

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

STREAM 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.

ADDITIONAL CRITERIA

The techniques contained in the second edition of Chapter 16 of the Engineering Field Handbook should be used for stream channel stabilization.

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

Stream channel stabilization will be performed in compliance with the provisions of various regulatory agencies.

Permits or approval of the proposed work may be required from local, state or federal agencies. These permits may include State 401 clean water certification, nationwide or individual permit under section 404 of the Clean Water Act from the Corp. of Eng., and authorization or approval from Georgia Department of Natural Resources, Fish and Wildlife Division. There may be local requirements that must be incorporated into the proposed plans.

PLANNING CONSIDERATIONS

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.

REFERENCES

NRCS National Engineering Handbook Series, Part 650 - Engineering Field Handbook, Chapter 16

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SPECIFICATION

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 and air and water pollution are minimized and held within legal limits.

The completed job shall present a workmanlike finish.

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