

NATURAL RESOURCES CONSERVATION SERVICE  
VIRGINIA CONSERVATION PRACTICE STANDARD

**SPOIL SPREADING**

(Ac.)

CODE 572

**DEFINITION**

Disposal of surplus excavated materials.

**PURPOSE**

To dispose of excess soil from construction activities in an environmentally sound manner that minimizes soil erosion, protects water quality and fits with the land use and landscape.

**CONDITIONS WHERE PRACTICE APPLIES**

This practice applies to sites where spoil material is available from the excavation of open channels, ponds or other construction sites.

This practice does not apply if placement of the spoil will reduce the carrying capacity of the floodway.

**CRITERIA**

Plan and design spoil spreading to comply with all federal, state, and local laws and regulations.

Locate spoil spreading areas as close as practical to the excavation area to minimize haul distance. Spread spoil in relatively uniform layers, maintaining positive drainage away from the spoil. Do not spread spoil when the ground or spoil is frozen or excessively wet unless site specific design considerations indicate frozen or wet conditions will not have adverse effects.

Design spoil areas to blend with the landscape and planned land use. Use slopes that are stable and fit the land use. For areas that will be cropped or mowed, use slopes of 4

horizontal to 1 vertical (4:1) or flatter.

Establish vegetation on spoil areas immediately after spreading unless the area will be cropped within 30 days. Use plant species appropriate to the soil, climate conditions and land use. Refer to Virginia NRCS Conservation Practice Standard *Critical Area Planting (Code 342)* for criteria on vegetative establishment.

If spoil spreading is completed at a time of year that is not conducive to the establishment of the desired plant species, utilize temporary erosion control measures immediately and maintain the measures until the site can be successfully vegetated.

Before placing spoil material that has physical or chemical characteristics that prevent the establishment of adequate vegetation, strip topsoil from the spoil area. Use the topsoil or other suitable soil material to cover the spoil with a minimum of 6 inches of soil prior to seeding.

Spoils that are known or suspected to be contaminated with toxic substances must be tested to determine the nature and toxicity of the contamination. This is particularly true of waterborne sediments that drain from industrial or urban areas. Based upon the evaluation, develop a plan to remove and dispose of the spoil in an environmentally sound manner.

**Additional Criteria for Spoil Spreading Along Channels, Canals and Streambanks.**

Choose the location and placement of spoil to avoid the destruction of vegetation in Riparian Zones 1 and 2 as defined in Virginia NRCS Conservation Practice Standards *Riparian Forest Buffer (Code 391)* and *Riparian Herbaceous Cover (Code 390)*.

Conservation practice standards are reviewed periodically and updated if needed. To obtain the current version of this standard, contact your Natural Resources Conservation Service [State Office](#) or visit the [Field Office Technical Guide](#).

Design the placement of spoil so that it does not endanger the stability of the channel. Place the spoil so that it will not immediately fall or erode back into the channel.

If the spoil is used to establish a berm along a channel, design slopes on the channel side not steeper than 3 horizontal to 1 vertical (3:1). On the land side, design slopes not steeper than 4 horizontal to 1 vertical (4:1). Spoil material shall not be used to establish berms within the 100-year floodplain. Berms shall have a minimum top width of 4 feet. The side slopes of a berm that will be mowed shall be 4:1 or flatter. Heights of berms shall not exceed 3 feet above the original ground. Follow the criteria in the Virginia NRCS Conservation Practice Standard *Dike (Code 362)*.

Check the channel capacity with the spoil in place to ensure that channel capacity will not adversely affect upstream drainage.

Design the placement of spoil to provide for the safe passage of surface water that collects on the land side of the spoil into the channel. Where necessary, use pipes, channels or structures to convey runoff into the channel. Refer to Virginia NRCS Conservation Practice Standard *Grade Stabilization Structure (Code 410)* for criteria for structure design.

Where a travel way is needed to facilitate maintenance along the bank of a channel, place and shape the spoil to provide access for maintenance or other activities. Refer to Virginia NRCS Conservation Practice Standard *Access Road (Code 560)* for criteria for the construction of a travel way along the spoil.

## CONSIDERATIONS

Spoil areas need not be waste areas. Spoil areas should blend with the landscape and the land use. Plan the location, slopes and vegetation to benefit the planned land use.

Landscape quality can be improved by the creative placement of spoil material. Spoil material can be used to block undesirable views, deflect or redirect agricultural runoff, wind or snow, or block noise.

Spoil areas with permanent vegetation can provide excellent wildlife habitat. When choosing vegetation for these areas, select native species that will provide food and cover for wildlife.

**NRCS, VA**

**October 2011**

The construction of berms along one or both sides of a channel can affect channel capacity, and out of bank flow. When planning the location of spoil areas, consider how the spoil placement will affect the flow regime of the channel.

## PLANS AND SPECIFICATIONS

Prepare plans and specifications for spoil spreading that describe the requirements for applying the practice according to this standard. Plans and specifications for this practice may be incorporated into the plans and specification for the practice it serves. As a minimum the plans and specifications shall include:

### DESIGN DATA

1. Completed Environmental Evaluation and subsequent requirements.
2. Plan view of site with existing and planned features, including dimensions, distances, etc. as needed.
3. Spoil placement plan, including:
  - a. Lift thickness for spoil placement.
  - b. Typical cross-sections of spoil areas.
  - c. Maximum and/or minimum slopes for spoil area.
  - d. Maximum and/or minimum height of spread spoil above existing ground surface.
  - e. An estimate of quantities.
4. Standard Cover Sheet (VA-SO-100A).
5. Vegetation and/or ground cover requirements.
6. Identification of needed Erosion & Sediment Control measures.
7. Virginia Conservation Practice Specifications (700 Series), including the site specific installation requirements for the spoil spreading.
8. Operation and Maintenance Plan.

### CHECK DATA

1. As-built survey as needed.

2. Adequacy of vegetation and/or ground cover.
3. Complete as-built section of Cover Sheet.

Control undesirable species and/or noxious weeds as necessary.

#### **OPERATION AND MAINTENANCE**

Prepare an operation and maintenance (O&M) plan for the operator. The minimum requirements to be addressed in a written O&M plan are:

Inspection of the spoil areas within six months after spreading and periodically thereafter.

Fill or repair any excessive rills or gullies in the spoil.

Reestablish vegetation as necessary on the repaired areas.

Mow the vegetation as necessary to maintain a dense, vigorous stand.

#### **REFERENCES**

USDA Natural Resources Conservation Service. 2008. Engineering Field Handbook, Chapter 17 Construction and Construction Materials, National Engineering Handbook, 650.17.

USDA-Natural Resources Conservation Service. Electronic Field Office Technical Guide (eFOTG), Section IV [Online]. Available at <http://www.nrcs.usda.gov/technical/eFOTG>.

USDA-Natural Resources Conservation Service. Virginia 700 Series Construction Specifications. [On-line]. Available at <http://www.nrcs.usda.gov/technical/eFOTG>.