NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

CHANNEL STABILIZATION
(ft.)
CODE 584

DEFINITION

Stabilizing the channel of a stream with suitable structures.

SCOPE

This standard applies to the structural work done to control aggradation or degradation in a stream channel. It does not include work done to prevent bank cutting or meander.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to stream channels undergoing damaging aggradation or degradation that cannot be feasibly controlled by clearing or snagging, by the establishment of vegetative protection, or by the installation of upstream water control facilities.

DESIGN CRITERIA

It is recognized that channels may aggrade or degrade during a given storm or over short periods. A channel is considered stable if over long periods the channel bottom remains essentially at the same elevation.

In the design of a channel for stability, consideration shall be given to the following points:

1. The character of the materials comprising the channel bottom.
2. The quantity and character of the sediments entering the reach of channel under consideration. This shall be analyzed on the basis of both present conditions and projected changes caused by changes in land use or land treatment and upstream improvements or structural measures.
3. Streamflow peaks, velocities, and volumes at various flow frequencies.
4. The effects of changes in velocity of the stream produced by the structural measures.

Structures installed to stabilize stream channels shall be designed and installed to meet NRCS standards for the particular structure and type of construction.

PLANNING CONSIDERATIONS

Food Security Act, Swampbuster, and Section 404 of the Clean Water Act provisions must be considered prior to providing assistance on Stream Channel Stabilization.

Water Quantity

1. Stage-discharge and flow velocity relative to the water budget components, geologic materials comprising the stream channel, and objectives of the channel modification.
2. Effects on water tables, soil moisture storage, and rooting depths and transpiration of vegetation.

Water Quality

1. Temporary and long-term effects on erosion and sedimentation.
2. Changes in stream water temperature that may result from the clearing of vegetation or alteration of water sources to the channel.
3. Effects on the visual quality of the water resource.

PLANS AND SPECIFICATIONS

Plans and specifications for stream channel stabilization shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose.

STREAM CHANNEL STABILIZATION SPECIFICATIONS

Measures and Installation methods that enhance fish and wildlife values shall be incorporated as needed and practical. Special attention shall be given to protecting and maintaining key shade, food, and den trees and to stabilizing disturbed areas.

Trees and brush shall be removed in a manner that prevents damage to other trees and property.

Trees, brush, and other materials shall be disposed of in a manner that insures the least detrimental effect on the environment.

Construction operations shall be carried out in such a manner that erosion, air and water pollution are minimized and held within legal limits.

The completed job shall present a workmanlike finish.

The Installation of selected structures will be in accordance with the specifications for that particular practice (grade stabilization structure, structure for water control, sediment basin, etc.).

STREAM CHANNEL STABILIZATION OPERATION AND MAINTENANCE

This stable stream channel was designed and installed to stabilize an eroding channel. The estimated life span of this system is at least 10 years. The life of this system can be assured and usually increased by developing and carrying out a good operation and maintenance program. This practice will require periodic operation and maintenance to maintain satisfactory performance.

Maintain vigorous growth of desirable vegetative coverings. This includes reseeding, fertilization, and controlled application of herbicides when necessary. Periodic mowing may also be needed to control height.

Replace damaged channel lining or bank protection to constructed grade.

If fences are installed, they shall be maintained to provide warning and/or prevent unauthorized human or livestock entry.

Control livestock access and use of unfenced areas.

Remove all foreign debris as quickly as possible.

Repair and revegetate all eroded channel sections.

Eradicate or otherwise remove all rodents or burrowing animals. Immediately repair any damage caused by their activity.

Immediately repair any vandalism, vehicular, or livestock damage.