



Categories

EC	Erosion Control	<input checked="" type="checkbox"/>
SE	Sediment Control	<input checked="" type="checkbox"/>
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

- Primary Category**
- Secondary Category**

Description and Purpose

Temporary silt dikes are pre-manufactured devices that are typically specified and installed for semi-permanent drainage and sediment control on the perimeter of disturbed sites or stockpiles and as check dams within channels.

Suitable Applications

Temporary silt dikes are generally used in areas as a substitute for fiber rolls and silt fences to slow down runoff water, divert drainage or contain fines and sediment. A temporary silt dike typically consists of a triangular foam or recycled rubber core covered in geotextile fabric. Temporary silt dikes are a linear control and have a variety of profiles (triangular, round, and square). Temporary silt dikes may be suitable for:

- On paved surfaces for perimeter protection.
- As check structures in channels.
- Along the perimeter of disturbed sites in lieu of silt fence.
- At operational storm drains as a form of inlet protection.
- Around temporary stockpiles or material/equipment storage areas.
- At the interface between graveled driveways and pavement.
- Along the toe of exposed and erodible slopes.

Targeted Constituents

Sediment	<input checked="" type="checkbox"/>
Nutrients	
Trash	<input checked="" type="checkbox"/>
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

- SE-1 Silt Fence
- SE-5 Fiber Roll
- SE-6 Gravel Bag Berm
- SE-8 Sandbag Barrier



Limitations

- Temporary silt dikes require additional measures to adhere to asphalt in cold and windy climates, as glue may not adhere adequately to the pavement.
- Temporary silt dikes may not be appropriate for drainage areas greater than 5 acres.
- Runoff will pond upstream of the barrier, possibly causing flooding or bypass if sufficient space does not exist to accommodate ponding.
- Temporary silt dikes may require frequent maintenance especially when used near vehicle traffic or to detain concentrated flows (e.g. check dams or inlet protection).
- When used to detain concentrated flows, maintenance requirements increase.

Implementation

General

When appropriately placed, temporary silt dikes intercept and slow sheet flow runoff, causing temporary ponding. The temporary ponding provides quiescent conditions allowing sediment to settle. The core is porous, which allows the ponded runoff to flow slowly through the silt dike, releasing the runoff as sheet flows. Generally, temporary silt dikes should be used in conjunction with temporary soil stabilization controls up slope to provide effective erosion and sediment control or as a non-stormwater perimeter control.

Design and Layout

- Temporary silt dikes used on soil should be attached to the ground per manufacturer specifications.
- Temporary silt dikes used on asphalt or concrete may be attached using a variety of methods, including nailing the dikes to the pavement, or using a high strength adhesive.
- Follow manufacturer specifications when installing temporary silt dikes.
- Allow sufficient space up slope from the silt dikes to allow ponding, and to provide room for sediment storage.
- For installation near the toe of the slope, temporary silt dike should be set back three feet from the slope toe to facilitate cleaning. Where site conditions do not allow set back, the silt dike may be constructed on the toe of the slope. To prevent flows behind the barrier, bags can be placed perpendicular to a berm to serve as cross barriers.
- Drainage area should not exceed 5 acres.
- Butt ends of temporary silt dike tightly. Overlaps should be sealed in accordance with the manufacturer's detail.

Materials

- Several manufactured products are available.

Costs

- Silt dike averages \$35-45 per 7 ft. section.

Inspection and Maintenance

- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Temporary silt dike exposed to sunlight will need to be replaced more frequently due to photo-degradation.
- Reshape or replace sections of damaged temporary silt dike as needed.
- Repair washouts or other damage as needed.
- Sediment that accumulates behind the BMP should be periodically removed in order to maintain BMP effectiveness. Sediment should be removed when the sediment accumulation reaches one-third of the barrier height.
- Remove temporary silt dikes when no longer needed. Remove sediment accumulation and clean, re-grade, and stabilize the area. Removed sediment should be incorporated in the project or disposed of properly.

References

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Erosion and Sediment Control Manual, Oregon Department of Environmental Quality, February 2005.