

NATURAL RESOURCES CONSERVATION SERVICE
ILLINOIS URBAN MANUAL
PRACTICE STANDARD

TEMPORARY DIVERSION

(ft.)
CODE 955



(Source: VA Erosion and Sediment Control Handbook)

DEFINITION

A temporary ridge or excavated channel or combination ridge and channel constructed across sloping land on a predetermined grade.

PURPOSE

The purpose of this practice is to protect work areas from upslope runoff and to divert sediment-laden water to an appropriate sediment trapping facility or stabilized outlet.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to construction areas where runoff can be diverted and disposed of properly to control erosion, sedimentation, or flood damage. Specific locations and conditions include:

1. Above disturbed existing slopes, and above cut or fill slopes to prevent runoff over the slope;
2. Across unprotected slopes, as slope breaks, to reduce slope length;

3. Below slopes to divert excess runoff to stabilized outlets;
4. Where needed to divert sediment-laden water to sediment traps such as practice standard IMPOUNDMENT STRUCTURE-ROUTED 842;
5. At or near the perimeter of the construction area to keep sediment from leaving the site;
6. Above disturbed areas before stabilization to prevent erosion and maintain acceptable working conditions.
7. Temporary diversions may also serve as sediment traps when the site has been overexcavated on a flat grade. They may also be used in conjunction with a silt fence, practice standard SILT FENCE 920.
8. Where active construction activities make the use of a permanent practice standard DIVERSION 815 unfeasible.

CRITERIA

Temporary diversions must be planned to be stable throughout their useful life and to meet the criteria given below.

Those not meeting the criteria stated below will be designed as permanent diversions. See practice standard DIVERSION 815.

1. Drainage area will not exceed three acres.
2. The minimum cross section will be as follows:

Top Width (ft.)	Height (ft.)	Side Slopes
0	1.5	4:1
4	1.5	2:1

3. The grade may be variable depending upon the topography and must have a positive grade to the outlet. The maximum channel grade will be limited to 1.0 percent.
4. The maximum spacing of diversions on side slopes or graded rights-of-way will be no greater than the following:

Land Slope (%)	Maximum Spacing (ft.)
1 or less	300
2 – 3	200
3 – 5	150
5 or greater	100

5. Diverted runoff will outlet onto a stabilized area, into a properly designed waterway, grade stabilization structure or sediment trapping facility.
6. Diversions that are to serve longer than 30 working days shall be seeded and mulched meeting the requirements in practice standards TEMPORARY SEEDING 965 and MULCHING 875 as soon as they are constructed to preserve dike height and reduce maintenance.

7. The channel cross section may be parabolic, v-shaped or trapezoidal.

CONSIDERATIONS

It is important that diversions are properly designed, constructed and maintained since they concentrate water flow and increase erosion potential. Particular care must be taken in planning diversion grades. Too much slope can result in erosion in the diversion channel or at the outlet. A change of slope from steeper grade to flatter may cause deposition to occur. The deposition reduces carrying capacity and may cause overtopping and failure.

Frequent inspection and timely maintenance are essential to the proper functioning of diversions. Sufficient area must be available to construct and properly maintain diversions.

It is usually less costly to excavate a channel and form a ridge or dike on the downhill side with the spoil than to build diversions by other methods. Where space is limited, it may be necessary to build the ridge by hauling in diking material or using a silt fence to divert the flow. Use gravel to armor the diversion dike where vehicles must cross frequently.

Temporary diversions may serve as in-place sediment traps if overexcavated 1 to 2 feet and placed on a nearly flat grade. The dike serves to divert water as the stage increases. A combination silt fence and channel in which fill from the channel is used to stabilize the fence can trap sediment and divert runoff simultaneously.

Wherever feasible, build and stabilize diversions and outlets before initiating other land-disturbing activities. Construction of diversions will be in compliance with Illinois drainage laws.

PLANS AND SPECIFICATIONS

Plans and specifications for installing temporary diversions shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. At a minimum include the following items:

1. Diversion location.
2. Channel grade.
3. Diversion cross-sections.
4. Seeding and fertility rates.

All plans shall include the installation, inspection, and maintenance schedules with the responsible party identified.

Construction of the diversion shall meet the requirements as listed in the construction specification 27 DIVERSIONS AND WATERWAYS; standard drawing IL-655 TEMPORARY DIVERSION PLAN may be used as the plan sheet.

OPERATION AND MAINTENANCE

Inspect temporary diversions once a week and after every rainfall. Immediately remove sediment from the flow area and repair the diversion ridge. Carefully check outlets and make timely repairs as needed. When the area protected is permanently stabilized, remove the ridge and the channel to blend with the natural ground level and appropriately stabilize it.

NRCS IL August 1994

urbst955.doc