Training

RIVERSIDE COUNTY
WATERSHED PROTECTION

Areawide Construction Site Inspections

Prepared for: Riverside County Permittees

Presented By: Casc Engineering and Consulting, Inc.

Spring 2026

Introduction: Purpose

- Purpose of Training
  - Equip inspectors with the knowledge, skills, and regulatory understanding necessary to promote compliance with stormwater regulations
- Regulatory Compliance: Why Stormwater Matters
  - Municipalities and contractors are legally obligated to prevent stormwater pollution
  - Fines and enforcement actions can result from violations

Intro: Regulatory Context

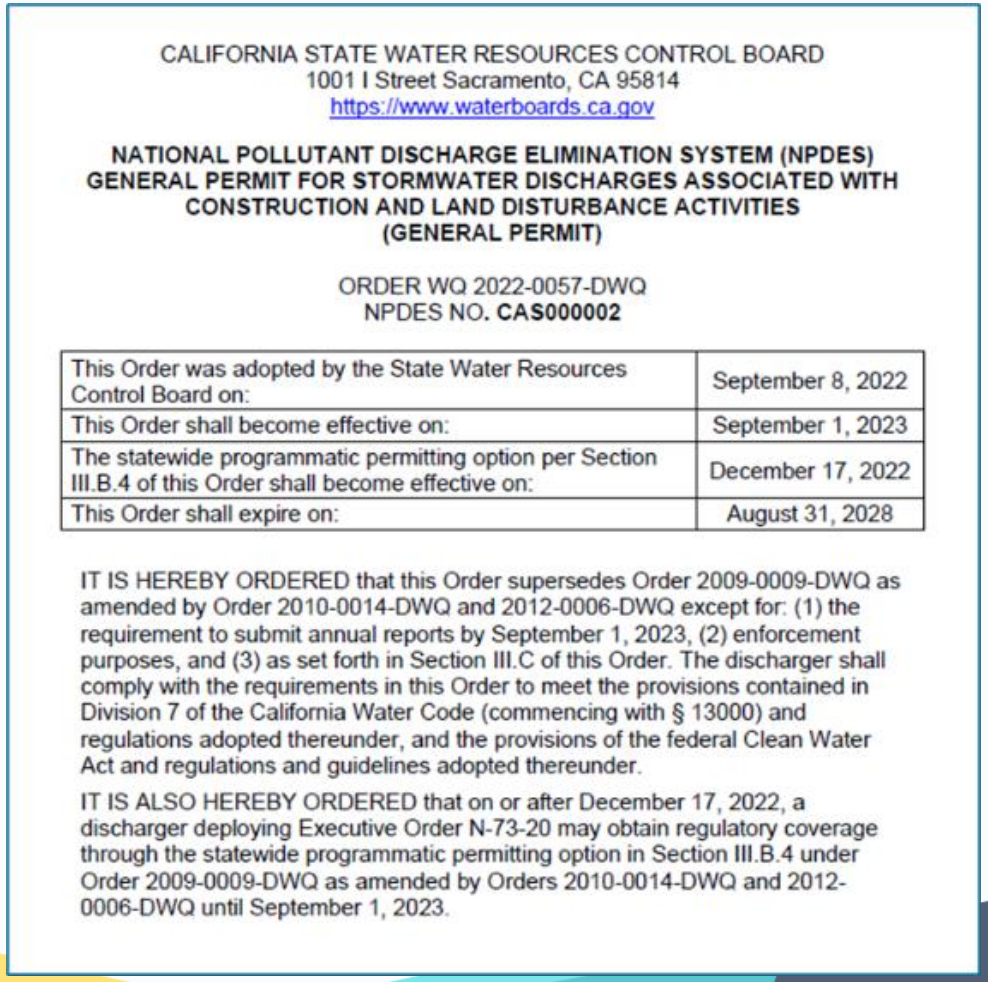
- 2022 CGP regulates stormwater discharges from construction sites that disturb one acre or more of soil
  - Requires permittees/developers/ contractors to implement Best Management Practices (BMPs) to control erosion, sediment, and pollutants
- MS4 Permit focuses on how cities and counties manage stormwater from urban areas
  - For Inspectors, Riverside County operates an MS4 and must verify that all construction activities within its jurisdiction meet specific stormwater standards

Intro: Regulatory Compliance

- Permittees Responsibilities: Inspector's role is to verify that sites comply with regulatory frameworks
  - CGP for site-level practices
  - MS4 for municipal-level oversight and enforcement

Regulatory Context: Bottom Line

- What You need to Know…
  - CGP applies directly to the construction site
  - MS4 applies to your agency, requiring inspecting, documenting, and reporting activities correctly
- Translation…
  - If a site fails to install BMPs or control sediment, that's a CGP violation
  - If permittees fail to catch it—or don't train inspectors to recognize it—that's an MS4 violation.
- Key Takeaway: *Inspections connect these two by verifying that site-level controls meet the broader regional goals*



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.

MS4 Training Requirements

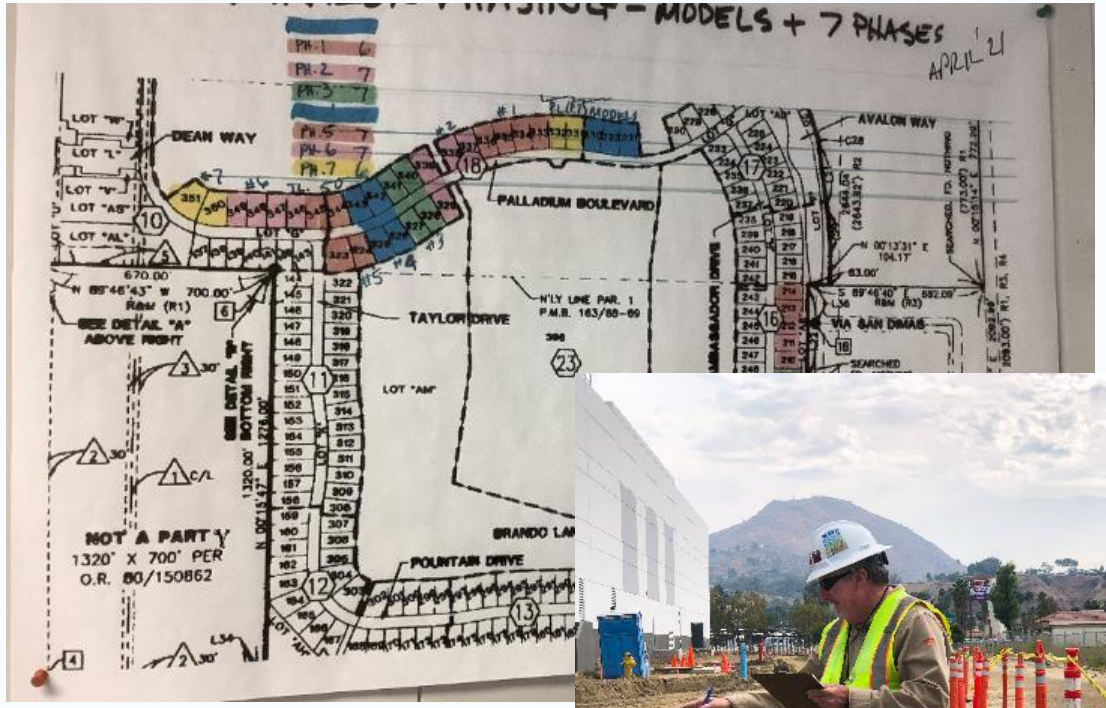
- Imagine a construction site where sediment-laden runoff flows straight into a storm drain
- Under the CGP, that site is out of compliance because they've failed to implement effective BMPs
- But under the MS4 Permit, if permittees haven't trained inspectors to identify violations, or take action to ensure corrections to violations are made, they're out of compliance too

MS4 Training Requirements

- The CGP is about the construction site. The MS4 is about how permittees keep those sites accountable
- That’s why this training isn’t optional—it’s required for everyone with an impact on stormwater

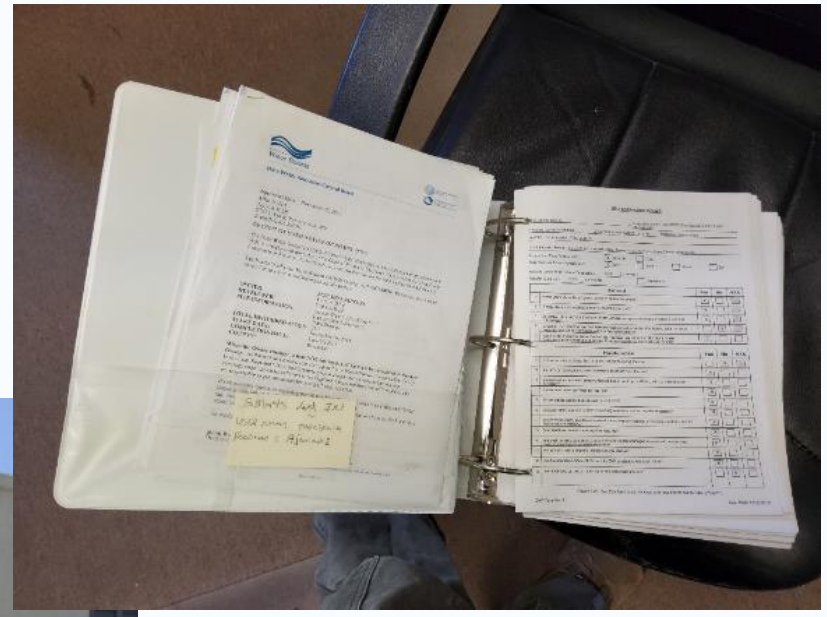
MS4 Training Requirements

- Who must be trained?
  - Anyone whose work affects stormwater
  - Municipal inspectors
  - Plan reviewers
  - Field staff
  - Public Project Contractors who disturb soil or manage runoff
  - Consultants performing inspections



MS4 Training Requirements

- Training Timelines
  - Annually
  - New hires – within 60 days
- Documentation requirement
  - Who
  - What
  - When



MS4 Training Requirements: Bottom Line

- Training isn’t just a one-and-done
  - Schedules must be met
  - Training must be documented

- Adaptive management
  - Learn from what’s working and address what isn’t
  - This means attendee input is key to successful adaptive management

Stormwater Pollution Prevention

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- Stormwater is rainwater runoff
- Non-stormwater includes things such as:
  - vehicle washing
  - saw cutting
  - improper dewatering
- Many non-stormwater discharges are unauthorized under the permit

Stormwater Pollution Prevention

- Prevention is always easier and cheaper than post-cleanup and/or enforcement

CGP - BMP Basics…

- Minimum BMPs Per CGP
  - Required for every construction site
  - Risk-Based BMPs (Levels 2 and 3)
    - Have a higher bar for BMPs
    - Additional sediment and erosion controls

- Key takeaway: *Inspector is to verify that higher-risk sites are implementing additional controls and not just meeting the bare minimum*

CGP - Minimum BMPs

- Are the baseline requirements for CGP sites
- Are your 'must-haves' for each site
  - Good housekeeping
  - Stabilized entrances/exits
  - Waste management
  - Erosion controls
  - Sediment controls

Let’s talk BMPs:
Can you identify BMPs in the field and their category?

Site Management / Housekeeping BMPs

- Materials & Waste Management

Site Management / Housekeeping BMPs

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Site Management / Housekeeping BMPs

- Waste Management

Site Management / Housekeeping BMPs

- Waste Management

Site Management / Housekeeping BMPs

- Track-Out Control

Site Management / Housekeeping BMPs

- Track-Out Control

Site Management / Housekeeping BMPs

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- Track-Out Control

Site Management / Housekeeping BMPs

- Track-Out Control

Site Management / Housekeeping BMPs

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- Vehicle/Equipment Storage

Site Management / Housekeeping BMPs

- Vehicle/Equipment Storage

Site Management / Housekeeping BMPs

- Material Storage

Site Management / Housekeeping BMPs

- Material Storage

Site Management / Housekeeping BMPs

- Material Storage

Site Management / Housekeeping BMPs

- Non-Stormwater Discharge

Erosion Control BMPs

- Preserve Existing Vegetation

Erosion Control BMPs

- Preserve Existing Vegetation

Erosion Control BMPs

- Soil Stabilization Timelines

Erosion Control BMPs

- Soil Stabilization Timelines

Erosion Control BMPs

- Wind Erosion Control

Sediment Control BMPs

- Effective Perimeter Control

Sediment Control BMPs

- Effective Perimeter Control

Sediment Control BMPs

- Effective Perimeter Control

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- Effective Perimeter Control

Sediment Control BMPs

- Effective Perimeter Control

Sediment Control BMPs

- Effective Perimeter Control

Sediment Control BMPs

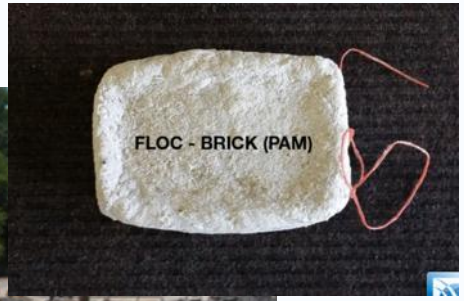
- Stabilize Entrances and Exits

Sediment Control BMPs

- Flow Diversion and Control

Sediment Control BMPs

- Passive Treatment



Site Design Practices

- Site Planning and Design Considerations
  - Limit Disturbance
  - Phased Grading
  - Minimize Soil Compaction
  - Limit Plastic Materials

Risk Levels 2 and 3

- The SWPPP will indicate if the project is a Risk Level 2 or 3.
- The risk is calculated based on: (1) project sediment risk (the relative amount of sediment that can be discharged, given the project and location details) and (2) receiving water risk (the risk sediment discharges pose to the receiving waters).

Traditional Projects

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

Linear Projects

Receiving Water Risk	Sediment Risk: LOW	Sediment Risk: MEDIUM	Sediment Risk: HIGH
LOW	Type 1	Type 1	Type 2
MEDIUM	Type 1	Type 2	Type 3
HIGH	Type 2	Type 3	Type 3

Risk Levels 2 and 3

- Risk Levels 2 and 3 are like being in a red zone. The risk of pollution is higher, so defenses must be stronger
  - Enhanced BMPs are non-negotiable permit requirements
  - Inspectors should Verify:
    - Toe-of-slope sediment barriers are in place
      - Such as fiber rolls or silt fences, to capture sediment before it leaves the slope
    - Increased Sweeping - occurs before rain, not after
      - Of sediment-prone areas, particularly paved surfaces

Let’s get into the part of the permit that’s closest to your day-to-day work: Inspections

Construction Site Inspections

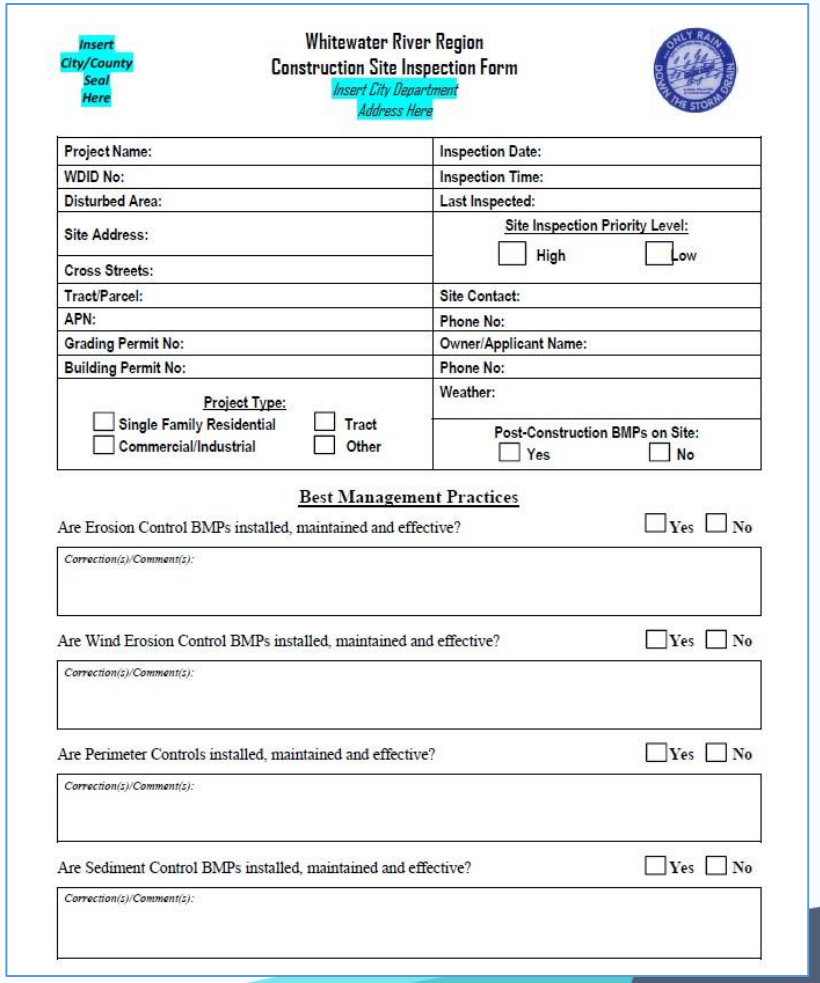
- Who performs them?
- Every permittee inspector should be asking three questions
  - Am I trained and qualified to inspect this site?
  - Am I inspecting at the right times?
  - Am I recording enough detail to stand up to an audit?

Construction Site Inspections

- Inspections must occur:
  - Once a week minimum
  - Before a qualifying precipitation event
  - AND after a qualifying precipitation event
  - During extended storms, if they last multiple days
- Walk the perimeter and interior; assess whether conditions have the potential to impact the MS4

Construction Site Inspections

- Documentation must include:
  - A filled-out inspection checklist – unique for each agency
  - Photo documentation of BMPs and any deficiencies – consider using app that adds key data to the image such as date/time and GPS
  - Follow-up tracking of corrective actions, including dates and responsible parties
- Inspection paperwork isn't just a formality—it's permittees' legal protection and proof of compliance.



Insert City/County Seal Here

Whitewater River Region
Construction Site Inspection Form
Insert City Department
Address Here

Project Name:	Inspection Date:
WDID No:	Inspection Time:
Disturbed Area:	Last Inspected:
Site Address:	Site Inspection Priority Level: ☐ High ☐ Low
Cross Streets:	
Tract/Parcel:	Site Contact:
APN:	Phone No:
Grading Permit No:	Owner/Applicant Name:
Building Permit No:	Phone No:
Project Type: ☐ Single Family Residential ☐ Tract ☐ Commercial/Industrial ☐ Other	Weather:
	Post-Construction BMPs on Site: ☐ Yes ☐ No

Best Management Practices

Are Erosion Control BMPs installed, maintained and effective? ☐ Yes ☐ No

Correction(s)/Comment(s):

Are Wind Erosion Control BMPs installed, maintained and effective? ☐ Yes ☐ No

Correction(s)/Comment(s):

Are Perimeter Controls installed, maintained and effective? ☐ Yes ☐ No

Correction(s)/Comment(s):

Are Sediment Control BMPs installed, maintained and effective? ☐ Yes ☐ No

Correction(s)/Comment(s):

Construction Site Inspections

- Verify the SWPPP is on site, it is applicable to the project, and it has an active WDID number
- Additional review could include:
  - Are the construction dates accurate
  - What is the risk level, and does the risk assessment reflect the current dates
  - Do the BMPs comply with the risk level
  - Do the maps reflect current conditions
  - If risk level 2 or 3, has sampling been performed
  - If there were exceedances, were corrective actions taken

Illicit Discharge Detection

- Illicit discharges are anything that enters the storm drain system that isn’t stormwater and impairs water quality.
- Examples include:
  - Concrete washout water
  - Vehicle or equipment wash water
  - Paint, solvents, or oil spills
  - Sanitary waste or portable toilet overflows

Illicit Discharge Detection

- Inspector sees something unusual, such as:
  - Standing gray water
  - Oily sheens soap suds
  - Strange smells
- What do you do?

Illicit Discharge Detection

- Follow Response Protocol
  - Document it immediately with photos and notes
  - Report it to your MS4 coordinator or supervisor
  - Follow your agency's response protocol—this might include isolating the discharge, contacting the responsible party, and verifying cleanup
- Key takeaway: *Speed and documentation are critical. MS4 programs rely on inspectors to be the eyes and ears in the field*

Let’s talk about what happens when something isn’t compliant

Reporting & Enforcement

- Permittees are required to maintain an effective enforcement response
- What to do if an issue is observed, such as:
  - Failed BMPs
  - Unprotected stockpiles
  - An illicit discharge
- Includes educating construction crews

Reporting & Enforcement

- Non-Compliance Reporting must occur
  - Document observations clearly, completely, and promptly
  - Use inspection forms, photos, and escalation logs
  - Report it according to the issue occurring and your agency's protocol

Reporting & Enforcement

- Then come corrective actions
- You're responsible for tracking whether the issue was fixed, when it was resolved, and by whom.
- This should be documented in the inspection report and followed up in the next visit.
- If the issue isn't fixed, don't let it slide
  - Escalate enforcement as necessary per your agency's protocols.
  - Example: outreach > written warning > NOV > stop work order

Reporting & Enforcement

- Adaptive Management
  - Learning from what didn’t work
  - Failing BMPs
  - BMPs consistently not maintained
  - Recommended changes to site practices or inspections
  - Adjust training to incorporate this type of feedback into the training program

Let’s talk TMDLs

What Are TMDLs and Why They Matter

- TMDL = Total Maximum Daily Load
  - A regulatory threshold that limits the amount of a pollutant a water body can receive and still meet water quality standards
- Why it matters for inspectors
  - Construction sites in TMDL watersheds must implement more stringent BMPs
  - Focus on reducing sediment, nutrients, metals, or other pollutants of concern
- Inspector's role:
  Confirm BMPs are in place and targeted to meet TMDL goals

TMDLs in Riverside County

- In the Santa Ana Region and parts of the Colorado River and Santa Margarita Regions, *impaired waters* exist for:
  - Pathogens
  - Nutrients
  - Metals
  - Sediment
- These impairments are being evaluated for TMDLs and *may be* applicable in the future, depending on the exact location of the construction site

CGP TMDL Requirements in Riverside County

- Use SWPPP to confirm if the site has an applicable TMDL per the 2022 CGP
- Verify the BMPs or measures identified in SWPPP to control TMDL pollutant release are:
  - Documented in SWPPP and inspection reports
  - BMPs implemented onsite

- Inspection recommendations for TMDL sites
  - Confirm site discharges are controlled and filtered
  - Look for proper stabilization, erosion controls, and waste containment
  - Confirm documentation and tracking of TMDL-specific actions

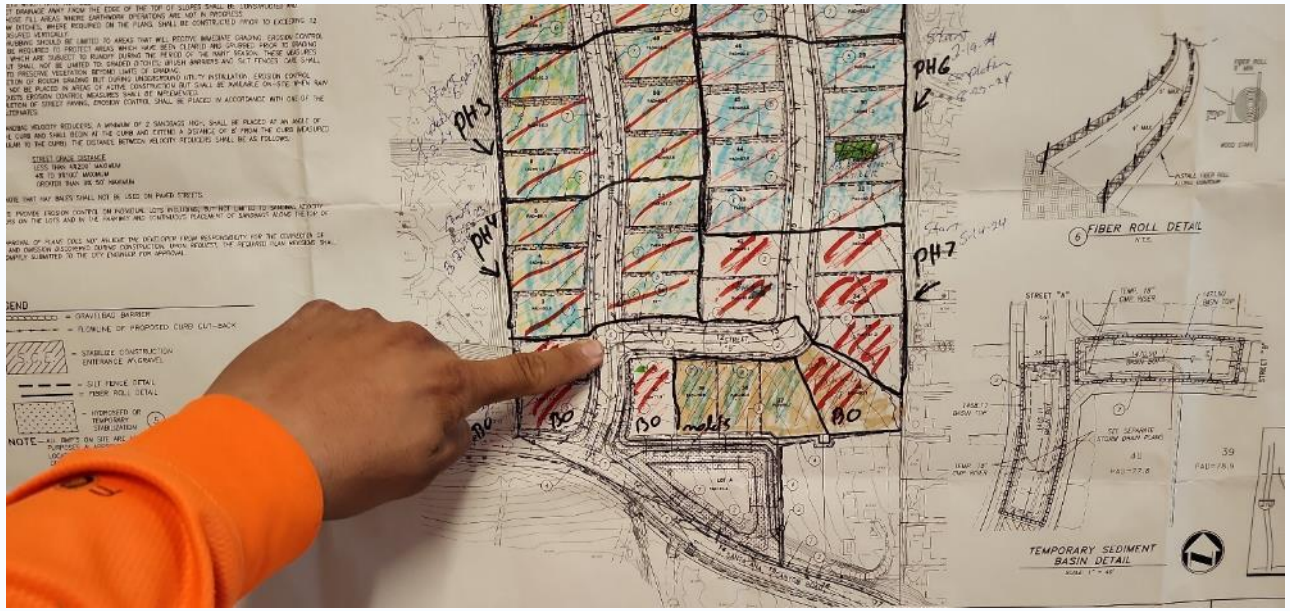
Time for Quiz Questions

Quiz: Which of the following is a required sediment control BMP?

- Stabilize construction exits
- Use of plastic sheeting
- Unauthorized discharge
- Skip inspections during rain

Quiz: How often must municipal staff be trained under the MS4 Permit?

- Every 5 years
- Only at hire
- Annually
- Never



Quiz: What should inspectors do if they observe an illicit discharge?

- Ignore it
- Only take pictures
- Document and report it immediately
- Wait until the next inspection

Quiz: What is the time limit for stabilizing disturbed areas once construction has ceased for 14 days?

- Immediately
- 30 days
- Within 7 days
- No time limit

Quiz: Which of the following is a proper housekeeping BMP?

- Leaving materials uncovered
- Storing waste near storm drains
- Using secondary containment
- Dumping wash water on soil

Quiz: What type of documentation must be retained for training under the MS4 Permit?

- Email invitations
- Training dates, attendees, topics covered
- Photographs of training
- Permit application

Construction Site Inspection Walk-Thru BMP Implementation

Let’s take a closer look at some other BMPs being implemented at this site…

Site BMPs - Scheduling

- Mass grading operations for this project are occurring in the dry months of the year.
- Scheduling mass grading operations during non-rainy periods:
  - Reduces the amount of time soils are exposed to erosive elements, such as rain and wind
  - Allows time to stabilize exposed surfaces with vegetation or other means

Site BMPs – Construction Entrance

- Stabilized construction composed of rock base and rumble plates
- Minor track out of sediments is observed and will need to be addressed with daily street sweeping activities.
  - Contractor may need to increase frequency of sweeping to address track out
- Additional rock needs to be added to the entrance to improve BMP efficiency.
  - Per the CGP, contractor has 72 hours to begin repairs
  - Any corrective action should be noted on the inspection report

Site BMPs – Construction Entrance

- Contractor initiated repairs within 72 hours
- Stabilized construction entrance complies with requirements
  - Note any repairs/improvements for prior corrective actions
  - If repairs/improvements are not addressed, stricter enforcement actions may be required

Site BMPs – Waste Management

- The project generated large quantities of green waste. All green waste has been covered until it can be removed and disposed of.
- Some of the green waste can be mulched and used on the project as a final stabilization method in common area landscaping.

Site BMPs – Sanitary Waste Management

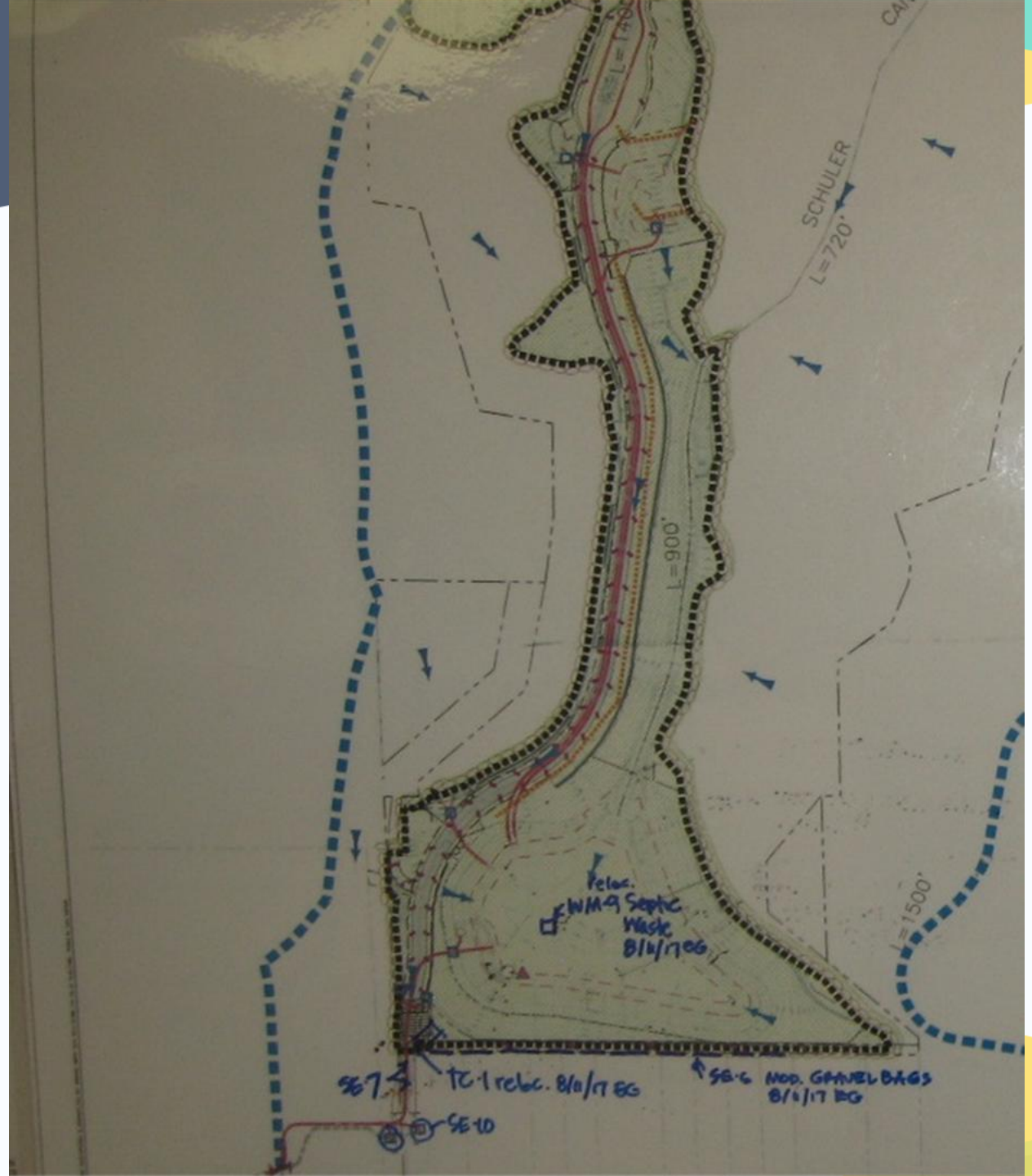
- Containment area for this sanitary facility is not properly implemented.
  - Fiber rolls or gravel bags should be placed under plastic barrier to contain discharge
  - Notify contractor of corrective actions
  - Note corrective actions on inspection report

Site BMPs – Waste Management

- The project is utilizing kiddie pools as drip pans for equipment that is leaking fluids.
- Contractors should have drip pans readily available incase of leaking equipment.

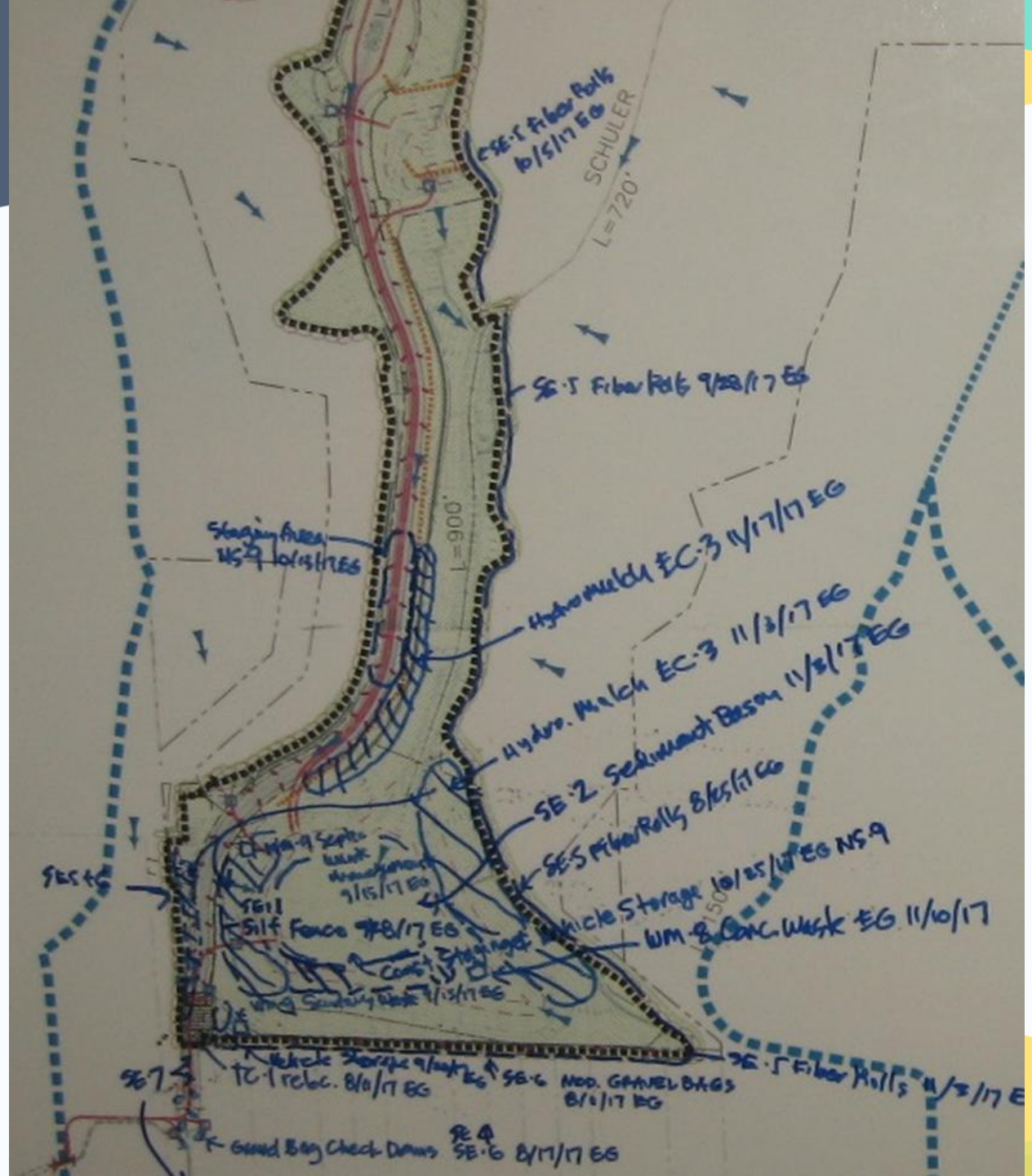
Site BMPs – Inlet Protection

- Protection of existing inlets that may have the potential to receive project runoff must be implemented.
- The project is using a check dam as inlet protection for an offsite catch basin located in the street.
  - Minor sediments are observed
  - Contractor should be informed to have crews remove sediments during daily Housekeeping activities



SWPPP Map

- The project's SWPPP Map needs to be reflective of current field conditions.
- The contractor has laminated maps that are actively being updated.
- Is the map reflective of the current field conditions you observed in the video?



SWPPP Map

- The project's SWPPP Map a few months later
- Rainy season as defined by the SWMP
- Map has been updated to current field conditions. Additional BMPs have been added.
- Sediment basins, additional perimeter controls, vehicle storage areas
- What other BMPs can you identify?

Site BMPS – Soil Stabilization

- Soil stabilization has been implemented prior to forecasted rain events.
  - Project is using hydromulch as temporary erosion control

Site BMPs – Check Dams

- Additional check dams have been implemented along the curb and gutter of an existing roadway

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Let’s take a closer look at some other BMPs being implemented onsite…

Site BMPs – Stockpile Management

- Dirt stockpile being actively used by construction crews.
- Stockpile must be covered and bermed prior to a rain event or if inactive for 14 days.

Site BMPs – Concrete Washout Above Ground

- Above ground temporary concrete washout constructed with a plastic lining and gravel bag berm
- Washout will need to be emptied or new washout constructed when it is 75% full
- Washout area is missing signage. A sign needs to be installed within 30’ of the BMP.
- Trash and debris litter the site
- Notify the contractor that clean-up will need to occur by the end of the day.

Site BMPs – Concrete Washout In-Ground

- In-ground temporary concrete washout constructed with a plastic lining only
- Washout was not dug deep enough to hold volume and is inadequate for designated use
- Concrete spoils evident beyond washout
- Washout area is missing signage
- Sign needs to be installed identifying the BMP location

Site BMPs – Sanitary Waste Management

- Portable waste facility with no containment pan is placed in the middle of a paved street adjacent to the curb and gutter at the job site
- While this may be a convenient location for crews, sanitary facilities must:
- be placed Minimum of 50’ from drainage courses;
- have proper containment.

Site BMPs – Linear Barriers

- Fiber rolls and gravel bags are being used at the entrance of a driveway approach as perimeter control
- During active work hours, barriers will be temporarily removed. Barriers must be reinstalled at the end of the work day.

Site BMPs – Linear Barriers

- Silt fencing is installed at the perimeter of exposed soil
- Fencing has been trenched and keyed in
- Repairs will be required when lath and geotextile material show signs of damage or decay

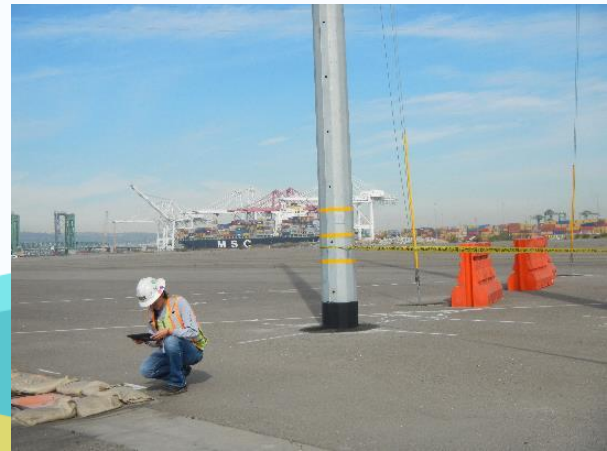
Site BMPs – Inlet Protection

- Gravel bags stacked 2 bags high line the apron of a catch basin.
- A fiber roll has also been placed in front of the inlet to act as second line of defense to prevent pollutants from entering the storm drain.

This training isn’t just about ticking boxes…

Training Recap

- It’s about empowering inspectors to be effective, accountable, and confident in conducting inspections
- Recap of Key Points:
  - Your role as a municipal inspector is essential to ensuring compliance with both the CGP and the MS4 Permit
  - You are responsible for verifying BMP implementation, documenting issues, and escalating non-compliance when necessary
  - Training must be documented, inspections must be thorough, and communication with MS4 program staff is critical.



Training Acknowledgement

- Please take a moment to complete the Training Acknowledgement Form
  - Required to verify your participation for MS4 compliance records

Questions?