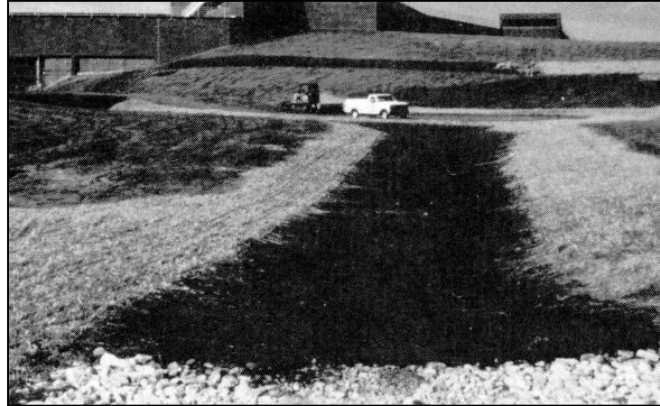


NATURAL RESOURCES CONSERVATION SERVICE
ILLINOIS URBAN MANUAL
PRACTICE STANDARD

TEMPORARY SWALE

(ft.)
CODE 980



(Source: MN Protecting Water Quality in Urban Areas)

DEFINITION

A temporary excavated drainageway.

PURPOSE

The purposes of this practice are to prevent runoff from entering disturbed areas by intercepting and diverting it to a stabilized outlet and to intercept sediment-laden water in disturbed areas and divert it to a sediment-trapping device.

CONDITIONS WHERE PRACTICE APPLIES

Temporary swales are constructed:

1. To divert flows from entering a disturbed area.
2. Intermediately across disturbed areas to shorten overland flow distances.
3. To direct sediment-laden water along the base of slopes to a sediment trapping device.
4. To transport off-site flows across disturbed areas such as rights-of-way.

This standard applies to swales draining 10 acres or less. For drainage areas larger than 10 acres, refer to the practice standard GRASS-LINED CHANNEL 840.

CRITERIA

The channel cross section shall be designed using the criteria in Table 1.

Stabilization of the swale shall be completed within 10 days of installation in accordance with the practice standards TEMPORARY SEEDING 965, PERMANENT VEGETATION 880, MULCHING 875, EROSION BLANKET 830.

The flow channel shall be stabilized using the criteria in Table 2.

All stone or concrete linings will be placed on geotextile fabric meeting the requirements in material specification 592 GEOTEXTILE Table 1 or 2, class I, II, or IV. In highly erodible soils refer to the next higher slope grade for type of stabilization. Recycled Concrete Equivalent shall be concrete broken to

the required size, and shall contain no steel reinforcement.

In areas where the drainage area is undisturbed, the swale shall have an outlet that functions without erosion, and dissipates runoff velocity prior to discharge off the site. Examples of stable outlets include LEVEL SPREADER 870 and ROCK OUTLET PROTECTION 910.

In areas where the drainage area is disturbed, runoff shall be conveyed to a sediment trapping facility until the drainage area above the swale is adequately stabilized. Examples of appropriate sediment trapping facilities include practice standards IMPOUNDMENT STRUCTURE - ROUTED 842 or TEMPORARY SEDIMENT TRAP 960.

CONSIDERATIONS

The on-site location may need to be adjusted to meet field conditions in order to utilize the most suitable outlet condition.

If the temporary swale is used to divert flows from entering a disturbed area, a sediment-trapping device may not be needed.

PLANS AND SPECIFICATIONS

Plans and specifications for installing temporary swales 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. Location where the practice is to be installed.
2. Cross-section and grade of channel.

3. Type of stabilization treatment and materials to be used.

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

Standard drawings IL-680R TEMPORARY ROCK SWALE PLAN or IL-680V TEMPORARY VEGETATED SWALE PLAN may be used as the plan sheet.

OPERATION AND MAINTENANCE

Vegetated swale channels should be inspected regularly to check for points of scour, bank failure or inadequate vegetative cover; rubbish or channel obstruction; rodent holes or excessive wear from pedestrian or construction traffic.

Swales collecting runoff from disturbed areas shall remain in place until the disturbed areas are permanently stabilized.

Lined swale channels should be checked regularly for deterioration from freezing, salt or chemicals; scour or undermining at the inlet and outlet; or points of sediment deposition.

Any needed repairs shall be made promptly.

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TABLE 1
CHANNEL CROSS SECTION REQUIREMENTS

	A	B
Drainage area	< 5 acres	5 – 10 acres
Bottom width flow channel	4 feet	6 feet
Depth of flow channel	1 foot	1 foot
Side slopes	2:1 or flatter	2:1 or flatter
Grade	0.5% minimum	0.5% minimum

TABLE 2
CHANNEL STABILIZATION REQUIREMENTS

Type of Treatment	Channel Grade (%)	A < 5 acres	B 5 – 10 acres
1	0.5 – 3.0	Seed & straw mulch	Seed & straw mulch
2	3.1 – 5.0	Seed & straw mulch	Seed & cover w/ jute or excelsior; sod; or line with IDOT CA-2 or CA-3 coarse aggregate
3	5.1 – 8.0	Seed & cover w/ jute or excelsior; sod; or line with IDOT CA-2 or CA-3 coarse aggregate	Line with IDOT RR-3 rock
4	8.1 – 20.0	Line with IDOT RR-3 rock	Engineering design