

KAZ & ASSOCIATES
ENVIRONMENTAL SERVICES

**Construction/Municipal General Permit
and SWPPP Implementation Overview**

For
Solano Stormwater Alliance

May 23, 2023



The Construction General Permit (CGP) and the Municipal General Permit (MGP)

Main Goal:

- Reduce and/or Eliminate the Discharge of Sediment and/or other Pollutants from entering storm drains and water bodies (Waters of the State) to preserve Water Quality and “Beneficial Uses” for all.

Achieved by developing and implementing an **EFFECTIVE** Storm Water Pollution Prevention Plan (SWPPP) and Monitoring Program



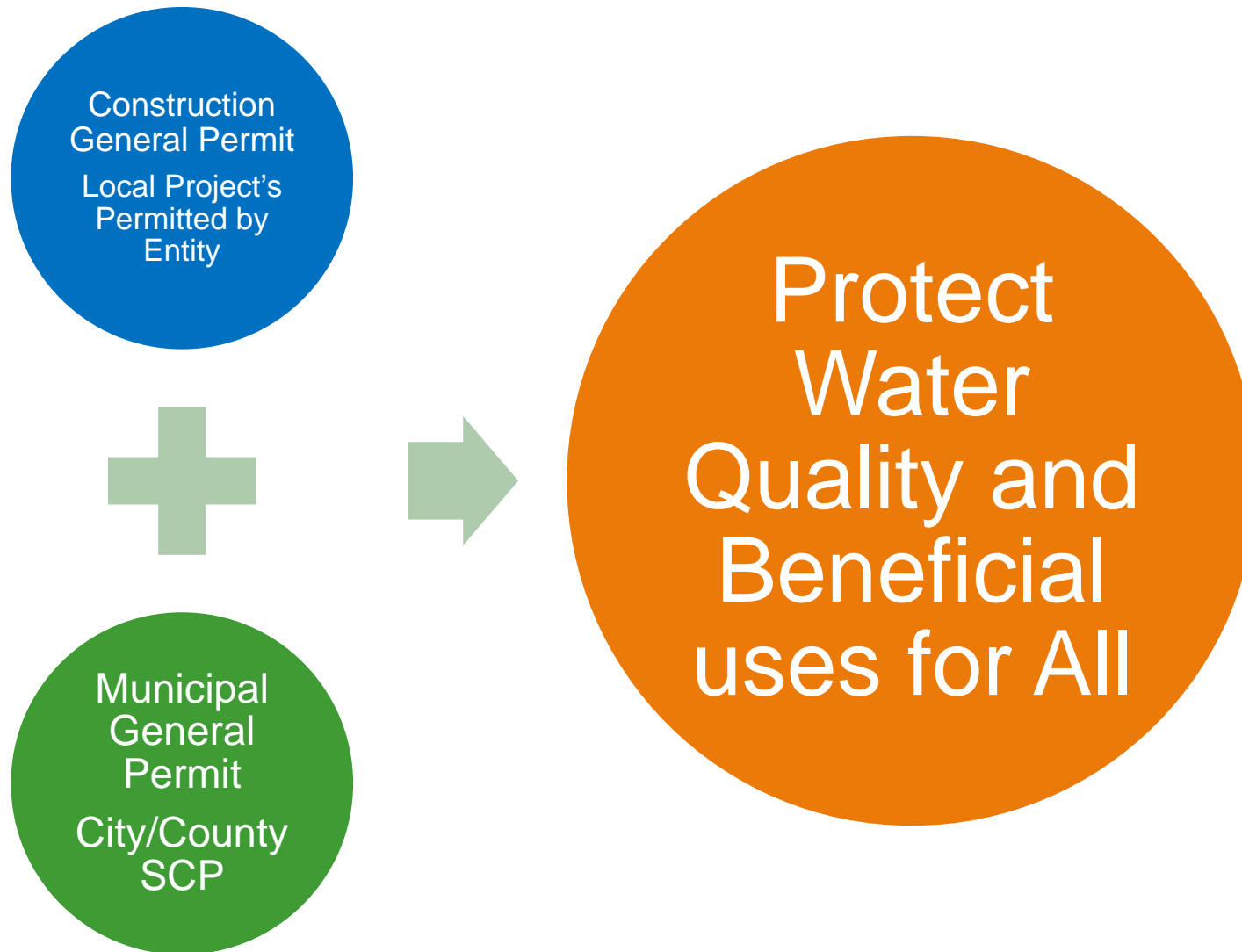
Beneficial Uses - Only Rain In The Drain

- “Beneficial uses” include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves
- The main pollutants that can be found in stormwater runoff include:
 - **Sediment***
 - Oil and grease
 - Heavy metals
 - Nutrients (nitrogen and phosphorus)
 - Pathogens
 - Pesticides
 - Debris

No Oil, No Fuel, No Debris, No Sediment,
No Pollutants...Only Rain in the Drain!



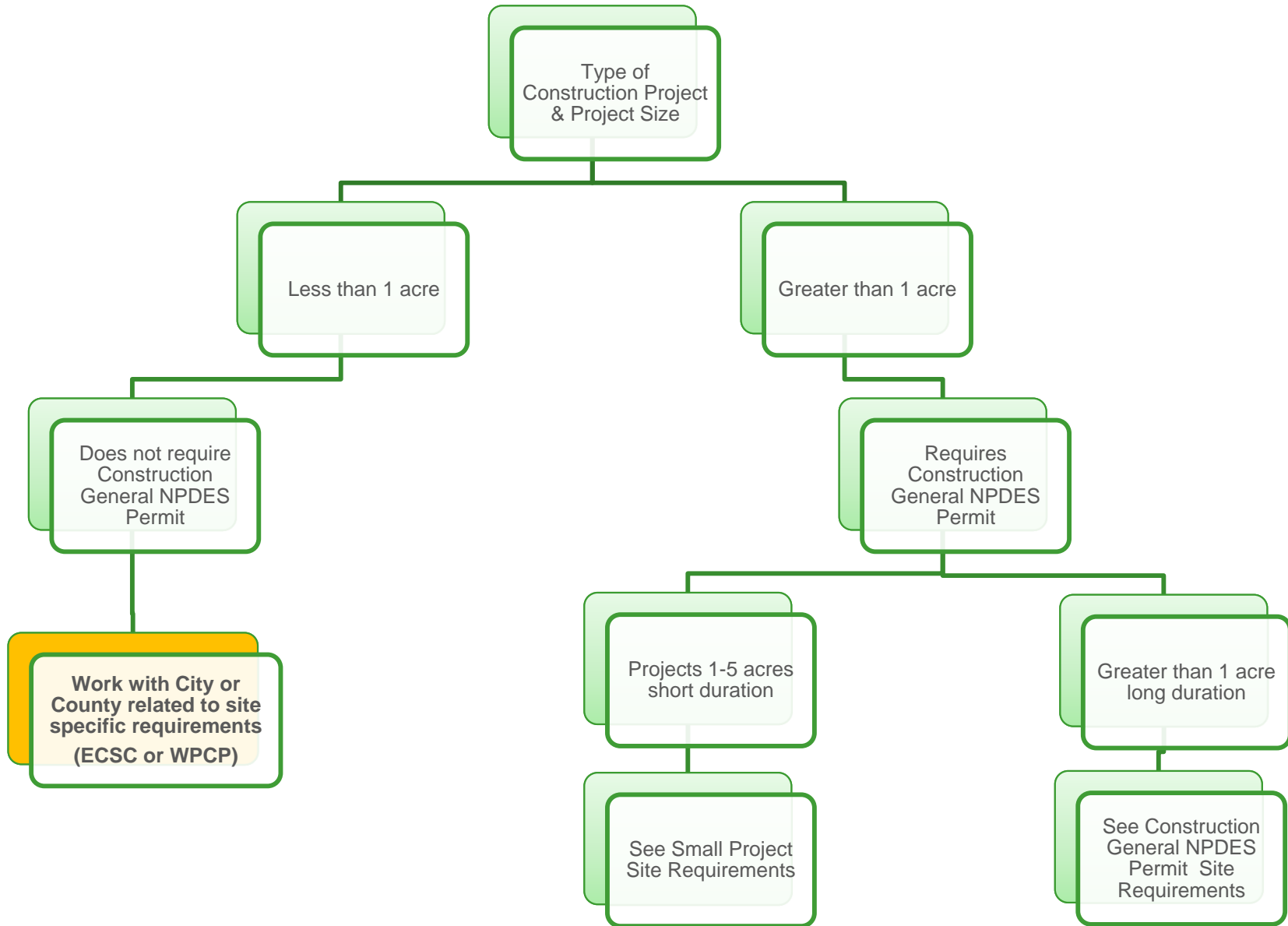
CGP and MGP



CONSTRUCTION GENERAL PERMIT (CGP)

Public and/or Private Construction Projects
approved by local authority (City/County) with a
State Water Board Permit (WDID#)

Construction General Permit or City/County Ordinance



Who Does This Permit Apply To?

- Construction or demolition activity resulting in land disturbance of equal or greater than 1 acre or less than one acre of a common plan of Development
- Residential, Commercial, or Industrial Development on lands currently used for agriculture (i.e. dairy barns or food processing facilities)
- Linear Underground/Overhead Utility Projects (LUPs)
- Discharges of sediment from construction activities associated with Oil and Gas exploration, production, processing, or treatment/transmission
- Discharge from dredged spoils placement outside of US Army Corps Jurisdiction (1 acre or greater). For CWA 404 contact local water board

Construction General Permit

Order No. 2009-0009-DWQ

(Amended 2010-0014-DWQ and Order No. 2012-0006-DWQ)

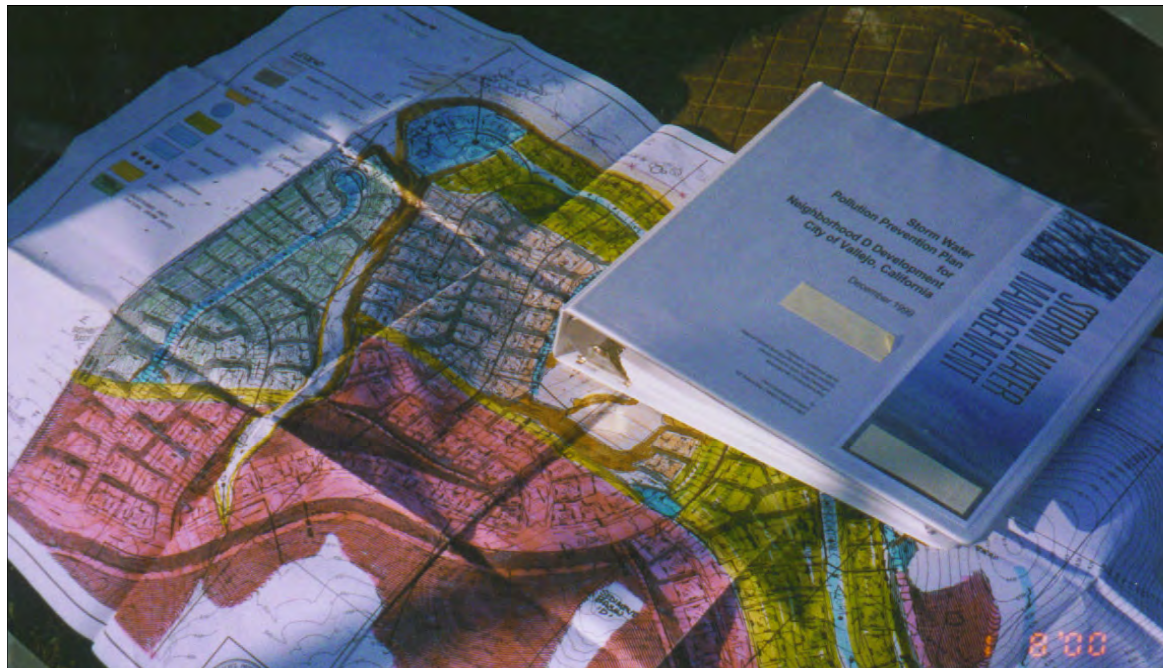
Risk Based Approach

- Project Classified into Risk or Type Levels
 - Risk 1 (Low), Risk 2 (Medium), Risk 3 (High)
 - Specific requirements for each Risk Level
- Electronic Submittals of all Permit Registration Documents (PRDs)
 - Stormwater Multi Application Reporting and Tracking System (SMARTS) database
 - **PUBLIC RECORD**
- SWPPPs must be developed by Qualified SWPPP Developer (QSD)
- Managed by Qualified SWPPP Practitioner (QSP)

New Permit Approved September 2022 and comes into effect September 2023

What is SWPPP???

- SWPPP – Storm Water Pollution Prevention Plan
- SWPPP should be a Living Document: The SWPPP must be Dynamic and Defensible



- “Living” Document means that the document represents “real” conditions and does not simply exist on paper. It is continually updated to reflect current site conditions.

SWPPP and Project Site Requirements

Risk 1 Narrative Effluent Standards: No Specified Numeric Limits

Risk 2 and 3 Numeric Effluent Standards: NALs and Sampling

Main Categories

1. Good Housekeeping – Site Maintenance
 - Construction Materials, Waste Management, Vehicle Storage and Maintenance, Landscape Materials, Other Material Storage
2. Erosion Control – Covering of Disturbed Soil Areas
3. Sediment Control – Secondary Containment
4. Non-Storm Water Management – Prevention/Treatment
5. Run-on and Runoff Controls – Divert, Collect &/or Treat
6. Visual Monitoring & Maintenance Program
 - Construction Site Monitoring Program (CSMP)

How to Stop Sediment or Other Pollutant Discharges

1. Erosion Control: Covering of Disturbed Soil Areas
 - Active and Inactive Areas
2. Sediment Control: Secondary Containment and Tracking Controls
3. Non-Storm Water Management: Prevent Exposure
4. Run-on and Runoff Controls:
 - Divert, Collect &/or Treat
5. Good Housekeeping
 - Construction Materials Use and Storage
 - Waste Management,
 - Vehicle/Equipment Storage and Maintenance
 - Landscape Materials
6. Non-Stormwater Management



Local and state permits have same six categories

Municipal Regional Stormwater Permit (MRP)

Phase II NPDES Municipal Stormwater Permit Emphasis on Construction Site Control (C.6)



MRP Requirements for Construction Projects

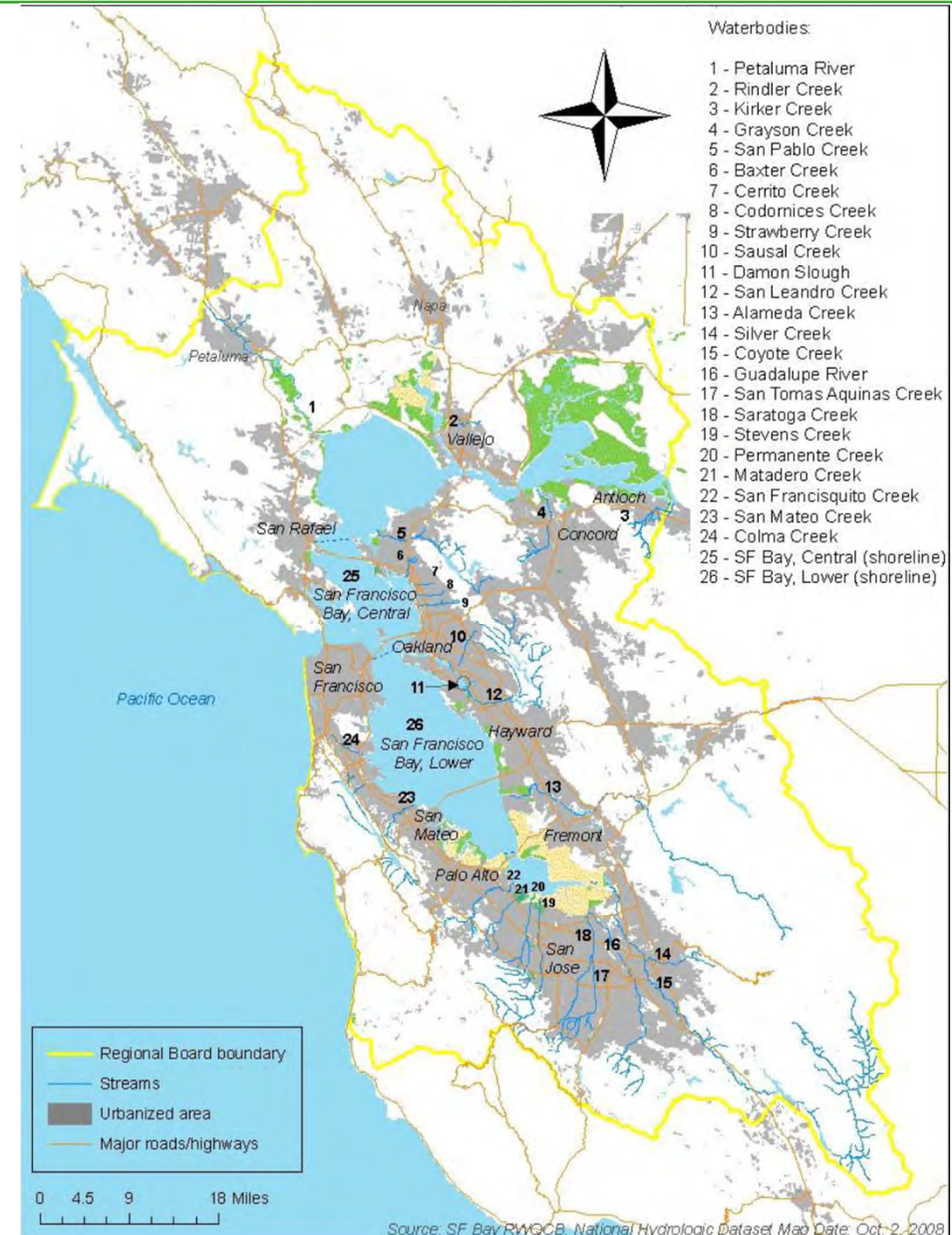
Phase I NPDES Municipal Stormwater Permit

- Cities within Solano County Meet Phase II Conditions
 - Solano Stormwater Alliance
 - Fairfield, Suisun City, Vallejo, Vallejo Flood & Wastewater District

https://www.waterboards.ca.gov/sanfranciscobay/board_decisions/adopted_orders/2022/R2-2022-0018.pdf

Main Categories

- Public education and outreach
- Illicit discharge detection and elimination
- Stormwater management planning
- Pollution prevention
- **Inspections and monitoring**
- Enforcement



MRP Requirements for Construction Projects

Construction Site Control (C.6)

- MRP has the same six categories of BMPs as the state Construction General Permit (CGP)
 - Permit goals are to prevent construction site discharges into storm drains
 - Year-round compliance
- Requires regular inspections to assess effectiveness of BMPs
 - Requires follow up and timely repairs if deficiencies are noted
 - Documentation of Performed Inspections
- BMPs must be site specific
 - Requirements ramp up in wet season
 - Rainy Season Notifications to permitting projects with increased expectations of Best Management Practice (BMP) deployment

MRP Requirements for Construction Projects Cont....

- MRP requires Enforcement Response Plan (ERP)
 - ERP designed to maintain consistency between various permittee inspectors
 - Provides guidance for appropriate enforcement actions, follow up inspections, etc.
- Permit requires timely repairs to deficient BMPs
- Training of permittee staff required
- MRP permittees required to review erosion and sediment control plans before issuing permits
 - Water board will issue permits, but only reviews erosion control plans
- **Post Construction Requirements --- Review Later**
- Annual Report required to be submitted by permittee (City/County)



REVIEW NO. 1

Review Questions

1. What size project requires coverage by the Construction General Permit?
2. What does SWPPP stand for?
3. What are the main pollutants that can be found in stormwater runoff?
4. When are CGP and MRP regulations required to in place?

Best Management Practice (BMPs)

Measures That Prevent Erosion, Sedimentation
and Other Pollutant Discharges From Occurring

BMPs: What Are They?

Source Control BMPs

- Covering Disturbed Areas

Erosion Control BMPs

- Spray on EC
- Straw/Mulch
- Geotextile Fabrics & Blankets
- Plastic Sheets
- Rock Aggregate/Temp Paving

Tracking Controls

- Stabilized Entrance/Exits
- Access Roads

Waste Management

- Waste Bins (Covered), Portable Toilets

Secondary Control BMPs

- Trap dislodged Sediment before discharge

Sediment Control BMPs

- Gravel Bags
- Fiber Rolls and Wattles
- Silt Fences
- Check Dams (Rock, Sandbag, Fiber Rolls, etc.)
- Compost Socks

Wastewater

- Contractor Washout Pits
- Designate Locations

Type of measures implemented depend on project location, soil type & Phase of Const.

Common BMPs Found On Job Sites

Site Set Up BMPs:

- Perimeter Controls - Wattles/Silt Fence
 - Reduce sediment or pollutant discharge
- Storm Drain Protection
 - All nearby and within site BMP protection
- Tracking Controls
 - Rock Aggregate and/or Rumble Plates
- Waste/Material Management
 - Yards and Active/Inactive Areas Management
 - Washouts (All Waste Water)
 - Trash Bins
 - Portable Toilets
- Stockpile Management
 - Location and Stabilization are key



Site Inspections Will Evaluate the Following

- The site construction activities
- Condition of drainage areas
 - Runoff and Run-on
- Implemented BMP conditions
- Stockpile and Waste Management
- Runoff and Non-Storm Water Conditions
 - Observe for the presence of potential pollutants
 - Floating and suspended material, sheen, discoloration, turbidity, odor, etc.



What Do I Look For/Observe During an Inspection?

Key Inspection Points

- Assess Active, Inactive & Storage Areas
- Start with the paved areas then move to the disturbed areas
- What are the conditions of Erosion & Sediment Control BMPs
 - Installed Correctly, Damaged, etc
- Housekeeping Maintenance
 - Material and Waste Management
 - Tracking Controls, Stockpiles, Washouts, Generators, etc
- Evidence of Sediment or Other Pollutant Discharges





Observations?



Observations?



Observations?



Observations?



Observations?

Erosion Control

Source Control BMPs

Great For Flat Areas or Gentle Slopes



Mulch & Tackifier With Linear Slope Break (Wattle)



Straw Mulch and Tackifier



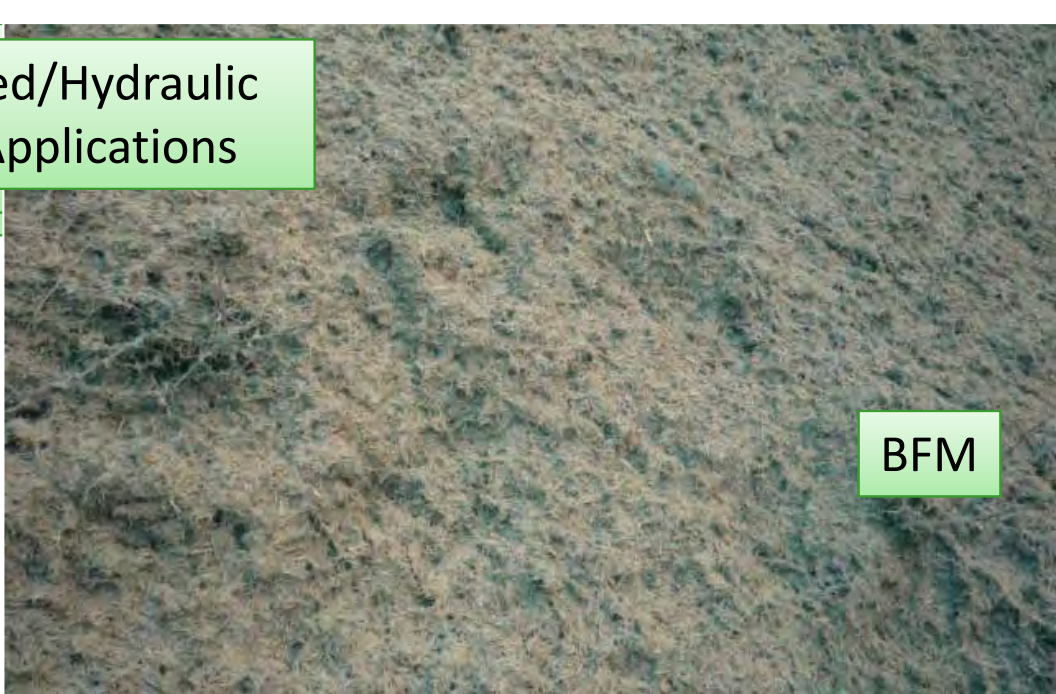
Erosion Control Blankets



Recommended for more extreme conditions, where the slope is greater than 2:1, drainage ditches and or for other potential concentrated flows areas



Hydroseed/Hydraulic Mulch Applications



BFM



Hydro-Straw

Spray on Erosion Control BMPs



Piles Must Be Completely Covered



Long Term Stockpile Stabilization

Stockpile Management

Woven and Non-Woven Geotextiles

Woven Geotextiles

- Various types
- Heavy duty and last a long time
- 80-100% runoff
- Can be walked on and reused



Non-Woven Geotextiles

- Various types and weights
- Allow runoff to pass through
- Good for sandy soil
- Can be walked on and reused
- Work great around building foundations





Effective BMPs...Examples of How Sites Should Look



Effective BMPs....Examples of How Sites Should Look



Effective BMPs....Examples of How Sites Should Look

Sediment Control

Secondary Containment BMPS

Sediment Control Recommendations

- Use in combination with EC BMPs
- Cut dirt a few inches down away from curb/sidewalk grade
- Ensure all sediment control BMPs are installed correctly
- Maintain construction entrance/exits
 - Appropriate rock size for equipment
- Sweep regularly and before predicted rain events
- Monitor and maintain installed BMPs

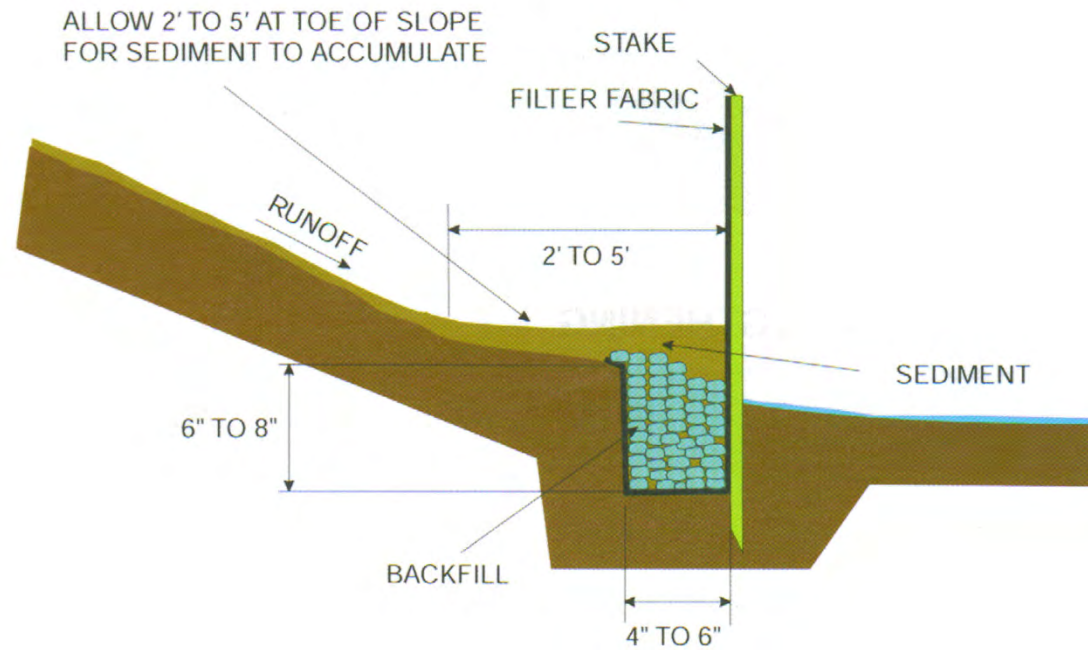
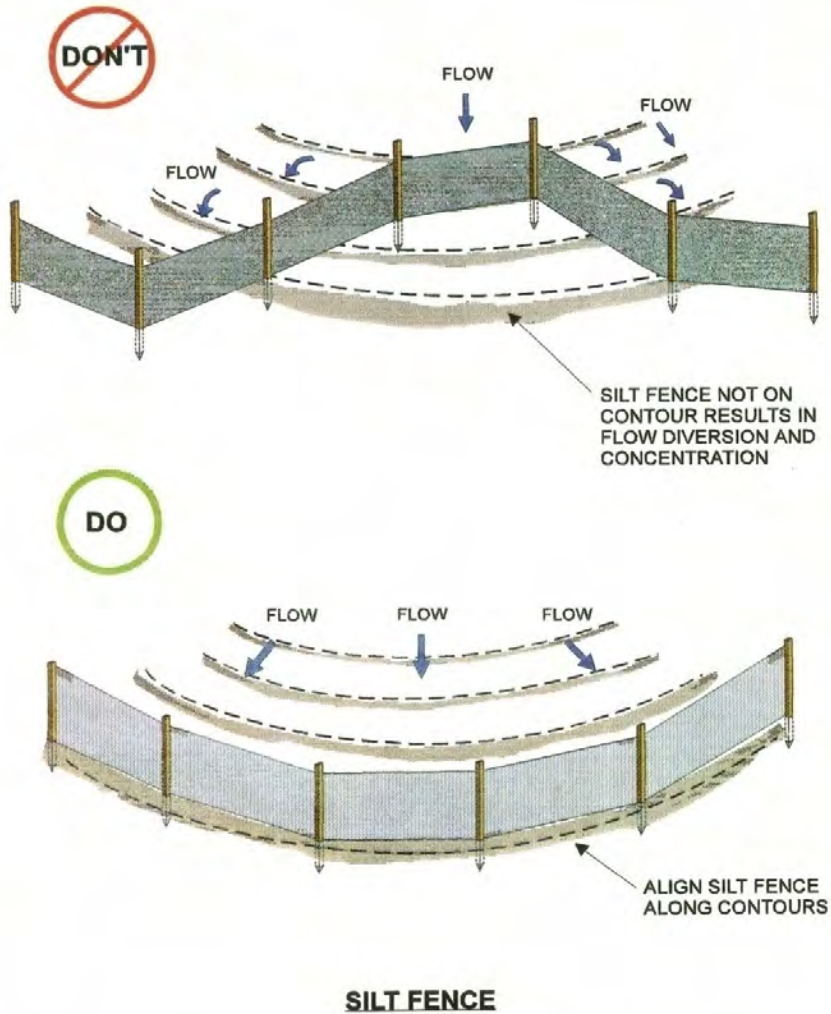


Sediment Control Only



No Erosion Control During Winter Season – Uncontrolled Sediment Discharge

Proper Installation of Silt Fence



Correct way to install



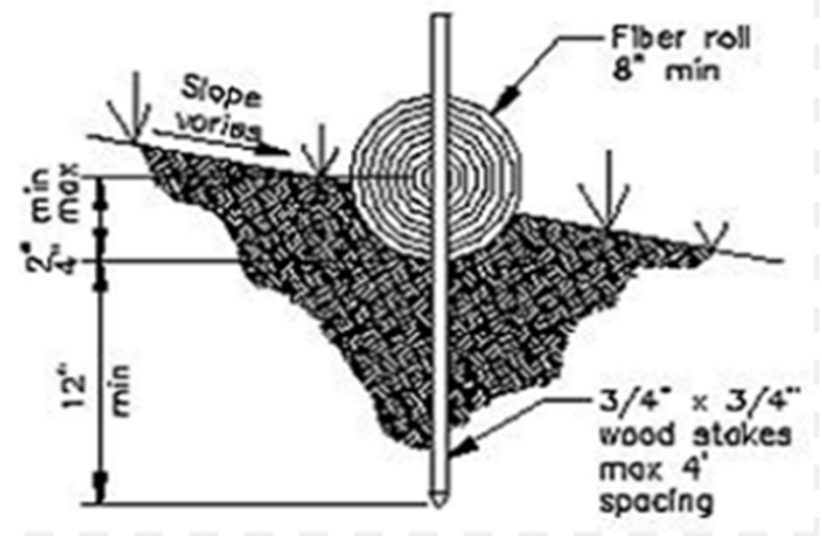
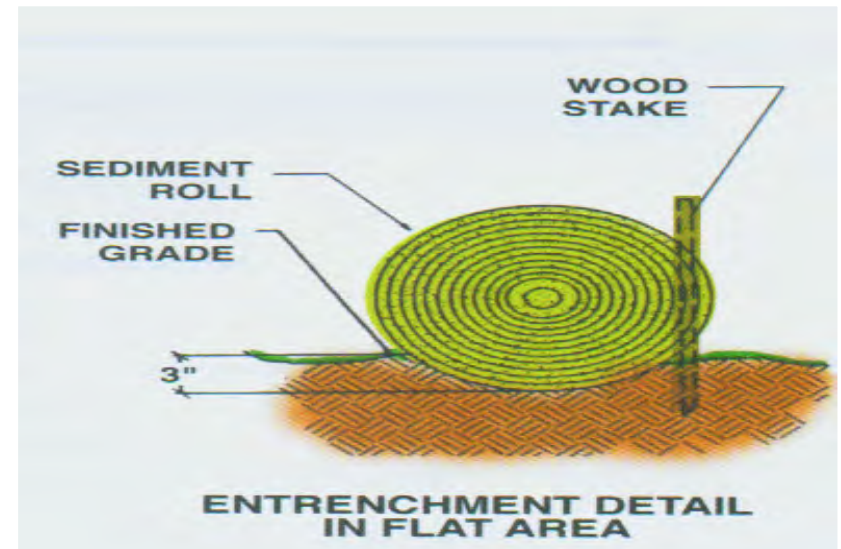
Examples of Good Silt Fence Installation

Fiber Rolls

Fiber Rolls are preferable and is a good alternative to hay bales and/or silt fences in some situations.

INSTALLATION PROCEDURE

1. Place rolls into key trench 3 inches deep
2. Place excavated soil on uphill or flow side of the roll.
3. Rolls should overlap at the ends, not abutted
4. Alternate stakes on both sides of the roll, every six inches



Fiber Roll Installation Detail on Slope



Trenched in Behind Curb



Incorrect Installation



Linear Slope Breaks



Compost Socks

Fiber Roll Installation

Inlet protection



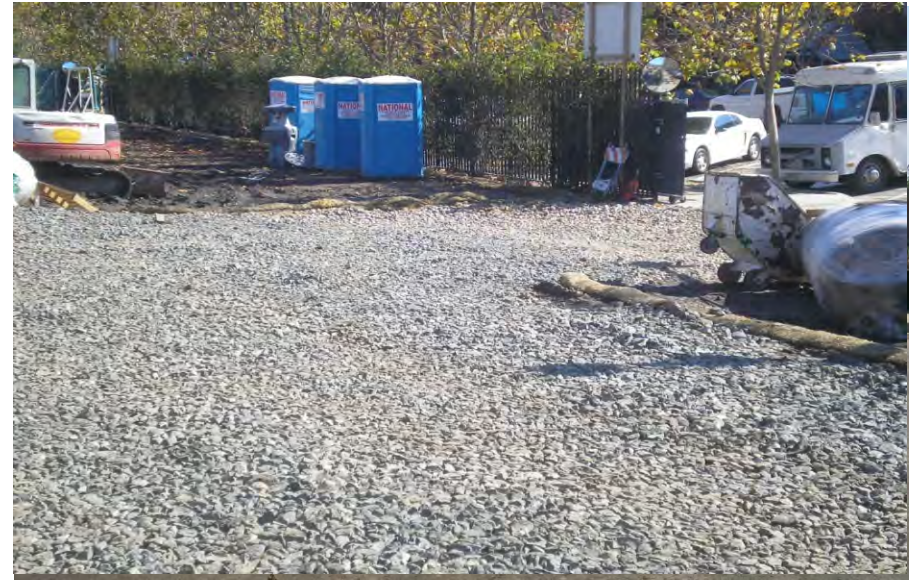
Storm Drain Inlet Protection – Requires Frequent Maintenance & Cleaning

Construction Entrances

Tracking Controls Area - Key to Minimizing Off-Site
Tracking and Transport of Sediment

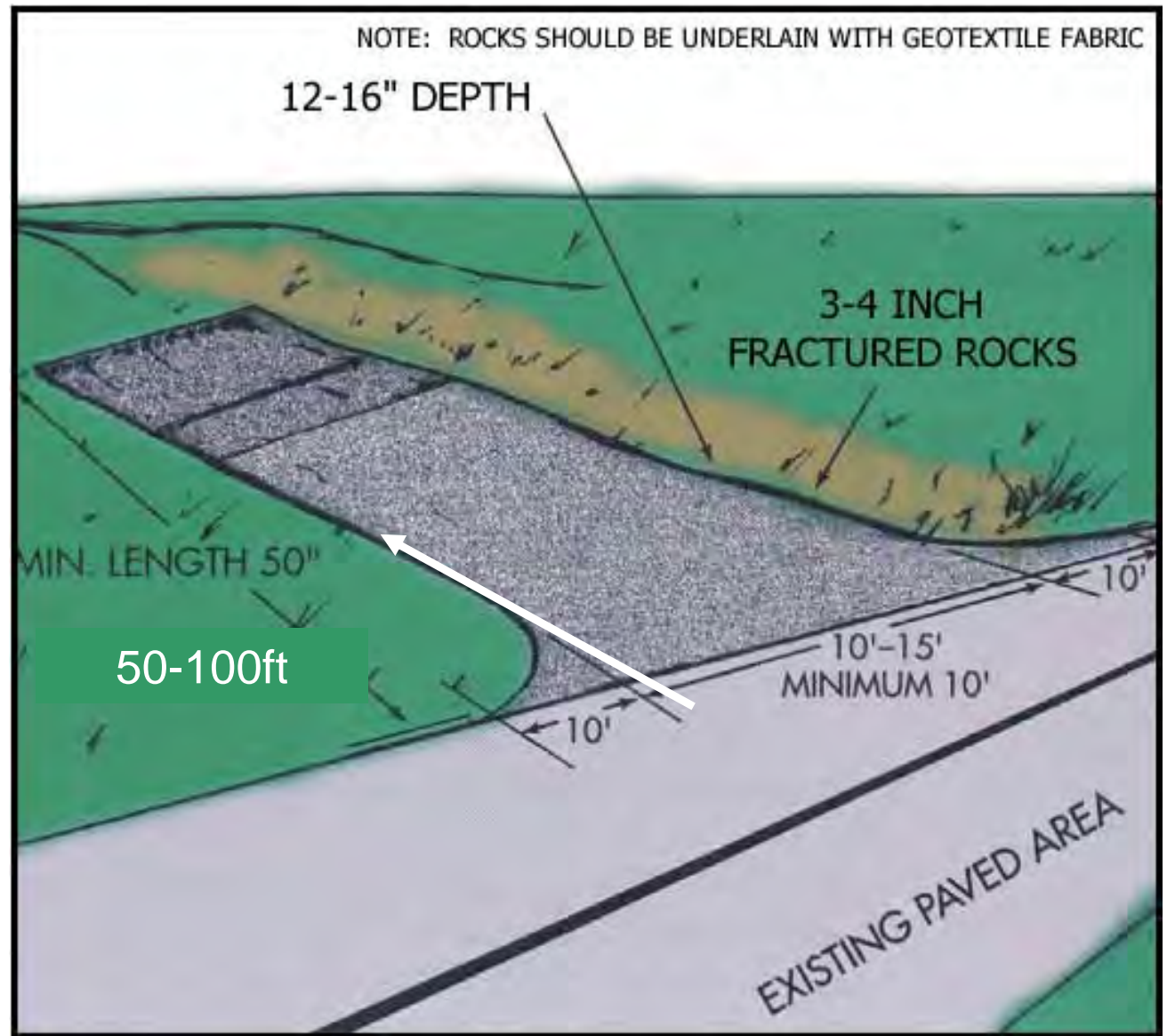
Construction Entrance Recommendations

- 3-6” rock aggregate to reduce mud & sediment tracking
- Combo of Rock with Rumble Plates is effective
- Tire rinse basin if required
- Storage yards
- Monitor/Maintain entrance/exits frequently
- Sweep paved areas daily, weekly and always before rain event



Recommended Construction Entrance Design

- Requirement of the General Permit
- Significant source of sediment laden runoff and non-storm water pollutant discharges due to tracking dirt off-site
- Regular Street Sweeping Also Needed



Courtesy San Francisco Estuary Project and SFBRWQCB



Track Out Clean Up

Dust Control

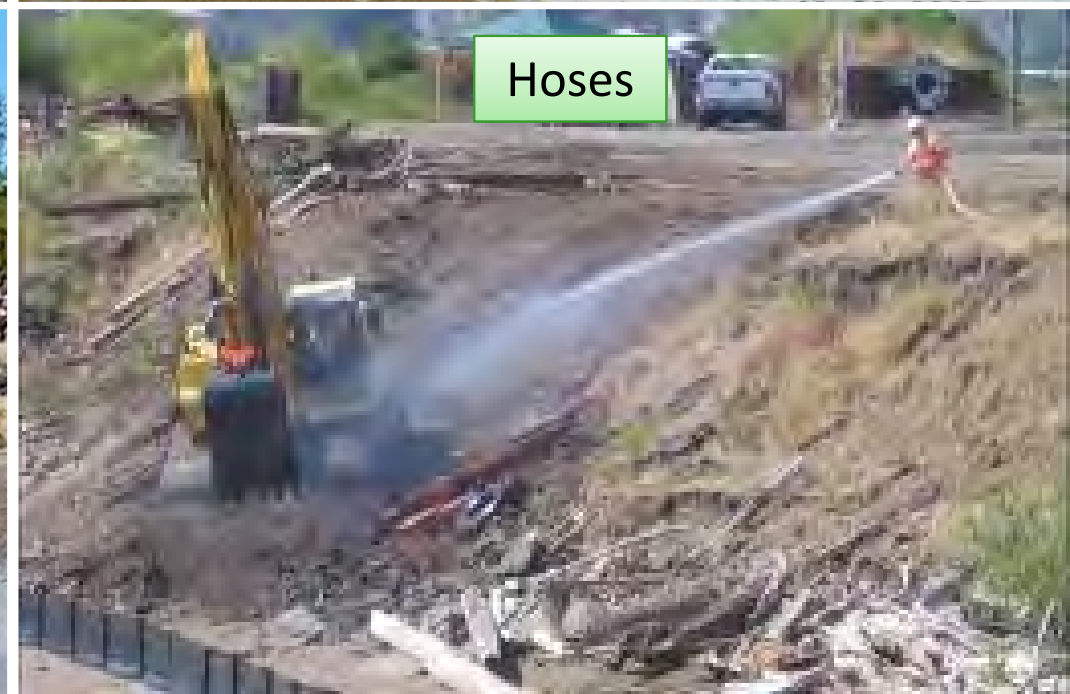
Wind Erosion and Dust Emission Control



Dust Control Recommendations

- Monitor weather conditions
- Water trucks on-site and water exposed areas as needed
- Cover exposed dirt stockpiles
- Stabilized inactive areas
 - Reestablish vegetation or stabilize with BMPs
- Maintain construction entrance/exits
- Sweep regularly to prevent nuisance dust





Dust Control

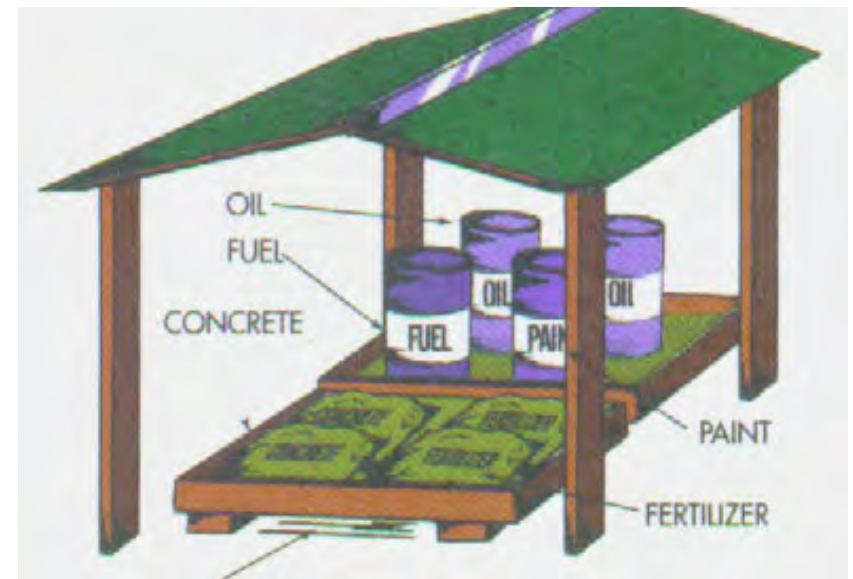
Good Site Management

Housekeeping related to Waste, Material and Equipment Management



Staging Area/Material Waste Management

- Developers should designate an area for equipment and supplies
- Protect underneath equipment and surrounding area from accidental spills and leaks
- Cover all soluble stockpiles (concrete, gypsum, stucco, etc.)
- Double containment systems for petroleum products
- Keep paints, solvents and petroleum products in locked, vented containers.





Leaking Equipment – Underline & Berm



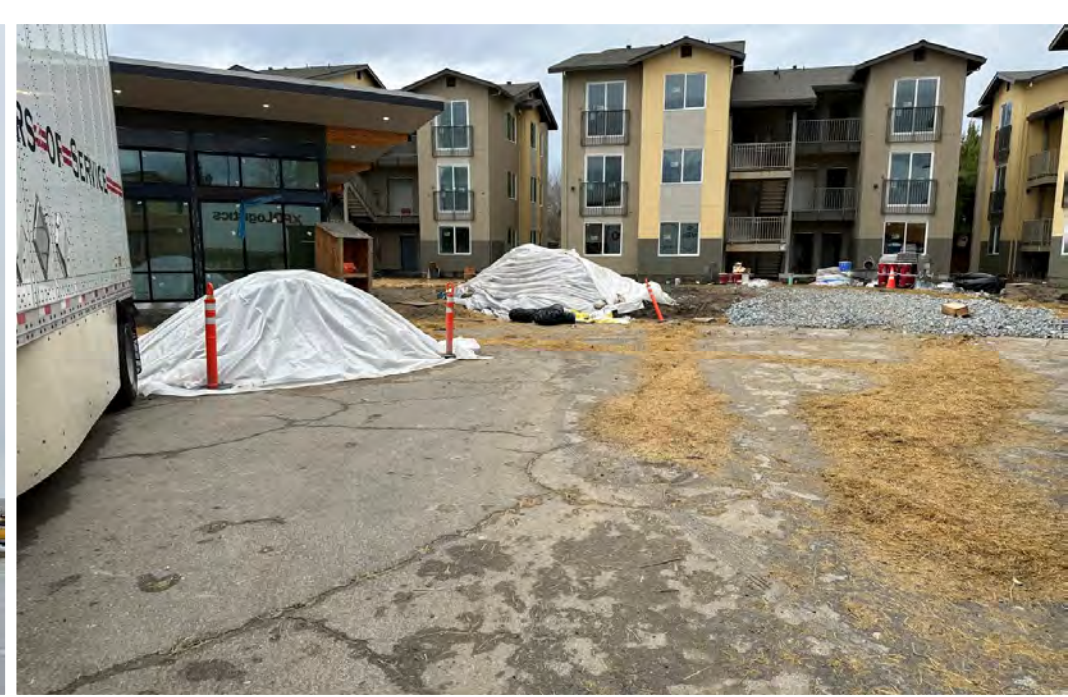
No Direct Washout On Pervious or Impervious Surfaces



Washout on Ground & Roads – Not Allowed!



Contractors Must Have Washouts in Place





No Street or Driveway Washing Allowed – Must Contain Water

REVIEW NO. 2

Review Questions

1. What are source Control BMPs?
2. Sediment control BMPs work best in conjunction with _____ BMPs, particularly during the rainy season?
3. Good site management requirements focus on what?
4. When inspection projects what are a few keys to success?

Post Construction Measures C.3 Req.

Where Does Water Go When Construction is Complete?



C.3 Post Construction BMP

- C.3 Post Construction BMP is a best management practice that is designed to control stormwater runoff from project sites (**Low Impact Development (LID)**)
- It is a type of stormwater treatment measure that is installed **after construction is complete**
- C.3 BMPs typically include a combination of physical structures and vegetation that work to filter and remove pollutants from stormwater runoff

BMPs work by:

- Trapping sediment and other pollutants that are carried in stormwater runoff
- Providing a habitat for beneficial bacteria and other organisms that help to break down pollutants
- Slowing the flow of stormwater runoff, which gives pollutants more time to be filtered and removed

Types:

- Biofiltration/Bioretenion, Separators, Vaults, CDS, Filters, Basins, etc.

Bio-Swales & Bio-Retention

- No longer does all run-off go to storm drain system – Designed to recharge groundwater
- Designed to collect, treat, and clean run-off – Remove Pollutants through vegetation and soil
- Pollutants enter soil where they decompose or can be broken down by bacteria in healthy soil
- Typically vegetated, mulched, and landscaped with specifically designed plants
- Excess water exits bio-swale and flows into bay, cleaner than when it enters



Bio-Swales & Bio-Retention

- Annual Maintenance and Inspection required
- Permittee (i.e. city) must inspect an average of 20% of all post construction measures, but no less than 15%
- Permittee (i.e. city) must inspect all post construction measures at least once every 5 years
- Establish protocol for mosquito and vector control
- Must establish and contract for long term maintenance



Enforcement Response Plan (ERP)

- Serves as a reference document for inspection staff when conducting O&M Inspections
- Provides Consistent Enforcement Actions for Inspectors
- ERP must contain the following:
 - Enforcement Procedures
 - Description of problem or issues observed
 - Enforcement Tools & Field Scenarios
 - Discussion of escalating enforcement tools for different field scenarios
 - Timely Correction of Identified Problems
 - Correction actions shall be implemented no longer than 30 days after problem is identified by inspector
 - If more than 30 days are required for compliance, reason must be recorded in electronic database



2022 CONSTRUCTION GENERAL PERMIT (CGP)

Order 2022-0057-DWG

Construction General Permit Historical Timeline

- CWA of 1972
- California Adopted Stat Wide Permits
 - 1992 Originally issues for site 5-acres or greater
 - 1999 reissued permit and reduce project size to 1-acre or greater
 - 2009 reissued permit
 - Risk Based Approached
 - QSD/QSP certification
 - Year-round compliance
 - Runoff and NSW sampling
 - **Reissued Order 2022-0057-DWG --- 2022 CGP**

Side by Side Comparison

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Attachment A.2 – LUP Permit Registration Documents

Attachment B – Permit Registration Documents

Attachment C – Risk Level 1 Requirements

Attachment D – Risk Level 2 Requirements

Attachment E – Risk Level 3 Requirements

Attachment F – Active Treatment System (ATS) Requirements

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Appendix 2 – Post-Construction Water Balance Performance Standard

Appendix 3 – Bioassessment Monitoring Guidelines

Appendix 4 – Adopted/Implemented Sediment TMDLs

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LIST OF ATTACHMENTS

Attachment A Acronyms and Terms

Attachment B Glossary

Attachment C Contacts

Attachment D Traditional Construction Risk Level Requirements

Attachment D.1 Risk Determination Worksheet

Attachment D.2 Permit Registration Document Requirements

Attachment E LUP Requirements

Attachment E.1 LUP Segment Type Determination

Attachment E.2 LUP PRD Requirements

Attachment F Active Treatment System Requirements

Attachment G Passive Treatment Requirements

Attachment H TMDL Implementation Requirements

Attachment I Ocean Plan Exception for Discharges to ASBS

Attachment J Dewatering Requirements

2022 Construction General Permit

Adopted September 2022

Becomes effective on September 1, 2023

- Grandfather clause for existing projects
 - September 2025
- Old and new permit at same time
- Significant Changes to the project Monitoring, Dewatering, and Sampling Conditions
- More Involvement by QSD and QSP
- Additional Clarification regarding BMP implementation
 - Follow up and SWPPP Amendment requirements for deficiencies

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD
1001 I Street Sacramento, CA 95814
<https://www.waterboards.ca.gov>

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

ORDER WQ 2022-0057-DWQ
NPDES NO. CAS000002

This Order was adopted by the State Water Resources Control Board on:	September 8, 2022
This Order shall become effective on:	September 1, 2023
The statewide programmatic permitting option per Section III.B.4 of this Order shall become effective on:	December 17, 2022
This Order shall expire on:	August 31, 2028

IT IS HEREBY ORDERED that this Order supersedes Order 2009-0009-DWQ as amended by Order 2010-0014-DWQ and 2012-0006-DWQ except for: (1) the requirement to submit annual reports by September 1, 2023, (2) enforcement purposes, and (3) as set forth in Section III.C of this Order. The discharger shall comply with the requirements in this Order to meet the provisions contained in Division 7 of the California Water Code (commencing with § 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act and regulations and guidelines adopted thereunder.

IT IS ALSO HEREBY ORDERED that on or after December 17, 2022, a discharger deploying Executive Order N-73-20 may obtain regulatory coverage through the statewide programmatic permitting option in Section III.B.4 under Order 2009-0009-DWQ as amended by Orders 2010-0014-DWQ and 2012-0006-DWQ until September 1, 2023.

2022 Construction General Permit

- State Training scheduled to be released in June or July
 - Highly recommend all individuals that will be performing SWPPP related inspection complete the training
 - QSD/P certification and renewals
- Will be a learning curve and timeline
- New permit will increase overall costs for construction projects



QUESTIONS?

Contact Information

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