

CGP Permit Training



**California Regional Water Quality
Control Board
Central Valley Region, Sacramento
Office**

**Storm Water Construction Coordinator
Compliance and Enforcement Unit:**

Primary Coverage Areas

**Alameda, Alpine, Amador, Calaveras,
Colusa, Lake , Stanislaus, Tuolumne**

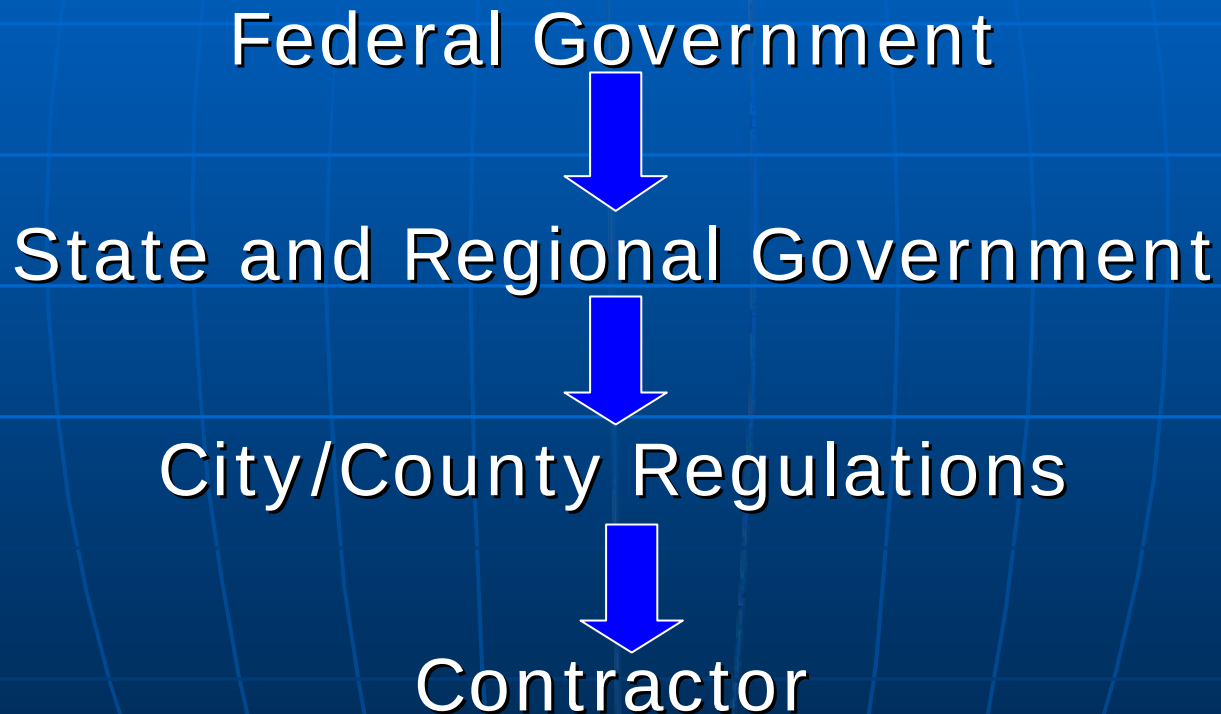
**Rich Muhl
(916) 464-4749
rmuhl@waterboards.ca.gov**



Key topics to be addressed:

- **Regulations**
- **Enforcement**
- **Habitat Violations**
- **Water Board Expectations**
- **Top 25 problems observed last year**
- **Entrapment**

What are the Storm Water Laws Affecting Construction?



Storm Water Phase I

Requires permits for storm water discharges from:

- Medium and large municipal separate storm sewer (MS4) systems –serving or located in areas with populations of 100,000 or greater
- Eleven categories of industrial activity, one of which is construction activity that disturbs 5 acres or more of land

NPDES Phase II

Phase II requires -

- Small MS4 (greater than 10,000) systems located in urbanized areas
- Six Minimum Measures
- Construction activity

**CALIFORNIA REGIONAL
WATER BOARD
PROGRESSIVE
ENFORCEMENT TOOLS**

The Regional Board has a number of ways it can respond to stormwater violations

Informal Enforcement

- Verbal Warning
- Staff Enforcement Letter
- Notice of Violation





Formal Enforcement

- Cleanup and Abatement Order
- Administrative Civil Liability (ACL)
- Joint enforcement with Department of Fish and Game and U.S. EPA
- Referral to District Attorney, Environmental Circuit Prosecutor, or Attorney General

State Administrative Penalties

Maximum Penalties are \$10,000 per day, plus \$10/gallon of sediment- laden or polluted water discharged for each violation

Minimum Amount is the economic savings of the Violation!



REGION 5

RECENT STORM WATER

ACLS/ ENFORCEMENT

<u>DISCHARGER</u>	<u>ACL</u>	<u>COUNTY</u>
Seeno Construction	\$3,000,000	Contra Costa
French Bar Bluffs	\$1,100,000	Stanislaus
PL Roseville (West Park)	\$700,000	Placer
Roseville Fiddment LLC	\$600,000	Placer
Grizzley Ranch	\$ 575,000	Plumas
Natchionni & Knighten	\$ 315,000	Shasta
SRSCD	\$250,000	Sacramento
RW Hertel	\$200,000	Stanislaus
CRV Enterprises Inc.	\$225,000	Calaveras
Tehama Market Assoc.	\$250,000	Tehama
Lakemont Homes (joint agreement)	\$175,000	El Dorado
Freeport Regional Water Auth	\$100,000	Sacramento
Ochoa & Shehan	\$80,000	Shasta
Lemke Construction	\$25,000	Calaveras
Thunder Mountain Lodge	\$10,000	Amador
EPIK Homes	\$10,000	Shasta

Wetland Habitat Violations











vernal pool

tire

silt fence not maintained

01/23/2008

Turbid Stormwater discharge into Vernal Pool



RWQCB Expectations

Construction Projects — Minimize Water Quality Impacts From Land Development

- All Construction Sites > 1 acres
- Must Have An NPDES Permit: NOI
- SWPPP (Living Document, Dynamic and Defensible);
- Implementation of Effective Pollution Prevention BMPs
- Monitor the site

CV-RWQCB

Key Inspection Points

- Effective COMBINATION of erosion and sediment controls
- Proper BMP installation
- Tracking of sediment onto streets
- Concrete, stucco and other waste management
- Evidence of sediment or other pollutant discharge
- Updated SWPPP map
- Detailed monitoring reports in SWPPP

A photograph of a construction site. In the foreground, a large, dark, rectangular concrete structure is being poured or finished. To its right, a large pile of rubble and debris is covered with a black plastic tarp. In the background, a group of five workers in hard hats and safety vests are standing on a raised platform or structure. The site is surrounded by dry, rocky terrain under a clear sky.

TOP 30 Problems Observed On Construction Sites

**Lack of an Effective Combination
of Erosion and Sediment Control
BMPs**

















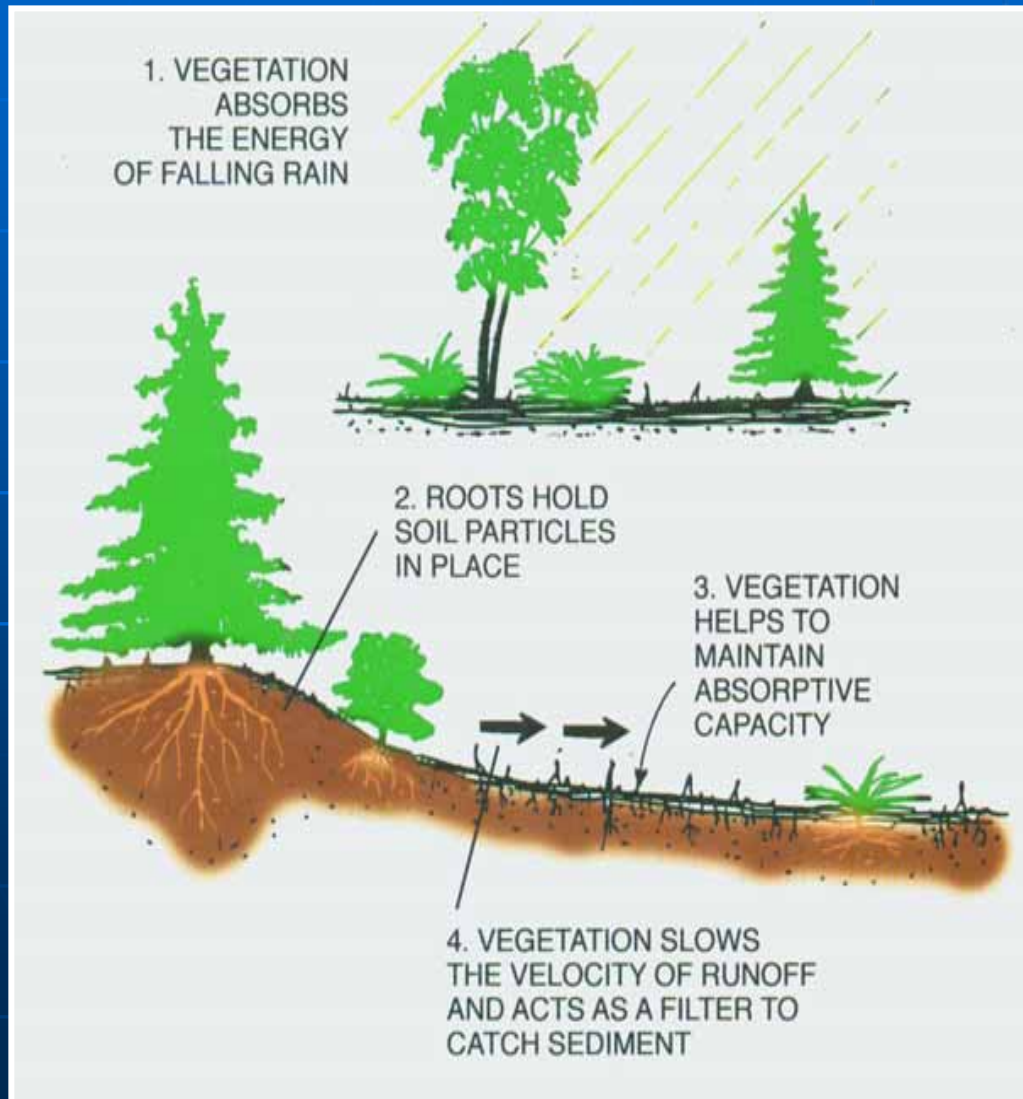




**Erosion Control is
Always the Key to
Effective Storm Water
Management**

The First Order of Business

Preserve existing vegetation



Existing vegetation has already stabilized the area it is growing in, to some degree, so if you can leave it in place, do it!

Without plants, we would have lost all our topsoil already. They are uniquely and perfectly suited to prevent erosion in all its forms.









Three step hydroseeding with mulch

- Step One: Apply seed and fertilizer
- Step Two: Apply mulch (2 tons per acre)
- Step Three: Apply tackifier (glue)





Bonded Fiber Matrix - BFM







A photograph of a construction site. In the background, a yellow bulldozer is visible on a muddy, uneven terrain. The foreground shows a concrete foundation or wall. The text "Ineffective Installation Monitoring and Maintenance of BMPs" is overlaid in the center in a large, bold, yellow font with a black outline.

Ineffective Installation Monitoring and Maintenance of BMPs



Fiber Rolls

Fiber Rolls are alternative to hay bales and silt fences in almost every situation.

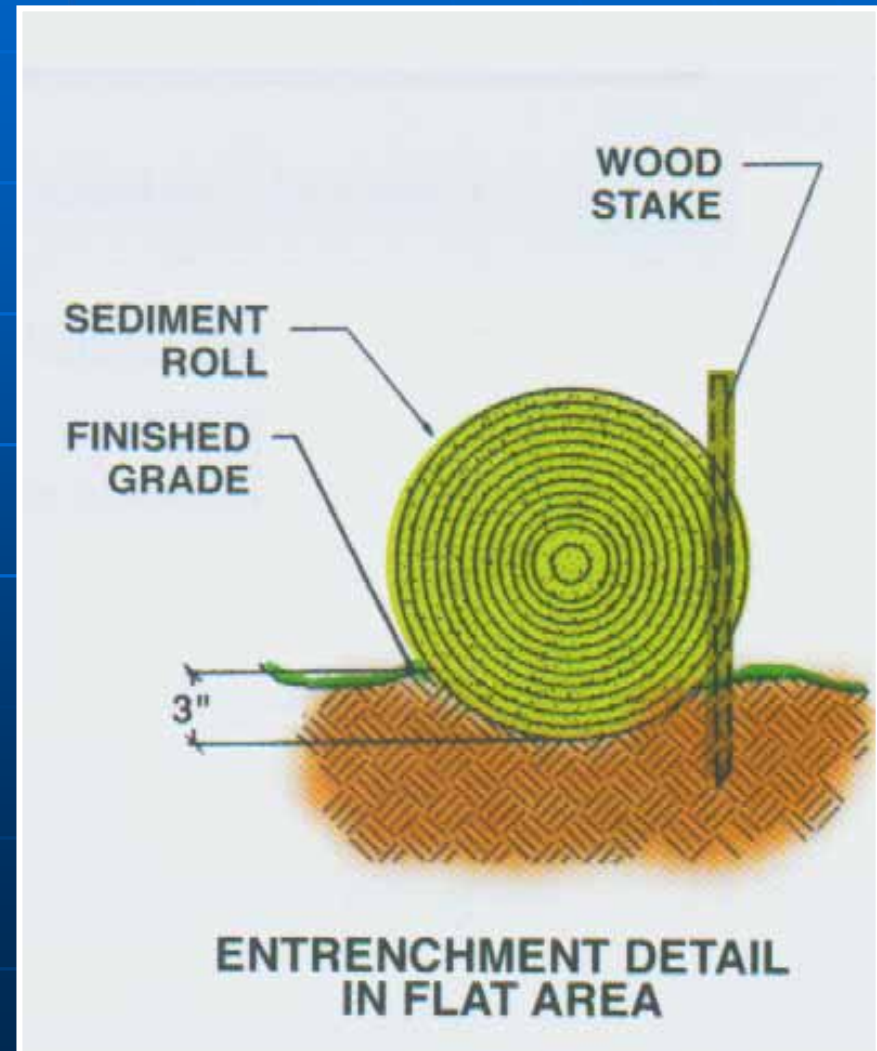
Installation Instructions:

Place rolls into key trench 3 inches deep

Place excavated soil on uphill or flow side of the roll

Rolls should be abutted at the ends, not overlapped

Alternate stakes on both sides of the roll, every six inches









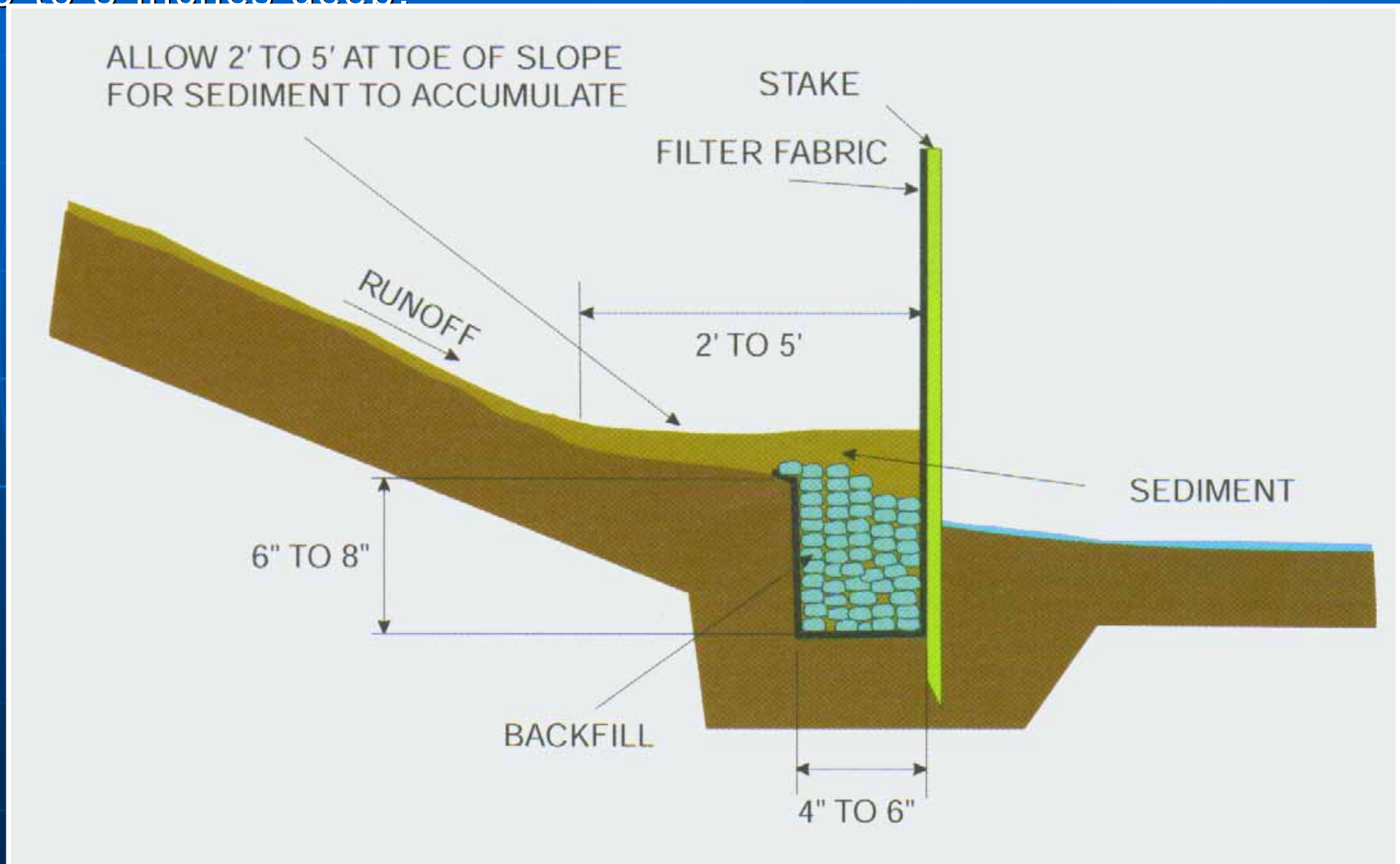


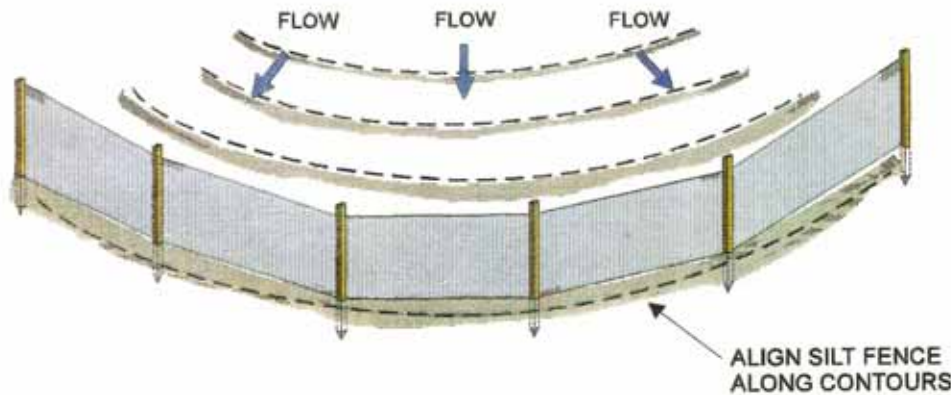
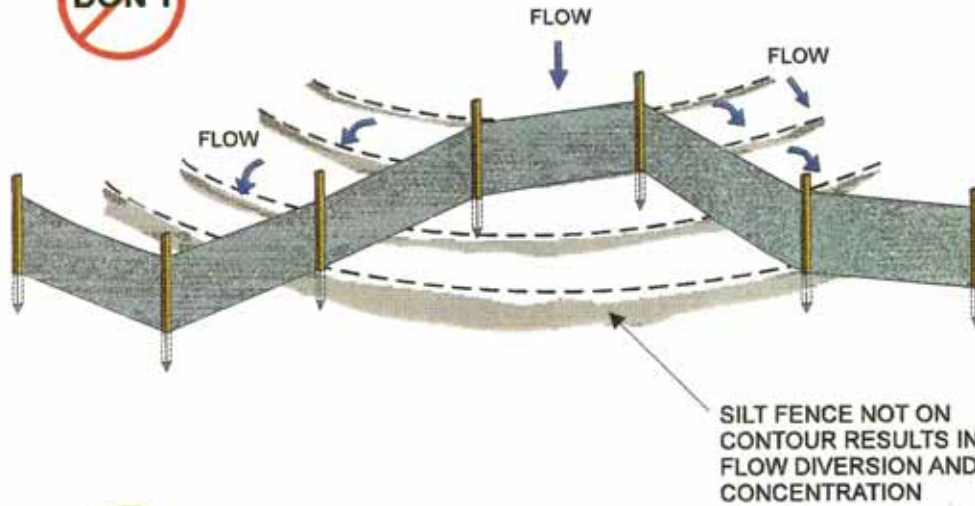




This is how to do it right.

Key in filter fabric a minimum of 4" below the ground surface and 2 to 5 feet from slope toe, then backfill with dirt or gravel to 6 to 8 inches deep.





SILT FENCE

Always align silt fences along the natural contours of slopes. If silt fences divert and concentrate flow, they only make the problem worse. To be effective, silt fences must disrupt the flow of runoff.









Outlet Protection



A photograph of a row of new houses under construction. The houses have light-colored siding and dark roofs. The ground in front of the houses is covered in dirt and debris, including a wooden frame structure in the foreground. The text "Poor Good Housekeeping Practices" is overlaid in large, bold, yellow letters with a black outline.

Poor Good Housekeeping Practices







Tracking on Roadways

A photograph of a truck stop or parking lot. Several semi-trucks are parked in a row, with a red one in the foreground. The ground is paved and shows tire tracks. In the background, there are some buildings and a cloudy sky. The text "Tracking on Roadways" is overlaid in large, bold, yellow letters with a black outline.



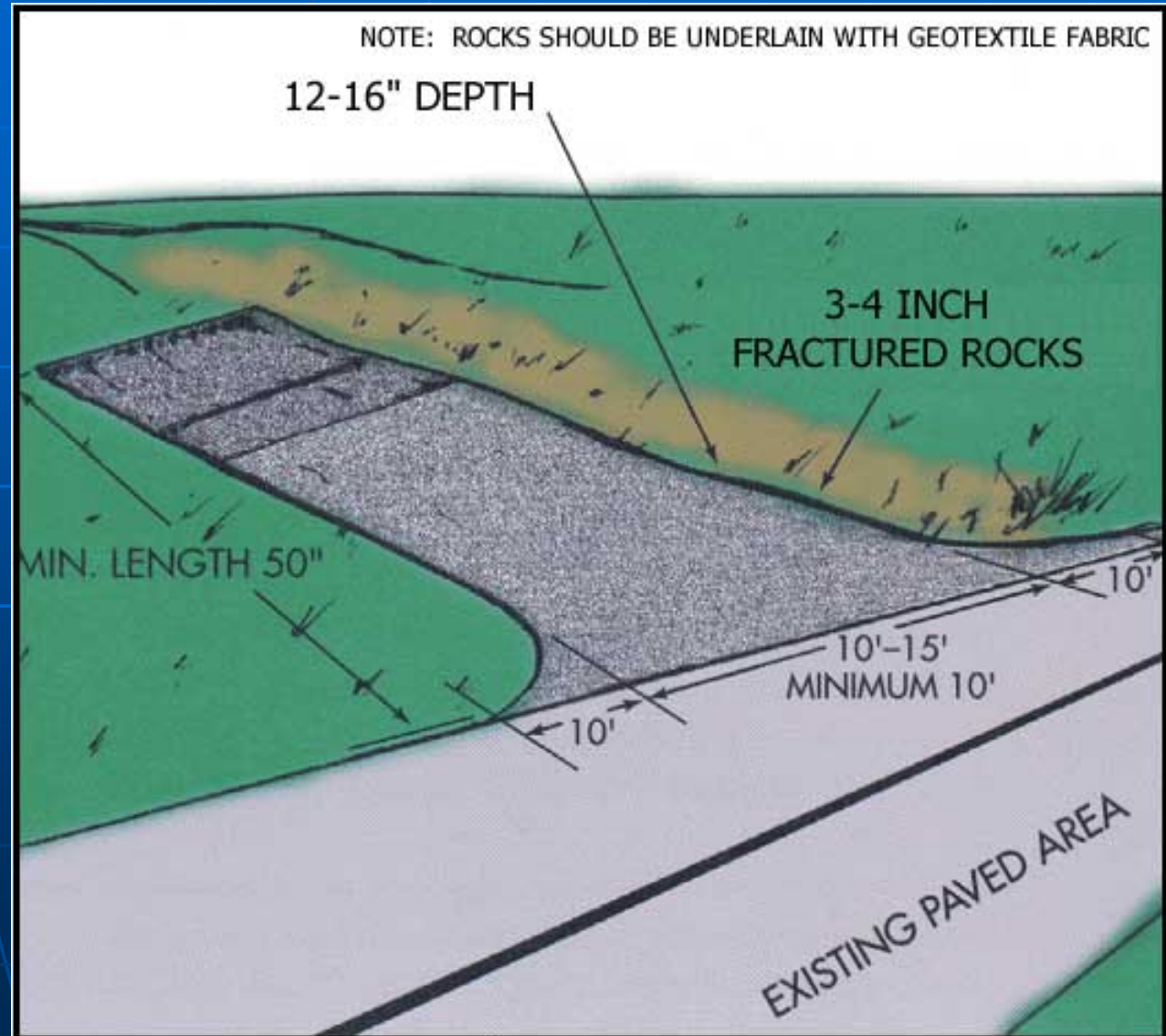




Construction Entrance Controls

A very significant source of non-storm water pollutants discharge is tracking mud from construction site entrances.

This is very easy to mitigate, as shown to the right.







A photograph of a residential street scene. In the background, there are several houses with tiled roofs and white walls. A blue portable toilet is visible near one of the houses. A dark SUV and a white car are parked on the street. A person in a red jacket is standing on the left side of the road. The foreground shows a wet asphalt surface with yellow painted lines. Overlaid on the center of the image is the text "Improper Washing of Streets" in a large, bold, yellow font with a black outline.

Improper Washing of Streets







**Sweep streets, walks and
driveways before washing down!**











Stockpile Management











Ineffective Concrete Washout Areas





Waste
Services
(916) 634-0600



CONCRETE
WASH
OUT







Placement and Condition of Toilets







Materials Stockpile Area





Ineffective Drain Inlet Protection and Maintenance



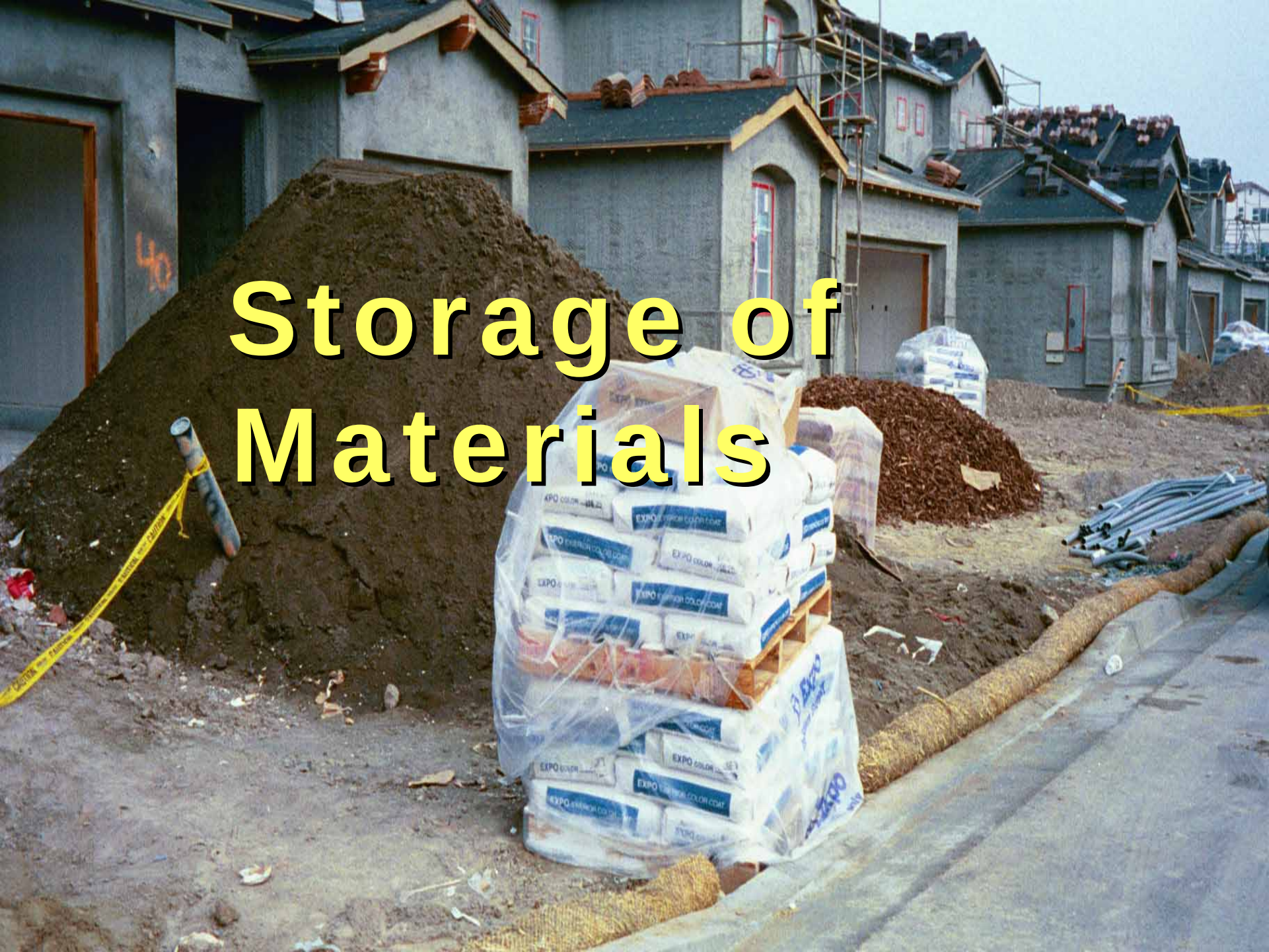








Storage of Materials





Paint / Stucco / Concrete / and Related Discharges









STUCCO
PIT









Power Washing and Washing of Driveways

- If you power wash or hose down driveways you must protect the storm drain with BMPs
- Use BMPs such as rock bags, weighted fiber rolls, or birms to pond the water and then pump it to the side or back of the lot using a pump or shop vacuum system.





Improper Landscaping Activities



**Avoid
landscaping
in the rain!**





A photograph of a stream flowing through a wooded area. The water is dark and rippled, reflecting the surrounding greenery. The banks are covered with dense foliage and trees. The text "De-Watering Activities" is overlaid in the center in a bold, yellow, sans-serif font.

De-Watering Activities













The Potential for Entrapment affects nearly all sites







KTM Ruler™



Date:

Species:

Datapoint:

Route Name:

Coordinates:

Location:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18





Objective

- Prevent Entrapment
- Prevent Erosion
- Promote Vegetation
- Root or Reinforcement
- Frictional Interface

Animal Friendly Products

- Blankets w/ Soil Backfill
- Moveable Joint
- Netless Blankets
- Opening size of Net
- 3 Dimensional - Cuspated



Look, Ma!
One hand!



SO EFFECTIVE, IT'S ALMOST PERFECT

	C-Factor¹	Effectiveness Rating	Soil Loss/ Plot²
Futerra [®] F4 Netless [™]	0.001	99.9%	0.4 lb
Futerra [®]	0.003	99.7%	1.4 lb
Single-Net Straw Blanket	0.073	92.7%	28.9 lb
Single-Net Excelsior Blanket	0.075	92.5%	29.8 lb
Bare Soil Control	1.000	0.0%	397.0 lb



SC150BN



SC150BN

Wetland Un-vegetated SC150BN



Wetland Vegetated SC150BN



Contacts

Jacque Kelley

(916) 464-4764

jkelley@waterboards.ca.gov

Sacramento / El Dorado

Marty Hartzell

(916) 464-4630

mhartzell@waterboards.ca.gov

Nevada / Placer / Sierra / Sutter
Yuba

Robert Ditto

(916) 464-4841

rmuhl@waterboards.ca.gov

Contra Costa / San Joaquin
Lake / Solano / Yolo

Rich Muhl

(916) 464-4749

rmuhl@waterboards.ca.gov

Alameda / Alpine / Amador
Calaveras / Colusa / Lake
Napa / Stanislaus / Tuolumne