

# CONSTRUCTION INSPECTIONS WORKSHOP

**MRP Provision C.6** 



November 14, 2019

#### **Logistics and Disclaimer**

#### **Cell phones**

Please silence them

#### Restrooms

#### Questions

Ask as we go along

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# **Workshop Agenda**

Session	Speaker	Time
Check-in and complete survey		8:00-8:30
Introduction and Welcome	Karin Graves	8:30-8:40
MRP Provision C.6 Refresher	Sandy Mathews	8:40-9:00
Stormwater Protection Principles for Construction Sites and BMP Review	Sandy Mathews	9:00-9:45
Break		9:45-10:00
Inspections and Documentation Best Practices and Tools	Sandy Mathews	10:00-10:15
Real Stories from the Field	David Klapperich Neil Mock	10:15-11:00
Regional Water Board Perspective – Inspections and Issues	Maggie Monahan	11:00-11:30
Wrap-up – questions, survey, and evaluation		11:30-Noon



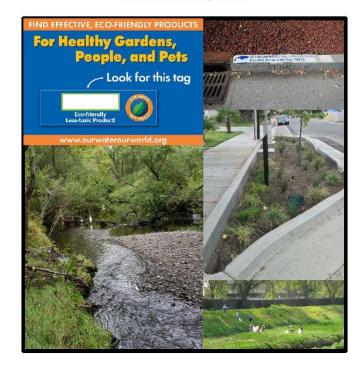
#### MRP PROVISION C.6 REFRESHER

### Municipal Regional Permit (MRP) 2.0

- All local jurisdictions are responsible for implementing programs to protect the quality of discharges from their stormwater drainage systems
- Provision C.6 of the MRP requires Permittees implement a construction site control program to prevent construction site discharges of pollutants and impacts on receiving waters

California Regional Water Quality Control Board San Francisco Bay Region Municipal Regional Stormwater NPDES Permit

> Order No. R2-2015-0049 NPDES Permit No. CAS612008 November 19, 2015



## **Construction Site Control Requirements**

- C.6.a Legal Authority
- C.6.b Enforcement Response Plan (ERP)
- C.6.c Best Management Practices Categories
- C.6.d Plan Approval Process
- C.6.e Inspections, tracking and reporting
- C.6.f Staff Training

### C.6.a – Legal Authority

- Each jurisdiction is required to have the legal authority and ability to prevent discharges of pollutants and implement progressively stricter enforcement
  - Require effective stormwater pollutant controls
  - Oversee and inspect projects
  - Require expedient cleanup

# C.6.b - Enforcement Response Plan (ERP)

- ERP provides guidance for inspectors on initiating and escalating enforcement actions
- Model prepared by the CCCWP can be customized by each municipality

#### **Model Enforcement Response Plan**



#### February 2016

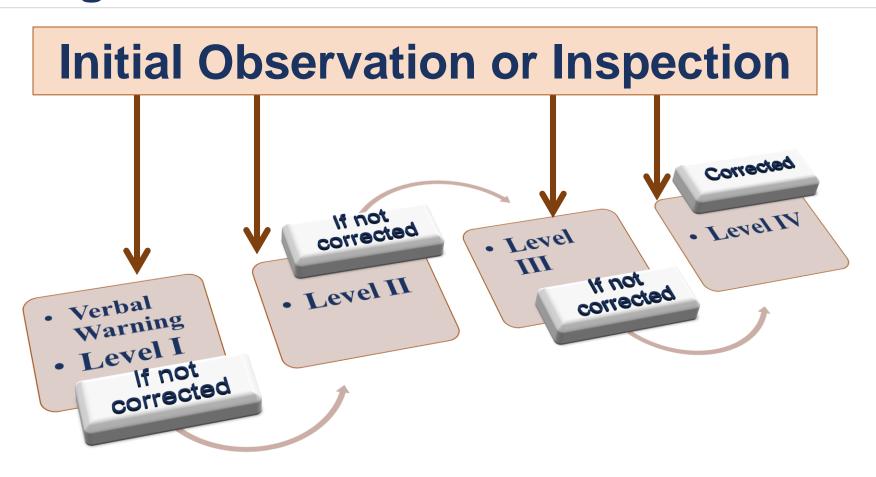
#### Prepared for:

Contra Costa Clean Water Program Management Committee

#### Prepared by:

Program Staff Contra Costa Clean Water Program 255 Glacier Drive Martinez, California 94553 (925) 313-2360

#### **Escalating Enforcement Process**



### What is Timely Correction?

- Actual discharges must be stopped immediately
- For other issues, implement corrective actions before the next rain event but no later than 10 days after discovery
- Document and provide a rationale for corrective action that takes longer than 10 days



## C.6.c – Best Management Practices Categories

- All sites must implement BMPs in the following categories
  - 1. Erosion Control
  - 2. Sediment Control
  - 3. Run-on and Runoff Control
  - 4. Active Treatment Systems (as needed)
  - 5. Good Site Management
  - 6. Non-Stormwater Management

#### C.6.d – Plan Approval Process

- Before issuing a grading permit, review erosion control plan to ensure that it:
  - Conforms to the local grading ordinance and other local requirements
  - Contains seasonally appropriate and effective BMPs
- Confirm sites <u>one acre or more</u> have filed for coverage under the State Construction General Permit (CGP)
  - Site as a has a WDID #
- Provide education materials, as appropriate

### C.6.e – Inspections

- Send annual wet season notification by September 1
- Conduct monthly inspections October April
  - ≥ 1 acre sites, hillside projects, and high priority sites
- Review adequacy of BMPs and consistency with local ordinances
- Require timely corrections of actual or potential problems observed

#### Monthly Rainy Season Inspections Required

#### ≥1 acre sites

 Sites that disturb 1 acre or more of land (CGP sites)

#### Hillside projects

- Sites disturbing ≥5,000 sf of land that:
  - Meet local hillside development criteria Or
- Are in local hillside development zones
- Or
- Where there are no local criteria, sites with ≥15% slope

#### **High priority sites**

- Determined by the Regional Board or local jurisdiction
- Erosion potential
- Soil type
- Slope
- Size/type
- Sensitivity/proximity of receiving water
- NSWDs
- Other factors

Rainy season is October - April

#### C.6 Review

### C.6.e – Tracking

- Use written or electronic inspection form
  - Program developed a standard inspection form
- Track/log data
  - Inspection log must be made available to Regional Water Board during inspections or audits
- Follow ERP if violations are identified

Location Current weather (check all that apply) □Sunny □Cloudy □Windy □Rainy						
Permit No. Permit Type: ☐ Building ☐ Grading						
☐ Site Development ☐ CIP Project						Has there been rainfall with runoff since last
Project Type: ☐ Commercial/Industrial ☐ Residential ☐ Street Improvement ☐ Landscaping inspection? ☐ Yes ☐ No						
Does the project disturb one acre or more? □Yes ↓ □No ↓  Copy of NOI submitted? □Yes □No Erosion Control Plan on site? □Yes □N					ntrol Plan on site? TVes TNo	Reason for inspection: □Routine □Pre-Rain
SWPPP on site?   Yes   No Date on SWF	PP:				osion Control Plan:	□During Rain □After Rain □Follow-up □Other (state):
Covered by Statewide Construction General		Yes □			riority Site?   Yes   No	— Culler (state).
CONTRA COSTA CLEAN WATER PROGRAM	Not Applicable	Adequate	Needs Attention	Violation		more than 10 business days will be required to altionale for that schedule in the comments.
Erosion Control Measures			<i>37</i>	100	Comments	
Jute Netting/Fiber Blankets						
Mulch						
Hydroseed/Soil Binder/Compost Blanket						
Mark Areas to be Preserved						
Tree Protection Fencing Riparian Area Barrier		ä				
Sediment Control Measures		2000	-	_	Comments	
Wattles/Fiber Rolls/Compost Socks					Confinents	
Silt Fences/Compost Berms						
Sedimentation Basin						
Inlet Filters (bags, sand, gravel)						
Dust Control						
Stabilized Construction Entrance						
Check Dams						
Street Sweeping Earth Dikes/Drainage Swales		lö		H		
Run-on and Run-off Control		*******			Comments	
Earth Dikes/Drainage Swales					Comments	
Sampling is conducted if required (CIPs or						
Active Treatment System					Comments	
Good Site Management		T			Comments	
Construction Materials (wood, cement, etc	.) 🗆				Comments	
Petroleum Products (oil, fuel)	"   _	000				
Hazardous Materials ((paint, solvents)						
Waste Systems Management						
Soil Stockpiles Vehicle Servicing		H				
Non-Stormwater Management	Front		, tend	-	Comments	
Concrete Washout Area Sampling is conducted if required (CIPs or	nlv)				Comments	
Discharge Points Are the discharge points free of evidence of i	., _		 □Yes		Comments	
Enforcement and Follow-up		Date	Proble	m First	Identified:	Next Follow Up Inspection Date:
Comments		-				
Enforcement Action:   None/In compliance	☐ Verba	Notice	□Not	tice to (	Comply ☐Notice of Violation ☐Stop V	Vork □Administrative Fine
Resolution   Problem Fixed   Need More Time   Escalate Enforcement   Date Problem Resolved:  Was there rain with runoff after the problem was identified and before it was resolved?   Yes   No						
Inspector Signature						Date

**Construction Site Inspection Report** 

Inspection Date:

Project Name:

### C.6.e – Reporting

#### Information to be reported

- a. Number of active hillside sites <1 acre
- b. Number of sites ≥1 acre
- c. Number of active high priority sites <1 acre
- d. Number of inspections conducted (all inspections\*\*)
- e. Number and type of enforcement actions
- f. Number of illicit discharges (actual and inferred)
- g. Number of enforcement actions or discrete number of potential and actual discharges fully corrected

### **Annual Report Template: # of Inspections**

C.6.e.iii.(3)(a), (b), (c),	(d) ►Site/Inspection Totals		
Number of active Hillside Sites (sites disturbing < 1 acre of soil requiring storm water runoff quality inspection) (C.6.e.iii.3.a)	Number of High Priority Sites (sites disturbing < 1 acre of soil requiring storm water runoff quality inspection) (C.6.e.iii. 3.c)	Number of sites distu 1 acre of soil (C.6.e.iii.3.b)	inspections conducted (include only Hillside Sites,
# Guidance: This is the total number of SITES considered Hillside Projects based on criteria submitted in FY 2015-2016 Annual Report, which triggers a requirement for monthly inspection during the rainy season.	Guidance: This is the total number of SITES considered high priority, which triggers a requirement for monthly inspection during the rainy season. Please see MRP for discussion of what sites are considered high priority sites.  Sites disturbing less than one acre of soil that are not considered high priority by the Permittee should not be reported here.	# Guidance: This is the number of SITES that one or more acress and are inspected reduring the rainy se	disturb conducted at hillside sites, high priority sites and at sites disturbing one or more acres of soil. Do not nonthly list inspections that are conducted at sites that are

#### Comments:

Guidance: Do not leave any cells blank.

Provide explanatory details about the data reported above if necessary.

Provide the number of inspections that are conducted at sites not within the above categories as part of your agency's inspection program and a general description of those sites, if available or applicable.

Guidance: Do not leave this cell blank. Write the number of inspections and general description of sites inspected, or write "Information not available" or "Does not Apply".

### **Annual Report Template: Enforcement Actions**

#### C.6.e.iii.(3)(e) ► Construction Related Storm Water Enforcement Actions

Guidance: Do not leave any cells blank. Provide a brief description of each enforcement action level (e.g., verbal warning, notice of violation, stop work order, legal action, etc.)

	Enforcement Action (as listed in ERP) <sup>1</sup>	Number Enforcement Actions Issued
Level 1 <sup>2</sup>		
Level 2		
Level 3		
Level 4		
Total		

#### C.6.e.iii.(3)(f), ►Illicit Discharges

Guidance: Do not leave any cells blank.

Number of illicit discharges, actual and those inferred through evidence at hillside sites, high priority sites and sites that disturb 1 acre or more of land (C.6.e.iii. 3.f)

Number

## **Annual Report Template: Enforcement Actions**

C.	6.e.iii.(3)(g) ► Corrective Actions	
Inc	dicate your reporting methodology below.	
	Permittee reports multiple discrete potential and actual discharges at a site as one enforcement action.	
	Permittee reports the total number of discrete potential and actual discharges on each site.	
		Number
	forcement actions or discrete potential and actual discharges fully corrected within 10 business days after plations are discovered or otherwise considered corrected in a timely period (C.6.e.iii3.g)	
Со	omments:	
	uidance: Do not leave any cells blank. Provide an explanation for each enforcement actions or discrete potential a solved within 10 days or otherwise deemed resolved in a longer but still timely manner. Potential and actual dischai	

### **Annual Report Template: Trends & Effectiveness**

#### C.6.e.iii.(4) ► Evaluation of Inspection Data

Describe your evaluation of the tracking data and data summaries and provide information on the evaluation results (e.g., data trends, typical BMP performance issues, comparisons to previous years, etc.).

Description:

#### C.6.e.iii.(4) ► Evaluation of Inspection Program Effectiveness

Describe what appear to be your program's strengths and weaknesses, and identify needed improvements, including education and outreach.

#### Description:

Guidance: Evaluate your construction inspection program and summarize efforts conducted by your municipality in FY 18-19 to implement MRP requirements, such as: 1) revised stormwater construction inspection forms and inspection data tracking tools; 2) revised operating procedures and provided training to inspectors; 3) conducted inspections with the new forms; 4) participated in the countywide program's committees/work groups; and 5) participated in the BASMAA Development Committee (if applicable). Refer to the C.6 Construction Site Control section of countywide program's FY 18-19 Annual Report (if applicable) for a description of activities at the countywide or regional level.

# **Annual Report Template: Staff Training**

C.6.f.iii ► Staff Training Summary				
Training Name	Training Dates		Topics Covered	No. of Inspectors in Attendance

### C.6.f – Staff Training

- Provide training or access to training for staff involved in construction site stormwater inspections
- Training to be provided at least every other year



Today's workshop meets the C.6.f training requirement

### **Summary of MRP Provision C.6**

- Review erosion control plans
- Inspect sites to confirm effective BMP implementation
- Perform follow-up and enforcement consistent with your agency's ERP to correct problems
  - Escalate enforcement as appropriate
- Report data that summarizes your effort and demonstrates the effectiveness of your construction program
- Train staff responsible for these tasks





# STORMWATER PROTECTION PRINCIPLES AND BMPS FOR CONSTRUCTION SITES

#### **Layers Of Controls Protect Local Creeks and Bays**

# Urban runoff ordinance

- Protects water quality
  - Non-stormwater discharge provisions

# Outreach to all projects

BMPs to minimize erosion and pollutant discharges

C.6 projects

 Erosion Control Plans to protect water quality

CGP projects

State NPDES permit to protect water quality

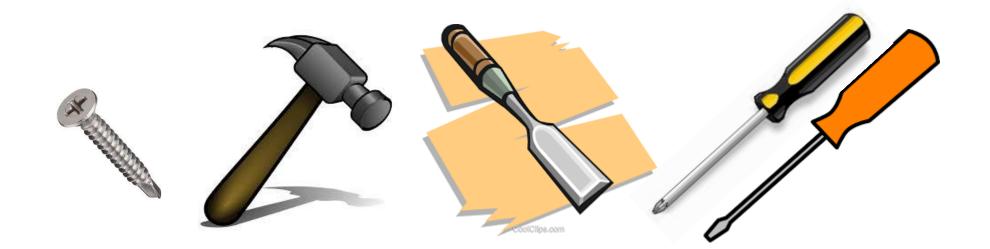


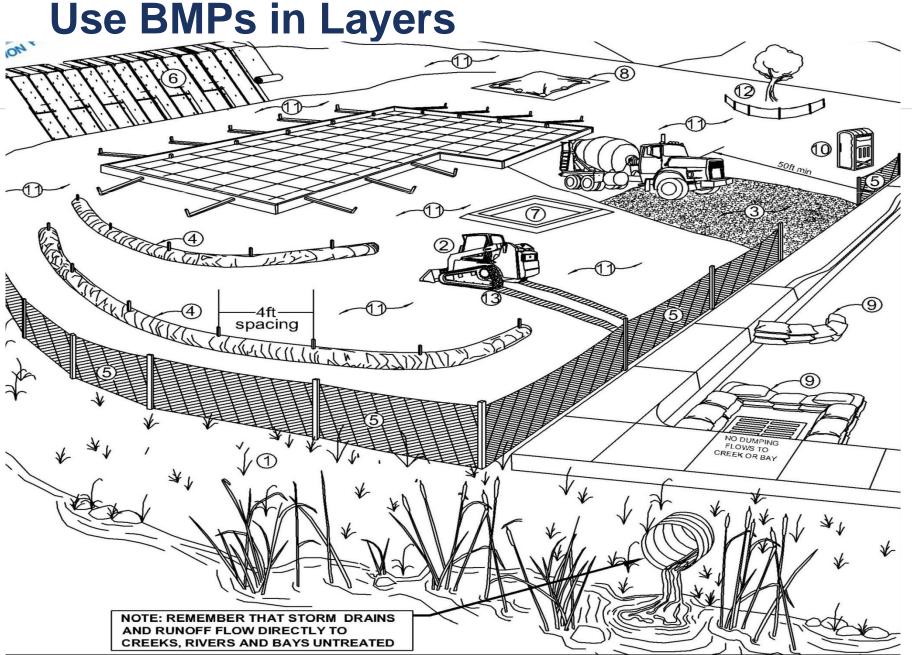
#### **Basic Principles of Stormwater Quality Protection**

- Plan for stormwater protection
- Use and maintain BMPs at appropriate levels year-round
  - Minimize pollutant exposure
    - Don't expose potential pollutants to wind and rain
  - Protect exposed pollutants
    - Keep pollutants from being washed or blown away
- Use BMPs in layers to protect water quality and plan for accidents

#### Planning for Stormwater Protection

- BMPs are the tools that are used for stormwater protection
- BMPs must be deployed in the right place and at the right time
- Construction sites are dynamic so BMPs will need to be updated as schedules and conditions change





# **Common Sources of Water Pollutants on Construction Sites**

Material/Activity	Pollutant	Effect on Creeks
Grading/soil disturbance	Sediment	Fills spawning gravels, clogs gills, impairs ability to hunt
Concrete wastewater	рН	Toxic to aquatic life
Concrete wastewater Vehicle fueling & maintenance	Metals	Toxic to aquatic life
Paints and solvents	Synthetic organic compounds	Toxic to aquatic life
Landscape trimmings and fertilizers	Nutrients	Causes algal blooms, depletes oxygen
Landscape trimmings	Biochemical oxygen demand	Depletes oxygen
Asphalt/Paving Vehicle fueling & maintenance	Oil & grease	Causes sheen, toxic to aquatic life

### **General Tips for Inspectors**

- Does field implementation match the Erosion Control Plan
  - Schedule?
  - Activities?
  - BMPs?
- Understand how the BMP works and proper installation
- Use the BMP resources for inspection guidance
  - Suitable Applications where is the BMP appropriate
  - Limitations where to use caution with the BMP
  - Implementation how to install the BMP
  - Inspection and maintenance what to look for after installation

# **C.6 Minimum BMP Categories Toolbox**

BMP	Typical Applications
1. Erosion Control	Apply on graded areas and soil stockpiles.
2. Sediment Control	Apply <u>around</u> graded areas, soil stockpiles, landscape materials, site perimeter, at inlets/ catch basins. Includes sweeping and tracking
3. Run-on and Runoff Control	Diverts water away from disturbed areas and controls water leaving site.
4. Active Treatment Systems	Not common, chemical treatment systems to remove sediment.
5. Good Site Management	Good housekeeping and site management throughout site, especially material laydown areas.
6. Non-stormwater Management	Water conservation and practices to prevent non-stormwater discharges.

#### **Erosion control prevents soil from becoming sediment!**

- Covers soil to protect it from being washed or blown away
  - Vegetation
  - Blankets
  - Mulch





## **Reducing Erosion**

- Soil Loss or Erosion is a function of three factors
  - Rainfall intensity (R)
  - Soil type (K)
  - Length of Slope (LS)

Soil Loss = R\*K\*LS\*C\*P

- Erosion is mitigated by
  - Cover type (C)
  - Erosion control practice (P)
- Only LS, C, and P can be manipulated on the project site
- R is affected by project time and duration

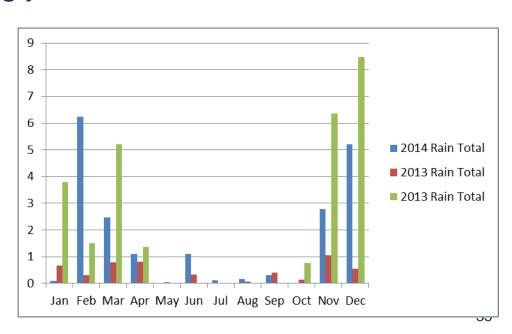
## **Scheduling**

- A sequence of construction activities and BMPs that considers local weather patterns
- Goal reduce the area and duration of soil exposure
- Avoid work in the rainy season when feasible
- Track weather and modify activities accordingly

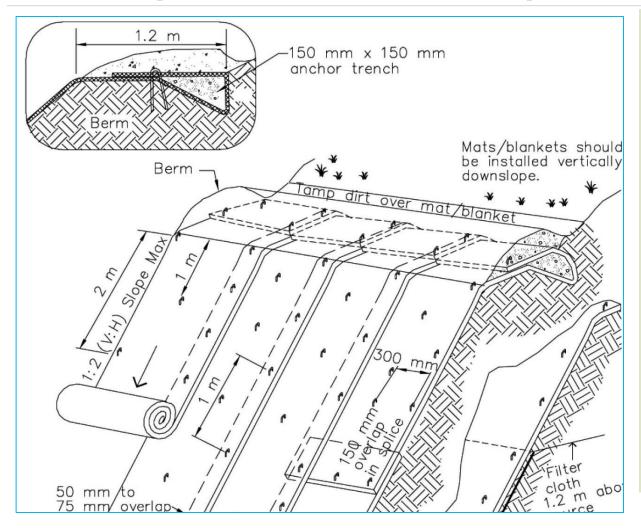
Tips for Inspectors

Awareness of weather forecast

Stockpiled BMPs for rapid deployment



### Fiber (Erosion Control) Blankets



#### Tips for Inspectors

- Blanket overlap no gaps
- Stapled to soil
- Not stretched
- Anchored at top
- Install vertically downslope
- Natural fiber nets for permanent

installations



## Track Walked Slope Treated with Hydromulch



## Hydroseeding/Hydromulch

- Look for complete coverage of soil – no or few bare spots
- Look for erosion rills
- Seeds need irrigation or light rains to germinate
- Best if soil is track walked before application







## **Sediment Control**

- Trap sediment and keep on site and out of storm drains
  - Silt fences
  - Wattles
  - Construction entrances
  - Sweeping

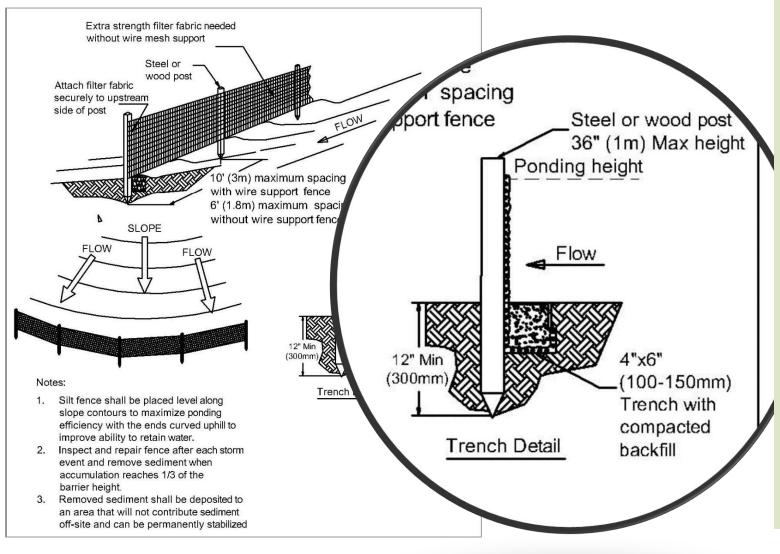




## Tip for Inspectors

 Look for sediment controls where runoff will leave the site

## Silt Fence



- Installed on contour!
- Ponds water is there space?
- Tug test trenched and compacted
- Sediment no more than 1/3 height
- No gaps between sections
- Look for undercutting (or light under fence)
- Cannot use in concentrated flow paths

# Fiber Rolls (Wattles) Type 1 Installation



- Installed on contour!
- Cannot be used on pavement
- Stakes ~ every 4-ft
- Trenched 1/4-1/3 the height of the wattle
- Toe test can you lift the wattle with you toe?
- Sediment build up no more than 1/3 height
- Overlap sections
- Look for undercutting
- J-hook ends up slope

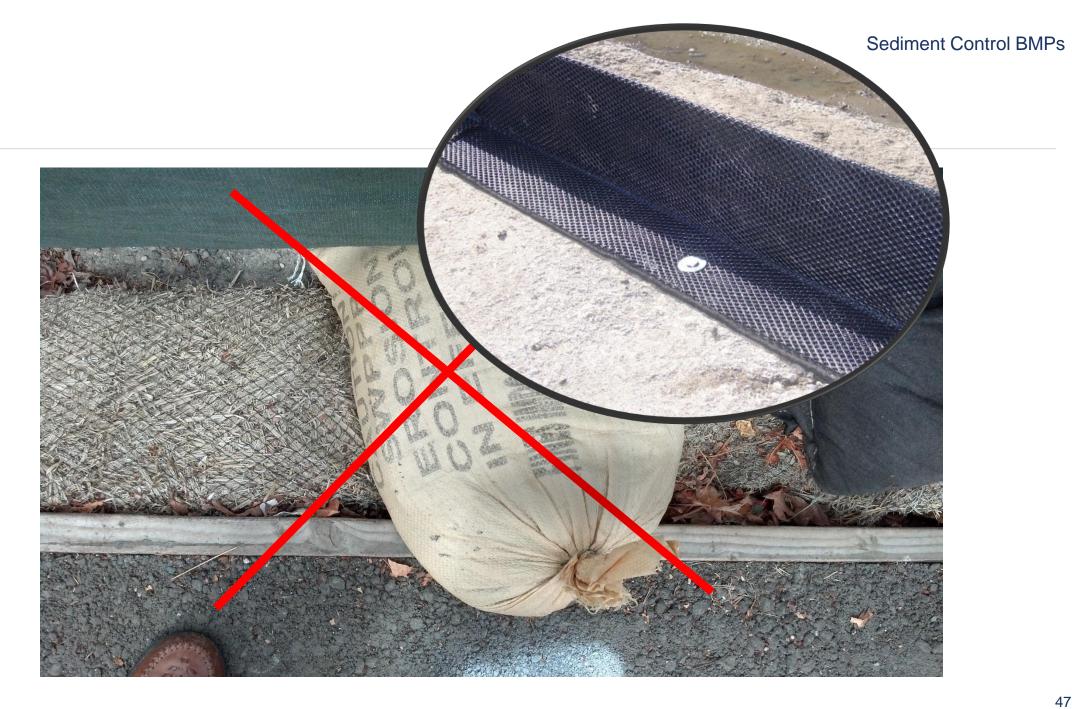


Fiber Rolls (Wattles) Type 2 Installation



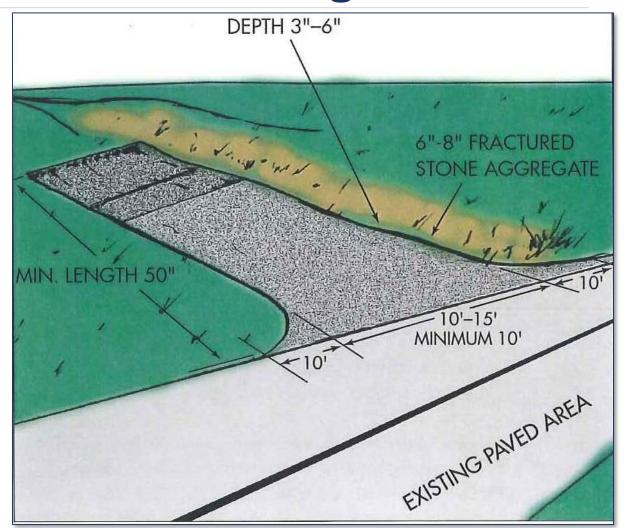


- Installed on contour!
- Cannot be used on pavement
- Can be installed over erosion control blankets
- Toe test can you lift the wattle with you toe?
- Rope holds wattle to soil, trench is optional
- Sediment build up no more than 1/3 height
- Overlap sections
- Look for undercutting

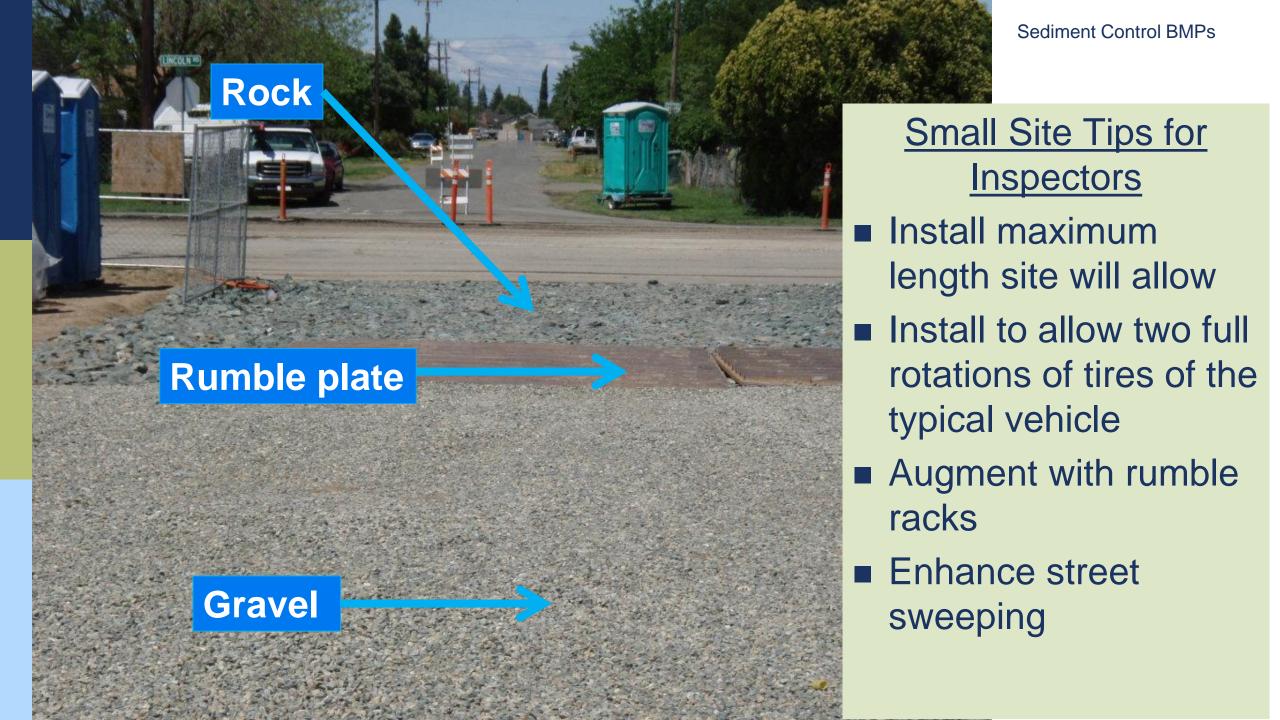


## Stabilized Entrance/Exit Standard Design

- Rock pad underlain with a geotextile fabric
  - 10 feet wide accommodate width of vehicles
  - 50 feet long accommodate several wheel rotations
  - 3-inch to 8-inch rock (sources vary on rock size)
  - 6 to 12 inches deep layer of rocks







## Drain Inlet Protection Last Line of Defense



- Cannot be the only sediment control BMP!
- Look for protection at drains on-site and immediately off-site
- Woven geotextile bags (in good condition)
- Bags filled with gravel
- Not stacked higher than curb line
- Spillway for water to get to DI
- Cannot use silt fence fabric over inlet
- Remove sediment accumulation when
   1/3 height of barrier

## **Storm Drain Inlet Protection**



J-hook check dam along the flow path





Protection at the drain

## Street Sweeping / Vacuuming Inspection Tips

- Look for evidence of daily street sweeping/vacuuming
  - Visual is the roadway clean? Is the sweeper present?
  - Records are there logs/invoices for sweeper services?



## **Active Treatment Systems**

- System that uses chemical coagulation, chemical flocculation, or electrocoagulation to reduce turbidity
- Systems typically include basins or holding tanks, pumps, filtration units, and online monitoring systems

If ATS is used must meet the CGP ATS requirements (Attachment F of the CGP)



- Check how chemicals are stored
  - Secondary containment!
- Check the discharge point
  - Effluent should be clear
  - No signs of erosion

#### **Run-on and Runoff Controls**

#### Run-on Control

 Manage/divert runoff and dry weather flows that originate outside the project around the project or disturbed areas

#### Runoff Control

- Manage runoff within the project
  - Prevent runoff from flowing through disturbed areas
  - Direct runoff to sediment controls



#### Run-on/Runoff BMPs



## **Good Site Management**

 Source control practices that minimize exposure of construction materials and waste to rain and wind







- Check material and waste storage areas
  - Is the site prepared for spills and leaks

## **Stockpile Management**



- Covers for inactive soil piles
- Covers tied down
- Perimeter controls for soil piles

## **Hazardous Materials and Petroleum Products**







## **Sanitary Waste Management**

- Manage sanitary wastes by providing convenient, appropriately placed, well-maintained facilities
- Arrange for regular service and disposal

- Placed on flat surface and secure units
- Out of gutter and away from storm drains
- Secondary containment



## **Equipment and Vehicle Servicing**





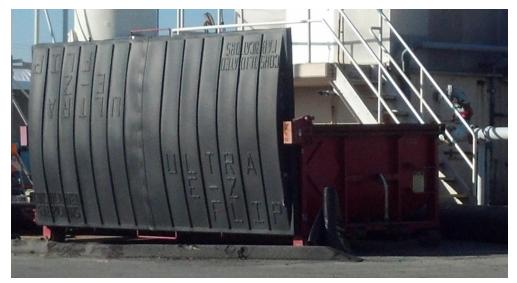
- Only necessary maintenance at site
- Drip pans, absorbent pads, and tarps available or in use to contain drips
- Evidence of spills or excessive leaks

#### Tips for Inspectors

- Covers in place or available to be deployed
- Excessive litter on site
- Uncontained piles of trash
- Leaks from bins

## Waste and Litter Management









## Non-Stormwater Management



- Evidence of discharge,e.g., stains, wet areas
- Ask about hoses or unlabeled pipes
- Excessive runoff from irrigation or dust control

## **Concrete Washout**



- Wash out set up before start of concrete operations
- Leaks or damaged containers
- Overtopping
- Away from storm drains

## Copper is a Significant Water Quality Concern

- Copper is used in a variety of architectural features
  - When installed these features may be cleaned, treated (patinated), or washed
- Treatment solutions and rinse or wash water from copper features must be collected for proper disposal

#### Tips for Inspectors

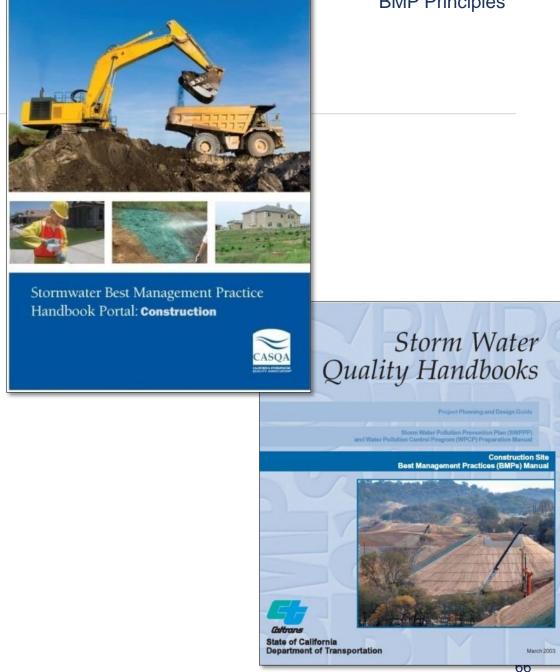
 Ask operators about plans treat or wash features



Source: Wiki commons, http://www.rutlandguttersupply.com/copperdome.asp

#### **BMP References**

- CASQA California BMP Handbook, Construction, 2012 and subsequent updates
  - Access via CCCWP subscription: http://www.casqa.org
- Caltrans Stormwater Quality Handbook, Construction Site BMP Manual, 2003
  - Available online at: http://www.dot.ca.gov/hq/construc/stor mwater/manuals.htm



## Recapping the C.6 BMPs

- 1. Erosion Control
- 2. Run-on and Runoff Control
- 3. Sediment Control
- 4. Active Treatment Systems (as necessary)
- 5. Good Site Management
- 6. Non-stormwater Management
  - Architectural Copper





David Klapperich, Contra Costa County | Neil Mock, Walnut Creek

## **REAL INSPECTION STORIES**

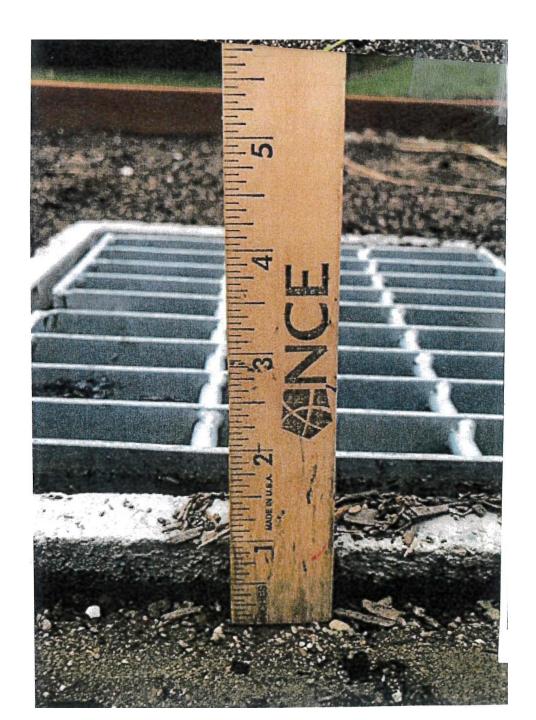
# **Inspecting Bioretention Facilities: Issue Observed**





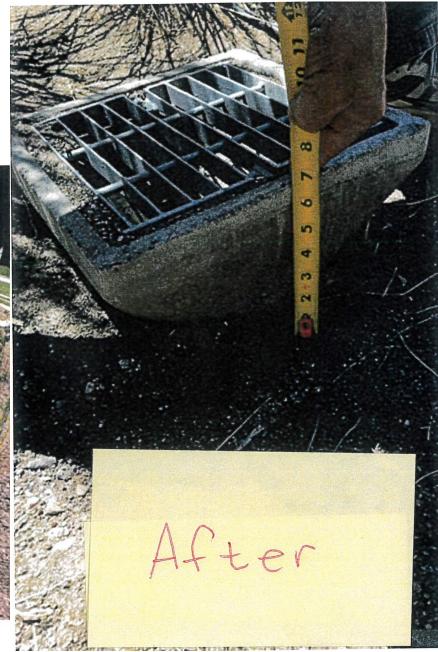
## **Inspecting Bioretention Facilities: Issue Observed**





## **Inspecting Bioretention Facilities: Issue Remedied**













# INSPECTIONS, DOCUMENTATION, BEST PRACTICES AND TOOLS

### **Guidelines for Inspections**

- Frequency
- Goals
- Preparation
- Site Visit
  - What to look for
  - Using the inspection checklist
- Documenting the inspection



### Frequency

- Monthly inspections during the wet season for
  - Sites ≥ 1 acre (CGP sites),
  - Hillside projects, and
  - High Priority sites
     Each agency defines their high priority sites
- Re-inspection for violations
- Many agencies inspect other sites based on local code or agency specific requirements

Wet season = October through April

### **Goals of Inspection**

- Assess compliance with local ordinances
- Check adequacy and effectiveness of BMPs
- Require correction of problems
- Observe
  - Evidence of sediment discharges
  - Evidence of discharge of construction materials
  - Evidence of illicit connections/discharges
- Educate on stormwater pollution prevention

### **Preparation for Inspection**

- Review existing information
  - Past Inspection Records
  - Site Plan/SWPPP Plan
  - Check with other inspectors
- Other useful information
  - SWPPP or Erosion Control Plan
  - Locate site with mapping tools (e.g., GIS, Google Maps) to understand location in watershed
  - Information in SMARTS on CGP sites
    - Annual Reports
    - Monitoring data (pH, turbidity)

### **Preparation for Inspection**

- Gather equipment and tools
  - PPE hard hat, safety glasses, safety shoes, vest
  - Identification
  - Copy of Site Map, plan, schedule
  - Inspection form blanks or field log
  - Camera
  - Enforcement documents
  - Brochures/info



Aplicación de Concreto Fresco y Ladrillo



Mejores Prácticas Para la Industria de Construcción



HEAVY
EQUIPMENT
OPERATION



Best Management
Practices for the
Construction Industry



### At the Site Trailer

- Meet with Superintendent, Qualified SWPPP Practitioner (QSP) or their designee (if available)
- Outline requirements and expectations
- Review erosion control plan
  - Confirm where they are in the schedule, what BMPs are in place, and what is planned
  - Review their inspection logs, sampling results
- Ask Superintendent and QSP (designee) to accompany you on the inspection
- Check on safety concerns

### Conducting the Inspection

- Have a plan for the site walk to cover all your areas of interest
- Point out good and poor practices as you go
  - note violations
  - areas that could be improved
  - good practices
- Photograph notable and poor practices
- Conclude inspection by reviewing findings with the Superintendent and QSP (designee)
  - Note violations, time to correct, and enforcement

## Documenting the Inspection

- Complete the inspection form
- Mirrors the MRP requirements
  - Facilitates reporting
  - Provide consistency across agencies
- Accounts for CGP requirements
  - Used for CIPs

### **Construction Site Inspection Report** Inspection Guidelines **Project Name:** Inspection Date: Location Current weather (check all that apply) □Sunny □Cloudy □Windy □Rainy Permit No. □ Building □ Grading ☐ Site Development ☐ CIP Project Has there been rainfall with runoff since last inspection? Tyes No. Project Type: Commercial/Industrial Residential Street Improvement Landscaping Does the project disturb one acre or more? Reason for inspection: Routine Pre-Rain Copy of NOI submitted? □Yes □No Erosion Control Plan on site? □Yes □No □During Rain □After Rain □Follow-up SWPPP on site? TYes TNo Date on SWPPP Date on Erosion Control Plan: Other (state): Covered by Statewide Construction General Permit? □Yes □No High Priority Site? □Yes □No If, following discovery of a violation, more than 10 business days will be required to achieve compliance, then include a rationale for that schedule in the comments **Erosion Control Measures** Jute Netting/Fiber Blankets Hydroseed/Soil Binder/Compost Blanket 000 Mark Areas to be Preserved Tree Protection Fencing Riparian Area Barrier **Sediment Control Measures** Comments Wattles/Fiber Rolls/Compost Socks Silt Fences/Compost Berms Sedimentation Basin Inlet Filters (bags, sand, gravel) Dust Control Stabilized Construction Entrance Check Dams Street Sweeping Earth Dikes/Drainage Swales **Run-on and Run-off Control** Earth Dikes/Drainage Swales Sampling is conducted if required (CIPs only) **Active Treatment System Good Site Management** 000 000 Construction Materials (wood, cement, etc.) 000 Petroleum Products (oil, fuel) Hazardous Materials ((paint, solvents) 000 000 Waste Systems Management Soil Stockpiles Vehicle Servicing **Non-Stormwater Management** Comments Concrete Washout Area Sampling is conducted if required (CIPs only) Are the discharge points free of evidence of illicit discharge? \(\sigma\)Yes \(\sigma\)No **Enforcement and Follow-up** Date Problem First Identified: Next Follow Up Inspection Date: Enforcement Action: ☐ None/In compliance ☐ Verbal Notice ☐ Notice to Comply ☐ Notice of Violation ☐ Stop Work ☐ Administrative Fine

□ Date Problem Resolved:

Date

Resolution ☐ Problem Fixed ☐ Need More Time ☐ Escalate Enforcement

Signature

Inspector

Was there rain with runoff after the problem was identified and before it was resolved? ☐Yes ☐No

## Document BMP Observations and Actual and Potential Illicit Discharges

- ☑ Not Applicable
- ☑ Adequate
- ✓ Needs Attention
- ☑ Violation
- Comments
  - Document needed actions for BMPs identified as Needs Attention or Violations
  - For actual or potential discharges give a time-frame to correct
    - □ Before next rain event or 10 business days
    - □ If longer than 10 business days, provide justification



### **Use the Inspection Form to Document Enforcement**

- Re-inspection
- Enforcement action taken
- Resolution

Enforcement and Fo	ollow-up	Date Problem First Identified:	Next Follow Up Inspection Date:
Comments			
Enforcement Action: ☐ None/In compliance ☐ Verbal Notice ☐ Notice to Comply ☐ Notice of Violation ☐ Stop Work ☐ Administrative Fine			
<b>Resolution</b> □ Problem Fixed □ Need More Time □ Escalate Enforcement □ D			Date Problem Resolved:
Was there rain with runoff after the problem was identified and before it was resolved? ☐Yes ☐No			
<b>v</b> v	0'1		D.t.
Inspector	Signature		Date

### **Documenting Enforcement**

- For all situations documented as less than adequate on the inspection form
  - Take the appropriate level of enforcement
  - Failure to correct issues previously noted should result in escalated enforcement – moving up the enforcement tree
- Identify the timeframe for correcting the situation on the inspection form

### Inspection Results are Rolled-Up in the Annual Report

- Each agency needs to track all inspections and enforcement actions
- Information tracked is summarized and reported annually to the Regional Water Board
- Complete, accurate reports from inspectors are a key element of the annual report.



Maggie Monahan

# REGIONAL WATER BOARD INSPECTIONS AND ISSUES

# Stormwater Inspections to BMP Improvements - What Works?

Maggie Monahan, P.E.

Senior Water Resource Control Engineer

November 14, 2019

**Vater Boards** 

# Industrial & Construction Stormwater Section



Maggie Monahan Sr. WRC Engineer



Joe Monical WRC Engineer



Heilshorn WRC Engineer

**Elyse** 



Narala WRC Engineer



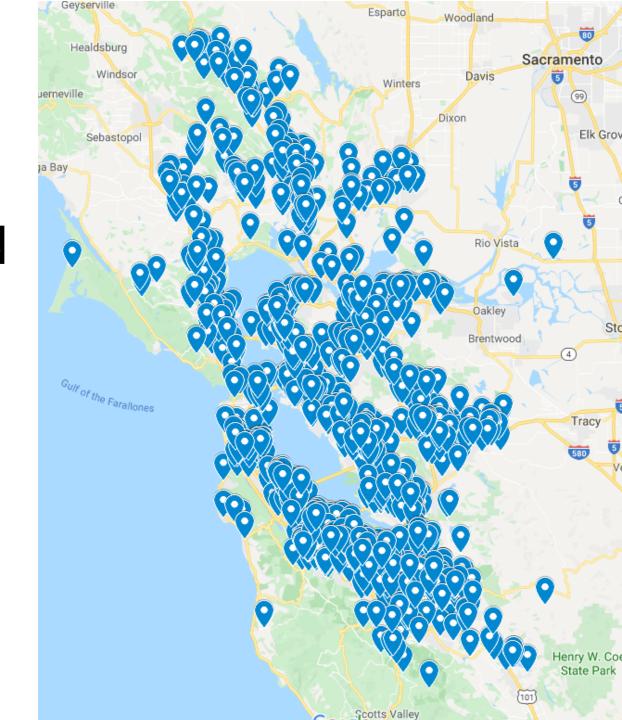
Joseph Martinez Scientific Aid



**Moosavy** Scientific Aid

Sooren

Active
Construction
Sites enrolled
in the CGP
(11/13/19)



### Outline

- Case example
- General Challenges
- Key Takeaways

### Case example

- Risk Level 2 site, with high sediment risk due to steep slopes
- Unannounced inspection
- Project in grading phase
- Observations
  - Outdated stormwater pollution prevention plan
  - Inadequate or failing sediment and perimeter controls
  - 3. Lack of erosion controls

### Inspection Observations

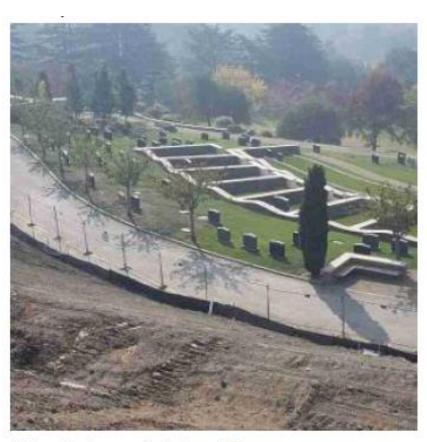
### **Corrective Actions**



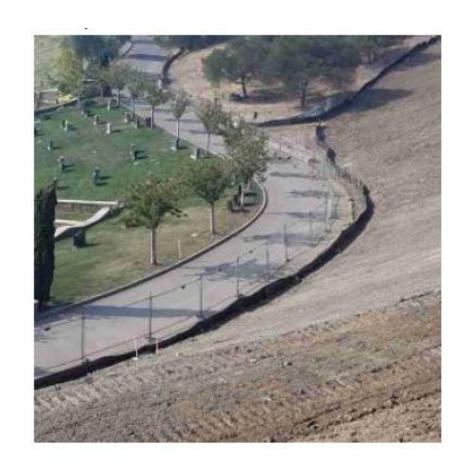
### Inspection Observations



### **Corrective Actions**



Silt fence has been repaired at base of slope.



### **Corrective Actions**



Silt fence has been added and streets were swept.

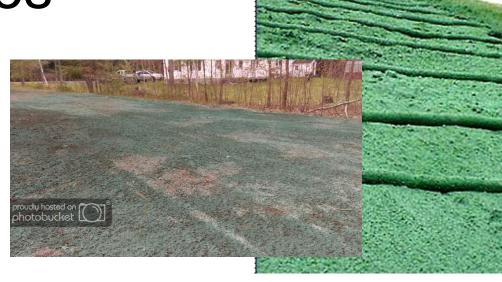


Exits have been swept and cleaned. No sediment track out is present.

Challenges

- Effective erosion control
- Active vs. inactive requirements
- Sediment basins
- Other pollutants
- Representative sampling
- Repeat violations or inadequate corrective actions







### Key Takeaways

### Inspections

- Check that the SWPPP reflects what the site is doing and REAPs are available onsite
- Talk to the people responsible for implementing the SWPPP; talk to multiple people individually

### Follow-up

- Follow-up immediately after inspection and transfer responsibility to the discharger
- Use the tools available to achieve compliance escalate enforcement when necessary

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