



Inspections Plus, Inc.

Engineer Stamp

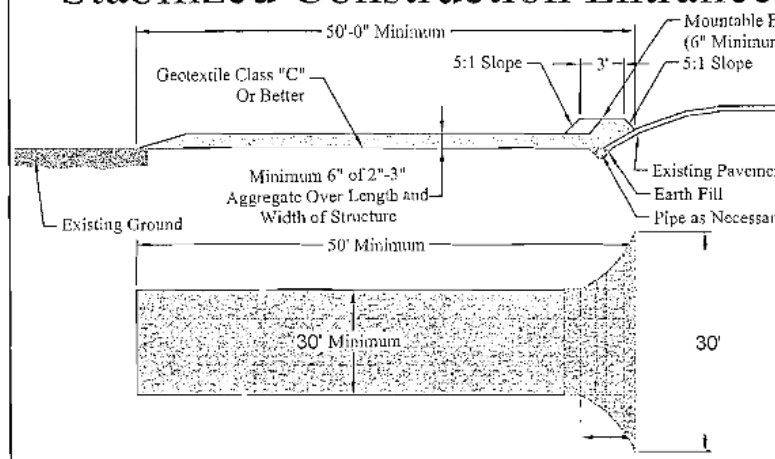


8/16/16

Inspections Plus Inc.
Erosion Control Plan
Standard Details

Project:
Desert Sands Subdivision

Stabilized Construction Entrance



Definition

A stabilized layer of aggregate that is underlain with Geotextile Class "C" (See Standards for Geotextiles).

Stabilized entrances are located at any point where traffic enters or leaves a construction site.

Purpose

The purpose of the stabilized construction entrance is to reduce tracking of sediment onto streets or public right-of-way and provide a usable area for entrance or exit from the construction site.

Conditions Where the Practice Applies

1. Stabilized construction entrances shall be located at points of construction ingress and egress.
2. For single family residences, the entrance should be located in the permanent driveway.
3. Stabilized construction entrances should not be used on existing pavement.

Design Criteria

1. Length - Minimum of 50'-0" (See Standards for Geotextiles).
2. Width - Minimum of 50'-0" (See Standards for Geotextiles).
3. Geotextile Class "C" shall be placed over the existing ground prior to placing stone. The Plus approval authority may not require geotextile fabric for single family residences.
4. Stone-crushed aggregate 2"-3" (See Standards for Geotextiles and Rocks). Recycled concrete equivalent may be used also. The rock should be placed at least 6" deep over the length and width of the entrance.
5. Surface Water - All the surface water flowing to or diverted toward construction entrances shall be placed under the entrance to maintain positive drainage. Pipe installed under the construction entrance shall be protected with a mountable berm. The pipe shall be sized according to the drainage, with the minimum diameter being 12".
6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

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Inlet Filter Installation Instructions:



flow and starts filtering sediment and debris before water drops into the inlet.



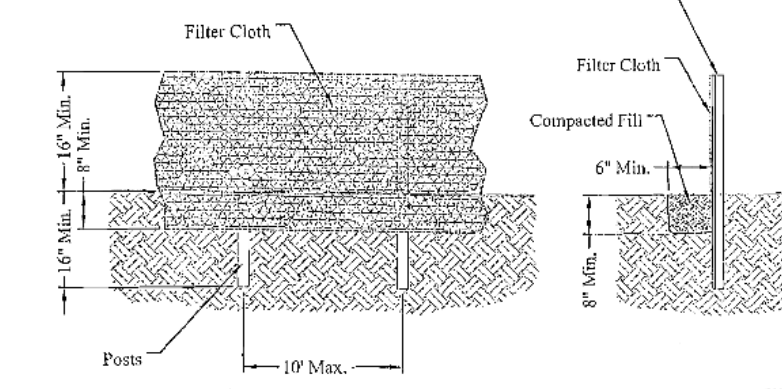
1. Remove sediment, debris, ice and snow from the inlet grate surface and surrounding area.

2. Verify fit by placing filter over inlet grate to ensure that Inlet Filter extends at least one inch beyond the front and both curb ends. The overlap slows water

3. Position the mat. Place Inlet Filter on grate with the net side down, flush to the back edge and extending beyond the grate opening on the front and both sides. The zip ties attach Inlet Filter to the inlet grate cover WITHOUT LIFTING THE GRATE COVER.

4. The filter material covering the inlet can be any material that will prevent the sediment and other foreign matter from entering the storm drain system.

Silt Fence



Definition

A temporary barrier of Geotextile Class "F" used to intercept sediment laden runoff from small drainage areas.

Purpose

The purpose of silt fence is to reduce runoff when velocity and allow the deposition of transported sediment to occur. Limits imposed by ultraviolet light on the stability of the fabric will dictate the maximum period that the silt fence may be used.

1. Silt fence provides a barrier that can collect and hold debris and soil, preventing the material from entering critical areas, streams, ditches, etc.
2. Silt fence can be used where the installation of a dike would destroy sensitive areas, woods, wetlands, etc.

Conditions Where the Practice Applies

Silt Fence is limited to intercepting short flow runoff from limited distances according to slope. It provides filtering and velocity dissipation to promote gravity settling of sediment.

Design Criteria

Wood or Steel Posts may be used in certain instances. Silt fence should be placed as close to the contour as possible. No section of silt fence should exceed a grade of 5 percent for a distance more than 50 feet. Where ends of the geotextile fabric come together, the ends shall be overlapped, folded, and stapled to prevent sediment bypass.

* If wood post are to be used they must meet the following specifications:

1. 1 1/2" X 1 1/2" minimum square post, or 1 1/2" minimum diameter round post

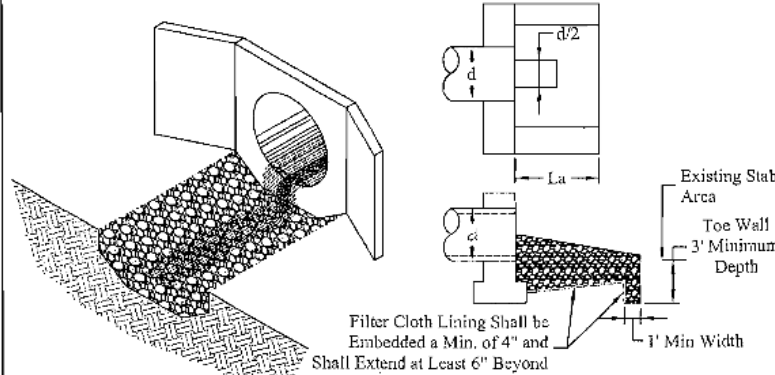
* If metal post are to be used they must be at least 1/2" or 1/2" post weighing not less than 1 lb. per linear foot.

The length of the flow contributing to silt fence shall conform to the following limitations:

Slope (%)	Slope Steepness	Silt Fence Length (ft)	Silt Fence Length (ft)
2	6:50:1	Unlimited	Unlimited
2-10	50:1 to 10:1	125	1,000
10-20	10:1 to 5:1	100	500
20-33	5:1 to 3:1	60	300
33-50	3:1 to 2:1	40	250
50+	> 2:1	20	125

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Rock Outlet Protection



Definition

Rock placed at the outlet of channels or culverts.

Purpose

The purpose of rock outlet protection is to reduce the velocity of flow to non-erosive rates in the receiving channel.

Conditions Where Practice Applies

This practice applies where discharge velocities and energies at the outlets of culverts are sufficient to erode the near downstream reach. This applies to outlets of all types such as sediment basins, storm water management ponds, and road culverts.

Design Criteria

The design method applies to using rock rip-rap and gabions to protect a downstream area. It does not apply to rock lining of channels or streams. Many counties and state agencies have regulations and design procedures established for dimensions, type, and size of materials, and locations where outlet protection is required.

Design Procedures

1. Investigate the downstream channel to ensure that non-erosive velocities can be maintained.
2. Determine the tailwater condition at the outlet.
3. Using the discharge velocity and depth of flow, determine the rip-rap size and apron length required.
4. Calculate apron width at the downstream end if a flared section is to be used.

There are three classifications of rock outlet protection: (1) Discharge to semi-confined section (minimum waterway condition); (2) Discharge to a confined channel section; (3) Discharge to a flat area with no tailwater influence.

The outlet protection may be done using rock rip-rap, or gabions. Rip-rap dimensions are 18", 32", and 48" for Class A, B, and C respectively. The stone shall consist of field stone and jaws quarry stone. The filter is a layer of coarse sand placed between the rip-rap and the underlying soil surface to prevent soil movement into and through the rip-rap.

Rip-rap shall have a filter placed under it in all cases. A filter can be gravel or Geotextile Class "C". Gabions shall be substituted for rock rip-rap. Gabions shall be of single unit construction. Place Gabions under all gabions and follow manufacturer's specifications.

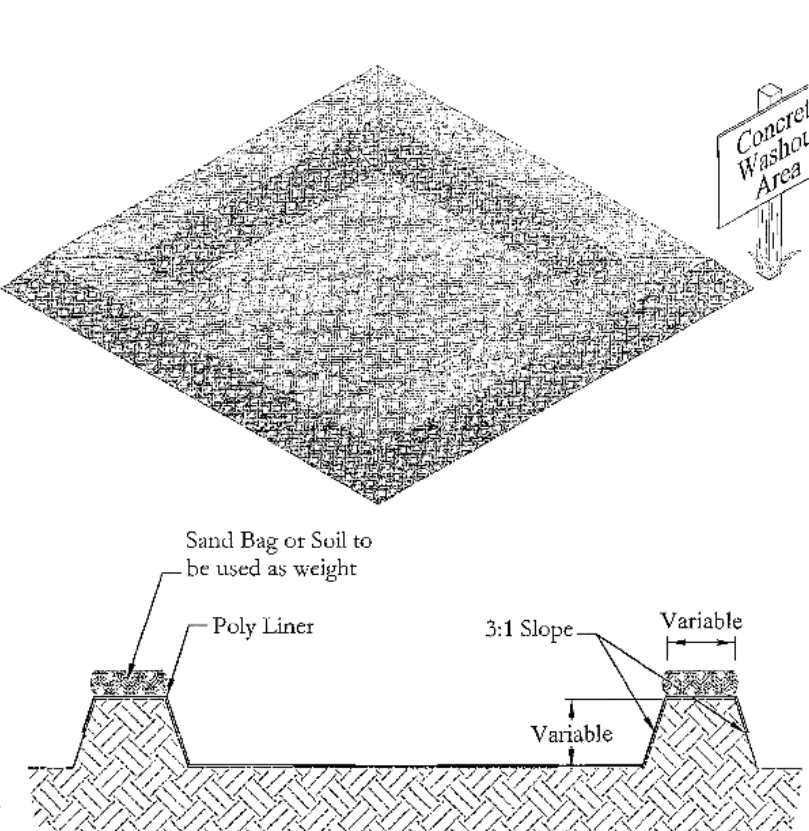
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Curb Storm Inlet Protection with Wattles



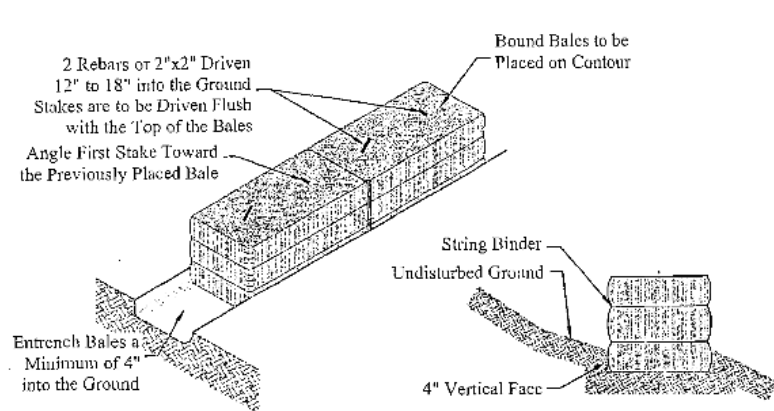
Concrete Washout Area

For use in High Water Table Areas



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Straw Bale Dike



Definition

Straw bale dikes are temporary barriers of straw or similar material used to intercept and direct surface runoff.

Purpose

The straw bale dike filters sediment from runoff so that deposition of transported sediment can occur.

Conditions Where the Practice Applies

1. The use of straw bale dikes is not recommended as a primary sediment control device. Straw bale dikes clog and deteriorate rapidly and require frequent maintenance.
2. Straw bale dikes can be used to intercept short flow only. They cannot be used as velocity checks in swales, or placed where they will intercept concentrated flow.
3. Straw bale dikes can be used only on projects that will be completed within three months.
4. Straw bale dikes should not be used on slopes exceeding 5:1.
5. The length of straw bale dikes must conform to the following limitations:

Slope (%)	Slope Steepness	Silt Fence Length (ft)	Dike Length (ft)
0-2	Flatter than 50:1	300	500
2-10	50:1 to 10:1	125	500
10-20	10:1 to 5:1	100	500

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Erosion Control Notes

1. All perimeter erosion and sediment control measures shall be installed prior to the execution of any grading work and maintained by the grading contractor for the duration of the grading project. Failure to install and maintain erosion control is a violation of State Law and subject to fine.
2. The appropriate erosion control device(s) shall be installed prior to the inception of any land disturbing activity and shall be properly maintained for construction activities.
3. All Erosion Control devices and their installation shall meet the standards prescribed in the current guidelines for storm water management for construction activities.
4. Sediment collected behind the sediment filters and silt fences shall be removed when sediment reaches one third the height of the barrier.
5. Sediment filters and silt fences shall be inspected and maintained no less than weekly or within 24 hours of a rainfall event of 0.5 inches or more. Maintenance shall include but not be limited to sediment removal, barrier repair and / or replacement.
6. Construction Site Entrance: The contractor shall construct as a minimum one stabilized construction entrance at the location shown on the plans. If additional ingress and egress to the construction site is required, the contractor shall coordinate with the construction manager the location of these additional stabilized construction entrances. Usage of non-stabilized for ingress and egress will not be permitted. The stabilized entrances shall be maintained in a condition which will prevent tracking or flowing of sediment onto public right-of-way and paved driving lanes. This may require periodic top dressing with additional stone as conditions warrant. Repair of the entrances or cleaning of the right-of-way and paved driving lanes that have been soiled shall be performed by the contractor at his own expense satisfactory to the construction manager. When necessary, vehicle wheels and tires shall be cleaned to remove sediment prior to entering onto public right-of-way and public streets. When washing is required, it shall be done on an area stabilized with crushed stone.
7. The contractor shall at his own expense, periodically water the site to control dust.
8. Sedimentation and erosion control measures shall be removed following construction or upon permanent stabilization of the disturbed and graded areas, whichever occurs last.
9. All disturbed areas that are not to be paved shall be re-seeded unless noted otherwise.
10. The contractor shall keep the site clean at all times and control dust resulting from the earthwork operation. The contractor shall not track mud onto the public streets.