

CONSTRUCTION SITE CONTROLS WORKSHOP

MRP Provision C.6



June 14, 2016

Welcome

Cell phones

• Please silence them

Restrooms

Questions

• Ask as we go along

Training agenda

Session	Time
Check-in and complete survey	8-8:30
Introduction and Welcome	8:30-8:45
C.6 Requirements Overview Highlight MRP 2.0 new requirements	8:45-9:15
Municipal Perspective Hillside Project Policy	9:15-9:30
C.6 BMPs Tool Box & BMP Resources	9:30-10:15
Break	10:15-10:25
MRP and CGP Overlap and Differences	10:25-10:45
Inspections, Documentation, and Reporting Highlight MRP 2.0 new requirements	10:45-11:15
Inspection Perspectives and Cooperation	11:15-11:30
Wrap-up – questions, survey, and evaluation	11:30-Noon

Deciphering alphabet soup

Acronym	Definition
ATS	Active Treatment System
BMP	Best Management Practice
CASQA	California Stormwater Quality Association
CGP	Construction General Permit
CIP	Capital Improvement Project
ERP	Enforcement Response Plan
MRP	Municipal Regional Permit
MS4	Municipal Separate Storm Sewer System aka storm drainage system
NOI	Notice of Intent

Deciphering alphabet soup

Acronym	Definition
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
PPE	Personal Protective Equipment
PRDs	Permit Registration Documents
QSD	Qualified SWPPP Developer
QSP	Qualified SWPPP Practitioner
REAP	Rain Event Action Plan
SMARTS	Stormwater Multiple Application and Report Tracking System
SWPPP	Stormwater Pollution Prevention Plan
WDID	Waste Discharger Identification Number



Sandy Mathews, Larry Walker Associates

OVERVIEW OF PROVISION C.6

Putting the MRP into regulatory context



Municipal Regional Permit (MRP) 2.0

- All the 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

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

MRP 2.0 Change Highlights

Added language on authority to prevent pollutant discharges

C.6.b – Enforcement Response Plan (ERP)

Each jurisdiction is required to implement and update (as needed) an ERP

 Serves as a reference document for inspection staff to guide consistent actions to achieve timely and effective compliance

MRP 2.0 Change Highlights

- Enforcement procedures
- Enforcement tools and scenarios
- Timely correction for discharges and potential discharges
- ERP updates

MRP 2.0 Change Highlights ERP

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



Escalating enforcement process



MRP 2.0 Change Highlights Timely correction

- MRP 2.0 requires "timely correction of all potential and actual discharges"
 - Language change from MRP 1.0, which required timely correction of all violations



What is timely correction?

- Actual discharges must be stopped immediately
- Other actions must be implemented before the next rain event but no later than 10 days after discovery
 - Temporary measures to mitigate the situation are considered corrective action
 - If temporary measures are used you may allow more time for permanent actions
- Inspector must document and provide a rationale for any corrective action that takes longer than 10 days

C.6.c – Best Management Practices Categories

- All sites must implement BMPs in the following six 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

MRP 2.0 Change Highlights

- If ATS is used must meet the CGP ATS requirements
- Updated BMP references

C.6.d – Plan Approval Process

- Before issuing a grading permit review erosion control plan to ensure 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 CGP (has a WDID #)
- Provide education materials, as appropriate

MRP 2.0 Change Highlights

No changes to this section

C.6.e – Inspections

- Annual wet season notification by September 1
- Monthly inspections October April
 - \geq 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

MRP 2.0 Change Highlights

Effective July 1, 2016 must inspect hillside projects

MRP 2.0 Change Highlights Hillside projects

≥1 acre sites

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

Hillside projects

- Sites disturbing ≥5,000 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 agency determined
 - Erosion potential
 - Soil type
 - slope
 - Size/type
 - Sensitivity/proximity of receiving water
 - NSWDs
 - Other factors

Projects must be inspected monthly during the rainy season Rainy season is October - April

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 found

MRP 2.0 Change Highlights

Minor changes to information tracked

Project Name:						Inspection Date:					
Location						Current weather (check all that apply)					
Permit No.	Grading	Has there been rainfall with runoff since last									
Project Type: Commercial/Industrial Res	inspection? Yes No										
Does the project disturb one acre or more?	Reason for inspection: Routine Pre-Rain										
SWPPP on site? DYes DNo Date on SWPPP			Date	on Cor	Istor Plan on site? Thes the Istor Control Plan:	During Rain After Rain Follow-up					
Covered by Statewide Construction General Pen	nit? 🗆	Yes 🗆	No	High P	riority Site? 🛛 Yes 🖾 No	Contra (anala)					
CONTRACDSTA CLEAN WATER PROGRAM	lot Applicable	dequate	leeds Attention	liolation	If, following discovery of a violation	, more than 10 business days will be required to					
Frosion Control Measures			~	-	achieve compliance, then include a	a rationale for that schedule in the comments.					
Jute Netting/Fiber Blankets					Comments						
Mulch		8	8	8							
Mark Areas to be Preserved											
Tree Protection Fencing		ō									
Riparian Area Barrier											
Sediment Control Measures Wattles/Fiber Rolls/Compost Socks Silt Fences/Compost Berms Sedimentation Basin	000	000			Comments						
Inlet Filters (bags, sand, gravel) Dust Control Stabilized Construction Entrance											
Check Dams Street Sweeping		8									
Earth Dikes/Drainage Swales					Commonly						
Earth Dikes/Drainage Swales Sampling is conducted if required (CIPs only)					Comments						
Active Treatment System					Comments						
Good Site Management Construction Materials (wood, cement, etc.) Petroleum Products (oil, fuel) Hazardous Materials ((caint, solvents)	000	000	000		Comments						
Waste Systems Management Soil Stockpiles Vehicle Servicing											
Non-Stormwater Management Concrete Washout Area Sampling is conducted if required (CIPs only)	8	8	8		Comments						
Discharge Points Are the discharge points free of evidence of illicit	discha	rge? l	Yes	No	Comments						
Enforcement and Follow-up		Date	Proble	m First	Identified:	Next Follow Up Inspection Date:					
Comments						1					
Enforcement Action: None/In compliance	Verbal	Notice	□Not	ice to (Comply INotice of Violation IStop	Work Administrative Fine					
Resolution D Problem Fixed D Need More Was there rain with runoff after the problem was	Time	Esc Ed and	alate E before	nforcer it was	resolved? 🗆 Yes 🗆 No	Date Problem Resolved:					
Inspector Signature						Date					
lingrature											

C.6.e – Reporting - 2015-16 Report

- Report criteria that will be used to determine hillside development
 - If using local criteria need to attach hillside development map or describe criteria
- Same information as reported under MRP 1.0

•C.6.e.iii.(1) ► Hillside Development Criteria¤		Ω.				
 What criteria is your agency using to determine hillside - development areas? a 	۵	Loc hills oth	cal criteria such as maps of · ide development areas or · er written criteria ¤	۵	The permit definition of projects on · sites with ≥ ·15% slopea	
 Attach a copy of hillside development area maps or provide yo 	ur writt	encr	iteria below, if applicable.a			
Description:¶						

MRP 2.0 Change Highlights

2015-16 Report hillside criteria that will be used

C.6.e – Reporting - 2016-17 Report and onward

Information to be reported	Change?
a. # of active hillside sites <1 acre	New info
b. # of sites ≥1 acre	Same info
c. # of active high priority sites <1 acre	New info
d. # of inspections conducted	Same info
e. # and type of enforcement actions	Same info
f. # of illicit discharges (actual and inferred)	Same info
g. # of enforcement actions or discrete number of potential and actual discharges fully corrected	Modified info

MRP 2.0 Change Highlights

Modification of information to be reported

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

MRP 2.0 Change Highlights

No changes to this section

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





Carlton Thompson, City of Walnut Creek

MUNICIPAL PERSPECTIVE HILLSIDE DEVELOPMENT POLICY

Title 10 – Planning and Zoning

- Hillside Performance: goals to protect "intrinsic value and sensitive nature" of hillside areas.
- Definitions:

Development: Any improvement of real property which requires the issuance of a permit from the City which permit is subject to review pursuant to Section 3-8.05 of Chapter 8 (Tree Preservation Ordinance) of Title 3, or Chapters 1 (Subdivisions), 2 (Planning and Zoning), or 4 (Design Review) of Title 10 of the Municipal Code, a building permit or a grading permit.

- Definitions:
- High Risk Area: Any portion of a site which, if developed, would subject persons or property to a high level of risk for personal injury or property damage due to its proximity to a known hazard, including, but not limited to, any portion of a site within fifty feet of a cliff or fault line, within an unrepaired slide area or in a ravine.
- Hillside Area: Any property or portion of a property subject to this ordinance with an average slope of fifteen (15) percent or greater as defined by one of the density determination methods described in Sec. 10-2.3.406. below.

• **Grading:** Grading of the property shall be designed to minimize disruption of the natural topography. Grading is discouraged on the site except for roads; driveways; garage pads; cuts under the house; cuts on the uphill side of the house which are screened from public view by the house or existing vegetation; site distance requirements; drainage; and soil stability purposes. All approved grading shall be done in such a manner that it presents a finished look of rounded slopes. All exposed graded areas shall be hydroseeded/re-landscaped to minimize erosion. Roads should follow contour lines, where feasible, to minimize grading.

Other Considerations:

- Hillside/Ridge Preservation
- Rock Outcroppings
- Tree Preservation
- Drainage
- Creek/Landslide/Fault line setbacks

Inspection – Job Board

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Engineering Inspection Job Assignments

			SWPPP	
			High Priority	
Y	Residential Frontage		Weekly Rpt	N
Y	1816 Sunnyvale	СТ	SWPPP	N
Y	SDP14-003		High Priority	N
		11.0.7		
	Alvernaz SFR	JVV	Weekly Rpt	Y
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	Kumarasamy SEP	1\\\/	Weekly Pot	V
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	1872 Sunnyvale		SWPPP	
	SDP12-013 MS 805-06		High Priority	
Y	SFR	KH	Weekly Rpt	
N	794 Windchime Ct		SWPPP	
Y	SDP15-002		High Priority	
V	Orminaton Condoa		Mooldy Det	

lean Water Issues		
Sun, 10/25/15		
iun, 10/25/15 Ion, 10/26/15	no one working but somebody drop rebar off in the street called owner and ask for it to be moved onto his property, check back a couple hours later and was done. Also Joe (soils engineer) went out and said the cut looks safe and he feels it will be ok and will follow threw with a email or letter stating that. Also reminde Kumar about erosion control inspection working on wall footings, jeff did erosion inspection	no one was working called grant and Kyla and told them about erosion control inspection tomoorw for rain on wensday working on site installin erosion control measure , jefl
`ue, 10/27/15	and they did not have things in place, rinta issue a work stopage until complete so I drop the papers off and had him sign office copy, and ask for all other work to stop, until futher notice to proceed	was out there doing inspection
Ved, 10/28/15	meet Rinta and Jeff there to meet kumar about erosion control-kumar needs to change a few things (rinta made a list and I emailed a copy to Kumar and will hand deliver one tomorrow , and rinta lifted the work stopage as per the iteams are getting fixed, but no inspection until then	Rinta ,Jeff and I went up to the site to do a quick walk threw, rinta spoke with Edgar about a few things, and edgar guys are working on blocks no inspection
'hu, 10/29/15	working on eriosion control onsite no inspection	working on block wall on site no inspection
ri, 10/30/15	working on rebar onsite no inspection	working on block wall on site no inspection
at, 10/31/15		
dditional Comments		
lean Water Issues	Rinta shut them down due to not having there Erosion control measure in place	no issue

- 0 23

Select Project	Add Project Edi	t Project	t									
Project Name	Alvernez SFR				spector Je	eremey Cowell	_		-			
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Double Click on Record to Edit or View

City of Walnut Creek	
Construction Inspections	

Provision C.6 Construction Site Controls

		1	1.1	1.000	1 T				Issues Ob	served During Ins	pection			1	E	nforcen	nontLe	P.M				200.0
Project No.	Project Name	Project Name SWPPP Project?		inspection Type	Weather Cond.	Rainfall wiRunoff	Site Management	Sediment Control	Erosion Control	Runott Runon Control	Active Treatment	Non SW Discharge	Discharge pt free of illicit discharge?	Problem Description	Level 1	Level 2	Level 3	Lovel 4	Outcome	Inspection Notes	10 Days	2 30 Days?
SDP13-027	1500 California	N	10/27/2015	Pre-Rainy Seaso	Cloudy	110	Adequate	Needs Attention	Adequate	Adequate	Adequate	Adequate	Yes	Secure and add additional straw waddle along alle perimeter of Bonanca Street. Protect drain inter a	No	tio	110	110				
SDP13-027	1500 Castoriva		11/24/2015	Monthly	Clear	Yes	Ageguate	Adequate	Alde guate	Adequate	Not applicable	fact Approace	Yes		No	No	\$10	No				
SOP13-029	Alvenez SFR		10/27/2015	ize-Rany Seasor	Cloudy	tio .	Reeds Attention	Adequate	Needs Amenton	Not Applicable	Nol Applicable	Nol Applicable	Yes	Construction entrance needs to be cleared of fine sand and replaced with rock i mackies size areas need to be covered and secured.	Yes	No)ie	Na	issue Resolved		Yes	
SDP13-029	Atvernez SFR		11/04/2015	Follow-up	Dear	Yes	Refer to CW Courd	Rater to CW Coord	Refer to CVI Coord	Adequate	Not Applicable	Adequate	Yes	Construction entrance	YPE	téo	100	No	Issue Resolved	Warning notice to re-establish construction entrance. Sweep the street, and monitor the site during rain events.	110	Yes
SOP134029	Allemez SFR		11/12/2015	Monthly	Dear	100	Refer to CW Coord	Refer to CW Coord	Refer to CW Cound	Relier to CW Coon	Not Applicable	Not Applicable	Yes	Warning notice on 11/4/15 not addressed, notice of violation (12/10/14) not addressed, administration citation (12/11/14) not paid.	110	Yes	110	No	Issue Resolved	Stop work order issued for opserved problems. Owner paid citations, stop work order lifted.	Yes	
SDP 13-029	Alvernez SFR		11/10/2015	Follow-up	Clear	160	Adequate	Adequate	Adequate	Adequate	Adequate			issues resolved.	No	No	No	No	1	Construction entrance issues resolved.		
SDP 13-029	Alvernez SFR		12/09/2015	Monthly	Cloudy	No	Adequate	Adequate	Adequate	Adequate	Adequate				No	No	110	No	1			
SDP13-029	Alvenez SFR		01/07/2016	Monthly	Light Rain	Yes	Adequate	Adequate	Adequate	Adequate	Adequate	Adequate	Yes		No	No	No	Na				
SDP13-029	«Ivernez SFR		02/29/2016	Monthly	Clear	Yes	Adequate	Adequate	Adequate	Adequate	Not Applicable	Not Applicable	Yés		No	No	110	NO.				
SDP 13-029	Alvenez SFR		03/31/2016	Monthly	Clear	Yes	Adequate	Adequate	Adequate	Adequate	Not Applicable	Adequate	Yes		140	No	110	Na				
SOP13-029	Atyemez SER		04/28/2015	Al onthing	Dear	No	Adequate	Adequate	Adequate	Adequate	flict Applicable	Not Applicable	Yes		No	No	110	710				
SDP13-031	Silver Trai Sub 9251 (Gear)/Hall)		10/26/2015	Ye-Rany Seaso	Oear	105	Neede Attention	Weeds Attention	Needs Attention	Not Applicable	Not Applicable	Not Applicable	Yet	Perform general nousekeeping pickup trash. Straw waddles need to be staked. Stockpiles that are not in use need to be covered and secured with waddles.	Yes	196	110	Ná	lasue Resolved	Prozrem resolved 10/30/15	Yet	Yêk
SDP13-031	Silver Trail Sub 9251 (Geary/Hall)	2	10/30/2015	Follow-up	Dear	160	Adequate	Adequate	Adequate	reat Applicable	Not Applicable	Not Applicable	Yes		NO	No	110	140				

		Enforcement Level						Closed	Closed
pt :it :?	Problem Description	Level 1	Level 2	Level 3	Level 4	Outcome	Inspection Notes	10 Days?	30 Days?
	Secure and add additional straw waddle along site perimeter of Bonanza Street. Protect drain inlet a	No	No	No	No				
		No	No	No	No				
	Construction entrance needs to be cleared of fine sand and replaced with rock. Inactive site areas need to be covered and secured.	Yes	No	No	No	lssue Resolved		Yes	
	Construction entrance	Yes	No	No	No	lssue Resolved	Warning notice to re-establish construction entrance. Sweep the street, and monitor the site during rain events.	No	Yes
	Warning notice on 11/4/15 not addressed, notice of violation (12/10/14) not addressed, administration citation (12/11/14) not paid.	No	Yes	No	No	lssue Resolved	Stop work order issued for observed problems. Owner paid citations, stop work order lifted.	Yes	
	Issues resolved.	No	No	No	No		Construction entrance issues resolved.		
		No	No	No	No				


Erosion Control??



Tight site and on a hill?

Stop work – Notice of Violation



Name: Rinta Perkins (Clean Water Program Manager) Address: 1666 N Main St., Walnut Creek, CA 94596 Phone: 925-256-3511 Email: perkins@walnut-creek.org

STOP WORK ORDER

DATE ISSUED: October 27, 2015 CASE No.

CONTRACTOR: PHONE NUMBER: APN: ADDRESS: PERMIT NUMBER: OWNER:

NOTICE IS HEREBY GIVEN THAT THE BELOW DESCRIBED PROPERTY HAS BEEN FOUND TO BE IN VIOLATION OF THE CITY OF WALNUT CREEK'S MUNICIPAL CODE SECTION(S) 9-16.108

DESCRIBED AS: Failure to install erosion/sediment control measures as dictated by the project's approved Erosion Control plan (rain event is forecasted within 24-hour).

BACKGROUND: On Tuesday, October 27, 2015 City Staff (Jeff Wyma) and City Engineering Inspector (Jeremy Cowell), visited the project site around 10:15 PM. Staff witnessed that the project did not have adequate erosion/control materials and did not install the control measures as dictated by its approved Erosion Control Plan. Clean Water Program Manager issued a reminder letter on September 1. Subsequently, J. Cowell reminded contractor before of a rainy event (on Wednesday, Oct. 28) and require all controls measures be installed. Bare soils and exposed slope are not protected.

THIS STOP WORK ORDER IS ISSUED EFFECTIVE IMMEDIATELY. NO OTHER CONSTRUCTION WORKS SHALL PROCEED WITHOUT CLEARANCE FROM THE CITY.

CORRECTIVE ACTIONS:

- 1. Acquire the needed erosion/sediment control materials
- 2. Install all sediment control measures as dictated by the project's Erosion Control plan immediately.

PLEASE CORRECT THE VIOLATION WITHIN:

() 3 DAYS () 7 DAYS (X) IMMEDIATELY

FAILURE TO COMPLY WITH THIS REQUEST MAY RESULT IN THE ISSUANCE OF AN ADMINISTRATIVE CITATION AND/OR OTHER LEGAL PROCEEDINGS, AND ALL COSTS INCURRED DURING SUCH PROCEEDINGS MAY BE CHARGED TO THE ABOVE REFERENCED PROPERTY, PROPERTY OWNER AND/OR LESSEE.

SIGNED:

20

Muni Code Section 9-16.120: Any person aggrieved by the decision of the office, may file a written appeal of the notice of violation to the Public Services Director within 10 (ten) days following the date of the notice of violation. The decisions of the director shall be final.





Sandy Mathews, Larry Walker Associates

C.6 BMP TOOL BOX & BMP RESOURCES

MRP required BMP categories

- 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

BMP references

- CASQA California BMP Handbook, Construction, 2009
- Caltrans Stormwater Quality Handbook, Construction Site BMP Manual, 2003
- New BMPs available since the release of the above documents
- Other BMPs shown to provide equivalent protection





Where to get the references

- CASQA Handbook
 - Available by subscription: http://www.casqa.org
- Caltrans Handbook
 - Available online at: http://www.dot.ca.gov/hq/construc/stormwater/manual s.htm

Basic principles of stormwater quality protection

Minimize pollutant exposure

- Don't expose potential pollutants to wind and rain
- Protect exposed pollutants
 - Keep pollutants from being washed or blown away
- Use and maintain BMPs
 - Procedures to minimize exposure or techniques to remove pollutants from runoff
- Use BMPs in layers to protect water quality and plan for accidents

A few common sources of water pollutants on construction sites

Material	Pollutant	Effect on Creeks
Dirt and Dust	Sediment	Fills habitat, 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

Erosion control

- Protects soil and prevents soil particles from becoming detached by rainfall, flowing water or wind
- Soil protected as a resource
- Source controls that prevent soil from becoming a pollutant





Erosion controls replace the benefits of vegetation



Examples of erosion controls

Erosion Controls	
Jute netting, fiber blankets	
Soil binders	
Riparian area buffer	
Mulch	
Compost blankets	
Hydroseeding	

Fiber (erosion control) blankets



- Anchor top to secure blanket and prevent undercutting
- Install vertically downslope
 - Overlap (shingle) panels
 - Staple to secure to soil
 - Do not stretch blanket

Wildlife friendly products

- Avoid erosion and sediment control products that contain plastic nets (fixed aperture)
 - Never use products that contain plastic nets for any BMP that will be part of the final stabilization
- Use BMPs made of natural material without plastic nets







Track walked slope treated with hydromulch



Slope treated with hydromulch





Compost blankets

- Pneumatic blower
 typically used to place
 compost
- Roughen surface before application
- 1-4-inches thick
- Seed can be incorporated
- Slopes 2:1 or gentler
 - Tackified on steeper slopes





Preserve vegetation

Clear delineation
Ideally 25+ feet from creek (or as required by local ordinance)
Preserve existing vegetation in buffer
Install before construction starts

Tree protection

- Protect trees from construction
- Establish protective zone around drip line of tree



Sediment control

- Practices that trap dirt particles sediment once they have been detached by rain, flowing water, or wind
 - Various practices to slow and detain water to allow sediment to settle
 - Treatment controls that remove soil from water or wind





Examples of sediment controls

Sediment Controls	
Silt fence	Compost berms
Compost socks	Fiber rolls (wattles)
Stabilized entrance	Street sweeping/vacuuming
Dust control	Sediment basins
Check dams	Inlet filters

Stabilized entrance/exit

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
- Adaptations for smaller sites are challenging
 - Install maximum length site will allow
 - Install to allow two full rotations of tires vehicle on the entrance material
 - Augment with rumble racks



Stabilized entrance design





Rumble plate

Rock



Fiber rolls (wattles) Type 1 installation



- Wattles with plastic nets must be removed.
- Use for temporary sediment control only!

- Install in shallow trench
- Stakes through wattle hold wattle to the soil



Fiber rolls (wattles) Type 2 installation





Silt fence – pay attention to the trench



Tug test



Drain inlet protection last line of defense



 Never use silt fence material to cover an inlet

- Protect drains on-site and immediately off-site
- Use woven geotextile bag
 - Resistant to photo degradation
 - Fill bags with washed gravel
 - NOT SAND
 - NOT DIRT
 - NOT ASPHALT

Setting up a treatment train to the drain



Storm drain inlet protection



Protection at the drain

J-hook check dam along the flow path

Dust control

- Required for all sites with exposed soils
- Most common form of dust control is water spray
- Wind screens provide dust removal
- Erosion controls provide significant dust control
 - Mulch, soil binders, vegetation




Street sweeping / vacuuming inspection tips

Look for evidence of daily street sweeping/vacuuming

- Visual is the road way clean? Is the sweeper present?
- Records are there logs/invoices for sweeper services?
- Kick brooms and sweeper attachments are not acceptable –
 - they spread dirt rather than removing it



Run-on and runoff controls

- Practices that manage/divert runoff and dry weather flows that originate outside the project
 - Prevent run-on from flowing through disturbed areas or construction materials
- Practices that manage runoff from within the project
 - Prevent runoff from flowing through disturbed areas or construction materials
 - Direct runoff to sediment controls



Examples of run-on and runoff controls

Run-on/Runoff Controls		
Earth dikes		
Drainage swales		
Sampling		

Sampling tips for inspectors

- Most sites are not required to collect samples
- Samples will be collected by some sites subject to the State Construction General Permit
 - Risk Level 2 &3 and Linear Utility Projects Type 2 & 3 collect Turbidity and pH samples
- Confirm samples are being collected field logs
- Results above action levels indicate action to correct or improve BMPs is needed
 - Turbidity Action Level: 250 NTU
 - pH Action Level: < 6.0 or >9.0

Active treatment systems

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



MRP 2.0 Change Highlights

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

Good housekeeping

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







Examples of good housekeeping practices

Good Housekeeping Practices
Stock pile protection
Petroleum product storage
Waste management systems
Material storage
Hazardous material storage
Vehicle servicing

Stockpile management







Hazardous materials and petroleum products



Sanitary facilities



... what is missing?



Secondary Containment Pans Stormwater Pollutant Protection

Equipment and vehicle servicing





- Avoid conducting maintenance at the job site
- When work on-site is necessary
 - Use drip pans, absorbent pads, and tarps to contain drips
 - Clean up small spills and drips immediately

Waste and litter management









Non-stormwater management



- Practices that use water in a manner that prevents erosion and the transport of pollutants offsite
- Practices that prevent the discharge of unauthorized nonstormwater

Examples of non-stormwater management

Non-Stormwater Management

Concrete washout

Architectural copper

Concrete washout



Copper is a significant water quality problem

- Copper is used in a variety of architectural features
 - During installation 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



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

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





BREAK



Sandy Mathews, Larry Walker Associates

MRP AND CGP OVERLAP AND DIFFERENCES

Overview of the CGP



NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION AND LAND DISTURBANCE ACTIVITIES

ORDER NO. 2012-0006-DWQ NPDES NO. CAS000002

Order No. 2009-0009-DWQ was adopted by the State Water Resources Control Board on:	September 2, 2009
Order No. 2009-0009-DWQ became effective on:	July 1, 2010
Order No. 2010-0014-DWQ became effective on:	February 14, 2011
Order No. 2009-0009-DWQ as amended by 2010-0014-DWQ shall expire on:	September 2, 2014
This Order, which amends Order No. 2009-0009-DWQ as amended by 2010-0014-DWQ, was adopted by the State Water Resources Control Board on:	July 17, 2012
This Order No. 2012-0006-DWQ shall become effective on:	July 17, 2012

IT IS HEREBY ORDERED that this Order amends Order No. 2009-0009-DWQ. Additions to Order No. 2009-0009-DWQ are reflected in <u>blue-underline</u> text and deletions are reflected in red-strikeout text.

IT IS FURTHER ORDERED that staff are directed to prepare and post a conformed copy of Order No. 2009-000-DWQ incorporating the revisions made by this Order.

I, Jeanine Townsend, Clerk to the Board, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the State Water Resources Control Board, on July 17, 2012.

AYE:	Chairman Charles R. Hoppin
	Vice Chair Frances Spivy-Weber
	Board Member Tam M. Doduc
	Board Member Steven Moore
	Board Member Felicia Marcus
NAY	None

ABSENT: None ABSTAIN: None

Vanine - Frinsond Jeanine Townsend Clerk to the Board

- Order 2009-0009 DWQ
- Effective July 1, 2010
- Amended twice since adoption
 - November 16, 2010
 - July 17, 2012

CGP = Construction General Permit

Comparing the key requirements

- The CGP and MRP C.6 requirements have the same goal
 - Minimize discharge of pollutants associated with construction activities
- Use different tools to accomplish goal

All projects regulated by the CGP are also regulated by the MRP

Requirement for Discharger/ Site Operator	MRP C.6	CGP
Projects governed by the Permit?	Any project disturbing soil subject to a grading permit	≥ 1 acre disturbance
Who issues the Permit?	Local Agency	State Water Board / Regional Water Board
Where does the authority come from?	Established in ordinance based on MRP	Established in CGP based on Clean Water Act and State Water Code

Requirement for Discharger / Site Operator	MRP	CGP
How do you get the permit?	Local Agency process	Submit PRDs (NOI) and supporting information to State
Who prepares the SWPPP or Erosion Control Plan?	Owner or contractor. Quals not specified or governed by local ordinance	Prepared by a Qualified SWPPP Developer (QSD)
Who implements the SWPPP?	Owner or contractor. Quals not specified or governed by local ordinance	Implementation overseen by Qualified SWPPP Practitioner (QSP)

Requirement for Discharger/ Site Operator	MRP	CGP
How do requirement	ts differ?	
Minimum BMPs	Six Minimum BMP Categories: 1. Erosion Control 2. Sediment Control 3. Run-on and Runoff Control 4. ATS (if needed) 5. Good Site Management 6. Non-stormwater Management	Same set of categories as MRP Details of specific BMPs differ from MRP ATS is not a minimum BMP

Requirement for Discharger/ Site Operator	MRP	CGP
Rain Event Action Plan	NA	Some sites based on risk level
Runoff Monitoring	NA	Some sites based on risk level or project type
Numeric Action Levels and Receiving Water Monitoring Triggers	NA	Some sites based on risk level or project type
Reporting	NA	 Submit to State Annual reports Data (for sites that monitor runoff)

Local Agencies responsibilities at CGP projects

Responsibilities are similar to all other projects

- Verify site has proof of CGP coverage PRD receipt, WDID #
- Ensure SWPPP is consistent with local ordinance You do not need to verify it is consistent with the CGP
- Inspect per agency inspection schedule
- Assess adequacy and effectiveness of BMPs
- Require correction of problems
- Option: Use CGP tools for additional information
 - QSPs/Monitoring data/REAPs

Capital Improvement Projects (CIPs) and the CGP

- When constructing a CIP that is one acre or greater, the municipality is responsible for CGP compliance
- All the requirements of the CGP apply to the municipality
 - PRDs/NOIs
 - QSD/QSP
 - REAPs
 - Monitoring
 - Annual reporting
 - Etc.

Sources for additional information on the CGP

- CASQA
 - BMP Handbook http://www.casqa.org
 - Construction Subcommittee
- State Water Board Construction Stormwater Program
 - http://www.waterboards.ca.gov/water_issues/program s/stormwater/construction.shtml
- SMARTS Page
 - https://smarts.waterboards.ca.gov/smarts/faces/SwS martsLogin.jsp





Sandy Mathews, Larry Walker Associates

INSPECTIONS, DOCUMENTATION, AND REPORTING

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 \geq 1 acre (CGP sites), and
- Hillside projects
- 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

- Site Plan
- SWPPP or Erosion Control Plan
- Past Inspection Records
- Locate site with mapping tools (e.g., GIS, Google Maps) to understand location in watershed
- Check with other inspectors
- 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
At the site trailer

- Meet with Superintendent, Qualified SWPPP Practitioner (QSP) or their designee (if available)
- Outline requirements and expectations
- Review site plan and SWPPP
 - 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

Project Name:						Inspection Date:	
Location	Current weather (check all that apply)						
Permit No.	Sunny Cloudy Windy Rainy						
Project Type: Commercial/Industrial Res	dentia		treet in	norove	ment 🗆 Landscaping	inspection? I Yes I No	
Does the project disturb one acre or more?	Yes .	V	EN	0 V		Reason for inspection: Routine Pre-Rai	
Copy of NOI submitted? Yes No			Eros	ion Co	ntrol Plan on site? Yes No	During Rain DAfter Rain DFollow-up	
SWPPP on site? Wes Who Date on SWPPP: Covered by Statewide Construction General Perm	nit? 🗆	Yes 🗆	Date No	High F	Priority Site? Yes No	Other (state):	
	- 	1	c	Î			
CLEAN WATER PRDGRAM	ot Applicable	dequate	eeds Attentio	lolation	If, following discovery of a violatic	m, more than 10 business days will be required to	
	z	4	z	>	achieve compliance, then include	a rationale for that schedule in the comments.	
Lute Netting/Fiber Blankets		1	m.	in .	Comments		
Mulch	ŭ	ŭ	ñ	D			
Hydroseed/Soil Binder/Compost Blanket							
Mark Areas to be Preserved							
Riparian Area Barrier	E	B		E			
Sediment Control Measures	1.0	1277	1-1		Comments		
Wattles/Fiber Rolls/Compost Socks Silt Fences/Compost Berms Sedimentation Basin	000	000	000				
Inlet Filters (bags, sand, gravel)		D					
Dust Control							
Stabilized Construction Entrance	8			-			
Check Dams Street Sweeping	H.	B.					
Earth Dikes/Drainage Swales							
Run-on and Run-off Control			1.4	-	Comments		
Earth Dikes/Drainage Swales	믇	8		8			
Active Treatment System	1.0	<u>u</u>	ш.		Commonto		
	Ū.	C.			Comments		
Good Site Management	1	1.0			Comments		
Construction Materials (wood, cement, etc.) Petroleum Products (oil, fuel)	8	8	8	8	· · · · · · · · · · · · · · · · · · ·		
Hazardous Materials ((paint, solvents)	ö	ŏ	ö	Ū.			
Waste Systems Management							
Soil Stockpiles		8		2			
Non-Stormwater Management	141	6	1.0	1.4	Commonte		
Concrete Washout Area					Comments		
Sampling is conducted if required (CIPs only)		0	\Box				
Discharge Points Are the discharge points free of evidence of illicit	discha	rge? (Yes	DNo.	Comments		
Enforcement and Follow-up Date Problem Firs					Identified:	Next Follow Up Inspection Date:	
81007A6	_			-			
Comments Enforcement Action: D None/In compliance D	Verbal	Notice	Not	tice to	Comply DNotice of Violation DSto	p Work □Administrative Fine	
Resolution Problem Fixed Need More	Time	Esc	alate E	Inforce	ment	Date Problem Resolved:	
was there rain with runoit after the problem was i	uentifie	and and	Delote	it was			
Niewelline						D. J.	

Annual and the local states from the

	2	Con	struc	ction	Site Inspection Report	81	
Project Name:							
Location							Project Information
Permit No. Permit Type: Building Grading					g 🛛 Grading	Sunny Cloudy Windy Rainy	
Project Type: Commercial/Industrial Res	identia		itreet In	Site De	ment Landscaping	inspection? Types No	
Does the project disturb one acre or more? ■Yes ↓ ■No ↓				Reason for inspection: Routine Pre-Rain			
Copy of NOI submitted?			ntrol Plan on site? UYes UNo osion Control Plan:	During Rain After Rain Follow-up	Increation Day		
Covered by Statewide Construction General Perro	nit? 🗆	Yes 🗆	No	High P	Priority Site? Yes No		Inspection Day
CONTRACOSTA CLEAN WATER PROGRAM	Not Applicable	Adequate	Needs Attention	Violation	If, following discovery of a violation, r achieve compliance, then include a r	nore than 10 business days will be required to ationale for that schedule in the comments.	Information
Erosion Control Measures Jute Netting/Fiber Blankets Mulch Hydroseed/Soil Binder/Compost Blanket Mark Areas to be Preserved Tree Protection Fencing Riparian Area Barrier	000 000	000 000	000 000	000 000	Comments		
Sediment Control Measures Wattles/Fiber Rolls/Compost Socks Silt Fences/Compost Berms Sedimentation Basin	000	000	000	udu	Comments		
Inlet Filters (bags, sand, gravel) Dust Control Stabilized Construction Entrance Check Dams			0000	0000			Obsorvations
Street Sweeping		B	0	8			Observations
Run-on and Run-off Control Earth Dikes/Drainage Swales				0	Comments		
Sampling is conducted if required (CIPs only) Active Treatment System	0	1		n	Comments		-
Good Site Management Construction Materials (wood, cement, etc.) Petroleum Products (oii, fuel) Hazardous Materials ((paint, solvents) Waste Systems Management Soil Stockpiles	000000	000000	00000		Comments		
Vehicle Servicing Non-Stormwater Management Concrete Washout Area Sampling is conducted if required (CIPs only)	00	00 00			Comments		
Discharge Points Are the discharge points free of evidence of illicit discharge? Comments Comments				□No	Comments		
Enforcement and Follow-up Date Problem First Identified: Ne				m First	t Identified:	Next Follow Up Inspection Date:	
Comments Enforcement Action: D None/In compliance D	Verbal	Notice	No	tice to	Comply Denotice of Violation Stop V	Vork Administrative Fine	Follow-up Actions
Resolution Problem Fixed Need More Was there rain with runoff after the problem was i	Time identifi	Esc ed and	alate E before	Enforce it was	ment. Da resolved? 🗆 Yes 🗆 No	ate Problem Resolved:	
Inspector Signature Da						Date	

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 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							
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				

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

- Each agency needs to track all inspections and enforcement actions
- Information tracked is summarized and reported annually to the Regional Water Board

Counting violations and enforcement actions

- Violations are counted and tracked by BMP category
 - One inspection that notes 3 sediment control violations and 2 erosion control violations should be counted as 2 violations
- Enforcement actions are counted by inspection/action
 - Multiple violations documented in one NOV is 1 enforcement action

Example of Information reported to Regional Water Board

	Number of Violations ⁵¹ excluding Verbal Warnings	% of Total Violations ⁵²
Erosion Control	5	31.25%
Run-on and Run-off Control	2	12.5%
Sediment Control	6	37.5%
Active Treatment Systems	0	0%
Good Site Management	3	18.75%
Non Stormwater Management	0	0%
Total ⁵³	16	100%





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INSPECTION PERSPECTIVES AND COOPERATION

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