SSO Emergency Response Procedures

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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.*** *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)

Assessment starts with the phone call from the customer. Advise customer to stop all use of water in the home or business. Obtain as much information from customer as possible. Relevant information includes:

- Description of problem
- Specific location (e.g. manhole in street, front or back of property, cleanout box)
- Time the possible SSO was noticed
- Any other observations from the caller (e.g. odor, duration of spill, currently spilling)
    - If you believe an active spill is occurring, mobilize a hydro-vac prior to arriving to access the call.

The City staff person that arrives first to the scene, is considered the ***First Responder***. Upon responding, city staff member performs a quick assessment of the overflow to determine the extent of the overflow.

The ***First Responder*** is responsible for the following:

- Requesting additional wastewater crews or other personnel as needed
- Notification of Superintendent/Supervisor in the event of Category 1 or 2 SSOs
- All field documentation including pictures of the SSO and final field spill report.
- Protection of the health and safety of the public by preventing contact with the SSO

The first responder shall:

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. 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?
    ii. Is overflow related to construction work?
    iii. Is overflow causing a traffic hazard such as displaced 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. Refer to Appendix C for sampling information.*

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 point.

A. Options for containing overflow

1. Containment berm at catch basin or drain inlet
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 or 774-5202 during business hours. After hours, of if no answer, contact Dave Rawe at 209-613-9448.
4. If adjuster or Risk Management can't be reached, contact one of the approved restoration companies starting with:
    i. Restoration Management Co. 800-400-5058
    ii. Serv-Pro 916-632-2250
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 and system.

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 Wildlife Staff.

E. Example 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

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

IV. Traffic Control (WWC Personnel)

Traffic control may be needed immediately to protect the health and safety of the public and/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 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.
C. Control public contact with the SSO by isolating the area with barricades, signs or traffic cones.

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.
    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, but the resident has a 4" private cleanout, run this private cleanout to clear the blockage. Once cleared, CCTV to determine the location of problem (***Refer to Appendix D, Sec 6***)
iii. If no city or private cleanout can be located, check mains, both upstream and downstream. If the main is running clear, notify the resident the problem is on their side, and explain city cleanout policy
iv. 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 is 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

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 Vactor support.
iv. If power outage is extensive, contact additional personnel for 2nd Vactor support.
v. Continue vacuuming wet well until power is restored, and lift station is running in auto.

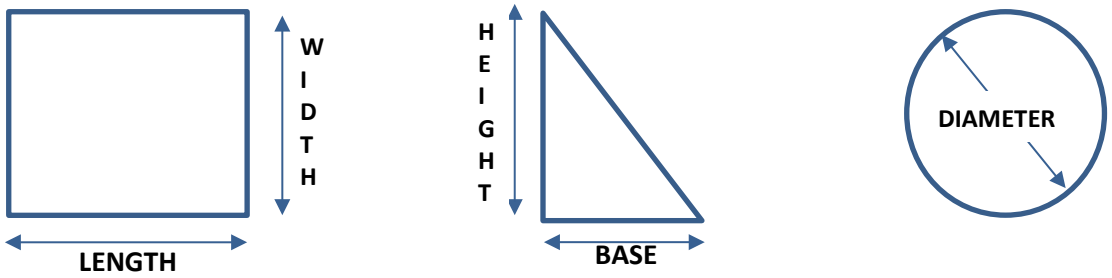
2. If power is present, but pumps aren't operating:
   i. Attempt to operate pumps in "hand" position. If pumps do operate in "hand", contact on call electrician, and continue to operate and monitor levels in the wet well.
3. If SSO is caused from force main failure, all power to lift station panel will be controlled using identified energy control procedures (ECP). Wet well levels will continue to be monitored using Vactors 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 when reporting to CIWQS. A minimum of five (5) pictures are required for every spill response, and locations are noted on the field spill report. Place an object in the photo for contrast. The following methods are approved for determining the gallons spilled during an overflow event.

Eyeball Estimation- Estimate the overflow rate out of a clean out by estimating the time needed to fill up a known volume, such as a five-gallon bucket. Imagine the amount of water that would spill from this bucket. This method is useful on spills that occur on hard surfaces such as concrete or asphalt

Measured Volume- The 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 area and volume of the spills.



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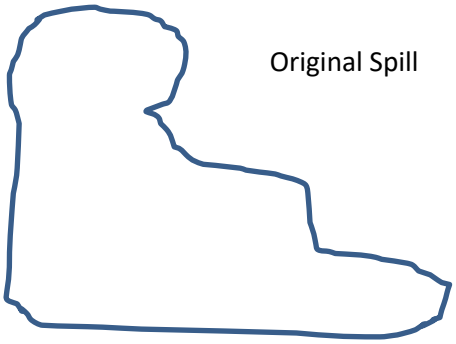
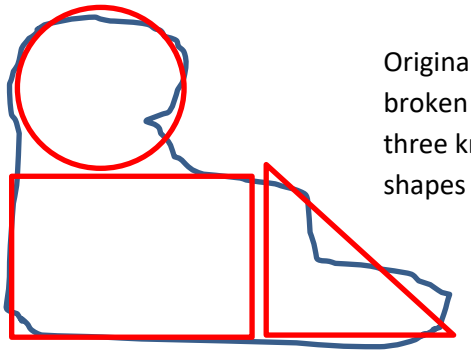
1. Determine the shape of the spill
2. Measure or pace off the dimensions. Measure the depth at several locations and calculate the average. Convert all dimensions to feet.
3. To calculate the area square footage use the following:
    a. Rectangle: Length (ft.) x Width (ft.)
    b. Triangle: Height (ft.) x Base (ft.) x .5
    c. Circle: Diameter (ft.) x Diameter(ft.) x .785
    d. Multiply the area (sq. ft.) by the depth (feet), to get the volume in cubic feet. Multiply your volume by 7.48 to convert to gallons.

Not all SSO's will conform to the shapes above. If this occurs, break the area up as much as possible into known shapes and calculate the volume in each.



Original Spill

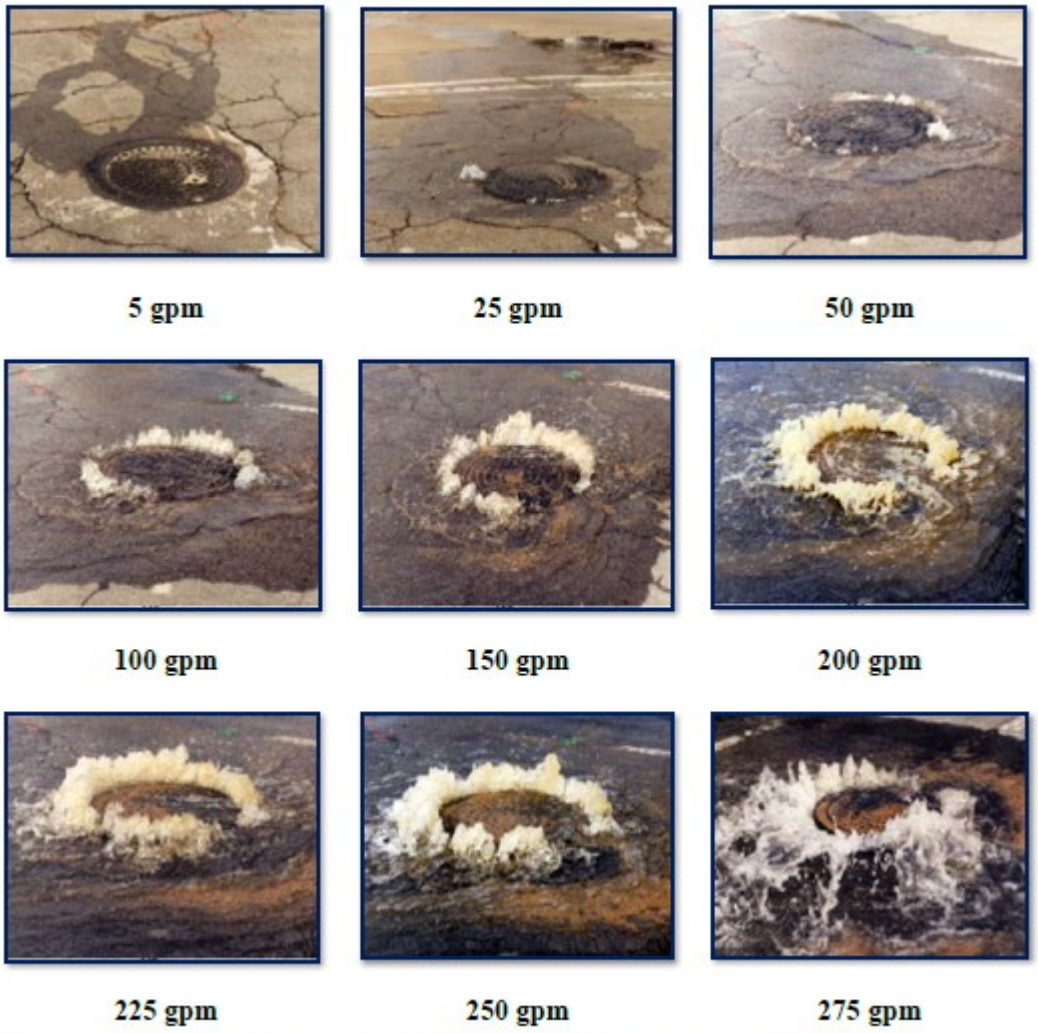


Original spill broken out into three known shapes

Calculating large volume spills is challenging because the area and depth are difficult to measure, and chances are these spills are not fully contained. Several methods are available to determine the volume.

Flow Estimation Chart- The table below (Section 5 of the SSOERP binder) presents pictures with varying flowrates of sewage overflowing from a manhole. Estimate the overflow rate by comparing the overflowing manhole with the pictures shown below.

Estimating Sewer Flow Rates from Overflowing Sewer Manholes[1]



[1] Sourced from City of San Diego Metropolitan Wastewater Department "Reference Sheet for Estimating Sewer Spills from Overflowing Sewer Manholes" (April 1999).

Flow Rate and Duration- Overflow volume can be estimated by multiplying the overflow duration by the overflow rate. The overflow rate can be determined by pick hole or vent hole spill height (section 5, SSOERP binder), flow meter data, SCADA information and pump data from lift stations.

The overflow volume can be estimated with the following formula:

Volume (gal)= estimated flow rate (gpm) x duration of overflow (minutes)

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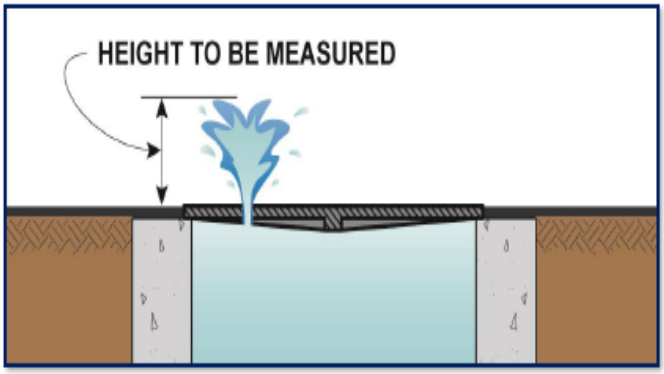
The charts below represent measurement point and flow rates based off height of water column measured



Height of Spout Above Manhole Frame, H (inches)	SSO Flow Rate, Q (gpm)	Height of Spout Above Manhole Frame, H (inches)	SSO Flow Rate, Q (gpm)
1/8	1.0	5 1/8	6.2
1/4	1.4	5 1/4	6.3
3/8	1.7	5 3/8	6.3
1/2	1.9	5 1/2	6.4
5/8	2.2	5 5/8	6.5
3/4	2.4	5 3/4	6.6
7/8	2.6	5 7/8	6.6
1	2.7	6	6.7
1 1/8	2.9	6 1/8	6.8
1 1/4	3.1	6 1/4	6.8
1 3/8	3.2	6 3/8	6.9
1 1/2	3.4	6 1/2	7.0
1 5/8	3.5	6 5/8	7.0
1 3/4	3.6	6 3/4	7.1
1 7/8	3.7	6 7/8	7.2
2	3.9	7	7.2
2 1/8	4.0	7 1/8	7.3
2 1/4	4.1	7 1/4	7.4
2 3/8	4.2	7 3/8	7.4
2 1/2	4.3	7 1/2	7.5
2 5/8	4.4	7 5/8	7.6
2 3/4	4.5	7 3/4	7.6
2 7/8	4.6	7 7/8	7.7
3	4.7	8	7.7
3 1/8	4.8	8 1/8	7.8
3 1/4	4.9	8 1/4	7.9
3 3/8	5.0	8 3/8	7.9
3 1/2	5.1	8 1/2	8.0
3 5/8	5.2	8 5/8	8.0
3 3/4	5.3	8 3/4	8.1
3 7/8	5.4	8 7/8	8.1
4	5.5	9	8.2
4 1/8	5.6	9 1/8	8.3
4 1/4	5.6	9 1/4	8.3
4 3/8	5.7	9 3/8	8.4
4 1/2	5.8	9 1/2	8.4
4 5/8	5.9	9 5/8	8.5
4 3/4	6.0	9 3/4	8.5
4 7/8	6.0	9 7/8	8.6

Unrestrained manhole cover will start to lift

Figure 1- Flow Rate Exiting MH Pick Hole

Estimated Flow EDU Chart- This method can be used for overflows 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 SSO. The table below is based off our design criteria of 190 gpd. and is included on the Field Spill report. It is a quick way to estimate volume from small overflows.

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Time Period	Estimated City Flow Rate Per EDU (190 gpd)				Spill	
	A	B	C	D	E	F
	Gallons Per Period	Hours Per Period	A÷B = Gallons Per Hour	C÷60 = Gallons Per Minute	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						

However, if a large spill occurs with multiple homes, commercial or mixed-use involved, and there isn't sufficient information to calculate an estimate, use the City of Roseville Design Standard, Average Dry Weather Unit Flow Factors chart below. Count the units that are affecting the overflow and multiply by the flow factors from the chart below based on the land use designation. The City's Design Standards can found at: https://p1cdn4static.civiclive.com/UserFiles/Servers/Server_7964838/File/Government/Departments/Development Services/Engineering/Design and Construction Standards/2020 DS Sections/DS - SECTION 9 - Jan.2020.pdf

Table 1 – Average Dry Weather Unit Flow Factors

Land Use Designation	Units	Flow Factor (gpd/unit)[1,3]
Commercial	gpd per acre	850
Heavy Industrial	gpd per acre	850
Light Industrial	gpd per acre	850
Mixed Use	gpd per acre	2,300
Public/Quasi-Public	gpd per acre	660
Schools	gpd per acre	170
Residential 1 DU	gpd per DU	190
Residential 2 DU	gpd per DU	190
Residential 3 DU	gpd per DU	190
Residential Multiple DU[2]	gpd per acre Or gpd per DU	2,040 Or 130
Open Space	gpd per acre	0
Parks> 10 Acres	gpd per acre	10
Vacant	gpd per acre	0

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 Dave Rawe after hours. Risk Management 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.

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 or Superintendent, who enters data into the CIWQS website. A minimum of 5 pictures is required for every SSO

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.

Appendix A- SSO Start Time Documentation Policy

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.

A. 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.

B. Initiate SSOERP to ensure that the SSO is contained and the cause is corrected.

C. 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.

D. 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.

E. 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.

F. 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.

G. If the evidence of the spill travels a farther distance than the logic of the 15 minutes, the field crew/responders shall try to recreate the spill the following day, using clean water.

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. The arrival time of the service worker, if the overflow had stopped prior to their arrival.
2. Clearing the blockage.
3. Interview of resident or witnesses

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 at 774-5420 or 774-5202 during normal business hours. After hours, of if no answer, contact Dave Rawe, Risk Manager at 209-613-9448. 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 Government 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.

Appendix C- Water Quality Sampling Procedures

This water quality sampling procedure describes the process and the sampling methodology to be used in the event of a sanitary sewer overflow exceeding 50,000 gallons. The water quality sampling results will enable the division to prioritize areas of concern regarding water quality impacts. Surface water samples will be collected using a grab sample technique. Employees are required to wear new sterile powder free surgical gloves when collecting all samples.

Trigger for Sampling -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.

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.

Where to Sample-

1. Source of SSO - Determine the entry point (source) of the SSO into the creek, and move downstream approximately 10 feet downstream.
2. Upstream Sample – Sample at a point 100 feet upstream from the source.
3. Downstream Sample – Sample at a point 100 feet downstream from the source. Determine the water velocity present in the creek or body of water during the SSO. Dropping debris in the creek, 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. Multiply the water velocity by the spill duration to figure the furthest point downstream to sample.

Sampling Procedure-

1. Put on required PPE(safety glasses and latex gloves)
2. ***Collect Upstream Sample*** - Move approximately 100 feet upstream of the source.
   - **a.** Label the bottle accordingly and take a picture of the location you are sampling.
   - **b.** Sample away from the bank, and avoid any debris or scum layer from the surface.
   - **c.** Fill the bottle against the direction of flow, replace the cap and secure the sample to avoid contamination.
   - **d.** Use a thermometer to measure the temperature of the upstream sample location and record the results.
3. ***Collect Source Sample-*** Move approximately 10 feet downstream of the source location.

   a. Label the bottle accordingly and take a picture of the location you are sampling.
   b. Sample away from the bank, and avoid any debris or scum layer from the surface.
   c. Fill the bottle against the direction of flow, replace the cap and secure the sample to avoid contamination.
   d. Use a thermometer to measure the temperature of the source sample location and record the results.

4. ***Collect Downstream Sample –*** Move approximately 100 feet downstream of the source.
   a. Label this sample "Downstream 1" and take a picture of the location you are sampling.
   b. Sample away from the bank, and avoid any debris or scum layer from the surface.
   c. Fill the bottle against the direction of flow, replace the cap and secure the sample to avoid contamination.
   d. Use a thermometer to measure the temperature of the downstream sample 1, and record the results
5. ***Collect Downstream Final Sample*** - After using the velocity and distance to determine the furthest downstream sample point, move to that location.
   a. Label this sample "Downstream Final" and take a picture of the location you are sampling.
   b. Sample away from the bank, and avoid any debris or scum layer from the surface.
   c. Fill the bottle against the direction of flow, replace the cap and secure the sample to avoid contamination.
   d. Use a thermometer to measure the temperature of the sample, and record the results

Required Water Quality Analyses – As detailed in section C-5 of Monitoring and Reporting Program (MRP), Order WQ- 2013-0058, a Technical Report shall be submitted in CIWQS online database with 45 calendar days. All samples will be immediately transported to the nearest certified water quality laboratory for analysis (DCWWTP or PGWWTP labs). The sample 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

Equipment and Supplies – The following items and PPE are required for sampling:

SSO Emergency Response Procedures

1. Cooler with Blue Ice
2. Sterile sampling bottles
3. Powder free latex gloves
4. Safety glasses
5. Marking pen
6. Field log forms

Appendix D- Sewer Call For Service

When dispatched to a home experiencing sewer problems, the following procedures should be adhered to provide the resident with the best possible customer service and quickly correct the problem causing the SSO.

Residential

1. Make contact with the homeowner or resident upon arrival. Explain the process you will use to determine the problem. Resident should have already been instructed to stop all water use, so if water is still spilling from cleanout, check the nearest upstream manhole on the mainline for a blockage.
2. If no cleanout is visible, look in CMMS for cleanout location, look for an "S" marked in the curb, or other information that might indicate a cleanout.
3. If a city cleanout is found, clear the lateral blockage using the eel and a root cutting head, do not use a hand tape. CCTV to ensure line is clear, and all blockages have been removed. Record all time and pertinent information you have found on a work order, service request, or for after-hours calls, your overtime tag.
4. If no cleanout is found, locate the closest downstream manhole, and call for Vactor assistance, and run the main.
5. If the residence does not have a city cleanout, and the above procedures did not alleviate the blockage, we will use our equipment to run a "Viable" cleanout that belongs to the resident. This "viable" cleanout should be a factory fitting 4" cleanout, either a wye or combo wye, that we can easily get our equipment into and service the line. Once the line has been cleared, we will CCTV through this same cleanout, and determine where the blockage was located.
6. If the blockage was located below the location a city cleanout should be installed, we will schedule a cleanout installation during normal business hours.
7. If the blockage is located within the customer's service line, notify them that the problem is in their portion of the lateral, the location and severity of the problem .Advise the resident of the City's policy for cleanout installation, and let them know this is a one-time service, and the city will not clear future blockages from the homeowner's cleanout.
   Document all information in the CMMS under activity code- SPHCC, (Sewer Plug Homeowner City Cleared) on a service request.

Private Commercial

When dispatched to a commercial property experiencing an SSO, start containment of the spill immediately. Notify the manager to stop using water and to call a plumber. Make sure the manager understands City staff will be containing the spill until their plumber responds, and they will be billed for staff and equipment. If after 60 minutes, the plumber doesn't show, notify Placer County Health Department. Notify your supervisor that the health department has been called and to discuss possibly clearing the main or service.

Appendix E- Sewer Lift Station Failure Response

The purpose of this procedure is to define strategies necessary to prevent an SSO from a lift station, in the event of a power or component failure within a lift station. The City of Roseville operates and maintains 14 neighborhood lift stations. Each station is equipped with SCADA, monitored 24 hours per day by wastewater treatment plant personnel. Each station has the maximum allowable downtime posted inside the door of each control panel. This identifies the retention time and the storage capacity in the collection system assets, before an SSO will occur. The lowest identified manhole is also identified to assist on call personnel in determining the remaining downtime. In the event of a lift station failure, the plant operator will notify the answering service that an alarm has been activated at a station, and the on call service worker will respond and assess the alarm.

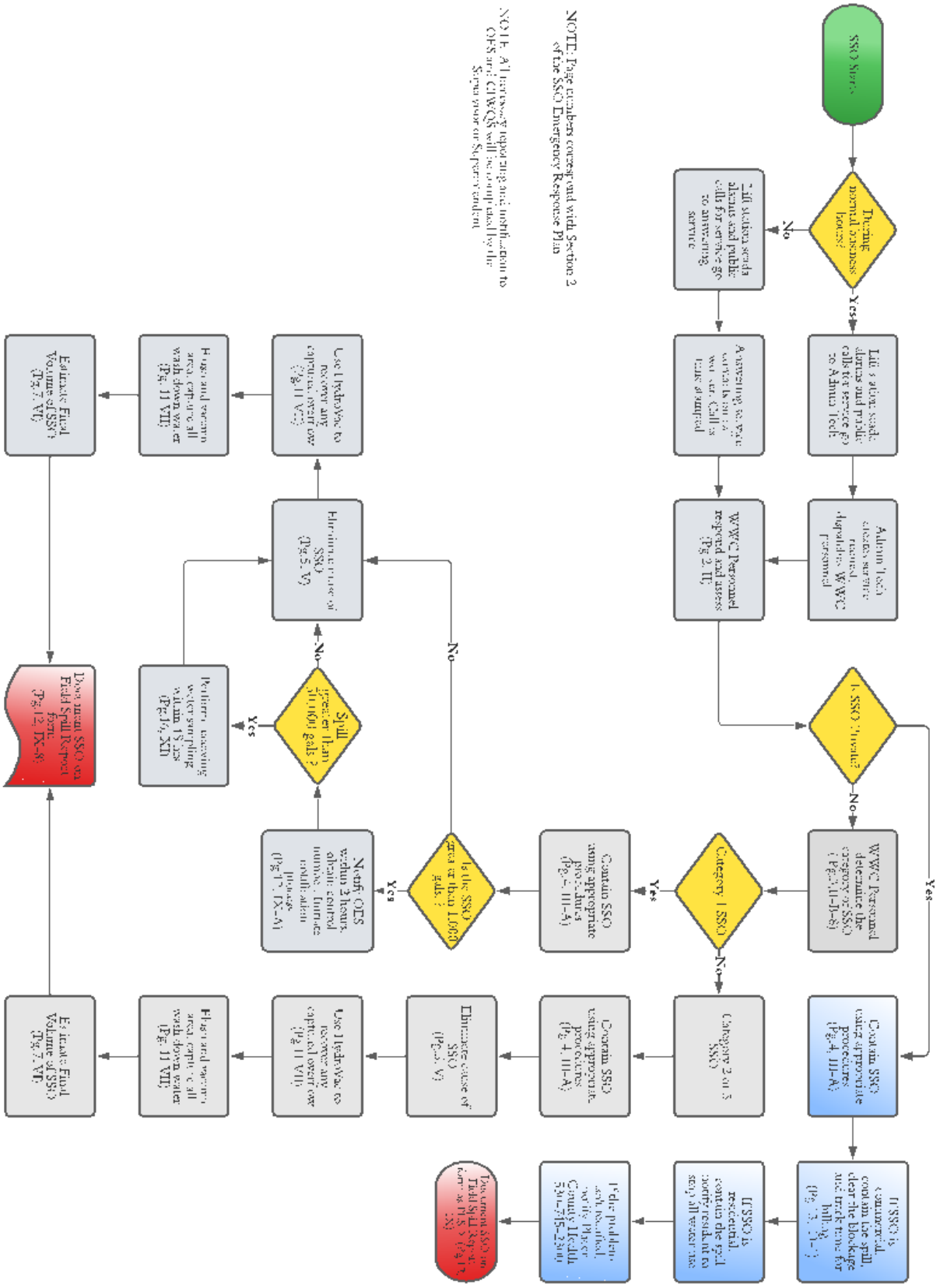
If no power is present in the panel, the service worker will:

1. Contact Roseville Electric at 774-5620, to verify they are aware of the outage.
2. Determine the level, and remaining downtime left in the station.
3. If downtime will be more than the maximum allowable retention, the on call service worker will call collection system personnel off the standby list, to get a Vactor in route. The Vactor will decant water at an identified point in the system, which won't affect the left station levels. If it appears that one Vactor won't keep up with flows, the on call service worker will call in additional personnel with Vactor to maintain levels in the station.
4. If outage appears to be a lengthy process, contact supervisor. Portable generator may be needed. In this event, an electrician will be needed.
5. Once flows are maintained, contact Supervisor to make them aware of the situation.

If Power is present in station, but pumps are not operating, the service worker will:

1. Attempt to operate the pumps in "hand" mode to eliminate the possibility of an SSO
2. If the pump operates in "hand", continue operating and monitor the levels in the wet well. Contact the On Call Electrician @916-532-0612, and continue to monitor.
3. If station will not operate in hand mode, call additional personnel in with Vactor to monitor wetwell levels. Vacuum and decant accordingly, until problem is rectified.
4. If it appears that one Vactor won't keep up with the amount of flow into the wet well, the service worker will call in a second Vactor to maintain the levels in the station.
5. Standby and assist on call electrician, until the station is operational.

Appendix F- SSO Chain of Communication Flowchart



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: _____

Signature:_____

Date: _____