

Best Management Farming Practices for Water Quality Protection

Critical Area Planting (342) Fact Sheet

BMP: Bare soil is covered with vegetation, ditches and banks are protected from concentrated flow, gullies and ditches are stabilized, and erosion is reduced on non-cropped areas. Crop and air quality protected from dust.

NRCS Practice Standard: Critical Area Planting (342)

Use on areas with existing or expected high rates of erosion or degraded sites that usually cannot be stabilized by ordinary conservation treatment and/or management. If left untreated, these areas could be severely damaged by erosion or sedimentation, or could cause significant off-site damage.



Critical Area Planting (NRCS Conservation Practice Code 342)

Definition: Planting vegetation on critically eroding areas that require extraordinary treatment.

Purposes:

- Stabilize areas with existing or expected high rates of soil erosion by water or wind
- Restore degraded sites that cannot be stabilized through normal methods

CONSIDER THIS:

This practice may be used on cuts, fills and disturbed areas, and waterline stabilization for small streams and ponds.

Select species for planting that are suited to current site conditions and intended uses.

Select species that will have the capacity to achieve adequate density and vigor within an appropriate time frame to stabilize the site sufficiently.

When applying straw mulch apply at 1500 lbs/acre at planting, distribute uniformly over seeded area within 48 hours after seeding. Anchor straw using hand tools, rollers, crimpers, disks or similar equipment.

Use certified weed-free straw.

Straw may be anchored by jute, erosion control blankets, plastic or excelsior matting.

Use hydro-mulch planting on steep, inaccessible sites not suitable for straw mulch planting and on other sites when rain is expected 60 days following planting.

Do not use fertilizer when using this practice for water quality purposes.

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Four Common Approaches to Critical Area Planting

Container Planting

Instructions

- Choose plants and planting plan with a professional and according to needs of site.
- When ready to plant, cultivate planting area and remove weeds and stones.
- Dig holes – create holes with vertical, lightly scarified sides. Loosen soil at bottom to depth of 6”
- Partially backfill planting hole with planting mixture consisting of at least 50 percent native soil. Up to 25% sand and manure can be used to amend soil.
- Remove plants from the containers taking care to not disturb the root ball. Set plants in center of pits and adjust so that after settling, the crown of the plant will stand 1-2” above grade.
- Backfill hole with planting mixture. Firmly press down soil to eliminating air pockets, but do not pack. Build a 4” high berm around edge of root ball to form a basin. The bottom of the basin shall be at surrounding finish grade.
- Fill basin with water immediately after planting, take care not to disturb soil or expose plant roots.
- Apply a 2” layer of mulch around each plant. And support 5-gallon and 15-gallon trees by 3 stakes.
- Planting shall not create downward movement of soil on sloping areas.
- For the first 2 growing seasons, plants should be properly irrigated and protected from weeds, pests, and pest free and shall be protected against animal grazing and other hazards.



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Four Common Approaches to Critical Area Planting

Seeding and Straw Mulch

Instructions:

- Roughen seedbed by scarifying, disking, harrowing, or chiseling to a depth of 2- 4 inches. On steep slopes, horizontal indentations left by tracked equipment are acceptable seed beds.
- Drill or broadcast seed (consult with professional for appropriate seed mix) and incorporate into soil up to 1 inch deep.
- Uniformly cover seeded area with new, pesticide-free straw (2 tons per acre) within 48 hours after seeding. If straw is applied by blower, it shall not be chopped in lengths less than 6 inches.
- Anchor the mulch in place by one of the following methods:
 - Use hand tools, mulching rollers, straight serrated disks to tuck straw in at a minimum of 3 " spacing, not to exceed 1' in both directions.
 - Use jute matting (minimum 1 lb/ 10 in² and a maximum opening o f 1" x 1") -- apply matting over mulched area and beyond by at least 1'. If vegetation or structures mark the boundaries, continue the matting into the stable vegetation or structure. Cut matting around objects so it lays flat on the surface. Bury upper end of matting in a trench at least 6 in deep. Overlap sides of rolls by at least 4 in, place uphill roll length over downhill roll length, with overlap of at least 3 ft. Install U-shaped staples perpendicular to the slope and space them ~ 5 ft apart down the sides in the overlap area and center of the roll. Install staples at most 1 ft apart across upper end of each roll and across the overlap area where an uphill and downhill roll meet.

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Hydro-seeding and Tackified Straw

Instructions:

- Roughen seedbed by scarifying, disking, harrowing, or chiseling to a depth of 2- 4 inches. On steep slopes, horizontal indentations left by tracked equipment are acceptable seed beds.
- Create wood mulch-water slurry in which to place seeds (consult with professional to determine appropriate mix). Use wood cellulose fiber that does not contain growth inhibiting factors. Material should have the property to be evenly dispersed and suspended when agitated in water. Material should be dyed with a nontoxic water-soluble green dye. The wood fiber mulch may be derived from recycled wood chips or a combination of recycled newsprint, cardboard, and wood fiber (with at most 50 percent newsprint).
- Continuously mix the slurry and mix for at least five minutes prior to first application. Seed should not remain in slurry longer than 30 minutes; wood fiber should not remain in slurry longer than 2 hours. Apply slurry with hydroseeder such that wood fiber is applied at the rate of 500 pounds per acre. Apply slurry at a continuous and uniform rate that is non-erosive.
- Uniformly cover hydro-seeded area with new, pest-free straw (2 tons per acre) within 48 hours after seeding. If straw is applied by blower, it shall not be chopped in lengths less than 6 inches.
- Anchor the mulch in place by one of the following methods:
 - Hand tools, mulching rollers, straight serrated disks -- the straw shall be tucked in a minimum of 3 in on a spacing not to exceed one foot in both directions.
 - Uniformly cover straw with hydro-mulch within 48 hours following straw applicaiton. Unless otherwise specified on the Practice Requirements sheet, the hydo-mulch shall be wood fiber mulch, a tackifier, and water in the following portions per acre:

Tackifier	Rate	Wood Fiber Mulch	Water
M-Binder	100 lbs	150 lbs	700 gal
Ecotak-SAT	100 lbs	150 lbs	700 gal
Sentinel	100 lbs	500 lbs	2,000 gal
Fish-STIK	60 lb	500 lbs	3,000 gal
Soil Master WR	100 lbs	250 lbs	1,000 gal

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Four Common Approaches to Critical Area Planting

Hydro-seeding and Erosion Control Blankets

Instructions

- Roughen seedbed by scarifying, disking, harrowing, or chiseling to a depth of 2- 4 inches. On steep slopes, horizontal indentations left by tracked equipment are acceptable seed beds.
- Create wood mulch-water slurry in which to place seeds (consult with professional to determine appropriate mix). Use wood cellulose fiber that does not contain growth inhibiting factors. Material should have the property to be evenly dispersed and suspended when agitated in water. Material should be dyed with a nontoxic water-soluble green dye. The wood fiber mulch may be derived from recycled wood chips or a combination of recycled newsprint, cardboard, and wood fiber (with at most 50 percent newsprint).
- Continuously mix the slurry and mix for at least five minutes prior to first application. Seed should not remain in slurry longer than 30 minutes; wood fiber should not remain in slurry longer than 2 hours. Apply slurry with hydroseeder such that wood fiber is applied at the rate of 500 pounds per acre. Apply slurry at a continuous and uniform rate that is non-erosive.
- Distribute erosion control blankets uniformly over the surface of the seeded area within 48 hours of seeding. Start blankets on the backside 3' below the crest of the treated slope and install vertically down the treated slope. Apply so that the netting is on top and the fibers are in contact with the soil. Overlap adjoining blanket edges by at least 4".
- Drive staples vertically into ground with reference to the slope. Apply 4 staples across the start and end of each roll 4" from the starting edge at the slope crest and 2" from the end edge.
- Space staples at 6' intervals down both sides of each roll, 2" from blanket edge. Add staples down the center of each roll at 6' intervals, alternate spacing with side staples.