

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD**

**SEDIMENT BASIN**

(No.)

**CODE 350**

**DEFINITION**

A basin constructed to collect and store debris or sediment.

**PURPOSE**

- Preserve the capacity of reservoirs, wetlands, ditches, canals, diversion, waterways, and streams
- Prevent undesirable deposition on bottom lands and developed areas
- Trap sediment originating from construction sites or other disturbed areas
- Reduce or abate pollution by providing basins for deposition and storage of silt, sand, gravel, stone, agricultural waste solids, and other detritus

**CONDITIONS WHERE PRACTICE APPLIES**

This practice applies where physical conditions or land ownership preclude treatment of a sediment source by the installation of erosion-control measures to keep soil and other material in place or where a sediment basin offers the most practical solution to the problem.

**CRITERIA**

Sediment basin design and construction shall comply with all applicable federal, state and local laws and regulations.

State of Colorado Jurisdictional Dams. Jurisdictional dams having a height greater than 10 feet to the spillway crest, or stores more than 100 acre-feet of water, or covers more than 20 acres at the high waterline shall

be approved by the State Engineer of Colorado.

State of Colorado Non-Jurisdictional Dams. Non-Jurisdictional Dams are smaller than jurisdictional dam and a Notice of Intent to Construct a Non-Jurisdictional Dam must be filed 10 days prior to construction. Approval from the Colorado Division Engineer is required for construction.

State of Colorado Erosion Control Dams. Erosion control dams approved with a State of Colorado standard application form cannot exceed 15 feet in height measured vertically from the upstream toe to the emergency spillway crest and the capacity of the reservoir cannot exceed 10 acre-feet. An ungated outlet shall be provided to pass stored water in excess of 2 acre-feet within a 36 hour period. The minimum pipe diameter shall be 12 inches with the inlet placed at or below the 2 acre-feet storage volume level.

The capacity of the sediment basin shall equal the volume of sediment expected to be trapped at the site during the planned useful life of the basin or the improvements it is designed to protect. If it is determined that periodic removal of sediment will be practicable, the capacity may be proportionately reduced.

The design of dams, spillways, and drainage facilities shall be according to NRCS Conservation Practice Standard 378 (Pond), Conservation Practice Standard 410 (Grade Stabilization Structure) or according to the requirements in NRCS TR-60 (Earth Dams and Reservoirs), as appropriate for the class and kind of structure being considered.

Temporary basins having drainage areas of 5 acres or less and a total embankment height of

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

**NRCS, CO  
August 2004**

5 feet or less may be designed according to NRCS Conservation Practice Standard 638 (Water and Sediment Control Basin).

All disturbed areas shall be treated as soon as possible after construction ends to control erosion and prevent excess sediment from leaving the site.

Provisions shall be made for dewatering sediment pools if necessary for safety and vector control.

Fencing and other safety measures shall be installed as necessary to protect the public.

Due consideration shall be given to good visual resource management.

## **CONSIDERATIONS**

Large sediment basins may have an effect on the peak discharge rate from a watershed. Planners should consider this, and take steps to mitigate any potential negative effects this may have on riparian habitat downstream from the structure.

Visual aesthetics may be a concern, especially in urban or suburban areas. To address these concerns, the basin could be designed to blend with the surrounding topography, or plantings could be proposed to screen the view from surrounding homes or buildings.

The nesting success and survival rate of ground-nesting species will increase if mowing is delayed until after the nesting season during operation and maintenance operations.

Using native species for revegetation will increase habitat diversity.

## **PLANS AND SPECIFICATIONS**

Plans and specifications for installing sediment basins shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose.

Provisions for controlling erosion and reducing sediment loss will be included. Specify rates of seed, mulch, and fertilizer, appropriate planting dates, and method(s) of establishment.

## **OPERATION AND MAINTENANCE**

The sediment basin will be inspected after major storms for damage that may affect its function and performance. Any damage will be promptly repaired.

Mow as need to maintain adequate vegetative cover and to prevent the establishment of undesirable species.

The sediment basin shall be cleaned periodically to maintain the capacity.

## **REFERENCES**

USDA-NRCS Technical Release 60, Earth Dams and Reservoirs