STORM WATER AWARENESS WEEK 2024

September 23-27

STORM WATER AWARENESS WEEK

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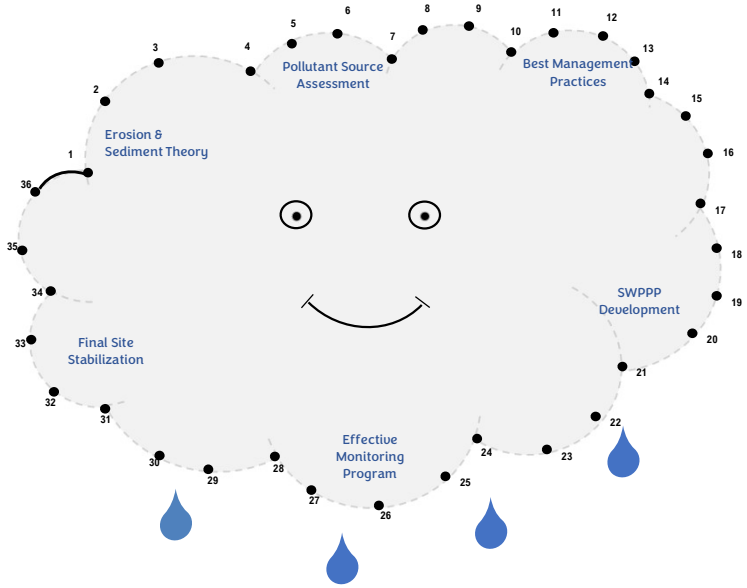
Connecting the Dots of Effective Construction SWPPPs



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Qualified SWPPP Developer (QSD)

A QSD applicant shall currently possess at least one of the following prerequisites:

a. A California landscape architect registration;
b. A professional hydrologist registration through the American Institute of Hydrology;
c. A Certified Professional in Erosion and Sediment Control (CPESC)™ registration through EnviroCert International, Inc.;
d. A Certified Professional in Stormwater Quality (CPSWQ)™ registration through EnviroCert International, Inc.; or
e. Any prerequisite course approved by the State Water Board's Division of Water Quality Deputy Director in accordance with Section V.G.

In addition, a QSD shall have attended a 3-day State Water Board-approved QSD training course and pass the State's on-line exam.

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Qualified SWPPP Developer (QSD)

V.C. Discharger's Responsibilities for Qualified SWPPP Developer Performance

V.C.1. The discharger shall retain a QSD from the beginning of the project through the Notice of Termination approval.

V.C.2. A QSD is required to assess how construction activities will affect sediment transport, erosion, and other discharges of pollutants in stormwater runoff in the SWPPP design and implementation. The QSD is required to revise the SWPPP to address potential problems identified by visual inspections, sampling data, comments from a QSP, or their own site observations.

V.C.3. A QSD is required to include in the SWPPP the name, email, and phone number of all the QSP-trained delegate(s).

V.C.4. The discharger shall ensure that a QSD performs the following on-site visual inspections[13]:

a. Within 30 days of construction activities commencing on a site;
b. Within 30 days of a discharger replacing the QSD;
c. Twice annually, once August through October and once January through March;
d. Within 14 calendar days after a numeric action level exceedance; and
e. Within the time period requested in writing from Water Board staff.

V.C.5. A QSD may perform the work of a QSP.

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The California Construction SWPPP

IV.O. Stormwater Pollution Prevention Plan Requirements

IV.O.1. The discharger shall ensure the site's SWPPP complies with the below conditions:

a. A site-specific SWPPP is developed, and amended as necessary, by a QSD. The discharger is responsible for keeping the SWPPP and associated documents updated in SMARTS to reflect current site conditions and construction activities.

b. Trained personnel and BMP materials are available at the site as required by this General Permit.

c. The SWPPP includes the implementation of BMPs that comply with BAT, BCT, and ensure compliance with water quality standards; additional BMPs based on input from the QSP to address numeric action level and numeric effluent limitation exceedances; and additional training needed for the QSP, Legally Responsible Person, or designated persons on-site.

d. The SWPPP is available at the site and made available upon request by a federal, State, or municipal inspector. A current copy of the site-specific SWPPP and any site inspection reports required by this General Permit may be kept in electronic format at the site so long as the information requested by a federal, State, or municipal inspector can be made available during an inspection. All maps are legible and available in hard copy at the site.

Get a copy of the 22 CGP:

https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction/docs/2022-0057-dwq-with-attachments/cgp2022_order.pdf

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The California Construction SWPPP

IV.O.2. The SWPPP shall include:

a. Identification of all pollutants, their sources, and control mechanisms, including sources of sediment associated with all construction activities (e.g., sediment, paint, cement, stucco, cleaners, site erosion);

b. Pollutant source assessments, including a list of potential pollutant sources and identification of site areas where additional BMPs are necessary to reduce or prevent pollutants in stormwater and authorized non-stormwater discharges, per the following minimum requirements when developing the pollutant source assessment:

i. Consider all potential sources of pollutants, including non-visible pollutants which are known, or should be known to occur on-site including those that:

1. Are used in construction activities;
2. Are stored on-site;
3. Were spilled or released during construction activities or past land use activities and not cleaned up; and
4. Were applied to land as part of past land use activities.

ii. Consider all potential sources of pollutants associated with applicable TMDLs listed in Attachment H, and state whether or not sources of those pollutants are present on-site;

iii. Consider the quantity, physical characteristics (e.g., liquid, powder, solid), and locations of each potential pollutant exposed, source handled, produced, stored, recycled, or disposed of on-site;

iv. Consider the degree to which pollutants associated with those materials may be exposed to and mobilized by contact with stormwater; and

v. Consider the direct and indirect pathways that pollutants may be exposed to stormwater or authorized non-stormwater discharges. This shall include an assessment of past spills or leaks, non-stormwater discharges, and discharges from adjoining areas.

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The California Construction SWPPP

c. Description of site-specific BMPs implemented to reduce or eliminate stormwater pollution, including the following, if applicable:
   i. Minimum sediment and erosion control BMPs as outlined in Attachments D and E of this General Permit;
   ii. Active treatment systems as included in an Active Treatment System Plan (as required in Section E.1 of Attachment F);
   iii. Passive treatment technologies as included in a Passive Treatment Plan (as required in Section D.2 of Attachment G);
   iv. BMPs implemented to address applicable TMDL implementation requirements (as required by Attachment H); and
   v. Dewatering systems (as required by Attachment J).
d. Site-specific BMPs initialized immediately to temporarily stabilize an area disturbed by construction where construction activities will not be resumed within 14 days;
e. Identification, elimination, control, or treatment information for all non-stormwater discharges from the site not regulated by this or another NPDES permit;
f. Description of efforts and BMPs used to minimize and control pollutants discharged from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be captured and properly disposed of and/or treated to mitigate impacts to water quality;
g. Description of efforts and BMPs used to minimize exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to precipitation and to stormwater;
h. Description of spill and leak prevention and response plan including:
   i. Procedures that effectively address hazardous and non-hazardous spills in accordance with law;
   ii. Spill and leak response equipment and materials to be available on-site, cleaned up immediately, and disposed of properly; and
   iii. Personnel are assigned and trained for spill and leak prevention and response.

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The California Construction SWPPP

i. Construction Site Monitoring Program that describes methods and procedures for monitoring discharges in accordance with the applicable Attachment D or E that includes the following:
   i. Visual inspection locations, inspection procedures, and follow-up tracking procedures.
   ii. Applicable sampling locations, collection, and handling procedures shall include detailed procedures for field analysis, sample collection, storage, preservation, and shipping to the laboratory to ensure consistent quality assurance and control is maintained.
   iii. A copy of the Chain of Custody form used when handling and shipping samples.
   iv. Identification of the analytical methods and related method detection limits (if applicable) for each parameter.
   v. Watershed Monitoring Option:
      1. If the discharger is part of a qualified regional watershed-based monitoring program approved by the Regional Water Board Executive Officer or their delegate, the discharger may be eligible for relief from the monitoring requirements in the applicable Attachment D or E. The Regional Water Board may approve proposals to substitute a qualified watershed-based monitoring program if it determines the program will provide information to determine each discharger's compliance with the requirements of this General Permit.

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SWPPP Requirements for Other States:

Table 11 —Construction SWPPP Development Requirements by State [1]

State	Regulating Agency	Permit	SWPPP[2] Template Available	Who Can Prepare a SWPPP
Alabama	Alabama Department of Environmental Management	Alabama Construction General Permit ALR100000 https://adem.alabama.gov/programs/water/waterforms/ALR21CGP.pdf	Yes, https://adem.alabama.gov/programs/water/waterforms/CSW-CBMPPTemplate.pdf	Qualified Credentialed Professional (Q who is *a licensed (in the State of Alaba professional engineer (PE) or a Certifie Professional in Erosion and Sediment Control (CPESC) as determined by EnviroCert International. Other register certified professionals eligible to be classified as a QCP include registered landscape architect, licensed land surveyor, registered geologist, register forester, Registered Environmental Manager as determined by the Nationa Registry of Environmental Professional (NREP), or Certified Professional and S Scientist (CPSS) as determined by the Science Society of America*

[1] Table compiled in February 2024 and adapted partially from The Stormwater Practitioners Guide, U.S. Department of Transportation, Federal Highway Administration, December 2018, Version 1, https://highways.dot.gov/sites/fhwa.dot.gov/files/docs/federal-lands/construction/27396/cfl-stormwater-guide.pdf, Appendix A current as of March 7, 2022, https://highways.dot.gov/sites/fhwa.dot.gov/files/docs/subdoc/2356/cfl-appendix-state-requirements-03-07-2022.pdf; for an up-to-date version of Table 11, go to https://wgr-sw.com/theraindropconnection/tables

[2] Some States refer to SWPPP by another name such as in Colorado it is called a Stormwater Management Plan (SWMP).

Download Table 11:

https://wgr-sw.com/TheRaindropConnection/

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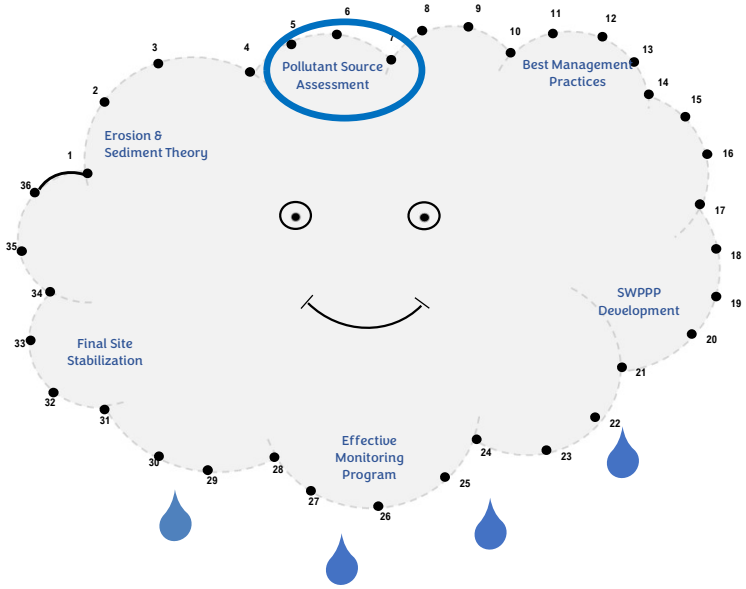
Connect the dots in the SWPPP



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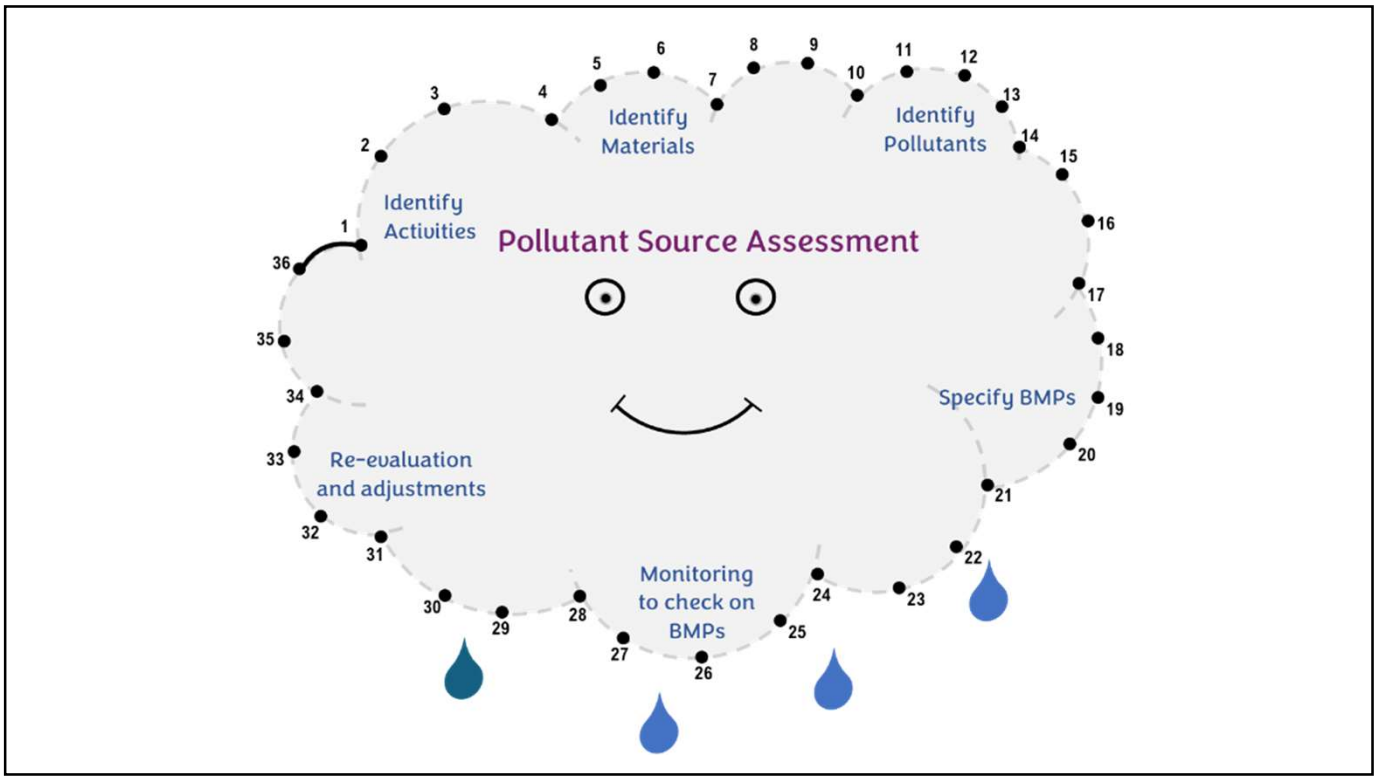

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TABLE 2 – TRADES, CONSTRUCTION ACTIVITIES, AND POTENTIAL POLLUTANT SOURCES[1]

Trades	Activities	Potential Pollutant Sources
Asphalt pavers	Deliver and install asphalt products, hot and cold mixes, for roadways, parking lots, and other paved surfaces.	• Heavy petroleum oils used in asphalt • Diesel for cleaning and fuel • Lubricating oils for equipment • Solvents and detergents for cleaning • Sand and gravel • Vehicle / equipment fuel, coolant, hydraulic, brake, and transmission fluids • Solid waste / trash
Boiler makers	Assemble, install, maintain, and repair boilers, closed vats, and other large vessels or containers that hold liquids and gases	• Metal dust and filings • Welding slag • Solvents and detergents • Lubricating oils • Sand or other media from sand blasting • Solid waste / trash
Carpenters	Construct, repair, and install building frameworks and structures made from wood and other materials.	• Wood dust and particles • Semi-volatile compounds (SVOCs) from treated or manufactured wood or wood-replacement building materials • Metal dust and filings from steel or aluminum posts and studs • Solid waste / trash

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4 Pollutant Source Assessment (PSA)

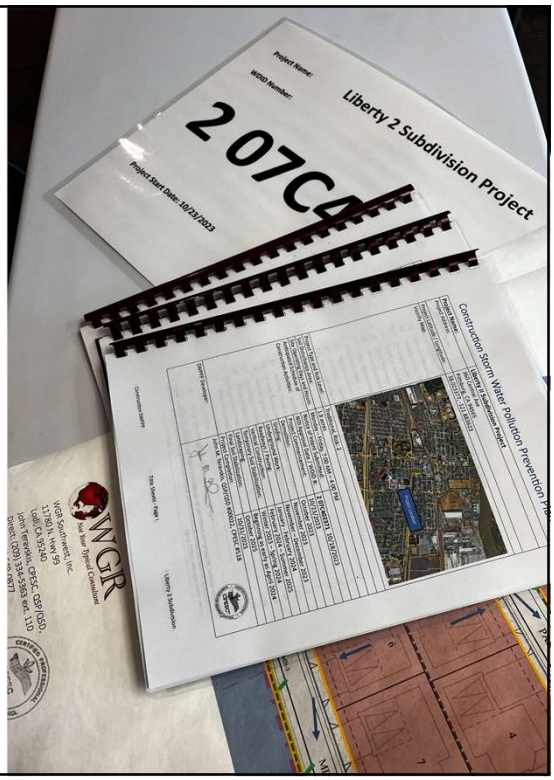
4.1 Materials Present at the Project

Based on the trades and activities anticipated to be present at this project, Table 3 provides a summary of the potential pollutants, including amounts stored onsite, where and when they are utilized, where they are stored, and the method of contact with storm water. ***The QSD will revise this list after the initial 30-day site visit.*** The QSP will periodically review Table 3 and compare it to actual materials stored on site. Table 3 will be revised periodically with information from site inspections.

TABLE 3 – INVENTORY AND ASSESSMENT OF MATERIALS

REVISED ON 1/09/2024 BASED ON THE 1/04/2024 QSD SITE VISIT (ANTICIPATED MATERIALS FOR JANUARY – MARCH 2024)

Potential Pollutant	Phase of Construction Used	Interior or Exterior Use	Physical Properties	Pollutants of Concern	Method of Contact with Storm Water	Storage Location	Quantity Stored
Concrete, ready mix	Roadway, utility, vertical	Exterior	Solid / slurry, caustic	pH altering	Direct	Not stored on-site	N/A
Concrete, 90 lb. bags	Roadway, utility, landscaping	Exterior	Solid / powder, caustic	pH altering	Direct and indirect from wind-blown powder or discarded bags	South storage unit	1 pallet
Admixtures for concrete	Roadway, utility, vertical	Exterior	Powders and liquids	Metals, dissolved solids, COD	Direct, and Indirect from discarded containers or wind dispersion of dust	Tote under plastic sheeting; buckets in the south storage unit	1 tote and 6 5-gallon buckets
PVC glues and primer	Utility, vertical, landscaping	Exterior and interior	Liquids	VOC	Direct from use or spills	On electrician, plumber, HVAC, and landscaper vehicles	Varies, estimated at a dozen ½-quart cans at any one time
Sand	Utility, vertical	Exterior	Solids, bulk	Settable solids	Direct and indirect from wind and stock pile migration	Small stockpiles in front of the home lots	Approximately 20 1-cy stockpiles
Diesel, red-dye diesel, motor and hydraulic oils, coolant	Grading	Exterior	Liquid	Oil & Grease, VOC, SVOC, BOD/COD, metals	Indirect by spills or leaks	Only in vehicles, fuel delivered by mobile refueler	N/A



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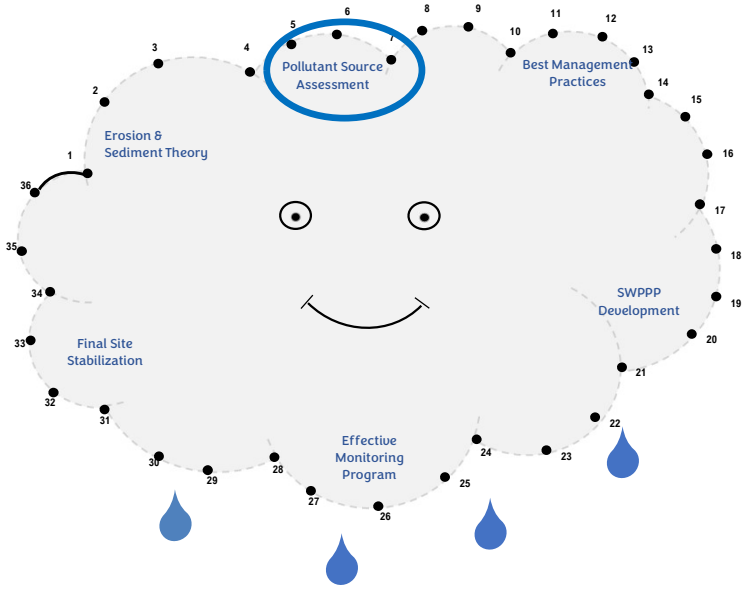

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Connect the dots in the SWPPP

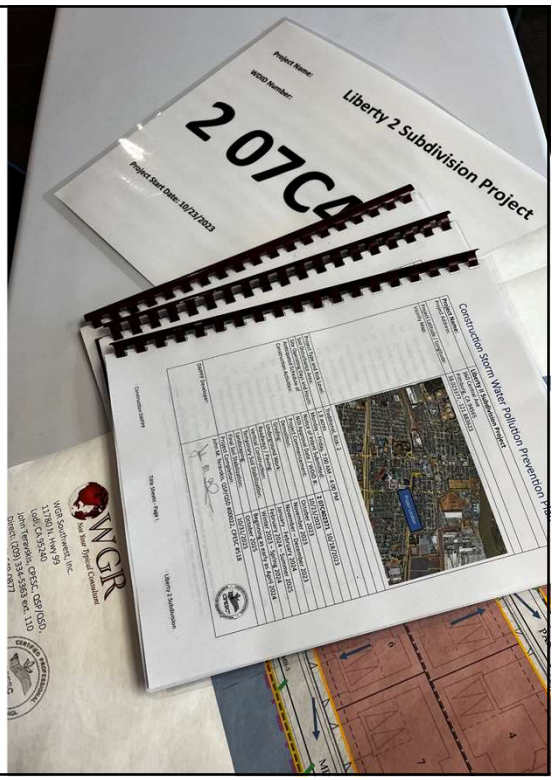
5 Best Management Practices (BMPs)

According to the CGP glossary, Best Management Practices are "*are management practices and structural controls used to prevent or reduce the discharge of pollutants from runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage to waters of the United States. BMPs include scheduling of activities, prohibitions of practices, operation and maintenance procedures, treatment, and vegetated infiltration basins amongst other practices.*" There are several factors in the CGP that require BMPS. First, the CGP contains mandatory minimum BMPs for all projects and few additional BMPS for projects at Risk Level 2 and 3. Second, Responsible Dischargers for certain TMDLs will have to implement additional BMPs to comply with that TMDL requirement. Third, it is the job of the QSD to specify Site-Specific BMPs for the control of sediment transport, erosion, and discharges of pollutants from the project site.

This SWPPP includes the implementation of BMPs that comply with BAT, BCT, and ensure compliance with water quality standards. From time to time, additional BMPs based on input from the QSP to address numeric action level and numeric effluent limitation exceedances may be added to the SWPPP, which may necessitate additional training needed for the QSP, Legally Responsible Person, or designated persons on-site.

Best Available Technology Economically Achievable (BAT)
As defined by U.S. EPA, BAT is a technology-based standard established by the Clean Water Act (CWA) § 304(b)(2) as the most appropriate means available on a national basis for controlling the direct discharge of toxic and nonconventional pollutants to navigable waters. The BAT effluent limitations guidelines, in general, represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

Best Conventional Pollutant Control Technology (BCT)
As defined by U.S. EPA, BCT is a technology-based standard established by the Clean Water Act (CWA) § 304(b)(4) for the discharge from existing industrial point sources of conventional pollutants including biochemical oxygen demand (BOD), total suspended sediment (TSS), fecal coliform, pH, and oil and grease.



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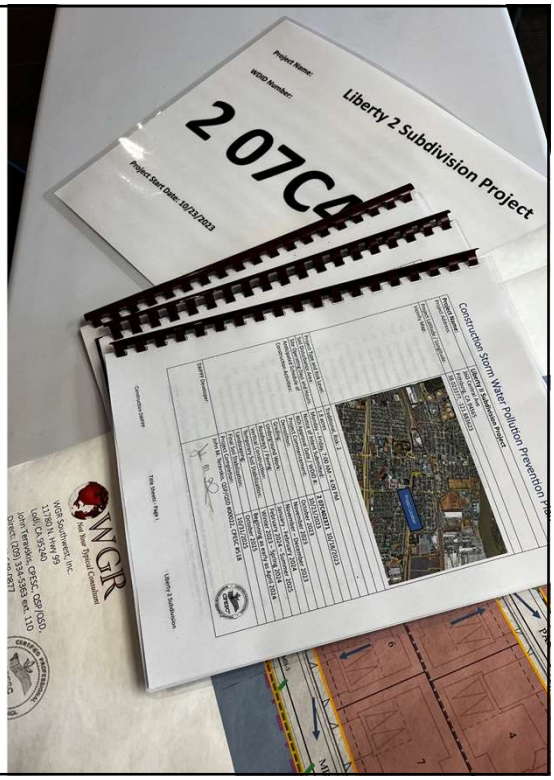
Examples of Connected BMPs

T-2 Treatment of Tires:

To minimize the track out of sediment off of a construction site and onto public roadways, it is necessary to "treat" the tires of exiting vehicles. Treatment is generally accomplished by one or a combination of the following methods: mechanical removal of mud from tires, prevention by keeping construction vehicles on stabilized roadways, or washing tires. When specifying the use and placement of tire or roadway treating devices, the following are important considerations:

- Consider the largest tire that will be exiting the site and adjust the size of the track out device to maximize the contact with the tire. A good general rule-of-thumb is to have a length that allows four rotations of the tire.
- To the extent possible, situate the track out device so that it is sloped to drain back onto the site. Otherwise, storm water runoff will flow across the track out device and discharge offsite taking with it the removed sediment. If it is not possible to have the track out control device slope towards the project site, place sediment control BMPs (i.e., compost socks) downgradient of the device and avoid use of the exit during rain events.
- Provide a way to easily remove trapped sediment and clean the device regularly.
- If possible, have vehicles drive on private paved surfaces after exiting the track out control device and before entering public roadways. This will allow any residual sediment to be deposited and swept up while still on the construction site.
- To the extent possible, locate track out control devices as far away as practicable from drain inlets.
- Include a way to capture and, if necessary, treat wash water and runoff from the track out control device. Do not let this water discharge from the site but infiltrate it or capture, treat, and discharge of it in accordance with local, State, and Federal regulations.
- Keep in mind that sweeping (T-3) will always be needed.

a temporary one?



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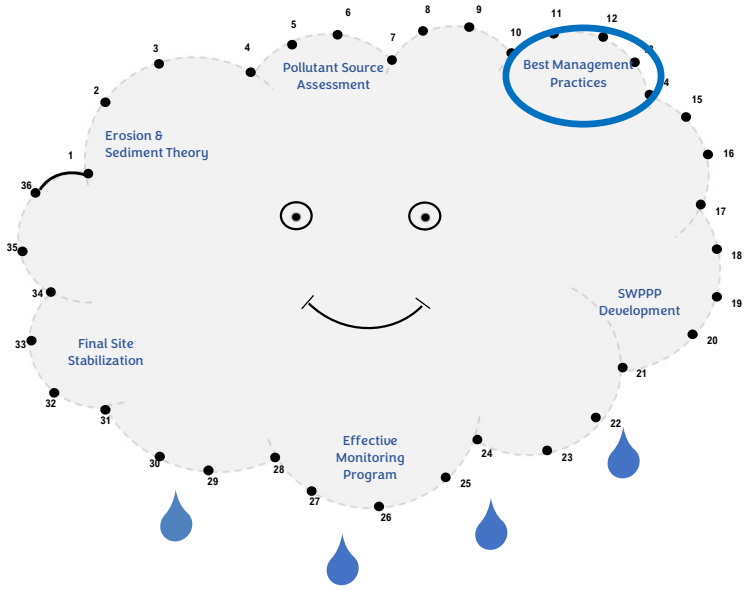

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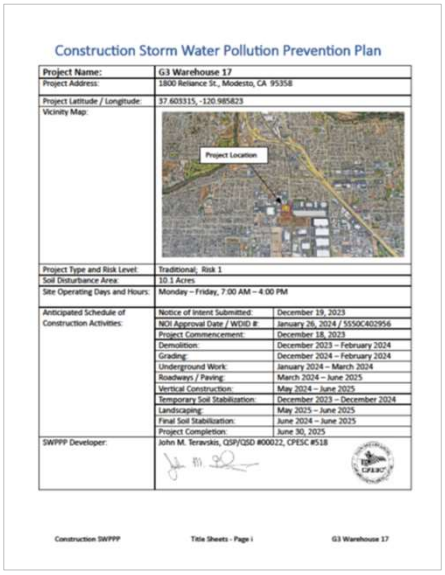
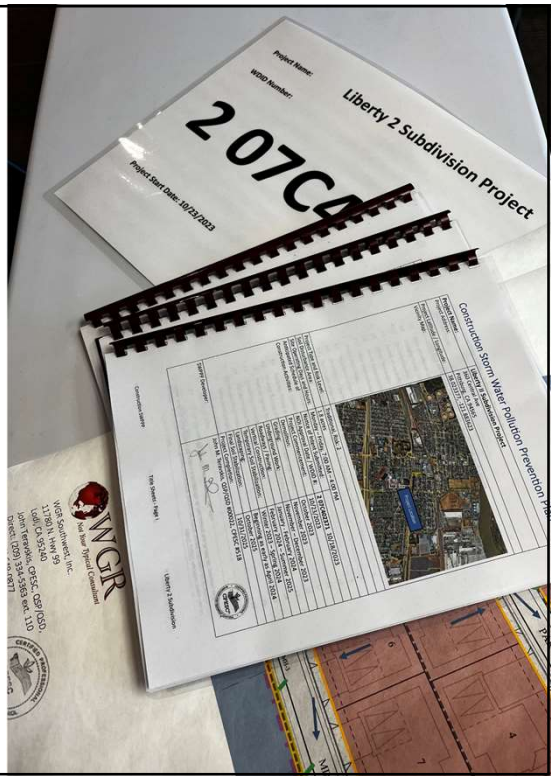
The Actual Dot-to-Dot Worksheet (the SWPPP)



Construction Storm Water Pollution Prevention Plan

Project Name:	G3 Warehouse 17
Project Address:	1800 Reliance St., Modesto, CA 95358
Project Latitude / Longitude:	37.603315, -120.985823
Vicinity Map:	Project Location
Project Type and Risk Level:	Traditional, Risk 1
Soil Disturbance Area:	10.1 Acres
Site Operating Days and Hours:	Monday – Friday, 7:00 AM – 4:00 PM
Anticipated Schedule of Construction Activities:	Notice of Intent Submitted: December 19, 2023
	NOI Approval Date / WDID #: January 26, 2024 / 5550C402956
	Project Commencement: December 18, 2023
	Demolition: December 2023 – February 2024
	Grading: December 2024 – February 2024
	Underground Work: January 2024 – March 2024
	Roadways / Paving: March 2024 – June 2025
	Vertical Construction: May 2024 – June 2025
	Temporary Soil Stabilization: December 2023 – December 2024
	Landscaping: May 2025 – June 2025
	Final Soil Stabilization: June 2024 – June 2025
	Project Completion: June 30, 2025
SWPPP Developer:	John M. Teravskis, QSP/QSD #00022, CPESC #518

Construction SWPPP Title Sheets - Page i G3 Warehouse 17



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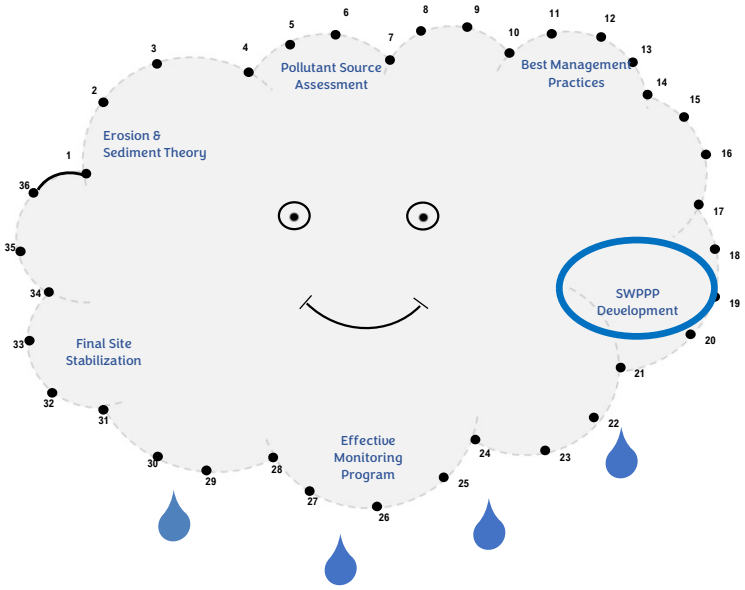

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Establish a monitoring program to verify the effectiveness of the BMPs

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Use Your Data!

II.J. Maintenance and Repair

II.J.1. Dischargers shall begin maintaining, repairing, and/or implementing design changes (revising alternatives that have not been used yet) to BMPs within 72 hours of identification of failures or other shortcomings and complete the changes as soon as possible, prior to the next forecasted precipitation event.

NEW

II.J.2. Dischargers shall have a Qualified SWPPP Practitioner (QSP) verify all BMP maintenance and repairs were appropriately implemented during the next visual inspection following completion. The QSP may delegate BMP maintenance and repair verification to an appropriately trained delegate.

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Use Your Data!

IV.B. Water Quality Monitoring

IV.B.1. Risk Level 2 and 3 Stormwater Discharge Monitoring Reporting

IV.B.1.a. Risk Level 2 and 3 dischargers shall electronically submit through SMARTS all field sampling results within 30 days of the completion of the precipitation event or within 10 days if the field sampling results demonstrate the exceedance of the pH, and/or turbidity numeric action levels.

IV.B.1.b. Risk Level 2 and 3 dischargers that exceeded the pH and/or turbidity numeric action levels shall prepare a Numeric Action Level Exceedance Report when requested, in writing, from a Regional Water Board delegate and shall submit and certify each Numeric Action Level Exceedance Report through SMARTS within 30 days of receiving the written request, in accordance with Section IV of this General Permit's Order.

IV.B.1.c. The Numeric Action Level Exceedance Report shall include:

i. The analytical method(s), method reporting unit(s), and method detection limit(s) for each parameter;

ii. The date, place, time of sampling, visual inspections, and/or measurements, including precipitation; and

iii. An assessment of the existing BMPs associated with the sample that exceeded the numeric action level, a description of each corrective action taken including photographs, and date of implementation.

IV.B.1.d. Risk Level 2 and 3 dischargers that prepared a Numeric Action Level Exceedance Report shall retain a copy of the report for a minimum of three years after the date the exceedance report is certified and submitted.

IV.B.2. Risk Level 3 Receiving Water Monitoring Reporting

IV.B.2.a. Risk Level 3 dischargers shall electronically submit all receiving water sample results through SMARTS within 10 days of a precipitation event.

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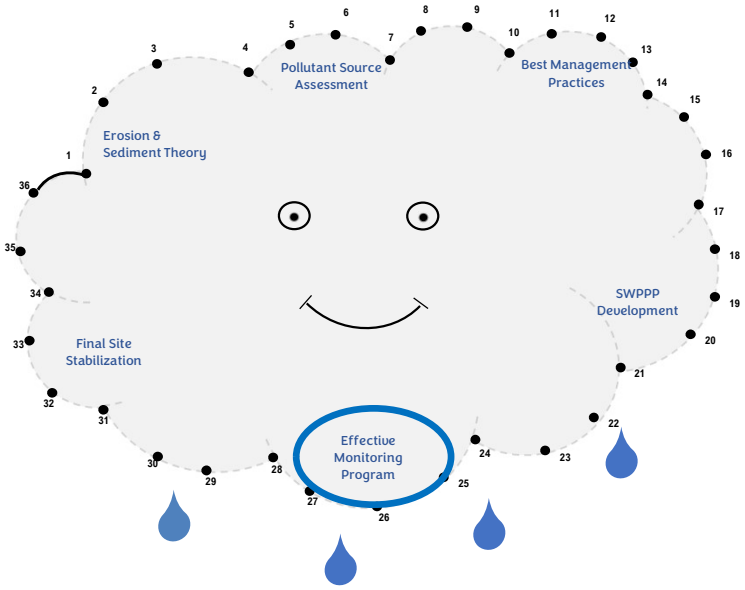

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The Final Dot!

h. The discharger has demonstrated that the site complies with all Notice of Termination conditions above (Section III.H) and all final stabilization conditions by one of the following methods:

i. **70 percent final cover method**. No computational proof required. Requires permanent vegetative cover to be evenly established over 70 percent of all disturbed and exposed areas of soil (non-paved or non-built). In areas that naturally have low vegetative coverage (e.g., deserts), 70 percent of natural conditions of local undisturbed areas is acceptable. Photos of all site areas are required to verify compliance with the 70 percent final cover requirement;

OR

ii. **Revised Universal Soil Loss Equation (RUSLE or RUSLE2) method.** Computational proof required. Site conditions shall match values used in method computation. Photos of all site areas are required to verify pre-construction and post-construction conditions used in the computations;

OR

iii. **Custom method.** The discharger may request approval from the Regional Water Board to use a method or analytical model other than Section III.H.4.h.i and 4.h.ii above to demonstrate that the site complies with the "final stabilization" requirements. Photos of all site areas are required to verify the custom method used.

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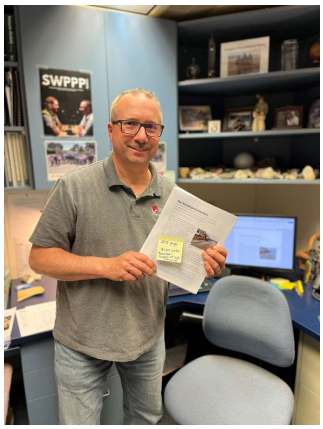
Soon to be published ...



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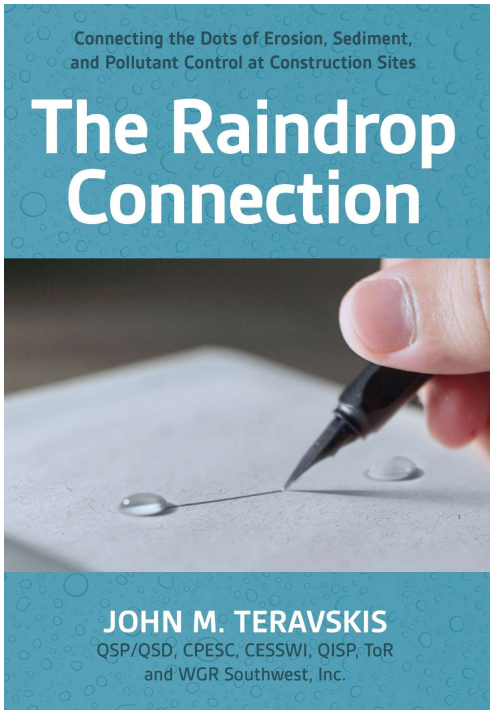

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STORM WATER AWARENESS WEEK

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