

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD**

**SURFACE DRAINAGE, FIELD DITCH**

(ft.)  
CODE 607

**DEFINITION**

A graded ditch for collecting excess water in a field.

**PURPOSE**

Collect or intercept:

Excess surface water, such as sheet flow from natural and graded land surfaces or channel flow from furrows, and carry it to an outlet;

Excess subsurface water and carry it to an outlet.

**CONDITIONS WHERE PRACTICE APPLIES**

Applicable sites are flat or nearly flat and:

Have soils that are slowly permeable (low permeability) or that are shallow over barriers such as rock or clay, which hold or prevent ready percolation of water to a deep stratum.

Have surface depressions or barriers that trap rainfall.

Have insufficient land slope for ready movement of runoff across the surface.

Receive excess runoff or seepage from uplands.

Require the removal of excess irrigation water.

Require control of the water table.

Have adequate outlets available for disposal of drainage water by gravity flow or pumping.

**CRITERIA**

**Laws and Regulations.** This practice must conform to all federal, state, and local laws and regulations. Laws and regulations of particular concern include those involving drainage and water rights, zoning, land use, pollution control, property easements, wetlands, Waters of the United States, preservation of cultural

resources, and endangered species.

**General.** Drainage field ditches shall be planned as integral parts of a drainage system for the field and shall collect and intercept water and carry it to an appropriate outlet.

**Surveys and Investigations.** The design and installation shall be based on surveys and investigations adequate to clearly accomplish the purpose, and define and locate the system.

**Location.** Ditches should be located and aligned to facilitate efficient farming/ranching operations. Alignment may follow depressions and isolated wet areas of irregular or undulating topography as needed to accomplish the purpose. Avoid excessive cuts and the creation of small irregular fields.

**Design.** The size, depth, side slopes, and cross section area shall:

Be adequate to provide the drainage required to accomplish the purpose.

Where appropriate, permit free entry of water from adjacent land surfaces without causing excessive erosion or wetland drainage.

Provide effective disposal or reuse of excess irrigation water (if applicable).

Conduct flow without causing excessive erosion.

Provide stable side slopes based on soil characteristics.

Permit crossing by field equipment if feasible.

Permit construction and maintenance with available equipment.

Conservation practice standards are reviewed periodically and updated if needed. The current version of this standard is posted on our website at [www.sd.nrcs.usda.gov](http://www.sd.nrcs.usda.gov) or may be obtained at your local Natural Resources Conservation Service.

**Polluted drain Discharge.** Where drain discharge is polluted with fertilizer, agricultural waste or otherwise will not meet Clean Water Act requirements for discharge, drain outflow must be collected and treated, recycled for irrigation or other land application, or otherwise prevented from entering wetlands or Waters of the United States.

### **CONSIDERATIONS**

Where applicable, consider:

Effects on wetlands and water-related wildlife habitats. Wetland areas must not be significantly affected or the impacts must be mitigated. Wetland easement areas must not be disturbed or made dryer without written permission of the easement owner.

Potential impacts on downstream flows or aquifers including impacts on endangered species and water and drainage rights.

Effects of water level control on soil water, downstream water temperature and soil salinity.

Potential water quality impacts including soluble pollutants, sediments and sediment-attached pollutants.

Potential for uncovering or redistributing toxic materials.

Impacts on cultural resources

The need for riparian buffers, filter strips and fencing.

Effects on water budget components, especially the relationships between runoff and infiltration.

### **PLANS AND SPECIFICATIONS**

Plans and specifications for constructing drainage field ditches shall meet this standard and include requirements needed to achieve its purpose.

### **OPERATION AND MAINTENANCE (O&M)**

A site-specific O&M plan shall be provided to and reviewed with the owner/operator before the practice is installed.

The plan shall adequately guide the owner/operator in the routine maintenance and operational needs of the ditches. The plan shall also include guidance on periodic and post-storm inspections to detect and repair damage to the ditches.