

City of Roseville-Wastewater Collection Sanitary Sewer Overflow (SSO) Response Procedures

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2. SSO Response Procedures

City of Roseville Wastewater Collection has developed the following procedures for responding to sanitary sewer overflows (SSOs). The purpose of these procedures is to ensure that all SSO responses are handled efficiently and effectively and that all regulatory requirements are met. Collection Systems Division staff is required to know and follow these procedures. These procedures are summarized in the SSO Flow Chart attached to this document and are also presented in detail below.

I. Goals of SSOERP

The purpose of this SSOERP is to ensure that the City of Roseville Wastewater Collection personnel follow established guidelines in cleaning up and decontaminating SSO's which have occurred within the City's collection system service area. The goals with respect to responding to SSO's are:

- A.** Respond quickly to minimize the extent of the SSO;
- B.** Quickly eliminate the cause of the SSO;
- C.** Contain the spilled wastewater to the extent feasible;
- D.** Eliminate public contact with the SSO;
- E.** Mitigate the impact of the SSO; and
- F.** Meet the RWQCB Monitoring and Reporting requirements

II. Investigate and Assess Problem (WWC Personnel)

Collection system personnel responds and performs a quick assessment of the overflow to determine the extent of the overflow, what additional resources will be needed, and if notification of Superintendent/Supervisor is required at that time.

- A.** Locate SSO by address, cross street and point of overflow (i.e. manhole, cleanout, pump station, broken pipe). Note time call was received, as well as time of arrival. Advise customer to stop use of all water in house. See Appendix A for documenting start time of SSO.
- B.** Determine the current magnitude of the SSO
 - 1. Flooded Structure?- See Appendix B
 - 2. Storm water inlet or drainage way
 - 3. Potential for public exposure
 - 4. Related problems
 - i. Is overflow related to a street collapse?

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- ii. Is overflow related to construction work?
 - iii. Is overflow causing a traffic hazard such as displace manhole cover or street flooding?
5. Provide initial estimate of overflow rate using pictures and tables (see tab 6 for spill estimation)
6. If SSO is a category 1 or 2 spill, notify WWC Supervisor or Superintendent as soon as possible, then refer to Sec. II and start containment
7. If SSO is category 3 spill, refer to Sec II, and start containment
8. Spill categories are defined below:
 - i. *Category 1 – spill is defined as **any amount** of wastewater resulting from a failure or flow condition that **reaches surface water** or a drainage tributary to surface water.*
 - ii. *Category 2 –defined as discharges of wastewater of 1,000 gallons or greater, resulting from a failure or flow condition that **do not reach** surface water or a drainage channel or storm system unless the entire SSO discharged has been fully captured and disposed of properly*
 - iii. *Category 3 – spill is defined as all other discharges of wastewater resulting from a failure or flow condition in the enrollee’s system.*

NOTE: Superintendent or his designee will handle all notification to regulatory agencies regarding the reportable SSO.

- C. *If SSO reaches surface water or drainage channel tributary to surface water, and is 50,000 gallons or greater, sample receiving water to obtain baseline data. Sample should be taken 100 feet upstream of the SSO entry point, at the entry point and 100 feet downstream as determined by site-specific conditions. See Appendix C*

III. Contain SSO (WWC Personnel)

The overflow must be contained. Containment becomes more difficult if the overflow reaches the storm drain system or drainage way, since the overflow can rapidly contaminate receiving waters, such as creeks, streams, rivers, and other water bodies. During dry weather, the storm drain system can be used to store the overflow, if it can be plugged downstream of the overflow.

A. Options for containing overflow

1. Containment berm at catch basin or drain inlet

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2. Rubber mats and sandbags at catch basin or drain inlet
 3. Sand bags in gutter
 4. Dig trench in ground
 5. Dry sweep
 6. Vactor
- B. Overflow in building**
1. If necessary evacuate affected people
 2. Advise customer to keep family members and pets out of contaminated areas, and not to track contamination throughout non-affected areas.
 3. Notify Risk Management at 774-5420 during business hours. After hours, if no answer, contact Chuck at 435-4959 or Art at 956-3222.
 4. If adjuster or Risk Management can't be reached, contact one of the approved restoration companies.
 - i. Serv-Pro 916-632-2250
 - ii. Restoration Mgmt Co. 916-609-2400 or 800-400-5058
 5. ***If Restoration Company arrives before the adjuster, authorize only emergency cleaning services only. Hand resident our camera, and request them take pictures of affected area. Do not enter house.***
 6. If property owner declines cleaning services, request they sign and date the Declination of Clean Up Services Form.
- C. Overflow into storm drain/drainage ditch**
1. Trace overflow in storm drainage system to downstream end point.
 2. Plug all affected storm drain outfalls, or block the creek and channels to contain spill.
 3. Turn off storm water pump station if available
 4. Hydro mains and vacuum all water from storm drain basin.
- D. If SSO is a Category 1 spill, post warning signs around containment area and follow directions from RWQCB Staff (Region 5) or Fish and Game Staff.**
- E. Required equipment for containing overflows.**
1. Overflow onto ground or into building structure.
 - i. Containment berm
 - ii. Sand bags
 - iii. Plastic sheets
 - iv. Dry sweep
 - v. Vactor

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2. Overflow into a storm drain/drainage way
 - i. Pneumatic plugs
 - ii. Bypass pump
 - iii. Vactor
 - iv. Sandbags
3. Overflow at lift station
 - i. Vactor
 - ii. Bypass pump
 - iii. Emergency generator
4. Warning signs to post around contaminated area.
5. Begin preliminary notifications – Refer to SSO notification guide (Tab

IV. Traffic Control (WWC Personnel)

Traffic control may be needed immediately to protect the public or maintenance staff. Typically, immediate traffic control is needed if there is a street collapse or significant depression in the pavement that is related to the sewer, if the manhole cover is ajar, or if the overflow causes flooding of the street. Traffic control may also be needed to prevent wastewater from being further dispersed and to protect the maintenance crew while containing the overflow and removing the blockage.

- A.** Provide traffic control per Cal Trans Work Area Traffic Control Handbook (WATCH)
- B.** If necessary, use other departments (i.e. Police/Fire, Public Works) to ensure proper traffic control.

V. Correct Cause (WWC Personnel)

The cause of the overflow may be located a considerable distance downstream of the SSO in areas with flat terrain. During large storms, overflows can be caused by excessive I&I in the collection system. I&I can greatly increase the flow in a collection system and cause overflows from pipes that are only partially blocked. I&I can also directly affect the hydraulic capacity of mainlines and lift stations. Under these conditions, it may not be possible to stop the overflow, until the flows recede.

- A.** Locate cause of overflow
 1. Sewer main
 - i. Check flow in manholes
 - ii. Blockage should be between a manhole with sluggish flow or surcharging and a manhole with very little flow or is dry.

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2. Sewer service

- i. Check flow in city cleanout. If cleanout is dry, and resident is still plugged, stoppage is located on private property, and is not the city's responsibility.
- ii. If no city cleanout exists, after attempts to locate, notify resident the problem is on their side, and explain city cleanout policy. Check mains, both upstream and downstream.
- iii. If service line is on a dead end run, regardless if the cleanout is clear, clean the mainline segment with Vactor.

3. Lift Station

- i. Check alarm status inside control panel for indication of problem.
- ii. If power is present, but pumps aren't operating, switch control to hand.
- iii. If pumps operate in hand, refer to Lift Station Failure Procedure (Tab 10).
- iv. If no power is present, contact Roseville Electric, determine remaining level in station, and contact Collection Personnel for assistance. Refer to Lift Station Failure Procedure (Tab 10)

B. Clear Blockage

1. Sewer Main

- i. Clear mainline blockage using Vactor from dry manhole.
- ii. Determine possible cause of blockage and note on Field Spill Report Form.
- iii. Refer to SOP WWC-002 For Vactor

2. Service Line

- i. Clear blockage using Gas powered EEL or Model C Electric Eel. Refer to SOPs WWC-007 and 020
- ii. Call additional personnel if assistance is needed.

3. If blockage cannot be cleared

- i. Increase containment and initiate bypass pumping
- ii. Perform CCTV inspection to determine potential problem
- iii. Dig and repair sewer line at blockage location

C. Lift Station

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1. If no power is present :
 - i. Contact Roseville Electric to verify outage and time estimation of power being restored.
 - ii. Determine the wet well level and remaining downtime left at the station.
 - iii. If downtime exceeds the max allowable retention, contact collection system personnel, and request Vector support.
 - iv. If power outage is extensive, contact additional personnel for 2nd Vector support.
 - v. Continue vacuuming wet well until power is restored, and lift station is running in auto.
2. If power is present, but pumps aren't operating:
 - i. Attempt to operate pumps in "hand" position. If pumps do operate in "hand", contact on call electrician, and continue to operate and monitor levels in the wet well.
3. If SSO is caused from force main failure, all power to lift station panel will be controlled using identified energy control procedures (ECP). Wet well levels will continue to be monitored using Vectors or by-pass pumping, until repairs can be made to force main.
4. If portable generation is needed at lift station, on call electrician needs to be present for the connection. All panels have external plugs and disconnects for portable generation connection. Each lift station location has a specific pre-made cable for generator connection.

VI. Final Volume Estimate (WWC Personnel)

The final overflow volume is estimated to determine if additional reporting to regulatory agencies is required and for the City of Roseville's records. There are several methods that can be used to determine spill volume

- A.** Estimate final overflow rate using tables and pictures (refer to Tab 6)
- B.** Overflow volume can be estimated by multiplying the overflow duration by the overflow rate. Subtract the total volume captured from the overflow estimate to get the final volume of SSO.

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- C. Overflow volume can be estimated by using the measured Volume Chart (SOP WWC-001) If measure volume is used, show process and formula used to figure gallons of SSO.(i.e. $L \times W \times D / 7.48$)
- D. Eyeball/Visual estimation where you visualize what a 5 gallon bucket spilled would look like.

VII. Initiate Cleanup (WWC Personnel)

Disinfection of contaminated soil or drainage ways is only performed when directed by appropriate agencies such as Placer County Environmental Health and CA Dept of Fish and Game

- A. Flooded building or structure
 1. If building or structure is flooded due to a failure in the city's collection system, contact Risk Management or George Hills Company. Claims administrators will respond and assess and notify restoration companies on contract with the city.
 2. Storm Drain or Drainage Way
 - i. Pump out or vacuum any ponded water present
 - ii. Remove debris
 - iii. Wash concrete and contain all wash water and remove
 - iv. Remove contaminated soil and plants
 - v. High pressure clean affected storm drains and vacuum all water
 - vi. Remove all containment and finish flushing and vacuuming area
 3. Street, Curb or Gutter
 - i. Remove debris with Vactor
 - ii. Wash pavement, curb and gutter area , and vacuum all water with Vactor
 - iii. If Vactor decant pump is used, utilize decant apparatus to alleviate possibility of secondary spill and provide fall protection at open manhole.

VIII. Receiving Water Sampling (Industrial Waste Section)

To comply with subsection D.7(v) of the Waste Discharge Requirements(WDR), *water quality samples are required within 48 hours, whenever a Category 1 SSO, greater than 50,000 gallons, reaches surface waters.* Follow the guidelines in Appendix C for acquiring water samples.

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IX. Notification Requirements (Superintendent/Supervisor)

All overflows are required by law, to be promptly reported to regulatory agencies. The Legal Responsible Official (s) or their designee will make all notifications to regulatory agencies regarding reportable SSOs. All SSOs are tracked in the City of Roseville's CMMS.

- A.** Prompt notification to regulatory agencies will be achieved by using the SSO Notification Guide (Tab 4)
- B.** All information regarding the spill will be documented on the SSO Field Report Form
- C.** Documentation and Data Tracking
 - 1. All SSOs are tracked with a service request module in the City of Roseville's CMMS. Completed service requests, work order requests and any overtime tags are turned into Superintendent/Supervisor for QA/QC. These are all resolved in the CMMS. Service requests for after-hours call will be generated the following business day.
 - 2. Follow up PM work orders are generated to CCTV inspect affected lines and recommendations from CCTV crew are reviewed by Superintendent or Supervisor. Further recommendations regarding repair, replacement, or preventative maintenance schedule adjustment are made on the System Failure Analysis Form.
 - 3. Field report forms are turned into Supervisor and Superintendent transfers data to the CIWQS website.
- D.** Ensure that all appropriate documentation has been completed in the CMMS.
 - 1. Private commercial spills, crew will provide a work order request to Supervisor documenting hours worked, equipment used and actions taken for billing purposes.
 - 2. Private residential spills, crew will provide a work order request to Supervisor documenting hours worked, equipment used and actions taken.

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X. Appendix A- SSO Start Time Documentation Policy

- A.** Upon receiving call, note exact time that call received from answering service or administrative staff. This time will be used as a **base** for when the SSO started. Notify resident or business to stop using all water if possible.
- B.** Upon arrival, note if spill location point is or is not actively spilling. If not spilling from spill location point, but there is clear evidence of spill that requires a Vactor for cleanup effort, then document occurrence as a spill.
- C.** Initiate SSOERP to ensure that the SSO is contained and the cause is corrected.
- D.** Photograph all affected areas, during the SSO, demonstrating containment and after cleanup. Use something in picture to gauge size of area features (i.e. tape measure, 5 gal bucket, etc) Email pictures to the Superintendent after completing necessary paperwork.
- E.** Provide detailed description of the SSO event, including exact times of arrival, SSO stop time, containment procedures, and names of collection personnel assisting you in the overflow.
- F.** The following questions should be asked of the resident or the individual reporting the potential SSO:
 - 1. Did you notice water coming from the cleanout at the property line or manhole in the street? If so, what was the approximate time?
 - 2. Were your drains running slowly at any time prior to you calling? If so, what was the approximate time?
 - 3. If there were neighbors outside, close to the area of the SSO, did they notice water spilling? If so, what was the approximate time?
 - 4. Be prepared to provide a brief summary of how you determined the start time, describing the steps you took while coming to your decision.
- G.** If the above questions do not produce an accurate account for the SSO start time, use the time the call was received by either the office personnel or the after-hours answering service, and subtract 15 minutes. Record this time as actual start time on the SSO Field Report Form.
- H.** In the event of an SSO from a sewer lift station, the start time will be determined using information gathered from the SCADA system.
- I.** SSO Stop time will be determined by either:
 - 1. Clearing the blockage or when the overflow is contained and controlled.
 - 2. The arrival time of the service worker, if the overflow had stopped prior to their arrival.

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XI. Appendix B- Flooded Structure Procedures

In the event a failure in the City's wastewater collection system causes a Sanitary Sewer Overflow in a resident's home or business, instruct them to:

- 1. Keep people and pets away from the affected area(s), and do not track contamination throughout non-affected areas.*
- 2. Don't attempt to clean up the overflow. Instruct them the city has restoration companies available and will respond.*
- 3. Turn off all central heat and air-conditioning systems and prevent flow from reaching any floor vents with towels or blankets.*
- 4. Leave these items in the affected areas for restoration companies to cleanup.*

Contact Risk Management or George Hills Company at 774-5420 during normal business hours. After hours, if no answer, contact Chuck at 435-4959 or Art at 956-3222. They will assess and notify restoration companies on contract with the city to respond. If the resident refuses the offered clean-up services, ask them to sign the declination letter, refusing the service.

If the resident chooses to file a claim for damages, instruct them they must fill out a Tort Claim Form.

A claim form can be obtained in the following ways:

- In person at the Roseville Civic Center, City Clerks Department and Risk Management Division, 311 Vernon St., Roseville, CA .*
- By mail, by contacting the Risk Management Division at (916) 774-5202 or e-mailing the request to riskmanagement@roseville.ca.us*
- Electronically by following this link:
http://www.roseville.ca.us/hr/risk_management/how_to_file_a_claim.asp*
- Completed forms must be returned by mail or in person to the City Clerk's office at the Roseville Civic Center.*

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XII. Appendix C- Water Quality Sampling Procedures

Water quality sampling is required within 48 hours of initial SSO notification for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters. Water quality results are required to be uploaded into CIWQS for Category 1 SSOs 50,000 gallons or greater. Sampling will be conducted where feasible both upstream and downstream of the entry point of the SSO, and shall be a minimum of 100 feet upstream and downstream of the entry point. Omit sampling procedures if storm waters are high and sampling would be impractical and a safety risk.

When sampling, the following guidelines must be followed:

- Keep the collection bottle closed until ready to sample. Do not contaminate inner surface of the lid or bottle rim.*
- Quickly plunge the bottle into the water approximately 1 foot below the surface and facing upstream. Collect the sample away from the creek bank so as to minimize contaminating the sample.*
- Immediately replace cap and secure the sample to avoid contamination.*
- Label container with date, and time collected and distinct sample site information, indicating where sample was taken in relation to entry point.*

Samples should be stored and transported according to the following procedures:

- Place sample bottle in a cooler with frozen blue ice. Sample should be kept at 6°C. (Ice may be used, but care must be taken so water samples are not contaminated by the ice.)*
- All water samples will be immediately transported to the Dry Creek Wastewater Treatment Plant Water Quality Laboratory for analysis. (Samples must be analyzed within EPA approved holding times.)*
- At a minimum, samples will be analyzed for Ammonia Nitrogen, Total (as N), pH and Electrical Conductivity.*

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XIII. SSO Emergency Response Procedures-Signature Page

I have read the Sanitary Sewer Overflow Emergency Response Procedure and understand its contents. By signing below, I attest that I will adhere to these procedures, and if not followed, may result in disciplinary actions.

Received and Read By: _____

Title: _____

Signature: _____

Date: _____