SPILL EMERGENCY RESPONSE PLAN (SERP)

January 2024

SERP Review and Approved By	Name/Title	Signature/Date
Legally Responsible Official (1)		
Legally Responsible Official (2)		
Legally Responsible Official (3)		

PART 1 (COMPLIANCE GUIDE)

ACTIVITY CHANGE LOG (SERP)		
Date	Responsible Person/Title	Description Activity/Change

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Introduction

This document, the Spill Emergency Response Plan (SERP), formerly known as the Overflow Emergency Response Plan (OERP) has been prepared by Fischer Compliance LLC with assistance from the City of Fullerton (City) staff for complying with one of a series of updated regulatory requirements resulting from the State Water Resources Control Board 2022 adoption of the "reissued" Statewide Waste Discharge Requirements General Order for Sanitary Sewer Systems[1] (referred to as "the 2022 WDR" throughout this document."

One primary area of focus by the State Water Board through updated regulatory requirements in the 2022 WDR is *objective compliance* with effective implementation of elements of the City's Sewer System Management Plan (SSMP). The State Water Board emphasizes urgency on the structure, content, and organization of an agency-specific SERP for ensuring effective spill, containment, control, and mitigation[2].

The effectiveness of the SERP is measured by the following objectives, providing City-specific translation of the corresponding State Water Board expectations for required effective spill responses:

- Implement effective and proactive spill containment, control, and mitigation
- Comply with State Water Board guidance on SERP implementation (see Attachment 1)
- Reduce future City WDR violations, potential water quality impacts, and nuisances
- Meet/exceed all WDR compliance points in a systematic, streamlined, and transparent manner to facilitate use by Legally Responsible Official(s), Managers, and field staff
- Measure and improve City SERP effectiveness (see Attachment 2)
- Expedite review by Water Board compliance inspectors and prepare the City for future regulatory audits of the SERP

These objectives provide the cornerstone for PART 1 (COMPLIANCE GUIDE) of this document, formulated by Fischer Compliance LLC around a streamlined process for objectively reviewing each applicable SERP compliance point, presenting the method(s) for how City is complying with each requirement, and providing customized Key Performance Indicators (KPIs) for the City SERP for measuring effectiveness. PART 2 (FIELD GUIDE) includes streamlined information and procedures for City first responders and field operations staff.

Table 1 below provides a summary of applicable Spill Emergency Response Plan requirements for full compliance with the WDR.

[1] See Order No. 2022-0103-DWQ

[2] See Order No. 2022-0103-DWQ, Attachment D (page D-2) which states *"the State Water Board or a Regional Water Board may consider the Enrollee's efforts in implementing an effective Sewer System Management Plan to prevent, contain, control, and mitigate spills when considering Water Code section 13327 factors to determine necessary enforcement of this General Order."*

Table 1 - Summary of Applicable Spill Emergency Response Plan Requirements

Compliance Point	WDR Section	Page	Regulatory Requirements
1	Spec. 5.7	22	• Allocate necessary resources for spill responses
2-1	5.12	23	• Update and Implement SERP within 6 months of 2022 WDR adoption date (6/5/2023); certify SERP up to date in Annual Report)
2-2	5.12	24	• Targets and measures for protection of public health and environment
2-3	5.12	24	• Timely spill responses, minimized impacts and nuisances by stopping, intercepting, recovering, cleaning publicly accessible areas, preventing toxic discharges to waters of the State
3	5.13	24	• Comply with Notification, Monitoring, Reporting, Recordkeeping requirements
4	ATT D-3	D-4	• Collaborate with storm drain agencies and ensure easement accessibility agreements for locations requiring operations
5-1	ATT D-4	D-5	• SERP training and practice drills
5-2	ATT D-4	D-4.4	• Inventory of sewer system equipment/identification of critical replacement and spare parts
6-1	ATT D-6	D-6	• Ensure Training/Implementation of SERP for staff and contractors
6-2	ATT D-6	D-6	• Address Emergency Operations/Traffic Control
6-3	ATT D-6	D-6	• Implement technologies, practices, equipment, coordination
6-4	ATT D-6	D-6	• Conduct Post-spill assessments
6-5	ATT D-6	D-6	• Annually review/assess effectiveness of SERP/update
see 2-1 above	ATT D-6	D-6	• Spill Emergency Response Plan/prompt detection/response
see 3 above	ATT D-6	D-6	• Notifications (primary responders, agencies)
see 3 above	ATT D-6	D-6	• Notifications (other potentially affected agencies)
see 3 above	ATT D-6	D-6	• Comply with WDR Att. E1 requirements
see 2-3 above	ATT D-6	D-6	• Containment, minimize/prevent spills to waters of state and drainage conveyances
see 2-2 above	ATT D-6	D-6	• Minimize public health and environmental impacts
see 2-2 above	ATT D-6	D-6	• Remove sewage from drain conveyance
see 2-2 above	ATT D-6	D-6	• Clean spill area/drain conveyance
see 4 above	ATT D-6	D-6	• Implement pre-planned coordination and collaboration with storm drain agencies
see 3 above	ATT D-6	D-6	• Document and report spill events

Compliance Evaluation

For preparing the SERP, an assessment was completed of the City's existing spill prevention, containment, control, and mitigation effectiveness[3]. This included review of the City's existing Overflow Emergency Response Plan (OERP), spill prevention/reduction strategies, field practices, data collection approach, critical spare parts/inventory, and field staff training. In addition, the inspection included review of data in the State Water Board's "California Integrated Water Quality System" (CIWQS[4]) including agency spill response metrics and benchmarks (see Table 2 below for details).

Table 2 – City spill data and compliance benchmarks

Element	Benchmarks
• Spill Response Metrics (agency notification - operator arrival)	
• Notification Compliance (Category 1 spill notification to Cal-OES >2 hours)	
• Draft Reporting Compliance (Category 1 spills within 3 business days)	
• Spill Recovery (%) Spill data- 10/28/2018-10/28/2023	

SERP Effectiveness

For facilitating review, assessment, and measurement of SERP effectiveness, Key Performance Indicators (KPIs) were generated for facilitating annual review, assessment, and update of the SERP for improving its effectiveness (see Attachment 2).

[3] See Order No. 2022-0101-DWQ, Provision 6.1.6 (Water Boards' considerations for discretionary enforcement purposes)
[4] CIWQS, publicly available at:
https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/PublicReportSSOServlet?reportAction=criteria&reportId=sso_main

COMPLIANCE POINT #1

1-1 Regulatory Requirement

WDR Section	Summary of Requirements
Specif. 5.7 (p22)	• Allocate necessary resources for spill responses

1-2 Compliance

- The City Legally Responsible Official (LRO) is responsible for ensuring full compliance through implementation, review, and training on the updated SERP.
- The City LRO and Data Submitters for the sewer system are authorized to submit electronic and written spill reports and other required information to the CIWQS.
- For an overview of ensuring adequate resources for spill responses, refer to the City SSMP Elements 2 (Organization), 4 (Operations and Maintenance), and 6 (Emergency Response Plan).
- The City has ample resources, including three combination units, a fully stocked emergency response trailer including a 4" trash pump, air compressor and blocking plugs to effectively handle sewer spills within its jurisdiction. This equipment ensures a quick and efficient response to sewer spills, demonstrating the City's dedication to protecting the environment and public health.
- The City has allocated funds for its Capital Improvement Projects. The City has developed a comprehensive list of CIPP rehabilitation and open cut sections and has prioritized the list based on the condition assessment of each asset.

1-3 Effectiveness

- For tracking ongoing operational performance metrics required for conducting its annual review/assessment of the SERP, the City utilizes Attachment 2, Compliance Point #1.

COMPLIANCE POINT #2-1

2-1-1 Regulatory Requirements

WDR Sections	Summary of Requirements
• Specif. 5.12 (pgs23-24)	• Update and Implement SERP within 6 months of 2022 WDR adoption date (6/5/2023) • Certify the SERP up to date in the Annual Report
• ATT D-6 (pgD-6)	• Prompt detection and response to spills to reduce spill volumes and collection information for prevention of future spills. • Containment, minimize/prevent spills to waters of state and drainage conveyances

2-1-2 Compliance

- The City LRO is responsible for ensuring full compliance through implementation, review, and training on the updated SERP.

- The City's SSMP includes the following goals with regards to preventing and mitigating spills:
    - Conduct a well-organized and comprehensive Operation and Maintenance (O&M) program
    - Minimize the potential for and the occurrences of spills.
    - Comply with all regulatory requirements
    - Ensure the public's health and safety
    - Provide appropriate staffing
    - Acquire appropriate funding
    - Manage an effective Fats, Oils and Grease (FOG) program
    - Ensure adequate capacity to convey peak wastewater flows
    - Maintain a long range planning and improvement plan
    - Maintain a new and renewed wastewater collection system
    - Inform and educate the public on programs, projects and issues related to the wastewater collection system
- During business hours, calls are answered by Administrative staff at the Public Works Department. For after-hours notifications, the City relies on Police Dispatch. While the contact information is available on the City's webpage, the Sewer Division should ensure clearer instructions on the phone tree for residents experiencing sewer issues.
- For procedures to ensure prompt detection and responses to spills, reducing spill volumes, and collecting information for prevention of future spills, refer to the City Spill Response Field Guide (PART 2)

- For additional details demonstrating compliance, refer to the City Spill Response Field Guide.

2-1-3 Effectiveness

- For tracking ongoing operational performance metrics required for conducting its annual review/assessment of the SERP, the City utilizes Attachment 2, Compliance Point #2-1.

COMPLIANCE POINT #2-2

2-2-1 Regulatory Requirements

WDR Section	Summary of Requirements
• Specif. 5.12 (p24)	• Targets for protection of public health and the environment
• ATT D-6 (pgD-6)	• Minimize public health and environmental impacts • Remove sewage from drain conveyance • Clean spill area/drain conveyance

2-2-2 Compliance

- The City LRO is responsible for ensuring full compliance through implementation, review, and training on the updated SERP.
- The LRO for the City of Fullerton has sole responsibility for the operation and maintenance, inspection and repair of the City's sewer and storm drain conveyance system.
- The City has identified the process for removing sewage from a drainage conveyance system in the City Spill Response Field Guide Part 2. Crews will remove all debris and solids, Hydro-Vac to clean and vacuum all water from the drainage conveyance system and wash all affected concrete areas with the high-pressure wand. All wash water will be captured and removed with final containment measures.
- For additional details demonstrating compliance, refer to the City Spill Response Field Guide.

2-2-3 Effectiveness

- For tracking ongoing operational performance metrics required for conducting its annual review/assessment of the SERP, City utilizes Attachment 2, Compliance Point #2-2.

COMPLIANCE POINT #2-3

2-3-1 Regulatory Requirements

WDR Section	Summary of Requirements
• Specif. 5.12 (p23-24)	• Timely spill responses, minimized impacts and nuisances by stopping, intercepting, recovering, cleaning publicly accessible areas, preventing toxic discharges to waters of the State
• ATT D-6 (pgD-6)	• Containment, minimize/prevent spills to waters of state and drainage conveyances

2-3-2 Compliance

- The City LRO is responsible for ensuring full compliance through implementation, review, and training on the updated SERP.
- The City has identified strategies in the SERP Field Guide to intercept, contain and divert spills from entering waters of the state.
- The City has established processes in place for prompt response to the report of a spill. These processes are identified in the SERP Field Guide- Part 2.
- For additional details demonstrating compliance, refer to the City Spill Response Field Guide.

2-3-3 Effectiveness

- For tracking ongoing operational performance metrics required for conducting its annual review/assessment of the SERP, see Attachment 2, Compliance Point #2-3.

COMPLIANCE POINT #3

3-1 Regulatory Requirements

WDR Section	Summary of Requirements
• Spec. 5.13 (p24) • ATT D-6 (pD-6)	• Comply with Notification, Monitoring, Reporting, Recordkeeping requirements • Notifications (primary responders, agencies) • Notifications (other potentially affected agencies) • Comply with WDR Att. E1 requirements and document and report spill events

3-2-2 Compliance

- The City LRO is responsible for ensuring full compliance through implementation, review, and training on the updated SERP.
- The City has identified both internal and external contacts to enable prompt notification to regulatory agencies and City Staff primary responders should a spill occur.
- The City conducts extensive research for its spills for ensuring accurate volume estimations prior to the Legally Responsible Official (LRO) certifying spill reports in CIWQS.
- For additional details demonstrating compliance, refer to the City Spill Response Field Guide.

3-3 Effectiveness

- For tracking ongoing operational performance metrics required for conducting its annual review/assessment of the SERP, City utilizes Attachment 2, Compliance Point #3-1.

COMPLIANCE POINT #4

4-1 Regulatory Requirements

WDR Section	Summary of Requirements
• ATT D-3 (pD-4)	• Procedures: Collaborating with storm drain agencies
• ATT D-6 (pD-6)	• Implement pre-planned coordination and collaboration with storm drain agencies and other utilities/departments prior to, during and after a spill.

4-2 Compliance

- The City LRO is responsible for ensuring full compliance through implementation, review, and training on the updated SERP.
- The City Public Works Department has responsibility for the operation and maintenance of both the sewer system and storm drain system within its boundaries.
- The City utilizes a GIS Layer to identify all storm drain assets and outfall locations. In addition the City uses the following resources for its storm drain collaboration activities: USGS mapping tool with watershed and topography information[5], California Board Basin Plan Beneficial Use Viewer tool,[6] and the State Water Board eWRIMS tool[7].
- For additional details demonstrating compliance, refer to the City Spill Response Field Guide.

4-3 Effectiveness

- For tracking ongoing operational performance metrics required for conducting its annual review/assessment of the SERP, City utilizes Attachment 2, Compliance Point #4.

[5] See https://apps.nationalmap.gov/viewer/
[6] See https://gispublic.waterboards.ca.gov/portal/apps/webappviewer/index.html?id=116f7daa9c4d4103afda1257be82eb16
[7] See https://waterrightsmaps.waterboards.ca.gov/viewer/index.html?viewer=eWRIMS.eWRIMS_gvh#

COMPLIANCE POINT #5-1

5-1-1 Regulatory Requirement

Page #(s)	WDR Section	Summary of Requirements
Page D-5	ATT D-4.3	• SERP training and practice drills

5-1-2 Compliance

- The City LRO is responsible for ensuring full compliance through implementation, review, and training on the updated SERP including review of internal response procedures, practice drills, skilled volume estimation, and CIWQS reporting.

- For ensuring compliance, the City is conducting SERP training covering the following subjects for field staff:
    - Annual refresher training on the City's Spill Emergency Response Plan including hands-on and practical scenarios.
    - Spill Volume Estimation
    - Bypass pumping

- The City has established processes in place but no written Standard Operating Procedures (SOPS) to support the on-boarding and training of its wastewater staff. Prioritizing and developing written procedures for training and certifying the competency of its wastewater staff is recommended for the City.

- For additional details demonstrating compliance, refer to the City Spill Response Field Guide.

5-1-3 Effectiveness

- For tracking ongoing operational performance metrics required for conducting its annual review/assessment of the SERP, the City utilizes Attachment 2, Compliance Point #5-1.

CO1MPLIANCE POINT #5-2

5-2-1 Regulatory Requirement

Page #(s)	WDR Section	Summary of Requirements
Page D-5	ATT D-4.4	• Inventory of sewer system equipment/identification of critical replacement and spare parts

5-2-2 Compliance

- The City LRO is responsible for ensuring full compliance with an inventory of system equipment, including identification of critical replacement and spare parts.

- The City's SSMP doesn't currently include a list of system equipment and replacement parts inventory to operate and maintain the City's wastewater infrastructure. The City needs to develop a written list of critical and spare parts required to operate their system.

- The City will utilize Attachment 11 —Equipment Inventory and Critical Spare Parts List**,** to document spare parts and equipment needed to operate its system.

5-2-3 Effectiveness

- For tracking ongoing operational performance metrics required for conducting its annual review/assessment of the SERP, the City utilizes Attachment 2, Compliance Point #5-2.

COMPLIANCE POINTS #6-1

6-1-1 Regulatory Requirement

Page #(s)	WDR Section	Summary of Requirements
Page D-6	ATT D-6	• Ensure training/implementation of SERP for staff and contractors

6-1-2 Compliance

- The City LRO is responsible for ensuring full compliance through implementation, review, and training on the updated SERP.
- The City performs annual drills on spill volume estimation, emergency response to spills and drills for bypass pumping.
- The City LRO is responsible for ensuring the annual review and assessment of the effectiveness of the SERP, and to update as needed. If changes are made to the SERP, employees shall be trained on the updated SERP.
- It is recommended the Sewer Department develop language with assistance from the City Attorney's office, requiring contractors to train their staff on the City's SERP prior to starting any project. The language should be included in contract documents during negotiations and requiring Contractor acceptance when signing contract documents.
- For additional details demonstrating compliance, refer to the City Spill Response Field Guide.

6-1-3 Effectiveness

- For tracking ongoing operational performance metrics required for conducting its annual review/assessment of the SERP, the City utilizes Attachment 2, Compliance Point #6-1.

COMPLIANCE POINT #6-2

6-2-1 Regulatory Requirement

Page #(s)	WDR Section	Summary of Requirements
Page D-6	ATT D-6	• Address Emergency Operations/Traffic Control

6-2-2 Compliance/Effectiveness

- The City LRO is responsible for ensuring full compliance through implementation, review, and training on the updated SERP.
- The City trains with an outside contractor and uses Cal Trans WATCH manual for guidance.
- For additional procedures, refer to the City Spill Response Field Guide.

6-2-3 Effectiveness

- For tracking ongoing operational performance metrics required for conducting its annual review/assessment of the SERP, City utilizes Attachment 2, Compliance Point #6-2).

COMPLIANCE POINT #6-3

6-3-1 Regulatory Requirement

Page #(s)	WDR Section	Summary of Requirements
Page D-6	ATT D-6	• Implement tech, practices, equipment, coordination

6-3-2 Compliance

- The City LRO is responsible for ensuring full compliance through implementation, review, and training on the updated SERP.
- Currently the City hasn't seen the need for using technology to monitor and provide early detection within their system.
- For additional details demonstrating compliance, refer to the City Spill Response Field Guide.

6-3-3 Effectiveness

- For tracking ongoing operational performance metrics required for conducting its annual review/assessment of the SERP, City utilizes Attachment 2, Compliance Point #6-3.

COMPLIANCE POINT #6-4

6-4-1 Regulatory Requirement

WDR Page #(s)	Section	Summary of Requirements
Page D-6	ATT D-6	• Conduct Post-spill assessments

6-4-2 Compliance

- The City LRO is responsible for ensuring full compliance through implementation, review, and training on the updated SERP.
- The City LRO is responsible to conduct an assessment of every spill response to determine the effectiveness of the response, and to modify the SERP, should a deficiency be noted.
- The City will utilize forms in Attachment 8 to document its response to spills, and ensure the SERP program is utilized and modified as necessary. In addition, it would be a best practice for the first responder to write a spill narrative to be included in all spill documentation.
- The City Sewer Department conducts a failure investigation for every spill to determine the cause of the spill and identify necessary corrective actions to prevent future spills from the same location. All relevant data will be reviewed as part of the investigation to determine the appropriate corrective actions for the sewer line segment or lift station.
- For additional procedures, refer to the City Spill Response Field Guide.

6-4-3 Effectiveness

- For tracking ongoing operational performance metrics required for conducting its annual review/assessment of the SERP, City utilizes Attachment 2, Compliance Point #6-4.

COMPLIANCE POINT #6-5

6-5-1 Regulatory Requirement

WDR Page #(s)	Section	
Page D-6	ATT D-6	• Annually review/assess effectiveness of SERP/update

6-5-2 Compliance/Effectiveness

- The City LRO is responsible for ensuring full compliance through implementation, review, and training on the updated SERP.

- For additional details demonstrating compliance, refer to the City Spill Response Field Guide.

6-5-3 Effectiveness

- For tracking ongoing operational performance metrics required for conducting its annual review/assessment of the SERP, City utilizes Attachment 2, Compliance Point #6-5.

LIST OF ATTACHMENTS

(These attachments are designed for assisting agencies in complying with the Statewide Waste Discharge Requirements General Order for Sanitary Sewer Systems (Order No. 2022-0103-DWQ)

PART 2 (FIELD GUIDE)

LIST OF TABLES

1.0 RESPOND AND ASSESS

WDR General Order 2022-0103-DWQ Section D-6

The response begins upon notification of the potential spill. The task sequence may vary depending on the circumstance(s) encountered, and the First Responder shall exercise the best judgment while responding to and mitigating the spill's effects. The first responder shall contact their supervisor for direction as appropriate. The First Responder's Goals are to:

- Prevent, contain, control, and mitigate the spill
- Safely respond to the site as quickly as possible. The City of Fullerton has established response time goals of 10 minutes during business hours and 30 minutes for after-hour calls.
- Thoroughly assess to determine the responsibility, if additional resources are needed, and the best course of action to control and mitigate the spill.
- Collect all required data and document on forms provided.

A. Arrival

- Document the "Arrival Time" and how the call was received (dispatch, answering service, City staff, etc.) on the Sewer Spill Response Field Report
- Take a 10-second video of the spilling structure (if currently active)
- Take photos of the affected area

B. Is problem within City of Fullerton's owned/operated sewer system? (if no, proceed to C below)

The first responder will quickly assess the spill to determine the extent, the category, and the resources needed to mitigate the spill. The ***First Responder*** is responsible for the following:

- If the spill is a category 1 or 2, immediately contact the Sewer Supervisor at 714-412-1116 to make the *2-hour notification to Cal Office of Emergency Services (CAL-OES)*
- Determine the spill appearance point and attempt to contain or divert the spill. Block or plug any storm drain inlets in the spill path.
- Use storm drain maps to determine the potential destination of the spill if it has entered a storm drain conveyance system.
- Determine and request additional resources and personnel as needed.
- Setup traffic control measures to divert pedestrians away from the affected area(s).
- Determine if Raw Sewage signs need posting to alert the public.
- Determine if Contaminated Water Signs need posting and if water quality sampling is required.
- Record all field documentation, including photographs, drawings, and measurements of the spill, to complete the Field Spill Report Form.

C. Is problem due to another agency's facility?

- Contact the agency and inform them of the problem.
- Control and contain the spill to keep it from reaching a DCS and redirect the public until the agency's staff arrives.

D. Is problem due to a privately-owned facility?

- Contact the property manager, owner, or resident and inform them of their responsibility. Request they stop using all water until the problem is rectified.
- Recommend that they call a plumbing service and setup containment if there is immenent danger of the spill reaching waters of the state, danger to public health or damage to public or private property. Continue containment until the plumber arrives and clears the blockage.
- If necessary, contact the Orange County Health Care Agency at 714-4333-6000 for assistance.
- Contact your supervisor for further directions.

E. Is there a backup in a home or building?

- Advise the customer to keep people and pets out of the spill areas to not track any contamination into non-affected areas. If necessary, people should evacuate the premises.
- Contact the Sewer Supervisor to inform them of a spill event into a home or business.
- During business hours, notify Veronica Gutierrez– Risk Management Analyst 2 at 714-738-5328 of the spill.
- The owner or resident should contact a restoration company to repair any water damages, then file a claim with the City. The claim forms are available at City Hall or online at https://www.cityoffullerton.com/home/showpublisheddocument/4981/637592691709770000
- Document activities and findings on the Spill Response Field Report (Attachment 13).

2.0 SPILL CATEGORIES

WDR General Order 2022-0103-DWQ Section 5.13.1

Individual spill notification, monitoring, and reporting must be in accordance with the following spill categories:

Category 1: Any volume of sewage from or caused by a sanitary sewer system regulated under the General Order that results in a discharge to:

- A surface water, including a surface water body that contains no flow or volume;
- A drainage conveyance system that discharges to surface waters when the sewage is not fully captured and returned to the sewer system;
- Any spill volume not recovered is considered discharged to surface water unless the drainage conveyance system discharges to a dedicated stormwater infiltration basin or facility;
- A spill from an agency-owned and/or operated lateral that discharges to a surface water is a Category 1 spill

Category 2: A spill of 1,000 gallons or greater from or caused by a sanitary sewer system regulated under this general Order that does not discharge to a surface water.

- A spill of 1,000 gallons out of a lateral and is caused by a failure or blockage in the sanitary sewer system is a Category 2 spill

Category 3: A spill of 50 gallons and less than 1,000 gallons from or caused by a sanitary sewer system regulated under this general Order that does not discharge to a surface water.

- A spill of 50 gallons and less than 1,000 gallons that spill out of a lateral and is caused by a failure or blockage in the sanitary sewer system is a Category 3 spill.

Category 4: A spill of less than 50 gallons from or caused by a sanitary sewer system regulated under this general Order that does not discharge to a surface water.

- A spill of less than 50 gallons that spills out of a lateral and is caused by a failure or blockage in the sanitary sewer system is a Category 4 spill.

3.0 CONTAIN AND MITIGATE

WDR General Order 2022-0103-DWQ Section 5.12 and Section D-6, 6.6 & 6.7

Containment is a primary strategy for minimizing the consequences of a spill. The environment and public health can be protected by swiftly determining the source and extent of spills, enabling containment or control. Immediately cover or plug storm drain inlets, diverting flow to a containment point. If a spill enters a drainage conveyance system or waterway, it becomes increasingly difficult to control and contain. The first responder's decisions should be based on the best action(s) for mitigation to prevent discharging to surface waters. Multiple techniques are listed in Table 1 for spill containment depending on circumstances, spill category, and available material.

Table 1- Spill Containment Strategies

Location	Strategies for Containment
Curb & Gutter	Create a berm or dam using the following: ○ Rubber Berm ○ Dry Sweep ○ Dirt ○ Sandbags ○ Deploy Absorbent Bags ○ Hydro-Vac
Open Space	○ Hand-Dig a trench to contain the spill ○ Create sandbag dam/for diverting sewage to natural low point
Drainage Channel	○ Create a Dam using sandbags or dirt ○ Use vacuum retrieval if accessible by hydro-vac
Strom Drain	○ Block inlets using rubber mats and/or sandbags ○ Plug manhole outlets using pneumatic plugs or sandbags ○ Plug outfall manhole to prevent discharge into the environment
Backup In Building	○ Attempt to remove cleanout caps to allow the sewage to discharge outside the building ○ Establish containment using the most effective method from above
Creeks/Streams (Low flow only)	○ Create Sandbag Dams ○ Install a silt fence to contain floating solids ○ Contact the local health department or Fish and Wildlife for direction NOTE: Containment attempts should not negatively impact aquatic life

4.0 EMERGENCY SYSTEM OPERATIONS

WDR General Order 2022-0103-DWQ Section D-6, 6.5

First responders may need to set up temporary traffic control to protect the public's health and safety in the event of a street collapse or undermining of a roadway. Temporary traffic control allows crews responding to safely contain and clear the blockage and prevent sewage from further dispersing by vehicular traffic. In addition, responding crews shall use temporary traffic control devices or barriers to divert the public from contact with the spill. If needed, the City of Fullerton can request additional help from the Police Department for traffic control. City of Fullerton uses the Cal Trans Work Area Traffic Control Handbook (WATCH) for temporary traffic control.

5.0 CORRECT CAUSE AND RESTORE FLOW

Correcting the cause and restoring flow depends on the type of Agency infrastructure the spill is discharging from.

A. Mainline

If the blockage is in the main, it will be between a manhole with little to no flow and a manhole surcharging or spilling. Response crews should set up the hydro-vac or jetter truck on the dry manhole, downstream from the surcharged manhole, to clear the blockage and restore flow. Clear the blockage and observe the flow in the manhole to ensure the blockage doesn't reoccur downstream. If it is difficult to remove the blockage, increase containment, request an additional Hydro-Vac or initiate bypass pumping to control flows. Request additional assistance to CCTV inspect the line to assess the problem. If needed, contact your supervisor for assistance.

6.0 SPILL SPECIFIC MONITORING

WDR General Order 2022-0103-DWQ Section D-6, 6.3 & E-1, 2.1

The City of Fullerton shall visually assess the spill locations and spread using photography, a global positioning system (GPS), or other best available tools. In addition, a best practice would be to provide a drawing of the spill spread and dimensions specific to the spill. In the drawing, indicate the spill's final destination or containment point. The City of Fullerton shall document the spill locations, including;

A. Photography and GPS coordinates for:

- The system location where the spill originated. If multiple spill appearance points exist, use the point closest to the spill origin;
- Include GPS coordinates for the spill destination or containment point if available
- Drainage conveyance system entry locations
- The locations of discharge to surface waters, if applicable
- The extent of the spread, and
- The location(s) of the spill clean up

7.0 INITIATE SPILL CLEAN UP

WDR General Order 2022-0103-DWQ Section 5.12 & Section D-6, 6.9

Recovery and thorough cleanup are necessary for all sewer spills. When recovering spills, all solids and materials should be recovered and removed from the site, and every effort should be made to recover as much of the spill as possible. Disinfection of contaminated soil or drainage ways is only performed when directed by Orange County Health Care Agency or California Department of Fish and Wildlife. Any water that is used in the cleanup process should be de-chlorinated before using.

Sewer staff will post signs, place barricades, and other traffic control devices as needed to keep vehicles and pedestrians away from the spill area. Additionally, all posted warning signs in critical public areas, such as parks and creeks, shall be left in place until the Orange County Health Care agency or Regional Board staff authorizes removal.

Procedures for cleaning affected areas after a spill are as follows:

A. Backups in Building

- Under no circumstances should City staff enter a residence.
- If the backup is due to a blockage or failure in the City of Fullerton's system, the resident should reach out to a restoration and remediation company to repair any water damage, followed by filing a claim with the City.

B. Street, Curb or Gutter or Hardscape

- Remove all debris and solids with broom, shovels and wash down water
- Before removing any contaminated soil and plants, photograph the area and speak to the property owner.
- Wash pavement, curb and gutter area, with the high-pressure wand, then vacuum all wash water with a hydro-vac.
- Photgraph the entire area after cleanup is completed.

C. Open Area/ Landscape

- In an open area that is primarily dirt, response crews shall use either a hydro-vac vacuum nozzle or dig and remove dirt until a dry layer is visible.
- If the area is a grass landscaped area, flush the spill area with copious amounts of water and vacuum the area thoroughly.

D. Natural and Man-Made Waterways

- Contain contaminated creeks where feasible. Remove all contaminated water by pumping to the collection system or vacuuming using a vacuum truck and return all collected water to the sewer system. Introduce additional wash water to flush contaminated areas towards the containment area.
- Photograph the area(s) cleaned to confirm the spill has been thoroughly cleaned, and document the locations on the Field Spill Report form

8.0 REMOVE SEWAGE FROM DRAINAGE CONVEYANCE

WDR General Order 2022-0103-DWQ Section 5.12 & Section D-6, 6.8 & 6.9

First responders and cleaning crews must take photographs or videos to verify the conditions before and after cleaning activities. Response crews shall remove all sewage that has entered the drainage conveyance system by vacuuming all water, debris, solids, and paper in the drainage conveyance system. The City of Fullerton will use GIS mapping to establish the flow direction within the Drainage Conveyance System (DCS) and set up containment below where evidence of the sewer spill has ended. With containment in place, either hydro-jet the storm drain or flush the affected area with water to the containment location and vacuum water and debris.

The City of Fullerton determines the condition of the DCS when deciding to hydro-jet. If the pipe condition may damage the hydro-vac equipment, flushing to the containment point is the best option. Once thoroughly cleaned, remove the containment and flush and vacuum the remaining area, capturing all water.

9.0 REGULATORY NOTIFICATION/REPORTING REQS.

WDR General Order 2022-0103-DWQ Section D-6, 6.3

The notification requirements of this section apply to all spills resulting from a failure or blockage in the City of Fullerton's owned and /or operated sanitary sewer system regulated under this Order. Table 2 will aid field staff, data submitters and the LRO (s) in meeting the requirements for notification and reporting in the re-issued general order. Once the event is complete, Collection staff will provide the draft event summary to be submitted into CIWQS within the required timeframe (See Table 2).

Table 2 - Monitoring and Reporting

Spill Category	OES Notification	Monitoring	Draft Report	Certified Report
Category 1 Any volume of sewer discharging to surface water	• Within 2 hours of the Agency's knowledge of the spill of 1,000 gallons or greater discharging or threatening to discharge to surface waters. • Obtain a Control number from OES	• Conduct spill-specific monitoring. • Conduct water quality sampling within 18 hours of knowledge of a spill 50,000 gallons or greater to surface waters	• Due within 3 business days of knowledge or self-discovery of Category 1 spill.	• Due within 15 calendar days of the spill end date. Upon completion, the CIWQS will issue final spill event ID number. • Submit Technical Report within 45 calendar days after the spill end date for spill greater than 50,000 gallons. • Submit the Amended Report within 90 calendar days after spill end date
Category 2 Spills of 1,000 gallons or greater that do not discharge to waters of the State	• Within 2 hours of the Agency's knowledge of the spill of 1,000 gallons or greater discharging or threatening to discharge to surface waters.	• Conduct spill-specific monitoring.	• Due within 3 business days of the Agency's knowledge of the spill	• Due within 15 calendar days of the spill end date. Upon completion, the CIWQS will issue final spill event ID number. • Submit Amended reports within 90

Spill Category	OES Notification	Monitoring	Draft Report	Certified Report
	• Obtain a Control number from OES			calendar days of Certified Report due date
Category 3 Spills of 50 gallons to less than 1,000 gallons that don't discharge to surface waters	• N/A	• Conduct spill-specific monitoring.	• N/A	• Due 30 calendar days after the end of the month in which the spills occurred. After LRO certifies the spill, CIWQS will issue a spill identification number for each spill. • Submit Amended reports within 90 calendar days of Certified Report due date
Category 4 Spills less than 50 gallons that don't discharge to surface waters	• N/A	• Conduct spill-specific monitoring.	• N/A	• Within 30 calendar days after the end of the month in which the spills occurred, certify monthly the volume spilled and the total number of spills. • Upload and certify a digital report of all Category 4 spills in CIWQS by 1 FEB after the end of the calendar year in which the spills occur.

10.0 REGULATORY NOTIFICATION PROCEDURES

WDR General Order 2022-0103-DWQ Section D-6, 6.1 & 6.2

If a spill that discharged in or on the waters of the State or discharged to a location where it will probably be discharged to the waters of the State, the City of Fullerton shall notify the Office of Emergency Services (OES) and obtain a control number as soon as possible, but no later than 2 hours after becoming aware of the discharge; and notification can be provided without substantially impeding clean-up or emergency measures. Tables 3 and 4 below provide the required contacts for complying with the regulatory notification requirements. During business hours, the Sewer Supervisor will make the required notifications. The Sewer Supervisor or their designee will handle after-hours notification requirements.

Table 3 -Internal Regulatory Notification Contacts

Agency	Name	Number	Notes
City of Fullerton	Stephen Bise- Public Works Director	714-738-6852	LRO
City of Fullerton	Anthony Reynoso – Sewer Supervisor	714-412-1116 (M) 714-738-2802 (O)	LRO/Data Submitter
City of Fullerton	TBD		Data Submitter
City of Fullerton	Veronica Gutierrez – Human Resources Analyst II	714-738-5328	Property Damage/Claims
City of Fullerton	Delaney Felix – Water Quality	714-738-2835	WQ Sampling

Table 4- External Regulatory Notification Contacts

Agency	Number	Notes
CA Office of Emergency Services	(800) 852-7550	Obtain a control number and contact name
Regional Water Quality Control Board (RWQCB) Region 8	951-782-4130 RB8SpillReporting@waterboards.ca.gov	Leave a voicemail with date/time. Send follow up email.
Orange County Health Care Agency	714-4333-6000 ehealth@ochca.com	Environmental Compliance
CA Department of Fish and Wildlife- Region 5	865-467-4201 AskR5@wildlife.ca.gov	Guidance for Sensitive Riparian areas

11.0 RECEIVING WATER SAMPLING

WDR General Order 2022-0103-DWQ Section E-1, 2.3

For sewage spills in which an estimated 50,000 gallons or greater are discharged into surface water, the City of Fullerton shall conduct water quality sampling no later than 18 hours after the knowledge of a potential discharge to a surface water. Samples will be collected and preserved by either the Water Quality or Public Works sewer staff, following established field sampling and standard operating procedures.

In addition, the City of Fullerton shall gather information during and after the spill event to assess the spill magnitude and update its notification and estimated spill volume. The water quality sampling results will enable the division to prioritize areas of concern regarding water quality impacts.

A. Spill Assessment

Through visual observation, spill volume-estimating and field calculation techniques, the City of Fullerton shall gather and document the following information for spills discharging into receiving waters:

1. Estimated spill travel time to receiving water; for spills entering a drainage system
    - Estimated travel time from point of entry to point of discharge into receiving water
2. Spill travel time can be calculated by:
    - Travel time based on standard pipe design slope/velocity (2 feet per second, fps)
    - Timed field flow test (water/marker released in clean flowing pipe timed/measured over total distance traveled)
3. Estimated spill volume entering receiving water
4. Photographs:
    - Waterbody bank erosion
    - Floating matter
    - Water surface sheen (potentially from oil and grease)
    - Discoloration of receiving water
    - Impact to the receiving water
    - Other

B. Water Quality Sampling and Analysis

Surface water samples will be collected using a grab sample technique. Employees must wear clean, new nitrile laboratory gloves when collecting all samples.

1. Trigger for Sampling: Water quality sampling is required within 18 hours of initial spill notification for Category 1 spills in which 50,000 gallons or greater are spilled into a surface water.

2. Safety and Access: Water quality sampling should only be performed if it is safe to do so and access is not restricted or unsafe. Unsafe conditions include traffic, heavy rains, slippery or steep creek banks, visibility issues, high-flowing creeks, and limited access due to soil conditions or poor terrain. If access restrictions or unsafe conditions prevent compliance with these monitoring requirements, the City of Fullerton shall provide documentation of the access restriction or safety hazards in the required report.

3. Where to Sample: The City of Fullerton must use the best professional judgement to determine the upstream and downstream distances based on receiving water flow, accessibility to waterbody banks, and size of visible plume. Collect one sample each day for the duration of the spill. In addition, the City of Fullerton shall collect receiving water samples from the following locations.
    - A point in the drainage conveyance system before the flow discharges into the receiving water. Label this sample DCS-001
    - Point of Discharge into the receiving water where sewage initially enters the receiving water. Label this sample RSW-001
    - Upstream Sample – A point in the receiving water upstream of the point of sewage discharge. Label this sample RSW-001U
    - Downstream Sample – A point in the receiving water downstream of the point of discharge where the spill is thoroughly mixed with the receiving water. Label this sample RSW-001D

Determine the water velocity in the stream or body of water during the spill. Dropping debris in the stream and timing how long the debris takes to travel a known distance is a good indicator of the water velocity present. Use this information to determine the next downstream sampling point. Then, multiply the water velocity by the spill duration to determine the furthest point downstream to sample.

C. Required Water Quality Analyses

All samples will be immediately transported to ?? Laboratory for sample analysis. Analysis, at a minimum, will include the following:

1. Ammonia
2. pH
3. Electrical Conductivity
4. Bacterial indicators, such as total and fecal coliform, enterococcus, and e-coli, per the regional Basin Plan or as directed by SWRCB
5. Temperature

D. Equipment and Supplies

The following items and PPE are required for sampling:

1. Cooler with Ice Packs
2. Clean sampling bottles, appropriate for parameters – Coliform samples bottles must be sealed up to the point of sample collection
3. Nitrile gloves
4. Safety glasses
5. Marking pen
6. Field log forms for notes and observations
7. Chain of Custody for lab samples
8. Portable meter, if available, to record Temperature, pH and EC in the field (if a meter is not available, collect samples to be run in laboratory)

E. Sampling Procedures

Put on the required PPE prior to sampling (safety glasses and nitrile gloves)

1. Drainage Conveyances: sample in drainage conveyance system before wastewater source flow discharging into receiving water. Field staff should collect this sample before starting to clean up spill
    - Label this sample DCS-001 and take pictures of sampling location
    - Avoid any debris or scum layer from the drainage system
    - Fill bottle against direction of flow, replace the cap, and secure sample to avoid contamination
    - Use a thermometer to measure sample temperature and record results
2. Receiving Water: sample approximately 100 feet upstream of wastewater source flow
3. Point of Discharge: sample approximately 10 feet downstream of the location where the spill enters the receiving stream.
    - Label the bottle RSW-001 and take a pictures of sampling location.
    - Sample away from the bank and avoid any debris or scum layer from the surface.
    - Fill the bottle against the direction of flow, replace the cap, and secure the sample to avoid contamination.
    - Use a thermometer to measure the temperature, pH and EC of the source sample location and record the results.
4. Downstream Sample**: s**ample approximately 100 feet downstream of the source.
    - Label the bottle RSW-001 and take a pictures of sampling location.
    - Sample away from the bank and avoid any debris or scum layer from the surface.
    - Fill the bottle against the direction of flow, replace the cap, and secure the sample to avoid contamination.
    - Use a thermometer to measure the temperature, pH and EC of the source sample location and record the results.
5. Following Collection: store all samples in a cooler with ice packs until delivered to laboratory and ensure all information is properly completed on Chain of Custody (COC) with signatures for laboratory staff.

12.0 FINAL SPILL VOLUME ESTIMATION

WDR General Order 2022-0103-DWQ Section E-1, 2.3

The final spill volume estimation is critical for CIWQS reporting and determines whether additional reporting to regulatory agencies is required. Additionally, the City of Fullerton shall update its notification and reporting of estimated spill volume, including spill volume recovered, as further information is gathered during and after a spill event. To assess the approximate spill magnitude and spread, the City of Fullerton shall estimate the total spill volume using updated volume estimation techniques, calibration, and documentation for CIWQS reporting.

The City of Fullerton trains on the following methods for volume estimations:

A. Measured Area/Volume

- The spill volume of most small spills that have been contained can be estimated using this method. The shape, dimensions, and depth of the contained wastewater are needed. This information is used to calculate the area and volume of the spills. Measured volume is not an appropriate estimation matrix if the spill occurs during a rain event.

B. Duration and Flow

- The spill volume can be estimated by multiplying the spill duration by the spill rate. The spill rate can be determined by pick hole or vent hole spill height, flow meter data, SCADA information, and pump data from lift stations.

C. Upstream Connections/EDU

- This method can be used for spills from residential properties when enough information has been gathered through interviewing the resident. Be clear with your questions and explanation for the interview. Only interview residents from the household contributing to the spill

13.0 SPILL EVENT DOCUMENTATION

WDR General Order 2022-0103-DWQ SectionD-6, 6.13

During business hours, the Public Works Dispatch staff will receive the call for service and gather caller information. Afterward, they will contact the Sewer Maintenance Department who will dispatch a sewer system operator to assess the call. The City of Fullerton's Police Department Dispatch handles after-hours calls for service. The Dispatcher will gather the caller's details and then reach out to the Night Response Unit, the sanitation crew or standby crew for after-hours assistance. The First Responder will collect information for the service request form and capture all necessary details about the spill event including notes, all times, equipment, and resources used during spill mitigation and closes the service request. This form provides the necessary information for the City of Fullerton to respond to the spill and document its actions.

The First Responder will also fill out the Spill Response Field Form, recording the complete spill event according to the General Order. Upon completion, the First Responder will deliver the Spill Response Field Report, event photos, service request, and any necessary additional forms to the Sewer Supervisor for evaluation. Once the information is reviewed and verified, the Data Submitter submits it on CIWQS for certification.

After reviewing the draft report and the documentation, either the Sewer Supervisor or the Director will certify the spill report in CIWQS. The Sewer Supervisor or designee will create a specific file containing the following information for each spill.

- SPILL Field Report
- CIWQS-certified reports
- All incident correspondence, field notes, and customer interviews.
- Volume estimate calculations of spilled and recovered volumes.
- Appropriate maps showing the spill location, sampling, and signage location if applicable.
- Photographs of spill location.
- Water quality sampling and test results, if relevant.

(For additional references, refer to SERP PART 1 (COMPLIANCE GUIDE).

Attachment 1 —WDR Implementation Guidance (SWRCB)

The SERP implementation guidance provided by the State Water Board in this attachment is designed for helping sewer managers and operators comply with the Reissued WDR (Order No. 2022-0103-DWQ).

Newly-Reissued
Statewide Sanitary Sewer Systems General Order
Effective June 5, 2023

Diana Messina, P.E., Regulatory Manager
State Water Resources Control Board

April 26, 2023 Roseville Training Event

1

Today's Regulatory Presentations

Initial 15 minutes – *Address information overload*

December 2022

- **The State Water Board reissued the Statewide Sanitary Sewer Systems General Order in its entirety**
- **Order becomes effective on June 5, 2023**
  - ***Everything is <u>not</u> due on June 5th***
- **Walk-thru Upcoming Compliance Items for Existing Enrollees**
  - **Due prior to June 5, 2023**
- **Overview of Longer-term Compliance**

Sit back, listen, ask questions, provide your examples.
Copy of presentation will be made available to all attendees

2

Today's Regulatory Presentations

Later Presentation
Get into the weeds with needed clarification

- **"Regulatory Basics"**
- **Overview of the Reissued Order**
  - To understand the high-level changes and increased enforceability
  - To understand the Order Organization - Identifying Critical Sections
- **Why the Spill Emergency Response Plan is a Short-term compliance item?**
- **Examine approaches to the expanded Legally Responsible Official Designation**
- **Open Question and Answer Forum**

Sit back, listen, ask questions, provide your examples.
Copy of presentation will be made available to all attendees

3

Short-Term Compliance Due Dates For Existing Enrollees

April 5 – June 4, 2023 (60-day window)	Item 1: Electronic Continuation of Regulatory Coverage to Reissued Order Current Legally Responsible Official Certifies in California Integrated Water Quality System (CIWQS)
June 5, 2023	Reissued Order is In Effect 2006 and 2013 Orders are rescinded
Due by June 5, 2023	Item 2: Existing SSMP must be uploaded into CIWQS Item 3: Spill Emergency Response Plan must be updated for implementation Item 4: All Spill Reporting per Reissued Order Item 5: Legally Responsible Official per Reissued Order

4

Short Term Compliance

April 5 – June 4, 2023

Item #1: Electronic Continuation of Regulatory Coverage to Reissued Order

IMPORTANT!!!

90 and *60-day Notices issued to all LROs in CIWQS records*

Staff available today to assist an LRO in continuing coverage today!

Please spread the word to other agencies!

If missed:

- *Full loss of regulatory coverage starting June 5th until a full application package is submitted and approved*
- *Potential enforcement for no coverage*
  - *(Note – compliance records are now electronic)*

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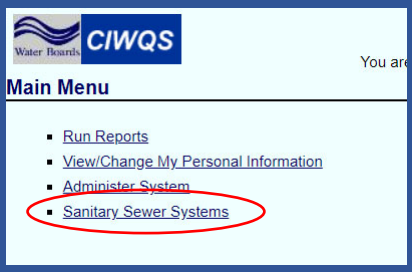
To Certify Continuation of Existing Regulatory Coverage

(Available since April 5th in CIWQS)

Current Legally Responsible Official logs into established CIWQS account



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To Certify Continuation of Existing Regulatory Coverage
(Available since April 5th in CIWQS)

- Collection System Annual Report ?
  Pertinent information regarding your collection system.
- Sewer System Management Plan Update ?
  Certify Sewer System Management Plan completion
- Reporting New Spill ?
  Submit Individual Spill Reports.
- Reporting New Private Lateral Sewage Discharge ?
  Submit Individual Private Lateral Sewage Discharge Reports.

Continuation of Existing Regulatory Coverage Certification
(must be completed by June 4, 2023)

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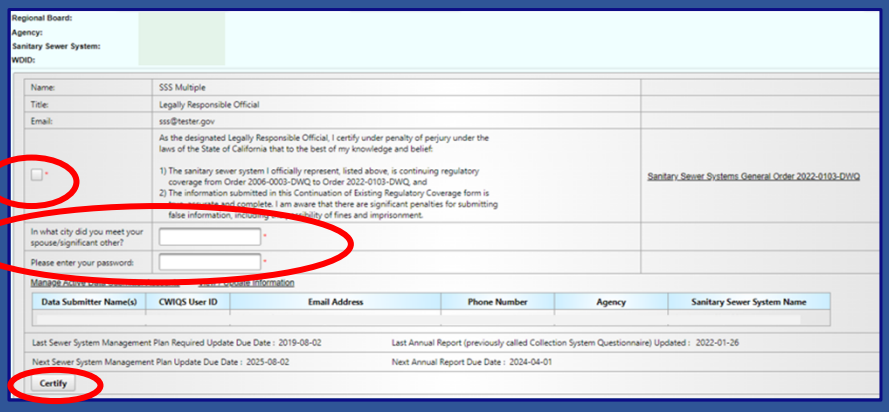
To Certify Continuation of Existing Regulatory Coverage



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Confirmation Message and Email
Continuation of Existing Regulatory Coverage

- Collection System Annual Report ?
  Pertinent information regarding your collection system.
- Sewer System Management Plan Update ?
  Certify Sewer System Management Plan completion
- Reporting New Spill ?
  Submit Individual Spill Reports.
- Reporting New Private Lateral Sewage Discharge ?
  Submit Individual Private Lateral Sewage Discharge Reports.

2023-04-26 10:07:45 [LRO Name] certified that the [Enrollee Name] is continuing regulatory coverage from General Order 2006-0003-DWQ to General Order 2022-0103-DWQ

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Short Term Compliance by June 5, 2023

Item #2: Existing Sewer System Management Plan (aka SSMP) must be uploaded into CIWQS

(If files size too big – insert link to online SSMP)

CALIFORNIA WATER BOARDS
State Water Resources Control Board

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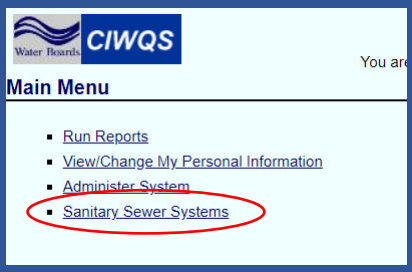
Uploading Existing Sewer System Management Plan
Available since April 5th in CIWQS

Current Legally Responsible Official logs into established CIWQS account



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Upload Existing Sewer System Management Plan documents
Available since April 5th in CIWQS

12

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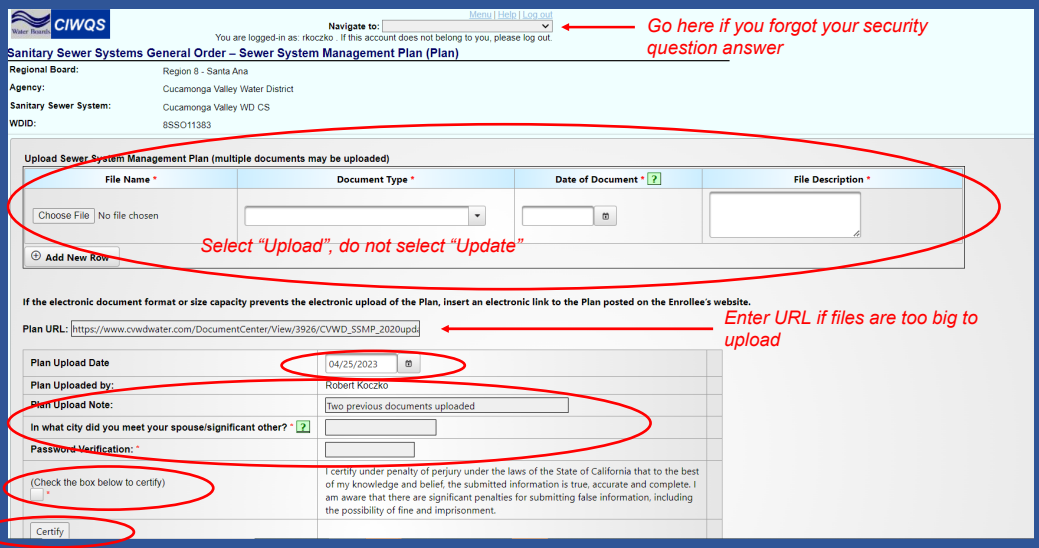
Upload Existing Sewer System Management Plan documents



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Short Term Compliance by June 5, 2023

Item #3: Spill Emergency Response Plan must be updated and implemented

(Not required to be submitted to CIWQS)

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Short Term Compliance by June 5, 2023

Item #4: Legally Responsible Official Designation in CIWQS per expanded qualifications in reissued Order

Questions for Audience

How many LROs here today?

How many LROs have viewed if they meet expanded qualifications in reissued Order?

How many enrollees here have concern that they will not be able to comply with the new LRO qualifications?

15

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Longer Term Compliance

(preparation is key)

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Preparing for Longer-Term Compliance

February 1, 2024 April 1, 2024	Annual Reporting of Cat 4 and Lateral Spills First Annual Report Submittal with 10-year performance graph	• Annual Report replaces existing Questionnaire
2024 or 2025	End of Audit Period Audit Reports due 6 months later	• Audit to identify gaps in SSMP • Audit Report to be Uploaded into CIWQS
July – Dec 2025 2025 or 2026	Service Area Boundary Map Sewer System Management Plan Update	Both to be uploaded into CIWQS Updated Plan w/ additional system-specific elements required in Attachment E

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More Details

In next presentation

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Diving Deeper Into the Newly-Reissued
Statewide Sanitary Sewer Systems General Order
Effective June 5, 2023

Welcome back!
Diana Messina, P.E., Regulatory Manager
State Water Resources Control Board

April 26, 2023 Roseville Training Event

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This Presentations
Get into the weeds with needed clarification

- **"Regulatory Basics"**
- **Overview of the Reissued Order**
  - High-level changes and increased enforceability
  - Navigating through the Order - Identifying Critical Sections
- **Why Spill Emergency Response Plan is a critical Short-term compliance item?**
- **The expanded Legally Responsible Official Designation**
- **Open Question and Answer Forum**

Sit back, listen, ask questions, provide your examples.
Copy of presentation will be made available to all attendees

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Regulatory Basics

The Clean Water Act

The California Water Code

The State Water Resources Control Board

The Nine Regional Water Quality Control Boards

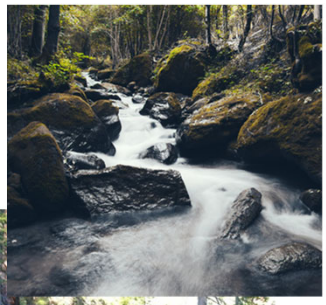
The 1972 Clean Water Act (CWA)

Federal

.

1972 - Congress enacted the Clean Water Act

- *The primary federal law governing water quality*
- *To address pollution in the nation's waters and tributaries.*
- *Prohibits discharge of pollutants to a waters of the United States except as authorized by an NPDES permit*



What is a Water of the United States?

Federal

A surface waterbody with deemed national importance to the United States:

- *Oceans, rivers, streams, lakes, creeks, marshes, wetlands, vernal pools, etc.*
- *Considered "jurisdictional" under the Clean Water Act*
- *In the regulatory jurisdiction of the United States Army Corps of Engineers (USACE)*

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State Water Resources Control Board

Is a Dry Waterbody a Water of the United States?

Federal

Yes. A waterbody that is deemed a water of the U.S. is a water of the U.S. whether or not surface flow exists (surface and subsurface flow)

Many surface waters are hydrologically connected to shallow groundwater

Groundwater feeds surface water when levels are high

Surface water flows feed groundwater when groundwater levels are low

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California Water Code (WC)

State

State regulations that regulates pollution discharges to our Waters of the State.

Surface waters

- *Pacific Ocean*
- *Rivers, streams and creeks*
- *Manmade infrastructure conveying natural flows,*
- *Vernal pools, marshes and wetlands,*
- *Washes and Sloughs*
- *Lagoons and Estuaries*
- *Other*

Waters of the U.S. (federal surface waters) are a subset of Waters of the State

Groundwater

Statewide Sanitary Sewer Systems General Order

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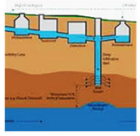
How would a sewage spill enter groundwater?

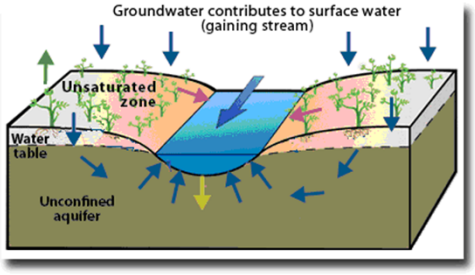
1. Through engineered infrastructure specifically designed to maximize infiltration of stormwater



CALIFORNIA WATER BOARDS State Water Resources Control Board

How would a sewage spill enter groundwater?

2. Through a hydrologically connected surface water body
   - A gaining stream
   - A losing stream



CALIFORNIA WATER BOARDS State Water Resources Control Board

What are the State Water Resources Control Board and Nine Regional Water Quality Control Boards

10 Governor-appointed Boards established by the Water Code

The State Water Board

- Regulates statewide water quality, water rights and drinking water

The Nine Regional Water Boards

- Regulate water quality within own region (primary watershed)
- Enforce State Water Board statewide Orders

Statewide Sanitary Sewer Systems General Order

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Nine Regional Water Quality Control Boards

- Nine Regional Water Boards
  - Regulate water quality within own region (primary watershed)
  - Enforce Statewide Orders and their Regional Water Board Orders
    - Per 2017 State Water Board Enforcement Policy

Statewide Sanitary Sewer Systems General Order 30

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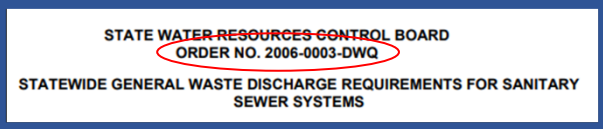
How are Sewage Spills Regulated?

Per Water Code Authority

- State Water Board adopts statewide Waste Discharge Requirements (WDRs or General Order)
- Nine Regional Water Boards enforce the statewide Order
  - In 2006


STATE WATER RESOURCES CONTROL BOARD
ORDER NO. 2006-0003-DWQ

STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR SANITARY SEWER SYSTEMS

Item 8. *It is the State Water Board's intent to gather additional information on the causes and sources of SSOs to augment existing information and to determine the full extent of SSOs and consequent public health and/or environmental impacts occurring in the State.*

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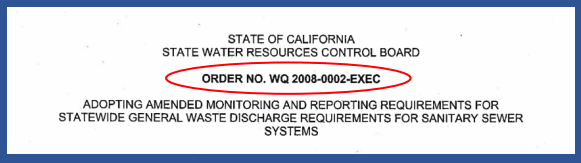
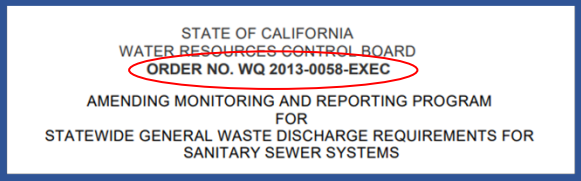
How are Sewage Spills Regulated?

Per Water Code Authority

- In 2008


STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
ORDER NO. WQ 2008-0002-EXEC
ADOPTING AMENDED MONITORING AND REPORTING REQUIREMENTS FOR STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR SANITARY SEWER SYSTEMS

- In 2013


STATE OF CALIFORNIA
WATER RESOURCES CONTROL BOARD
ORDER NO. WQ 2013-0058-EXEC
AMENDING MONITORING AND REPORTING PROGRAM FOR STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS FOR SANITARY SEWER SYSTEMS

Item 10. *Based on over six years of implementation of the SSS WDRs, the State Water Board concludes that the February 20, 2008 MRP must be updated to better advance the SSO Reduction Program objectives, assess compliance, and enforce the requirements of the SSS WDRs.*

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State Water Board *Reissued* the Statewide Order Regulating Sewage Spills

- Dec 2022

STATE WATER RESOURCES CONTROL BOARD
1001 I Street, Sacramento, California 95814
ORDER WQ 2022-0103-DWQ
STATEWIDE WASTE DISCHARGE REQUIREMENTS
GENERAL ORDER FOR SANITARY SEWER SYSTEMS

Section 3. Findings addressing, at minimum:

- Water Code Authority to protect waters of the State and their beneficial uses
- Need for Proactive System Management
- Protection of our Drinking Water Supply
- Climate Change Impacts on Infrastructure and Regulatory Programs
- Human Right to Water for all Californians
- Open and accessible data

Reissued Statewide Waste Discharge Requirements (General Order)

- Dec 2022

STATE WATER RESOURCES CONTROL BOARD
1001 I Street, Sacramento, California 95814
ORDER WQ 2022-0103-DWQ
STATEWIDE WASTE DISCHARGE REQUIREMENTS
GENERAL ORDER FOR SANITARY SEWER SYSTEMS

Continues Existing Regulatory Structure of 2006 Order

- Effective on June 5, 2023
- 2006 and 2013 Orders currently still in effect
- On June 5, 2023:
  - The 2006 and 2013 Orders are rescinded (no longer in effect)
  - Re-issued Order supersedes the 2006 and 2013 Orders

Reissued Statewide Waste Discharge Requirements (General Order)

The reissued Order is not a new Order:

- Continues regulating the same type of public systems plus private systems, as applicable
- Updates the 17-year-old statewide Order to:
  - Clarifies existing Water Code authority:
    - Addresses spills to waters of the State (surface and groundwater)
    - Addresses climate change impacts on a system-specific level
  - Reduces some spill reporting frequencies
  - Extend audit and planning periods

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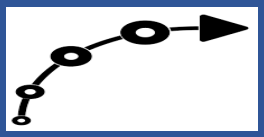
16-year Evolution: 2006 - 2022



Focus of 2006 Order	Expanded Focus of Reissued Order

• Clean Water Act
  • Spills to waters of the United States
• Spill Reports
• Development of a Sewer System Management Plan (SSMP)
	• Clean Water Act and Water Code
	  • Spills to waters of the States (includes waters of the U.S.)
	• Spill Reports
	• Development and effective implementation of SSMP
	• Emphasize on "system-specific"
	• Long-term system resiliency
	• Adaptability of utility management to address changing impacts

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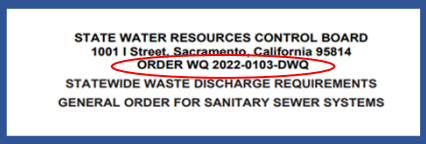
Enhanced Enforceability



Reissued Order requires:

- Full electronic reporting into CIWQS
  - Spill Reports
  - Audit Reports
  - Sewer System Management Plans
- Enhanced Legally Responsible Official qualifications
- Enhanced Penalty of Perjury clause in CIWQS when electronically submitting reports

Regional Boards will have electronic CIWQS reports of non-compliance

Goal – public transparency of sewer system compliance

High-level Order Changes

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High-level *Administrative Changes* in Re-Issued Order

- Structure of Order – One document
- Streamlined transfer of existing Enrollee enrollment
- Expanded scope for regulating privately-owned systems (Regional Boards discretion)
  - Clarification for federally-owned facilities
- Enhanced qualifications for Legally Responsible Official
  - To certify compliance with entire Order

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High-level *Regulatory Changes* in Re-Issued Order

- Clarified definition of "Spill"

  A discharge of sewage from any portion of a sanitary sewer system due to a sanitary sewer system overflow, operational failure, and/or infrastructure failure.

- Clarified prohibition of sewage to a surface water unless properly cleaned up and reported
- Prohibition of sewage to waters of the State (Full implementation of Water Code compared to only waters of the U.S.)

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High-level *System Management* Changes in Re-Issued Order

Additional SSMP Elements

- Emphasis on:
  - Implementation of effective SSMP
  - Effective Emergency Spill Responses to minimize sewage to waters of the State
  - Examination of system-specific climate change impacts to proactively address causes of future spills
  - Problem system areas identified by condition assessment data and previous spill information
  - Further source control for wipes, rags, debri and other causes of blockage
- Prioritization of capital improvement projects based on data from condition assessments, past spills, etc.

Note – SSMP Element subjects did not change
SSMPs do not need to be re-written

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High-level *Notification and Monitoring Changes* in Re-Issued Order

- 2-hour CA Office of Emergency Service notification of Category 1 and 2 Spills (>1000 gallons)
- Water quality monitoring within 18 hours of knowledge of spill
- Enhanced data collection of spill observations
- Clarified receiving water monitoring for >50,000 gallon spills to surface waters
- Use of Environmental Laboratory Accreditation Program (ELAP)-certified lab for sample analysis

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High-level *Reporting Changes* in Re-Issued Order

- Full electronic reporting in CA Integrated Water Quality System (CIWQS) for compliance determination
  - Existing Sanitary Sewer Management Plan
  - Individual spill reports
  - Future Audit Reports
  - Sewer System Management Plan Updates
- Reduced reporting frequency of small spills and of spills from agency-maintained laterals
- Annual Report (in place of questionnaire)
  - Includes system-specific spill performance graphs for Enrollee to report system performance
- Longer periods between audits and sewer system management plan updates

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General Order Organization

Identifying Critical Sections

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General Order Organization

Informational

Sections for information and clarification only

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General Order Organization

Critical sections containing compliance requirements for Enrollees

Important to understand and implement

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For clarification of terms

For quick reference

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Let's look at Section 4. Spill Prohibitions

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Section 4. Prohibitions

4.1. Any sewage discharge that has the potential to discharge to surface waters *unless promptly cleaned up and reported*.

Not all spills violate a Prohibition

An effective Spill Emergency Response and coordination with storm drainage agency:

- May capture and cleans up entire spill –
  - Eliminating a violation of prohibition
  - Eliminating basis for 3rd party CWA lawsuit
- May minimize amount of sewage to receiving water
  - Potential reduction in monitoring and enforcement

Note – a municipal storm conveyance system is (typically) not a surface water

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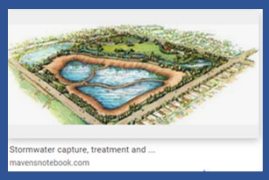
Section 4. Prohibitions

4.2. Any sewage discharge directly or indirectly through a drainage conveyance system or other route, to waters of the State.

Importance of coordination with local storm drainage agency:

- Know where your spill is going
  - Spills to dedicated groundwater recharge is not a violation of Prohibition 4.1
  - Avoid erroneous report of spill as a federal violation
  - Eliminate potential basis for 3rd party CWA lawsuit

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Section 4. Prohibitions

4.3. Any sewage discharge that creates a nuisance or condition of pollution.

See definition in Attachment A

Nuisance: For the purpose of this General Order, a nuisance, as defined in Water Code section 13050(m), is anything that meets all of the following requirements:

- Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property…;
- Affects at the same time an entire community or neighborhood, or any considerable number of persons…;
- Occurs during, or as a result of, the treatment or disposal of wastes.

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Overview of Section 5. Specifications

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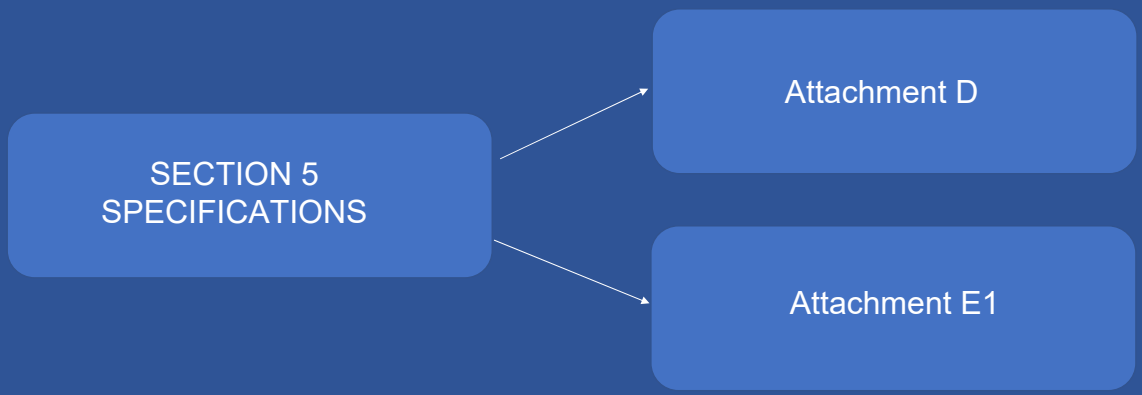
Section 5 – Provides all Requirements

Attachments D and E1 - Provide Requirement Details



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Be very familiar with these sections

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Quick Overview of

Section 5. Specifications

5.1 & 5.8: Designation of a Legally Responsible Official and Data Submitters

5.2 - 5.5: Sewer System Management Plan and Audit requirements

5.6: System Resilience

5.7: Allocation of Resources

5.9: Reporting Certification under penalty of perjury

5.10: System Capacity

5.11: System Performance Analysis (running 10-year)

5.12.: Spill Emergency Response Plan and Remedial Actions

5.13: Spill-specific Notification, Monitoring, Reporting and Recordkeeping Requirements (including Spill Categories)

5.14: Electronic Boundary Map

5.15 - 16: Voluntary Reporting

5.17-10: Other

IMPORTANT!!!

Implementation is "system-specific" (find/count)

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Be familiar with Updated Spill Categories in Section 5.13.

Category 1

Any volume of sewage that discharges to:

- **A surface water**, including a surface water body that contains no flow or volume of water, or
- A drainage conveyance system that discharges to a surface water, when the sewage is not fully captured and returned to the sewer system or disposed of properly.

Category 2

A spill of 1,000 gallons or greater that does not discharge to a surface water.

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Updated Spill Categories in Section 5.13., continued

(Existing Category 3 separated for reduced reporting of small spills)

2006 Order

Category 3

A spill of less than 1000 gallons, that does not discharge to a surface water.

Reissued Order (2022-0103-DWQ)

Category 3

A spill equal to or greater than 50 gallons, and less than 1000 gallons, that does not discharge to a surface water.

Category 4

A spill of less than 50 gallons that does not discharge to a surface water.

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Notifications, Monitoring, Reporting and Recordkeeping Requirements

- Attachment E1: Contains all detailed requirements per Categories
  (fully replaces 2013 Order)
- Attachment E2: Summary of Spill-specific Requirements
- *Five Tables for Quick Reference - with section reference to Attachment E1*

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Back to Short-Term Compliance Due Dates

Upcoming Compliance Dates for Existing Enrollees

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Focus on Short-Term Compliance

April 5 – June 4, 2023 (60-day window)	✓ Item 1: Electronic Continuation of Regulatory Coverage to Reissued Order	Current Legally Responsible Official Certifies in CIWQS
June 5, 2023	Reissued Order is In Effect 2006 and 2013 Orders are rescinded	
Due by June 5, 2023	✓ Item 2: Existing SSMP must be uploaded into CIWQS Item 3: Spill Emergency Response Plan must be updated for implementation Item 4: All Spill Reporting into CIWQS per Reissued Order, Attachment E1 Item 5: Legally Responsible Official per Reissued Order	

Short Term Compliance by June 5, 2023

Item #3: Spill Emergency Response Plan must be updated and implemented

(Not required to be submitted to State Water Board)

Spill Emergency Response Plan

Must be updated annually to address for prompt detection and response to spills

- Notification of primary responders, regulatory agencies and affected entities
- Coordination with storm drain agencies and other utility agencies
  - Spill containment to prevent/minimize discharge to waters of the State
  - Appropriate clean up per drainage agency standards (and per NPDES permit)

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Spill Emergency Response Plan

Must address:

- Notification to CalOES, as applicable
- Spill clean up and documentation
- Monitoring and reporting requirements per Spill Category (Attachment E1)
- Collection of spill information for prevention of future spills
- Post-spill assessment of spill response activities
- Other – See Section 6 of Attachment D

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Why Emergency Response Plan must be Updated Now

(although a part of the SSMP)

- A quick effective response:
  - Can prevent a violation of one or more prohibitions
  - Will reduce spill volume to surface waters
  - May prevent sampling requirements
- Local utility agency coordination is a must-have
  - Immediate access to drainage conveyance system
  - Advanced coordination provides immediate action to block and clean up spill
  - Knowing if drainage leads to groundwater infiltration or retention prevents erroneously Category 1 spill reporting
- Documentation provides defense from a 3rd party lawsuit
  - Sewage discharges to groundwater are not a federal violation
- Have an Environmental Laboratory Accreditation Program (ELAP) laboratory

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Short Term Compliance by June 5, 2023

Item #4: Legally Responsible Official Designation in CIWQS

Attachment A: Definitions

A Legally Responsible Official is an official representative, designated by the Enrollee, with authority to sign and certify submitted information and documents required by this General Order.

- Spill Reports -
- Annual Reports (showing system performance) -
- Audit Reports -
- Sewer System Management Plans -

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State Water Resources Control Board

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Section 5.1: Legally Responsible Official Designation

The Legally Responsible Official must:

- Have the authority to ensure Enrollee complies with the Order
- Serve as the duly authorized representative

The Legally Responsible Official must:

- Have responsibility over management of the Enrollee's entire sanitary sewer system
- Be authorized to make managerial decisions that govern the operation of the system
  - Including implicit or explicit duty of making major capital improvement recommendations to ensure long-term compliance
- Have direct authority over individuals that:
  - Possess a degree or certificate related to operations and maintenance of sanitary sewer systems, and/or
  - Have professional training and experience related to the management of sanitary sewer systems

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Why the Expansion of the Legally Responsible Official Qualifications

Expanded LRO Qualifications		Expanded Focus of Reissued Order (beyond spill reporting)
• Have responsibility over management of the Enrollee's entire sanitary sewer system	→	• Development and effective implementation of SSMP
• Be authorized to make managerial decisions that govern the operation of the system • Including making capital improvement recommendations for long-term compliance	→	• Long-term system resiliency • Adaptability of utility management to address changing impacts
• Have direct authority over degreed, certified, experienced, trained system personnel	→	• Emphasize on "system-specific"

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Why the Expansion of the Legally Responsible Official Qualifications

In Greater Detail

Expanded LRO Qualifications	Expanded Focus of Reissued Order (beyond spill reporting)
• Have responsibility over management of the Enrollee's entire sanitary sewer system	• Examination of annual performance and long term spill trends
• Be authorized to make managerial decisions that govern the operation of the system • Including making capital improvement recommendations for long-term compliance	• Examination of system-specific climate change impacts to proactively address causes of future spills • Address problem system areas identified by condition assessment data and previous spill information
• Have direct authority over degreed, certified, experienced, and trained system personnel	• Prioritization of capital improvement projects based on data from condition assessments, spills • Further source control for wipes, rags, debris and other causes of blockage

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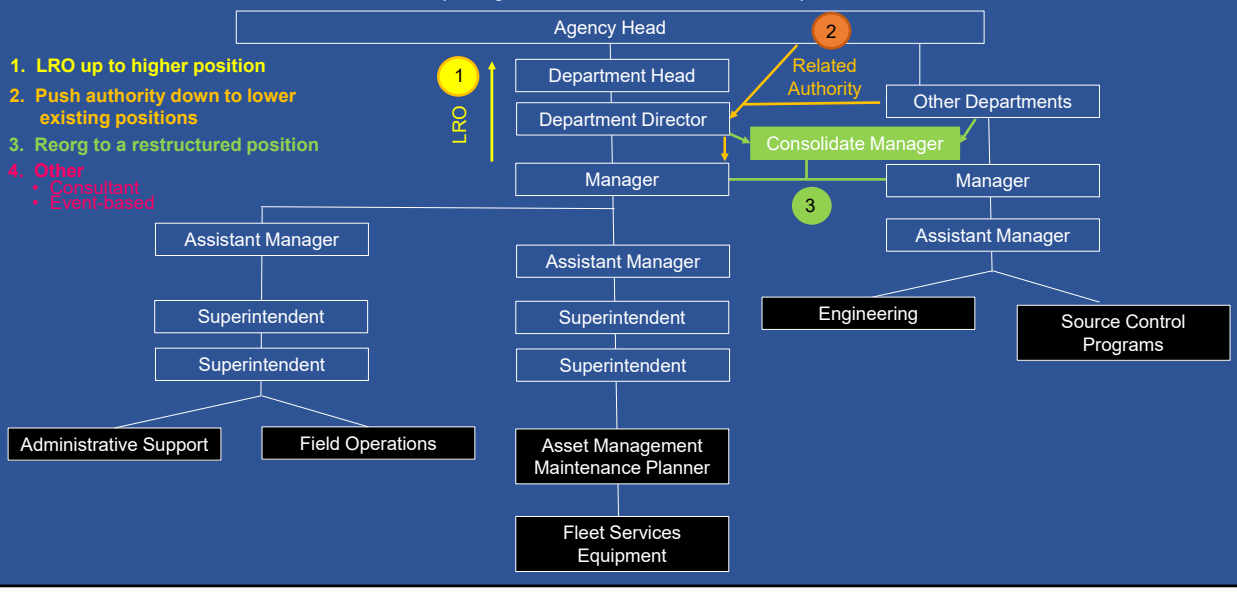
Examining Potential [Regulation-driven] Options for Legally Responsible Official Designation

Example Organizational Chart for Discussion Purposes



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Longer Term Compliance

(preparation needed for upcoming due dates)

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Longer-Term Compliance

February 1, 2024 April 1, 2024	Annual Reporting of Cat 4 and Lateral Spills First Annual Report Submittal	Annual Report replaces Questionnaire
2024 or 2025	End of Audit Period Audit Reports due 6 months later	• Audit to identify gaps in SSMP • Audit Report to be Uploaded into CIWQS
2025 or 2026 July – Dec 2025	Sewer System Management Plan Update Service Area Boundary Map	• Updated Plan w/ additional system-specific elements required in Attachment E • Both to be uploaded into CIWQS

CALIFORNIA WATER BOARDS State Water Resources Control Board

Statewide Sanitary Sewer Systems General Order

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Plan **Audit** Due Dates for Existing Enrollees

Population that Served as Basis for Initial SSMP Due Date	Required Plan Audit Due Dates per Order 2006-0003-DWQ						End of current 3-year Audit period*
> 100,000	5/2/2011	5/2/2013	5/2/2015	5/2/2017	5/2/2019	5/2/2021	5/2/2024
100,000 to 10,000	8/2/2011	8/2/2013	8/2/2015	8/2/2017	8/2/2019	8/2/2021	8/2/2024
10,000 to 2,500	5/2/2012	5/2/2014	5/2/2016	5/2/2018	5/2/2020	5/2/2022	5/2/2025
< 2,500	8/2/2012	8/2/2014	8/2/2016	8/2/2018	8/2/2020	8/2/2022	8/2/2025

** The Audit Report is due within six months after the end of the required 3-year audit period.*

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Sewer System Management Plan Update Due Dates for Existing Enrollees

Population that Served as Basis for Initial SSMP Due Date	Original Required Plan Due Date	Required Plan Update Due Date	Required Plan Update Due Date	Upcoming (6-year) Plan Update Due Date
> 100,000	5/2/2009	5/2/2014	5/2/2019	5/2/2025
100,000 to 10,000	8/2/2009	8/2/2014	8/2/2019	8/2/2025
10,000 to 2,500	5/2/2010	5/2/2015	5/2/2020	5/2/2026
< 2,500	8/2/2010	8/2/2015	8/2/2020	8/2/2026

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Sewer System Management Plan Crosswalk

Attachment D of General Order

Enrollee-specific Audit (2024 or 2025) to identify gaps for Plan Update (2025 or 2026)

Existing General Order	Reissued General Order
1.Goal	1. Sewer System Management Plan Goal and Introduction
2. Organization	2. Organization
3. Legal Authority	3. Legal Authority
4. Operations and Maintenance Program	4. Operation and Maintenance Program
5. Design and Performance Goals	5. Design and Performance Provisions
6. Overflow Emergency Response Plan	6. Spill Emergency Response Plan
7. Fats, Oils, and Grease (FOG) Control Program	7. Sewer Pipe Blockage Control Program
8. System Evaluation and Capacity Assurance Plan	8. System Evaluation, Capacity Assurance and Capital Improvements
9. Monitoring, Measurement, and Program Modifications	9. Monitoring, Measurement and Program Modifications
10. Sewer System Management Plan (SSMP) Program Audits	10. Internal Audits
11. Communication Program	11. Communication Program

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Electronic Service Area Boundary Map

To be submitted between July – Dec 2025

- Detailing the boundary of the Enrollee's service area
- Mapping specifications on State Water Board program webpage by June 5, 2023
- The Legally Responsible Official shall submit the geospatial data:
  - Starting July 1, 2025, and no later than December 31, 2025

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Training and Customer Assistance taking place statewide...

- Water Board staff will continue to assist in professional training of regulations:
  - California Water Environment Association
    - Develop and deliver cost-effective interactive online trainings
  - Order implementation workshops
- Looking to Consultants and Industry associations to
  - Develop guidance documents
  - Conduct Order implementation training events
  - Assist Enrollees to stay in ongoing compliance

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Thank you

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https://www.waterboards.ca.gov/water_issues/programs/sso/

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SanitarySewer@waterboards.ca.gov

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No.	WDR	SERP Key Performance Indicators (KPIs)	Evaluation Frequency	Annual Success Rate (%)
COMPLIANCE POINT #1				
1.1	5.7	Annual Emergency Response Operations Expenditures vs. Budget Amount	Annual	
1.2	5.7	Annual Emergency Response Equipment Expenditures vs. Budget Amount	Annual	
COMPLIANCE POINT #2				
2.1	5.12	SERP Certified in Annual Report is Up to Date	Annual	
2.2	5.12	Annual Review/Assessment of SERP Completed by Required Due Date	Annual	
2.3	5.12	SERP Modifications Documented in Change Log	Each Modification	
2.4	5.12	Spill Volume Recovered and Properly Disposed vs. Total Volume Spilled	Annual	
2.5	ATT D-6	Cat. 1 Spills Prevented Due to Containment Operations vs. all Cat. 1 spills	Annual	
2.6	ATT D-6	Spill Volume Recovered from Drainage Conveyance Systems (DCS) vs. total volume entering DCS	Annual	
2.7	5.13	Response Time Goals Met (Response = Receipt of Call to operator arrival)	Annual	
COMPLIANCE POINT #3				
3.1	5.13	Field Records Match Data Input into CIWQS (each Report)	Annual	
3.2	ATT D-6	Outside Agencies and Internal Contacts Up to Date	Annual	
3.3	ATT D-6	Cat. 1 Spills Requiring Water Quality Monitoring Sampled w/in 18 hours	Each Event	
3.4	ATT D-6	Compliance with Regulatory Reporting and Notification Deadlines	Annual	
3.5	ATT D-6	Field Data Collection Forms Verified for Completeness and Accuracy	Each Event	
3.6	ATT D-6	Spill Notifications from the Public and Remote Sites Functioned as Intended	Annual	

No.	WDR	SERP Key Performance Indicators (KPIs)	Evaluation Schedule	Success Rate (%)
COMPLIANCE POINT #4				
4.1	ATT D-3	Easements Inspected to Ensure Access	Semi Annual	
4.2	ATT D-3	Obtain Easement Access Agreements	Annual	
4.3	ATT D-3	Number of times Easement Access Inhibited Spill Response Activities	Annual	
4.4	ATT D-3	Adherence to Agreed-Upon Coordination/Procedures w/Storm Drain Owner	Each Event	
COMPLIANCE POINT #5				
5.1	ATT D-4	SERP Training and Assessments Performed for all Appropriate Field Staff	Annual	
5.2	ATT D-4	Response Staff Training Records Complete and Up to Date	Annual	
5.3	ATT D-4	Response Staff Participation in Annual Spill Response Drills	Annual	
5.4	ATT D-4	Response Staff Qualified on Response Drill Procedures and Practices	Annual	
5.5	ATT D-4	Equipment Inventory and Critical Spare Parts List Up to Date	Annual	
5.6	ATT D-4	Contractors Trained and Documented in Accordance with SERP	Annual	
COMPLIANCE POINT #6.2				
6.2	ATT D-6	Adherence to SERP for Emergency System Operations/Response Activities	Annual	
COMPLIANCE POINT #6.3				
6.3	ATT D-6	Effective Implementation of Technologies and Inter Agency Coordination	Annual	
6.4	ATT D-6	Effective Implementation of Established Mutual Aid Coordination	Annual	
COMPLIANCE POINT #6.4				
6.5	ATT D-6	Post Spill Assessments Completed for Each Spill Event	Annual	
6.6	ATT D-6	Modifications to SERP Implemented or Scheduled	Annual	

Spill Start Time Estimation Worksheet

Milestones				
Agency Notified	Date:		Time:	☐ AM ☐ PM
Spill First Observed By Caller	Date:		Time:	☐ AM ☐ PM
Caller Observed Not Spilling	Date:		Time:	☐ AM ☐ PM
Spill First Observed by Agency	Date:		Time:	☐ AM ☐ PM
Spill End Time	Date:		Time:	☐ AM ☐ PM

Caller/Witness Description of the Spill

First Responder Description of the Spill

Site Conditions		
Evidence of Solids ☐ YES ☐ NO	Distance Solids Traveled from Spilling Structure:	Feet
Other Observations:		
Spill Rate: GPM	Method to Determine Spill Rate:	

Calculation Sheet (Can Be Used if Volume Can Be Determined without Duration i.e., Measured Volume Method)								
Spill Volume	Gals	÷	Spill Rate	GPM	=	Duration:	Minutes	
Spill End Time	☐ AM ☐ PM	-	Duration	Minutes	=	☐ AM ☐ PM		

Describe How Information Was Used to Establish the Basis for Spill Start Time Estimate
☐ Attachments

Responsible Person			
Estimation Determined By:		Date:	
Spill Event ID (From CIWQS)		Spill Name:	
Start Time: ☐ AM ☐ PM **Date:**			

Spill Start Time Estimation Worksheet

Start Time: The start time is sometimes difficult to establish. Many times, a combination of methods will need to be employed. Here are some approaches:

Nearby Witnesses: Residents and/or witnesses' interviews can be used to establish the start time. Inquire as to their observations. Spills that occur in public rights-of-way (streets, shopping centers, etc.) are usually observed and reported promptly. Spills that occur out of the public view (fields, access roads, etc.) can go on longer.

Observed Spill Rate + Volume: If the spill rate and volume spilled can be reasonably determined, this information can be used to work backwards to better determine the spill start time. Example. If the spill was discovered at 9:00 am, crews determined the spill rate was fl10 GPM and you were able to completely contain and measure the spill, which was 540 gallons. The spill end time was 9:26 am.

540 gals / 10 GPM = 54 minutes. The spill end time was 9:26. Go back 54 minutes from the spill end time and you would arrive at a spill start time of 8:32 am. This assumes that the spill rate was the same throughout the entire spill. You can consider the diurnal flow patterns, if available, and fine-tune the start time.

Telemetry Data: Lift stations and flow recorders utilize SCADA and Manholes and vaults can be monitored using Level Sensors. The data collected by these devices will indicate when flows have changed due to a blockage. A blockage upstream or downstream of a flow recorder will cause measured flows to increase or decrease. A blockage upstream of a lift station will reduce the flows into the station and cause the pumps to run less frequently. Comparing typical daily flows to the change in flows due to a blockage can help to determine spill start time.

Site Conditions: Conditions at the spill site change over time. Initially there will be limited deposits of toilet paper and other sewage solids. As time goes on, sewage solids turn black and cause staining. The quantity of toilet paper and other materials of sewage origin increase over time. The sewer solids/tissue paper will dry over time. These observations can be used to help estimate the start time and to support assumptions. Taking photographs to document the observations can be helpful if questions arise later in the process. In addition, A low spill rate and a large amount of sewage spilled might indicate a longer duration.

Accounting for Flow Variation: It is important to remember that spills may not be continuous. Blockages are not usually complete (some flow continues). Refer to agency diurnal flow patterns for typical flow variations. Response personnel should open the first manhole downstream from the blockage and, if flow is observed, measure, document and take pictures.

Spills that occur due to peak flows in excess of capacity will occur only during, and for a short period after, heavy rainfall. Use available rainfall data as appropriate.

Interviews: Interview the caller and ask, "when did you first observe the spill." Also ask "can you recall the last time you observed it was not spilling." This will help you to establish a Start Time window. "…I first noticed the spill at 8:20 am. Last night when I came home from dinner at 7:30 pm last night it was not spilling." This information in conjunction with spill volume, spill rate, site data, personal experience, etc. can help to make the best estimation under the circumstance.

Is it Reasonable: When you believe you have done all you can and you have reached a conclusion, ask yourself "… is it reasonable to believe this spill began at (time) based on all the other evidence.

End Time: The end time is usually much easier to establish. Once the sewage is contained in the system (e.g., in the manhole, wet well, clean out, etc. the spill has ended.

Duration and Flow Rate Worksheet

Table A		
Spill Start Time (See Spill Start Time Estimation Worksheet)	1	Date/Time:
Spill End Time (See Spill Response Field Report, Page 4)	2	Date/Time:
Duration (Subtract 1 from 2)	3	Minutes
Spill Rate	4	GPM
Total Volume (Multiply #3 x #4)	5	**Gallons**

Required Photo & Video	
☐ Photo of Spilling Structure Attached	☐ 10-Second Video of Spilling Structure on File

Method to Determine Spill Rate	
☐ Flow Monitoring	☐ Single Family Home Flow Chart
☐ Spill Rate Calculator	☐ Photo Comparison
☐ Visual Method (Only for Low Spill Rates ≤ 10 Gallons)	
☐ Other:	
Notes:	
☐ Attach Calculation Worksheets	

Responsible Person			
Estimation Determined By:		Date:	
Spill Event ID (From CIWQS)		Spill Name:	

Measured Volume Spill Estimation Worksheet

Spill Event ID (from CIWQS) _____ Spill Name: _____

* Depths: Asphalt = 0.0013′ Concrete = 0.0026′ Ponding = Average Measured Depth

Table A

Area ID	Surface	Length	x	Width	x	% Wet	Depth*	=	Volume (c.f.)
			x		x			=	
			x		x			=	
			x		x			=	
			x		x			=	
			x		x			=	

☐ Attach Photo(s) of Wetted Perimeter (Spill Footprint) Total Volume:

Table B

Total Volume:		**x**	**7.48 (Gallons/Cubic Foot)**	**=**		**Gallons**

Completed By: _____ Date: _____/_____/_____

Measured Volume Spill Estimation Worksheet

This method can be used when:

- The limits of the wetted area can be determined.
- The surfaces are dry prior to the spill.
- Sewage has left a wet stain on hard surfaces.
- Sewage has ponded and the depth can be measured.
- Sewage is contained in a structure like a storm drain or vault.

The Procedure on hard surfaces:

Step 1. **Sketch the perimeter of the spill/wetted area.**

Step 2. **Identify the surface type.**

i. Determine the depth of the wet area.

Step 3. **Break down the wetted area into shapes using rectangles and/or squares.**

i. Use cones to mark the corners of the shape.

a. This improves measurements.

b. Helps ensure all portions of the wetted area are measured.

c. Helps ensure the same area is not measured twice.

Step 4. **Label Each Shape (This is the Area ID)**

i. Use Letters so they are not confused with the measured dimensions.

Step 5. **Measure each shape.**

Step 6. **Estimate the percentage of the shape that is wet.**

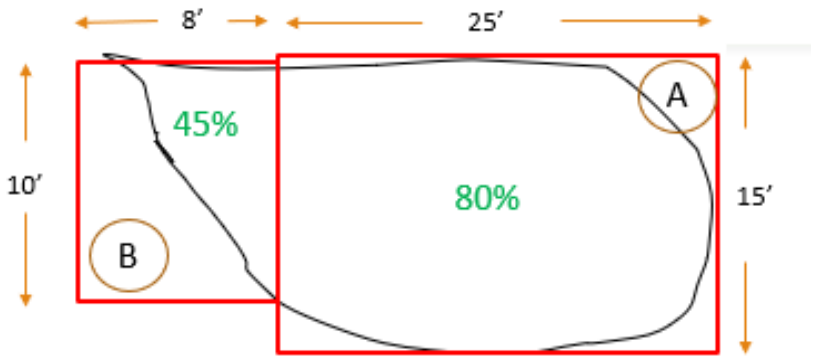
Step 7. **Complete Table A**

i. Transfer Total Volume to Table B

Step 8. **Complete Table B**

Step 9. **Sign and date to indicate who completed the form.**

Example



Upstream Connections Spill Volume Estimation Method

NOTES:

- A Single-Family Residential Unit is One Equivalent Dwelling Unit (EDU)
- This Method Can Be used for a Single Home/Building or Multiple Homes/Buildings

Procedure:

Step 1: Determine the Location of the Blockage

i. This May Require CCTV Inspection

(values in highlighted cells are established by the agency)

Step 2: Determine the Use Type for Each Connection

i. Single Family Residential (1 EDU)
ii. Multi-Family Residential (1 EDU for each Residence)
iii. Commercial/Industrial (# of EDU's Per Agency Records)

Step 3: Count the Number of Connections Upstream from the Blockage

i. If a Building is Known to Be Vacant, Do Not Include It

Step 4: Determine the Number of EDUs for each Use Type (Enter into Table A)

Step 5: Determine Duration of the Spill (Difference Between Start Time and End Time)

i. In Table B, Column E, Enter the Time the Spill Was Active for that Time Period
ii. Multiply Column D x Column E and Enter into In Table B, Column F,
iii. Total Column F for all Time Periods

Table A	
Use Type	**EDU**
Single Family Residential	
Multi-Family Residential	
Commercial/Industrial	
Total EDU's	

Table B	Estimated Flow Rate Per EDU (190 gpd)				Spill	
	A	B	C	D	E	F
Time Period	Gallons Per Period	Hours Per Period	A÷B = Gals. Per Hour	C÷60 = Gals. Per Min.	Minutes Spill Was Active	D x E= Gallons Spilled Per Period
6am -Noon	75	6	12.5	.21		
Noon – 6pm	55	6	9.16	.15		
6pm - Midnight	50	6	8.33	.14		
Midnight -6am	10	6	1.67	.03		
Total Estimated Spill Volume per EDU:					(G)	

Table C				Calculation				
Spill Volume/EDU:		Gals.	x	# of EDU's		=	Est. Spill Volume		Gals.
(from Table B, Cell G)				(from Table A)				

Sewer Spill Response Evaluation Worksheet

Spill Event ID: _____ **Spill Event Name:** _____

1. Notification and Communication Procedures

a. Were notification procedures adhered to? ☐ Yes ☐ No

b. Were notification procedures effective? ☐ Yes ☐ No

2. Response Procedures

a. Were response time goals met? ☐ Yes ☐ No

b. Were safety procedures adhered to? ☐ Yes ☐ No

c. Were safety procedures effective? ☐ Yes ☐ No

d. Were initial response procedures adhered to? ☐ Yes ☐ No

Sewer Spill Response Evaluation Worksheet

2. Response Procedures

e. Were initial response procedures effective? ☐ Yes ☐ No

f. Were containment procedures adhered to? ☐ Yes ☐ No

g. Were containment procedures effective? ☐ Yes ☐ No

h. Were clean up and recovery procedures adhered to? ☐ Yes ☐ No

i. Were clean up and recovery procedures effective? ☐ Yes ☐ No

j. Were Sewer Back up procedures adhered to? ☐ Yes ☐ No ☐ N/A

Sewer Spill Response Evaluation Worksheet

2. Response Procedures

k. Were Sewer Back up procedures effective? ☐ Yes ☐ No ☐ N/A

l. Were coordination procedures with Storm Drain Owner/Department adhered to? ☐ Yes ☐ No ☐ N/A

m. Were coordination procedures with Storm Drain Owner/Department effective? ☐ Yes ☐ No ☐ N/A

3. Reporting and Notification Procedures

a. Were reporting and notification timeline requirements met? ☐ Yes ☐ No

4. Documentation

a. Was Spill file created? ☐ Yes ☐ No

Sewer Spill Response Evaluation Worksheet

4. Documentation

b. Was field data verified and does it match CIWQS Records? ☐ Yes ☐ No

c. Was Failure Analysis Performed? ☐ Yes ☐ No

a. Were Any Corrective Actions Implemented as a Result? ☐ Yes ☐ No

5. Recommended Changes: ☐ N/A

Sewer Spill Response Evaluation Worksheet

Attendees:

Facilitated by:

	Date / /

Training Record

Notification and Communication Procedures

Trainer: ..... Trainer Position/Company: .....

Training Location/Environment: .....

Basis for Training & Materials Used:

1.	2.
3.	4.
Comments:	
(Basis Examples: SOP, Power Point, Manufacturer's Recommendations, on-the-job-training. Reference Title when applicable)	
Training Description	Attachments: ☐

(Describe in detail what training entailed)

Training Method: (Check all that apply) Attachments ☐

☐ Classroom/Instructor ☐ Breakout Sessions ☐ Tabletop Exercise ☐ Drill ☐ Hands-on

☐ Coaching/Mentoring ☐ Role Playing ☐ Computerized/on-line Training

☐ Other: _____

Method to Qualify Trainees: (Check all that apply) Attachments ☐

☐ Exam/Quiz ☐ Assessment of Ability ☐ Attendance/Participation

☐ Other: _____

(Maintain Qualifying Records with Training Records)

Trainer Signature: _____ Date: _____/_____/_____

Length of Training (Time) _____ hours

Training Record

Signature Sheet

Trainee Name (Print)	Signature	Qualified	Qualified By (initials)
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	

Training Record

Trainee Name (Print)	Signature	Qualified	Qualified By (initials)
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	
		☐ Yes ☐ No	

Cleaning Services Declination Waiver

Customer Name:			
Customer Address:			
Customer Phone:	(H)	(W)	(C)

On (date) _____ at (*time*): _____ approximately _____gallons of (*check one*):

☐ Sewage ☐ Grey Water ☐ Toilet Bowl Water ☐ odor ☐other

Overflowed from/odor emanating from:

☐ Toilet ☐ Shower/Tub ☐ Toilet Bowl Water ☐ Washer ☐other

☐ Other (*specify*): _____

The overflow affected the following area:

☐ Bathroom ☐ Hallway ☐ Kitchen ☐ Dining Room ☐ Living Room ☐ Crawlspace

☐ Other (*specify*): _____

The overflow affected the following materials:

☐ Tile ☐ Linoleum ☐ Carpet ☐ Wood Flooring ☐ Area Rugs

☐ Towels ☐ Clothing ☐ Other (*specify*): _____

Photos were/were not taken (*circle one*): _____ # of photos taken.

This Form Completed By: _____ Date & Time: _____

I/We acknowledge that _____(AGENCY) has offered to provide professional cleaning and decontamination services to remediate the sewage backup and/or overflow described above and that I/We declined the offer. I/We further understand and acknowledge that because I/We have declined the AGENCY's offer of assistance, the AGENCY will not be responsible for any necessary remediation activities and will not be responsible for any expenses incurred as a result of this incident.
I/We understand that by signing this form, I/We hereby waive any and all claims I may have against the AGENCY as a result of the sewage backup and/or overflow described above.
The information above was explained to the customer by (*please print*):

Employee Signature: _____ Title: _____

Customer Signature: _____ Date: _____

Equipment Inventory – Critical Spare Parts List

Agency shall Maintain an inventory of sewer system equipment, including the identification of critical replacement and spare parts.

[1] If an Item can be used at Lift Stations (i.e., pump, portable generator, relay, etc.) list stations that item can be used.

Critical?	Item ID (If Applicable)	Item Description	Manufacturer	Qty	[1] Lift Station Compatibility (List Stations Item Can Be Used)	Storage Location
☐						
☐						
☐						
☐						
☐						
☐						
☐						
☐						
☐						
☐						
☐						
☐						
☐						

Equipment Inventory – Critical Spare Parts List

Critical?	Item ID (If Applicable)	Item Description	Manufacturer	Qty	[1] Lift Station Compatibility (List Stations Item Can Be Used)	Storage Location
☐						
☐						
☐						
☐						
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☐						

Spill Data and Trends Worksheet

Asset ID	Spill Date	Spill Category	Age	Pipe Material	Dia.	Spill Cause	Cause Location	Repeat Location	Notification Category	Response Time (min)	Response Goal (min)	Response Outcome	Volume Spilled	Volume Recovered	% Recovered	2-Hour Notification Met?

Attachment 12a (Cal-OES Notification Log)

(WDR - E1, Sections 1.1, 1.2 and 1.3 Notification Requirements and 4.3 Spill Reports)

"…Shall Provide the following spill information to the Cal-OES before receiving a Control Number, as applicable:"

Name of Agency Responsible for the Spill: _____

Person Notifying Cal-OES: Name: _____ Phone: _____

Notification Time: _____ ☐ AM ☐ PM Date: _____/_____/_____

When was Agency Informed of the Spill? Time: _____ ☐ AM ☐ PM Date: _____/_____/_____

This is Internal Documentation and Does Not Have to be Reported to Cal-OES

Was 2-Hour Notification Delayed Because it would have Substantially Impeded Response Efforts? ☐ *Yes* ☐ *No*

Explain Reason(s) for Delay: _____

_____ ☐ *N/A*

Estimated: Spill Volume: _____ Gals. Spill Rate: _____ GPM Volume Contained: _____ Gals.

Estimated Spill Rate Directly or Indirectly to Waters of the State: _____ GPM ☐ N/A

Name of Water Body Receiving or Potentially Receiving Discharge: _____

Description of Water Body Impact and/or Potential Impact to Beneficial Uses: _____

_____

Spill Incident Description: _____

_____

Spill Location: City: _____ Address/Street Number: _____

Street: _____ Cross Street or Landmark: _____

Contact Person on Scene: Name: _____ Phone: _____

Spill Cause or Suspected Cause: _____ ☐ Unknown

Name of Cal-OES Representative: _____ **Control Number:** _____

Attachment 12a (Cal-OES Notification Log)

(WDR - E1, Sections 1.1, 1.2 and 1.3 Notification Requirements and 4.3 Spill Reports)

"…Shall Provide the following spill information to the Cal-OES before receiving a Control Number, as applicable:"

Notification of Spill Report Updates After Initial Notification

Updated: Date: _____/_____/_____ By: _____

- Discharge Volume (Increase or Decrease): _____
- Volume Discharged to Surface Water (Increase or Decrease): _____
- Additional Impacts to surface water and Beneficial Uses: _____

_____

_____

_____

Attachment 12b (FAILURE ANALYSIS AND CORRECTIVE ACTIONS)

Failure Analysis (To be completed by Supervisor)

Spill Name or Location Description: _____ Spill Date: _____/_____/_____

Failure Point Asset ID: _____ Age of Asset: _____ Years

Asset Type: ☐ Gravity Main ☐ Lateral ☐ Manhole ☐ Force Main ☐ Lift Station ☐ Siphon

☐ Other: _____

Cause of Spill: _____

_____

☐ Spill Cause Verified by CCTV Inspection (Attach TV Report to this form) ☐ N/A

Maintenance Activities Prior to Failure:

Last Cleaned Date: _____/_____/_____ Last Inspected Date: _____/_____/_____

Last Maintenance Date: _____/_____/_____

☐ Any Open Work Orders for Asset? Describe: _____

Describe if it Contributed to the failure: _____

_____

Has a Spill Occurred at this Same Location in the Past? ☐ Yes ☐ No If YES, Date: _____/_____/_____

Corrective Actions (To be completed by Supervisor)

Follow-Up or Corrective Action Taken to Prevent Recurrence (Select All that Apply):

☐ Place on Scheduled PM ☐ Adjust Scheduled PM Interval ☐ Provide More Training

☐ Perform Scheduled Repair ☐ Perform Immediate Repair ☐ Perform Targeted Outreach

☐ Other: _____

List Work Order Numbers: _____ ☐ N/A

Comments: _____

_____

Attachment 12c (Spill Event Interview Script)

Name of Person Being Interviewed: _____ Date: _____/_____/_____

Interviewed By: _____ Title: _____

Spill Name or Location Description: _____

1. When did you first observe the Spill? _____: _____ ☐ AM ☐ PM Date: ____/_____/_____

   Response:

   _____

2. Is it currently spilling? ☐ Yes ☐ No If YES, How Would You Describe the Spill?

   Interview Prompt: (Is it Trickling, or more like a garden hose running full?)

   Response:

   _____

3. Can you recall a time prior to seeing the spill when you observed it was not spilling?

   Response:

   _____

4. Can you describe where the spill is coming from?

   Interview Prompt: (*Cleanouts are the size of dinner plate; manholes are the size of car wheels)*

   Response:

   _____

5. Can you describe the size of the wetted area?

   Interview Prompt: (Compared to the Size of your driveway)

   Response:

   _____

6. Do you know if the Spill has reached a water way, storm drain, or gutter? ☐ Yes ☐ No

   Response:

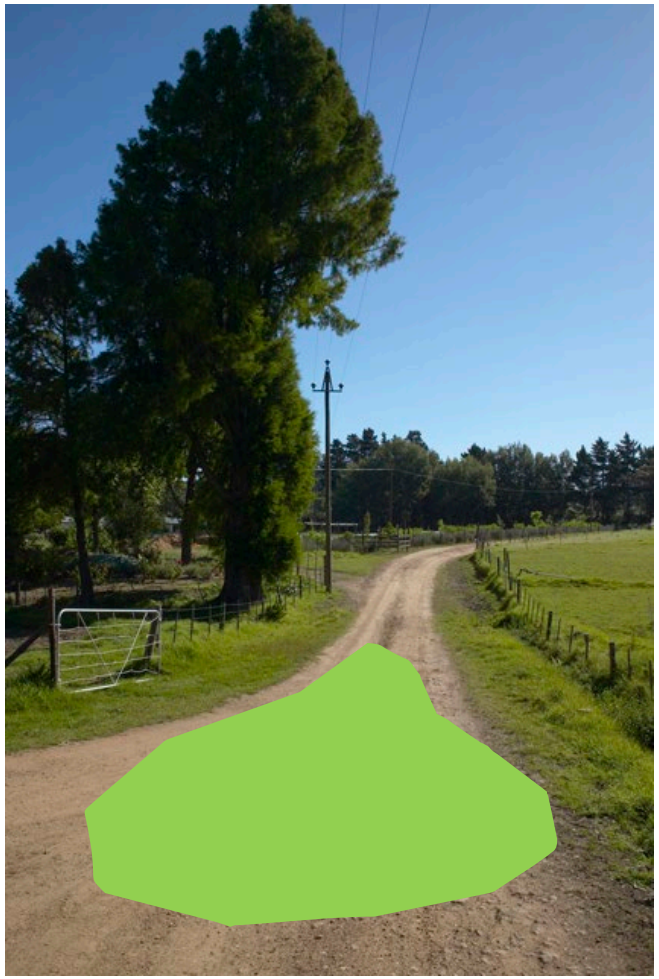
   _____

   NOTES: _____

SPILL CONTAINED ON SOIL

You can Measure the Area, but…

How Much of the Sewage
Soaked into the Ground?



APPLYING THIS METHOD

1. Conditions Must Be Dry
   a. No Recent Rain
   b. No Irrigation perimeter
2. The Edges of the Wetted Area Must Be Visible

STEP 1

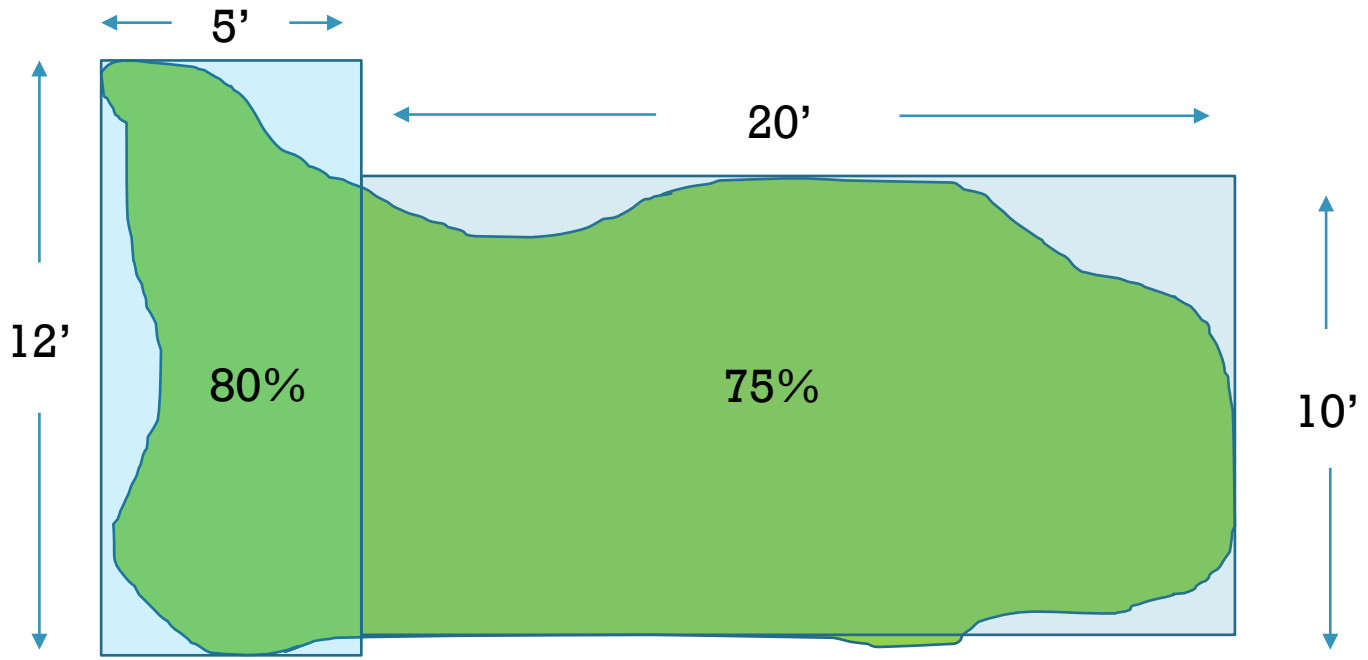
1. Measure the wetted area (Measured Volume Method)

2. Dig down to dry soil in several places within the wetted area to get average depth of wetted soil.

3. Determine Volume of wetted soil.

Step 1 – Determine the "AREA" of the Wetted Soil

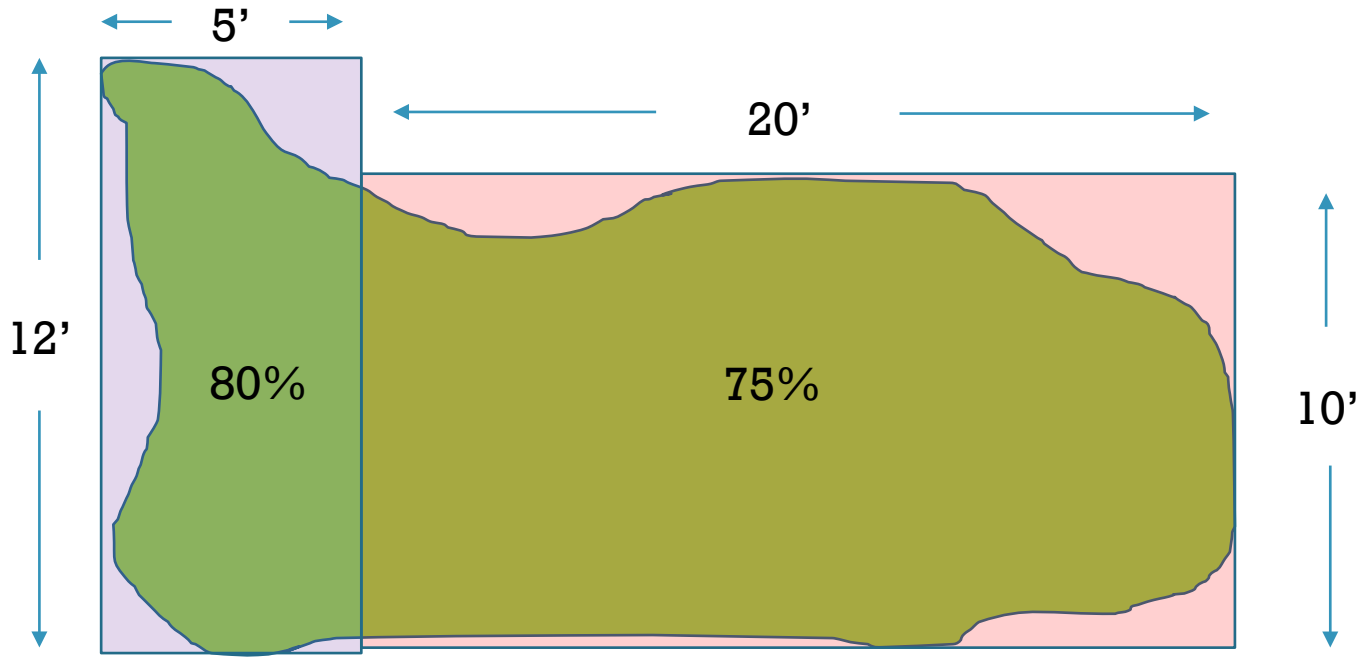
Measured Area / Volume Method



1. It is Difficult to Determine the Area of an Irregular Shape
2. Enclose the Wetted Area in a Measurable Shape (i.e., Rectangle or Square)
3. Measure the Shape
4. Estimate the Percent of the Wetted Area Inside the Shape

Step 1 – Determine the "AREA" of the Wetted Soil

Formula: Length x Width = Area



12 x 5 x 0.80 = 48 SF

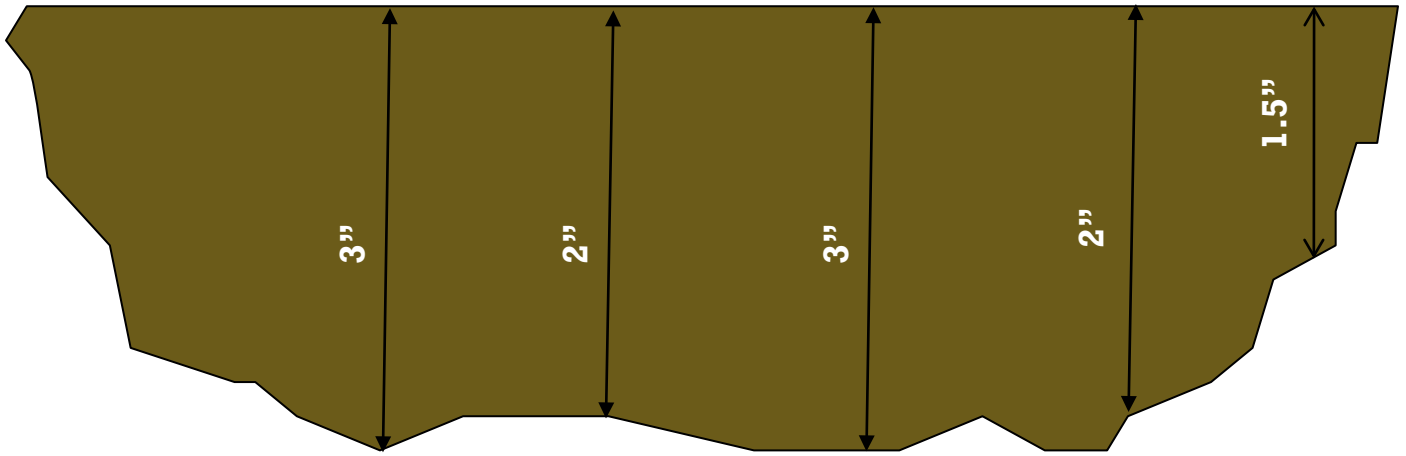
20 x 10 x 0.75 = 150 SF

48 SF + 150 SF = 198 SF

Now We Know the "Area"

Step 2 – Determine the "Depth" of the Wetted Soil

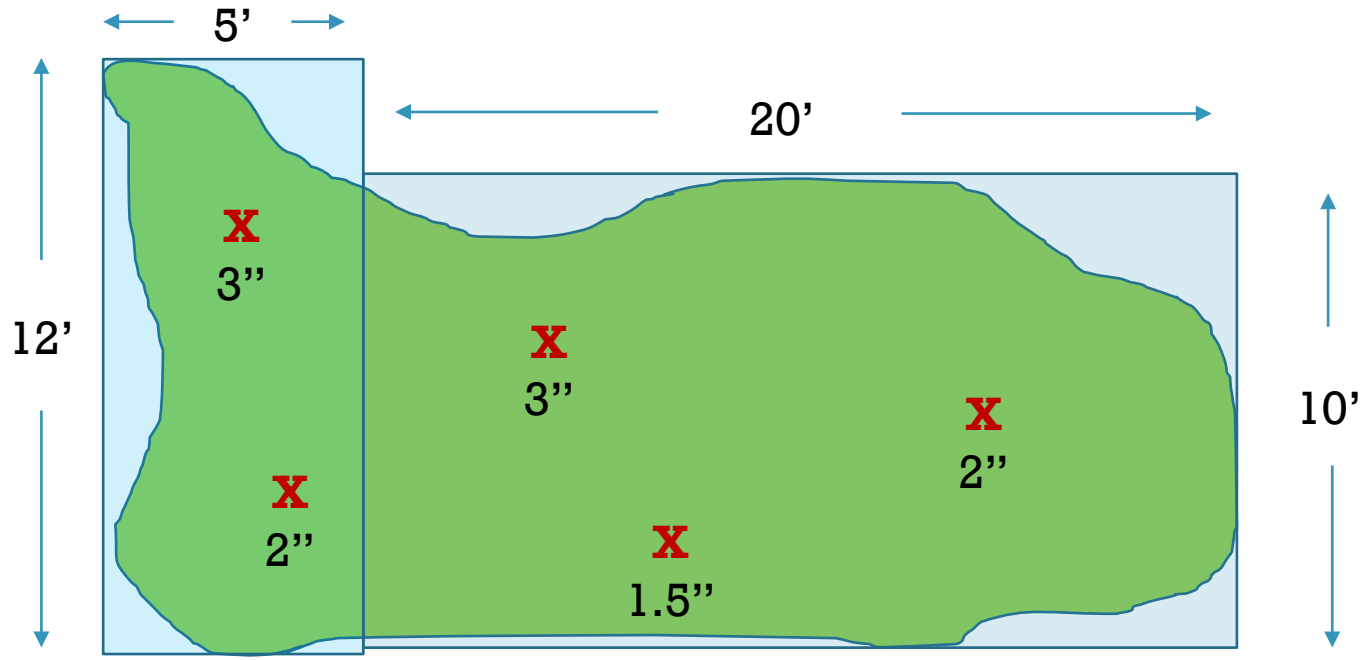
Average Depth of Wetted Soil



3" + 2" + 3" + 2" + 1.5" = **11.5"**. 11.5" / 5 = **2.3"** average depth (or 0.19')

1. Measure the Depth of the Wetted Soil by digging down until dry soil is found.
2. Do This in Enough Places to Get a Representative Sample of the Depth.
3. Average the Measurements Taken to Arrive at the Average Depths of Wetted Soil.

Step 3 – Determine the "Volume" of the Wetted Soil



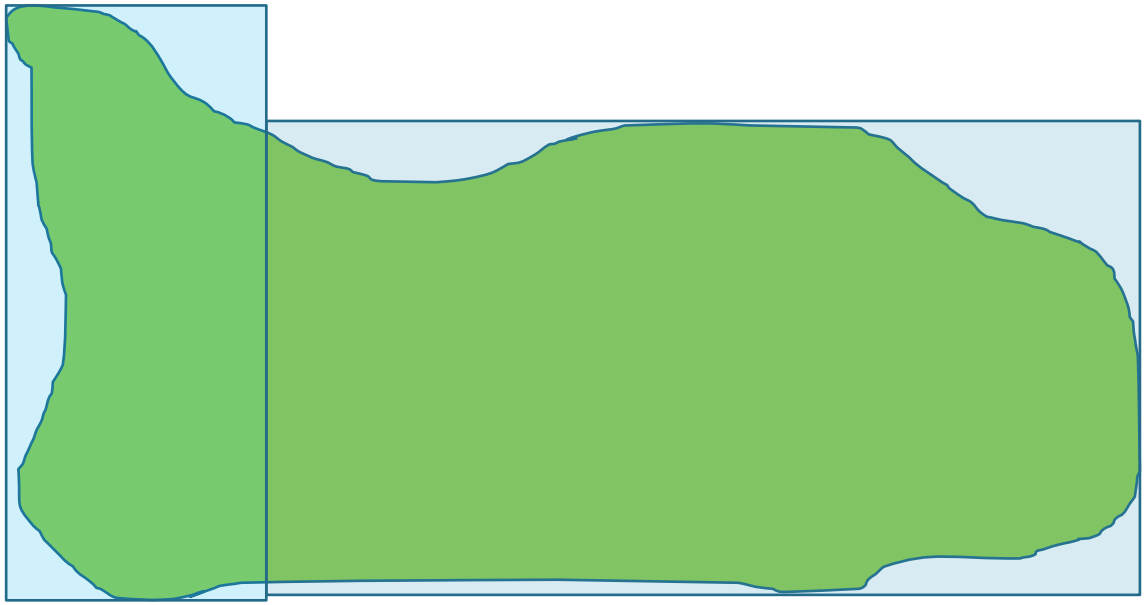
Average Depth: 3" + 2" + 3" + 1.5" + 2" = 11.5 / 5 = **2.3"**

48 SF + 150 SF = 198 SF x 0.19' = 37.6 CF

37.6 CF x 7.48 = **282 gallons of wetted soil**

Now We Have to Figure Out the Water Content because some of the Volume is Dirt

Next – Take a Representative Soil Sample



Samplin
g
Location

Take a Sample of the Soil

(Near the Affected Area)

DETERMINE WATER CONTENT IN SOIL

Needed – A Form and a Known Amount of Water

Soil Sample Step 1

POUR ONE GALLON INTO THE (24”) DIA. FORM

(or some known amount)

Any Form can be Used

Give it time to soak in…

Soil Sample Step 2

Get Representative samples of the depth of the wetted soil inside the form.

Usually, three samples or more depending on the size of the form.

Soil Sample Step 3

MEASURED DEPTH OF WETTED SOIL

Three Samples – Determined 2.25” Average Depth of Wet Soil

Soil Sample Step 4

CALCULATED VOLUME OF WETTED SOIL

Formula: Diameter Squared x 0.785 x Depth = Cubic Feet

Ring/Form is 2' Diameter

Measured Average Depth is 2.25" (0.188')

2' x 2' x 0.785 x 0.188 = 0.59 C.F.

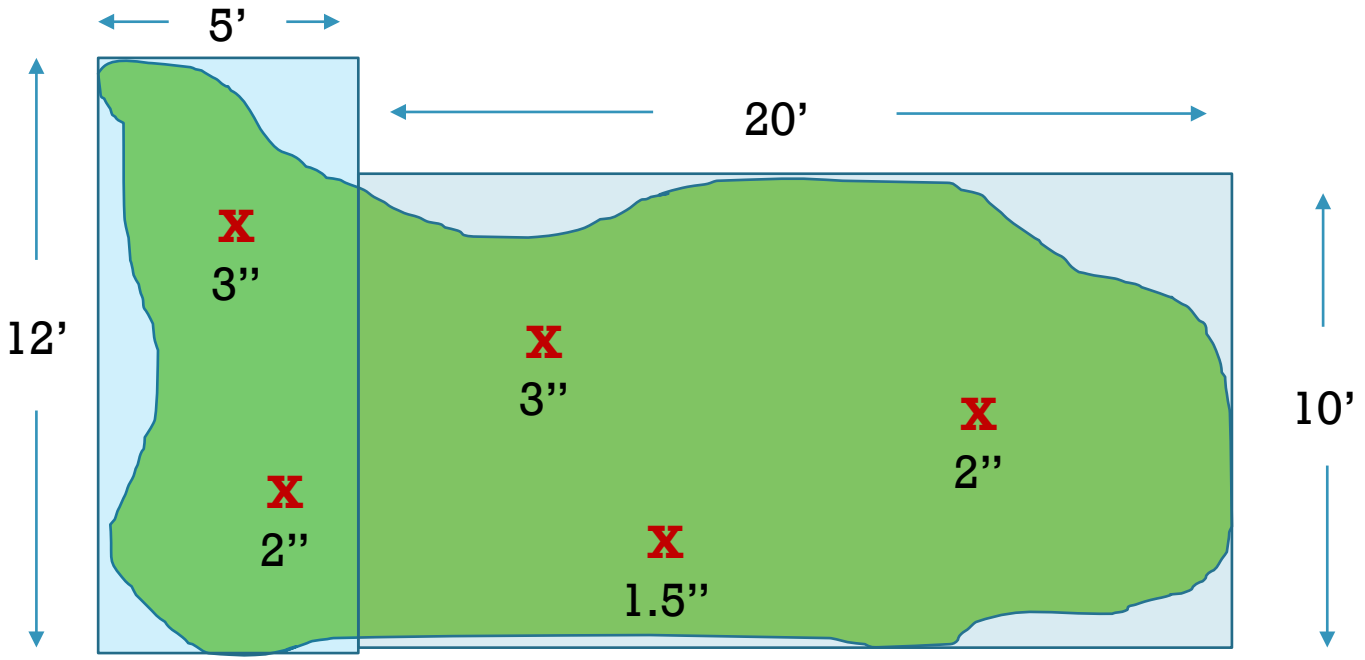
0.59 C.F. x 7.48 gallons = 4.4 gallons of wetted soil

We Know 1 Gallon of water was poured into the ring…

1 Gallon / 4.4 gallons = 23.0%

So, the water content is 23%

Soil Sample Step 5



37.6 CF x 7.48 = 282 gallons of wetted soil

282 gallons x 0.23 = 65 gallons spilled

Attachment 12e (Spill Equivalents Conversions Formulas)

EQUIVALENTS:

Values, numbers, quantities which are the same.

- 12 Inches = 1 Foot
- 60 Seconds = 1 Minute
- 60 Minutes = 1 Hour
- 24 hours = 1 Day
- 1440 minutes = 1 Day
- 7.48 Gallons = 1 Cubic foot

Quick Reference **Conversion**		
Inch	to	Feet
1/8”	=	0.01’
1/4”	=	0.02’
3/8”	=	0.03’
1/2”	=	0.04’
5/8”	=	0.05’
3/4”	=	0.06’
7/8”	=	0.07’
1”	=	0.08’
2”	=	0.17’
3”	=	0.25’
4”	=	0.33’
5”	=	0.42’
6”	=	0.50’
7”	=	0.58’
8”	=	0.67’
9”	=	0.75’
10”	=	0.83’
11”	=	0.92’
12”	=	1.00’

CONVERSIONS

Changing from one unit of measure to another.

When using formulas, units of measurement must be the same.

- Convert Inches to Feet: Divide the inches by 12.
  - Example: 39” ÷ 12 = 3.25 feet.
- Convert cubic feet to gallons: Multiply cubic feet by 7.48.
  - Example: 8 cubic feet x 7.48 = 59.8 gallons

TO AVERAGE NUMBERS

The find the average of a group of numbers, add the numbers together, then divide by the number of numbers that were added.

- Example: 12 + 21 + 33 + 18 = 84 (four numbers totaling 84)
  - 84 ÷ 4 = 21 (average)

TO SQUARE A NUMBER

To Square a number, multiply the number by itself.

- Example: 7^2 is 49 (7 x 7 = 49)

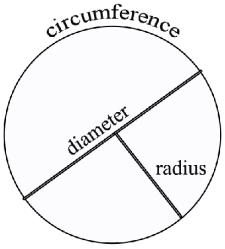
TERMS TO BE FAMILIAR WITH

Radius: Represented by r, is the distance from the center of a circle to any point on its edge.

Diameter: Represented by D, is a straight line passing from side to side through the Center of a circle.

- The Diameter is twice as long as the radius, or radius is ½ of the Diameter.

Circumference: Represented by C, is the distance around a circle (the perimeter)



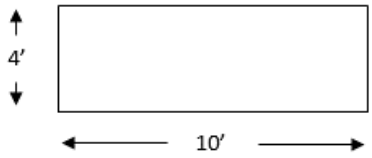
Pi**:** Represented by π, is the ratio of a circle's circumference to its diameter and is equal to 3.14

AREA

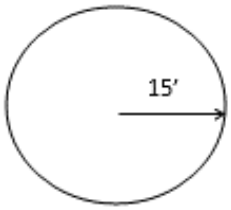
- Two Dimensional
- Represented in square feet (ft^2)
- Example: a surface is two dimensional (i.e., wall, tabletop, the ground)

Formulas:

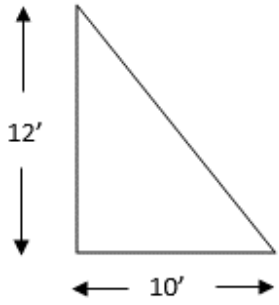
- Area of a Square or Rectangle: Length x Width = ft^2 (Area = L x W)
  - 10' x 4' = 40 ft^2



- Area of a Circle: Pi x radius squared (Area = π x r^2)
  - r = 15'
  - 15^2 = 225 (15 x 15 = 225)
  - 3.14 x 225 = 706.5 ft^2



- Area of a Right Triangle: Base x Height x 0.5 (Area = b x h x 0.5)
  - 12' x 10' x 0.5 = 60 ft^2



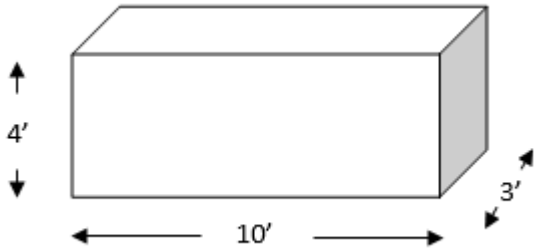
VOLUME

- Three Dimensional
- Represented in cubic feet (ft^3)
- Example: a box is three dimensional and a so is a bucket

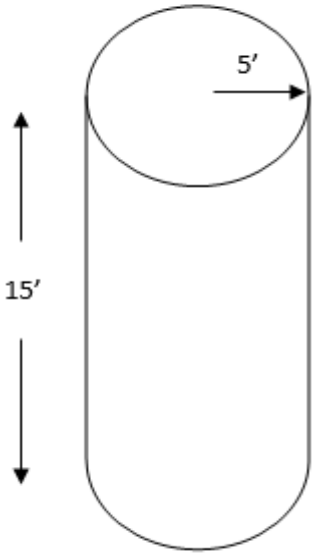
Formulas:

- <u>Volume of a Square or Rectangle</u> (L x W x d = ft^3) or (L x W x h = ft^3)
    - d = Depth
    - h = Height
        - Height is the vertical distance from the bottom to the top of an object.
        - Depth is the distance from front to back or top to bottom of an object.
            - ☐ They can be used interchangeably.

    - 10’ x 4’ x 4’ = 160 ft^3



- Volume of a Cylinder (Pi x radius squared x depth) (Volume = π x r^2 x d) or (π x r^2 x h)
    - r = 5’
    - d = 15’
    - π x r^2 x d
    - 3.14 x (5 x 5) x 15 = 1,177.5 ft^3



Addressing <u>depth</u> when it is a stain on concrete or asphalt.

For smooth surfaces use:

- Asphalt: 0.0013’ (which is 1/64”)
- Concrete: 0.0026’ (which is 1/32”)

If surface is rough or cracked, your calculations need to be inflated. As a general rule:

- Slightly rough/cracked ……+ 15%
- Moderately rough/cracked …… + 30%
- Severely rough/cracked ……+ 50%

SPILL RESPONSE FIELD REPORT

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SPILL RESPONSE FIELD REPORT

13.1 NOTIFICATION OF SPILL *(Select Method and Received From)* (Pg. E-1-20 Sec. 4.3)

Method: ☐ During Business Hours ☐ After Business Hours

Received From: ☐ Remote Alarm ☐ Public Discovery ☐ Employee Discovery

☐ Contractor Discovery ☐ Other: _____

Agency Notified Time: _____ ☐ AM ☐ PM Date: _____/_____/_____

Caller's Address: _____ Received by _____

Caller's Name: _____ Phone: _____

13.2 CALLER INTERVIEW (Pg. E-1-20 Sec. 4.3)

(☐ *Interview Method and Received From by other (attached)*

1. When did you first observe the Spill? _____: _____ ☐ AM ☐ PM Date: _____/_____/_____

   Response: _____

2. Is it currently spilling? ☐ Yes ☐ No If YES, How Would You Describe the Spill?
   Interview Prompt: (Is it Trickling, or more like a garden hose running full?)

   Response: _____

3. Can you recall a time prior to seeing the spill when you observed it was not spilling?

   Response: _____

4. Can you describe where the spill is coming from?
   Interview Prompt: (*Cleanouts are the size of dinner plate; manholes are the size of car wheels)*

   Response: _____

5. Can you describe the size of the wetted area? *Interview Prompt: (Compared to the Size of your driveway)*

   Response: _____

6. Do you know if the Spill has reached a water way, storm drain, or gutter? ☐ Yes ☐ No
   Response: _____

SPILL RESPONSE FIELD REPORT

13.3 RESPOND/ASSESS (Pg. E-1-20 Sec. 4.3)

First Responder's Name: _____ Arrival Time: _____ ☐ AM ☐ PM

Actively spilling Upon Arrival? ☐ Yes ☐ No ☐ Photos and Video Taken of Spilling Structure

Additional Resources Needed?

☐ None ☐ Supervisor ☐ Hydro-Vac ☐ Containment Items ☐ Traffic Control Devices

☐ Assistance/Personnel (x _____) ☐ Electrical/Controls Tech ☐ Mechanical Maint./Pump Tech

☐ Public Notification Signage ☐ Confined Space Equipment Other: _____

Resources Requested Time: _____ ☐ AM ☐ PM ☐ N/A

Notes: _____

_____

_____

13.4 SPILL CATEGORY DETERMINATION (Pg. 24,Spec. 5.13.1)

Answer the questions below, in order, beginning with Category 1. A YES answer to ANY Question Determines the Spill Category. When you Determine the Correct Category, Check the Box to the Left)

☐ Is a **CATEGORY 1 (if answer to ANY question is Yes)**

- Discharge Surface Water? ☐ Yes ☐ No
- Discharge to Drainage System that Discharges to Surface Water, but NOT Fully Captured? ☐ Yes ☐ No
- Exfiltrated to Hydraulically Connected Surface Water? ☐ Yes ☐ No

☐ Is **CATEGORY 2 (if spill is NOT a Category 1, and answer to question is Yes)**

- Is Discharge Volume 1,000 Gallons or Greater? ☐ Yes ☐ No

☐ Is a **CATEGORY 3 (if spill is NOT a Category 1 and answer to question is Yes)**

- Is Discharge Volume is between 50 Gallons and 999 Gallons? ☐ Yes ☐ No

☐ Is a **CATEGORY 4 (if spill is NOT a Category 1 and answer to question is Yes)**

- Is Discharge Volume is Less than 50 Gallons ☐ Yes ☐ No

SPILL RESPONSE FIELD REPORT

13.5 CONTAINMENT LOCATION (Pg. E1-10, SEC. 3.1.2-9) (Select all that apply):

☐ Curb & Gutter ☐ Street ☐ Open Space ☐ Storm Drain System ☐ Drainage Channel

☐ Inside Building ☐ Lawn/Landscaped Area ☐ Creek/Stream ☐ Wetland

☐ Other: _____

Description: _____

_____

_____

13.6 CONTAINMENT METHOD (Pg. E1-10, SEC. 3.1.2-9) (Select all that apply): ☐ Photo(s) of

☐ Inlet Mats ☐ Sandbags ☐ Dirt Dam/Berm ☐ Rubber Berm ☐ Vacuum Retrieval

☐ Spill Kit ☐ Naturally Contained ☐ Hand Dig Trench ☐ Dry Sweep ☐ Pneumatic Plugs

☐ Divert to Sewer System ☐ Absorbent Waddles ☐ Other: _____

Description: _____

_____

_____

13.7 FAILURE LOCATION (Pg. E1-10, SEC. 3.1.2-5&6)

☐ Lower Lateral ☐ Upper Lateral ☐ Gravity Main ☐ Force Main ☐ Air Release Valve

☐ Lift Station ☐ Siphon ☐ Manhole ☐ Backflow Prevention Device

☐ Other: _____

List Asset ID(s): _____

Age of Failed Asset: _____ Years. If Failure Location is a Pipe: Material: _____ Diameter: _____

Description: _____

_____

SPILL RESPONSE FIELD REPORT

13.8 SPILL APPEARANCE POINT(S) (Pg.E1-5, Sec. 2.1)

of Appearance Points: _____

☐ Lower Lateral Clean Out - Private ☐ Lower Lateral Clean Out - Public ☐ Manhole

☐ Upper Lateral Clean Out - Private ☐ Upper Lateral Clean Out – Public ☐ Force Main

☐ Lift Station ☐ Inside Building ☐ Other: _____

List Asset ID(s) or Address: _____

_____

☐ GPS Coordinates: Longitude: _____ Latitude: _____

NOTE: If more than one appearance point, use coordinates for the point closest to failure point

13.9 RESTORE FLOW (Select all that apply) (Pg. E1-10, Sec.3.1.2-10)

☐ **Gravity Line Blockage** - ☐ Hydro-Vac ☐ Power Rodder ☐ Hand Rods ☐ Excavation ☐ By-Pass

☐ **Manhole** - ☐ Hydro-Vac ☐ Hand Rods ☐ Confined Space Entry ☐ By-Pass

☐ **Lift Station** - ☐ Electrical ☐ Mechanical ☐ De-Rag Pump ☐ By-Pass ☐ Generator

☐ **Force Main** - ☐ Hydro-Vac. ☐ By-Pass ☐ Excavation

☐ **Lateral** - ☐ Cable Machine/Snake ☐ Hand Rods ☐ Excavation

Description of Actions taken to restore flow: _____

_____

☐ Spill End Time: _____ ☐ AM ☐ PM Date: _____/_____/_____ By: _____

13.10 SPILL CAUSE (Select all that apply)

(Pg.29 Sec. 6.1.6-6)

☐ Debris Dirt/Solids ☐ Debris Rags ☐ Non-Dispersible Wipes ☐ Debris Construction

☐ Lift Station – Power Loss ☐ Lift Station - Telemetry/Controls ☐ Lift Station - Mechanical

☐ Vandalism ☐ Root Intrusion ☐ FOG ☐ Pipe/ Structural Failure ☐ Operator Error

☐ Natural Disaster ☐ Capacity Exceeded- I&I ☐ Other: _____

Description: _____

SPILL RESPONSE FIELD REPORT

13.11 SPILL RESPONSE ACTIVITIES (SELECT ALL THAT APPLY)

(Pg. E1-10, Sec.3.1.2-10)

☐ Mitigated Effects of the Spill ☐ Contained all or Portion of Spill ☐ Restored Flow

☐ CCTV Inspection for Cause ☐ Clean Drainage Conveyance System ☐ Cleaned Spill Area

☐ Captured and Removed All Washdown Water ☐ Notify Property Owner

☐ Returned All the Spill to Sewer System ☐ Returned a Portion of the Spill to the Sewer System

☐ Collected Required Coordinates ☐ Collected Required Photos

☐ Other: _____

Description Of Spill Response Actions: _____

_____

13.12 FINAL SPILL DESTINATION (Select all that were contacted by the spill):

(Pg. E1-9,Sec.3.1.2-(1)

☐ Building/Structure ☐ Drainage Conveyance System ☐ Ground Water Infiltration System

☐ Paved Surface ☐ Street/Curb/Gutter ☐ Unpaved Surface ☐ Landscaped Area

☐ Surface Water ☐ Other: _____

Destination 1: Longitude: _____ Latitude: _____

Destination 2: Longitude: _____ Latitude: _____

Destination 3: Longitude: _____ Latitude: _____

Description: _____

_____

13.13 IMPACT TO RECEIVING WATERS (Pg.11 Spec. 3.2.2 –(6&7) (Pg. E1-10 Sec.3.1.2-(15)

☐ N/A ☐ Public Closure ☐ Restricted Public Access ☐ Temporary Restricted Use

☐ Other: _____

SPILL RESPONSE FIELD REPORT

13.14 ESTIMATED TRAVEL TIME TO RECEIVING WATERS

(Pg.29 Spec. 6.1.6 (7))

☐ N/A Point of Entry to Drainage System to Point of Discharge to Receiving Waters: _____ Minutes

- Distance from Entry to Drainage System to Discharge to Surface Waters: _____ Feet
- Description of Drainage Conveyance System: _____

  _____
- Description of Receiving Waters: _____

  _____

Method to Estimate Travel Time: _____

_____

☐ N/A Spill Appearance Point to Receiving Waters: _____ Minutes

- Distance from Spill Appearance Point to Receiving Waters: _____ Feet
- Description of Receiving Waters: _____

  _____

Travel Time Estimation Method: _____

_____

13.15 REQUIRED PHOTOS

☐ Photo Taken of Entry Point to Drainage Conveyance System …….…… N/A ☐

☐ Photos Taken of Entry Point to Surface Water ……..…….. N/A ☐

If Entered surface water,:

☐ Water Body Bank Erosion ☐ Water Sheen ☐ Floating Matter ☐ Discoloration

☐ Impact to Receiving Waters Notes: _____

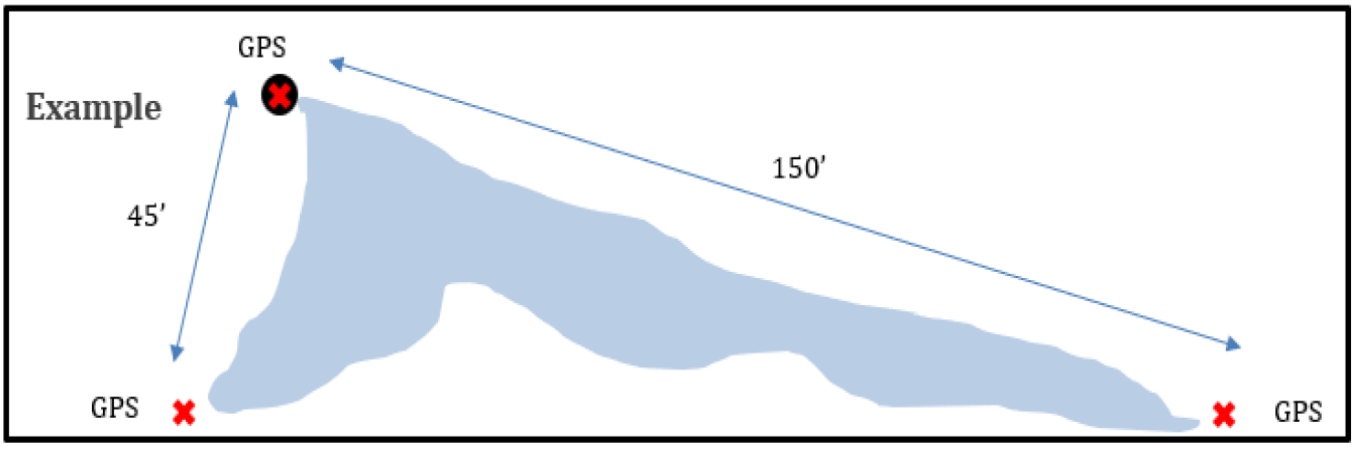
_____

SPILL RESPONSE FIELD REPORT

13.16 SPILL LOCATION AND SPREAD (Pg. E1-5 Sec. 2.1)

Sketch the footprint of the spill and provide dimensions (in feet) for size and extent of spill (use sketch area below). Include spill appearance point, spill destination(s), and indicate locations where GPS coordinates were taken.

SPILL LOCATION AND SPREAD EXAMPLE



SPILL RESPONSE FIELD REPORT

13.17 SPILL VOLUME ESTIMATIONS (Pg. E1-5, Sec.2.2)

☐ Spill Volume Estimation Worksheet(s) Attached ☐ Spill Start Time Worksheet Attached

☐ Telemetry Records Attached

Spill Volume Estimation Details:

_____

_____

_____

_____

Estimate volume discharged to drainage conveyance system flowing to surface water _____Gals.

Estimate volume recovered from drainage conveyance system flowing to surface water _____Gals.

Estimate spill volume discharged directly to surface water _____Gals.

Estimate spill volume recovered from surface water _____Gals.

Estimate spill volume discharged to land _____Gals.

Estimate spill volume recovered from discharge to land _____Gals.

Method to Estimate Spill Volume Recovered: _____

_____

_____ ☐ Same as Spill Volume Estimation

CONTACT CAL-OES (800) 852-7550 ☐ **N/A** ☐ **CAL-OES Notification Log Attached**

Attachment E1 Requirements (1.1. Notification of Spills of 1,000 Gallons or Greater to Cal-OES)

Per Water Code section 13271, for a spill that discharges in or on any waters of the State, or discharges or is deposited where it is, or probably will be, discharged in or on any waters of the State, the Enrollee shall notify the California Office of Emergency Services and obtain a California Office of Emergency Services Control Number as soon as possible but no later than two (2) hours after:

- The Enrollee has knowledge of the spill; and
- Notification can be provided without substantially impeding cleanup or other emergendcy measures.

SPILL RESPONSE FIELD REPORT

13.18 CLEANUP TIMELINE

Clean Up Begin: _____:_____ ☐ AM ☐ PM Date: _____/_____/_____

Clean Up Complete: _____:_____ ☐ AM ☐ PM Date: _____/_____/_____

13.19 CLEAN UP METHOD: (Select All that Apply): (Pg. E1-10, Sec.3.1.2-(9))

☐ Fresh Water Washdown ☐ Broom/Rake/Retrieve Solids ☐ Vacuum Retrieval ☐ Soil Removal

☐ Hydro-Jet/Vacuum Retrieve from Storm Conveyance System ☐ Building Restoration

☐ Disinfectants ☐ Other Clean Up Method: _____

_____

Description of Clean Up Activities: _____

_____

_____

_____

13.20 DISPOSAL OF RECOVERED SEWAGE

☐ Returned to Sewer System ☐ Disposed of at Treatment Plant or Authorized Facility

☐ Other: _____

13.21 REQUIRED PHOTOS

☐ Entire Affected Area After Cleanup is complete.

SPILL RESPONSE FIELD REPORT

13.22 RESPONSE COMPLETE

Departure Time: _____:_____ ☐ AM ☐ PM Date: _____/_____/_____

☐ Spill sample/analysis conducted (for spills >50K gallons reaching surface waters only)

Spill Event Details:

Name(s) of all Spill Response Personnel: _____, _____

_____, _____, _____

Name(s) of Personnel Completing this Form: _____, _____

Data Verified by Response Personnel: _____ Date: _____

Data Verified by Supervisor: _____ Date: _____