

Construction Site Diversion (1066)

Wisconsin Department of Natural Resources
Technical Standard

I. Definition

A *temporary*¹ berm or channel constructed across a slope to collect and divert runoff.

II. Purpose

To intercept, divert, and safely convey runoff at construction sites in order to divert clean water away from disturbed areas, or redirect sediment laden waters to an appropriate sediment control facility.

III. Conditions Where Practice Applies

- A. This practice is applicable to construction sites where temporary surface water runoff control or management is needed. Locations and conditions include:
1. Above disturbed areas, to limit runoff onto the site.
 2. Across slopes to reduce slope length.
 3. Below slopes to divert excess runoff to stabilized outlets.
 4. To divert sediment-laden water to sediment control facilities.
 5. At or near the perimeter of the construction area to keep sediment from leaving the site.
- B. This standard does not pertain to permanent diversions. Refer to appropriate design criteria and local regulations when designing permanent diversions.

IV. Federal, State, and Local Laws

Users of this standard shall be aware of applicable federal, state, and local laws, rules, regulations, or permit requirements governing the use and placement of this practice. This standard does not contain the text of federal, state, or local laws.

V. Criteria

- A. The diversion shall have stable side slopes and shall not be overtopped during a 2-year frequency, 24-hour duration storm. The minimum berm cross section shall be as follows:
1. Side slopes of 2:1 (horizontal:vertical) or flatter.
 2. Top width of two feet.
 3. Berm height of 1.5 feet.
- B. Sediment-laden runoff from disturbed areas shall be diverted into a sediment control practice. For typical sediment control practices see WDNR Technical Standards Sediment Trap (1063) or Sediment Basin (1065) for design criteria.
- C. When diverting clean water the diversion channel and its outfall shall be immediately *stabilized* for the 2-year frequency, 24-hour duration storm. Build and stabilize clean water diversions before initiating down slope land-disturbing activities.
- D. Diversions shall be protected from damage by construction activities. At all points where diversion berms or channels will be crossed by construction equipment, the diversion shall be stabilized or shaped appropriately. Temporary culverts of adequate capacity may be used.
- E. For diversions that are to serve longer than 30 days, the side slopes including the ridge, and down slope side the diversion shall be stabilized as soon as they are constructed. The diversion channel should be stabilized (i.e. erosion mat) or a larger sediment control practice shall be needed. For diversions serving less than 30 days, the

¹ Words in the standard that are shown in italics are described in IX. Definitions. The words are italicized the first time they are used in the text. Definitions apply to concepts found in this document and may not apply in other situations.

down slope side of the diversion shall be stabilized as soon as constructed.

diversion berm. Properly dispose of any sediment removed from the diversion.

VI. Considerations

- A. The channel cross section may be parabolic, v-shaped or trapezoidal. The use of "V" channels is generally discouraged due to potential erosion problems.
- B. Ditch checks may be used to enhance sediment removal. Ditch checks shall be designed in accordance with WDNR Technical Standard Ditch Check (1062).
- C. For diversion berms consider designing an emergency overflow section or bypass area to limit damage from storms that exceed the 2-year frequency 24-hour duration storm. The overflow section may be designed as a stabilized weir with riprap protection.

- D. Diversions shall be removed and the area stabilized according to construction plans.

IX. Definitions

Temporary (I): an erosion control measure that is utilized during construction and grading operations prior to final stabilization.

Stabilized (V.C): means protecting exposed soil from erosion.

VII. Plans and Specifications

- A. Plans and specifications for installing diversions shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. The plans and specifications shall address the following:
 - 1. Diversion location.
 - 2. Channel grade or elevations.
 - 3. Typical cross section.
 - 4. Channel stabilization if required.
- B. All plans, standard detail drawings, or specifications shall include schedule for installation, inspection, and maintenance. The responsible party shall be identified.

VIII. Operation and Maintenance

- A. Diversions shall, at a minimum, be inspected weekly and within 24 hours after every precipitation event that produces 0.5 inches of rain or more during a 24-hour period.
- B. Maintenance shall be completed as soon as possible with consideration to site conditions.
- C. Accumulated sediment shall be removed when it reaches one half the height of the