

CITY OF ALBUQUERQUE



December 3, 2014

David Soule, P.E.
Rio Grande Engineering
P.O. Box 93924
Albuquerque, NM 87199

**RE: MorningStar of Albuquerque
8051 Palomas Ave., NE
Erosion and Sediment Control (ESC) Plan (D19E029)
Engineers Stamp Date ESC Plan: 10-21-14
Engineers Stamp Date Detail Sheet: 10-20-14**

Dear Mr. Soule:

PO Box 1293

Based upon your submittal received 10-29-14, the above referenced Erosion Sediment Control (ESC) plan is acceptable for Building.

Albuquerque

This project requires a National Pollutant Discharge Elimination System (NPDES) permit for storm water discharge for disturbing one acre or more and a Topsoil Disturbance Permit for disturbing $\frac{3}{4}$ of an acre or more.

New Mexico 87103

If you have any questions, you can contact me at 924-3999.

www.cabq.gov

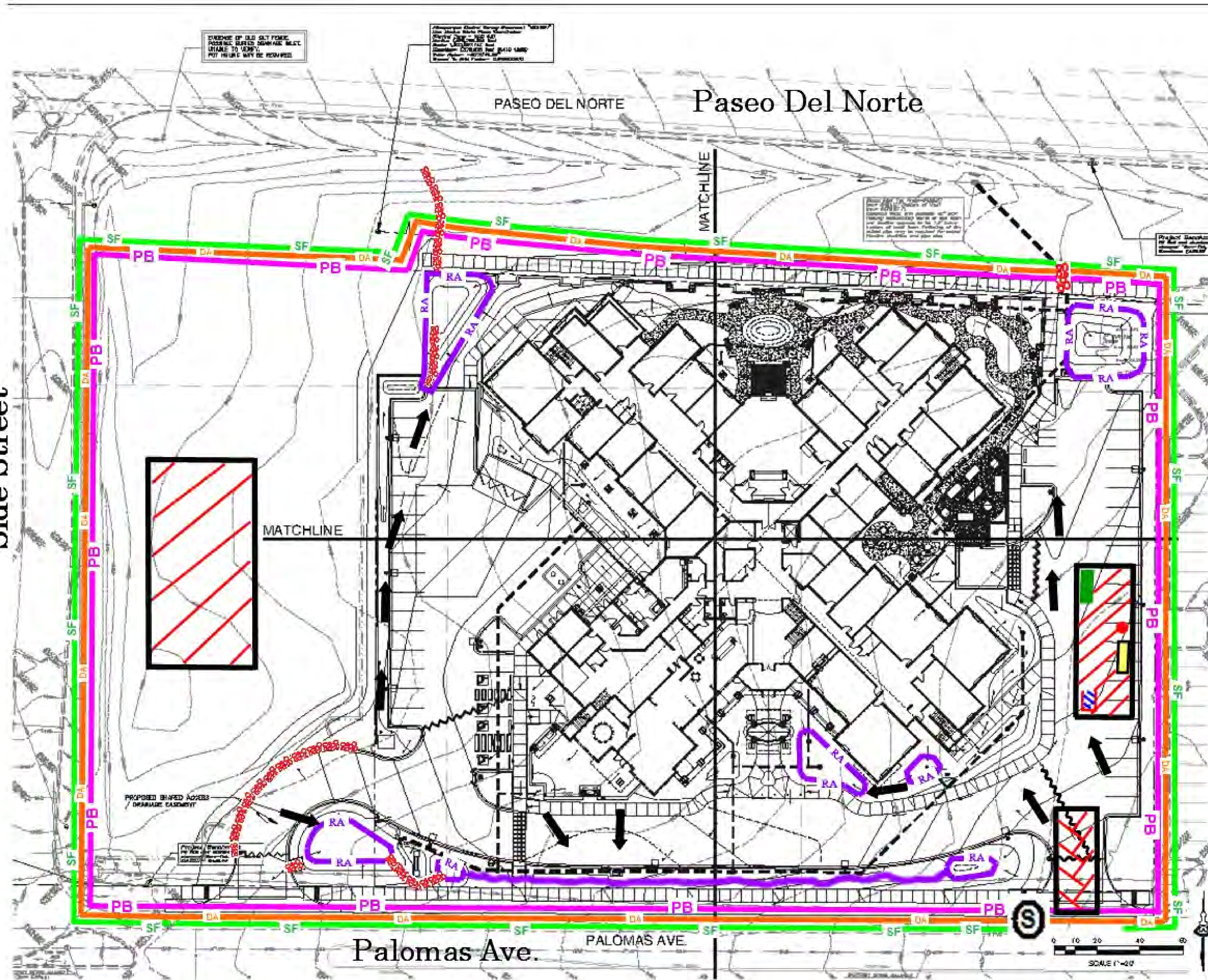
Sincerely,

Shahab Biazar, P.E.
Acting City Engineer, Planning Dept.
Development Review Services

C: e-mail

Wyoming Blvd. NE

Side Street



Legend

Erosion Sediment Control Plan

- PB Project Perimeter
- DA Disturbed Area
- Flow
- Outfall
- SF Silt Fence
- RA Retention Area
- Rip Rap
- Grade Break
- Swale
- Stabilized Construction Entrance
- Staging Area
- Trash Receptacle
- Chemical Toilet
- Concrete Washout
- Construction Trailer
- Posting Sign

MorningStar of Albuquerque

Receiving Water: Rio Grande 5.5 to the West

Impairments: E.coli, PCB's, PCB's in fish tissue, Dissolved oxygen gross Alpha

Date: 10/6/2014



Inspections Plus, Inc.

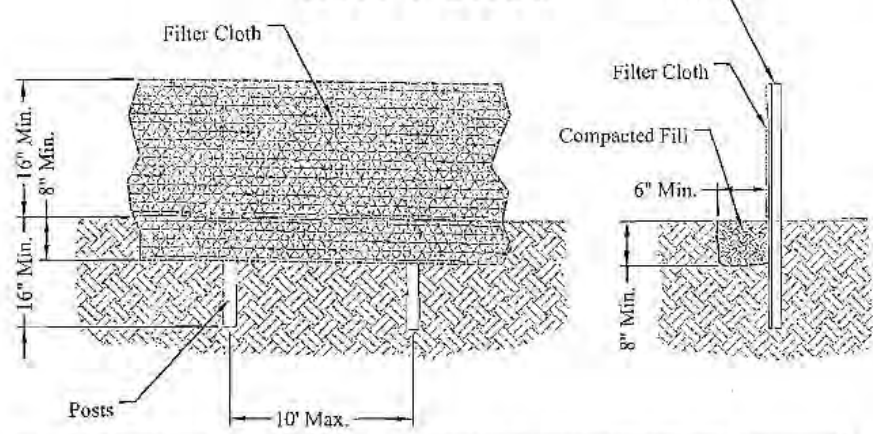
Engineer Stamp



10/20/14

Inspections Plus Inc.
Erosion Control Plan
Standard Details

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 where 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, streets, 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 sheet flow runoff from limited distances according to slope. It provides filtering and velocity dissipation to promote gravity settling of sediment.

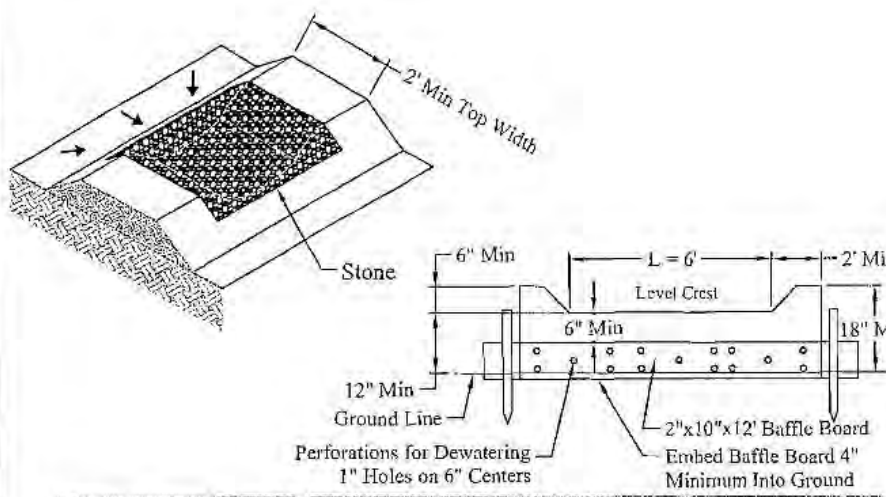
Design Criteria
Wood or Steel Posts may be used in certain instances. Silt fence should be placed as close to the contour as possible. No section of silt fence should exceed a grade of 5 percent for a distance more than 50 feet. Where ends of the geotextile fabric come together, the ends shall be overlapped,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

* If wood post are to be used they must meet the following specifications:
1. 1" X 1" minimum square posts, or 1 1/2" minimum diameter round post
* If metal posts are to be used they must be standard "T" or "U" 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.) (Maximum)	Silt Fence Length (ft.) (Maximum)
2	0-59:1	Unlimited	Unlimited
2-10	60:1-5:1	125	1,000
10-20	1:1-5:1	100	750
20-33	5:1-3:1	50	500
33-50	3:1-2:1	40	250
50+	> 2:1	20	125

Stone Outlet Structure



Definition
A temporary stone dike installed in conjunction with and as a part of an earth dike.

Purpose
The purpose of the Stone Outlet Structure is to filter sediment laden runoff, provide a protected outlet for an earth dike, provide for diffusion of concentrated flow, and allow the area behind the dike to dewater.

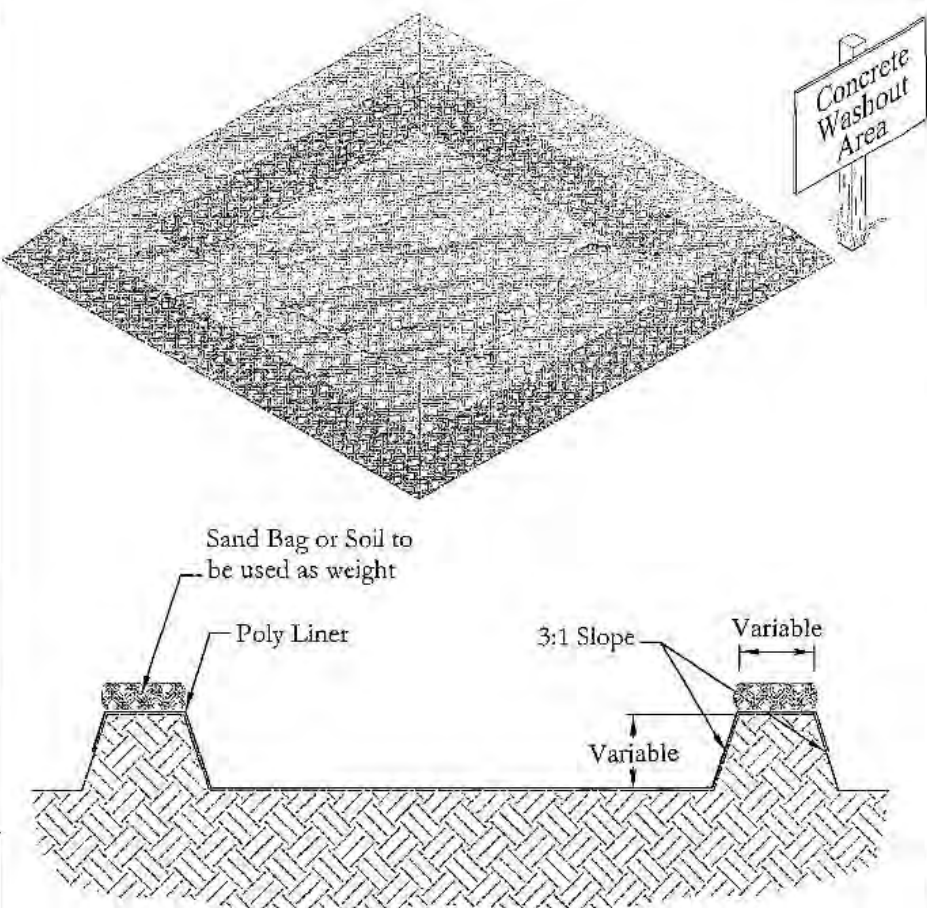
Conditions where the Practice Applies
Stone outlet structures apply to any point of discharge where there is a need to dispose of runoff at a protected outlet or to diffuse concentrated flow for the duration of the period of construction.

Outlet
The stone outlet structure shall be located so as to discharge onto an already stabilized area or into a stable watercourse. Stabilization shall consist of complete vegetative cover, paving, etc., sufficiently established to be erosion resistant.

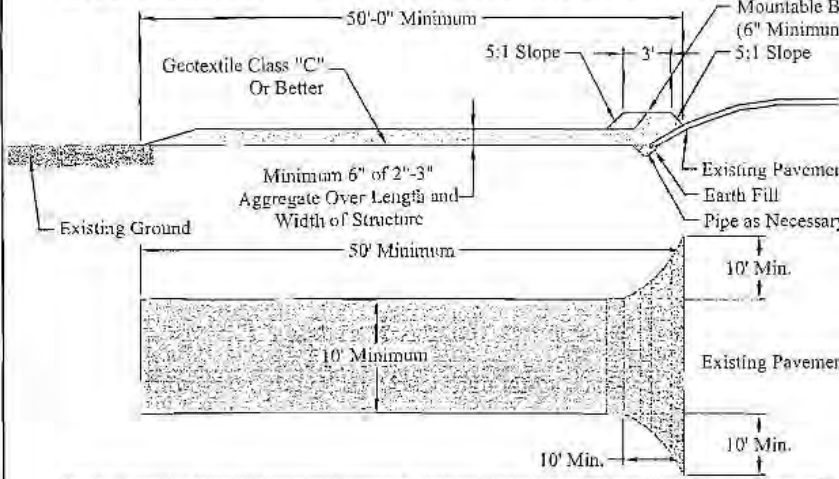
Design Criteria
1. Refer to Material Specifications. Stone. Stone 2" to 3" diameter or recycled concrete equivalent is preferred but clean gravel may be used if stone is not available.
2. The crest of the stone dike shall be at least 6" lower than the lowest elevation of the top of the earth dike and shall be level.
3. The stone outlet structure shall be embedded into the soil a minimum of 4".
4. The minimum length of the crest of the stone outlet structure shall be 6".
5. The baffle board shall extend 1' into the dike and 4' into the ground and be sunk in place.
6. The drainage area to this structure shall be less than 1/2 acre.

Concrete Washout Area

For use in High Water Table Areas



Stabilized Construction Entrance



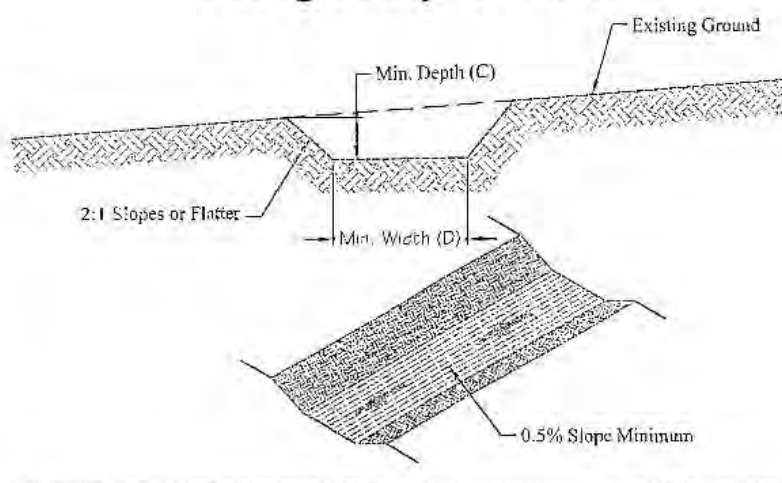
Definition
A stabilized layer of aggregate that underlain with Geotextile Class "C" (See Standards for Geotextiles). Stabilized entrances are located at any point where traffic enters or leaves a construction site.

Purpose
The purpose of the stabilized construction entrance is to reduce tracking of sediment onto streets or public right-of-way and provide a stable 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. The single family residence, the entrance should be located at the permanent driveway.
3. Stabilized construction entrances should not be used on existing pavement.

Design Criteria
1. Length - Minimum of 50'-0" (30'-0" for single residence lot).
2. Width - Minimum of 10'-0", should be flared in the existing road to provide a turning radius.
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 residence.
4. Stone-crushed aggregate 2" - 3" (See Standards for Geotextiles and Rock). 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 piped 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 6".
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.

Temporary Swale



Definition
A temporary swale is a temporary, excavated drainage way constructed and located to convey runoff to a desired location.

Purpose
The purpose of a temporary swale is to prevent runoff from entering disturbed areas by intercepting and diverting it to a stabilized outlet or to intercept sediment laden water and divert it to a sediment trapping device.

Conditions Where Practice Applies
Temporary swales are constructed:
1. To direct sediment laden runoff from a disturbed area to a sediment trapping device.
2. Across disturbed areas to shorten overland flow distances.
3. To direct sediment laden water along the base of slopes to a trapping device.
4. To divert clear water from an undisturbed area to a stabilized outlet. Runoff shall be discharged at non-erosive velocities.

Design Criteria
The basis for engineering design shall be the 2-year, 24-hour duration storm using N.R.C.S. criteria, assuming the worst soil cover conditions to prevail in the contributing drainage area over the life of the earth dike. Manning's Equation shall be used to determine earth dike flow channel velocities associated with the developed discharges. The Manning's Roughness coefficients to be used in the equation are 0.025 for seed and mulch, 0.03 for soil stabilization matting or soil, and 4"-7" stone use 0.045 for flow depths up to 1 foot (Table A) and 0.035 for flow depths between 1 and 2 feet (Table B). See earth dike. Allowable flow channel velocities shall be less than 4 fps for seed and mulch, less than 6 fps for stabilization matting or soil, and less than 8 fps for 4"-7" stone.

Erosion Control Notes

- 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.
- 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.
- All Erosion Control devices and their installation shall meet the standards prescribed in the current guidelines for storm water management for construction activities.
- Sediment collected behind the sediment filters and silt fences shall be removed when sediment reaches one third the height of the barrier.
- 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.
- 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.
- The contractor shall at his own expense, periodically water the site to control dust.
- Sedimentation and erosion control measures shall be removed following construction or upon permanent stabilization of the disturbed and graded areas, whichever occurs last.
- All disturbed areas that are not to be paved shall be re-seeded unless noted otherwise.
- 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.

Project:
MorningStar of Albuquerque

Date: 10/06/2014