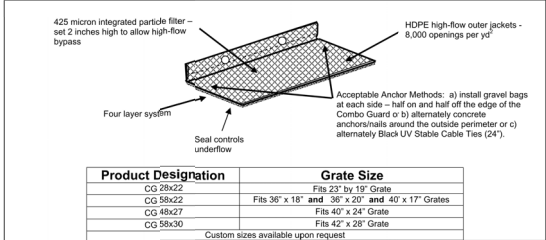


SWPPP Binder Insert - Curb & Grate Inlet Protection
ERTEC Combo Guard™



Definition – ERTEC Combo Guard
A temporary sediment filter made of high density polyethylene with an integrated filter. During construction, place device over the grate and curb opening of the drain inlet near disturbed soil. Anchor with 2 Gravel Bags, or alternately 2 ERTEC GR-8 Hooks™ or alternately concrete anchors/nails or alternately black UV stable cable ties (24 to 36").

Purpose
Storm drain inlet protection is used to intercept sediment laden water at the curb and grate opening and prevent the sediment, associated pollutants and debris from entering the storm water underground pipe systems. The system reduces water velocity which causes heavier soil particles to be deposited above ground. While allowing flow through the module, the barrier filters certain smaller sized particles from suspension and prevents them from flowing through the device and into the pipes. Heavy flows are passed over the top of the filter. Advantages are that it is effective, durable, re-usable, easily installed and cleaned.

Conditions Where the Practice Applies
It is recommended for use over curb & grate openings with small drainage areas. Generally, the drainage areas should be less than 1/3 acre and the total for inlets in series should be 1 acre or less with slopes flatter than 5 percent in the contributing drainage area.

Design Criteria

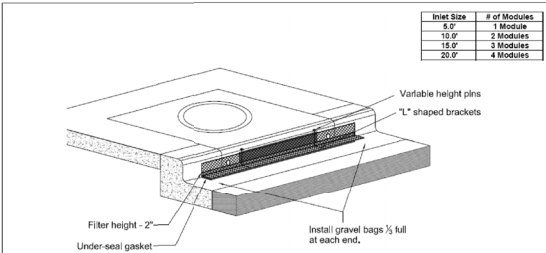
- Geo-textile Filter: Apparent Opening Size (AOS) = 425 micron integrated particle filter. Flow rate (ASTM D-4491) = 145 gpm/ft². Provide a bypass over the top.
- Outer Jacket Material: HDPE. For detailed characteristics contact ERTEC. Module weight = 3 to 5 lbs. Module height = 6.0". Module length/opening size protected varies as per the chart above – according to grate size. Service temperature (deg F) = -30 to 160.
- Install system with the vertical section covering the curb inlet and the horizontal section covering the grate. Alternate anchor methods listed above. If using Gravel Bags - place small gravel bags containing clean, pea-sized graded gravel on each end of the curb and butt the bags tightly against the curb to keep water in the gutter from flowing behind the filter (do not use sandbags). The porosity of the gravel bag should allow for design flow rate through the bag. The bag should be durable enough to last the period of intended use. If the storm inlet opening exceeds 5.0' in length, overlap one module by 6" over side of adjoining module for a continuous run until the desired length is achieved. Anchor thru the overlap as necessary.

Maintenance
Perform maintenance as required. Inspect following rainfall events and at least daily during prolonged rainfall. Maintain to provide an adequate sediment holding capacity. Debris shall be removed daily and sediment shall be removed when the sediment accumulation reaches 2 inches. Removed sediment shall be incorporated in the project at designated locations or disposed-of outside the project or in conformance with requirements. Remove the device after final stabilization has been achieved.

H400032 Updated: 8/11

A2-40

SWPPP Binder Insert - Curb Inlet Protection
ERTEC Curb Inlet Guard™



Definition – ERTEC Curb Inlet Guard
A temporary sediment barrier, "L" shaped, made of high density polyethylene (HDPE) with an integrated filter (woven geotextile). During construction, place device over the opening of the curb storm inlet near where soil is disturbed (See drawings).

Purpose
Storm drain inlet protection is used to intercept sediment laden water at the curb gutter opening and prevent sediment, debris and associated pollutants from entering the storm water underground pipe systems. The barrier reduces water velocity which in turn causes heavier soil particles to be deposited in front. While allowing flow through the module, the barrier filters certain smaller sized particles from suspension and prevents them from flowing through the device and into the pipes. Excessive flows are passed over the top of the filter. Advantages are that it is effective, durable, re-usable, easily installed and cleaned.

Conditions Where the Practice Applies
It is recommended for use in curb openings in front of areas with small drainage areas. Generally, the drainage areas should be less than 1/3 acre and the total for inlets in series should be 1 acre or less with slopes flatter than 5 percent in the contributing drainage area.

Design Criteria

- Geo-textile Filter: See drawing for dimensions. Apparent Opening Size (AOS) = 425 micron integrated particle filter. Flow rate (ASTM D-4491) = 145 gpm/ft². Provide a bypass over the top.
- Outer Jacket Material: HDPE. For detailed characteristics contact ERTEC. Module weight = 3.5 lbs. Module height = 7.5". Module length/opening size protected = 6' 3"x6.6 ft. Service temperature (deg F) = -30 to 160.
- Install barrier with the anchor flap facing upstream toward the street. Place small gravel bags containing clean, pea-sized graded gravel on each end of the flap and butt the bags tightly against the curb to keep water in the gutter from flowing behind the filter. Additional bags can be placed on the flap as necessary; however, bags should be kept off the street for safety reasons. The porosity of the gravel bag should allow for design flow rate through the bag. The bag should be durable enough to last the period of intended use. If the storm inlet opening exceeds 5.0' in length, overlap one of module by 6" over end of adjoining module for a continuous run until the desired length is achieved. When overlapping, note the gasket material under the flap is cut-out where the flap of top module sits on flap of bottom module.

Maintenance
Perform maintenance as required. Inspect following rainfall events and at least daily during prolonged rainfall. Maintain to provide an adequate sediment holding capacity. Trash shall be removed daily and sediment shall be removed when the sediment accumulation reaches 1 inch. Removed sediment shall be incorporated in the project at designated locations or disposed-of outside the project or in conformance with requirements. Remove the device after final stabilization has been achieved.

H999222 Updated: 02/10

A2-41

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National Pollutant Discharge Elimination System Manual
Appendix A5 – Good Housekeeping/Materials Management

Revision 2
August 2012

Stabilized Construction Entrance/Exit

DESCRIPTION
A stabilized construction entrance consists of a pad of crushed stone, recycled concrete, or other rock-like material on top of a geotextile filter cloth, which is used to facilitate the washdown and removal of sediment and other debris from construction equipment prior to exiting the site. During the construction phase of a project, regular street sweeping should be performed to remove debris carried from the site.

PRIMARY USE
Stabilized construction entrances are used to reduce offsite sediment tracking from trucks and construction equipment, and for sites where considerable truck traffic occurs each day. They also reduce the need to clean adjacent pavement as often, and help route site traffic through a single point.

APPLICATIONS
As a part to the erosion-control plan required for sites larger than five acres, and recommended for all construction sites.

LIMITATIONS
Selection of the construction entrance location is critical. To be effective, it must be used exclusively. Stabilized entrances are rather expensive, considering that they must be installed in combination with one or more other sediment control techniques. It may be more cost effective, however, than labor-intensive street cleaning.

MAINTENANCE REQUIREMENTS
Inspections should be made on a regular basis and after large storm events in order to ascertain whether or not sediment and pollution are being effectively detained on site. When sediment has substantially clogged the void area between the rocks, the aggregate mat must be washed down or replaced. Periodic re-grading and top dressing with additional stone must be done to keep the efficiency of the entrance from diminishing.

Applications

- Perimeter Control
- Slope Protection
- Sediment Trapping
- Channel Protection
- ✓ Temporary Stabilization
- Permanent Stabilization
- Waste Management
- Housekeeping Practices

Targeted Constituents

- ✓ Sediment
- Nutrients
- Toxic Materials
- Oil and Grease
- Floatable Materials
- Construction Wastes

Impact

- ✓ Significant
- ✓ Medium
- Low
- Unknown or Questionable

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A5-19

National Pollutant Discharge Elimination System Manual
Appendix A3 – Housekeeping Practices

Revision 0
November 2002

Stabilized Construction Entrance/Exit (continued)

DESCRIPTION
A stabilized construction entrance consists of a pad of crushed stone, recycled concrete, or other rock-like material on top of a geotextile filter cloth, which is used to facilitate the washdown and removal of sediment and other debris from construction equipment prior to exiting the site. During the construction phase of a project, regular street sweeping should be performed to remove debris carried from the site.

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Stabilized construction entrances are used to reduce offsite sediment tracking from trucks and construction equipment, and for sites where considerable truck traffic occurs each day. They also reduce the need to clean adjacent pavement as often, and help route site traffic through a single point.

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Applications

- Perimeter Control
- Slope Protection
- Sediment Trapping
- Channel Protection
- ✓ Temporary Stabilization
- Permanent Stabilization
- Waste Management
- Housekeeping Practices

Targeted Constituents

- ✓ Sediment
- Nutrients
- Toxic Materials
- Oil and Grease
- Floatable Materials
- Construction Wastes

Impact

- ✓ Significant
- ✓ Medium
- Low
- Unknown or Questionable

01C11R.DOC

A3-22

National Pollutant Discharge Elimination System Manual
Appendix A2 – Structural Controls

Revision 0
November 2002

Drop Inlet Protection

DESCRIPTION
A variety of drop inlet protection methods are used to intercept sediments at inlets through the use of stone, filter fabric, or other materials.

PRIMARY USE
Drop inlet protection is normally used as a second defense in site erosion control. A backup to onsite systems that have limited effectiveness.

APPLICATIONS

- Filter barrier when site is less than one acre and slope is less than 5%
- Block and gravel are used when flows exceed 0.5 cfs
- Wire mesh and gravel are used where traffic crosses inlet

LIMITATIONS
Ponding will occur at the inlet, with possible flooding as a result. Inlet protection is only viable at low-point inlets. Inlets that are on a slope cannot be effectively protected because storm water will bypass the inlet and continue downstream, causing an overload condition at inlets beyond.

MAINTENANCE REQUIREMENTS
Inspections should be made on a weekly basis, especially after large (>0.5 inches) storm events. When silt fence is used and the fabric becomes clogged, it should be cleaned or, if necessary, replaced. Also, sediment should be removed when it reaches approximately one-half the height of the fence. If a sump is used, sediment should be removed when the volume of the basin is reduced by 50%. For systems using stone filters, when the stone filter becomes clogged with sediment, the stones must be pulled away from the inlet and cleaned or replaced. Since cleaning of gravel at a construction site may be difficult, an alternative approach would be to use the clogged stone as fill material and put new stone around the inlet.

Applications

- Perimeter Control
- Slope Protection
- ✓ Sediment Trapping
- Channel Protection
- Temporary Stabilization
- Permanent Stabilization
- Waste Management
- Housekeeping Practices

Targeted Constituents

- ✓ Sediment
- Nutrients
- Toxic Materials
- Oil and Grease
- ✓ Floatable Materials
- Construction Wastes

Impact

- ✓ Significant
- ✓ Medium
- Low
- Unknown or Questionable

01C11R.DOC

A2-17

National Pollutant Discharge Elimination System Manual
Appendix A2 – Structural Controls

Revision 0
November 2002

Drop Inlet Protection (continued)

DESCRIPTION
A variety of drop inlet protection methods are used to intercept sediments at inlets through the use of stone, filter fabric, or other materials.

PRIMARY USE
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Applications

- Perimeter Control
- Slope Protection
- ✓ Sediment Trapping
- Channel Protection
- Temporary Stabilization
- Permanent Stabilization
- Waste Management
- Housekeeping Practices

Targeted Constituents

- ✓ Sediment
- Nutrients
- Toxic Materials
- Oil and Grease
- ✓ Floatable Materials
- Construction Wastes

Impact

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- ✓ Medium
- Low
- Unknown or Questionable

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A2-18



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ARCHITECT

ENGINEER



CNM SMITH BRASHER
HALL

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DRAWN BY: SLK

REVIEWED BY: MDT

DATE: 12/27/2013

PROJECT NO.

DRAWING NAME

EROSION AND
SEDIMENT CONTROL
DETAILS AND NOTES

SHEET NO.

ESC 104

UP