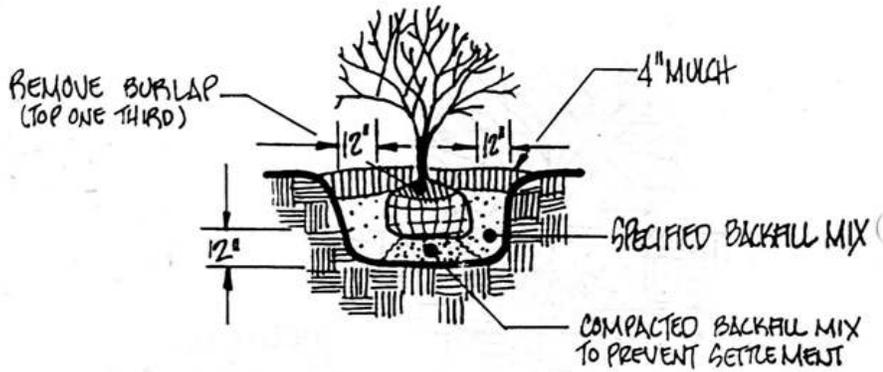
Site treatments, plant materials, planting methods and maintenance measures for each type of recreation area.



## SHRUB PLANTING DETAIL

NOT TO SCALE

Figure 1. Bare-root planting detail

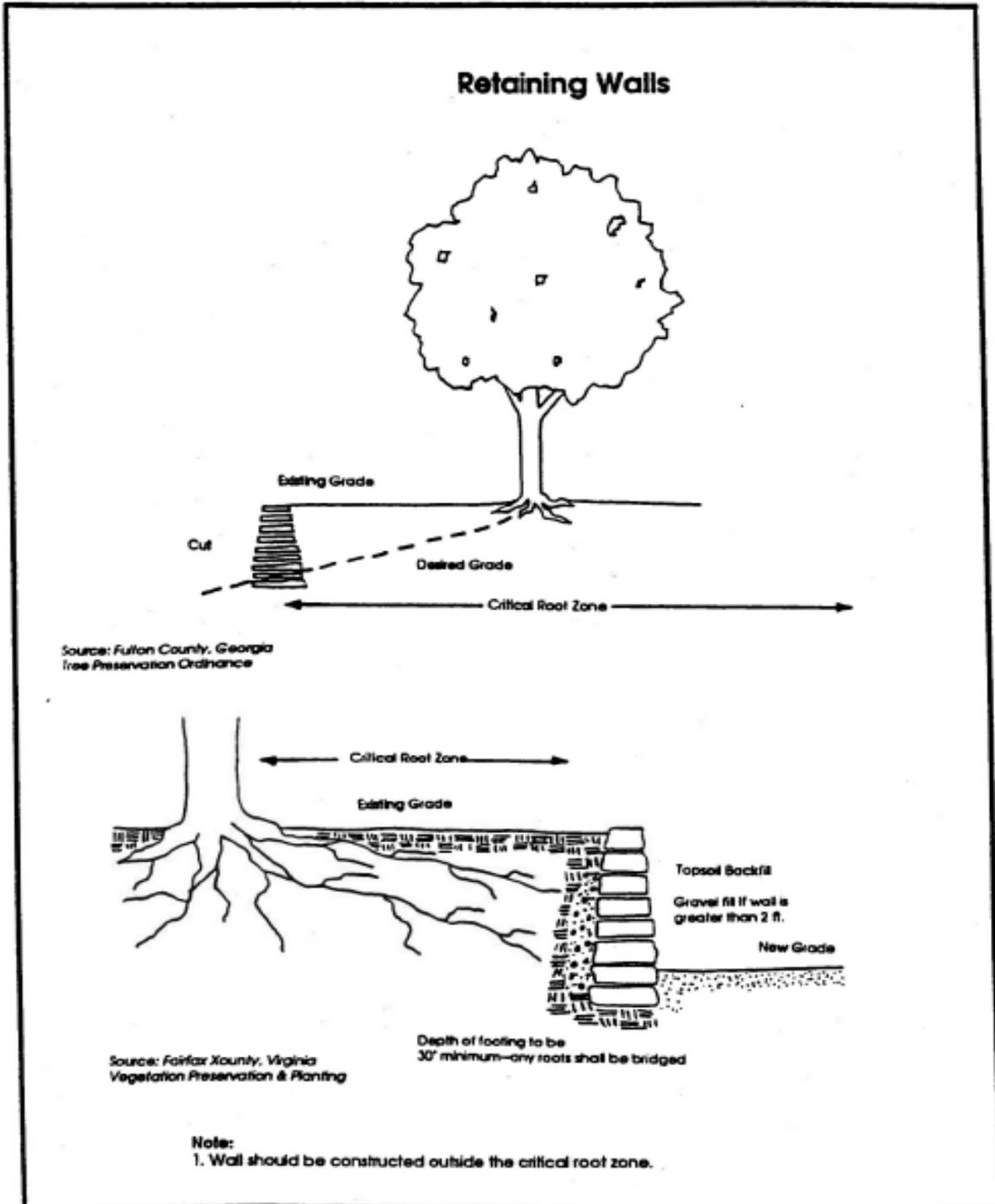


## SHRUB PLANTING DETAIL

NOT TO SCALE

Figure 2. Ball-and-burlap planting detail

Figure 3. Retaining wall detail



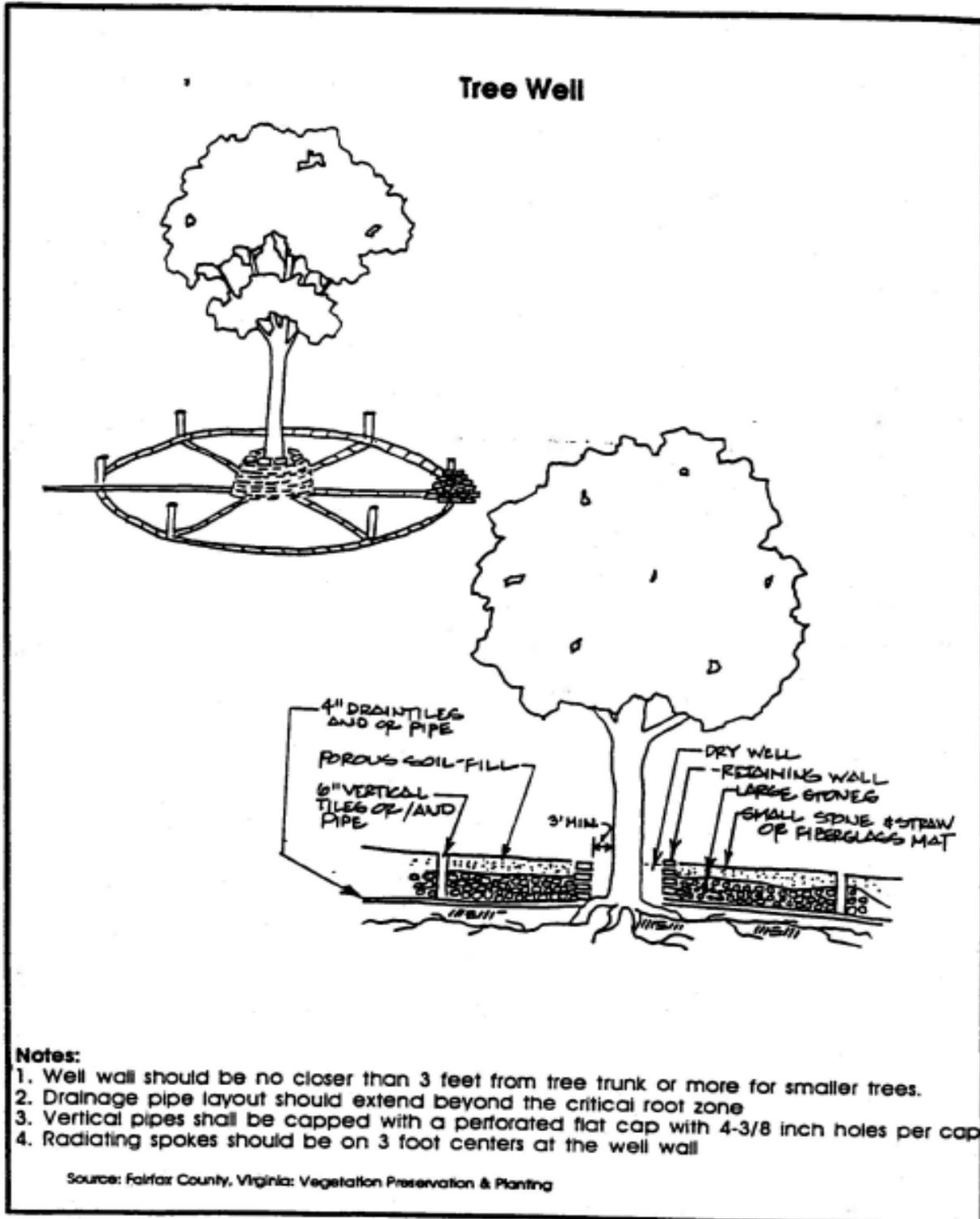


Figure 4. Tree well detail