

TEMPORARY EROSION AND SEDIMENT CONTROL PLAN

Mesa Del Sols Montage Unit 5

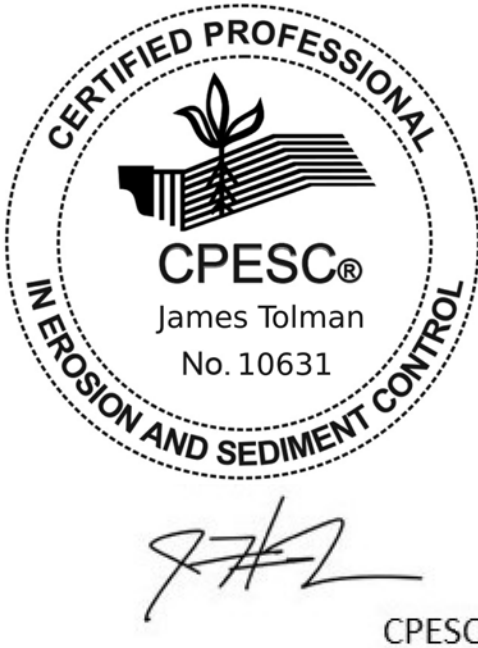

Stieglitz Avenue & Sagan Loop, Albuquerque NM 87120

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3	SWPPP Contacts / Nature of Construction
4	Temporary Erosion Control Map
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LATITUDE: 34.989650  
LONGITUDE: -106.622188



	Mesa Del Sols Montage Unit 5	
	Albuquerque, Bernalillo County, NM	
	12/09/2024	 <b>INSPECTIONS PLUS</b>
	Bruce Henriksen/ James Tolman	



TEMPORARY EROSION AND SEDIMENT CONTROL PLAN

PERMIT NUMBER:	NMR1006WC	ESC Plan Standard Notes (2023-06-16)
	NMR100000 State of New Mexico, Except Indian Country	
OWNER NAME:	DR Horton	<div>1. All Erosion and Sediment Control (ESC) work on these plans, except as otherwise stated or provided hereon shall be permitted, constructed, inspected and maintained in accordance with:<div>a. The City Ordinance § 14-5-2-11, the ESC Ordinance,<div>b. The EPA’s 2022 Construction General Permit (CGP), and<div>c. The City of Albuquerque Construction BMP Manual</div></div></div><div>2. All BMP’s must be installed prior to beginning any earth moving activities except as specified hereon in the Phasing Plan. Construction of earthen BMP’s such as sediment traps, sediment basins, and diversion berms shall be completed and inspected prior to any other construction or earthwork. Self-inspection is required after installation of the BMP’s and prior to beginning construction.</div><div>3. Self-inspections – In accordance with City Ordinance § 14-5-2-11(C)(1), “at a minimum a routine self-inspection is required to review the project for compliance with the Construction General Permit once every 14 days and after any precipitation event of ¼ inch or greater until the site construction has been completed and the site determined as stabilized by the city. Reports of these inspections shall be kept by the person or entity authorized to direct the construction activities on the site and made available upon request.”</div><div>4. Corrective action reports must be kept by the person or entity authorized to direct the construction activities on the site and made available upon request.</div><div>5. Final stabilization and Notice of Termination (NOT) – In accordance with City Ordinance § 14-5-2-11(C)(1), self-inspections must continue until the site is “determined as stabilized by the city.” The property owner/operator is responsible for determining when the “Conditions for Terminating CGP Coverage” per CGP Part 8.2 are satisfied and then filing their Notice of Termination (NOT) with the EPA. Each operator may terminate the CGP coverage only if one or more of the conditions in Part 8.2.1, 8.2.2, or 8.2.3 has occurred. After filing the NOT with the EPA, the property owner is responsible for requesting a Determination of Stabilization from the City.</div><div>6. When doing work in the City right-of-way (e.g. sidewalk, drive pads, utilities, etc.) prevent dirt from getting into the street. If dirt is present in the street, the street should be swept daily or prior to a rain event or contractor induced water event (e.g. curb cut or water test).</div><div>7. When installing utilities behind the curb, the excavated dirt should not be placed in the street.</div><div>8. When cutting the street for utilities the dirt shall be placed on the uphill side of the street cut and the area swept after the work is complete. A wattle or mulch sock may be placed at the toe of the excavated dirt pile if the site constraints do not allow placing the excavated dirt on the uphill side of the street cut.</div><div>9. ESC Plans must show longitudinal street slope and street names. On streets where the longitudinal slope is steeper than 2.5%, wattles/mulch socks or j-hook silt fence shall be shown in the front yard swale or on the side of the street.</div></div>
OWNER POINT OF CONTACT:	Joseph Cordero 505-991-5266 jacordero@drhorton.com	
NOI PREPARED BY:	Inspections Plus	
PROJECT/SITE NAME:	Mesa Del Sols Montage Unit 5	
PROJECT/SITE ADDRESS:	Stieglitz Avenue & Sagan Loop, Albuquerque, NM	
LATITUDE	34.989650	
LONGITUDE	-106.622188	
ESTIMATED PROJECT START DATE	06/01/2023	
ESTIMATED PROJECT COMPLETION DATE	11/01/2025	
PROPERTY SIZE	7.579 acres	
TOTAL AREA OF DISTURBANCE	7.579 acres	
MAXIMUM AREA DISTURBED AT ONE TIME	7.579 acres	
TYPE OF CONSTRUCTION	Residential	
DEMOLITION OF ANY STRUCTURES 10,000 SQ FT OR GREATER BUILT OR RENOVATED BEFORE JANUARY 1, 1980?	N/A	
WAS THE PREDEVELOPMENT LAND USED FOR AGRICULTURE?	N/A	
COMMENCED EARTH DISTURBING ACTIVITIES?	No	
DISCHARGE TO MS4? MS4 NAME	Yes – COA	
SURFACE WATERS WITHIN 50 FT?	No	
RECEIVING WATER	Tejeras Arroyo & Rio Grande	
REC. WATER IMPAIRED? TIER	No	
WHAT IMPAIREMENTS?	N/A	
SWPPP CONTACT INFORMATION	Joseph Cordero 505-991-5266 jacordero@drhorton.com	
ENDANGERED SPECIES CRITERIA	Criterion “A”, No Critical Habitats	
HISTORICAL LOCATION CRITERIA	Preexisting Development	

<div><div><div><div><div><div></div><div>CERTIFIED PROFESSIONAL</div></div><div><div><div><div></div><div>CPESC®</div><div>James Tolman</div><div>No. 10631</div></div></div><div><div>EROSION AND SEDIMENT CONTROL</div></div></div></div><div><div>7/12</div><div>CPESC STAMP</div></div></div></div></div>	Mesa Del Sols Montage Unit 5	
	Albuquerque, Bernalillo County, NM	
	12/09/2024	<div><div><div></div><div>INSPECTIONS PLUS</div></div></div>
	Bruce Henriksen/ James Tolman	

# TEMPORARY EROSION AND SEDIMENT CONTROL PLAN

**OPERATOR:**

DR Horton  
Joseph Cordero  
Property Owner Contact  
505-991-5266  
[tjacordero@drhorton.com](mailto:tjacordero@drhorton.com)

**OWNER:**

DR Horton  
Joseph Cordero  
Property Owner Contact  
505-991-5266  
[tjacordero@drhorton.com](mailto:tjacordero@drhorton.com)

**Nature of Construction Activities – Vertical Construction phase**

**Start: 05/01/2024 - End: 11/01/2025**  
*Dates are estimates and may be adjusted based on external factors or unexpected events.*  
**7.579 acres** total property, **7.579 acres** total and maximum area to be disturbed at any one time.

The **Operator, D.R. Horton** will be constructing single-family homes at the Sage Park subdivision. This will include grading, excavation for foundations, connecting utilities, and vertical construction of the residential homes.




**No temporary cessation of construction activities anticipated during this phase.**

**Applicable BMPs for this Phase:** Inlet Protection, Stabilized Drive Approach, Silt Fencing, , Street Sweeping, Water Truck, Cutback Curbs, Mulch Sock

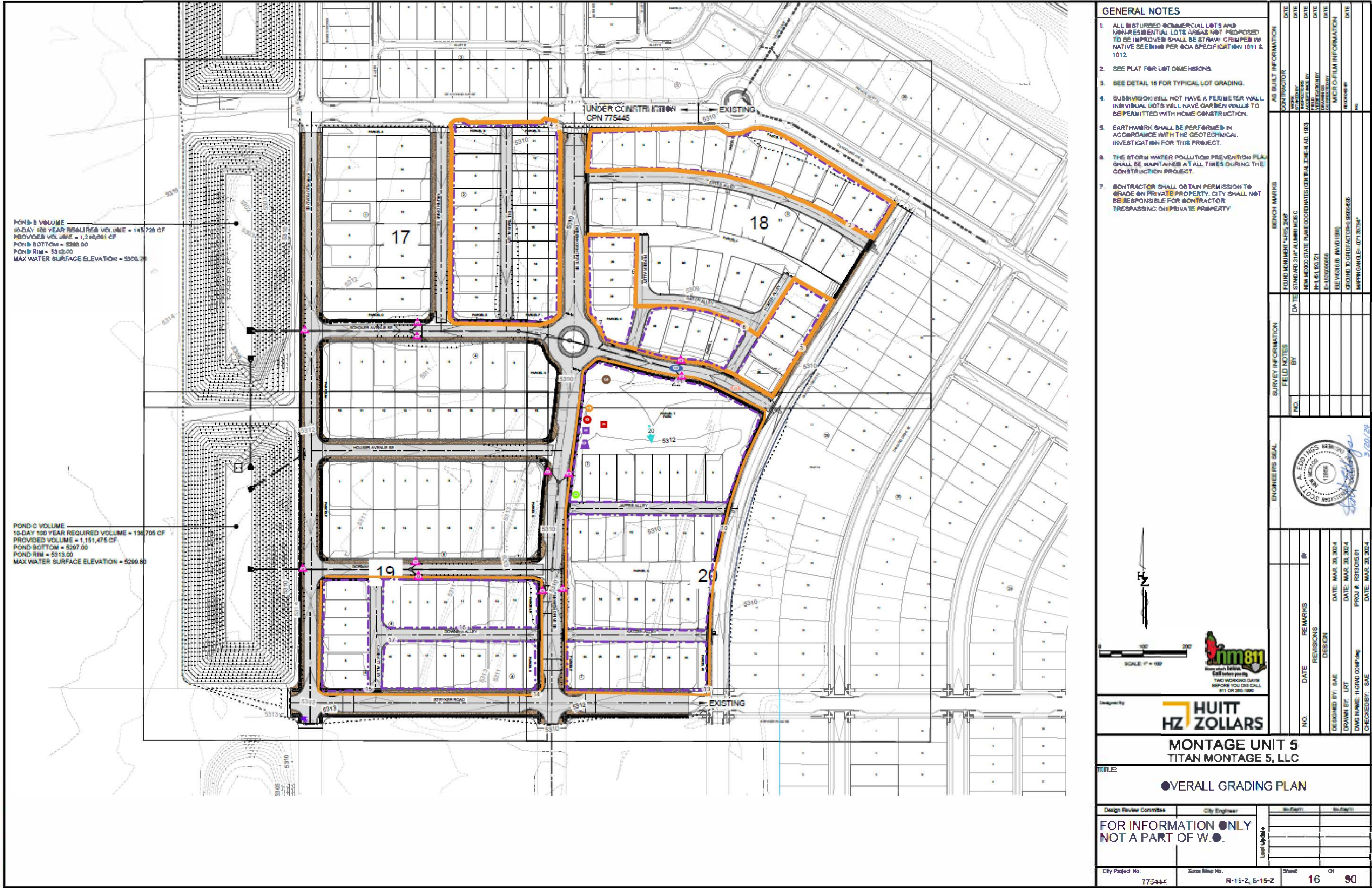
**Commencement of Vertical Construction Activities:** Grading, excavation for foundations, connecting utilities, and vertical construction of the residential homes: 05/2024 – 11/2025  
**Final Stabilization:** 05/2025 – 11/2025

The retention pond will be stabilized immediately upon its completion within this phase’s timeline. The remainder of the site will be stabilized within 30 days of the cessation of development activities, in accordance with CGP 2.2.14, if the next phase does not begin within 30 days after site activity concludes.

**Permanent Cessation of Construction Activities for this Phase:** 11/2025  
*(Landscaping of this site (including the Retention Pond area) will take place with another contractor after this phase is complete)*

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	Albuquerque, Bernalillo County, NM	
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LEGEND



 Property Boundary / Limit of Disturbance (5)

 Cutback Curb / Sidewalk (12)

 Pre & Post Construction Water Flow (1)

 Materials Storage (1)

 Stockpiles (1)

 Water Truck (1)

 Street Sweeping (1)

 Insert Inlet Protection (12)

 Portable Toilet (1)

 Dumpster (1)

 Spill Kit (1)

 SWPPP Sign (1)

 Portable Concrete Washout (1)



A1-1 DUST CONTROL

- A1
- A2
- A3



Image credit: Sites Southwest

**DESCRIPTION**  
Dust control measures reduce a construction site's potential for producing airborne fugitive dust that can lead to air and water pollution. Sediments that are transported from construction sites by wind and construction vehicles that have left the site, are often re-dispersed to the air by subsequent vehicular traffic and winds. Likewise, these sediments may be transported by the next rainfall to streams and into public storm sewer systems. Implementation of control measures to minimize the generation of fugitive dust from disturbed landscapes and construction sites will also limit the quantity of sediments in stormwater.

**PRIMARY USE**  
Dust control is used to limit and control nuisance fugitive dust from disturbed landscapes and construction sites. Project types and conditions that benefit from execution of a dust control strategy include, but are not limited to, the following:

- » Grading operations (land clearing and earthmoving).
- » Drilling and blasting.
- » Batch drop operations (loader operation).
- » Exposed, cleared, and unstabilized areas.
- » Vehicle traffic on unpaved surfaces.
- » Sediment tracking on paved surfaces.
- » Blasting and wrecking ball operations.
- » Soil and debris storage piles.

SEE ALSO

- A1-4 Grassland Seedbank Protection
- A1-5 Stockpile Management
- A2-1 Seeding
- A2-2 Mulching

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SYMBOL

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A1-1 DUST CONTROL CONTINUED

**APPLICATION**  
Dust control measures vary widely and should be selected alone or in combination for the specific project type, conditions, and resource availability. Dust control measures include, but are not limited to, the following:

- » Provide covers for trucks transporting materials that contribute dust.
- » Pave, apply gravel, vegetate or chemically stabilize large disturbed areas.
- » Immediately water disturbed areas.
- » Regularly water and dampen unstabilized areas.

Additionally, if the contractor is responsible for complying with the requirements of the air pollution control permit, the following is typically required:

- » Provide dust control plans for construction or land-clearing projects.
- » Conduct enforcement activities with priority given to citizen complaints.
- » Conduct documentation of maintenance.

**LIMITATIONS**  
Some dust control measures may be of limited use due to lack of resources at the site, construction sequencing, and the need to repeatedly re-implement measures during the course of construction. Limitations may include:

- » Access to water.
- » Availability of equipment.
- » Drought.
- » Frequent disturbance during construction.

**MAINTENANCE REQUIREMENTS**  
» Inspect stabilized soils for disturbance on a regular basis.  
» Wet soil and soils treated with stabilization agents.  
» Regrade and reapply soil stabilizing agents.

A1-13 STABILIZED CONSTRUCTION ENTRANCE/EXIT

- A1
- A2
- A3



Image credit: Sites Southwest

**DESCRIPTION**  
A stabilized construction entrance/exit consists of a pad of crushed stone, recycled concrete, or other rock-like material on top of a geotextile filter, which is used to facilitate the wash-down and removal of sediment and other debris from construction equipment prior to exiting the site.

**PRIMARY USE**  
Stabilized construction entrances/exits 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. Stabilized construction entrances and exits are recommended for all construction sites, and may be required for Construction General Permit compliance.

**APPLICATION**  
Strategies for successful and effective stabilized construction entrances/exits include but are not limited to:

- » Location selection able to accommodate construction traffic.
- » Appropriate selection of locally available material.

**LIMITATIONS**  
» Selection of the construction entrance/exit location is critical. To be effective, it must be used exclusively.  
» Stabilized access points can be expensive and 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.

NMDOT STANDARD  
DRAWING

603-01-7/7 Offsite Tracking  
Prevention

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A1-13 STABILIZED CONSTRUCTION ENTRANCE/EXIT CONTINUED

LIMITATIONS CONTINUED

- » Site constraints may limit the recommended 50 feet entrance/exit drive length.

MAINTENANCE REQUIREMENTS

- » Inspect the stabilized construction entrance after major storm events to ascertain sediment and pollution are being effectively captured on site. When sediment or debris has substantially clogged the void area between the rocks, the aggregate mat must be washed down or replaced.
- » Re-grade and top dress stone periodically to retain the effectiveness of the entrance/exit.

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A2-8 MULCH SOCKS

- A1
- A2
- A3



Image credit: NMDOT

**DESCRIPTION**  
Mulch socks are erosion and sediment control materials made typically of high density polyethylene (HDPE) or biodegradable plastic filament mesh tubes filled with compost or other organic media.

**PRIMARY USE**  
Mulch socks are primarily used to filter and slow stormwater. Uses include:

- » Filter sediment and silts from sheet stormwater flowing from disturbed sites.
- » Protect inlets from sediment.
- » Create temporary ponding areas behind socks to facilitate the deposition of suspended solids.
- » Slow stormwater runoff and reduce peak flows.
- » Filter heavy metals, pollutants and oil from stormwater when socks are filled with adsorbent media.
- » Provide temporary protection at drop inlets or culverts.
- » Create check dams or sediment traps at concrete washout areas.
- » Provide perimeter control, runoff diversion, and slope interruption.
- » Reinforce stream banks and aid in the protection and establishment of stabilizing watercourse vegetation.

**APPLICATION**  
Strategies for successful use of mulch socks include:

- » Lay the sock upon the surface and stake the tube every 10 feet.
- » Lay the tube along contours, vegetated channels, and outside of the toes of slopes.

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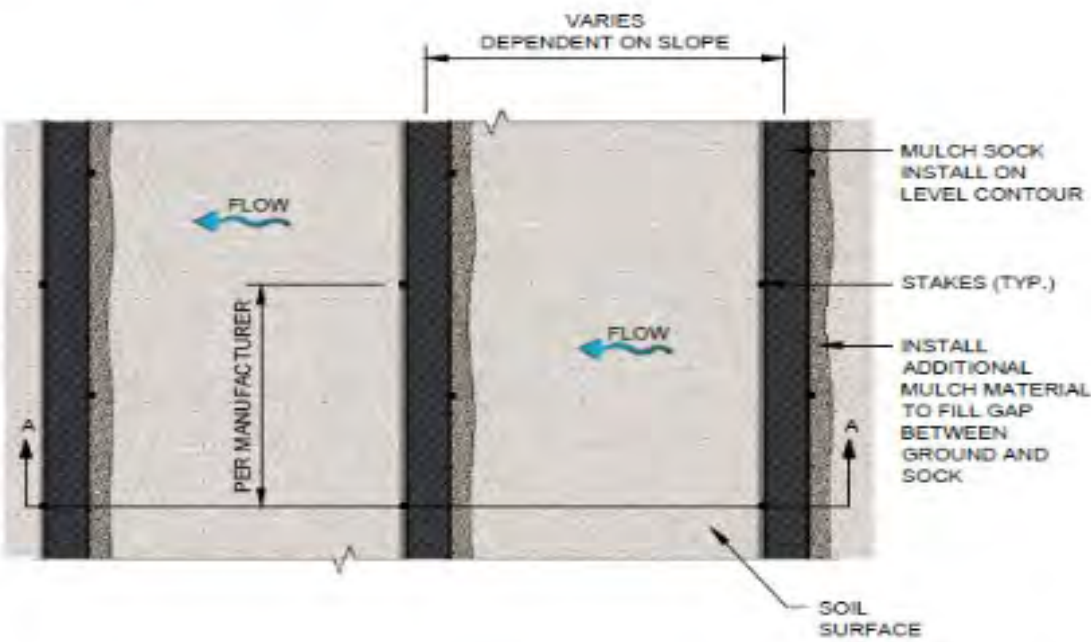
MS  
CMS

A2-8 MULCH SOCKS CONTINUED

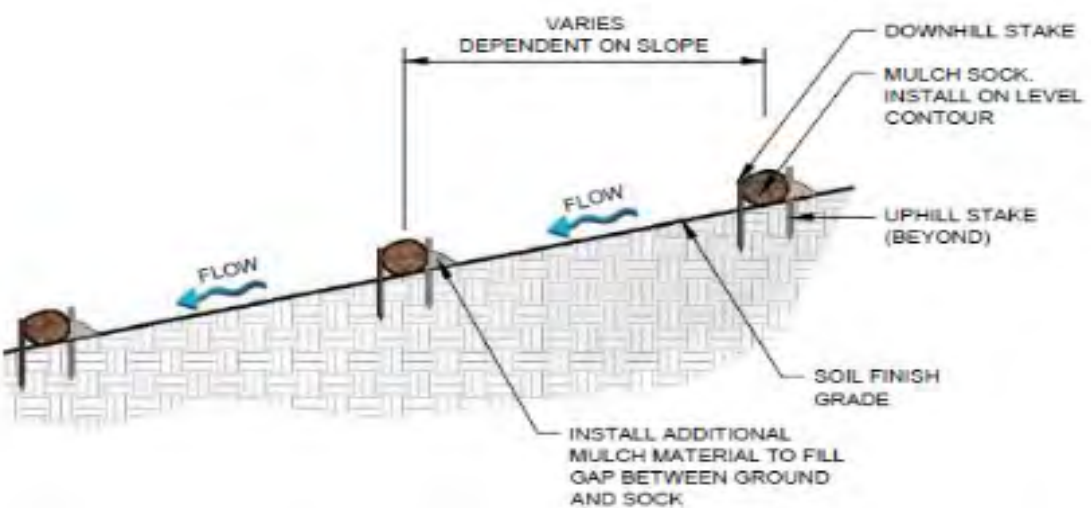
**LIMITATIONS**  
» Mulch socks do not provide long-term solutions for stormwater storage.  
» Mulch socks have limited usefulness in concentrated flow conditions.  
» On NMDOT projects composted mulch socks (CMS) are used exclusively; wood chip mulch socks are not allowed.

**MAINTENANCE REQUIREMENTS**  
» Inspect mulch socks periodically, especially after major storm events.  
» Remove sediments from behind socks after accumulation is 1/3 sock height.  
» Restake and overlap socks that are displaced due to storm events or construction disturbance.

Use for alternative to Cut Back Curbs in certain areas; and curb and grate inlet protection.



Mulch sock - PLAN VIEW



Mulch sock - SECTION A-A



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Appendix A2 – Erosion and Sediment Control

A2-11 SEDIMENT BASIN

A1

A2

A3




Image credit: Integra Engineering & Science Services/ Julie Coco

DESCRIPTION

A sediment basin is a pond area with a controlled outlet in which suspended sediment is allowed to settle. A sediment basin is a highly effective treatment device for removing sediments and other pollutants from stormwater for the design storm event.

PRIMARY USE

Sediment basins are used as permanent erosion and sediment control facilities to provide stormwater treatment and control outflow, minimizing flood problems downstream. Sediment basins should be used where there is adequate open space to direct most of the site drainage into the basin.

APPLICATION

Strategies for successful sediment basin design include:

- » Design sediment basins for two-year storm (or higher) runoff volumes.
- » Create an outlet structure that consists of a stone section in the embankment formed by a combination of coarse aggregate and riprap to provide for filtering/ detention capability.
- » Locate the outlet crest at least 1 foot below the top of the embankment.
- » Use a geotextile at the stone-soil interface to act as a separator.
- » Provide an emergency overflow spillway for rainstorms that exceed the capacity of the sediment basin.

SEE ALSO

A2-10 Sediment Trap  
A3-9 Detention Basin

NMDOT STANDARD DRAWING

603-01-5/7 Sediment Basin

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Appendix A2 – Erosion and Sediment Control

A2-11 SEDIMENT BASIN CONTINUED

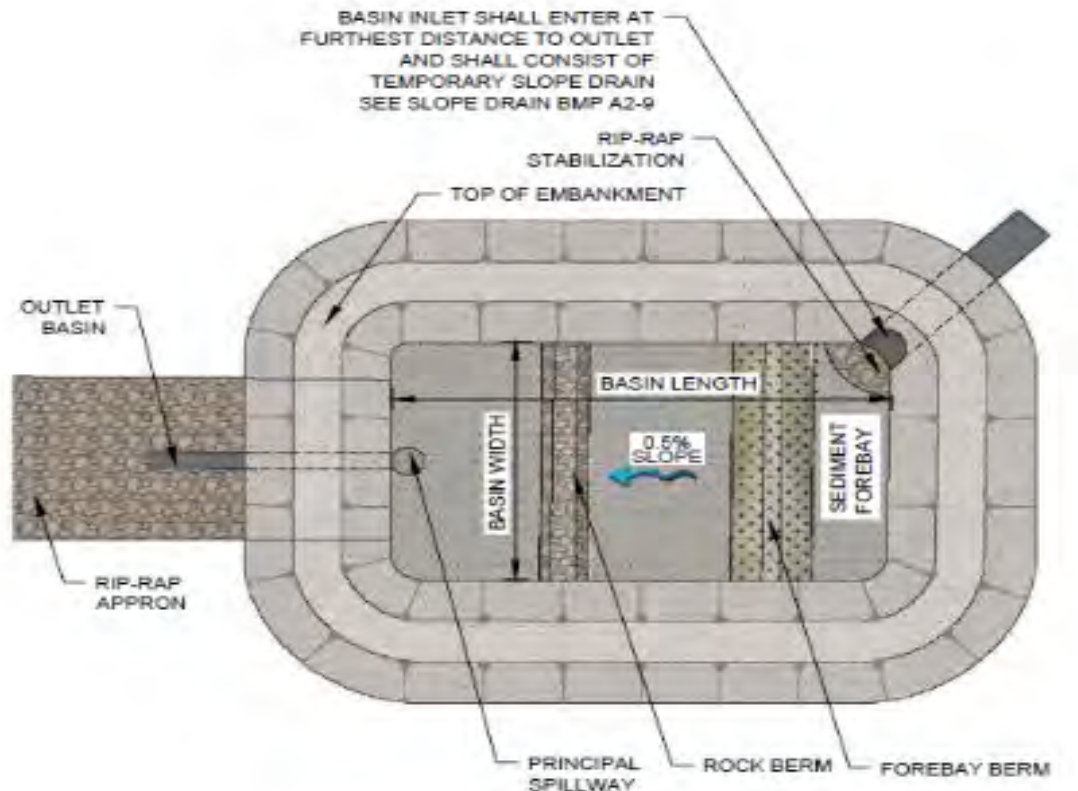
LIMITATIONS

- » Sediment basins can be rather large, depending on site conditions.
- » Sediment basins require comprehensive planning for construction phasing prior to implementation.
- » Storm events that exceed the design storm event can cause damage to the spillway structure of the basin and cause unexpected flooding around and downstream of the basin.

MAINTENANCE REQUIREMENTS

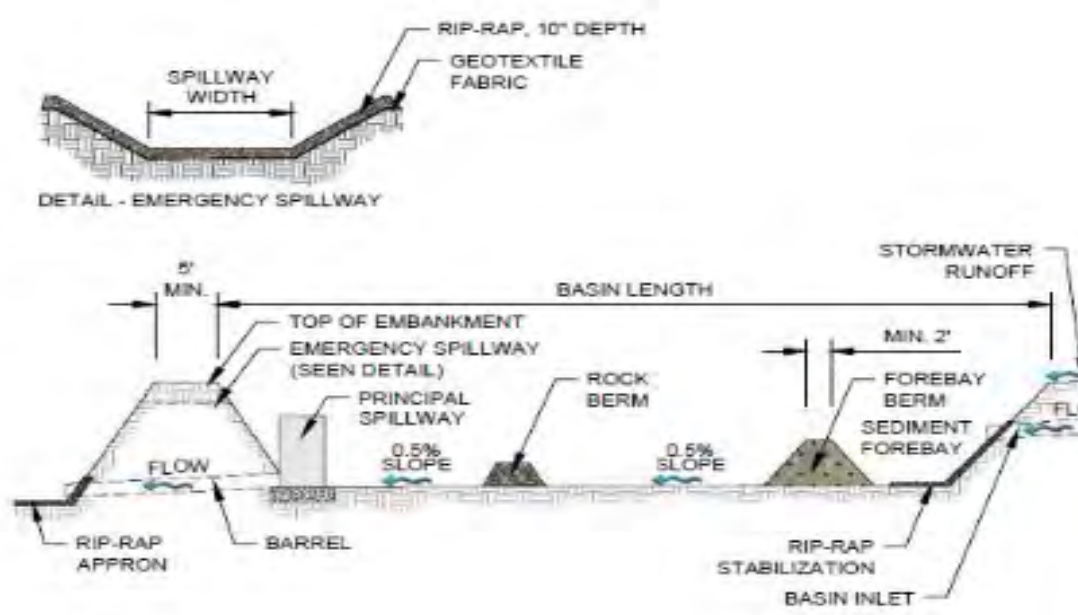
- » Remove sediment and re-grade basin to its original dimensions when the capacity of the impoundment has been reduced significantly from its original storage capacity. The removed sediment shall be stockpiled or redistributed in areas that are protected from erosion.
- » Inspect basin outlet structure and emergency spillway (if present) after major storm events to inspect for damage and to ensure that obstructions are not diminishing the effectiveness of the structures.

BASIN INLET SHALL ENTER AT FURTHEST DISTANCE TO OUTLET AND SHALL CONSIST OF TEMPORARY SLOPE DRAIN. SEE SLOPE DRAIN BMP A2-9.



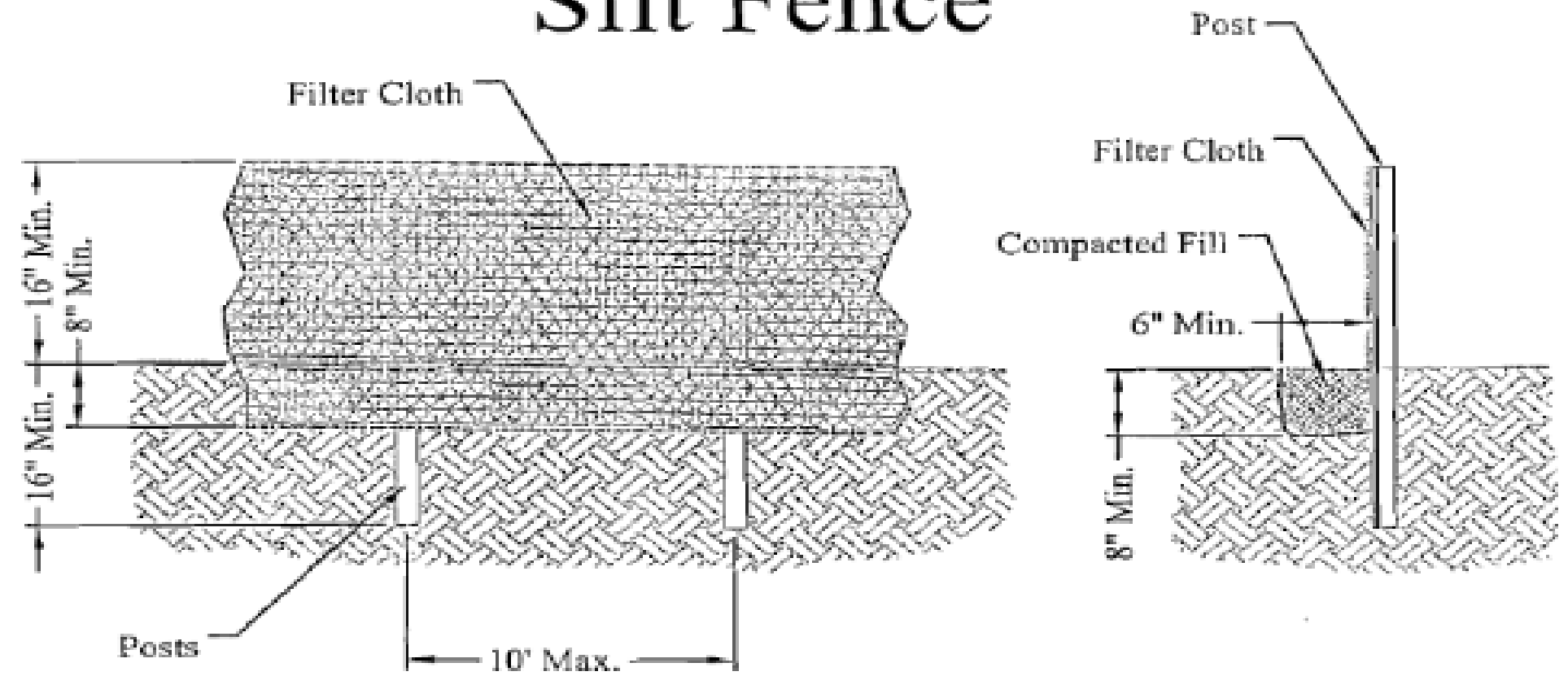
Sediment basin - PLAN VIEW.

DETAIL - EMERGENCY SPILLWAY



Sediment basin - SECTION VIEW.

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 1/2" X 1 1/2" minimum square posts, or 1 3/4" 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	Slope Length (Ft.) (Maximum)	Silt Fence Length (Ft.) (Maximum)
2	0-50:1	Unlimited	Unlimited
2-10	50:1-10:1	125	1,000
10-20	10:1-5:1	100	750
20-33	5:1-3:1	60	500
33-50	3:1-2:1	40	250
50 +	> 2:1	20	125

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CPESC®

James Tolman

No. 10631

IN EROSION AND SEDIMENT CONTROL




CPESC STAMP

Mesa Del Sols Montage Unit 5

Albuquerque, Bernalillo County, NM

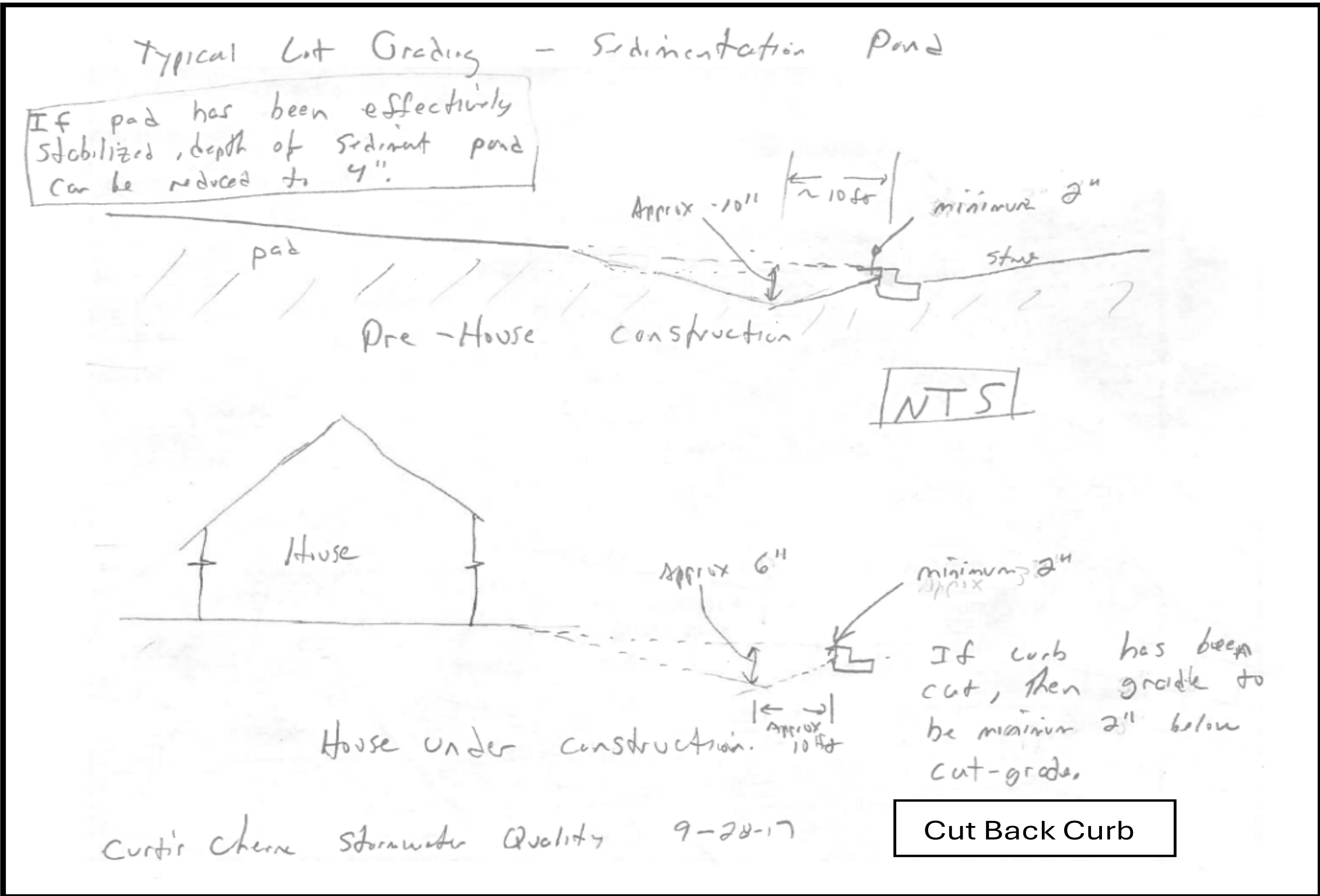
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James Tolman

 INSPECTIONS PLUS


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### Stabilized Drive Approach



**Description**  
A stabilized layer of aggregate or road base laid in preparation for a driveway or drive approach on a residential lot. Stabilized drive approaches are used as the only vehicular access to a lot so that vehicles do not compact or track out disturbed soils.

**Application**  
The purpose of the stabilized drive approach is to reduce tracking of sediment onto streets or public rights-of-way and provide a stable area for entrance or exit from the individual lot.

**Conditions Where the Practice Applies**

1. Stabilized drive approaches shall be located where a future driveway or drive approach will be paved with concrete.
2. Stabilized drive approaches should only apply to individual homes/building lots.
3. Stabilized drive approaches should not be used on existing pavement.

**Design/Installation**

1. Length - Minimum of 10'-0" (30'-0" preferred for single residence lot/commercial pad or as space will allow).
2. Width - Minimum of 10'-0", should be flared at the existing road to provide a turning radius.
3. Road base or similar aggregate should be used as normal in preparation for a driveway
4. Location - The stabilized drive approach will be the only access point for vehicular traffic to the site. Vehicle traffic will not be allowed on areas of the site other than the stabilized drive approach.

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Appendix A1 - Construction Planning, Management and Clean Up

## A1-10 CONCRETE WASTE MANAGEMENT

A1  
A2  
A3



Image credit: SoCal Sandbags

**DESCRIPTION**  
Concrete waste management reduces or prevents the discharge of pollutants to stormwater by implementing management measures.

**PRIMARY USE**  
Concrete waste products can negatively affect the pH of water, harm aquatic life, and contribute to total suspended solids in stormwater. Concrete waste management strategies keep the discharge of concrete waste materials from affecting local stormwater and drainage systems during concrete construction operations.

Concrete construction operations that have the potential for contaminating receiving waters include, but are not limited to:

- » Pouring and finishing concrete slabs on grade and concrete paving.
- » Pouring vertical cast in place concrete (header curbs, concrete curbs and gutters, retaining walls, concrete footings).
- » Drilling, cutting, polishing, and curing concrete.
- » Washing concrete dust, and exposed aggregate concrete.
- » Spilling concrete.
- » Dampening freshly made concrete.
- » Creating and applying concrete slurry coat.
- » Building masonry structures.
- » Finishing surfaces with stucco.
- » Washing equipment.

**SEE ALSO**

- A1-9 Spill Prevention Plan
- A1-11 Solid Waste Management
- A1-12 Hazardous Waste Management

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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM MANUAL  
Appendix A1 - Construction Planning, Management and Clean Up

## A1-10 CONCRETE WASTE MANAGEMENT CONTINUED

**APPLICATION**  
Concrete waste management strategies include:

- » Avoid mixing excess amounts of fresh concrete or cement onsite.
- » Perform washout of concrete trucks offsite or in designated areas on site at least 50 feet from storm drains, open ditches or bodies of water.
- » Block drop inlets and direct concrete wastewater into temporary pits where the concrete can set, be broken up, and then disposed of properly.
- » Collect and return sweepings to aggregate base stockpile or dispose of properly.
- » Train employees and subcontractors in proper concrete waste management.

**LIMITATIONS**

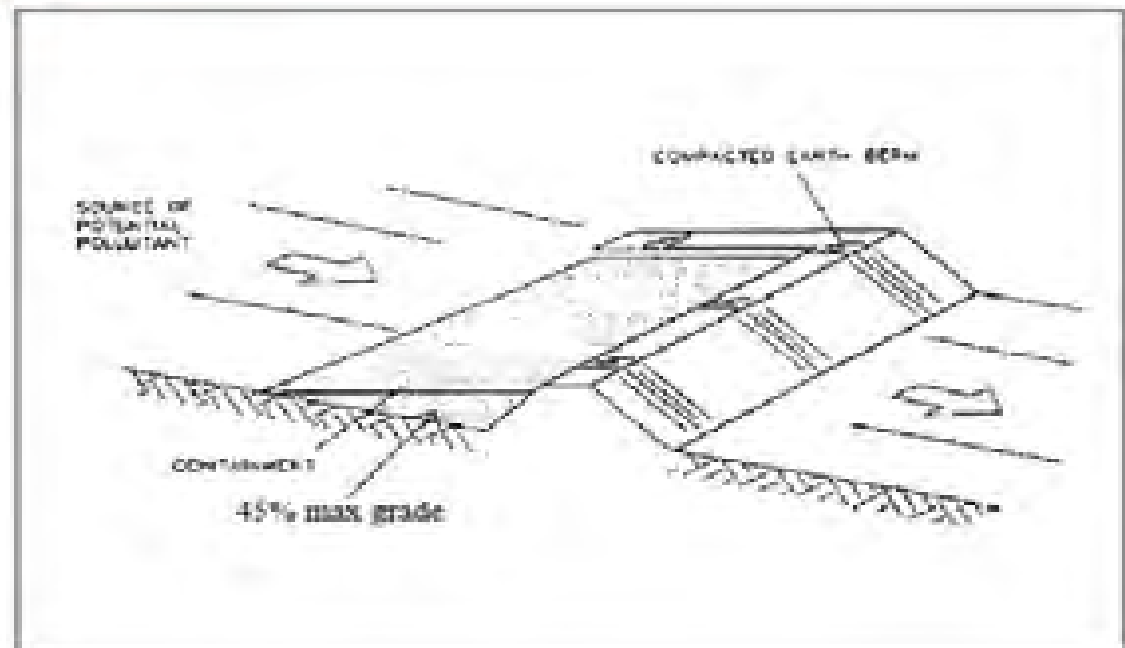
- » Offsite washout of concrete wastes may not always be possible.

**MAINTENANCE REQUIREMENTS**

- » Ensure subcontractors properly manage concrete wastes.
- » Dispose of hardened concrete on a regular basis.
- » Regularly inspect drop inlet protection measures.



BMP: Earth Berm Barrier



**DESCRIPTION:**  
A temporary containment control constructed of compacted soil.

- APPLICATION:**
- Construct around waste and materials storage area.
  - Construct around staging and maintenance areas.
  - Construct around vehicle parking and servicing areas.

- INSTALLATION/APPLICATION CRITERIA:**
- Construct an earthen berm down hill of the area to be controlled. The berm should surround fueling facilities and maintenance areas on three sides to provide containment.
  - Berm needs to be a minimum of 1 foot tall by 1 foot wide and be compacted by earth moving equipment.

- LIMITATIONS:**
- Not effective on steep slopes.
  - Limits access to controlled area.
  - Personnel need to quickly respond to spills with remedial actions.

- MAINTENANCE:**
- Observe daily for any non-stormwater discharge.
  - Look for runoff bypassing ends of berms or undercutting berms.
  - Repair or replace damaged areas of the berm and remove accumulated sediment.
  - Recompact soil around berm as necessary to prevent piping.

BMP: Outlet Protection

OP  
Construction



**DESCRIPTION:**  
A rock outlet protection is a physical device composed of rock, grouted riprap, or concrete rubble which is placed at the outlet of a pipe to prevent scour of the soil caused by high pipe flow velocities, and to absorb flow energy to produce non-erosive velocities.

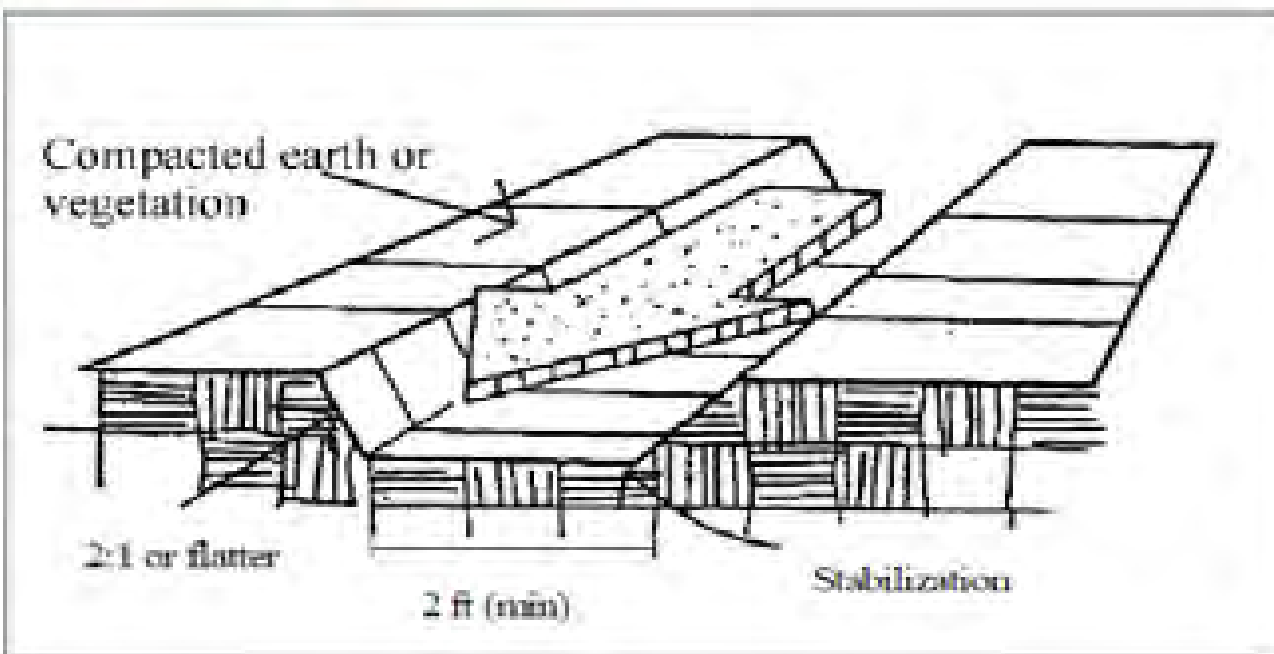
- APPLICATIONS:**
- Wherever discharge velocities and energies at the outlets of culverts, conduits, or channels are sufficient to erode the next downstream reach.
  - Rock outlet protection is best suited for temporary use during construction because it is usually less expensive and easier to install than concrete aprons or energy dissipators.
  - A sediment trap below the pipe outlet is recommended if runoff is sediment laden.
  - Permanent rock riprap protection should be designed and sized by the engineer as part of the culvert, conduit or channel design.
  - Grouted riprap should be avoided in areas of freeze and thaw because the grout will break up.

**INSTALLATION/APPLICATION CRITERIA:**  
Rock outlet protection is effective when the rock is sized and placed properly. When this is accomplished, rock outlets do much to limit erosion at pipe outlets. Rock size should be increased for high velocity flows. Best results are obtained when sound, durable, angular rock is used.

- LIMITATIONS:**
- Large storms often wash away the rock outlet protection and leave the area susceptible to erosion.
  - Sediment captured by the rock outlet protection may be difficult to remove without removing the rock.
  - Outlet protection may negatively impact the channel habitat.

- MAINTENANCE:**
- Inspect after each significant rain for erosion and/or disruption of the rock, and repair immediately.
  - Grouted or wire-tied rock riprap can minimize maintenance requirements.

BMP: Temporary Drains And Swales



**DESCRIPTION:**  
Temporary drains and swales are used to divert off-site runoff around the construction site, divert runoff from stabilized areas around disturbed areas, and direct runoff into sediment.

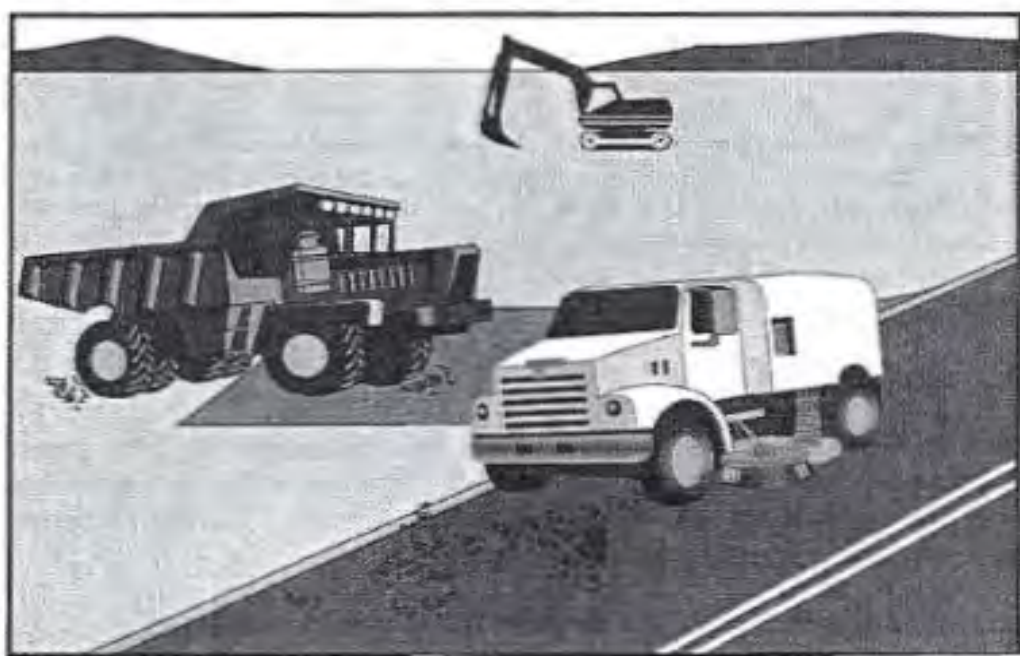
- APPLICATIONS:**
- Temporary drains and swales are appropriate for diverting any upslope runoff around unstabilized or disturbed areas of the construction site.
  - Prevent slope failures. Prevent damage to adjacent property. Prevents erosion and transport of sediments into water ways. Increases the potential for infiltration. Diverts sediment-laden runoff into sediment basins or traps.

- INSTALLATION/APPLICATION:**
- Temporary drainage swales will effectively convey runoff and avoid erosion if built properly.
  - Size temporary drainage swales using local drainage design criteria. A permanent drainage channel must be designed by a professional engineer (see the local drainage design criteria for proper design).
  - At a minimum, the drain/swale should conform to predevelopment drainage patterns and capacities.
  - Construct the drain/swale with an uninterrupted, positive grade to a stabilized outlet. Provide erosion protection or energy dissipation measures if the flow out of the drain or swale can reach an erosive velocity.

- LIMITATIONS:**
- Temporary drains and swales or any other diversion of runoff should not adversely impact upstream or downstream properties.
  - Temporary drains and swales must conform to local floodplain management requirements.

Street Sweeping and Vacuuming

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Objectives

- EC Erosion Control
- SE Sediment Control
- TR Tracking Control
- WE Wind Erosion Control
- NS Non-Stormwater Management Control
- WM Waste Managementland Material Pollution Control

Targeted Constituents

- Sediment
- Nutrients
- Trash
- Metals
- Bacteria
- Oil and Grease
- Organics

Potential Alternatives

None

Description and Purpose

Street sweeping and vacuuming includes use of self-propelled and walk-behind equipment to remove sediment from streets and roadways, and to clean paved surfaces in preparation for final paving. Sweeping and vacuuming prevents sediment from the project site from entering storm drains or receiving waters.

Suitable Applications

Sweeping and vacuuming are suitable anywhere sediment is tracked from the project site onto public or private paved streets and roads, typically at points of egress. Sweeping and vacuuming are also applicable during preparation of paved surfaces for final paving.

Limitations

Sweeping and vacuuming may not be effective when sediment is wet or when tracked soil is caked (caked soil may need to be scraped loose).

Implementation

- Controlling the number of points where vehicles can leave the site will allow sweeping and vacuuming effort to be focused, and perhaps save money.
- Inspect potential sediment tracking locations daily.
- Visible sediment tracking should be swept or vacuumed on a daily basis.

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Street Sweeping and Vacuuming

- Do not use kick brooms or sweeper attachments. These tend to spread the dirt rather than remove it.
- If not mixed with debris or trash, consider incorporating the removed sediment back into the project.

Costs

Rental rates for self-propelled sweepers vary depending on hopper size and duration of rental. Expect rental rates from \$58/hour (3 yd<sup>3</sup> hopper) to \$88/hour (9 yd<sup>3</sup> hopper), plus operator costs. Hourly production rates vary with the amount of area to be swept and amount of sediment. Match the hopper size to the area and expect sediment load to minimize time spent dumping.

Inspection and Maintenance

- Inspect BMPs prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two-week intervals during the non-rainy season.
- When actively in use, points of ingress and egress must be inspected daily.
- When tracked or spilled sediment is observed outside the construction limits, it must be removed at least daily. More frequent removal, even continuous removal, may be required in some jurisdictions.
- Be careful not to sweep up any unknown substance or any object that may be potentially hazardous.
- Adjust brooms frequently, maximize efficiency of sweeping operations.
- After sweeping is finished, properly dispose of sweeper wastes at an approved dumpsite.

References

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Labor Surcharge and Equipment Rental Rates, State of California Department of Transportation (Caltrans), April 1, 2002-March 31, 2003.

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