

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

ROCK BARRIER

(feet)
CODE 555

DEFINITION

A rock retaining wall constructed across the slope to form and support a bench terrace that will control the flow of water and check erosion on sloping land.

Scope

This standard applies to all rock barriers 6 ft or less in height on land slopes as much as 50 percent.

PURPOSES

To stabilize steeply sloping land so that it can be farmed with a minimum of soil loss.

CONDITIONS WHERE PRACTICE APPLIES

Rock barriers are applicable to land suitable for cultivation where soil depth is adequate for benching and where the effectiveness of less intensive measures for soil and water conservation would be questionable. Suitable natural outlets or satisfactory sites for constructing outlets must be available.

CRITERIA

Grade

The top of the rock barrier may be level or have a grade toward the outlet. Maximum grade shall be 0.5 percent.

Cross slope

The bench between barriers shall have a negative slope from the top of one barrier to the toe of the upslope barrier. Cross slopes shall have a grade of 1.0 to 3.0 percent.

Surface drain

Surface drainage shall be provided by a longitudinal ditch not less than 0.5 ft² in area along the toe of the upslope barrier.

Height

The height of the rock barrier shall not exceed 6 ft.

Base width

The minimum base width shall be 18 in, plus 1.5 in. for each 0.5 ft of height in excess of 2.5 ft. The exposed face of the barrier shall have a batter of 3 in./ft of height.

Vertical interval

Vertical interval between adjacent benches shall not exceed 5 ft.

Horizontal interval

The minimum horizontal distance between barriers shall 10 ft.

CONSIDERATIONS

Water Quantity

1. Effects on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, deep percolation, and ground water recharge.
2. Potential for change in plant growth and transpiration because of changes in the volume of soil water.
3. Effects on downstream flows or aquifers that would affect other water uses.
4. Effects on the volume of downstream flow to prohibit undesirable environmental, social or economic effects.
5. The effect on the water table of the field to ensure that it will provide a suitable rooting depth for anticipated land uses.
6. Potential use for water management.

Water Quality

1. Effects on erosion and the movement of sediment, pathogens, and soluble and sediment-attached substances carried by runoff.
2. Effects of the use and management of nutrients and pesticides on surface and ground water quality.
3. Effects on the visual quality of downstream water resources.
4. Short-term and construction-related effects on this practice on the quality of downstream water.
5. Potential for development of saline seeps or other salinity problems resulting from increased infiltration near restrictive soil layers.
6. Potential for earth moving to uncover or redistribute toxic materials, or low productive soils.
7. Effects on the movement of dissolved substances below the root zone toward ground water.
8. Effects on wetlands or water-related wildlife habitats associated with the practice.

Endangered Species Considerations

Determine if installation of this practice with any others proposed will have any effect on any federal or state listed Rare, Threatened or Endangered species or their habitat. NRCS's objective is to benefit these species and others of concern or at least not have any adverse effect on a listed species. If the Environmental Evaluation indicates the action may adversely affect a listed species or result in adverse modification of habitat of listed species which has been determined to be critical habitat, NRCS will advise the land user of the requirements of the Endangered Species Act and recommend alternative conservation treatments that avoid the adverse effects. Further assistance will be provided only if the landowner selects one of the alternative conservation treatments for installation; or at the request of the landowners, NRCS may initiate consultation with the Fish and Wildlife Service, National Marine Fisheries Service and/or California Department of Fish and Game. If the Environmental Evaluation indicates the action will not affect a listed species or result in adverse modification of critical habitat, consultation generally will not apply and usually would not be initiated. Document any special

considerations for endangered species in the Practice Requirements Worksheet.

PLANS AND SPECIFICATIONS

Plans and specifications for constructing rock barriers shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose.

OPERATION AND MAINTENANCE

An operation and maintenance plan must be prepared by the Designer for use by the owner or other responsible for operating this practice. The plan should provide specific instructions for operating and maintaining the system to insure that it functions properly. It should also provide for periodic inspections and prompt repair or replacement of damage components.