



SANITARY SEWER OVERFLOW EMERGENCY RESPONSE PLAN

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1. OBJECTIVE

The City of Stockton's Sanitary Sewer Overflow Emergency Response Plan (SSOERP) is designed to ensure that every report of a sanitary sewer overflow (SSO) is dispatched to the appropriate response personnel so that the effects of the overflow can be minimized with respect to its adverse impacts on public health, the environment, and property. The source of the SSO shall be stopped and the spill contained as soon as possible. Notification and reporting to governmental agencies, affected residents and property owners shall be done in an appropriate time frame. All state and local regulations shall be observed and implemented in response and remediation procedures.

2. DEFINITIONS

Category 1 SSO – Discharges of untreated or partially treated wastewater of any volume resulting from a City's sewer system failure or flow condition that:

Reach surface water and/or reach a drainage channel tributary to a surface water; or

Reach a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond).

Category 2 SSO – Discharges of untreated or partially treated wastewater greater than or equal to 1,000 gallons resulting from a City sanitary sewer system failure or flow condition that does not reach a surface water, a drainage channel, or the MS4 unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.

Category 3 SSO – All other discharges of untreated or partially treated wastewater resulting from a City sanitary sewer system failure or flow condition.

Online SSO Reporting System – Online spill reporting system that is hosted, controlled, and maintained by the State Water Resources Control Board. The web address for this site is <http://ciwqs.waterboards.ca.gov>. This online database is maintained on a secure site and is controlled by unique usernames and passwords.

Order – State Water Resources Control Board Order No. 2006-0003-DWQ, Monitoring and Reporting Program, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems; and State Water Resources Control Board Order No. WQ 2013-0058-EXEC, Amended Monitoring and Reporting Program for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems; and amendments thereto.

Private Lateral Sewage Discharge (PLSD) – Discharges of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned sewer lateral connected to the City's sanitary sewer system or from other private sanitary sewer system assets.

Receiving Water – Surface waters receiving discharge from stormwater conveyance systems.

Sanitary Sewer Overflow (SSO) – Any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system. SSOs include:

Overflows or releases of untreated or partially treated wastewater that reach waters of the United States;

Overflows or releases of untreated or partially treated wastewater that do not reach waters of the United States; and

Wastewater backups into buildings and on private property that are caused by blockages or flow conditions within the publicly owned portion of a sanitary sewer system.

Sanitary Sewer System – Any system of pipes, pump stations, sewer lines, or other conveyances, upstream of a wastewater treatment plant headworks used to collect and convey wastewater to the publicly owned treatment facility. Temporary storage and conveyance facilities (such as vaults, temporary piping, construction trenches, wet wells, impoundments, tanks, etc.) are considered to be part of the sanitary sewer system, and discharges into these temporary storage facilities are not considered to be SSOs.

Surface Waters – Waters of the United States as defined in 40 CFR 122.2 such as navigable waters, rivers, streams (including ephemeral streams), lakes, natural ponds, lagoons, estuaries, man-made canals, ditches, wet meadows, wetlands, marshes, sloughs and water courses.

3. IMPLEMENTATION

The City shall take all feasible steps to eliminate SSOs. In the event that an SSO does occur, the City shall take all feasible steps to contain and mitigate the impacts of an SSO.

The City supervisor or highest level staff person on-site is responsible for using sound judgment in efforts to stop and contain the SSO as soon as possible, initiate proper notifications in accordance with an approved communication plan, and implement safe and effective measures to remediate the spill.

All SSOs shall be reported in accordance with State Water Resources Control Board Order No. 2006-0003-DWQ, Monitoring and Reporting Program, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems; and State Water Resources Control Board Order No. WQ 2013-0058-EXEC, Amended Monitoring and Reporting Program for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems; and amendments thereto.

The City shall ensure that up-to-date copies of the Sanitary Sewer Overflow Emergency Response Plan are readily available to sewer system operation and maintenance personnel at all times.

The Sanitary Sewer Overflow Emergency Response Plan shall include an SSO Field Procedures Manual (Attachment 5) with detailed field guidance procedures for handling all aspects of sanitary sewer overflow incidents.

The City shall ensure that SSO response personnel are properly trained in the use of the Sanitary Sewer Overflow Emergency Response Plan.

4. REPORTING PROCEDURES

CIWQS Online SSO Database Account: The City shall maintain a CIWQS Online SSO Database account and maintain a "Username" and "Password" by registering through CIWQS. These accounts allow controlled and secure entry into the CIWQS Online SSO Database.

SSO Mandatory Reporting Information: For reporting purposes, if one SSO event results in multiple appearance points in a sewer system asset, the City shall complete one SSO report in the CIWQS Online SSO Database which includes the GPS coordinates for the location of the SSO appearance point closest to the failure point, blockage or location of the flow condition that caused the SSO, and provide descriptions of the locations of all other discharge points associated with the SSO event.

SSO Reporting to CIWQS - Timeframes

a. Category 1 and Category 2 SSOs – All SSOs that meet the above criteria for Category 1 or Category 2 SSOs shall be reported to the CIWQS Online SSO Database:

1. Draft reports for Category 1 and Category 2 SSOs shall be submitted to the CIWQS Online SSO within three (3) business days of the City becoming aware of the SSO.
2. A final Category 1 or Category 2 SSO report shall be certified through the CIWQS Online SSO Database within 15 calendar days of the end date of the SSO.

b. Category 3 SSOs – All SSOs that meet the above criteria for Category 3 SSOs shall be reported to the CIWQS Online SSO Database and certified within 30 calendar days after the end of the calendar month in which the SSO occurs (e.g., all Category 3 SSOs occurring in the month of February shall be entered into the database and certified by March 30).

c. "No Spill" Certification – If there are no SSOs during the calendar month, the City shall either 1) certify, within 30 calendar days after the end of each calendar month, a "No Spill" certification statement in the CIWQS Online SSO Database certifying that there were no SSOs for the designated month, or 2) certify, quarterly within 30 calendar days after the end of each quarter, "No Spill" certification statements in the CIWQS Online SSO Database certifying that there were no SSOs for each month in the quarter being reported on. For quarterly reporting, the quarters are 01 -January/ February/

March, 02- April/May/June, 03- July/August/September, and Q4- October/November/December.

If there are no SSOs during a calendar month but the City reported a PLSD, the City shall still certify a "No Spill" certification statement for that month.

d. Amended SSO Reports – The City may update or add additional information to a certified SSO report within 120 calendar days after the SSO end date by amending the report or by adding an attachment to the SSO report in the CIWQS Online SSO Database.

SSO Technical Report

The City shall submit an SSO Technical Report in the CIWQS SSO Online Database within 45 calendar days of the SSO end date for any SSO in which 50,000 gallons or greater are spilled to surface waters. This report, which does not preclude the Water Boards from requiring a more detailed analysis if requested, shall include at a minimum, the following:

a. Causes and Circumstances of the SSO:

1. Complete and detailed explanation of how and when the SSO was discovered.
2. Diagram showing the SSO failure point, appearance point(s), and final destination(s).
3. Detailed description of the methodology employed and available data used to calculate the volume of the SSO and, if applicable, the SSO volume recovered.
4. Detailed description of the cause(s) of the SSO.
5. Copies of original field crew records used to document the SSO.
6. Historical maintenance records for the failure location.

b. City's Response to SSO:

1. Chronological narrative description of all actions taken by City to terminate the spill.
2. Explanation of how the SSMP Overflow Emergency Response plan was implemented to respond and mitigate the SSO.
3. Final corrective action(s) completed and/or planned to be included, including a schedule for actions not yet completed.

c. Water Quality Monitoring:

1. Description of all water quality sampling activities conducted including analytical results and evaluation of the results.
2. Detailed location map illustrating all water quality sampling points.

Private Lateral Sewage Discharges (PLSDs)

Discharges of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned sewer lateral connected to the City's sanitary sewer system or from other private sanitary sewer system assets may be voluntarily reported to the CIWQS Online SSO Database.

The City may also voluntarily provide notification to Cal OES per section B above when a PLSD greater than or equal to 1,000 gallons has or may result in a discharge to surface water. For any PLSD greater than or equal to 1,000 gallons regardless of the spill destination, the City may also voluntarily file a spill report as required by Health & Safety Code section 5410 et. seq. and Water Code section 13271, or notify the responsible party that notification and reporting should be completed as specified above and required by State law.

If a PLSD is recorded in the CIWQS Online SSO Database, the City must identify the sewage discharge as occurring and caused by a private sanitary sewer system asset and should identify a responsible party (other than the City), if known. Certification of PLSD reports by City is not required.

CIWQS Online SSO Database Unavailability

In the event that the CIWQS Online SSO Database is not available, the City must fax or email all required information to the appropriate Regional Water Board office in accordance with the time schedules identified herein. In such event, the City must also enter all required information into the CIWQS Online SSO Database when the database becomes available.

Mandatory Information to be Included in CIWQS Online SSO Reporting

The City shall maintain a CIWQS Online SSO Database account and a "Username" and "Password". This account will allow controlled and secure entry into the CIWQS Online SSO Database.

a. SSO Reports

At a minimum, the following mandatory information shall be reported prior to finalizing and certifying an SSO report for each category of SSO:

Draft Category 1 SSOs: At a minimum, the following mandatory information shall be reported for a draft Category 1 SSO report:

1. SSO Contact Information: Name and telephone number of City contact person who can answer specific questions about the SSO being reported.
2. SSO Location Name.
3. Location of the overflow event (SSO) by entering GPS coordinates. If a single overflow event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the SSO appearance point explanation field.

4. Whether or not the SSO reached surface water, a drainage channel, or entered and was discharged from a drainage structure.
5. Whether or not the SSO reached a municipal separate storm drain system.
6. Whether or not the total SSO volume that reached a municipal separate storm drain system was fully recovered.
7. Estimate of the SSO volume, inclusive of all discharge point(s).
8. Estimate of the SSO volume that reached surface water, a drainage channel, or was not recovered from a storm drain.
9. Estimate of the SSO volume recovered (if applicable).
10. Number of SSO appearance point(s).
11. Description and location of SSO appearance point(s). If a single sanitary sewer system failure results in multiple SSO appearance points, each appearance point must be described.
12. SSO start date and time.
13. Date and time the City was notified of, or self-discovered, the SSO.
14. Estimated operator arrival time.
15. For spills greater than or equal to 1,000 gallons, the date and time Cal OES was called.
16. For spills greater than or equal to 1,000 gallons, the Cal OES control number.

Certified Category 1 SSOs: At a minimum, the following mandatory information shall be reported for a certified Category 1 SSO report, in addition to all fields required in the draft Category 1 SSO report:

1. Description of SSO destination(s).
2. SSO end date and time.
3. SSO causes (mainline blockage, roots, etc.).
4. SSO failure point (main, lateral, etc.).
5. Whether or not the spill was associated with a storm event.
6. Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the overflow; and a schedule of major milestones for those steps.
7. Description of spill response activities.
8. Spill response completion date.
9. Whether or not there is an ongoing investigation, the reasons for the investigation and the expected date of completion.
10. Whether or not a beach closure occurred or may have occurred as a result of the SSO.
11. Whether or not health warnings were posted as a result of the SSO.
12. Name of beach(es) closed and/or impacted. If no beach was impacted, NA shall be selected.
13. Name of surface water(s) impacted.

14. If water quality samples were collected, identify parameters the water quality samples were analyzed for. If no samples were taken, NA shall be selected.
15. If water quality samples were taken, identify which regulatory agencies received sample results (if applicable). If no samples were taken, NA shall be selected.
16. Description of methodology(ies) and type of data relied upon for estimations of the SSO volume discharged and recovered.
17. SSO Certification: Upon SSO Certification, the CIWQS Online SSO Database will issue a final SSO identification (ID) number.

Draft Category 2 SSOs: At a minimum, the following mandatory information shall be reported for a draft Category 2 SSO report:

1. All Items 1-14 for Draft Category 1 SSO report above.

Certified Category 2 SSOs: At a minimum, the following mandatory information shall be reported for a certified Category 2 SSO report:

1. All Items 1-14 for Draft Category 1 SSO report above and items 1-9, and 17 for Certified Category 1 SSO report above.

Certified Category 3 SSOs: At a minimum, the following mandatory information shall be reported for a certified Category 3 SSO report:

1. Items 1-14 for Draft Category 1 SSO report above and items 1-6, and 17 for Certified Category 1 SSO report above.

b. Reporting SSOs to Other Regulatory Agencies

These reporting requirements do not preclude the City from reporting SSOs to other regulatory agencies pursuant to state law. In addition, these reporting requirements do not replace other Regional Water Board notification and reporting requirements for SSOs.

c. Collection System Questionnaire

The required Questionnaire (see subsection G of the SSS WDRs) provides the Water Boards with site-specific information related to the City's sanitary sewer system. The City shall complete and certify the Questionnaire at least every 12 months to facilitate program implementation, compliance assessment, and enforcement response.

d. SSMP Availability

The City shall provide the publicly available internet web site address to the CIWQS Online SSO Database where a downloadable copy of the City's approved SSMP, critical supporting documents referenced in the SSMP, and proof of local governing board approval of the SSMP is posted. If all of the SSMP documentation listed in this

subsection is not publicly available on the Internet, the City shall comply with the following procedure:

Submit an electronic copy of the City's approved SSMP, critical supporting documents referenced in the SSMP, and proof of local governing board approval of the SSMP to the State Water Board, within 30 days of that approval and within 30 days of any subsequent SSMP re-certifications, to the following mailing address:

State Water Resources Control Board
Division of Water Quality
Attn: SSO Program Manager
1001 I Street, 15th Floor, Sacramento, CA 95814

5. CERTIFICATION PROCEDURES

All information required to be reported into the CIWQS Online SSO Database shall be certified by a person designated as described in subsection J of the SSS WDRs. This designated person is also known as a Legally Responsible Official (LRO). An City may have more than one LRO.

Any designated person (i.e., an LRO) shall be registered with the State Water Board to certify reports in accordance with the CIWQS protocols for reporting.

Data Submitter (DS): Any City employee or contractor may enter draft data into the CIWQS Online SSO Database on behalf of the City if authorized by the LRO and registered with the State Water Board. However, only LROs may certify reports in CIWQS.

The City shall maintain continuous coverage by an LRO. Any change of a registered LRO or DS (e.g., retired staff), including deactivation or a change to the LRO's or DS's contact information, shall be submitted by the City to the State Water Board within 30 days of the change by calling (866) 792-4977 or e-mailing help@ciwqs.waterboards.ca.gov.

A registered designated person (i.e., an LRO) shall certify all required reports under penalty of perjury laws of the state as stated in the CIWQS Online SSO Database at the time of certification.

6. NOTIFICATION PROCEDURES

For any Category 1 SSO greater than or equal to 1,000 gallons that results in a discharge to a surface water or spilled in a location where it probably will be discharged to surface water, either directly or by way of a drainage channel or MS4, the City shall, as soon as possible, but not later than two (2) hours after (A) the City has knowledge of the discharge, (B) notification is possible, and (C) notification can be provided without substantially

impeding cleanup or other emergency measures, notify the Cal OES and obtain a notification control number.

To satisfy notification requirements for each applicable SSO, the City shall provide the information requested by Cal OES before receiving a control number. Spill information requested by Cal OES may include:

1. Name of person notifying Cal OES and direct return phone number.
2. Estimated SSO volume discharged (gallons).
3. If ongoing, estimated SSO discharge rate (gallons per minute).
4. SSO Incident Description:
 - a. Brief narrative.
 - b. On-scene point of contact for additional information (name and cell number).
 - c. Date and time City became aware of SSO.
 - d. Name of sanitary sewer system agency causing the SSO.
 - e. SSO cause (if known).
5. Indication of whether SSO has been contained.
6. Indication of whether surface water is impacted.
7. Name of surface water impacted by SSO, if applicable.
8. Indication of whether a drinking water supply is or may be impacted by SSO.
9. Any other known SSO impacts.
10. SSO incident location (address, city, state, and zip code).

Following the initial notification to Cal OES and until such time that an City certifies the SSO report in the CIWQS Online SSO Database, the City shall provide updates to Cal OES regarding substantial changes to the estimated volume of untreated or partially treated sewage discharged and any substantial change(s) to known impact(s).

PLSDs: The City may voluntarily notify Cal OES of discharges greater than or equal to 1,000 gallons of untreated or partially treated wastewater that result or may result in a discharge to surface water resulting from failures or flow conditions within a privately owned sewer lateral or from other private sewer asset(s) if the City becomes aware of the PLSD.

SSOs Discharged to Private Lakes and Waterways

In the event of an SSO potentially discharged to a private lake or waterway, the City shall notify the management company responsible for each effected lake or waterway. The management company will then determine appropriate response measures for each lake or waterway and will have the responsibility for performing such actions. Response measures may include isolating water supply pumps, posting warning signs around lakes/waterways, residential notifications, lake/waterway sampling, etc.

SSO Notification Requirements

The following SSO notifications shall be performed:

All Category 1 SSOs	
<u>City of Stockton, Municipal Utilities Dept.:</u> Technical Services Supervisor, Regulatory Compliance Officer, Deputy Director of Collections, Assistant Director and Director Delta Water Supply Project	Telephone / Email (209) 639-3972 (Senior) (209) 937-5633 (Office) (209) 639-4241 (Operator) (209)768-8879 (CPO)
<u>City of Stockton, City Manager's Office:</u> Public Information Officer, Assistant to City Manager and Deputy City Manager	Telephone / Email
Cal OES (1,000 gallons or greater only)	(800) 852-7550
Alameda County Water District	(510) 656-3426 (M-F 8-4) Fax (510) 657-5944 (after hours) Fax
Alameda Co. Flood Control District, Zone 7	(925) 447-4517 Fax
Contra Costa Water District	(925) 688-8274 Fax
Santa Clara Valley Water District	(408) 395-5550 Fax
San Joaquin Co. Flood Chanel Maint. Div.	(209) 468-8457 Fax
State Water Resources Control Board Online SSO Reporting System (CIWQS)	http://ciwqs.waterboards.ca.gov
All Category 2 SSOs	
<u>City of Stockton, Municipal Utilities Dept.:</u> Technical Services Supervisor, Regulatory Compliance Officer, Deputy Director of Collections, Assistant Director and Director	Telephone / Email
City of Stockton, City Manager's Office: Public Information Officer Assistant to City Manager Deputy City Manager	Telephone / Email
State Water Resources Control Board Online SSO Reporting System (CIWQS)	http://ciwqs.waterboards.ca.gov
All SSO Discharges to San Joaquin County Stormwater Collection System	
San Joaquin County Public Works	(866) 755-4955
All SSO Discharges to Reclamation District 1614 Stormwater Collection System	
Reclamation District 1614	(209) 462-8061 / (209) 992-2827 Max Gallegos (209) 469-3133 Message

7. RESPONSE PROCEDURES

When a report of a possible SSO is received, it triggers an immediate response to identify and correct the problem. This section describes the general procedures employed by the City to stop, contain, and clean up the impact of an overflow. City personnel shall perform the following SSO response procedures, as applicable. The SSO Response Procedures Checklist (Attachment 2) is completed for all Category 1 and Category 2 SSOs.

The following procedures are included as a general overview. Please refer to the SSO Field Procedures Manual (Attachment 5) for detailed procedures.

Investigation and Assessment

Following notification of a possible sanitary sewer overflow, a crew is dispatched to conduct an investigation. The initial response team is responsible for assessing the cause of the problem and determining the level of effort needed to correct the problem. If the overflow is confirmed, the supervisor or highest level staff person on-site shall record the relevant spill information on a sewer overflow incident report form.

Notify Response Personnel

Response personnel are dispatched to the site as appropriate based on the following criteria:

- Source of the SSO
- Volume of the SSO
- Severity of the SSO

The supervisor or highest level staff person on-site shall immediately notify appropriate SSO response personnel. SSO response personnel are City staff trained to respond to SSO situations. Personnel involved in clean-up activities shall be trained and properly equipped with appropriate personal protective equipment (PPE). Appropriate PPE shall be determined by the site supervisor based on the hazard, weather conditions and clean-up procedures.

Stop and Contain Overflow

The supervisor or highest level staff person on-site shall be responsible for determining the most effective method(s) to:

- Control or limit the SSO volume discharged;
- Terminate the SSO as rapidly as possible; and
- Contain the spill as rapidly as possible.

Traffic and Crowd Control

The supervisor or highest level staff person on-site shall be responsible for determining the most effective method(s) to:

- Safely control traffic flow around the spill area; and
- Provide crowd control measures to ensure public safety at all times.

The following City Departments may be contacted to assist with traffic and crowd control measures:

- Stockton Police Department (209) 937-7911
- Stockton Public Works Department (209) 937-8341

SSO response personnel shall be adequately trained in traffic control procedures and public safety requirements.

Clean-up and Remediation

The supervisor or highest level staff person on-site is responsible for determining the most effective clean-up method and remediation procedures and shall determine when adequate remediation procedures have been completed.

For SSOs contained downstream in the stormwater collection system due to hydraulic surcharging of the system (typically involving gravity discharges), the City will remediate the SSO by removing from the system at the point of containment a minimum of one hydro-vactor load of wastewater (approximately 2,000-2,500 gallons) or three times the volume of the SSO, whichever is greater.

For SSOs either fully or partially contained at a stormwater pump station wet well, the City will remediate the SSO by flushing and pumping the contaminated water from the stormwater system to the sanitary sewer system. Remediation will begin no later than the next regular business day, with the following conditions:

1. If precipitation is forecast, remediation will begin immediately.
2. City personnel will check and record the stormwater pump station wet well elevation every six hours and remediation will begin immediately if necessary to prevent excessively high wet well levels.
3. Stormwater pump stations with higher rates of inflow and/or infiltration will require immediate remediation.

8. WATER QUALITY MONITORING PROCEDURES

If the overflow is discharged to a surface water, the impact of the spill on water quality is assessed by visual inspection for abnormal conditions such as effects on aquatic life, abnormal color, odors, etc.

A Receiving Water Inspection/Sampling Log (Attachment 3) is used to record the findings of the inspection.

Photographs may be used to document the extent of the spill, including the discharge location, and any adverse effects to receiving water or surrounding areas.

For discharges to surface water, public health warning signs shall be posted to protect the public from exposure to water contaminated with sewage:

Signs will be posted in the affected area at appropriate intervals on both sides of the banks, if possible, of the receiving water body.

Due to the occurrence of posted signs periodically being vandalized, stolen, wind-blown, etc., City staff will maintain a log and map of sign placement and removal. The signs will be checked on a regular basis by City staff and replaced or repositioned as necessary to make certain they are visible to the public throughout the entire spill event.

For SSOs greater than 1,000 gallons in volume and which enter a surface water, public health warning notifications shall be distributed door-to-door in known areas where residents utilize the surface water source for landscape irrigation purposes. Notification distribution procedures will follow Department guidelines.

Water Quality Monitoring Program

To comply with subsection D.7(v) of the SSS WDRs, the City shall develop and implement an SSO Water Quality Monitoring Program to assess impacts from SSOs to surface waters in which 50,000 gallons or greater are spilled to surface waters. The SSO Water Quality Monitoring Program, shall, at a minimum:

1. Contain protocols for water quality monitoring:

Personnel shall strictly adhere to City Department Standard Operating Procedures and Job Hazard Analyses for all water quality monitoring procedures.

2. Account for spill travel time in the surface water and scenarios where monitoring may not be possible (e.g., safety, access restrictions).

Surface water samples shall be collected at the discharge location as well as at appropriate sites upstream and downstream of the spill, if possible.

If inclement weather, site access or other physical conditions present an unsafe or inaccessible sampling environment, sampling may be omitted or delayed. If omitted, the impact of the spill on receiving water shall be based on visual observations only.

3. Require water quality analyses for ammonia and bacterial indicators to be performed by an accredited or certified laboratory.
4. Require monitoring instruments and devices used to implement the SSO Water Quality Monitoring Program to be properly maintained and calibrated, including any records to document maintenance and calibration, as necessary, to ensure their continued accuracy.
5. Within 48 hours of the City becoming aware of the SSO, require water quality sampling for, at a minimum, the following constituents:
 - a. Ammonia
 - b. Appropriate Bacterial indicator(s) per the applicable Basin Plan water quality objective or Regional Board direction which may include total and fecal coliform, enterococcus, and e-coli.

Samples will be analyzed for ammonia and e-coli using methods prescribed in 40 CFR Part 136.

Follow up samples are collected as soon as possible, typically 3-10 days after the overflow event, to determine whether the receiving water body at the discharge location remains contaminated with sewage. The decision for when to sample is site specific and is dependent on such items as tidal action and receiving water flow.

6. Records of water quality monitoring shall include:
 - a. Date, location, and time of sampling or measurements;
 - b. Name(s) of individual(s) who performed the sampling or measurements;
 - c. Date(s) analyses were performed;
 - d. Name(s) of individual(s) who performed the analyses;
 - e. Analytical technique(s) or method(s) used;
 - g. Monitoring instrumentation maintenance and calibration;
 - f. Laboratory state certification; and
 - h. Results of analyses.

9. PREVENTION AND TRAINING

SSO Preventive Measures

Investigation and Corrective Actions: Following containment and cleanup of an overflow, the causes of the discharge are evaluated to determine improvements to prevent future problems. Lines are cleaned and TV cameras are used to inspect the pipe. Necessary repairs are completed and maintenance schedules are adjusted as appropriate.

Maintenance Programs: Programs include regular cleaning of sewer lines, connections and pumps, and foaming to remove tree roots.

Enforcement Program: City code requires installation of grease interceptors at businesses and establishments where any grease or objectionable materials may be discharged into a public or private sewage main or disposal system. Enforcement orders are issued to businesses that do not adequately maintain and/or clean the interceptors.

SSO Response Personnel Training

All SSO response personnel shall receive annual training to ensure awareness with the procedures contained in the SSOERP. Periodic refresher sessions will be conducted whenever the SSOERP is updated or as necessary.

10. RECORD KEEPING PROCEDURES

The following records shall be maintained by the City for a minimum of five (5) years and shall be made available for review by the Water Boards during an onsite inspection or through an information request:

a. General Records: The City shall maintain records to document compliance with all provisions of the SSS WDRs and this MRP for each sanitary sewer system owned including any required records generated by an City's sanitary sewer system contractor(s).

b. SSO Records: The City shall maintain records for each SSO event, including but not limited to:

1. Complaint records documenting how the City responded to all notifications of possible or actual SSOs, both during and after business hours, including complaints that do not result in SSOs. Each complaint record shall, at a minimum, include the following information:

- a. Date, time, and method of notification.
- b. Date and time the complainant or informant first noticed the SSO.

- c. Narrative description of the complaint, including any information the caller can provide regarding whether or not the complainant or informant reporting the potential SSO knows if the SSO has reached surface waters, drainage channels or storm drains.
 - d. Follow-up return contact information for complainant or informant for each complaint received, if not reported anonymously.
 - e. Final resolution of the complaint.
2. Records documenting steps and/or remedial actions undertaken by the City, using all available information, to comply with section D.7 of the SSS WDRs.
 3. Records documenting how all estimate(s) of volume(s) discharged and, if applicable, volume(s) recovered were calculated.
- c. Records documenting all changes made to the SSMP since its last certification indicating when a subsection(s) of the SSMP was changed and/or updated and who authorized the change or update. These records shall be attached to the SSMP.
 - d. Electronic monitoring records relied upon for documenting SSO events and/or estimating the SSO volume discharged, including, but not limited to records from:
 1. Supervisory Control and Data Acquisition (SCADA) systems
 2. Alarm system(s)
 3. Flow monitoring device(s) or other instrument(s) used to estimate wastewater levels, flow rates and/or volumes.

Attachment 1

Sanitary Sewer Overflow Notification Log

SSO Date: _____

SSO Location: _____

Date	Time	Contact Name	Organization / Agency	Contact Information
Category 1 and 2 SSO				
			MUD - Technical Services Supervisor	Telephone
			MUD - Regulatory Compliance Officer	Telephone
			MUD - Deputy Director of Collections	Telephone
			MUD - Assistant Director	Telephone / Email
			MUD - Director	Telephone / Email
			COS - City Manager's Office: Public Information Officer	Telephone / Email
			COS - City Manager's Office: Assistant to City Manager	Telephone / Email
			COS - City Manager's Office: Deputy City Manager	Telephone / Email
		Online	State Water Resources Control Board Online SSO Reporting System	http://ciwqs.waterboards.ca.gov
Category 1 SSO				
			California Office of Emergency Services (1,000 gallons or greater only)	(800) 852-7550 Report #
			MUD - Delta Water Supply Project	(209) 639-3972 (Senior) (209) 937-5633 (Office) (209) 639-4241 (Operator) (209) 768-8879 (CPO)
		Fax	Alameda County Water District	(510) 656-3426 Fax (M-F 8-4) (510) 657-5944 Fax (after hours)
		Fax	Alameda Co. Flood Control Dist, Zone 7	(925) 447-4517 Fax
		Fax	Contra Costa Water District	(925) 688-8274 Fax
		Fax	Santa Clara Valley Water District	(408) 395-5550 Fax
		Fax	San Joaquin Co. Flood Ch. Maint. Div.	(209) 468-8457 Fax
All SSO Discharges to San Joaquin County Stormwater Collection System				
			San Joaquin County Public Works	(866) 755-4955
All SSO Discharges to Reclamation District 1614 Stormwater Collection System				
			Reclamation District 1614	(209) 462-8061 / (209) 992-2827 Max Gallegos (209) 469-3133 Message

Attachment 2

Sanitary Sewer Overflow Response Procedures Checklist

SSO Date: _____

SSO Location: _____

Date	Performed by* (circle)	Response Procedure	Comments
	EC / C / M	Investigation and Assessment	
	EC / C / M	Notify Response Personnel	
	EC / C / M	Stop and Contain Overflow	
	EC / C / M	Assess Best Cleanup Method	
	EC / C / M	Begin Remediation	
	EC / C / M	Inspect Receiving Water	
	EC / C / M	Collect Samples	
	EC / C / M	Post Warning Signs	
	EC / C / M	Photographs	
	EC / C / M	Agency / Public Notifications	
	EC / C / M	CIWQS Data Entry – Draft	
	EC / C / M	Complete Remediation	
	EC / C / M	Collect Follow-up Samples	
	EC / C / M	Remove Warning Signs	
	EC / C / M	CIWQS Data Entry - Final	
	EC / C / M	CIWQS Technical Report	

* EC: Environmental Control; C: Collections; M: Maintenance

Attachment 3

Receiving Water Inspection / Sampling Log

Date _____ Time _____ Inspector _____

Spill Date _____

Spill Location _____

Receiving Water Location _____

Sewage Color None Light Moderate Heavy

Sewage Foam None Light Moderate Heavy

Sewage Solids None Light Moderate Heavy

Sewage Odor None Mild Moderate Severe

Aquatic Life No adverse impact observed

Impacted Describe _____

Photographs None Upstream Discharge Downstream

Warning Signs None Upstream Discharge Downstream

Samples None

Upstream Locations _____

Site and flow conditions _____

Discharge Locations _____

Site and flow conditions _____

Downstream Locations _____

Site and flow conditions _____

Attachment 4

**CITY OF STOCKTON
SANITARY SEWER OVERFLOW (SSO) DISCHARGE TO SURFACE WATER REPORT**

Notification to (via fax):	Alameda County Water District (M-F 8-4).....(510) 656-3426 (after hours).....(510) 657-5944 Alameda County Flood Control District, Zone 7.....(925) 447-4517 Contra Costa Water District.....(925) 688-8274 Santa Clara Valley Water District.....(408) 395-5550 San Joaquin Co. Flood Channel Maint. Division.....(209) 468-8457	
Reported by:	Richard Stiffler, Technical Services Supervisor 2500 Navy Dr., Stockton, CA 95206 Office: (209) 937-8740 Cell: (209) 993-3274	
Cal OES Report Number:		
Date / Time City Notified of SSO:	Date:	Time:
Location of SSO:		
Estimated Duration of SSO:	_____ Days _____ Hours _____ Minutes	
Estimated Total Volume of SSO:	_____ Gallons	
Estimated Volume of SSO Discharged to Receiving Water:	_____ Gallons	
Status of SSO:	_____ On-going _____ Overflow Stopped	
Receiving Water:	San Joaquin River or tributary to.	

**SANITARY SEWER OVERFLOW STANDARD OPERATING PROCEDURE
(SOP)**

Standard Operating Procedure for Sanitary Sewer Overflow Response	Creation Date: 12-30-03
Author: Tom Watkins, Collection System Supervisor Approved By: Ken Merkle, Senior Collection System Supervisor	Revision No. or Date: 4/29/2015
Scope and Location: Collection Systems	
List of Tools/Equipment/Material: Service truck or utility truck, plugs, broom, Hydro-vac truck, barricades, signs, sand, baling wire and/or zip-ties, shovel, pump sack, gunny sacks, traffic cones, etc...	
Safety/Hazards Identification and Required Safety Equipment: Traffic, traffic control related equipment Back strain from pulling maintenance hole covers	

Purpose: *To mitigate all sewer spills as quickly as possible, so that the effects of the sewage can be minimized with respect to its adverse impacts on public health, the environment, and property.*

Safety/Hazards Identification

1. Ensure that all Personal Protective Equipment (PPE) and equipment are available and used.
2. Safely control traffic flow around the spill area.
3. Provide crowd control measures to ensure public safety at all times. If assistance is necessary, contact Stockton Police Dept. – 937-7911 or Stockton Public Works Dept. – 937-8341

Procedure:

In the field:

1. Receive radio call from 249, or otherwise be notified of Sanitary Sewer Overflow (SSO) location.
2. Arrive on scene, put on appropriate PPE, and put up necessary devices to safely control traffic flow around the spill area.

3. Upon arrival, assess the situation (in no particular order):
 - a. Contain the SSO. Protect storm drain / catch basin inlet.
 - b. Take photos of the scene, to document volume (affected area)
 - c. Determine the most efficient way to clear the blockage of the SSO. Options for clearing the blockage include but are not limited to:
 - i. On Laterals:
 1. De-rooting the line with the spear head, or the auger.
 2. Plunging the line with the pump sack.
 - ii. On Mainlines
 1. Rod the line with the use of a hydro/vac or rodding machine
4. Mitigate the SSO.
5. Fill out the Sanitary Sewer Overflow Response Form (attached) during mitigation procedures as appropriate.
6. Determine if the hydro/vac truck is required to help with clearing the blockage and radio for it if necessary. The hydro/vac truck can help with:
 - a. Opening blockage.
 - b. Cleaning SSO in gutters, catch basins, storm systems or any other affected areas.
 - c. If the SSO has reached the storm system, the hydro/vac is required to flush the impacted sections with water 3 times the amount of the SSO.
 - d. If the storm system is on a lake or there is head pressure keeping the spill from flowing, this is considered a hydraulic surcharging of the system. The City will remediate the SSO by removing from the system at the point of containment a minimum of one hydro-vac load of wastewater (approx. 2,000-2,500 gals) or three times the volume of the SSO, whichever is greater.
7. If the SSO reaches a storm pump station, call Mechanical Maintenance Crews to shut down the storm pump station. Ensure that the correct storm pump station is identified. Clean up the surface area accordingly.
 - a. The City will remediate the SSO by flushing and pumping the contaminated water from the stormwater system to the sanitary system immediately unless the stormwater pump stations wet well elevations are too high to contain the SSO, or crews are otherwise directed by the Plant Maintenance Supervisor.
8. Notify Environmental Control Division (contact information on SSO Response Form) if:
 - a. The spill is Category 1 – Any spill that reaches receiving waters.
 - b. The spill is Category 2 – Any spill over 1,000 gallons.
 - c. ANY spill reaches a storm pump station.
 - d. ANY private spill where resident is unresponsive or has a high spill volume
 - e. ANY unknown material spill that has reached the storm system.

Environmental Control will ask for information regarding the volume, volume recovered, length of time, location of spill both starting and ending points, cause, circumstances, appearance points (if more than one), how it was calculated, and if it was fully captured.

Comply with Environmental Control's requests and directions.

9. If the backup is into a home or business, notify your Senior or Supervisor. Use care in speaking with the customer, good communication can keep the stress level of the customer down. Never act indifferent, uncaring, unresponsive, or incompetent. Always stay professional.
 - a. TAKE PICTURES of what has been damaged and what has NOT been damaged.
 - b. TAKE notes on what occurred and customer information. Give the customer the appropriate phone numbers as needed. Claims officer, Ken Minas (209) 937-8807 or go online to the Stocktongov.com website. Photos, history reports, and the CCTV report will be given to the claims department when notified.
 - c. DO NOT give out wrong information.
 - d. DO NOT speculate about the situation.
 - e. DO NOT make accusations against the customer or business or other public agencies.
 - f. DO NOT admit guilt or say things like, "It's our fault we will take care of everything".
10. Once the SSO has been contained and mitigated the serviceperson can leave to attend to additional emergency calls. If there are no other emergency calls waiting, the serviceperson will wait and assist the hydro/vac truck with clean up.
11. Take photos before, during and after clean up. If serviceperson is unavailable, photos can be taken by hydro/vac truck crew.
12. Route paperwork and photos to the Senior Collection Systems Operator at the end of shift.

In the office:

1. Receive SSO Response Form from servicemen and hydro/vac truck crews.
2. Determine the Spill Cause (See number 21 on the SSO Response Form). If the spill was caused by a:
 - a. MAINLINE PLUG – A follow up work task FCL 15d will be issued to clean the main, followed by an FTV30d, however, if there has been a recent CCTV done on the main, examination of that CCTV work may determine further action. Repairs or preventive maintenance will follow as necessary.
 - b. LATERAL PLUG – The lateral will be televised with a CSPA work task FTV15d, however, if there has been a recent CCTV done on the lateral, examination of the CCTV work may determine further action. Repairs or preventive maintenance may follow as necessary.
3. Do the math: estimate volume & spill, multiply by duration of spill
 - a. Measuring spill according to the back sheet of the SSO Response Form. (See attached form)
 - b. Rate of flow from maintenance hole overflows can also be determined by visual estimation. See attached pictures.
 - c. 300gpd (gallons per day) per home per 24hrs or 210gpd (gallons per day) per multifamily unit, i.e., duplex, triplex, apt. (multiply the number of units by 210gal) per 24 hrs

4. Report according to the Sanitary Sewer Overflow Emergency Response Plan, Section 4 – Reporting Procedures.

Monitoring and Control Set Points:

1. Environmental Control will determine if additional monitoring is required, and will work with the lab to arrange for the monitoring.

Emergency or Abnormal Operations:

Assist Environmental Control in the following situations:

1. For discharges to surface water, public health warning signs will be posted in the affected area at appropriate intervals on both sides of the banks, if possible, of the receiving water body.
 - a. Due to signs periodically being vandalized, stolen, etc., Crews will keep a map on sign locations. Electrical tie wires or baling wire are recommended to prevent signs from being thrown into the water, vandalized, or blown down.
2. For SSOs greater than 1,000 gallons entering the surface water, public health warning notifications shall be distributed door-to-door in known areas where residents utilize the surface water source for landscape irrigation purposes. Notification distribution procedures will follow Department guidelines under Environmental Control’s direction.
3. In the event of an SSO of 50,000 gallons or greater, environmental control will comply with the water quality monitoring program as specified in the Sanitary Sewer Overflow Emergency Response Plan, Section 8-Water Quality Monitoring Procedures.

Typical problems and issues that may arise with this equipment and Troubleshooting:

1. Do not over inflate the plug/ball that may cause injury to you or damage to the plug.
2. On Plugged Main Lines, if you have to run a line backwards, use the vacuum to keep the level of the full manhole from overflowing.

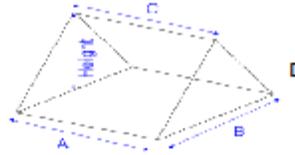
Attachment 1 – Sanitary Sewer Overflow Formulas

Spill Report Formulas

**ENTER EITHER FEET OR INCHES - NOT BOTH

Gutter Volume

	Ft	Inches
Top Length A		
Bottom Length C		
Base B		
Height D		



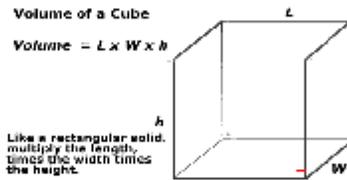
Cubic Ft	0	0
Gallons	0	0

Formula - Feet
 $Volume = ((2 \cdot A + C) \cdot B) \cdot (H) / 6$
 $Volume = ((2 \cdot A + C) \cdot B) \cdot (H) / 6 \cdot 7.48$

Formula - Inches
 $Volume = ((2 \cdot A + C) \cdot B) \cdot (H) / 6 / 1728$
 $Volume = ((2 \cdot A + C) \cdot B) \cdot (H) / 6 \cdot 7.48 / 1728$

Cube/Rectangular Volume

	Ft	Inches
Length		
Width		
Height		



Volume of a Cube
 $Volume = L \times W \times h$
 Like a rectangular solid, multiply the length, times the width times the height.

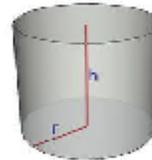
Cubic Ft	0	0
Gallons	0	0

Formula - Feet
 $Volume = L \cdot W \cdot H$
 $Volume = (L \cdot W \cdot H) \cdot 7.48$

Formula - Inches
 $Volume = (L \cdot W \cdot H) / 1728$
 $Volume = ((L \cdot W \cdot H) \cdot 7.48) / 1728$

Cylinder Volume

	Ft	Inches
Pi		3.142
Radius		
Radius		
Height		



Vac Loads capacity
 80% is 1000 Gallons

Cubic Ft	0.00	0.00
Gallons	0.00	0.00

Formula - Feet
 $Volume = 3.14 \cdot (R \cdot R) \cdot H$
 $Volume = 3.14 \cdot (R \cdot R) \cdot H \cdot 7.48$

Formula - Inches
 $Volume = (3.14 \cdot (R \cdot R) \cdot H) / 1728$
 $Volume = (3.14 \cdot (R \cdot R) \cdot H \cdot 7.48) / 1728$

Concrete

	Ft	Inches
Length		
Width		
Height	0.0026	0.03125



Concrete Spills

Cubic Ft	0	0
Gallons	0	0
% covered on Concrete		
Estimated Spill		0

Asphalt

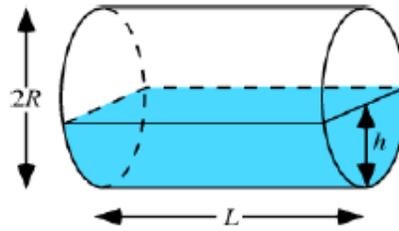
	Ft	inches
Length		
Width		
Height	0.0052	0.0625



Asphalt Spills

Cubic Ft	0	0
Gallons	0	0
% covered on Asphalt		
Estimated Spill		0

	Ft	Inches
Radius		
Diameter		
Length		
Height		
Formula for volume = $\text{Pi} \times \text{radius}^2 \times \text{length}$		
Cubic ft / in		
Gallons	0	0



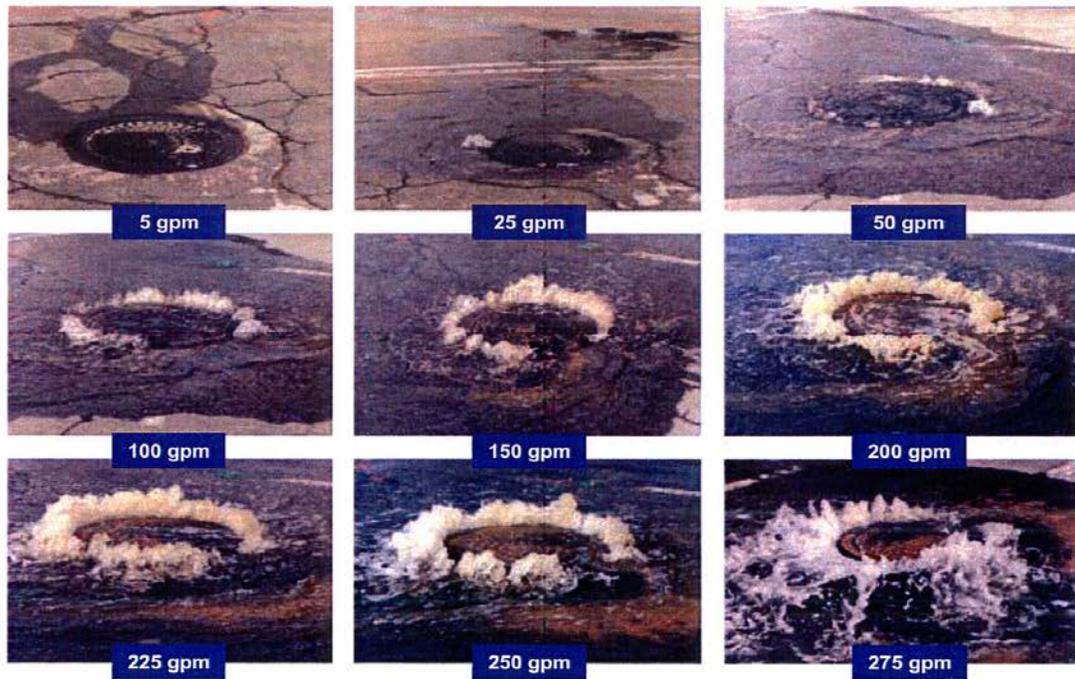
Go to link to calculate

http://www.onlineconversion.com/object_volume_cylinder_tank_partial.htm

Attachment 2 – Determining Overflow Rates from a Maintenance Hole

SSO/Backup Response Plan	FG 6.1
Determining Overflow Rates From a Maintenance Hole: Flow from a Maintenance Hole Picture Matching	

**Reference Sheet for Estimating Sewer Flow Rate
From Overflowing Sewer Maintenance Holes**
All estimates are calculated in gallons per minute (gpm)



All photos were taken during a demonstration using metered water from a hydrant in cooperation with the city of San Diego's Water Department