

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

Structure for Water Control

(No.)

Code 587

DEFINITION

A structure in a water management system that conveys water, controls the direction or rate of flow, maintains a desired water surface elevation or measures water.

PURPOSE

The practice may be applied as a management component of a water management system to control the stage, discharge, distribution, delivery or direction of water flow.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies wherever a permanent structure is needed as an integral part of a water-control system to serve one or more of the following functions:

- Convey water from one elevation to a lower elevation within, to or from a water conveyance system such as a ditch, channel, canal or pipeline designed to operate under open channel conditions. Typical structures: drops, chutes, turnouts, surface water inlets, head gates, pump boxes and stilling basins.
- Control the elevation of water in drainage or irrigation ditches. Typical structures: checks, flashboard risers and check dams.
- Control the division or measurement of irrigation water. Typical structures: division boxes and water measurement devices.
- Keep trash and debris from entering pipelines. Typical structure: debris screen.
- Control the direction of channel flow resulting from high water or back-flow from flooding. Typical structures: water management gates.
- Control the water table level, remove surface or subsurface water from adjoining land, flood land for frost protection or manage water levels for wildlife or recreation. Typical structures: water level control structures, flashboard risers, pipe drop inlets and box inlets.
- Convey water over, under or along a ditch, canal, road, railroad or other barriers. Typical structures: bridges, culverts, flumes, inverted siphons and long span pipes.
- Modify water flow to provide habitat for fish, wildlife and other aquatic animals. Typical structures: chutes and flashboard risers.
- Provide silt management in ditches or canals. Typical structure: sluice.
- Supplement a resource management system on land where organic waste or commercial fertilizer is applied.
- Create, restore or enhance wetland hydrology.

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service State Office, or download it from the Field Office Technical Guide for your State.

CRITERIA

General Criteria Applicable to All Purposes

Use of this standard will comply with all applicable federal, state, and local laws and regulations.

Vegetation complying with Critical Area Planting standard (code 342) shall be established on all disturbed earth surfaces. Where soil, climate or site specific conditions preclude establishing permanent vegetation, other protective means such as mulches or gravels, shall be used.

The structure shall be fenced, if necessary, to protect the vegetation.

Structures shall not be installed that have an adverse effect on septic filter fields.

The water level upstream of water control structures shall not be raised on adjacent landowners without their written permission.

Care must be used to protect the surrounding visual resources.

If watercourse fisheries are important, special precautions or design features may be needed to facilitate continuation of fish migrations.

CONSIDERATIONS

When planning, designing, and installing this practice, consider the following:

- Effects on downstream flows or aquifers that would affect other water uses or users.
- Effects on the field water table to ensure that it will provide a suitable rooting depth for the anticipated crop.
- Potential use for irrigation management to conserve water.
- Effects on the movement of dissolved substances below the root zone and to ground water.

- Short term and construction-related effects of this practice on the quality of downstream water.
- Effects on wetlands or water-related wildlife habitats.
- Effects on the turbidity of downstream water resources.

PLANS AND SPECIFICATIONS

Plans and specifications will be prepared for the practice site. Plans will include the following for each structure:

- Location
- Grades
- Quantities
- Dimensions
- Materials
- Hydraulic and structural requirements

OPERATION AND MAINTENANCE

An operation and management plan shall be provided to and reviewed with the land manager. The plan shall be site specific and include but not be limited to the following:

- Structures will be checked and necessary maintenance, including removal of debris, shall be performed after major storms and at least semi-annually. Water level management and timing shall be adequately described wherever applicable.
- Do not graze protected areas around the structure without a grazing plan.
- Fertilize to maintain a vigorous vegetative cover. Use caution in applying fertilizer to prevent degradation of water quality.