

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE SPECIFICATION
RECREATION AREA IMPROVEMENT
(acre)
CODE 562

SCOPE

This document establishes the technical details, workmanship, and quality and extent of materials required to install the practice in accordance with the Conservation Practice Standard. The information shall be considered when preparing site-specific specifications for the practice.

The site-specific specifications for installing, operating, and maintaining the practice on a specific field or treatment unit shall be documented via jobsheets, worksheets, maps, drawings, and/or narrative statements in the conservation plan. The document(s) should be given to the client as a prescription for their site.

Definition of Recreation Areas

Athletic Play Areas. Areas used for baseball and football fields; children's playgrounds, and spectator areas surrounding athletic fields and playgrounds.

Park-like Areas. Areas adjacent to and surrounding athletic fields. They will include grassed areas with scattered trees and shrubs and generally will be well mowed and groomed. These areas may also include golf fairways. The grasses in this group are suitable for home lawns.

Lightly Used Areas. Refers to areas farther from picnic, athletic and play areas and are used for very few activities. Trees and shrubs are often in the area, but turf may not be mowed, or mowed infrequently. This will also include the golf course rough adjacent to the fairways.

Intensively Used Areas. Refers to popular picnic, camping, etc., areas where heavy foot traffic may be a problem.

Critical Areas. Applies to steep banks, fills, borrow areas, eroded land, or any areas where an extreme erosion hazard exists.

GRASSES AND LEGUMES

Following are specifications for planning grasses and legumes for ground cover and erosion control.

Establishing Vegetation for Ground Cover

- All final grading and shaping, including necessary surface drainage, will be completed before seeding operations are commenced.
- Fertilizer application should be made according to soil tests. In lieu of a soil test, the following application rate is recommended:
- Broadcast application – grasses, N100 P300 K80#/ac.

- Hand planting – Place the recommended amount (based on 1 square foot per plant) in the planting hole.
- A firm seedbed will be prepared before planting.
- Heavy use will be avoided until a grass sod is well-established.
- Move the grasses high (3 to 4 inches) during establishment.
- Areas subject to excessive erosion damage will be planted according to standards and specifications for **Critical Area Planting** (Code 342).

Maintenance

- Mowing should not be closer than 2 inches.
- If chemicals are used for weed control, follow manufacturer's recommendations and applicable local, state and federal regulations.
- Mechanical aeration and frequent applications of chemical fertilizer may be necessary on heavily used areas and compacted soils.

For Suitable Grass Species

- Refer to Table 1. The Table and pictures of most of the species are also included in the Hawaii Vegetative Guide (Hawaii Vegetative Technical Note No. 7).

SHRUB AND VINE PLANTINGS

The general shrub and vine planting guide is for selecting suitable plants for hedges, wildlife food and cover, roadside plantings, and ground cover.

Planting

- Take care of planting stock. Bare root stock should be "heeled-in" or kept cool and moist, if not planted immediately.
- Plant bare root stock 1 inch deeper than they were in the nursery.
- Mulching around the plant is important where moisture is limited.

Fertilizing

- Mix 2 to 3 ounces of superphosphate in the soil below the plant.
- Apply supplemental fertilizer to maintain a good, vigorous growth.

Spacing

Allow at least 3 feet from foundations and ample room from property lines. Each plant should be given ample room to grow. Hedge plants can be spaced closer together.

- The following spacings between plants are provided as a general guide:
- Ground cover (solid plantings) – 3 ft. by 3 ft.
- Hedge (one row) – 2ft to 3ft.
- Landscaping:

- Large shrubs (8-12 ft. high) – 7 to 15 feet apart
- Medium shrubs (5-8 ft. high) – 5 to 14 feet apart
- Small shrubs (less than 5 ft. high) – 2 to 4 feet apart
- Vines – 1 to 2 feet apart

- Screens, windbreaks, or borders:
 - Large shrubs (8-12 ft. high) – 3 to 5 feet apart
 - Medium shrubs (5-8 ft. high) – 3 to 4 feet apart
 - Small shrubs (less than 5 ft. high) – 2 to 3 feet apart
 - Vines – 1 to 2 feet apart

- Spacings between rows depends upon the size of the maintenance equipment:
 - Roadsides (solid plantings) – 4 ft. X 4 ft.
 - Wildlife food and cover (clump plantings):
 - Food – 10 ft. X 10 ft.
 - Cover – 3 to 6 ft. X 3 to 6 ft.

For Suitable Tree and Shrub Species

- Refer to Table 2. The Table and pictures of most of the species are also included in the Hawaii Vegetative Guide (Hawaii Vegetative Technical Note No. 7).

TREE PLANTING GUIDE

This guide is intended for general landscaping. In selecting the tree for a specific use, additional factors should be considered such as foliage color, flowering and fruiting characteristics.

Planting Method

The tree should be planted in a hole large enough to easily accommodate the roots. Soil around the roots should be packed, and the plant watered adequately. For best results, existing competition should be removed.

Fertilizing

Mix 1 pound of superphosphate in the soil below each tree. A slow release or pelleted fertilizer is recommended.

Spacing

Size of Tree	Shade Tree Spacing	Hedge and Screen Spacing	Windbreak Spacing
Large trees over 60 feet tall	20 X 20 ft. to 50 X 50 ft.	Not applicable	See Windbreak/Shelterbelt Establishment Specification
Medium trees 30- 60 feet tall	15 X 15 ft. to 25 X 25 ft.	Minimum 6 ft.	See Windbreak/Shelterbelt Establishment Specification
Small trees less than 30 feet tall	Not recommended	3 to 5 ft.	See Windbreak/Shelterbelt Establishment Specification

For Suitable Tree and Shrub Species

- Refer to Table 2. The Table and pictures of most of the species are also included in the Hawaii Vegetative Guide (Hawaii Vegetative Technical Note No. 7).

Trimming

Trim only to prevent, correct, or improve an undesirable situation. Refer to standards and specifications for Tree / Shrub Pruning. When necessary, trim in order to:

- Control undesirable habits of growth.
- Remove dead, broken, or disease and insect-infested branches.
- Produce a more compact and sturdy plant.
- Produce a desired formal shape or size.
- Improve flowering or fruiting.
- Improve chances of survival at transplanting time.
- Remove tree limbs when ends reach below 8 feet in a recreation area, or below 12 feet along recreation trails.
- Provide air circulation and space and permit establishment of grass in recreation areas.

Thinning

- Remove a sufficient number of trees of all sizes, so the canopy formed by the remaining trees will shade approximately 40 percent of the area.
- In selecting trees to be removed, consider the form, condition, growth habit, or other special characteristics that may be hazardous to people using the area.
- Cut these trees level with the ground and treat the stumps with an approved chemical to prevent new growth.
- The remaining trees should be healthy and vigorous, and should represent as large a variety of species as possible. They should also be distributed as evenly as possible throughout the area.

Table 1. Suitable Grass Species (Page 1 of 1)

SPECIES	Shady Areas	Shoreline / Salty Areas	Normal Use Areas	Heavy Use Areas	Natural/ Unmowed Areas
'aki'aki ^{3/ 4/} (<i>Sporobolus virginicus</i>)		X	X		X
Bermudagrass ^{1/ 4/} (<i>Cynodon dactylon</i>)		X	X	X	
centipedegrass ^{2/} (<i>Eremochloa ophiuroides</i>)	X		X		
'emoloa ^{3/} (<i>Eragrostis variabilis</i>)					X
paspalum cv. Tropic Lalo (<i>Paspalum hieronymii</i>)			X	X	
piligrass ^{3/} (<i>Heteropogon contortus</i>)					X
Rhodesgrass ^{4/} cv. Bell, Katambora, Nemkat ^{1/} (<i>Chloris gayana</i>)					X
seashore paspalum ^{2/ 4/} cv. Tropic Shore (<i>Paspalum vaginatum</i>)		X	X		X
St. Augustinegrass ^{2/ 4/} (<i>Stenotaphrum secundatum</i>)	X	X	X		
zoysiagrass ^{4/} (<i>Zoysia japonica</i>)	X	X	X		

Note: Use planting rates recommended for Critical Area Planting. This list is not all-inclusive. Other species may be selected based on recommendations by a qualified NRCS technical specialist.

^{1/} Resistant to root-knot nematodes.

^{2/} May have potential to become invasive.

^{3/} Native to Hawaii.

^{4/} Highly tolerant of soil salinity and wind-borne salt.

Table 2. Suitable Tree and Shrub Species (Page 1 of 1)

SPECIES	Scientific Name	Ornamental	Xeriscape	Shade	Hedge/Screen	Windbreak
'a'ali'i ^{2/}	<i>Dodonaea viscosa</i>	X	X		X	X
'akia ^{2/}	<i>Wikstromia uva-ursi</i>	X	X			
alahe'e ^{2/}	<i>Canthium odoratum</i>	X	X		X	X
areca palm	<i>Chrysalidocarpus lutescens</i>	X			X	X
beach naupaka ^{1/ 2/}	<i>Scaevola sericea</i>	X	X		X	X
Bougainvillea ^{1/}	<i>Bougainvillea spectabilis</i>	X	X		X	
breadfruit ^{2/}	<i>Artocarpus communis</i>	X		X		X
Cook pine ^{1/}	<i>Araucara columnaris</i>	X				X
croton	<i>Codium variegatum</i>	X			X	X
eucalyptus	<i>Eucalyptus spp.</i>	X		X		X
hala ^{1/ 2/}	<i>Pandanus tectorius</i>	X		X		X
hibiscus ^{2/}	<i>Hibiscus spp.</i>	X			X	X
kamani ^{1/ 2/}	<i>Calophyllum inophyllum</i>	X		X		X
koa ^{2/}	<i>Acacia koa</i>			X		X
koai'a ^{2/}	<i>Acacia koaia</i>		X	X		X
kou ^{1/ 2/}	<i>Cordia subcordata</i>	X	X	X		X
kukui ^{2/}	<i>Aleurites moluccana</i>	X		X		X
loulou palm ^{2/}	<i>Pritchardia spp.</i>	X	X			X
maneie ^{2/}	<i>Sapindus saponaria</i>			X		X
ma'o ^{2/}	<i>Gossypium sandwicense</i>	X	X			
milo ^{1/ 2/}	<i>Thepesia populnea</i>	X	X	X		X
monkeypod	<i>Samanea saman</i>	X		X		
naio ^{1/ 2/}	<i>Myoporum sandwicense</i>	X	X		X	X
'ohi'a lehua ^{2/}	<i>Metrosideros polymorpha</i>	X		X		X
pink tecoma, trumpet	<i>Tabebuia spp.</i>	X		X		X
plumeria	<i>Plumeria spp.</i>	X		X		
shower tree	<i>Cassia spp.</i>	X		X		X
tall erythrina cv. Tropic Coral	<i>Erythrina vareigata</i>				X	X
ti ^{2/}	<i>Cordyline fruticosa</i>	X			X	X
'ulei ^{1/ 2/}	<i>Osteomeles anthyllidifolia</i>	X	X			
wiliwili ^{2/}	<i>Erythrina sandwicensis</i>	X	X	X		X

Note: This list is not all-inclusive. Other species may be selected by qualified NRCS technical specialists.

^{1/} Highly tolerant of soil salinity and wind-borne salt.

^{2/} Native to Hawaii or early Polynesian introduction.