

### Industrial Storm Water 2024-25 Annual Training

SAN DIEGO COUNTY OFFICE OF EDUCATION SEPTEMBER 19, 2024



## Welcome

Training Sign-in sheet and Certificates: https://form.jotform.com/242606200661143

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SDCOE Compliance Group Manager





### Agenda

Intro to Storm Water

#### Industrial General Permit Overview

- Industrial Pollutants
- SMARTS
- Compliance Risks

#### Industrial General Permit Implementation

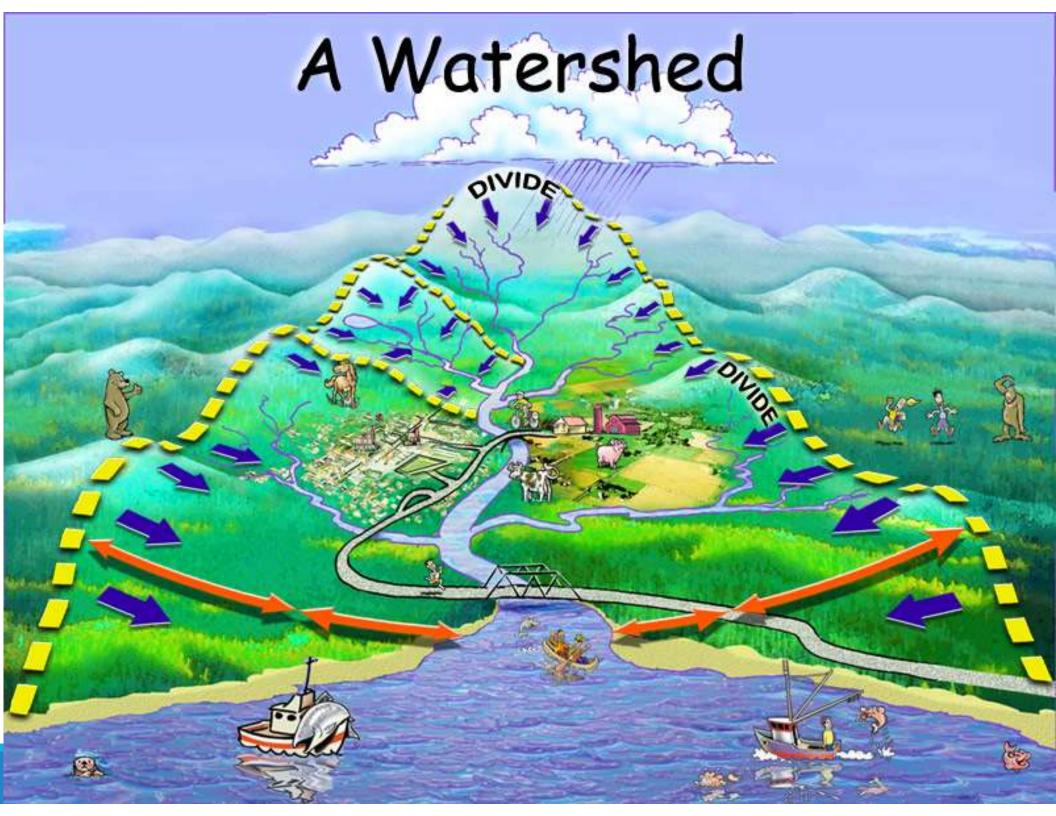
- Minimum and Advanced BMPs
- Inspections
- Monitoring

#### **Compliance Group Updates**

- SWPPP Updates
- No Exposure Certification
- Current Events

#### https://projectcleanwater.org/watersheds/





>Watersheds are managed by all municipalities who share jurisdiction

They have worked together to develop Water Quality Improvement Plans, listing specific efforts to reach water quality goals

Individual waterbodies (e.g., stream, lake, lagoon) have specific goals based on their **beneficial uses**, detailed in the SD Basin Plan

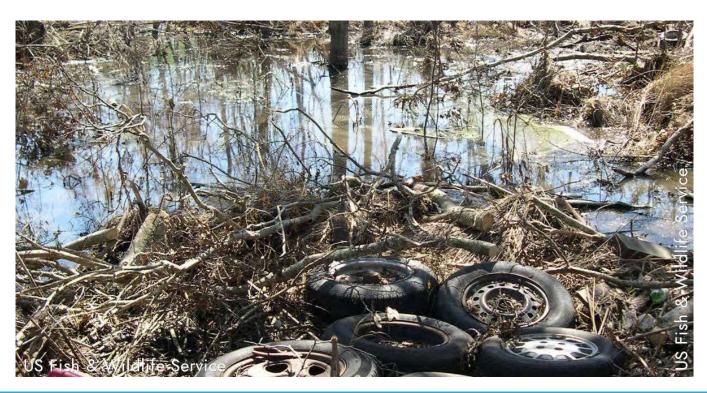
Inland Surface Waters <sup>1,2</sup>	Hydrologic Unit Basin Number	Municipal and Domestic Supply	Agricultural Supply	Industrial Service Supply	Industrial Process Supply	Ground Water Recharge	Freshwater Replenishment	Hydropower Generation	Contact Water Recreation	Non-contact Water Recreation	Preservation of Biological Habitats of Special Significance	Warm Freshwater Habitat	Cold Freshwater Habitat	Wildlife Habitat	Rare, Threatened, or Endangered Species	Spawning, Reproduction, and/or Early Development
Moonlight Creek	4.51	X	Y						Y	Y		Υ		Y		
San Marcos Creek Watershed																
Batiquitos Lagoon <sup>4</sup>	4.51															
San Marcos Creek	4.52	X	Υ						Y	Y		Y		Y		
unnamed intermittent streams	4.53	x	Y						Y	Y		Y		Y		
San Marcos Creek	4.51	X	Υ						Y	Y		Y		Y		
Encinitas Creek	4.51	X	Υ						Y	Υ		Y		Y		

#### **Beneficial uses include:**

- Contact/Non-contact Recreation
- Municipal, Agricultural, Industrial Supply
- Habitat (Marine, estuarine, endangered species, wildlife, etc.)
- Migration
- Spawning
- Navigation
- Hydropower
- Commercial and Sport Fishing
- Aquaculture, Shellfish Harvesting



Regulations (including the IGP) are intended to protect the **beneficial uses** of all waters of the United States To continue using waters in the ways we want to, pollutants need to remain below a specified level

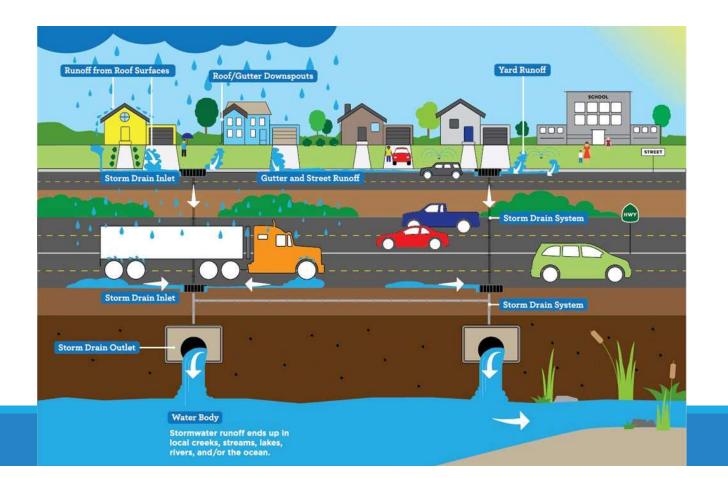


For example, to use a waterway for recreation or as a drinking water source, bacteria levels need to stay low enough not to make people sick Or to use a waterway for aquatic species habitat, dirt and heavy metal levels need to stay low enough that species can survive and thrive



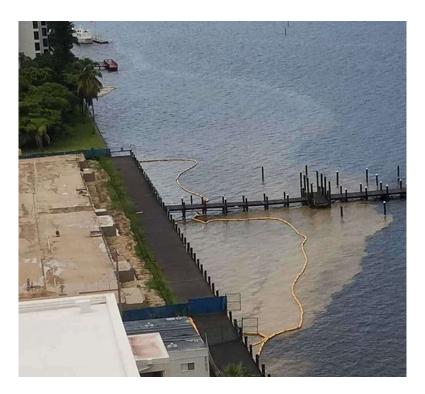


Runoff to the storm drain system does not receive treatment prior to discharge ONLY clean rain water is permitted to enter the storm drain system, with few exceptions



Pollutants that have negative effects on beneficial uses (and therefore must be prevented from entering waterbodies) include:

- Bacteria (food waste, decomposing organic waste, fecal material)
- Organic wastes (leaves, grass)
- Trash (solid waste)
- Dirt
- Heavy Metals
- Oils
- Soaps



Pollutants associated with general/municipal activities (residential, commercial, municipal operations, etc.) are regulated by Municipal General Permits (Region-specific)

Pollutants associated with construction activities are regulated by the Construction General Permit (Statewide)

Pollutants associated with industrial activities are regulated by the **Industrial General Permit** (Statewide)

• Transportation with maintenance, fueling, or washing



# IGP Overview

INDUSTRIAL POLLUTANTS

SMARTS

COMPLIANCE RISKS

# Industrial Pollutants

### Pollutants associated with industrial activities and addressed by the IGP:

- pH (all IGP permittees)
- Total Suspended Solids (all IGP permittees)
- Oil & Grease (all IGP permittees)
- Heavy Metals (pollutant source assessment)
  - Cadmium (batteries, engine components)
  - Copper (brakes, engine components)
  - Zinc (galvanized tires and other materials)
- Deisel (fueling locations only)



# Industrial Pollutants

#### How are pollutants controlled/minimized?

- Best Management Practices
  - Good Housekeeping
  - Preventative Maintenance
  - Spill and Leak Prevention and Response
  - Material Handling and Waste Management
  - Erosion and Sediment Control
  - Employee Training Program
  - Quality Assurance and Record Keeping
- Monthly and Annual Inspections
- Discharge Monitoring
  - QSE Sampling and Observations
  - Numeric Action Levels
    - Compliance and Enforcement



# SMARTS

#### **SMARTS Audit:**

#### Legally Responsible Person (LRP)

"For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official."

#### **Duly Authorized Representative (DAR)**

"... has responsibility for the overall operation of the regulated facility or activity, such as a person that is a manager, operator, superintendent, or another position of equivalent responsibility, or is an individual who has overall responsibility for environmental matters for the company."

# Compliance Risks

#### What are the primary compliance risks?

#### Administrative items:

- Timely Certification in SMARTS by LRP or DAR
  - QSE ad-hoc reports (due within 30 days of receipt from lab)
  - Annual Reports (due July 15)
  - ERA Reports (Due January 1)
  - Change-of-Information (COI), i.e. SWPPP or map updates, etc.

#### Action level exceedances ≠ non-compliance

#### Failure to complete requirements on time = non-compliance

# Compliance Risks

How can we reduce compliance risks?

Ensure LRP(s) and DAR(s) are current in SMARTS

- ID, password, security questions are all saved
- E-Signature on file
- Available and responsive when certification is needed
  - Back-up LRP/DAR ready to respond



# **IGP** Implementation

MINIMUM & ADVANCED BMPS

INSPECTIONS

MONITORING

SMARTS TUTORIAL



#### Good Housekeeping



Preventative Maintenance



Spill and Leak Prevention and Response

Minimum

**BMPs** 



Material Handling and Waste Management



**Erosion and Sediment Controls** 



**Employee Training Program** 



Quality Assurance and Record Keeping

### Good Housekeeping







- Sweep/clean regularly
- Prevent material tracking
- Minimize dust
  - Vacuum or collect rather than blow
- Clean up after rinsing/washing
- Prevent discharge of any rinse/wash waters or industrial materials
- Minimize storm water flow through industrial areas

### Preventative Maintenance





- Identify all equipment and systems used outdoors that may spill or leak
  - Vehicles
  - Fuel pumps
  - Hydraulic lifts
- Establish procedures and schedule for inspection, maintenance and repair
  - Driver-reporting loop
  - Observations during inspections

# Spill and Leak Prevention and Response



- Develop and implement spill and leak response procedures
  - Absorbent
  - o Berms around inlets
  - Steam cleaning (ensure runoff contained and recollected)
  - Identify spill and leak response equipment, location, and maintenance procedures

### *Spill and Leak Prevention and Response: Illicit Discharges*

> Facilitate BMP activities

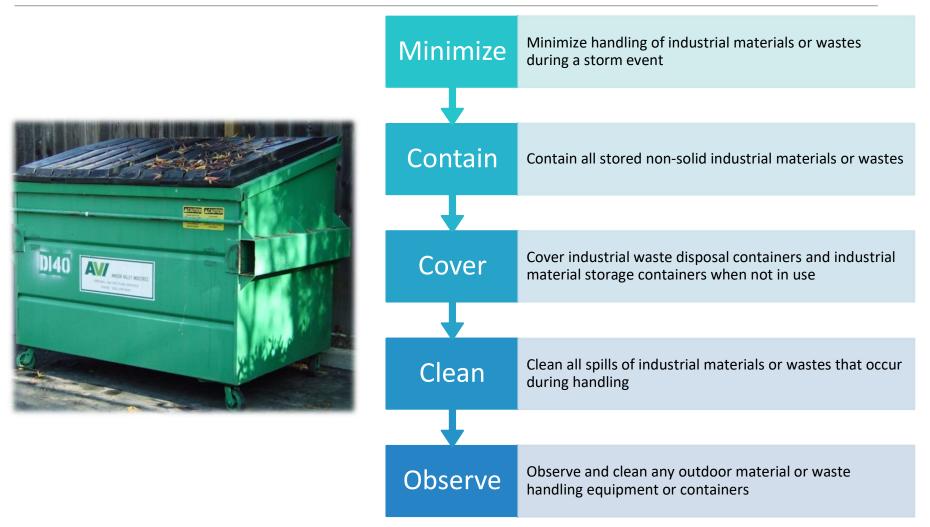
Ensure vendors are employing appropriate BMPs

Periodic site walks

Leak audits



### Material Handling and Waste Management



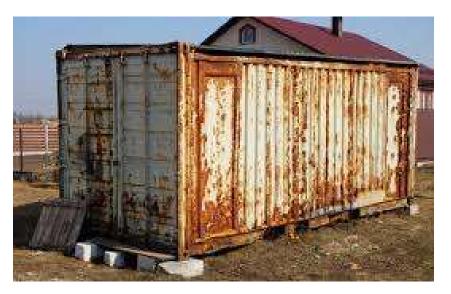
### Material Handling and Waste Management

Divert run-on away from materials/work areas

- Downspout extenders
- Sandbags

Observe and clean outdoor containers and equipment

- Drums, dumpsters, trash cans, etc. free of residues, rust, dirt, debris and in good condition
- Cleaning/collection equipment (shovels, brooms, drip pans, billy goats, vacuums)



### Material Handling and Waste Management

- Do not conduct pollutant-exposing activities during rain events where possible
- Cover and/or contain all industrial materials and wastes
  - Used tires, batteries, parts covered and raised off ground
  - Scrap metal or other wastes in enclosed bin
  - Liquids ≥1gallon in secondary containment (110% of largest container or 50% of total volume, whichever is greater)







### **Erosion and Sediment Controls**



- Implement effective wind erosion controls
   Provide effective stabilization for inactive areas, finished slopes, and other erodible areas
  - Maintain effective perimeter controls and stabilize all site entrances and exits
  - Divert run-on and storm water away from all erodible materials

# Training

Train all Pollution Prevention Team Members annually

- Roles and Responsibilities
- Level 1/2 facilities: QISP to perform training

Train mechanics annually

- Spill/leak response procedures
- BMPs for housekeeping and material storage/waste management

Train bus drivers annually

- Spill/leak response procedures
- BMPs for bus cleaning and washing

### Quality Assurance and Record Keeping

Enact procedures to ensure SWPPP properly implemented Track BMP implementation with monthly inspections Retain inspection forms, training records, spill logs, etc. for 5 years

# Advanced BMPs

#### **Structural BMPs**

#### Where installations exist:

- Detention basins
- Vegetated swales / bioswales
- Filter inserts
- Interceptors

Ensure they are adequately maintained:



#### **Universal Inspection Checklist:**

- □ Accessible for inspection
- **G** Free of damage
- **G** Free of significant trash, debris
- **Free of unpleasant odors**
- **Free of standing water**
- □ Inlets/outlets free of obstruction
- **G** Filter media in working condition

#### **Vegetated Device Checklist:**

- Well vegetated
- □ Irrigation system working properly
- **Free of erosion/scouring/channeling**
- **Free of excessive vegetation**
- **Rip-rap in place**

### Inspections

Annual Comprehensive Site Compliance Evaluation

• Group Leader Performs

#### Monthly Visual Observations

- Self-reported
- <u>https://form.jotform.com/232703981473056</u>

Pre-Rain Event

• Recommended self-audit; not a permit requirement

# Inspections

#### Monthly Visual Observations

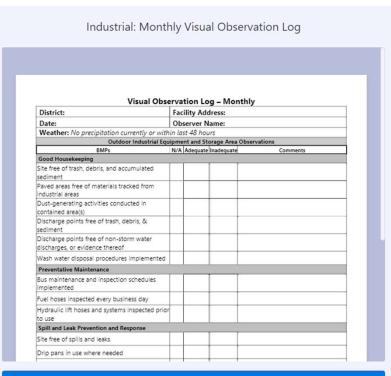
- Every Month
- Days without precipitation
- Observe all industrial areas for compliance with minimum BMPs
- If issues are noted, record the corrections made

#### **ONLINE FORM:**

https://form.jotform.com/232703981473056

*Pro Tip1 : Set a monthly reminder (accept Annika's recurring event reminder)* 

*Pro Tip 2: Use your site map for reference* 

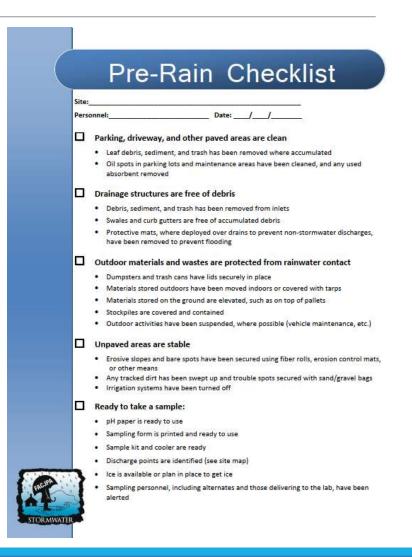


Start Filling →

# Inspections

Pre-Rain Event (See checklist)

- 1. Parking, driveway, and other paved areas are clean
- 2. Drainage structures are free of debris
- 3. Outdoor materials and wastes are protected from rainwater contact
- 4. Unpaved areas are stable
- 5. Ready to take a sample



### Pop quiz

### Where is your pH paper?

### Bring back something to test!



### Intermission

Please enter any outstanding questions in the chat



#### Step 1: Identify & Train Sampling Staff

Know where to find and how to use:

- Weather reports
- Chain of Custody form
- Visual Observations form
  - QSE criteria listed on form
- Monitoring locations (site map)
- Bottle kits (New)
  - Dispose of older kits or retain as spares
- pH paper
- Gloves
- Cooler
- Ice



Pro Tip: It's hard to sample while holding an umbrella- have a raincoat or poncho handy!

#### Step 2: Identify when sampling is appropriate and required





Take samples of <u>2 QSEs</u> per year at *all* industrial discharge points



Once between July and December, and once between January and June.



Required during working hours when conditions are safe

#### The 4-Hour rule:

If runoff begins *during operating hours:* 

- The sample must be taken within 4 hours of the start of runoff
- If runoff began *before operating hours*:
  - Check weather history to see if it began within the 12 hours prior to the start of operations
    - Rule of thumb is 0.1" required before runoff will begin on a paved site
  - If the answer is yes, you must take your sample within the first 4 hours of the start of operations
  - If the answer is no, save the weather report with notations in your files and do not sample

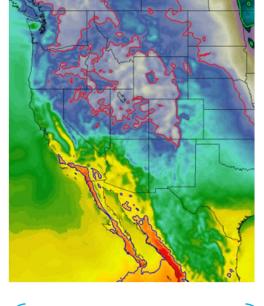
#### Step 3: Track the Weather

History:

- <u>https://www.wunderground.com/history</u> (Enter location and date, view hourly precipitation totals)
- <u>https://sandiego.onerain.com/map/?&type\_id=10|1440&vi</u> <u>ew=0b20683e-1cfb-4f51-b8d0-</u> <u>fd94d6e865e4&view=0b20683e-1cfb-4f51-b8d0-</u> <u>fd94d6e865e4</u> (Nice rain graphs/map)
- <u>https://www.cnrfc.noaa.gov/ol.php?product=sixhourP</u> (Select "Most Recent Hours (Raw) checkbox to see precipitation totals in the last 1-12 hours, zoom to your location)

Forecast by zip code:

- <u>https://www.wunderground.com/</u> (Hourly view gives precipitation totals, 10-day view has a nice graph to see timing of storms)
- <u>https://www.weather.gov/</u> (nice overview with storm total expectations in the details, broken down by morning/afternoon/overnight)



Pro Tip: Bookmark links in your browser and check at least weekly

#### **Step 4: Complete Visual Observations**

Observe flow at every sample point

Observe sample in a clear container

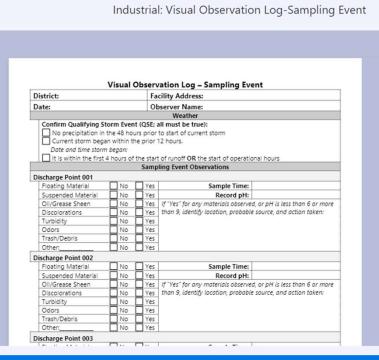
- Check for any observable pollutants
- If observable pollutants present, check for and address source

**Record Observations on form** 

#### **ONLINE FORM:**

https://form.jotform.com/232703479708

Pro Tip: Don't stand or park in the flow of water while sampling



Start Filling →

#### Step 5: Measure the pH:

Dip paper strip into flowing water for a few seconds or until paper is wet

Immediately compare color of paper to the guide on the package (to the nearest 0.5)

- If pH is less than 6 or more than 9 repeat to confirm
- Look for a source:
  - Low pH (acidic)- batteries, open trash containers, chemicals
  - High pH (basic)- often white powders (drywall dust, concrete dust)

Record measurement on form

pH = 0	Battery acid			
pH = 1	Sulfuric acid			
pH = 2	Lemon juice, Vinegar			
pH = 3	Orange juice, Soda			
pH = 4	Acid rain (4.2-4.4) Acidic lake (4.5)			
pH = 5	Bananas (5.0-5.3) Clean rain (5.6)			
pH = 6	Healthy lake (6.5) Milk (6.5-6.8)			
pH = 7	Pure water			
pH = 8	Sea water, Eggs			
pH = 9	Baking soda			
pH = 10	Milk of Magnesia			
pH = 11	Ammonia			
pH = 12	Soapy water			
pH = 13	Bleach			
pH = 14	Liquid drain cleaner			

*Pro Tip: Don't handle sample bottles before taking the pH* 

**Step 6: Collect samples** 

Wear gloves

Fill bottles directly, if possible, OR

- Use a clean collection container, rinsed in sample water
- An empty, sterile bottle from your kit can be used to fill the other containers

Fill bottles to the "neck"

Bottles with stickers contain acid- do not overfill!

Label bottles w/ discharge ID, date, time

Place bottles in cooler with ice

#### Step 6: Collect samples (FUELING FACILITIES ONLY)

Small vials: carefully fill to brim

Goal: virtually no air

Turn bottle upside down to check for bubbles

If there is a bubble, add more water and check again

Be careful not to overfill



#### **Borrego Springs Unified School District Escondido Union High School District Fallbrook Union Elementary School District** Jamul-Dulzura Union School District La Mesa-Spring Valley School District **Mountain Empire Unified School District Poway Unified School District** San Pasqual Union Elementary School District San Ysidro School District **South Bay Union School District Temecula Valley Unified School District** Valley Center Pauma Unified School District

Warner Unified School District

Step 6: Collect samples

Where possible, use sample bottle to collect water directly

If another container is used, ensure it is clean, and rinse with sample water 3x first



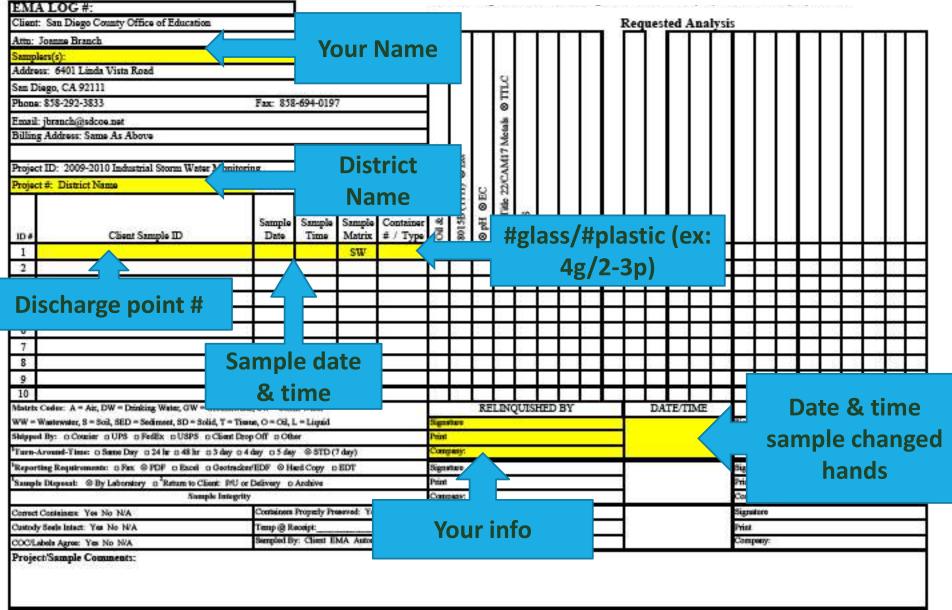
Step 7: Arrange sample delivery

Store samples in fridge or on ice at all times

➢ Coordinate delivery to D-Max within 24 hours (or to the lab directly if needed due to proximity, or if samples are late). Note that we will need your ETA via call or email to ensure staff are present to receive your samples.

- Nick LaPaglia <u>nlapaglia@dmaxinc.com</u>, (760) 896-4055
- Annika Dorman adorman@dmaxinc.com, (858) 224-3267
- Pack samples carefully
- Complete Chain of Custody form for all possession transfers
  - Sampler > Delivery person > D-Max staff

#### CHAIN-OF-CUSTODY RECORD



Additional costs may apply, consult a project manager for details.

<sup>2</sup>EMA reserves the right to return any samples that do not match our waste profile.

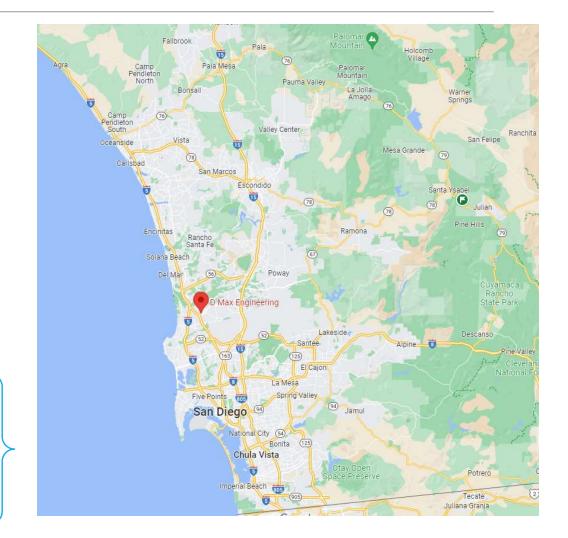
NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services sequested on this COC form and any additional analyses performed on this project. Psyment for services is due within 30 days from date of invoices. Samples will be disposed of 7 days after report has been findized unless otherwise noted. All work is subject to EMA's terms and conditions.

#### **Step 7: Deliver samples**

Deliver to the D-Max office within 24 hours, unless otherwise arranged (may deliver straight to lab in some cases)

D-MAX Engineering Office: <u>5440 Morehouse Dr. Ste. 4500</u> <u>San Diego, CA 92121</u>

> Pro Tip: Don't go to the old lab. New lab is located in South Orange County.



#### **Step 8: Process Results**

Sample Analysis Letter will include results & compliance status

Determine next steps if needed

- Additional sampling
- Additional BMP implementation

Certify Ad-Hoc Report in SMARTS ASAP

Stormwater Multiple Application and Report Tracking System Water Boards Calena Contraction Agency Vou are logged in as Annika Dorman. If this account does not belong to you, please log out.						
Start a New Application    Active Applications  File Reports	Account Management Recertify Existing Applications Document Ready for Certification					
Pending Applications	Submitted Applications					
View and continue applications that are in progress or have been returned.	Manage active and terminated applications processed by the State Water Board. (Submit a Change of Information, amend a Stormwater Pollution Prevention Plan, convert to a No Exposure Certification, view inspections and reports, etc.)					
Documents Ready for Certification	File Reports					
For the Legally Responsible Person and Duly Authorized Representative(s): View, certify, and submit documents to the State Water Board.	View previously submitted reports and submit new reports to ensure permit compliance.					
Account Management	Recertify Existing Application					
Perform administrative tasks associated with your account. (Update organization info, manage Legally Responsible Person, manage linked users, manage Compliance Groups, view outstanding invoices, self-certify as a QSD, etc.)	Recertify an annual No Exposure Certification or coverage under a reissued General Permit.					

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#### **Annual Audit**

Start at Main Menu

"Active Applications" > Click on WDID

- Update "Operator Info", "Facility Info", and "Billing Info" tabs with current contact information
- Review "Linked Users" to ensure at least 2 active LRP/DAR linked with active eAuthorization on file

"Documents Ready for Certification"

• Ensure nothing is left pending

#### **Documents Ready for Certification**

#### Ad-Hoc Reports

- QSEs
- Due 30 days post-receipt from lab

#### Annual Reports

- Submit all monthly reports
- Due July 15th

#### Change of Information (COI)

- SWPPP or Site Map updates
- Facility Information

Can save a PDF of your report from this page

Select	Event ID	Event Type	Reporting Period
	1267018	Qualifying Storm Event	07/01/2022- 06/30/2023
	1236918	Qualifying Storm Event	07/01/2022- 06/30/2023
	1236916	Qualifying Storm Event	07/01/2022- 06/30/2023
	1267020	Qualifying Storm Event	07/01/2022- 06/30/2023
	1267021	Qualifying Storm Event	07/01/2022- 06/30/2023

#### Annual Reports

Select	Report Id	Reporting Period	WDID
	<u>1187817</u>	07/01/2022- 06/30/2023	9 301013802
	<u>1187838</u>	07/01/2022- 06/30/2023	9 371001773
	1188990	07/01/2022- 06/30/2023	9 371017913
	<u>1194104</u>	07/01/2022- 06/30/2023	9 371026674
COIs			

# Select COI ID COI Type WDID 78377 NOI 9 371017906



Review "Data Summary" for agreement with analysis letter

Ensure lab reports uploaded under "Attachments"

Review "Notes" for special circumstances

- Sample bottle broken, late reports, etc.
- "Certify" if all is in order
  - Reenter password
  - Answer security question

**Confirmation Email** 



Review "Notes" for special circumstances

"Certify" if all is in order

- Reenter password
- Answer security question

**Confirmation Email** 

COI Form Attachments Certify/Review Status History Back To NOI Summary

#### COIs

Review "COI Form"

• See "Reason for Change" at bottom of form for Facility Info changes

Review "Attachments" – usually updated SWPPP or Site Map

"Certify" if all is in order

- Perform Completion Check
- Reenter password
- Answer security question

**Confirmation Email** 

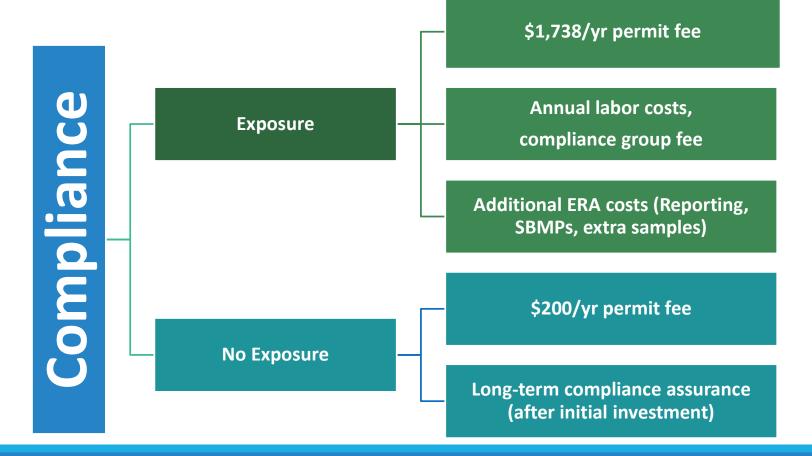
# Compliance Group Updates

NO EXPOSURE CERTIFICATION

WEATHER PATTERNS

# No Exposure Certification

Additional Districts have completed their No Exposure Certifications, with others making progress



# No Exposure Certification

All industrial activities and related materials are contained indoors or outsourced offsite (not in public ROW)

- Fueling
- Washing
- Maintenance

#### OR

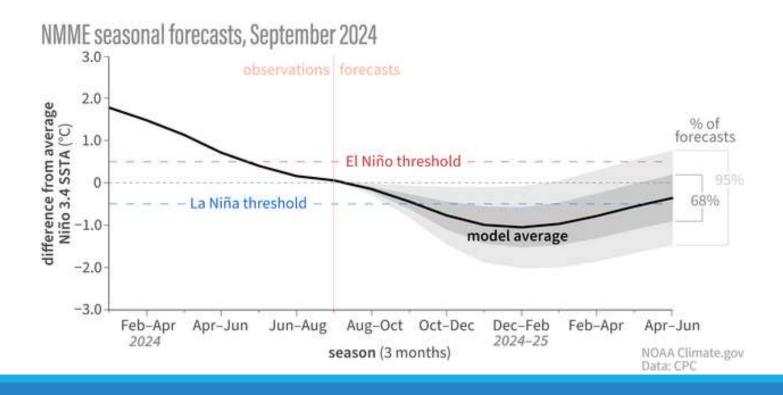
Are within cover and containment

- Bermed and/or draining to sewer
- NOTE: Outdoor drains may be under additional scrutiny to ensure no rainwater enters due to wastewater overflows during rain events

### Current Events

### La Niña is favored (71% chance) and is expected to persist through January-March 2025.

A weaker La Niña implies that it should be a bit drier than average)



### Current Events

#### Less rain Pros

- Fewer QSEs = less sampling
- Fewer flooding/erosion issues mean resources can be allocated elsewhere

#### Less rain Cons

- Fewer opportunities for additional QSE sampling to get out of level 1 or 2
- Less rain *can* mean pollutants will build up
- Plants may die off, leaving slopes more vulnerable to erosion

### Current Events

#### Less rain management

- Ensure housekeeping BMPs stay on top of pollutant accumulation points (swales, gutters, behind backstops)
- Ensure vegetated areas- particularly slopes- are irrigated if needed for plant survival
- Utilize the potential reprieve in resource allocation to pursue long-term projects

### Questions & Contacts

Annika Dorman (D-Max) adorman@dmaxinc.com (858) 224-3267

Nick LaPaglia(D-Max) nlapaglia@dmaxinc.com (760) 896-4055

Ashlee Cadwell (SDCOE) Ashlee.Cadwell@sdcoe.net (858) 292-3735

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