

Overview of the California Construction General Permit

Tom Quasebarth

CDM

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Background

- Adopted by the SWRCB September 9, 2009
- Effective July 1, 2010
- Includes “risk based” approach and other new concepts which have not been seen in previous permits
- Lots of new acronyms: REAP, LUP, etc.

CGP Drivers

- Manage pollutant loads from construction sites
- Total Maximum Daily Load (TMDL) – CWA 303 (d) List
 - Takes into account all pollutant sources within a watershed, into a receiving water
 - Allocates to each source an allowable amount
- Manage increased stormwater runoff volume from development
- Poor compliance with previous permit conditions
- Desire for numerical limits by State and Environmental Groups to measure compliance

Typical Violations

Inspection Report

1/05/08

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Figure 1: Sediment laden storm water from the project flowing into Folsom Lake due to pumping



Figure 2: Area where pumping was taking place
Note: two pumps were operational at the time of the site inspection

Applicability and Application

- Construction projects disturbing more than 1.0 acre
- Includes “traditional” projects and “Linear Underground/Overhead Projects” (LUPs)
- Permit Required Documents (PRDs) must be electronically filed:
 - Notice of Intent (NOI)
 - Risk Level Assessment
 - Stormwater Pollution Prevention Plan (SWPPP)
 - Site Map
 - Certification Fee
- SWRCB is using Stormwater Multiple Applications and Report Tracking System (SMARTS) – publically available

Major Changes in New CGP

- Permit Registration Documents
- Risk Level Determination
- Qualifications for SWPPP developers
- Qualification for SWPPP/job site inspectors
- Rain Event Action Plans
- Minimum BMPs
- Numeric Effluent Limits and Action Levels
- Monitoring (up to 3 times per day)
- Reporting

Grandfathering

- Existing projects will be granted Risk Level 1 status
- Grandfathered Projects must be completed by 2 years after permit adoption (September 2, 2011)
- Regional Water Boards may require a risk assessment when:
 1. Site has a history of non-compliance
 2. Site poses a significant risk to water quality

Risk Based Approach

- Sediment Risk - Type of activity and location of activity
- Receiving Water Risk = “Sediment sensitivity” of water body
- Permit requirements increase with Risk Level type

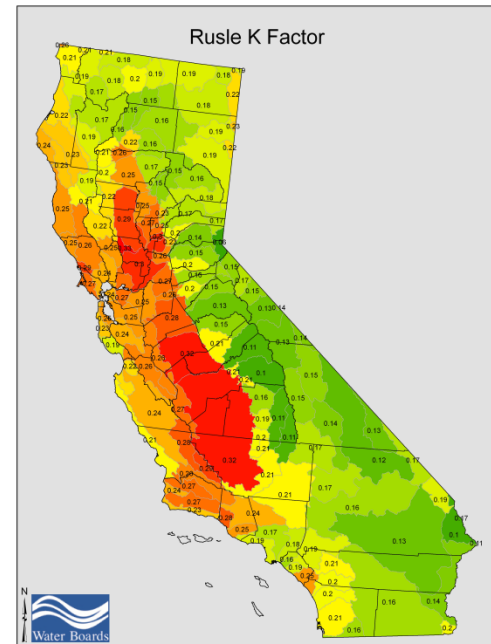
Receiving Water Risk	Sediment Risk		
	Low	Medium	High
Low	Project Risk Level 1	Project Risk Level 2	Project Risk Level 2
High	Project Risk Level 2	Project Risk Level 2	Project Risk Level 3

Sediment risk

- Based on calculated soil erosion factor
 - Uses Revised Universal Soil Loss Equation (RUSLE)
- Approach considers location specific information on:
 - Rainfall
 - Soil Erodibility
 - Length-slope factor

Revised Universal Soil Loss Equation (RUSLE)

- Estimates project-related bare ground soil loss expressed in tons/acre
- $A = (R) (K) (LS) (C) (P)$
 - A = soil loss from sheet and rill erosion (tons/ac)
 - R = rainfall-runoff erosivity factor
 - K = soil erodibility factor
 - LS = length-slope factor
 - C = cover factor [set at 1.0]
 - P = practice factor management/support practices [[set at 1.0]



Rainfall Risk Factor Calculation Tool

- Requires project location (address or latitude/longitude)
- Duration of construction
- Extremely sensitive to construction period changes

The screenshot shows a web browser window titled "EPA NPDES - Welcome to the Lower Erosivity Index Calculator - Windows Internet Explorer". The address bar shows the URL: http://cfpub.epa.gov/npdes/stormwater/LEW/erosivity_index_result.cfm. The page content is as follows:

Rainfall Erosivity Factor Calculator for Small Construction Sites

Facility Information

Facility Name: Example Site
Start Date: 09/28/2010
End Date: 04/01/2011
Address: 100 Capitol Mall, Sacramento, California 95814
Latitude: 38.579593
Longitude: -121.506901

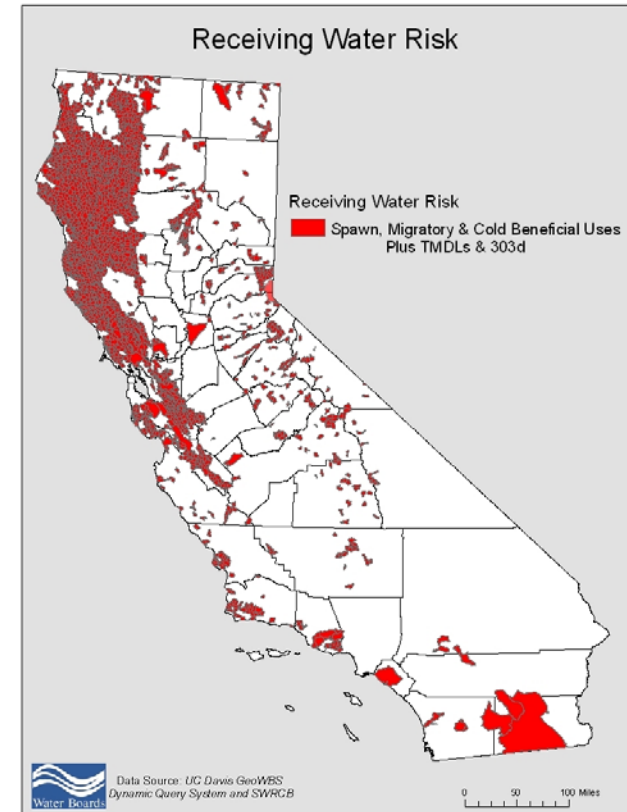
Erosivity Index Calculator Results

AN EROSIIVITY INDEX VALUE OF **28.67** HAS BEEN DETERMINED FOR THE CONSTRUCTION PERIOD OF 09/28/2010 - 04/01/2011.

A rainfall erosivity factor of 5.0 or greater has been calculated for your site and period of construction. **You do not qualify for a waiver from NPDES permitting requirements.**

Receiving Water Risk

- Assesses relative sensitivity to sedimentation impacts from upstream construction sites
- Examples include:
 - Fish spawning areas
 - Fish migration areas
 - Any water body listed as impaired for sediment/turbidity



Rainfall erosivity waiver

- Applies to small projects between 1 and < 5 acres
- Waives permit requirements for projects with an R-factor of 5 or less
- Based on USEPA R-factor waiver in the Phase II stormwater rule
- Relies on the online USEPA R-factor calculator
- Generally very few projects will qualify for an R-factor waiver

Numeric Action Levels

- **Apply to Risk/Type 2 & 3 sites**
- Provide operation information to assess BMP/SWPPP performance
- Not enforceable
- Based on storm event daily average
- Turbidity 250 NTU
- pH <6.5 or >8.5 pH units

Numeric Effluent Limitations

- Apply to **Risk/Type 3 sites**
- Directly enforceable - Exceedance = permit violation
- Based on daily average
- Turbidity 500 NTU
- pH <6.0 or >9.0 pH units
- Requires submittal of a NEL Violation Report 24 hours after the NEL exceedance including:
 - Sampling results
 - Description of the onsite BMPs, and
 - Corrective actions taken
- NELs exempted for >5 yr 24-hour storm event or natural disaster/fire

Permit requirements increase with Risk Level

Permit Requirements	Risk Level 1	Risk Level 2	Risk Level 3
Minimum BMPs	✓	✓ +	✓ ++
Numeric Action Levels (NALs)		✓	✓
Numeric Effluent Limits (NELs)			✓
Visual Monitoring (weekly , before/during/after rain events, non-stormwater discharges)	✓	✓	✓
Runoff Monitoring		✓	✓
Receiving Water Monitoring			✓

CGP Sections

- Structure of permit documents
 - Factsheet
 - Order
 - Six attachments (part of the Order)
 - Attachment C Risk Level 1 requirements
 - Attachment D Risk Level 2 requirements
 - Attachment E Risk Level 3 requirements
 - Seven appendices (supplemental information)
 - Appendix 1 – Risk Determination Worksheet
- Allows dischargers to quickly focus on the applicable sections for each project

SWPPP Development

- Preparation
 - Requires a Qualified SWPPP Developer (QSD)
 - Certifications: PE, PG, RLA, PH, CPESC, CPSWQ
 - QSD is authorized to make SWPPP revisions and amendments
 - QSD assigned or available throughout term of project
- Implementation
 - Requires a Qualified SWPPP Practitioner (QSP)
 - Certifications: CISEC, CESSWI
- SWRCB-sponsored training required for QSDs and QSPs completed by September 2, 2011

Minimum BMP Requirements

- Five categories
 1. Good Site Management “Housekeeping”
 2. Non-stormwater Management
 3. Erosion Controls (e.g., soil covers / mulching)
 4. Sediment Controls (e.g., sediment ponds)
 5. Run-on and Runoff Controls
- Each Risk Level has certain prescribed BMPs
- Review the details of all minimums requirements carefully

Rain Event Action Plans (REAPs)

- Checklist to identify BMPs to protect site from erosion and prevent pollutant discharges
- Requirements:
 - Must be developed by QSPs
 - Prepared during construction 48 hours prior to forecast rain event with > 50% probability (NOAA/NWS)
 - Must be on-site 24 hours prior to event
- Implementation: Specific to each phase (e.g., grading) of the project and each storm event

Summary of types of monitoring requirements

- Visual Inspections of BMPs (weekly minimum)
- Visual Monitoring of site
 - Pre- and Post qualifying storm events (within 48 hours before/after)
 - Presence/Absence of Non-stormwater discharges (Quarterly)
- Sampling and Analysis of Construction site runoff
 - Non-stormwater discharges
 - Receiving waters
 - Contained runoff prior to discharge
- Optional/Potential Monitoring
 - Run-on monitoring required if suspected on causing a NEL violation

Effluent Monitoring

- **Applies to Risk Level 2 and 3 sites:**
- pH & Turbidity compliance
- A minimum of 3 samples per day collected from discharges from a qualifying rain event (producing precipitation of ½ inch)
- Samples representative of discharge from the construction site
- Results submitted electronically into SMARTS

Receiving Water Monitoring

- **Applies only to Risk Level 3 sites:**
- Receiving Water – NEL exceedance & direct discharge to receiving waters
- Bioassessment –
 - 30 acres or larger & direct discharge to freshwater wadeable receiving waters listed for sediment
 - Beneficial uses of COLD & SPWN & MIGR
 - Before and after plus upstream and downstream macroinvertebrate sampling

Active Treatment Systems

- Refers to direct dosing with coagulants and flocculants to enhance settling and removal of suspended sediments
- Specific Requirements for ATS use in **Attachment F of Permit**
- NEL's based on effective ATS performance:
 - 10 NTU – Daily Flow Weighted Average
 - 20 NTU – Single Sample
- Compliance Storm Event: 10-year 24-hour
- Requires proper Personnel Training

Post Construction Requirements

- Uses a “runoff reduction” approach similar to Low Impact Development (LID)
- Non-structural and structural measures:
 - Porous Pavement
 - Impervious Area Disconnections
 - Vegetated Swales
 - Green Roofs
 - Tree Planting
 - Stream Buffers
- Objective is to replicate the pre-project water balance up to the 85th percentile storm event
- Future provision of the CGP – will take effect 3 years ‘or later’

For more information

- SWRCB Construction Storm Water Program Website
http://www.swrcb.ca.gov/water_issues/programs/stormwater/
- California Stormwater Quality Association (CASQA BMP Portal) www.CASQA.org



Questions and discussion