Critical Area Planting (acre)

South Carolina

Conservation Practice Specification Sheet – 342

Land User		County	
Farm #		Date	
Tract #		Assisted by	

Definition

Critical area planting is planting vegetation, such as trees, shrubs, vines, grasses, or legumes, on sites that have or are expected to have high erosion rates, and on sites that have physical, chemical or biological conditions that prevent the establishment of vegetation with normal practices.

Purpose

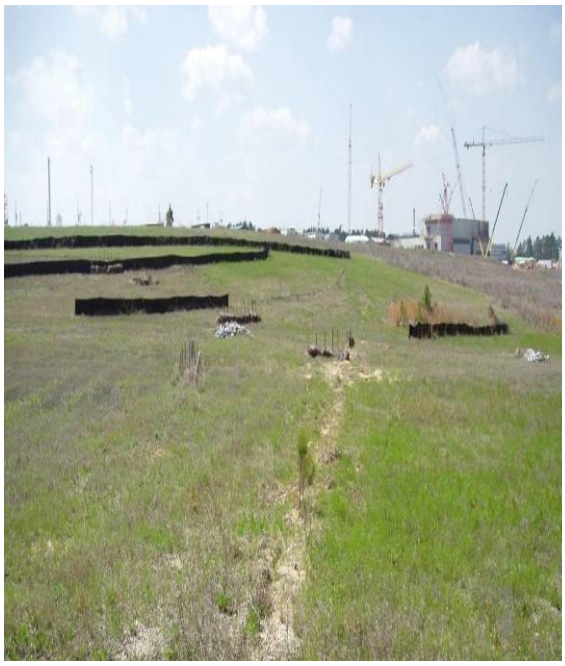
The specifications provided here are to:

- ☐ Stabilize stream and channel banks, and shorelines
- ☐ Stabilize areas with existing or expected high rates of soil erosion by water or wind.
- ☐ Rehabilitate and re-vegetate degraded sites that cannot be stabilized through normal farming practices.
- ☐ Stabilize coastal areas, such as sand dunes and riparian areas.

General Specifications

Seedbed Preparation

- Clear areas to be planted of unwanted materials and smooth or shaped to meet planting and landscaping purposes. If additional roughness is desired, stair-step grading, grooving, furrowing, or tracking may be required. Grading and shaping is not normally required where hydro-seeding is to be used.
- On sites where equipment can operate on slopes safely, the seedbed shall be



adequately loosened (4 to 6 inches deep) and smoothed. Depending on soil and moisture conditions, disking or culti-packing or both may be necessary to properly prepare a seedbed. Slopes steeper than 3:1 will normally need to be planted by hand, or planted with a hydro seeder. For hydro seeding, mix the seed, inoculants, fertilizer, and proper mulch with water and apply this mixture within one hour after mixing.
- Use 3-4 inches of topsoil or similar soil material on sites where the soil texture is sandy clay, silty clay, or clay. Ripping prior to the addition of new material is usually needed.

Fertilization and Soil Amendments

- Base application of all soil amendments on a soil test and recommendations from a qualified soil testing laboratory.
- If a sample is not feasible or practical, an all-inclusive fertilizer recommendation may be used as shown in Table 1.
- Use caution using additional nitrogen fertilizer on native grasses or when planting trees or shrubs as more aggressive weed species may become competitive.
- Do not apply fertilizer in the hot summer months.
- Do not lime unless the PH level of the soil from a spot dug down six inches, is less that 6.5. Apply late in the Autumn and allow to break down in the soil for several months. Apply lime, fertilizer and seed at least 7-10 days apart depending on weather factors, such as plenty of rain or irrigation.
- Thoroughly incorporated fertilizer, lime, and other soil amendments into the upper 4-6 inches of soil immediately following surface application.
- If a soil test is not available, apply 1,000 pounds of 5-10-10 fertilizer per acre at planting time plus a topdressing application of fertilizer at a later date. The topdressing shall include a minimum of 50 pounds per acre (1.1 pounds per 1,000 square feet) of available nitrogen where grasses predominant, and a minimum of 40 pounds per acre (0.9 pounds per 1,000 square feet) each o P_2O_5 and K_2O where legumes are predominant.
- Where site conditions prevent soil incorporation of fertilizer, apply 500 pounds of 10-10-10 or equivalent at planting. After germination of seedlings a follow-up application of 500 pounds of 10-10-10 or the balance of the recommended nutrients based on soil analysis shall be made.

Table 1: Fertilization and lime rates to use for establishment in absence of a soil test.

Planting	Fertilizer Analysis	Fertilizer Rate	Lime Rate
Sod, fertilizer incorporated	10-10-10	12-25 Lbs./1,000 sq. ft	45-72 Lbs./1,000 sq. ft.
Perennial Grass, fertilizer incorporated	10-10-10	18-23 Lbs./1,000 sq. ft --------- apply additional 0.5-1.0 Lbs./1,000 sq. ft 3-12 months later	92 Lbs./1,000 sq. ft.
Perennial Grass & Legume, fertilizer incorporated	5-10-10	18-23 Lbs./1,000 sq. ft	92 Lbs./1,000 sq. ft.
Perennial Grasses with or without Legumes, fertilizer **NOT** incorporated	10-10-10	10 Lbs./1,000 sq. ft	46 Lbs./1,000 sq. ft.
Temporary Cover, fertilizer **NOT** incorporated	10-10-10	12-16 Lbs./1,000 sq. ft	92 Lbs./1,000 sq. ft.
Tree, Shrub & Vines in close-spaced mass	Incorporate 3-5 lbs of 5-10-10 fertilizer and well rotted leaf compost into soil's top 4-6 inches.		

plantings	Blend needed fertilizer, organic material with soil removed from each hole or furrow.
Tree, Shrub & Vines in mass plantings on 3:1 or steeper slope	Only cultivate the soil in contour rows, or dig single holes for each plant. Blend 1/4 cup 5-10-10 fertilizer with soil removed from each hole or furrow and well rotted compost equal to half the volume of soil removed. If the soil on the slope is not suitable for plant growth, batch blend a 2:1 mixture of sandy loam soil, well rotted compost, 10 lbs. of 5-10-10 fertilizer and 20 lbs. of lime per cubic yard of soil mix.

- .

Species Selection

- Plant species and their cultivars must be adapted to the site and the intended use. Determine selection of species using:

- Climatic conditions such as annual rainfall, seasonal rainfall patterns, length of growing season, and temperature extremes.

- Soil condition and site position attributes such as soil texture, pH, available water-holding capacity, slope, aspect, soil depth, or restrictive layers, inherent fertility, salinity and alkalinity, drainage class, flooding and ponding, and severe levels of toxic elements that may be present (i.e., selenium, aluminum, etc.).

- Plant resistance to disease and insects common to the site.

- Plant compatibility with other species/cultivars in rate of establishment, maturity, palatability, and growth habit when seeded together.

- A combination of sod forming and rhizomatous species are beneficial with a majority of any one mixture being rhizomatous. Use certified seed and recommended cultivars whenever possible.

Seeding, Seeding Rates and Mixtures

- Seed will comply with the current South Carolina State Seed Law and Regulations. All seed and planting materials shall be labeled and meet State seed quality law standards.

- The planting rates for Critical Area Planting will be double the rates listed in the appropriate practice specification (double the drill rates if the site can be drilled or double the broadcast rates if the site can only be broadcast or hydro-seeded). Refer to the South Carolina Critical Area Planting Appendix, dated January 2012.

- Where legumes are a stand component, the legume should be inoculated with the proper species of Rhizobia bacteria.

- Small grass seed should be planted no deeper than ¼ inch. Large grass seed should be planted no deeper than ½ inch

- All mulch material must be anchored to hold it in place. Packer disks, emulsified asphalt,tackifiers, netting, and other materials can be used to anchor mulch. Refer to the NRCS Field Office Technical Guide for the Mulching Standard (PC 484). Mulch all areas steeper than 3% with straw or hay mulch or other suitable material. Use dry straw or hay that is of good quality and free of weed seeds.

BEFORE STARTING WORK

- Obtain all necessary permits and/or rights, and to comply with all Federal, state, and local laws

pertaining to this installation. The landowner/operator is responsible for locating any buried utilities (water lines, electric lines, telephone lines, sewer lines, etc.) in the work area. NRCS makes no representation of the existence or nonexistence of utilities.

- If manipulation of wetlands or streams may be involved, contact the Corps of Engineers and/or NRCS for a wetland determination/delineation.
- If cost-sharing will be provided for this practice, do not begin construction without NRCS or SWCD approval. Staking or flagging the area may be necessary. Contact NRCS or SWCD prior to starting construction.
- Additional instructions, specifications, material lists, designs, etc. for the establishment of this practice are:
- ☐ attached or
- ☐ will be provided by

OPERATION AND MAINTENANCE

Check new seedings and plantings every few days during the first month to assess progress and apply the needed care (irrigation, reseeding, re-mulching, etc.). Water sod establishments as needed for the first 30 days after placement.

- After the first month, the planting should be inspected within the next several months and at least twice in the establishment year. Initial plant establishment densities of 15−25 plants per square foot for the plant species seeded are desirable. However, judgment should be used when assessing stand adequacy on shallow, drought-prone sites, or sites where other limitations compromise stand establishment. If the stand is uniform but too thin (50 to 80% ground cover), apply additional seed during the next optimum seeding period with a no-till drill, grain drill, or hydro-seeder as site conditions dictate. Sites with an establishment rate of less than fifty percent (50%) should be reseeded in accordance with the original planting plan. Determine the reasons for planting failure and corrective measures should be incorporated into the remedial planting.
- Protect the area from grazing by livestock or other uses until the vegetative cover is established. Overgrazing by livestock or grazing when wet should not be permitted.
- If possible, as a temporary measure on grassed waterways, divert water out of the channel by a temporary diversion above the waterway and by spoil ridges along the sides of the waterway until the seeding is established.
- Fertilize annually according to the plant species and use. Fertilization in the fall will aid in controlling annual grasses.
- Control weeds by mowing or herbicides. When spraying, use herbicides according to the label. Mowing is encouraged during establishment to encourage a dense sod. See NRCS-SC Conservation Practice Standard Pest Management (PC 595).
- Control vehicular traffic so as not to leave depressions or deposits of soil which can result in concentrations of water and formation of gullies. If washouts occur, repair by laying sod or reseeding.
- Avoid removing more than one-third of the leaf surface at any one mowing.

SPECIFICATIONS FOR CRITICAL AREA PLANTING

GRASSES/LEGUMES: Not Applicable

Cover Seeding Type	Check one:	☐ Hydroseed	☐ Hydroseed	☐ Hydroseed
		☐ Conventional/Drilled	☐ Conventional/Drilled	☐ Conventional/Drilled
	Check one:	☐ Temporary cover seeding	☐ Temporary cover seeding	☐ Temporary cover seeding
		☐ Permanent	☐ Permanent	☐ Permanent
Specifications		**Field**	**Field**	**Field**
Site Slope[1]				
Seedbed Preparation Method[2]				
Seedbed Preparation Date				
Selected Species #1				
Species #1 Rate[3]				
Species #1 Planting Date				
Selected Species #2				
Species #2 Rate[3]				
Species #2 Planting Date				
Selected Species #3				
Species #3 Rate[3]				
Species #3 Planting Date				
Topsoil Salvage[4]				

[1] Indicate the approximate site slope. NOTE: Machinery should only be operated on slopes flatter than 3:1.
[2] List the site/seedbed preparation method to be used: Farm Equipment, Heavy Equipment, Manual, or Other.
[3] Specify seeding rates in quantities of lbs/acre or lbs/1000 ft^2.
[4] Indicate whether topsoil is present and feasible to be salvaged, stockpiled and utilized. NOTE: Topsoil should not be added to slopes steeper than a 2:1 unless good bonding to sub-layer can be achieved.

Note: Inoculate Legumes.

TREE/SHRUB/VINE PLANTING: ☐ Not Applicable.

Plant the following trees and/or shrubs at spacing specified. (See area on Conservation Plan Map)

Area/Field _____

TREE/SHRUB MATERIALS LIST AND PLANTING SPECIFICATIONS Species/Cultivar	Kind of stock	Planting Dates	Distance (ft) between tree/ shrubs in row	Distance (ft) between rows	Estimated tree/shrubs per acre

SODDING: ☐ Not Applicable.

Area/Field _____Sodding Period: _____

Carefully place (specify species type) _____ sod on the prepared seedbed and press into place. Thoroughly soak the sod with water to a depth of 4 inches after placement. Additional anchoring will be required in the following areas _____. Never place sod on frozen soil. Where additional anchoring is needed, anchor the sod with stakes or netting. Use ½" x ¾" x 12" stakes spaced 4 feet apart in each strip of sod and stake each end; or use netting according to the manufacturer's recommendations.

MULCHING: ☐ Not Applicable.

Uniformly mulch all the seeded areas immediately after seeding (or seedbed preparation for a dormant seeding) with _____ or _____ @ _____ tons/acre or _____ lbs/1000 ft^2.

LIME & FERTILZER: ☐ Not Applicable.

Fertilize and Lime according to current soil test(s).
☐ Grasses/Legumes ☐ Trees, Shrubs, & Vines ☐ Sod

Lime and Fertilizer during establishment (Specify rates in quantities of tons/acre or lbs/1000 ft^2) See Table 1, in absence of soil test				
Area/Field	**Lime**	**Nitrogen (N)**	**Phosphate (P_2O_5)**	**Potash (K_2O)**

INSTALLATION OF STRAW BALES OR SILT FENCE TEMPORARY BARRIERS:
(See areas on the Conservation Plan Map) ☐ Not Applicable

The following area(s) shall have temporary straw bale barrier(s) installed. Bales shall be placed on the contour, place on their sides, tight end-to-end. Two wooden stakes (30-36 inches long) shall be driven through each bale and at least 12 inches into the soil. _____

The following area(s) shall have a silt fence installed per the manufacturer's recommendations on the contour.
_____

Remove the temporary barriers after the area to be vegetated is stabilized.