



QSD/QSP Training Module 9 SWPPP Preparation

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Overview and Learning Objectives

Given a project Risk Level or LUP Type, you will learn to:

- Prepare a compliant SWPPP
- Determine the appropriate content for your project SWPPP
- Identify Minimum BMP Requirements
- Design the SWPPP as a guideline for REAP development

- Document the appropriate monitoring, reporting, and discharge standards
- Avoid common errors using templates and outlines provided by others

Overview and Learning Objectives

- Overview.....We'll Discuss
 - Global Requirements applicable to all projects, regardless of Risk Level or Type
 - Requirements applicable to traditional projects
 - Requirements applicable to LUPs
 - Typical appendices, certifications, and other backup data to show compliance with the CGP

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Tips and Tricks to make a great SWPPP

Required Credentials Qualified SWPPP Developer (QSD)

CGP Order, Section VII:

• All SWPPPs shall be written, amended and certified by a Qualified SWPPP Developer (QSD).....This means you!



SWPPP Developer (QSD)

- QSD shall have one of the following registrations or certificates:
 - A California registered professional civil engineer
 - A California registered professional geologist or engineering geologist
 - A California registered landscape architect
 - A professional hydrologist registered through the American Institute of Hydrology
 - A Certified Professional in Erosion and Sediment Control (CPESC) registered through EnviroCert International, Inc.
 - A Certified Professional in Storm Water Quality (CPSWQ) registered through EnviroCert International
 - A professional in erosion and sediment control registered through the National Institute for Certification in Engineering Technologies



SWPPP Developer (QSD)

AND...

 Shall attend a State Water Board-sponsored or approved Qualified SWPPP Developer training course.....(Congratulations You're Almost Done with This!)

AND...

 Shall take and pass the State Water Board-sponsored Qualified SWPPP Developer exam



Important Dates

- Obtain required registration/certification (PE, CPESC, RG, etc)
 - By 7/1/2010
- Complete the 24 hour QSD training
 - By 9/2/2011
- Take and pass the QSD exam
 - By 9/2/2011
- Then... send your QSD application to CASQA for your certificate (finally!)



If You are the QSD for a Project

- Include your QSD certificate in the SWPPP that you write
- Certify your SWPPP (sign your name on the certification page and stamp the front cover)
- List your name as the QSD in the PRDs (filled out in SMARTS to obtain permit coverage)



What Does the CGP Say About SWPPPs?

CGP Order Section XIV. The SWPPP shall be designed to address the following objectives:

- 1. All pollutants and their sources are controlled
- 2. All non-stormwater discharges are identified and eliminated, controlled, or treated
- 3. Site BMPs are effective
- 4. Calculations, design details, and BMP controls are complete and correct
- 5. Post construction stabilization BMPs must be adequate



Project Understanding is the Key to Writing a Good SWPPP

Start SWPPP development by gathering:

- Project name and description
- Names of all responsible parties
- Project schedule
- Grading plan (and erosion and sediment control drawing if available)



Next Step: Conduct the Risk Assessment

Risk Inputs:

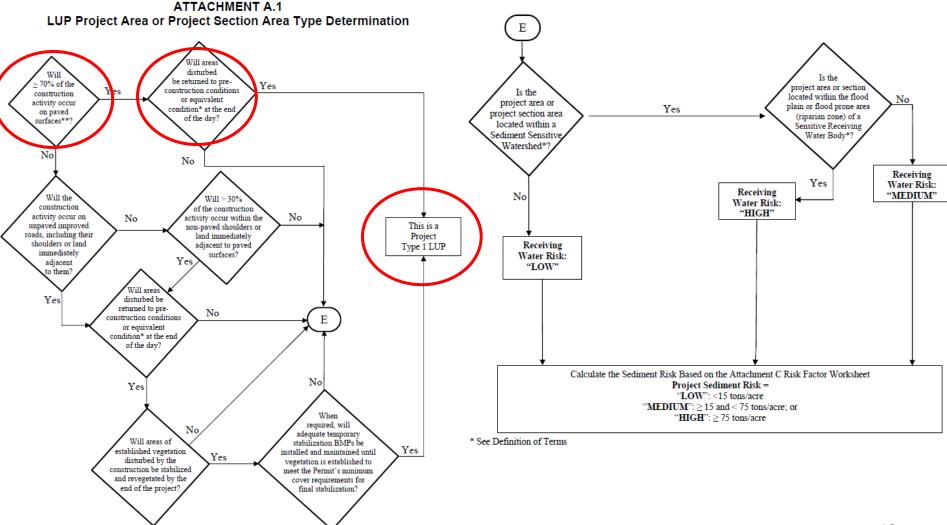
- Project duration
- Location (lat/long to five significant digits)
- Soils (K Factor)
- Topography (LS Factor)
- Receiving Waters (To Determine Sediment Sensitivity)

Document Risk Assessment and Include in SWPPP

- Screen shot of EPA R-factor result
- Screen shot of SMARTS risk tab
- Justification for any hand calculated values
 - E.g. if QSD overrides LS factor calculator, provide LS table with inputs: slope and sheet flow length
- GIS maps tracing discharge to ultimate receiving water
- For linear projects, trace flow chart see example next slide



SWPPP Development: Linear Project Risk Assessment



SWPPP Development: Global Requirements

- Include Contact Information for:
 - LRP (required) or Approved Signatory (optional)
 - QSD
 - QSP
 - All Contractors and Sub-contractors
 - Inspector (if delegated by QSP)
 - Sampling and Analysis Personnel
 - Laboratory for Sampling Analysis

Legally Responsible Person (LRP) – Nov 16, 2010 Permit Amendment

The following persons or entities may serve as an LRP:

- 1. A person, company, agency, or other entity that possesses a real property interest (including, but not limited to, fee simple ownership, easement, leasehold, or other rights of way) in the land upon which the construction or land disturbance activities will occur for the regulated site.
- 2. In addition to the above, the following persons or entities may also serve as an LRP:
 - a. For linear underground/overhead projects, the utility company, municipality, or other public or private company or agency that owns or operates the LUP;
 - b. For land controlled by an estate or similar entity, the person who has dayto-day control over the land (including, but not limited to, a bankruptcy trustee, receiver, or conservator);
 - c. For pollution investigation and remediation projects, any potentially responsible party that has received permission to conduct the project from the holder of a real property interest in the land; or
 - d. For U.S. Army Corp of Engineers projects, the U.S. Army Corps of Engineers may provide written authorization to its bonded contractor to serve as the LRP, provided, however, that the U.S. Army Corps of Engineers is also responsible for compliance with the general permit, as authorized by the Clean Water Act or the Federal Facilities Compliance Act.



Approved Signatory

Approved Signatory

A person who has been authorized by the Legally Responsible Person to sign, certify, and electronically submit Permit Registration Documents, Notices of Termination, and any other documents, reports, or information required by the General Permit, the State or Regional Water Board, or U.S. EPA. The Approved Signatory must be one of the following:

- For a corporation or limited liability company: a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (a) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation or limited liability company; or (b) the manager of the facility if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
- 2. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;
- 3. For a municipality, State, Federal, or other public agency: a principal executive officer, ranking elected official, city manager, council president, or any other authorized public employee with managerial responsibility over the

Approved Signatory (cont'd)

construction or land disturbance project (including, but not limited to, project manager, project superintendent, or resident engineer);

- 4. For the military: any military officer or Department of Defense civilian, acting in an equivalent capacity to a military officer, who has been designated;
- 5. For a public university: an authorized university official;
- 6. For an individual: the individual, because the individual acts as both the Legally Responsible Person and the Approved Signatory; or
- 7. For any type of entity not listed above (e.g. trusts, estates, receivers): an authorized person with managerial authority over the construction or land disturbance project.



SWPPP Development Begin at the Beginning

- Project Information (Title Page)
 - Project Name
 - Project Owner
 - Project Location
 - WDID Number (once assigned)
 - Risk Level
 - Date Prepared
 - Construction Dates
 - QSD

- Standard PRD Requirements for All Dischargers (include PRDs as a SWPPP appendix for reference)
 - Notice of Intent (NOI)
 - Risk Assessment
 - Traditional Projects Refer to CGP Appendix 1 and Attachment B

- LUPs Refer to CGP Attachment A.1
- Site Map
- Vicinity Map(s)
- SWPPP
- Certifications
 - Fees

- Future Requirement
 - Dischargers in unincorporated areas of the State (not covered under as adopted Phase I or Phase II SUSMP requirement) shall also complete the Post-Construction Water Balance Calculator

- After Sept 2, 2012
- Traditional Projects Only

- Additional PRD Requirements Related to Construction
 - Dischargers proposing an alternate Risk Justification
 - Particle Size Analysis



- Pre-construction Information to Collect
 - Previous Land Use
 - Runoff quantity and quality
 - Receiving water/MS4 information
 - Topography
 - Discharge points
 - Receiving waters



Typical Appendices to Include

- Templates
 - Inspection checklist (all)
 - REAP checklist (RL 2,3)
 - BMP inspection log (LUP Type 1,2,3)
 - Sampling log sheet (RL 2,3 & LUP Type 2, 3)



Typical Appendices

- Copy of the CGP
- Copies of PRDs and Revised PRDs
- Amendment Log
- Construction Schedule
- CASQA Fact Sheets
- CSMP (Covered in Module 4)
- List of Responsible Parties
- Sampling Information and Chain of Custody
- Weather Report index and StormPOP.com info

stormPOP.com New Features

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From: StormPOP Alert <alert@stormpop.com> 2/19/2011 5:41 AM</alert@stormpop.com>
To: Tanya Bilezikjian
Subject: POP Alert for tbilezikjian
tbilezikjian,
Below is a list of current POP Alerts for your projects.
Login to your account at <u>www.StormPOP.com</u> to see the details of all of you projects on the My Projects page.
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The probability of precipitation for newbury park, ca 91319 reaches a maximum of 62% within the next 7 days. 58% for Tonday 62% for Tomorrow 5% for Tomorrow Night 5% for Presidents Day 5% for Monday Night 6% for Tuesday 10% for Tuesday 10% for Wednesday 12% for Wednesday Night 12% for Hursday 16% for Thursday Night 16% for Friday
Depending on your project location, you may also be able to view and print the current NOAA report at http://www.wrh.noaa.gov/forecast/wxtables/index.php?lat=34.18417&lon=-118.9097&print=1&table=custom&duration=7&interval=6
The probability of precipitation for mission viejo, ca 92691 reaches a maximum of 54% within the next 7 days. 54% for Today 54% for Tonight 20% for Tomorrow 1% for Tomorrow Night 4% for Presidents Day 5% for Monday Night 12% for Tuesday 10% for Tuesday 10% for Tuesday 18% for Wednesday Night



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Relative Humdity	96%	65%	71%	89%	91%	72%	77%	91%	92%	75%	78%	89%	84%	70%	78%	92%	87%	57%	60%	79%	83%	72%	83%	100%	93%	59%	
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Forecast provided by www.wrh.noaa.gov and recorded by www.stormpop.com on December 17, 2010.

CGP Procedural Guidance

- Schedule of required inspections (quarterly, weekly, pre/during/post storm, REAP, weather monitoring report, etc, etc, etc)
- Proposed communication protocol for site QSP to communicate with Data Entry Persons and/or LRP
- Items that must be performed by the QSD
- Items that may be performed by the QSP



SMARTS Tips to Include

- Include names/contact information of Data Entry Person and LRP
- List items that may be uploaded/finalized by the Data Entry Person
- List items that require certification by the LRP

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Include timeline for certification

Field Sampling Guidance

- List of monitoring equipment
- Specific Regional Board interpretations for sampling
- Field meter information
- BMP installer contact information (for emergencies)



Lab Sampling Guidance

- List of activities and potential pollutants
 - Non-visible pollutant monitoring
 - Non-stormwater monitoring
- Local lab contact information
- List of bottles to obtain from lab
- Example chain of custody form

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Schedule/Sequence of Construction Activities

- Grading and Land Development Phase
- Streets and Utility Phase
- Vertical Construction Phase
- Final Landscaping Phase
- Notice of Termination
- Post Construction Stormwater Quality

- Mapping/Drawings Include:
 - Site Layout
 - Construction Site Boundaries
 - Drainage Areas
 - Discharge Locations
 - Sampling Locations
 - Areas of Soil Disturbance

- Mapping/Drawings
 - Provide flexibility for field adjustments
 - State that map must be kept up to date
 - Give a legend that's easy to use



- Mapping/Drawings Include:
 - Location of Storage Areas
 - Materials
 - Loading and Unloading Areas
 - Waste
 - Vehicles
 - Service
 - Fueling
 - Access
 - Water Storage and Transfer

- Mapping/Drawings Include:
 - BMP Locations
 - Erosion control
 - Sediment control
 - Runoff
 - ATS Location (if applicable)
 - Protected or Non-disturbed Areas
 - Post Construction BMP locations
- Provide a full size map (laminated where possible) to hang on trailer wall

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- Analysis of Pollutant Sources from Construction Activities
 - Clearing and Grubbing
 - Grading
 - Exposed Soils and Slopes
 - Tracking
 - Import/Export of soils
 - Trenching
 - Vertical Construction Activities
 - Landscaping/Post Construction



- Pollutants Sources for All Risk Levels and Types
 - Conduct an inventory of the products expected to be used and any end products that are expected to be produced.
 - Paints/Paint Thinner/Sealers
 - Dry Wall/Stucco
 - Roofing Materials
 - Concrete and Concrete Production
 - Wood/Sawdust
 - Fertilizer, Soil Amendments
 - Pesticides, Herbicides
 - Asphalt Production



- Pollutants Sources for All Risk Levels and Types
 - Conduct an inventory of the equipment and temporary facilities expected to be used along with establishment of waste areas:
 - Leaking fuel, oil, or other fluids from construction equipment
 - Similar leaks from cars of construction personnel
 - Temporary sanitary facilities
 - Concrete washout areas
 - Vehicle cleaning areas



- Dischargers are now REQUIRED to Implement "Good Housekeeping" BMPs:
 - Conduct an assessment and create a list of potential pollutant sources
 - Construction Materials
 - Waste Management (including Spill Response Plan)
 - Vehicle Storage and Maintenance
 - Landscape Materials
 - Air deposition of materials and from operations



- Housekeeping BMPs:
 - Construction Materials/Landscape Materials

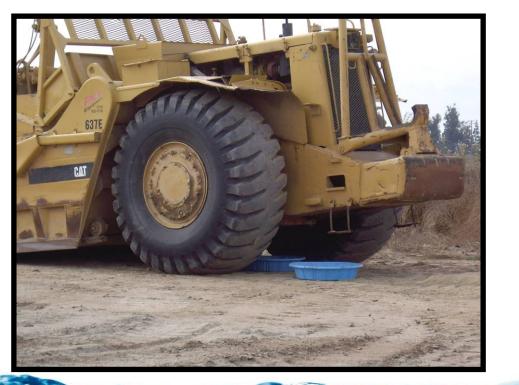


- Housekeeping BMPs:
 - Waste Management





- Housekeeping BMPs:
 - Vehicle Storage and Maintenance





- Housekeeping BMPs:
 - Air deposition of materials and from operations



• In addition to "Good Housekeeping", all projects will have SWPPP requirements for:

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- Effluent Standards
- Non-Stormwater Management
- Erosion Control
- Sediment Control
- Run-on and Runoff Control

- All Projects are Required to Implement Non-Stormwater Management BMPs:
 - Wash vehicles in manner to prevent discharge
 - Clean streets in manner to prevent discharge
 - Control/eliminate discharge from temporary irrigation
 - Control/eliminate discharge from dewatering operations and "flushing" of hydrants/pipelines

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- Prevent all debris and hazardous substances from leaving site
- Note whether dewatering activities are expected
 - Ensure required permits have been obtained
 - Prepare contractor for dewatering permit compliance

- Non-Stormwater Management BMPs:
 - Measures to control all non-stormwater discharges



- Non-Stormwater Management BMPs:
 - Use tire wash in manner to prevent discharge
 - (use recycle system)





- Non-Stormwater Management BMPs:
 - Clean streets in manner to prevent discharge





- All Risk Levels: Dischargers are required to implement Erosion Control BMPs:
 - Effective wind erosion control
 - Effective cover for inactive areas*, finished slopes, open spaces, utilities backfill, and completed lots
 - Limit the use of plastic materials
 - * Inactive areas are disturbed areas that are inactive for more than 14 days
 - Don't wait 14 days during the rainy season!



- Erosion Control BMPs:
 - Effective cover for **inactive** areas, finished slopes, open spaces, utilities backfill, and completed lots



- Erosion Control BMPs:
 - Limit the use of plastic materials



- All Risk Level Dischargers are required to implement Sediment Control BMPs:
 - Establish and maintain effective perimeter controls and stabilized construction exits
 - Design sediment basins according to CASQA Guidance Handbook on sites where basins are utilized

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 Sediment basins must be designed by a registered CA Civil Engineer

• Sediment Control BMPs: Perimeter





• Sediment Control BMPs: Basins



• Sediment Control BMP: Site Access



- All Dischargers are required to implement Run-on and Runoff Control BMPs:
 - Effectively manage all run-on and runoff within the site and all runoff that discharges offsite



• Run-on and Runoff Control BMPs:





- Minimum Inspector Duties and Monitoring Duties will be outlined in the SWPPP
 - Documented Weekly inspections and observations (Traditional Sites Only)
 - Daily Inspections (LUP)
 - Quarterly Inspections Non Stormwater Discharge (Traditional Sites Only)
 - Sampling for Non Visible Pollutants in the Event of Breach, Leak, Spill, or BMP Malfunction (All sites)

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- SWPPP Will Document Notice of Termination (NOT) Requirements
 - No potential for construction-related stormwater pollution
 - All elements of the SWPPP have been completed
 - Construction materials and waste have been disposed of properly
 - The site is in compliance with all local stormwater management requirements



- NOT Requirements (continued)
 - The LRP submits a NOT and has received approval for termination from the appropriate Regional Water Board; plus
 - Compliance with Standard Urban Stormwater Mitigation Plan (SUSMPs) or post-construction requirements (Traditional Sites Only)
 - After September 2, 2012 Compliance with Post-Construction Water Balance

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- Submitted with PRDs
- Submitted with Topographic Map with pre and post construction drainage

SWPPP Preparation Additional Requirements for Risk Level 2 and LUP Type 2 Projects



• Risk Level 2 Numeric Action Level requirements include

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- pH NAL of 6.5-8.5
- Turbidity NAL of 250 NTUs
- NAL compliance will drive site operations

SWPPP Development Risk Level 2 & Type 2 LUP

- Additional "Good Housekeeping" Requirement for All Risk Level 2 & 3 Projects
 - Documentation of all Housekeeping BMPs in the SWPPP and REAP in accordance with the nature and phase of the construction project.
 - Traditional Construction Phases include, grading and land development; streets and utilities; vertical construction; and site stabilization



- Additional Sediment Control BMPs:
 - Implement appropriate erosion control BMPs in conjunction with sediment control BMPs for areas under active construction (Traditional Projects Only)
 - Apply linear sediment controls along the face, toe, and grade breaks of exposed slopes



• Critical Slope/Sheet Flow Length

Slope Percentage:	0-25%	25-50%	Over 50%
Sheet flow length not to exceed:	20 feet	15 feet	10 feet





- Additional Sediment Control BMPs:
 - Ensure that construction to and from this project is limited to controlled entrances and exits
 - Ensure that all storm drain inlets, perimeter controls, runoff controls, and pollutant controls are maintained and protected

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 Inspect immediate access roads daily and remove sediment deposited prior to rain event

SWPPP Development Risk Level 2 (Traditional Sites Only)

- On Risk Level 2 and 3 Sites, REAPs should be initially prepared for implementation based on phase of construction.
 - Recommend using CASQA templates
- The QSP may need to modify the REAP during implementation based on site conditions.



- Additional Monitoring
 - CSMP or M&RP will address:
 - Site's compliance with the Discharge Prohibitions and applicable NALs
 - Determining whether immediate corrective actions, additional BMPs, or SWPPP revisions are necessary
 - Determining if BMPs are effective
 - Event Based Monitoring for Qualifying Events



- Risk Level 3 Numeric Action Level and Numeric Effluent Limitation requirements include:
 - pH NAL of 6.5-8.5
 - Turbidity NAL of 250 NTUs
 - pH NEL of 6.0-9.0
 - Turbidity NEL of 500 NTUs
 - Projects That Utilize ATS Systems Have Stricter Discharge Standards – Daily Average 10 NTU, with 20 NTU Single Sample Maximum
 - SWPPP Includes Provision to Monitor Compliance and Report Findings

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- Dischargers are required to implement additional Sediment Control BMPs:
 - Regional Water Quality Control Board may require the implementation of additional sediment control BMPs if other sediment controls are not effectively protecting the receiving waters.



- Other Potential Components
 - Information on Receiving Water Monitoring (triggered by NEL violation)
 - Information on Bioassessment (triggered by 30 acres or more disturbance & direct discharge)
 - ATS Operational and QC Plan (when "resorted" to)



- Active Treatment Systems BMP "option" on sites where the soils contain fine silts or clay
 - To aid on projects where NALs and NELs for turbidity are exceeded
 - The ATS shall be designed and approved by a CPESC; a CPSWQ; or any other California registered engineer.

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 Requires the development of an Operations and Maintenance Manual.

New! CASQA SWPPP

- New SWPPP Template
- New Construction Stormwater Monitoring Program (CSMP) Template



Questions Regarding SWPPP Development???

