



Designation: D6462 – 19

## Standard Practice for Silt Fence Installation and Maintenance<sup>1</sup>

This standard is issued under the fixed designation D6462; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reappraisal. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reappraisal.

### 1. Scope

1.1 This practice covers common installation and maintenance procedures for temporary silt fence applications. This practice is based on AASHTO M288.

1.2 This practice is applicable to the use of silt fence as a vertical permeable interceptor designed to remove suspended soil from overland, non-concentrated water flow. The function of a temporary silt fence is to trap and allow settlement of soil particles from sediment laden water by intercepting and impounding water in an effort to slow the transport velocity and provide storage for sediment to be captured. The purpose is to greatly limit the transport of eroded soil from the construction site by water runoff.

1.3 The practices presented herein are intended to ensure good workmanship and quality, but do not necessarily apply to the concentrated flow applications.

1.4 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents, therefore each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

1.5 *This practice offers an organized collection of information or a series of options and does not recommend a specific course of action. This document cannot replace education or experience and should be used in conjunction with professional judgment. Not all aspects of this guide may be applicable in all circumstances. This ASTM standard is not intended to represent or replace the standard of care by which the adequacy of a given professional service must be judged, nor should this document be applied without consideration of a project's many unique aspects. The word "Standard" in the title of this document means only that the document has been approved through the ASTM consensus process.*

<sup>1</sup> This practice is under the jurisdiction of ASTM Committee D18 on Soil and Rock and is the direct responsibility of Subcommittee D18.25 on Erosion and Sediment Control Technology.

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1.6 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.7 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

### 2. Referenced Documents

#### 2.1 ASTM Standards:<sup>2</sup>

D653 Terminology Relating to Soil, Rock, and Contained Fluids

D3740 Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction

D4632/D4632M Test Method for Grab Breaking Load and Elongation of Geotextiles

D6461/D6461M Specifications for Silt Fence Materials

#### 2.2 AASHTO Standard:<sup>3</sup>

M288 Standard Specification for Geotextile Specification for Highway Applications

### 3. Terminology

3.1 For definitions of terms used in this practice, see Terminology D653.

### 4. Significance and Use

4.1 Proper installation is critical to effective performance of silt fence. This practice presents procedures for installing and maintaining silt fence that have been shown to result in silt fence installations that effectively redirect and impound surface runoff and, thereby, provide effective sediment control.

<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

<sup>3</sup> Available from American Association of State Highway and Transportation Officials (AASHTO), 444 N. Capitol St., NW, Suite 249, Washington, DC 20001, <http://www.transportation.org>.

NOTE 1—The quality of the result produced by this standard is dependent on the competence of the personnel performing it, and the suitability of the equipment and facilities used. Agencies that meet the criteria of Practice D3740 are generally considered capable of competent and objective testing/sampling/inspection/etc. Users of this standard are cautioned that compliance with Practice D3740 does not in itself assure reliable results. Reliable results depend on many factors; Practice D3740 provides a means of evaluating some of those factors

5. Controlling Material Specifications

5.1 All materials used for temporary silt fence shall conform with the specification requirements of ASTM Specification D6461/D6461M unless otherwise specified.

6. Certification

6.1 The contractor shall provide to the engineer a certificate of compliance from the supplier(s) of the silt fence.

7. Sampling, Testing, and Acceptance

7.1 Silt fence materials shall be subject to sampling and testing to verify conformance with the controlling material specification.

8. Silt Fence Installation and Maintenance

8.1 Materials—Silt fence materials shall conform to the requirements of Section 5. Unless otherwise specified, the silt fence installation shall conform to the following:

8.1.1 The geotextile used for temporary silt fence must be supported by posts, and may or may not be supported between posts with wire or polymeric mesh.

8.1.2 As a general rule, the minimum height above ground for all silt fence should be 450 mm (18 in.) and a maximum of 750 mm (30 in.), see Note 2 discussing the maximum height above ground.

NOTE 2—The recommended maximum height of 30 in. (750 mm) is designed to trap the flowing sediment without creating a serious downstream flooding problem if the silt fence experienced a total rupture. In addition, the maximum silt fence height must take into account the environmental conditions of the area of installation to, for example, avoid a situation where the silt fence could cause the level of the retained water to rise to a level that would flood an adjacent structure. In that situation, it would be necessary to use a lower height silt fence above ground and consideration should be given to using multiple properly spaced silt fences

to slow the velocity of the water flow and provide for additional silt collection without the risk of harmful flooding.

8.1.3 Maximum post spacing shall be based on the fabric support (wire or polymeric mesh) or, if unsupported, on elongation as measured in accordance with Test Method D4632/D4632M. Supported silt fence shall have a maximum post spacing of 3.0 m (10 ft). Unsupported silt fence with elongation ≥50 % shall also have a maximum post spacing of 1.2 m (4 ft). Unsupported silt fence with elongation <50 % shall have a maximum post spacing of 2.0 m (6.5 ft).

8.1.4 When using shorter silt fences, wood, steel, or synthetic support posts having a minimum length of 0.9 m (3 ft) may be used; however, in most cases a minimum 1.22 m (4 ft) T Post or hardwood stakes would be recommended. The height of the silt fence fabric would be the determining factor. The posts shall have sufficient strength to resist damage during installation and to support the applied loads due to material build up behind the silt fence.

NOTE 3—See D6461/D6461M for recommended wood post dimensions or steel post requirements.

8.1.5 Wire or polymer support fence shall be at least 750 mm (2.5 ft) high and strong enough to support applied loads. Polymer support fences shall meet the same ultraviolet degradation requirements as the geotextile. Wire or polymeric mesh support height should be adjusted when site conditions require the fence height to be adjusted.

NOTE 4—Wire support fence having at least six horizontal wires, and being at least 14 gauge wire have performed satisfactorily. Vertical wires should be a maximum of 6 in. (150 mm) apart.

8.2 Construction:

8.2.1 Trench Construction—The bottom of the silt fence geotextile shall be buried in a “J” configuration to a minimum depth of 150 mm (6 in.) in a trench so that no flow can pass under the silt fence. Backfill the trench and compact the soil over the geotextile so that the compacted soil completely fills the trench. (See Fig. 1.)

8.2.2 Soil Slicing Construction—Insert the geotextile in a slit in the soil 0.2 to 0.3 m (8 to 12 in.) deep so that no flow can pass under the silt fence. Create the slit such that a horizontal chisel point (approx. 76 mm/3 in. wide) at the base of a soil

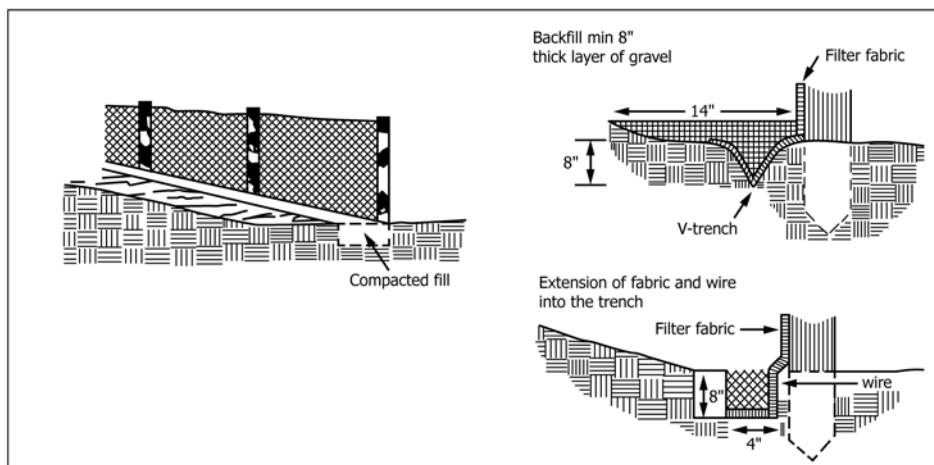


FIG. 1 Typical Silt Fence Installation Detail